UIC - I - __8-1__

EPA FALL-OFF TEST (WDW-1)

(1 of 2)

2015

WSP | PARSONS BRINCKERHOFF

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January 13, 2016

Mr. Robert Combs
Navajo Refining Company
501 East Main Street
Artesia, New Mexico 88211

RE: 2015 Annual Bottom-Hole Pressure Survey and Pressure Falloff Test for Mewbourne Well No. 1, Chukka Well No. 2 and Gaines Well No. 3
Subsurface Project 185818-7176

Dear Mr. Combs:

Enclosed please find four (4) copies of the 2015 Annual Bottom-Hole Pressure Survey and Pressure Falloff Test for Mewbourne Well No. 1. The format is the same that we used for the 2014 report. The results have fallen within the expected range for the Mewbourne well. Originals are marked for the report and the copies are not marked. Please send original and copy of the report to the OCD.

If you have any questions, please feel free to call me at (281) 589-5983.

Sincerely,

Tim Jones
Project Manager

TJJ/bl
Enclosures

2015 ANNUAL BOTTOM-HOLE PRESSURE SURVEY AND PRESSURE FALLOFF TEST REPORT

NAVAJO REFINING

MEWBOURNE WELL NO. 1

Artesia, New Mexico

January 2016

Parsons Brinckerhoff

Houston, TX

A Company of

WSP | PARSONS BRINCKERHOFF

Project No. 185818-7176

Prepared by Brenda Love

Reviewed by Tim Jones

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EXECUTIVE SUMMARY

WSP | Parsons Brinckerhoff was contracted by Navajo Refining Company (Navajo) to perform a pressure falloff test and bottom-hole pressure survey on Navajo's Mewbourne Well No. 1. The test was performed according to New Mexico Oil Conservation Division (OCD) falloff test guidelines (*New Mexico Oil Conservation Division UIC Class I Well Fall-Off Test Guidance, December 3, 2007*).

The test provides the state regulatory agency with the necessary information to access the validity of requested or existing injection well permit conditions and satisfy the permitting objective of protecting the underground sources of drinking water (USDW). Specifically, 40 CFR Part 146 states "the Director shall require monitoring of the pressure buildup in the injection zone annually, including at a minimum, a shutdown of the well for a time sufficient to conduct a valid observation of the pressure fall-off curve" (40 CFR§146.13 for Non-hazardous Class I Wells).

The falloff testing was conducted according to the testing plan submitted to and approved by the NM OCD. The testing plan stated that, all offset wells that inject into the injection interval would be shut-in for the duration of the test period. The testing consisted of a 30-hour injection period and a 36-hour falloff period. Bottom-hole pressure gauges were also placed in the offset wells Gaines Well No. 3 and Chukka Federal Well No. 2. These wells are owned by Navajo and are used to inject plant waste into the same intervals as the Mewbourne Well No. 1.

As prescribed by the guidelines, the report discusses supporting and background information in Sections 1 through 9. The one mile area of review (updated since the 2014 falloff testing) is discussed in Section 10 and geology in Section 11. Information on the offset wells is discussed in Section 12, daily testing activities in Section 13, and point of shut-in, in Section 14. The pressure falloff testing and analysis results are discussed in Section 15. The OCD required record keeping statement is discussed in Section 16.

1. FACILITY INFORMATION

a. Name: Navajo Refining Company (subsidiary of the Holly Corporation)
b. Facility Location: Highway 82 East, Artesia, New Mexico 88211
c. Operator's Oil and Gas Remittance Identifier (OGRID) Number: 223518

2. WELL INFORMATION

a. OCD UIC Permit Number: UIC-CLI-008-1
b. Well Classification: Class I Non-hazardous
c. Well Name and Number: Mewbourne Well No. 1
d. API Number: 30-015-27592
e. Well Legal Location: 660 FSL, 2310 FEL

3. CURRENT WELLBORE SCHEMATIC

The Mewbourne Well No. 1 wellbore schematic is presented in Figure 1. The schematic has all data as requested by the guidelines and includes the following:

a. Tubing: 4 ½ inch, 11.6 pound per foot, steel construction, API grade N-80, with long thread connections (LT&C).

b. Packer: Arrow X-1, 7 inch by 3 ½ inch set in tension at 7879 feet.

c. Tubing Length: 7879 feet. There are no profile nipples in the tubing or the packer as this was not a requirement of the permit.

d. Size, Type, and Depth of Casing: There are three casing strings in the well. The information for these casing strings was obtained from OCD records on file with the state and geophysical logs. The casing strings are:

    i. 13 3/8 inch, 48 pound per foot (lb/ft), steel construction, API grade J-55, with short thread connections (ST&C), set at a depth of 390 feet. The casing was cemented to the surface with 525 sacks of cement. The casing was set in open hole with a diameter of 17.5 inches. This information was obtained from OCD records.

    ii. 9 5/8 inch, 36 lb/ft, steel construction, API grade J-55, ST&C, set at a depth of 2555 feet. The casing was cemented to the surface with 1000 sacks of cement. The casing was set in open hole with a diameter of 12.25 inches. This information was obtained from OCD records.

iii. 7-inch, 26 lb/ft and 29 lb/ft, steel construction, API grade N-80 and P-110, LT&C, set at a depth of 9094 feet. The casing was cemented to surface in two stages with 1390 sacks of cement. The casing was set in open hole with a diameter of 8.75 inches. The top cement was verified with a CBL run on July 23, 1998. The remainder of the information was obtained from OCD records.

iv. A cement plug at 9004 feet isolates the lower section of the original borehole. This information was obtained from OCD records.

e. The top of cement was determined from a CBL run in the 7-inch casing string on July 23, 1998. The top of cement in the 7 inch casing was found at the surface. The top of cement in the 9 5/8 inch and 13 3/8 inch casing strings was verified through OCD records and volume calculations.

f. The 7 inch casing was perforated on July 24 and July 27, 1998. The casing was perforated with a 0.5 inch diameter hole at 2 shots per foot on a 60° phasing. The perforations are located between 7924 feet and 8188 feet and from 8220 feet to 8476 feet.

g. The total depth of the well is 10,200 feet with the plug back depth at 9004 feet. On September 22, 2015, fill was tagged at 8995 feet.

The bottom-hole pressure gauge run in the Mewbourne Well No. 1 for the pressure falloff testing consisted of one memory (top of the perforations) (MRO) pressure gauge that was placed at 7924 feet.

4. ELECTRIC LOG ENCOMPASSING THE COMPLETED INTERVAL

The dual induction log is presented in Appendix A and encompasses the completed interval between 7924 feet and 8476 feet. The dual induction log was submitted to the OCD with the original permit after the well was drilled by the Mewbourne Oil Company. The log was resubmitted to the OCD when the well was re-permitted as a Class I injection well.

5. RELEVANT PORTIONS OF THE POROSITY LOG USED TO ESTIMATE FORMATION POROSITY

The neutron density log is presented in Appendix B and encompasses the completed interval between 7924 feet and 8476 feet. The neutron density log was submitted to the OCD with the original permit after the well was drilled by Mewbourne Oil Company. The log was resubmitted to the OCD when the well was re-permitted as a Class I injection well. The porosity of the formation, 10%, and the reservoir thickness, 175 feet, were determined from this log. These values were used in the analysis of the pressure falloff data (Section 15). Additional information concerning the geology of the injection reservoir is discussed in Section 11.

6. PVT DATA OF THE FORMATION AND INJECTION FLUID

The Mewbourne Well No. 1 was recompleted in July 1998, prior to the issuance of the current well testing guidelines (December 3, 2007). At the time, no directives were in place to test formation fluids or derive formation characteristics from cores. However, reservoir fluid samples were obtained during the recompletion and the average density and average total dissolved solids (TDS) were measured at 1.03 g/l and 26,500 mg/l, respectively. The analytical results of the analysis of the formation fluid are summarized in Table I.

The viscosity of the formation fluid, formation water compressibility, and total system compressibility were estimated in reference to bottom-hole temperature using industry accepted correlations. These correlations are found in the Society of Petroleum Engineer's "Advances in Well Test Analysis, Monograph Volume 5" and "Pressure Buildup and Flow Tests in Wells, Monograph Volume 1".

a. Estimation of formation fluid and reservoir rock compressibility:

   The fluid compressibility of the formation brine was estimated for a sodium chloride solution (26,500 mg/l) at the bottom-hole temperature of 127°F using Appendix C (Figure D.16 SPE Monograph 5). This value was 2.9×10^{-6} psi^{-1}. The formation pore volume compressibility was estimated using Appendix D (Figure G.5 SPE Monograph 1). This value was 5.5×10^{-6} psi^{-1}. The total system compressibility is the sum of the fluid compressibility and the pore volume compressibility, 8.4×10^{-6} psi^{-1}. The temperature used with the correlations was recorded during the temperature survey conducted in the Mewbourne Well No. 1 on July 23, 1998, and included in this report as Appendix E.

b. Formation fluid viscosity with reference temperature:

   The formation fluid had a TDS concentration of 26,500 mg/l. This equates to an approximate equivalent percentage of NaCl of 4.5%. The average viscosity of the formation fluid was estimated using Appendix F (Figure D.35 SPE Monograph 5). This value was 0.57 centipoise (cp) at 127°F.

c. Formation fluid specific gravity/density with reference temperature:

   The average formation fluid density was measured at 1.03 g/l at 70°F (Table I).

d. Injection fluid specific gravity, viscosity and compressibility with reference temperature:

   The specific gravity and pH of the refinery waste water were measured during the injection portion of the reservoir testing. The specific gravity was 1.01 (8.41 pounds per gallon). This equates to an approximate equivalent percentage of NaCl of 4%. Using the same methodology described above, the viscosity of the injected fluid was 0.54 cp at 127°F. The compressibility of the injected plant waste was 2.9×10^{-6} psi^{-1} at 127°F.

7. DAILY RATE HISTORY DATA (MINIMUM OF ONE MONTH PRECEDING THE FALLOFF TEST)

The rate history used in the analysis of the pressure falloff data began on May 19, 2014 following the 2014 falloff testing, and ends on September 25, 2015. The daily rate history is summarized in Appendix G.

8. CUMULATIVE INJECTION INTO THE FORMATION FROM TEST WELL AND OFFSET WELLS

The total volume of fluid injected into all three wells as of September 25, 2015, was 3,351,912,940 gallons. The volume of fluid injected into the Mewbourne Well No. 1 was 1,671,117,869 gallons. The volume of fluid injected into the Chukka Well No. 2 was 1,096,868,363 gallons. The volume of fluid injected into the Gaines Well No. 3 was 583,926,708 gallons. The area of review (AOR) indicates that there are two wells injecting into the intervals in which the Navajo wells inject. The volumes injected were obtained from plant records.

9. PRESSURE GAUGES

One (1) downhole pressure gauge (with two readings) was used for the Mewbourne Well No. 1 buildup and falloff testing. The downhole pressure gauge was set at 7,924 feet. Bottom-hole pressure gauges were also placed in each of the offset wells: Gaines Well No. 3 and Chukka Well No. 2. The pressure gauges were set at 7660 feet in the Gaines Well No. 3 and at 7570 feet in the Chukka Well No. 2.

a. Describe the type of downhole surface pressure readout gauge used including manufacture and type:

   In the Mewbourne Well No. 1, an MRO pressure gauge was used to record the pressure and temperature data during the injection/falloff testing. The gauge was a sapphire crystal gauge. The manufacturer of the MRO pressure gauge (Serial No. SP-78684) is Spartek Systems.

   In the Gaines Well No. 3, an MRO pressure gauge was used to monitor the bottom-hole pressure and temperature during the testing of the Mewbourne Well No. 1. The gauge was a sapphire crystal gauge with Serial No. CT-5408. The gauge is manufactured by Canada Tech.

   In the Chukka Well No. 2, an MRO pressure gauge was used to monitor the bottom-hole pressure and temperature during the testing of the Mewbourne Well No. 1. The gauge was a sapphire crystal gauge with Serial No. SP-78454. The gauge is manufactured by Spartek Systems.

b. List the full range, accuracy and resolution of the gauge:

In Mewbourne Well No. 1, the MRO pressure gauge, Serial No. SP-78684 has a full range of 0 psi to 15,000 psi, an accuracy of 0.024% of full scale, and a resolution of 0.01% of full scale. A surface pressure gauge was not installed during testing.

In Gaines Well No. 3, the MRO pressure gauge, Serial No. CT-5408, has a full range of 50 psi to 15,000 psi, an accuracy of 0.05% of full scale, and a resolution of 0.033% of full scale.

In Chukka Well No. 2, the MRO pressure gauge, Serial No. SP-78454, has a full range of 0 psi to 15,000 psi, an accuracy of 0.024% of full scale, and a resolution of 0.01% of full scale.

c. Provide the manufacturer's recommended frequency of calibration and a calibration certificate showing date the gauge was last calibrated:

The certificate of calibration for each of the pressure gauges used during the testing are included as Appendix H. The manufacturer's recommended calibration frequency is one year.

10. ONE MILE AREA OF REVIEW (AOR)

Federal Abstract Company was contracted by WSP | Parsons Brinckerhoff and instructed to undertake a review of well changes made within a one-mile area of review (AOR) of the Mewbourne Well No. 1, Chukka Well No. 2, and Gaines Well No. 3. In 2009, an update of the original AOR, submitted with the Discharge Application Permit 2003, was completed within the one-mile AOR for all three wells. The current update includes all existing wells within the one-mile AOR and any changes that have occurred to these wells since the 2014 update.

No new fresh water wells were reported within the search area since the submittal of the 2014 report. The discharge application lists the water wells located in the Area of Review.

a. Identify wells located within the one mile AOR:

Table II also contains a listing of all wells within the one-mile AOR of Mewbourne Well No. 1, Chukka Well No. 2, and Gaines Well No. 3. Figure 6 is a Midland Map Company base map of the area containing the one mile AOR.

b. Ascertain the status of wells within the one mile AOR:

Table II contains a listing of all wells within the one-mile AOR, with their current status. Tables III through XII contain a list of all wells within the one-mile AOR that have had modifications to the current permit or have had new drilling and/or completion permits issued since the 2014 pressure falloff report.

One (1) well was found in which the owner had changed. One (1) new plugged and abandoned oil and gas well was found. Four (4) wells were placed in temporarily abandoned status. No wells were found that were returned to production status. Thirty-three (33) wells were found that had been recompleted.

There were forty-seven (47) new drills and permits to drill, of which none penetrated the Wolfcamp interval. All plugged and abandoned wells were successfully plugged and isolated from the Mewbourne Well No. 1, Chukka Well No. 2, and Gaines Well No. 3 injection intervals according to current OCD records.

c. Provide details on any offset producers and injectors completed in the same interval:

Navajo has two injection wells in the same interval. Mewbourne Well No. 1 is listed as ID No. 59 in Table II and no changes have occurred to this well. Chukka Well No. 2 is listed as ID No. 120 in Table II and no changes have occurred to this well. The Gaines Well No. 3 is listed as ID No. 861 in Table XI. The wellbore schematics for the Gaines Well No. 3 and Chukka Well No. 2 are presented as Figure 3 and Figure 4, respectively.

11. GEOLOGY

The injection zones are porous carbonates of the lower portion of the Wolfcamp Formation, the Cisco Formation, and the Canyon Formation. These formations occur in the Mewbourne Well No. 1, the Chukka Well No. 2, and the Gaines Well No. 3 at the depths shown in the table below.

Injection Zone Formation	Mewbourne Well No. 1 (KB = 3,693 ft)		Chukka Well No. 2 (KB = 3,623 ft)		Gaines Well No. 3 (KB = 3,625 ft)	
	MD below KB (ft)	SS Depth (ft)	MD below KB (ft)	SS Depth (ft)	MD below KB (ft)	SS Depth (ft)
Lower Wolfcamp	7450	-3757	7270	-3647	7303	-3678
Cisco	7816	-4123	7645	-4022	7650	-4025
Canyon	8,475	-4,782	8,390	-4767	8390	-4765
Base of Injection Zone (base of Canyon)	9016	-5323	8894	-5271	8894	-5269

d. Description of the geological environment of the injection interval:

The lower portion of the Wolfcamp Formation (Lower Wolfcamp) is the shallowest porous unit in the proposed injection interval. The Wolfcamp Formation (Permian-Wolf campaign age) consists of light brown to tan, fine to medium-grained, fossiliferous limestones with variegated shale interbeds (Meyer, 1966, page 69). The top of the Wolfcamp Formation was correlated for this study to be below the base of the massive, dense dolomites of the overlying Abo Formation. The base of the Wolfcamp coincides with the top of the Cisco Formation. The thickness of log porosity greater than 5% in the entire Wolfcamp Formation ranges from 0 feet to 295 feet in a band three miles wide that trends northeast-southwest across the study area.

The Cisco Formation (Pennsylvanian-Virgilian age) of the Northwest Shelf is described by Meyer (1966, page 59) as consisting of uniform, light colored, chalky, fossiliferous limestones interbedded with variegated shales. Meyer (1966, page 59) also describes the Cisco at the edge of the Permian basin as consisting of bio thermal (mound) reefs composed of thick, porous, coarse-grained dolomites. Locally, the Cisco consists of porous dolomite that is 745 feet thick in Chukka Well No. 2, 659 feet thick in Mewbourne Well No. 1, and 720 feet in Gaines Well No. 3. The total thickness of intervals with log porosity greater than 5% is approximately 310 feet in Mewbourne Well No. 1, 580 feet in Chukka Well No. 2, and 572 feet in Gaines Well No. 3. The total thickness with log porosity greater than 10% is approximately 100 feet in Mewbourne Well No. 1, 32 feet in Chukka Well No. 2, and 65 feet in Gaines Well No. 3. The thickness of the porous intervals in the Cisco ranges from 0 feet in the northwestern part of the study area to nearly 700 feet in a band three miles wide that trends northeast-southwest.

The Canyon Formation (Pennsylvanian-Missourian age) consists of white to tan to light brown fine grained, chalky, fossiliferous limestone with gray and red shale interbeds (Meyer, 1966, page 53). Locally, the Canyon occurs between the base of the Cisco dolomites and the top of the Strawn Formation (Pennsylvanian-Desmoinesian age). The total thickness of intervals with log porosity greater than 5% is 34 feet in Mewbourne Well No. 1, 30 feet in Chukka Well No. 2, and 10 feet in Gaines Well No. 3. No intervals appear to have log porosity greater than 10% in any of the three injection wells.

e. Discuss the presence of geological features, i.e., pinchouts, channels, and faults, if applicable:

From the geological study completed and submitted in the Discharge Plan Application and Application for Authorization to Inject, the reservoir appears to be continuous, with the possibility of anisotropic conditions extending to the west-southwest. The injection intervals that were studied are well confined by the Abo and Yeso low porosity carbonate beds, Tubbs shale, and Salado salt. The Cisco and Wolfcamp formations follow the Vacuum arch and have a southeasterly dip. No faults existed in the study area although, the study also shows that faulting occurs via the K-M fault located 6 miles northwest of Artesia and trends northeast-southwest. The distance to this fault line occurs no closer than 16 miles. No faults are known to exist in the confining zone within the AOR.

f. Provide a portion of relevant structure map, if necessary:

The structure map for Strawn is presented as Appendix I. The structure map for the Wolfcamp presented as Appendix J. The structure map for the Cisco is presented as Appendix K.

12. OFFSET WELLS

There are only four offset wells identified in the AOR that inject into the same interval: The Federal No. 1, the Chalk Bluff Federal Com No. 3, the Gaines Well No. 3 and the Chukka Well No. 2. The Gaines and Chukka were shut-in during the buildup and falloff portions of the testing.

a. Identify the distance between the test well and any offset well completed in the same injection interval:

The Mewbourne Well No. 1 is approximately 7900 feet from Gaines Well No. 3, the test well. The Chukka Well No. 2 is approximately 10,860 feet from the Mewbourne Well No. 1.

b. Report the status of the offset wells during both the injection and shut-in portions of the test:

Both the Gaines Well No. 3 and Chukka Well No. 2 were shut-in during the buildup and falloff portions of the testing. Bottom-hole pressure gauges were lowered into each well approximately 48 hours before shutting in the Mewbourne Well No. 1. The bottom-hole pressure and temperature data are graphically depicted in Figure 5 for the Gaines Well No. 3 and Figure 2 for the Chukka Well No. 2.

c. Describe the impact, if any, the offset wells had on the testing:

The offset wells were shut in prior to beginning the 30-hour injection period and remained shut-in during the falloff portion of the testing.

13. CHRONOLOGICAL LISTING OF THE DAILY TESTING ACTIVITIES (OPERATIONS LOG)

Appendix L contains the formal Chronology of Field Activities. This chronology was developed from the field activity reports.

a. Date of the testing:

The buildup portion of the testing started on September 24, 2015 at 4:45 p.m. and continued until September 25, 2015, at 11:08 p.m., when the Mewbourne Well No. 1 was shut-in. The falloff test ended on September 27, 2015, at 011:00 a.m. The total depth of the well was tagged at 8995 feet and five-minute gradient stops were made while pulling

the pressure gauges out of the wellbore. After the pressure gauges were pulled out of the well on September 27, 2015, the well was turned over to Navajo plant operations personnel.

b. Time of the injection period:

The buildup portion of the testing began on September 24, 2015 when the injection rate was set at an average injection rate of 127 gallons per minute (gpm). The injection rate was held constant for 30.38 hours.

c. Type of injection fluid:

The injected fluid was non-hazardous waste water from the plant. The density of the injection fluid was periodically measured and averaged 8.34 pounds per gallon during the 30.38-hour injection period.

d. Final injection pressure and temperature prior to shutting in the well:

The final flowing pressure (P_{wf}) and temperature (T_{wf}) were 4,804.62 psia and 100.48°F, respectively.

e. Total shut-in time:

The Mewbourne Well No. 1 was shut-in, while offset wells shut-in, for 35.87 hours.

f. Final static pressure and temperature at the end of the fall-off portion of the test:

The final static pressure at 7924 feet was 4,557.02 psia. The final temperature was 103.23°F.

14. DESCRIBE THE LOCATION OF THE SHUT-IN VALVE USED TO CEASE FLOW TO THE WELL FOR THE SHUT-IN PORTION OF THE TEST

On the pipeline to the Mewbourne Well No. 1, there are two, 4 inch motor controlled valves installed on the incoming pipeline before the pod filters. Two 4 inch valves are installed between the pod filters and the wellhead. There is one 6 inch valve installed in the main line between the pod filters and the booster pump. A 4 1/16 inch wing valve is installed on the wellhead. All valves were closed during the falloff portion of the testing. A diagram of the wellhead is shown in Figure 7 and a diagram of the valve locations are shown in Figure 8.

15. PRESSURE FALLOFF ANALYSIS

The following discussion of the analysis of the pressure data recorded during the falloff testing of the Mewbourne Well No. 1 satisfies Sections 15 through 19 of Section IX, Report Components, of the OCD's falloff test guidelines. Where appropriate, the specific guideline addressed is annotated. Specific parameters used in the equations and discussed previously

in this report are also annotated. The plots included with this report are summarized in Table VIII. The inclusion of these plots in this report satisfies OCD Guideline Section IX.18.

The pressure data obtained during the falloff test were analyzed using the commercially available pressure transient analysis software program PanSystem©. Appendix M contains the output from this software program. Figure 9 shows the pressure data recorded by the bottom-hole pressure gauge from the time the tool was in place through the 35.87 hour total shut-in period. Figure 10 shows the pressure and temperature data recorded by the bottom-hole pressure gauge from the time the tool was in place through the 35.87 hour falloff shut-in period. Figure 11 is a Cartesian plot of the injection rates versus time for the injection period used in the pressure falloff analysis. The superposition time function was used to account for all rate changes during the injection period. Figure 12 is a plot of the historical injection rates and surface pressures versus calendar time.

Figure 13 is a log-log diagnostic plot of the falloff data, showing change in pressure and pressure derivative versus equivalent shut-in time. The different flow regimes, wellbore storage, radial flow and change in reservoir characteristics, are indicated on the log-log plot and the superposition Horner plot (OCD Guideline Section IX.18.c and IX.18.d)

Wellbore storage begins at 0.000016 hours and continues to an elapsed shut in time of 0.094 hours. Radial flow begins at an elapsed shut in time of 6.34 hours and continues until 16.18 hours (OCD Guideline Section IX.15.b).

The reservoir permeability was determined from the radial flow region of the superposition semi-log plot, Figure 14. The radial flow regime begins at a Superposition time of 3.287 and continues until a Superposition time of 2.88 at which time the pressure data departs the semi-log straight-line. Figure 15 shows an expanded view of the radial flow regime. The slope of the radial flow period, as calculated by the analysis software, 5.31318 psi/cycle (OCD Guideline Section IX.15.c). The injection rate just prior to shut in was 123.96 gpm which is equivalent to 4248 barrels per day (bbl/day).

An estimate of mobility-thickness (transmissibility, OCD Guideline Section IX.15.d), kh/μ, for the reservoir was determined to be 130,002 md-ft/cp using the following equation:

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

where,

kh/μ = formation mobility-thickness, millidarcy-feet/centipoise
q = rate prior to shut in, bpd

B = formation volume factor, reservoir volume/surface volume
m = slope of radial flow period, psi/cycle

$$\frac{k\ h}{\mu} = 162.6\,\frac{(4{,}248)(1.0)}{5.31318}$$

$$= 130{,}002\ \text{md} - \text{ft} / \text{cp}$$

The permeability-thickness (flow capacity, OCD Guideline Section IX.15.i), kh, was determined to be 74,101 md-ft by multiplying the mobility-thickness, kh/μ, by the viscosity of the reservoir fluid (see Section 6), $\mu_{reservoir}$, of 0.57 centipoises:

$$kh = \left(\frac{kh}{\mu}\right)\mu_{reservoir}$$

$$= (130{,}002) * (0.57)$$

$$= 74{,}101\,\text{md} - \text{ft}$$

The reservoir permeability (OCD Guideline Section IX.15.e) using the total thickness (see Section 5 and Section 11) of 175 feet was 423 md:

$$k = \frac{kh}{h}$$

$$= \frac{74{,}101}{175}$$

$$= 423\ \text{md}$$

To determine whether the proper viscosity was used in arriving at this permeability, the travel time for a pressure transient to pass beyond the waste front needs to be calculated (OCD Guideline Section VIII.5). The distance to the waste front is determined from the following equation:

$$r_{waste} = \left(\frac{0.13368\ V}{\pi h\ \phi}\right)^{1/2}$$

where,

r_{waste} = radius to waste front, feet
V = total volume injected into the injection interval, gallons
h = formation thickness, feet
ϕ = formation porosity, fraction
0.13368 = constant

A cumulative volume of approximately 1,671,117,869 gallons of waste has been injected into Mewbourne Well No. 1 (see Section 8). The formation has a porosity of 0.10 (see Section 5 and Section 11).

The distance to the waste front was determined to be 2,016 feet:

$$r_{waste} = \left(\frac{(0.13368)(1,671,117,869)}{(\pi)(175)(0.10)} \right)$$

$$= 2,016 \text{ feet}$$

The time necessary for a pressure transient to traverse this distance is calculated from the following equation:

$$t_{waste} = 948 \frac{\phi \mu_{waste} c_t r^2_{waste}}{k}$$

where,

t_{waste} = time for pressure transient to reach waste front, hours
ϕ = formation porosity, fraction
μ_{waste} = viscosity of the waste at reservoir conditions, centipoise
r_{waste} = radius to waste front, feet
c_t = total compressibility of the formation and fluid, psi
k = formation permeability, millidarcies
948 = constant

The pore volume compressibility is 8.4 x 10^{-6} psi^{-1} (see Section 6). The time necessary for a pressure transient to traverse the distance from the wellbore to the leading edge of the waste front would be 4.36 hours:

$$t_{waste} = 948 \frac{(0.10)(0.57)(8.4x10^{-6})(2,016)^2}{423}$$

$$= 4.36 \text{ hours}$$

Since the time required to pass through the waste is less than the 6.34 hours required to reach the beginning of the radial flow period, the assumption that the pressure transient was traveling through reservoir fluid during the period of the semi-log straight line was correct.

The near wellbore skin damage (OCD Guideline Section IX.15.f) was determined from the following equation:

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

where,

s	=	formation skin damage, dimensionless
1.151	=	constant
p_{wf}	=	flowing pressure immediately prior to shut in, psi
p_{1hr}	=	pressure determined from 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	=	permeability of the formation, md
ϕ	=	porosity of the injection interval, fraction
μ	=	viscosity of the fluid the pressure transient is traveling through, cp
c_t	=	total compressibility of the formation plus fluid, psi^{-1}
r_w	=	radius of the wellbore, feet
3.23	=	constant

The final measured flowing pressure was 4,804.64 psia. The pressure determined by extrapolating the radial flow semi-log line to a Δt of one hour, p_{1hr}, was 4,564.55 psia (calculated from the analysis software). The wellbore radius, r_w, is 0.3646 feet (completion records). Using these values in addition to the previously discussed parameters results in a skin of 44.42:

$$s = 1.151\left[\frac{4{,}804.64 - 4{,}564.55}{5.31318} - \log\left(\frac{423}{(0.10)(0.57)(8.4\text{x}10^{-6})(0.3646)^2}\right) + 3.23\right]$$

$$= 44.42$$

The change in pressure, Δp_{skin}, in the wellbore associated with the skin factor (OCD Guideline Section IX.15.g) was calculated using the following equation:

$$\Delta p_{skin} = 0.869(m)(s)$$

where,

0.869	=	constant
m	=	slope from superposition plot of the well test, psi/cycle
s	=	skin factor calculated from the well test

The change in pressure, Δp_{skin}, using the previously calculated and defined values was determined to be 205.09 psi:

$$\Delta p_{skin} = 0.869(m)(s)$$

$$= 0.869(5.31318)(44.42)$$

$$= 205.09 \text{ psi}$$

The flow efficiency (E, OCD Guideline Section IX.15.h) was determined from the following equation:

$$E = \frac{p_{wf} - \Delta p_{skin} - p_{static}}{p_{wf} - p_{static}}$$

where,

E	=	flow efficiency, fraction
p_{wf}	=	flowing pressure prior to shutting in the well for the fall-off test,
p_{static}	=	final pressure from the pressure falloff test
Δp_{skin}	=	pressure change due to skin damage

Using the previously determined parameters, the flow efficiency was calculated to be 0.17:

$$E = \frac{4{,}804.64 - 205.09 - 4{,}557.018}{4{,}804.64 - 4{,}557.018}$$

$$= 0.17$$

The radius of investigation (OCD Guideline Section IX.15.a) was calculated using the following equation:

$$R_{inv} = 0.029\sqrt{\frac{k\,\Delta t_s}{\phi\,\mu\,C_t}}$$

where,

k	=	formation permeability, millidarcies
Δt_s	=	elapsed shut-in time, hours
ϕ	=	formation porosity, fraction
μ	=	viscosity of the fluid the pressure transient is traveling through, cp
c_t	=	total compressibility of the formation plus fluid, psi^{-1}
0.029	=	constant

The radius of investigation, r_{inv}, using the previously defined values was determined to be 5162 feet:

$$R_{inv} = 0.029\sqrt{\frac{(423)(35.87)}{(0.10)(0.57)(8.4 \times 10^{6})}}$$

$$R_{inv} = 5{,}162 \text{ feet}$$

As indicated on Figure 13, the pressure data departs the radial flow region at an elapsed time from shut in of 16.18 hours. No pressure or temperature anomalies were noted that would cause this type of pressure response observed on the derivative log-log plot (OCD Guideline Section VIII.9). A review of the geology of the injection zones (see Section 11) indicates that all three of the formations in which the Mewbourne Well No. 1 injects into have varying thicknesses and porosities within the mapped area. Changes in formation thickness, porosity, and fluid viscosity can cause the slope changes seen on the derivative log-log plot. Because these changes occurred during the duration of the pressure falloff test, the reservoir analysis results are considered heterogeneous as opposed to homogeneous (OCD Guideline Section IX.17.b).

The Hall plot (OCD Guideline Section IX.18.h) is presented as Figure 16. No slope changes are seen in the plotted data.

A comparison of the current analysis results with previous analysis results as well as with the reservoir parameters submitted with the permit application is presented in Table IX (OCD Guideline Section IX.19).

On September 27, 2015, a static pressure gradient survey was conducted while pulling the pressure gauges out of the well. Static gradient stops were conducted at 7924 feet, 7000 feet, 6000 feet, 5000 feet, 4000 feet, 3000 feet, 2000 feet, 1000 feet, and at the surface. The bottom-hole pressure and temperature, after 35.87 hours of shut-in at 7924 feet, were 4804.62 psia and 100.48°F, respectively. The gradient survey is summarized in Table X. The data are graphically depicted in Figure 17.

16. NEW MEXICO OIL CONSERVATION DIVISION THREE YEAR RECORDING KEEPING STATEMENT

Navajo will keep the raw test data, generated during the testing, on file for a minimum of three years. The raw test data will be made available to OCD upon request.

TABLES

TABLE I

FORMATION WATER ANALYSIS SUMMARY

Chemical	Mewbourne Well No. 1	Chukka Well No. 2	Gaines Well No. 3	Average
Date	July 31, 1998	June 14, 1999	Nov 8, 2006	
Fluoride (mg/l)	2.6	9.7	Not Detected	6.15
Chloride (mg/L)	19,000	15,000	10,447	14,815.67
NO3-N (mg/L)	<10	<10	--	<10
SO4 (mg/L)	2,200	2000	1,908	2,036
CaCO3 (mg/L)	1000	1210	--	1105
Specific Gravity (g/L)	1.034	1.0249	--	1.0295
TDS (mg/L)	33,000	20,000	--	26,500
Specific Conductance (uMHOs/cm)	52,000	43,000	--	47,500
Potassium (mg/L)	213	235	85.5	177.83
Magnesium (mg/L)	143	128	155	142
Calcium (mg/L)	390	609	393	464
Sodium (mg/L)	12,770	8,074	6,080	8,974.67
pH (s.u.)	8.1	7.2	--	7.65

The data in the above table was referenced from "Discharge Plan Application and Application for Authorization to Inject per Oil Conservation Division Form C-108, into Class I Wells WDW-1 and Proposed WDW-2 and WDW-3" and the "Discharge Permit Approval Conditions", "Reentry and Completion Report Waste Disposal Well No. 2", and "Reentry and Completion Report Waste Disposal Well No. 3".

TABLE II
Tabulation of Wells Within One Mile Area of Review

ID NO	API	Unit No.	Sect	TOWNS HIP	RNG	NS FTG	EW FTG	WELL NAME	OPERATOR	WELL TYPE	PLUG DATE	STATUS	DATE - Comp or Plug
1	30-015-00693	A	36	17S	27E	330N	330E	DELHI #001	GEORGE A CHASE & C SERVICE	O		T/A	8/30/1941
2	30-015-00694	A	36	17S	27E	990N	990E	STATE #013	DELHI OIL CORP.	O	6/24/1948	P&A	6/24/1948
3	30-015-00646	A	36	17S	27E	990N	330E	DELHI #007	GEORGE A CHASE & C SERVICE	O		T/A	4/21/1950
4	30-015-00668	G	36	17S	27E	1650N	2310E	SOUTH RED LAKE GRAYBURG UNIT #010	LEGACY RESERVES OPERATING, LP	O		SHUT IN	12/6/1947
5	30-015-00690	G	36	17S	27E	1830N	2205E	CONKLIN #002	GEORGE A CHASE & C SERVICE	O		ACTIVE	3/6/1949
6	30-015-00667	G	36	17S	27E	2310N	2310E	SOUTH RED LAKE GRAYBURG UNIT #011	FAIRWAY RESOURCES OPERATING INC	I		ACTIVE	3/23/1949
7	30-015-00666	G	36	17S	27E	2310N	2310E	CONKLIN #001	GEORGE A CHASE & C SERVICE	O	N/A	P&A	1/10/1942
8	30-015-00689	H	36	17S	27E	1650N	330E	GATES STATE #001	GEORGE A CHASE JR & C SERVICE	O		ACTIVE	8/4/1950
9	30-015-00647	H	36	17S	27E	1650N	990E	GATES STATE #002	ASPEN OIL INC	O	10/21/2003	ACTIVE	10/21/2003
10	30-015-00669	H	36	17S	27E	2310N	330E	HOMAN #001	GEORGE A CHASE JR & C SERVICE	O	5/6/2008	P&A	5/6/2008
11	30-015-00688	I	36	17S	27E	2310S	330E	RAMAPO #001	KERSEY & CO	O	10/28/1941	P&A	10/28/1941
12	30-015-00670	I	36	17S	27E	2970N	330E	RAMAPO #003	KERSEY & CO	O	1/3/1950	P&A	1/3/1950
13	30-015-00687	I	36	17S	27E	2310S	990E	RAMAPO #002	KERSEY & CO	G	5/7/1948	P&A	5/7/1948
14	30-015-00685	I	36	17S	27E	1650S	330E	EMPIRE ABO UNIT G #020	ARCO OIL & GAS	O	7/10/1989	P&A	7/10/1989
15	30-015-00671	J	36	17S	27E	2310S	2310E	RAMAPO #003	ROJO GRANDE COMPANY LLC	O	1/24/2000	ZONE ABAN	2/13/1942
16	30-015-01221	J	36	17S	27E	2300S	2300E	SOUTH RED LAKE GRAYBURG UNIT #023	LEGACY RESOURCES OPERATING LP	O	8/13/2002	ZONE ABAN	2/27/1948
17		J	36	17S	27E			DOOLEY STATE #3	MARTIN YATES III				4/22/1961
18	30-015-05934	J	36	17S	27E	1650S	1650E	EMPIRE ABO UNIT #019A	BP AMERICA PRODUCTION COMPANY	O		ACTIVE	2/26/1961
19	30-015-01220	K	36	17S	27E	2310S	2330W	SOUTH RED LAKE GRAYBURG UNIT #022	MCQUADRANGLE, LC	O	7/17/2002	ZONE ABAN	2/3/1949
20	30-015-00674	K	36	17S	27E	2310S	2310W	RAMAPO #002	ROJO GRANDE COMPANY LLC	O		ACTIVE	5/15/1947
21	30-015-01219	K	36	17S	27E	2310S	1650W	SOUTH RED LAKE GRAYBURG UNIT #021	MCQUADRANGLE, LC	I		ACTIVE	1/20/1948
22	30-015-23913	K	36	17S	27E	1650S	1650W	SOUTH RED LAKE GRAYBURG UNIT #043	MCQUADRANGLE, LC	O		ACTIVE	12/11/1981
23		K	36	17S	27E			DOOLEY STATE ABO #3	MARTIN YATES III	O		ACTIVE	4/19/1961
24	30-015-00673	K	36	17S	27E	1650S	2310W	RAMAPO #001	ROJO GRANDE COMPANY LLC	O	1/24/2000	ZONE ABAN	1/24/2000
25	30-015-00682	N	36	17S	27E	990S	1650W	RAMAPO #004	ROJO GRANDE COMPANY LLC	O	1/24/2000	ZONE ABAN	1/24/2000
26	30-015-00683	N	36	17S	27E	965S	1650W	SOUTH RED LAKE GRAYBURG UNIT #028	FAIRWAY RESOURCES OPERATING INC	I		ACTIVE	4/16/1948
27	30-015-01218	N	36	17S	27E	330S	2310W	EMPIRE ABO UNIT #018	BP AMERICA PRODUCTION COMPANY	O	3/11/2009	P&A	3/11/2009
28	30-015-00684	O	36	17S	27E	990S	2310E	STATE B-6961 NO. 1-A	BURNHAM OIL COMPANY	O	5/13/1947	P&A	5/13/1947
29	30-015-01251	O	36	17S	27E	660S	1980E	EMPIRE ABO UNIT #019	BP AMERICA PRODUCTION COMPANY	O	4/27/2009	P&A	9/8/1959
30		I	36	17S	27E							MISPLOT OF 14	
31	30-015-00677	P	36	17S	27E	330S	990E	EMPIRE ABO UNIT #020	BP AMERICA PRODUCTION COMPANY	O	4/10/2009	P&A	4/13/2009
32	30-015-01616	P	30	17S	28E	330S	990E	BLAKE STATE #001	APACHE CORPORATION	O		ACTIVE	3/7/1953
33	30-015-01638	A	31	17S	28E	330N	990E	STATE NO. 1	BEDINGFIELD, MALCO, RESLER	O	7/15/1952	P&A	7/15/1952
34	30-015-21594	B	31	17S	28E	330N	1650E	POWCO STATE #001	FINNEY OIL COMPANY	O		ACTIVE	11/15/1975
35	30-015-01636	C	31	17S	28E	330N	2310E	DELHI-STATE NO. 1	BEDINGFIELD, J E	O	12/23/1952	P&A	12/23/1952
36	30-015-25621	B	31	17S	28E	980N	1620E	POWCO STATE #002	FINNEY OIL COMPANY	O		ACTIVE	7/15/1986
37	30-015-01633	1	31	17S	28E	330N	330W	ASTON & FAIR A #001	GEORGE A CHASE JR DBA G AND C SERVICE	O		ACTIVE	6/23/1942
38	30-015-01634	D	31	17S	28E	350N	345W	STATE 31 NO. 1X	ASTON & FAIR	O		NO COMPL	1/5/1946
39	30-015-01645	F	31	17S	28E	990N	990W	BEDINGFIELD STATE 1 NO. 1	MCLAUGHLIN, C T	O	2/16/1950	P&A	2/16/1950
40	30-015-02666	2	31	17S	28E	2310N	330W	HUDSON SAIKIN STATE #001	APACHE CORPORATION	O		ACTIVE	5/29/1948
41	30-015-24887	2	31	17S	28E	2310N	990W	HUDSON SAIKIN STATE #002	APACHE CORPORATION	O		ACTIVE	7/7/1984
42	30-015-01643	F	31	17S	28E	2310N	2260W	EMPIRE ABO UNIT #022	BP AMERICA PRODUCTION COMPANY	O	7/10/2009	P&A	6/7/1960
43	30-015-01635	F	31	17S	28E	2310N	2310W	ASTON & FAIR #001Y	GEORGE A CHASE JR DBA G AND C SERVICE	O		ACTIVE	5/8/1948
44	30-015-01637	G	31	17S	28E	2310N	2310E	MALCO STATE #001	GEORGE A CHASE JR DBA G AND C SERVICE	O		ACTIVE	10/12/1953
45	30-015-01652	G	31	17S	28E	2288N	1625E	BOLING #001	KERSEY & CO	O		ACTIVE	8/10/1960
46	30-015-10537	H	31	17S	28E	2277N	330E	NORTHWEST ARTESIA UNIT #004	LIME ROCK RESOURCES A, L.P.	O		ACTIVE	9/23/1965
47	30-015-10833	I	31	17S	28E	1980S	660E	NORTHWEST ARTESIA UNIT #010	LIME ROCK RESOURCES A, LP	O		ACTIVE	6/17/1966
48	30-015-01644	I	31	17S	28E	1650S	330E	EMPIRE ABO UNIT #024A	BP AMERICA PRODUCTION COMPANY	O	6/12/2009	P&A	4/29/1960
49	30-015-01642	J	31	17S	28E	1650S	2310E	STATE FW #001	APACHE CORPORATION	O		ACTIVE	12/23/1962
50	30-015-01650	J	31	17S	28E	1650S	1958E	EMPIRE ABO UNIT #023A	BP AMERICA PRODUCTION COMPANY	O	9/17/2003	P&A	9/17/2003
51	30-015-01651	K	31	17S	28E	1650S	2387W	EMPIRE ABO UNIT #022B	BP AMERICA PRODUCTION COMPANY	O	10/22/2009	P&A	4/10/1960
52	30-015-01640	3	31	17S	28E	2310S	330W	RAMPO #002	APACHE CORPORATION	O		ACTIVE	7/16/1955
53	30-015-01648	3	31	17S	28E	1651S	1089E	EMPIRE ABO UNIT #021A	BP AMERICA PRODUCTION COMPANY	O	8/24/2002	ZONE ABAN	8/24/2002
54	30-015-01639	4	31	17S	28E	990S	330W	RAMPO #001	APACHE CORPORATION	O		ACTIVE	5/1/1948
55	30-015-01647	4	31	17S	28E	660S	660W	EMPIRE ABO UNIT #021	BP AMERICA PRODUCTION COMPANY	O	7/23/2005	P&A	1/31/1960

TABLE II
Tabulation of Wells Within One Mile Area of Review

ID NO	API	Unit No.	Sect	TOWNS HIP	RNG	NS FTG	EW FTG	WELL NAME	OPERATOR	WELL TYPE	PLUG DATE	STATUS	DATE - Comp or Plug
56	30-015-01646	N	31	17S	28E	660S	2082W	EMPIRE ABO UNIT #022A	BP AMERICA PRODUCTION COMPANY	O		P&A	1/22/1960
57	30-015-10118	N	31	17S	28E	766S	2188W	STATE FV #001	APACHE CORPORATION	O		ACTIVE	3/1/1963
58	30-015-01653	O	31	17S	28E	990S	1650E	PARKER-STATE NO. 1	OTIS A ROBERTS	O	1/18/1942	P&A	1/18/1942
59	30-015-27592	O	31	17S	28E	660S	2310E	WDW #001	NAVAJO REFINING CO. PIPELINE DIVISION	I		ACTIVE	8/4/1998
60	30-015-01649	O	31	17S	28E	660S	1939E	EMPIRE ABO UNIT #023	BP AMERICA PRODUCTION COMPANY	O	8/14/2009	P&A	2/24/1960
61	30-015-20042	P	31	17S	28E	990S	660E	NORTHWEST ARTESIA UNIT #011	LIME ROCK RESOURCHES A, LP	O		ACTIVE	5/8/1967
62	30-015-01641	P	31	17S	28E	660S	660E	EMPIRE ABO UNIT #024	APACHE CORPORATION	O		ACTIVE	3/12/1960
63	30-015-01654	D	32	17S	28E	330N	330W	ASTON-STATE NO. 1	BEDINGFIELD, J E	O	5/12/1953	P&A	5/12/1953
64	30-015-01671	E	32	17S	28E	2280N	978W	EMPIRE ABO UNIT #025B	BP AMERICA PRODUCTION COMPANY	O	8/14/2008	P&A	9/13/1960
65	30-015-01657	F	32	17S	28E	2280N	1980W	AA STATE NO. 1	APACHE CORPORATION	O		ACTIVE	8/24/1960
66	30-015-10818	K	32	17S	28E	2310S	2105W	NORTHWEST ARTESIA UNIT #008	SDX RESOURCES INC	O	11/6/2006	P&A	11/6/2006
67	30-015-01661	K	32	17S	28E	1650S	2310W	EMPIRE ABO UNIT #026B	APACHE CORPORATION	O		T/A	3/27/1960
68	30-015-10795	L	32	17S	28E	2310S	660W	NORTHWEST ARTESIA UNIT #009	LIME ROCK RESOURCES A, LP	O	5/28/2008	P&A	5/15/1966
69	30-015-01662	L	32	17S	28E	1650S	990W	EMPIRE ABO UNIT #025A	APACHE CORPORATION	O		P/A	4/13/1960
70	30-015-20043	M	32	17S	28E	990S	760W	NORTHWEST ARTESIA UNIT #012	APACHE CORPORATION	O		T/A	5/9/1967
71	30-015-01660	M	32	17S	28E	660S	660W	EMPIRE ABO UNIT #025	BP AMERICA PRODUCTION COMPANY	O	1/14/2009	P&A	3/5/1960
72	30-015-10834	N	32	17S	28E	990S	2030W	NORTHWEST ARTESIA UNIT #013	SDX RESOURCES INC	O	9/15/2006	P&A	9/15/2006
73	30-015-01659	N	32	17S	28E	660S	1980W	EMPIRE ABO UNIT #026A	APACHE CORPORATION	O		T/A	2/14/1960
74	30-015-21539	N	32	17S	28E	150S	1400W	EMPIRE ABO UNIT #261	APACHE CORPORATION	O		ACTIVE	7/25/1975
75	30-015-22009	O	32	17S	28E	330S	2481E	EMPIRE ABO UNIT #272	APACHE CORPORATION	O		T/A	7/18/1977
76	30-015-02606	3	5	18S	28E	330N	1941W	EMPIRE ABO UNIT #026E	APACHE CORPORATION	O		ACTIVE	7/18/1960
77	30-015-22697	3	5	18S	28E	1080N	1914W	EMPIRE ABO UNIT #261A	BP AMERICA PRODUCTION COMPANY	O	6/16/2009	P&A	1/4/1979
78	30-015-02607	4	5	18S	28E	660N	660W	EMPIRE ABO UNIT #025C	APACHE CORPORATION	O		P/A	3/27/1960
79	30-015-22750	4	5	18S	28E	660N	150W	EMPIRE ABO UNIT #251	APACHE CORPORATION	O		P/A	1/12/1979
80	30-015-02608	E	5	18S	28E	1660N	330W	STATE E AI #001	CONOCOPHILLIPS COMPANY	O	1/13/2006	P&A	1/13/2006
81	30-015-24485	E	5	18S	28E	1980N	990W	ILLINOIS CAMP A COM #001	CONOCOPHILLIPS COMPANY	G		ACTIVE	8/10/1983
82	30-015-02602	F	5	18S	28E	1650N	1650W	EMPIRE ABO UNIT #026D	APACHE CORPORATION	O		ACTIVE	12/30/1959
83	30-015-25522	L	5	18S	28E	2240S	400W	WALTER SOLT STATE #001	APACHE CORPORATION	S		ACTIVE	8/12/1983
84	30-015-10244	L	5	18S	28E	2310S	330W	STATE AG #001	MACK ENERGY CORP	O	3/27/2001	ZONE ABAN	3/27/2001
87	30-015-20019	1	6	18S	28E	330N	330E	NORTHWEST ARTESIA UNIT #016	LIME ROCK RESOURCES A, LP	O		ACTIVE	3/14/1967
88	30-015-02615	1	6	18S	28E	660N	660E	EMPIRE ABO UNIT #024B	APACHE CORPORATION	O		ACTIVE	2/29/1960
89	30-015-02625	2	6	18S	28E	470N	2170E	EMPIRE ABO UNIT #023C	APACHE CORPORATION	I		ACTIVE	12/21/1959
90	30-015-21542	2	6	18S	28E	1260N	1580E	EMPIRE ABO UNIT #231	APACHE CORPORATION	O		P/A	11/1/1975
91	30-015-02621	3	6	18S	28E	660N	1980W	EMPIRE ABO UNIT #022E	APACHE CORPORATION	O		ACTIVE	12/29/1959
92	30-015-21626	G	6	18S	28E	1361N	2531E	EMPIRE ABO UNIT #231A	APACHE CORPORATION	O		P/A	10/22/1975
93	30-015-02613	4	6	18S	28E	990N	660W	EMPIRE ABO UNIT #021B	APACHE CORPORATION	O		ACTIVE	12/30/1959
94	30-015-23116	5	6	18S	28E	2050N	100W	EMPIRE ABO UNIT #213	APACHE CORPORATION	O		ACTIVE	6/2/1980
95	30-015-02619	5	6	18S	28E	1990N	660W	EMPIRE ABO UNIT #021C	APACHE CORPORATION	O		ACTIVE	10/30/1959
96	30-015-22637	5	6	18S	28E	2450N	400W	EMPIRE ABO UNIT #212	APACHE CORPORATION	O		ACTIVE	12/28/1978
97	30-015-21395	5	6	18S	28E	2630N	1300W	EMPIRE ABO UNIT #211	APACHE CORPORATION	O		ACTIVE	2/11/1975
98	30-015-22012	F	6	18S	28E	1350N	1572W	EMPIRE ABO UNIT #222	APACHE CORPORATION	O		ACTIVE	3/13/1977
99	30-015-02626	F	6	18S	28E	1650N	1650W	STATE NO. 1	SARKIN, DAVID C & OLIVER, HENRY F	O	2/21/1942	P&A	2/21/1942
100	30-015-10107	F	6	18S	28E	1874N	1874W	STATE FX #001	DORAL ENERGY CORP	O		ACTIVE	8/8/1963
101	30-015-02620	F	6	18S	28E	1990N	2082W	EMPIRE ABO UNIT #022D	APACHE CORPORATION	O		ACTIVE	11/26/1959
102	30-015-22527	F	6	18S	28E	2630N	1930W	EMPIRE ABO UNIT #223	APACHE CORPORATION	O		ACTIVE	5/19/1978
103	30-015-21746	F	6	18S	28E	2610N	2713W	EMPIRE ABO UNIT #221	APACHE CORPORATION	O		ACTIVE	4/23/1976
104	30-015-22913	G	6	18S	28E	1750N	1600E	EMPIRE ABO UNIT #235	APACHE CORPORATION	O		T/A	7/8/1979
105	30-015-22593	G	6	18S	28E	1900N	2441E	EMPIRE ABO UNIT #234	BP AMERICA PRODUCTION COMPANY	O	12/3/2008	P&A	8/27/1978
106	30-015-02614	G	6	18S	28E	1980N	1980E	EMPIRE ABO UNIT #023B	APACHE CORPORATION	O		ACTIVE	1/26/1960
107	30-015-21737	G	6	18S	28E	2253N	1576E	EMPIRE ABO UNIT #232	BP AMERICA PRODUCTION COMPANY	O	5/7/2009	P&A	4/13/1976
108		H	6	18S	28E							MISPLOT OF 107	
109	30-015-22490	G	6	18S	28E	2550N	2050E	EMPIRE ABO UNIT #233	BP AMERICA PRODUCTION COMPANY	O	4/3/2009	P&A	6/5/1978
110	30-015-02616	H	6	18S	28E	1650N	990E	EMPIRE ABO UNIT #024C	APACHE CORPORATION	O		P/A	3/24/1960
111	30-015-23547	H	6	18S	28E	1950N	660E	EMPIRE ABO UNIT #241	BP AMERICA PRODUCTION COMPANY	O	9/19/2008	P&A	4/12/1981
112	30-015-02617	I	6	18S	28E	2310S	990E	EMPIRE ABO UNIT #024K	BP AMERICA PRODUCTION COMPANY	O	12/12/2002	P&A	12/12/2002

TABLE II
Tabulation of Wells Within One Mile Area of Review

ID NO	API	Unit No.	Sect	TOWNSHIP	RNG	NS FTG	EW FTG	WELL NAME	OPERATOR	WELL TYPE	PLUG DATE	STATUS	DATE - Comp or Plug
113	30-015-22528	J	6	18S	28E	2300S	1570E	EMPIRE ABO UNIT #232A	BP AMERICA PRODUCTION COMPANY	O	4/7/2009	P&A	2/5/1979
114	30-015-02611	J	6	18S	28E	2310S	2310E	STATE NO. 1	BARNEY COCKBURN	O	8/15/1949	P&A	8/15/1949
115	30-015-02628	J	6	18S	28E	2260S	2270E	EMPIRE ABO UNIT #023D	BP AMERICA PRODUCTION COMPANY	O		ACTIVE	5/23/1979
116	30-015-22491	J	6	18S	28E	1700S	2350E	EMPIRE ABO UNIT #231B	BP AMERICA PRODUCTION COMPANY	O	9/2/2009	P&A	8/13/1978
117	30-015-02618	J	6	18S	28E	1647S	2076E	CAPITOL STATE NO. 1	MILLER BROS OIL CO	G	3/21/1955	P&A	3/21/1955
118	30-015-02623	K	6	18S	28E	2248S	2075W	EMPIRE ABO UNIT #022F	APACHE CORPORATION	O		ACTIVE	2/22/1960
119		K	6	18S	28E							MISPLOT	
120		L	6	18S	28E			WDW-2 (ORIGINAL LOCATION)	NAVAJO REFINING COMPANY				
121	30-015-02622	6	6	18S	28E	2219S	660W	EMPIRE ABO UNIT #021D	APACHE CORPORATION	O		ACTIVE	1/23/1960
122	30-015-23548	6	6	18S	28E	1950S	1000W	EMPIRE ABO UNIT #211A	APACHE CORPORATION	O		ACTIVE	7/17/1980
123	30-015-02627	7	6	18S	28E	949S	990W	STATE M-AI #002	RUTH OIL CO, LLC	O		ACTIVE	10/21/1960
124	30-015-26943	7	6	18S	28E	990S	730W	CHALK BLUFF 6 STATE #001	MEWBOURNE OIL CO	G		ACTIVE	4/16/1992
125	30-015-02610	N	6	18S	28E	955S	1750W	EMPIRE ABO UNIT #022C	APACHE CORPORATION	O		ACTIVE	8/5/1960
126	30-015-02624	O	6	18S	28E	968S	2270E	STATE CD NO. 1	PAN AMERICAN PETROLEUM CO	O	5/1/1961	P&A	5/1/1961
127	30-015-25503	P	6	18S	28E	660S	330E	KIMBERLY STATE NO. 1	DICKSON PETROLEUM CO	O	12/30/1985	P&A	12/30/1985
128	30-015-02612	P	6	18S	28E	330S	330E	STATE NO. 1	D & H OIL CO	O	5/13/1952	P&A	5/13/1952
129	30-015-01215	1	1	18S	27E	667N	666E	EMPIRE ABO UNIT #020D	APACHE CORPORATION	O		ACTIVE	11/5/1959
130	30-015-00708	2	1	18S	27E	660N	1980E	EMPIRE ABO UNIT #019B	APACHE CORPORATION	O		P/A	7/7/1959
131		C	1	18S	27E			HILL #4	MALCO REFINERIES		5/10/1948	P&A	5/10/1948
132		C	1	18S	27E							MISPLOT	
133	30-015-00710	3	1	18S	27E	660N	1980W	AAO FEDERAL No. 013	ALAMO PERMIAN RESOURCES, LLC	O		ACTIVE	7/21/2004
134	30-015-26741	F	1	18S	27E	1650N	1350W	CHALK BLUFF FEDERAL COM #002	MEWBOURNE OIL CO	G		ACTIVE	8/24/1991
135	30-015-00706	F	1	18S	27E	2310N	1980W	EMPIRE ABO UNIT #018A	ALAMO PERMIAN RESOURCES, LLC	O		ACTIVE	5/31/1959
136	30-015-00709	G	1	18S	27E	1980N	1980E	EMPIRE ABO UNIT #019C	ALAMO PERMIAN RESOURCES, LLC	O		ACTIVE	8/2/1959
137		G	1	18S	27E							MISPLOT	
138	30-015-21552	G	1	18S	27E	2500N	2500E	EMPIRE ABO UNIT #191	CFM OIL, LLC	O		P/A	9/7/1975
139	30-015-00711	H	1	18S	27E	1980N	660E	EMPIRE ABO UNIT #020C	BP AMERICA PRODUCTION COMPANY	O		P/A	10/13/1959
140	30-015-21783	H	1	18S	27E	2490N	1299E	EMPIRE ABO UNIT #202	ALAMO PERMIAN RESOURCES, LLC	O		ACTIVE	5/13/1976
141	30-015-22656	H	1	18S	27E	2400N	700E	EMPIRE ABO UNIT #203	APACHE CORPORATION	O		ACTIVE	10/10/1978
142		H	1	18S	27E			CRONIN #1	MANHATTAN OIL		7/1/2027	P&A	7/1/1927
143	30-015-21553	H	1	18S	27E	2501N	20E	EMPIRE ABO UNIT #201	ALAMO PERMIAN RESOURCES, LLC	O		ACTIVE	7/19/1975
144	30-015-27163	I	1	18S	27E	1980S	990E	CHALK BLUFF FEDERAL COM #003	MEWBOURNE OIL CO	I		ACTIVE	1/16/1993
145	30-015-00697	I	1	18S	27E	1980S	660E	EMPIRE ABO UNIT #020K	BP AMERICA PRODUCTION COMPANY	O	1/5/2003	P&A	1/5/2003
146	30-015-22657	J	1	18S	27E	2490S	2200E	EMPIRE ABO UNIT #193	ALAMO PERMIAN RESOURCES, LLC	O		ACTIVE	10/26/1978
147	30-015-00696	J	1	18S	27E	1980S	1980E	EMPIRE ABO UNIT #019Q	APACHE CORPORATION	O		P&A	8/20/1959
148	30-015-22560	J	1	18S	27E	220S	1390E	EMPIRE ABO UNIT #192	BP AMERICA PRODUCTION COMPANY	O		T/A	6/25/1978
149	30-015-21873	J	1	18S	27E	1526S	1470E	EMPIRE ABO UNIT #191A	ALAMO PERMIAN RESOURCES, LLC	O		ACTIVE	9/23/1976
150	30-015-22658	J	1	18S	27E	1500S	2130E	EMPIRE ABO UNIT #194	APACHE CORPORATION	O		T/A	11/14/1978
151	30-015-22559	K	1	18S	27E	2290S	2445W	EMPIRE ABO UNIT #184	APACHE CORPORATION	O		P/A	7/25/1978
152	30-015-22096	K	1	18S	27E	2370S	1510W	EMPIRE ABO UNIT #183	APACHE CORPORATION	O		ACTIVE	7/24/1977
153	30-015-21554	K	1	18S	27E	1367S	1440W	EMPIRE ABO UNIT #181	BP AMERICA PRODUCTION COMPANY	O	4/17/2003	P&A	4/17/2003
154	30-015-00707	K	1	18S	27E	1980S	1980W	EMPIRE ABO UNIT #018B	APACHE CORPORATION	O		ACTIVE	5/22/1959
155	30-015-21792	K	1	18S	27E	1533S	2370W	EMPIRE ABO UNIT #182	LIME ROCK RESOURCES A, L.P.	O		ACTIVE	6/1/1976
156	30-015-00713	N	1	18S	27E	995S	1644W	EMPIRE ABO UNIT #018D	BP AMERICA PRODUCTION COMPANY	O	9/27/2003	P&A	9/27/2003
157	30-015-26575	N	1	18S	27E	790S	2250W	WDW-3	NAVAJO REFINING COMPANY	I		ACTIVE	3/7/1991
158	30-015-20394	O	1	18S	27E	953S	2197E	EMPIRE ABO FEDERAL NO. 5	HUMBLE OIL & REFINING CO	O	4/9/1971	P&A	4/9/1971
159	30-015-00698	O	1	18S	27E	660S	1980E	EMPIRE ABO UNIT #191	BP AMERICA PRODUCTION COMPANY	S		ACTIVE	11/8/1959
160	30-015-00699	P	1	18S	27E	940S	330E	EMPIRE ABO UNIT #020B	APACHE CORPORATION	O		ACTIVE	12/2/1961
161	30-015-26404	A	12	18S	27E	660N	990E	FEDERAL T #001	APACHE CORPORATION	I		ACTIVE	9/13/1990
162	30-015-25099	H	12	18S	27E	1809N	990E	COMSTOCK FEDERAL #006	HARLOW ENTERPRISES LLC	O		ACTIVE	9/11/1985
165	30-015-25997	C	7	18S	28E	940N	1757W	LAUREL STATE #001	EASTLAND OIL CO	O		ACTIVE	2/23/1987
166	30-015-25675	2	7	18S	28E	940N	1757W	LAUREL STATE #002	EASTLAND OIL CO	O		ACTIVE	11/10/1988
167	30-015-25236	F	7	18S	28E	1980N	1980W	STATE BY #001	MOREXCO INC	O		ACTIVE	6/10/1985
168	30-015-22636	J	7	18S	28E	1950N	1300W	PRE-ONGUARD WELL #213	DYAD PE	O		ABAN LOCATION	
169	30-015-22635	J	8	18S	28E	1900N	100W	PRE-ONGUARD WELL #212	DYAD PE	O		ABAN LOCATION	

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ID NO	API	Unit No.	Sect	TOWNS HIP	RNG	NS FTG	EW FTG	WELL NAME	OPERATOR	WELL TYPE	PLUG DATE	STATUS	DATE - Comp or Plug
170	30-015-24372	J	8	18S	28E	1980S	990E	PRE-ONGUARD WELL #001	DYAD PE	O		ABAN LOCATION	
171	30-015-27636	H	7	18S	28E	2310N	810E	CHALK BLUFF 6 STATE #002	PHILLIPS PETROLEUM	O		ABAN LOCATION	
353	30-015-27286	M	36	17S	27E	660S	990W	CHALK BLUFF 36 STATE #001	MEWBOURNE OIL CO	O		ACTIVE	3/30/1993
354	30-015-24612	M	36	17S	27E	790S	990W	STATE M #001	PRONGHORN MANAGEMENT CORP	O	4/21/2009	P&A	10/11/1983
355	30-015-00676	M	36	17S	27E	330N	990W	EMPIRE ABO UNIT #017	LIME ROCK RESOURCES A, L.P.	O		ACTIVE	
356	30-015-10184	M	36	17S	27E	330S	920W	STATE #006	ASPEN OIL INC	O		ACTIVE	
358	30-015-21623	M	36	17S	27E	360S	455W	STATE #007	GEORGE A CHASE JR & C SERVICE	O		ACTIVE	
359	30-015-00662	M	36	17S	27E	330S	330W	STATE NO. 2	ACREY, B L & F D	O	10/15/1942	P&A	10/15/1942
595	30-015-02605	B	5	18S	28E	930N	2271E	EMPIRE ABO UNIT NO. 27 E	BP AMERICA PRODUCTION UNIT	O	6/12/2009	P&A	3/30/1960
748	30-015-00701	D	1	18S	27E	330N	330W	SOUTH RED LAKE GRAYBURG UNIT 37 WIW	FAIRWAY RESOURCES OPERATING LLC	O		ACTIVE	
748	30-015-00715	4	1	18S	27E	330N	330W	SOUTH RED LAKE GRAYBURG UNIT #037	LEGACY RESERVES OPERATING LP	I		ACTIVE	
749	30-015-00712	D	1	18S	27E	647N	667W	EMPIRE ABO UNIT I NO. 17	ARCO OIL & GAS	O	1/24/1987	P&A	1/24/1987
750		E	1	18S	27E	1650N	330W	BRAINARD	JONES	O	5/10/1939	P&A	5/10/1939
751	30-015-00704	E	1	18S	27E	1980N	660W	EMPIRE ABO UNIT J NO. 17	ARCO OIL & GAS	O	3/26/1959	P&A	3/26/1959
752	30-015-00703	L	1	18S	27E	1980S	660W	EMPIRE ABO UNIT #017A	BP AMERICA PRODUCTION COMPANY	O	3/27/2009	P&A	5/22/1995
753	30-015-22815	M	1	18S	27E	670S	330W	EMPIRE ABO UNIT #171	LIME ROCK RESOURCES A, L.P.	O		ACTIVE	5/22/1979
754		M	1	18S	27E							MISPLOT OF 756	
755	30-015-00714	N	1	18S	27E			HILL #1	VALLEY REFINING CO		12/20/1943	P&A	12/20/1943
756	30-015-00705	M	1	18S	27E	990S	660W	EMPIRE ABO UNIT #017B	BP AMERICA PRODUCTION COMPANY	O	7/21/2004	P&A	6/25/1959
757		A	2	18S	27E	330N	610E	STATE 2	BRAINARD & GUY		1/31/1942	NO COMPL	1/31/1942
758	30-015-00721	1	2	18S	27E	330N	990E	SOUTH RED LAKE GRAYBURG UNIT #036	FAIRWAY RESOURCES OPERATING LLC	O		PROD	11/6/1947
765	30-015-00724	1	2	18S	27E	990N	330E	EMPIRE ABO UNIT #016B	LIME ROCK RESOURCES A, L.P.	O		ACTIVE	
766	30-015-00737	B	2	18S	27E	905N	1601E	SOUTH RED LAKE GRAYBURG UNIT #038	FAIRWAY RESOURCES OPERATING LLC	O		ACTIVE	5/23/1948
772	30-015-00745	H	2	18S	27E	1980N	660E	STATE H #001	MACK ENERGY CORPORATION	O	3/7/2008	P&A	3/7/2008
773	30-015-00742	H	2	18S	27E	1650N	990E	SOUTH RED LAKE GRAYBURG UNIT 39 WIW	S&J OPERATING COMPANY	O	2/8/1991	P&A	2/8/1991
774	30-015-00740	G	2	18S	27E	1650N	2197E	SOUTH RED LAKE GRAYBURG UNIT #040	MCQUADRANGLE, LC	I	7/10/2002	P&A	7/10/2002
778		G	2	18S	27E	2310N	1650E	HUDSON #2	RUTTER & WILBANKS	O			1/1/1957
779	30-015-00741	G	2	18S	27E	2310N	1980E	EMPIRE ABO UNIT #015B	APACHE CORPORATION	O		ACTIVE	6/6/1959
781		J	2	18S	27E	2310S	2310E	STATE B-2	MALCO REFINING CO	O	1/1/1947	P&A	1/1/1947
785	30-015-00717	I	2	18S	27E	1980S	660E	EMPIRE ABO UNIT #016	BP AMERICA PRODUCTION COMPANY	O		P/A	2/6/1995
786	30-015-00716	J	2	18S	27E	1980S	1830E	EMPIRE ABO UNIT #015	APACHE CORPORATION	O		ACTIVE	3/23/1959
789	30-015-22896	K	2	18S	27E	1820S	2550W	EMPIRE ABO UNIT #143A	WALTER SOLT, LLC	O		ACTIVE	5/13/1979
791	30-015-22914	I	2	18S	27E	1310S	590E	EMPIRE ABO UNIT #161	COG OPERATING, LLC	O		T/A	9/13/1979
792		O	2	18S	27E							MISPLOT OF 814	
793	30-015-22609	N	2	18S	27E	1200S	1900W	EMPIRE ABO UNIT #143	APACHE CORPORATION	O		ACTIVE	12/20/1978
795		P	2	18S	27E							MISPLOT OF 765	
796	30-015-21544	O	2	18S	27E	1110S	1322E	EMPIRE ABO UNIT #151	APACHE CORPORATION	O		P/A	11/4/1975
797	30-015-22885	O	2	18S	27E	1040S	2025E	EMPIRE ABO UNIT #155	APACHE CORPORATION	O		T/A	5/1/1979
799	30-015-00722	P	2	18S	27E	660S	660E	EMPIRE ABO UNIT #016A	APACHE CORPORATION	O	2/24/2009	P&A	1/20/1959
800	30-015-22808	O	2	18S	27E	600S	1330E	EMPIRE ABO UNIT #156	BP AMERICA PRODUCTION COMPANY	O	2/5/2009	P&A	4/12/1979
801	30-015-00731	O	2	18S	27E	660S	1980E	EMPIRE ABO UNIT #015A	BP AMERICA PRODUCTION COMPANY	O	2/11/2009	P&A	11/19/1958
802	30-015-22669	O	2	18S	27E	800S	2500E	EMPIRE ABO UNIT #154	BP AMERICA PRODUCTION COMPANY	O	1/27/2009	P&A	12/4/1978
805	30-015-22013	O	2	18S	27E	90S	1456E	EMPIRE ABO UNIT #153	BP AMERICA PRODUCTION COMPANY	O	10/30/2008	P&A	4/20/1977
806	30-015-21825	O	2	18S	27E	320S	2602E	EMPIRE ABO UNIT #152	APACHE CORPORATION	O		T/A P&A	6/17/1976
807	30-015-22608	N	2	18S	27E	100S	1950W	EMPIRE ABO UNIT #142	BP AMERICA PRODUCTION COMPANY	O		(No Info on dates)	
808	30-015-21807	M	2	18S	27E	275S	1243W	EMPIRE ABO UNIT #132	BP AMERICA PRODUCTION COMPANY	O		ACTIVE	7/1/1976
812	30-015-00730	N	2	18S	27E	660S	1980W	EMPIRE ABO UNIT #014	APACHE CORPORATION	O		ACTIVE	10/21/1958
813	30-015-00720	A	2	18S	27E	990N	1650E	RIVERWOLF UNIT #004	BP AMERICA PRODUCTION COMPANY	O	12/12/2008	P&A	10/21/1959
814	30-015-22051	K	2	18S	27E	1370S	2445W	EMPIRE ABO UNIT #141A	APACHE CORPORATION	O		ACTIVE	5/17/1977
836	30-015-00869	A	11	18S	27E	330N	653E	EMPIRE ABO UNIT #016C	BP AMERICA PRODUCTION COMPANY	O	10/25/2004	P&A	10/25/2004
837	30-015-22568	B	11	18S	27E	400N	1450E	EMPIRE ABO UNIT #151B	BP AMERICA PRODUCTION COMPANY	O	8/16/2006	P&A	8/16/2006
838	30-015-22838	B	11	18S	27E	200N	1925E	EMPIRE ABO UNIT #153B	BP AMERICA PRODUCTION COMPANY	O	1/4/2009	P&A	5/6/1979
839	30-015-00868	B	11	18S	27E	660N	1980E	EMPIRE ABO UNIT #015C	BP AMERICA PRODUCTION COMPANY	O	7/16/2004	P&A	7/16/2004
840	30-015-22569	B	11	18S	27E	560N	2588E	EMPIRE ABO UNIT #152B	BP AMERICA PRODUCTION COMPANY	O	9/24/2008	P&A	8/23/1978

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ID NO	API	Unit No.	Sect	TOWNSHIP	RNG	NS FTG	EW FTG	WELL NAME	OPERATOR	WELL TYPE	PLUG DATE	STATUS	DATE - Comp or Plug
841	30-015-22834	C	11	18S	27E	225N	2280W	EMPIRE ABO UNIT #141B	APACHE CORPORATION	O		ACTIVE	5/21/1979
842	30-015-00864	C	11	18S	27E	660N	1980W	EMPIRE ABO UNIT M NO. 14	ARCO OIL & GAS	O	9/5/1957	P&A	9/5/1957
843	30-015-22833	D	11	18S	27E	450N	1175W	EMPIRE ABO UNIT #133B	APACHE CORPORATION	O		ACTIVE	5/23/1979
844	30-015-00867	D	11	18S	27E	660N	660W	EMPIRE ABO UNIT M NO. 13	ARCO OIL & GAS	O	4/26/1958	P&A	4/26/1958
846	30-015-22556	D	11	18S	27E	1100N	1200W	EMPIRE ABO UNIT M NO. 131	ARCO OIL & GAS	O	7/10/1978	P&A	7/10/1978
848	30-015-20510	F	11	18S	27E	1650N	1653W	MALCO S NO. 1	AMOCO PRODUCTION CO	O	10/16/1971	P&A	10/16/1971
849	30-015-00865	F	11	18S	27E	1650N	1980W	EMPIRE ABO UNIT N NO. 14	ARCO OIL & GAS	O	2/3/1961	P&A	2/3/1961
850	30-015-00866	E	11	18S	27E	1980N	660W	EMPIRE ABO UNIT N NO. 131	ARCO OIL & GAS	O	3/27/1958	P&A	3/27/1958
851	30-015-00870	J	11	18S	27E	1980S	1980E	SMITH-MCPHERSON NO. 1	AMOCO PRODUCTION CO	O	9/1/1956	P&A	9/1/1956
852	30-015-01201	N	11	18S	27E			AN ETZ #3	OSCAR HOWARD		4/15/2027	P&A	
853	30-015-01202	O	11	18S	27E			AN ETZ #2	OSCAR HOWARD		2/4/2027	P&A	
854	30.015-00863	N	11	18S	27E			VICKERS #1	B.R. POLK, JR.		10/14/1949	P&A	10/14/1949
855	30-015-24857	M	11	18S	27E	700S	990W	FEDERAL DH GAS COM #001	CHEVERON USA INC.	G		ACTIVE	5/18/1984
856	30-015-20535	D	12	18S	27E	330N	455W	FEDERAL EA 2	ROBERT G COX	O	8/7/1973	P&A	8/7/1973
857	30-015-00871	D	12	18S	27E	330N	330W	FEDERAL EA #001	RHONDA OPERATING CO	O	4/12/1994	P&A	4/12/1994
858	30-015-23115	D	12	18S	27E	330N	380W	FEDERAL EA NO. 3	RHONDA OPERATING CO	O	3/16/1980	D&A	3/16/1980
859	30-015-25738	G	12	18S	27E	2310N	2310E	COMSTOCK FEDERAL #009	HARLOW ENTERPRISES LLC	O		ACTIVE	4/25/1987
860	30-015-25270	F	12	18S	27E	2310N	2310W	CHUKKA FEDERAL #001	PHOENIX ENERGY	O		ACTIVE	4/23/1985
861	30-015-20894	E	12	18S	27E	1980N	660W	WDW #002	NAVAJO REFINING COMPANY	I		ACTIVE	7/18/1973
862	30-015-00874	J	12	18S	27E	2310S	2355E	COMSTOCK FEDERAL #007	HARLOW ENTERPRISES LLC	O		ACTIVE	6/29/1948
863	30-015-00872	L	12	18S	27E	310S	990W	MAGRUDER NO. 1	MCKEE-JONES	O	2/18/1943	D&A	
864	30-015-25201	K	12	18S	27E	1650S	1770W	COMSTOCK FEDERAL #002	HARLOW ENTERPRISES LLC	O		ACTIVE	3/16/1985
865	30-015-25649	L	12	18S	27E	1650S	990W	COMSTOCK FEDERAL NO. 8	FRED POOL DRILLING CO	O	10/10/1986	D&A	
866	30-015-25545	M	12	18S	27E	990S	990W	COMSTOCK FEDERAL #003	HARLOW ENTERPRISES LLC	O		ACTIVE	5/19/1986
867	30.015-00873	M	12	18S	27E			MAGRUDER #2	R.E. McKEE ET AL		2/27/1945	P&A	2/27/1945
868	30-015-26017	N	12	18S	27E	990S	1650W	COMSTOCK FEDERAL #010	EASTLAND OIL CO	O	1/23/2003	P&A	1/23/2003
869	30-015-25100	N	12	18S	27E	330S	1650W	COMSTOCK FEDERAL #001	HARLOW ENTERPRISES LLC	O		ACTIVE	12/10/1984
870	30-015-25202	O	12	18S	27E	330S	2310E	COMSTOCK FEDERAL #005	HARLOW ENTERPRISES LLC	O		ACTIVE	4/19/1985
871	30-015-06171	I	12	18S	27E	1069S	251E	MICHAEL CRONIN NO. 3	PILCHER OIL & GAS	O	5/20/2026	P&A	
872		P	12	18S	27E			MICHAEL CRONIN #1	PILCHER OIL & GAS		2/15/1932	P&A	2/15/1932
873	30-015-00875	P	12	18S	27E	330S	330E	MAGRUDER NO. B-4	CITIES SERVICE OIL CO	O	7/30/1952	P&A	7/30/1952
874	30-015-00876	P	12	18S	27E	100S	500E	MAGRUDER NO. 5	ROBERT E MCKEE	O	2/8/1954	P&A	2/8/1954
875	30-015-06170	P	12	18S	27E	200S	200E	MICHAEL CRONIN NO. 2	PILCHER OIL & GAS	O	2/22/2026	P&A	
876	30-015-01200	A	13	18S	27E	0	0	STATE NO. 1	HASSENFUSH-DONNELLY	O	1/1/2026	P&A	
877	30-015-06137	A	13	18S	27E	250N	990E	STATE NO. 2	EASTLAND OIL CO	O	1/1/2026	D&A	
878	30-015-25394	C	13	18S	27E	330N	2310W	ARTESIA STATE #002	BILL MILLER	O		ACTIVE	9/28/1985
879	30-015-25241	C	13	18S	27E	330N	1650W	ARTESIA STATE #001	BILL MILLER	O		ACTIVE	4/13/1985
880	30-015-00884	C	13	18S	27E	990N	1650W	STATE NO. 3	DALE RESLER	O	1/29/1945	P&A	1/29/1945
881	30-015-25370	D	13	18S	27E	480N	940W	ARTESIA STATE UNIT #002A	APACHE CORPORATION	O		ACTIVE	8/27/1985
882	30-015-00883	D	13	18S	27E	990N	990W	ARTESIA STATE UNIT #001	APACHE CORPORATION	O		ACTIVE	12/11/1944
883	30-015-00880	E	13	18S	27E	1650N	990W	STATE NO. 1	DALE RESLER - JONES	O	1/26/1945	P&A	1/26/1945
884	30-015-24881	F	13	18S	27E	1880N	1830W	ANADARKO 13 FEDERAL #001	DAVID G HAMMOND	O	7/17/2011	P&A	6/18/1984
885	30-015-00888	F	13	18S	27E	1980N	1650W	PAGE NO. 1	RALPH NIX & JERRY CURTIS	O	11/28/1954	P&A	11/28/1954
886	30-015-00879	F	13	18S	27E	2310N	1650W	JONES-GOVT NO. 1	DALE RESLER	O	3/14/1945	D&A	3/14/1945
888	30-015-25078	G	13	18S	27E	1724N	2279E	ANADARKO 13 FEDERAL NO. 1	DICKSON PETROLEUM, INC	O	12/30/1984	D&A	12/30/1984
895	30-015-00891	A	14	18S	27E	990N	330E	ARTESIA STATE UNIT TRACT 4 NO. 1	ANADARKO PETROLEUM CORP	O	6/30/1944	P&A	6/30/1944
896	30-015-00893	G	14	18S	27E	1650N	1650E	STATE NO. 1	RESLER	O	1/1/1900	D&A	1/1/1900
897	30-015-00895	H	14	18S	27E	1650N	330E	ARTESIA STATE UNIT #001B	APACHE CORPORATION	O		ACTIVE	2/8/1945
901	30-015-00695	L	1	18S	27E	1650S	330W	HILL NO. 1	WILLIAM & EDWARD HUDSON	O	6/18/1948	D&A	6/18/1948
910	30-015-00744	J	2	18S	27E	2310S	1640E	STATE 1	COMPTON-SMITH	O		P&A	
911	30-015-31123	H	36	17S	27E	1980N	760E	NO BLUFF 36 STATE COM #002	LIME ROCK RESOURCES A, LP	G		ACTIVE	
912	30-015-31036	H	36	17S	27E	2310N	990E	GATES STATE #003	GEORGE A CHASE JR & C SERVICE	O		ACTIVE	
916	30-015-31592	N	36	17S	27E	330S	2310E	RAMAPO #007	ROJO GRANDE COMPANY LLC	O	12/21/2001	P&A	12/21/2001
917	30-015-30784	A	31	17S	28E	330N	480E	NW STATE #012	LIME ROCK RESOURCES A, LP	O		ACTIVE	
918	30-015-30893	A	31	17S	28E	973N	959E	NW STATE #028	LIME ROCK RESOURCES A, LP	O		ACTIVE	

TABLE II
Tabulation of Wells Within One Mile Area of Review

ID NO	API	Unit No.	Sect	TOWNS HIP	RNG	NS FTG	EW FTG	WELL NAME	OPERATOR	WELL TYPE	PLUG DATE	STATUS	DATE - Comp or Plug
919	30-015-32162	1	31	17S	28E	460N	990W	ENRON STATE #004	LIME ROCK RESOURCES A, LP	O		ACTIVE	4/3/2003
920	30-015-30783	H	31	17S	28E	1650N	330E	NW STATE #011	LIME ROCK RESOURCES A, LP	O		ACTIVE	
921	30-015-30849	I	31	17S	28E	2310S	270E	NW STATE #009	LIME ROCK RESOURCES A, LP	O		ACTIVE	
922	30-015-30760	P	31	17S	28E	735S	330E	NW STATE #010	LIME ROCK RESOURCES A, LP	O		ACTIVE	
923	30-015-31920	D	32	17S	28E	990N	990W	ENRON STATE #002	APACHE CORPORATION	O		ACTIVE	
924	30-015-30781	K	32	17S	28E	1900S	2146W	NW STATE #005	LIME ROCK RESOURCES A, LP	I		ACTIVE	
925	30-015-30777	L	32	17S	28E	2310S	990W	NW STATE #006	APACHE CORPORATION	O		ACTIVE	
926	30-015-30685	M	32	17S	28E	990S	990W	NW STATE #007	APACHE CORPORATION	O		ACTIVE	
927	30-015-30815	N	32	17S	28E	1090S	2126W	NW STATE #008	LIME ROCK RESOURCES A, LP	I		ACTIVE	
928	30-015-32310	1	1	18S	27E	990N	990E	AAO FEDERAL #004	APACHE CORPORATION	O		ACTIVE	5/4/2004
929	30-015-32309	2	1	18S	27E	330N	1690E	AAO FEDERAL #003	APACHE CORPORATION	O		ACTIVE	4/10/2003
930	30-015-32308	3	1	18S	27E	430N	2310W	AAO FEDERAL #002	APACHE CORPORATION	O		ACTIVE	9/19/2002
931	30-015-32307	4	1	18S	27E	330N	990W	AAO FEDERAL #001	APACHE CORPORATION	O		ACTIVE	12/10/2002
932	30-015-22816	O	1	18S	27E	1120S	1440E	EMPIRE ABO UNIT L #192	ARCO OIL & GAS	O	6/23/1980	ABAN LOCATION	6/28/1980
933	30-015-20388	N	1	18S	27E	990S	2297E	EMPIRE ABO #5	ARCO OIL & GAS	O	12/31/9999	SAME AS 158	
934	30-015-27719	I	12	18S	27E	1650S	990E	CHALK BLUFF 12 FED #001	MEWBOURNE OIL CO	G		ABAN LOCATION	
935	30-015-27437	B	14	18S	27E	660N	1980E	BEAUREGARD ANP STATE COM #001	YATES PETROLEUM CORPORATION	G		ABAN LOCATION	
936	30-015-31086	E	5	18S	28E	1650N	990W	LP STATE #001	MARBOB ENERGY CORP	O	3/11/2008	P&A	3/11/2008
937	30-015-31109	E	5	18S	28E	2301N	230W	LP STATE #002	APACHE CORPORATION	O		PROPOSED	
938	30-015-30785	1	6	18S	28E	430N	330E	NW STATE #015	APACHE CORPORATION	O		ACTIVE	
939	30-015-00264	J	6	18S	28E	2310S	2310E	CAPITAL STATE NO. 1	BARNEY COCKBURN	O		SAME AS 114	5/23/1979
940	30-015-31087	7	6	18S	28E	990S	330W	LP STATE #003	MARBOB ENERGY CORP	O	3/17/2008	P&A	7/15/2000
941	30-015-31088	7	6	18S	28E	330S	990W	LP STATE #004	MARBOB ENERGY CORP	O		PROPOSED	
942	30-015-06250	O	6	18S	28E	470S	2170E		BP AMERICA PRODUCTION COMPANY	O		SAME AS 89	
943	30-015-31319	3	7	18S	28E	2310N	330W	LAUREL STATE #003	EASTLAND OIL CO	O		ACTIVE	1/31/2001
944	30-015-26575	D	6	18S	28E	778N	995W	WDW-3 (ORIGINAL LOC.)	NAVAJO REFINING COMPANY	I		ACTIVE	
945	30-015-32959	E	1	18S	27E	1650N	875W	AAO FEDERAL #005	APACHE CORPORATION	O		ACTIVE	10/12/2004
946	30-015-33473	G	1	18S	27E	1750N	1650S	AAO FEDERAL #007	MARBOB ENERGY CORP	O		ACTIVE	4/4/2005
947	30-015-33784	H	1	18S	27E	1650N	330W	AAO FEDERAL #008	MARBOB ENERGY CORP	O		ACTIVE	2/25/2005
948	30-015-34071	F	1	18S	27E	2169N	1963W	AAO FEDERAL #006	MARBOB ENERGY CORP	O		ACTIVE	8/5/2005
949	30-015-34387	L	1	18S	27E	1980S	630W	AAO FEDERAL #009	MARBOB ENERGY CORP	O		ACTIVE	1/17/2006
950	30-015-34555	M	1	18S	27E	890S	660W	AAO FEDERAL #011	MARBOB ENERGY CORP	O		ACTIVE	3/9/2006
951	30-015-34576	K	1	18S	27E	2060S	2160W	AAO FEDERAL #010	MARBOB ENERGY CORP	O		ACTIVE	10/26/2006
952	30-015-34998	N	1	18S	27E	890S	1650W	AAO FEDERAL #012	MARBOB ENERGY CORP	O		ACTIVE	9/21/2006
953	30-015-34028	G	6	18S	28E	2285N	1366E	SLIDER 6 STATE NO. 001	BP AMERICA PRODUCTION COMPANY	O	12/17/2006	P&A	12/17/2006
954	30-015-35050	D	32	17S	28E	330N	500W	ENRON STATE NO 012	LIME ROCK RESOURCES A, LP	O		ACTIVE	12/21/2006
955	30-015-40187	A	14	18S	27E	660N	990E	VIOLET BIV STATE COM #1	YATES PETROLEUM CORP	O		EXT PERMIT TO DRILL	2/20/2009
956	30-015-33994	A	36	17S	27E	915N	420E	RED LAKE 36 A STATE #2	EDGE PETROLEUM OPERATING COMPANY, INC	O		ACTIVE	4/20/2005
957	30-015-36116	G	36	17S	27E	2305N	1650E	SOUTH RED LAKE UNIT II #57	LEGACY RESERVES OPERATING LP	O		ACTIVE	6/6/2008
958	30-015-32946	J	2	18S	27E	2210S	1650E	SCBP STATE #1	APACHE CORPORATION	O		ACTIVE	4/26/2005
959	30-015-35814	H	2	18S	27E	2063N	441E	STATE H NO 2	MACK ENERGY CORPORATION	O		ACTIVE	1/11/2008
960	30-015-36343	G	31	17S	28E	1650N	2310E	MALCO STATE NO. 002	GEORGE A CHASE JR DBA G AND C SERVICE	O		ACTIVE	7/9/2008
961	30-015-36978	D	31	17S	28E	990N	330W	ENRON STATE NO. 015	LIME ROCK RESOURCES A, LP	O		ACTIVE	7/3/2009
962	30-015-36554	L	32	17S	28E	1770S	550W	NW STATE NO. 029	LIME ROCK RESOURCES A, LP	O		ACTIVE	1/30/2009
963	30-015-36989	K	32	17S	28E	1630S	1710W	NW STATE NO. 030	LIME ROCK RESOURCES A, LP	O		NO COMPL	7/14/2009
964	30-015-37057	N	32	17S	28E	330S	1750W	NW STATE NO. 031	LIME ROCK RESOURCES A, LP	O		NO COMPL	7/28/2009
965	30-015-37058	M	32	17S	28E	330S	330W	NW STATE NO. 032	LIME ROCK RESOURCES A, LP	O		NO COMPL	8/23/2009
966	30-015-37428	G	31	17S	28E	1980N	1980E	MALCO STATE NO. 3	G&C SERVICE	O		ACTIVE	2/10/2010
967	30-015-38240	G	36	17S	27E	1425N	1520E	KIOWA STATE NO. 3	COG OPERATING, LLC	O		ACTIVE	
968	30-015-39029	G	36	17S	27E	2210N	2310E	CONKLIN STATE NO. 1-Y	G AND C SERVICE	O		ACTIVE	
969	30-015-39321	M	36	17S	27E	990S	890W	BIG BOY STATE NO. 1	COG OPERATING, LLC	O		PERMIT TO DRILL	
970	30-015-39322	M	36	17S	27E	840S	425W	BIG BOY STATE NO. 3	COG OPERATING, LLC	O		ACTIVE	
971	30-015-39323	O	36	17S	27E	870S	1560E	BIG BOY STATE NO. 5	COG OPERATING, LLC	O		ACTIVE	
972	30-015-39324	O	36	17S	27E	480S	2210E	BIG BOY STATE NO. 6	COG OPERATING, LLC	O		PERMIT TO DRILL	
973	30-015-39325	O	36	17S	27E	990S	2210E	BIG BOY STATE NO. 7	COG OPERATING, LLC	O		PERMIT TO DRILL	

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ID NO	API	Unit No.	Sect	TOWNS HIP	RNG	NS FTG	EW FTG	WELL NAME	OPERATOR	WELL TYPE	PLUG DATE	STATUS	DATE - Comp or Plug
974	30-015-39326	O	36	17S	27E	275S	1560E	BIG BOY STATE NO. 8	COG OPERATING, LLC	O		ACTIVE	
975	30-015-39401	P	36	17S	27E	1110S	630E	EMPIRE ABO UNIT NO. 417	APACHE CORPORATION	O		ACTIVE	
976	30-015-39009	G	2	18S	27E	1650N	2430E	EMPIRE ABO UNIT NO. 415	APACHE CORPORATION	O		PERMIT TO DRILL	
977	30-015-39066	L	2	18S	27E	2551S	1170W	EMPIRE ABO UNIT NO. 416	APACHE CORPORATION	O		PERMIT TO DRILL	
978	30-015-38234	P	30	17S	28E	430S	800E	ANTHONY NO. 2	LIME ROCK RESOURCES	O		ACTIVE	
979	30-015-39299	M	30	17S	28E	990S	990W	MAPLE STATE NO. 5	COG OPERATING, LLC	O		PERMIT TO DRILL	
980	30-015-39300	M	30	17S	28E	330S	330W	MAPLE STATE NO. 6	COG OPERATING, LLC	O		PERMIT TO DRILL	
981	30-015-38512	D	30	17S	28E	990N	940W	ENRON STATE NO. 16	LIME ROCK RESOURCES	O		ACTIVE	
982	30-015-39004	P	31	17S	28E	150S	1300E	EMPIRE ABO UNIT NO. 401	APACHE CORPORATION	O		PERMIT TO DRILL	
983	30-015-39011	O	31	17S	28E	1190S	1320E	EMPIRE ABO UNIT NO. 419	APACHE CORPORATION	O		PERMIT TO DRILL	
984	30-015-39020	O	31	17S	28E	140S	2560E	EMPIRE ABO UNIT NO. 408	APACHE CORPORATION	O		PERMIT TO DRILL	
985	30-015-38513	J	32	17S	28E	2310S	2032E	JEFFER 32 STATE NO. 3	LIME ROCK RESOURCES	O		ACTIVE	
986	30-015-39006	J	32	17S	28E	2400S	2450E	EMPIRE ABO UNIT NO. 407	APACHE CORPORATION	O		T/A	
987	30-015-39007	M	32	17S	28E	70S	100W	EMPIRE ABO UNIT NO. 409	APACHE CORPORATION	O		PERMIT TO DRILL	
988	30-015-39064	O	32	17S	28E	1175S	1310E	EMPIRE ABO UNIT NO. 403	APACHE CORPORATION	O		T/A	
989	30-015-39008	D	6	18S	28E	160N	1300W	EMPIRE ABO UNIT NO. 410	APACHE CORPORATION	O		PERMIT TO DRILL	
990	30-015-39021	D	6	18S	28E	40N	145W	EMPIRE ABO UNIT NO. 411	APACHE CORPORATION	O		PERMIT TO DRILL	
992	30-015-00715	D	1	18S	27E	330N	330W	SOUTH RED LAKE II UNIT NO. 37	LEGACY RESERVES OPERATING LP	O			
993	30-015-32307	4	1	18S	27E	330N	990W	AAO FEDERAL NO. 1	APACHE CORPORATION	O		PERMIT TO DRILL	
994	30-015-32959	E	1	18S	27E	1650N	875W	AAO FEDERAL NO. 5	APACHE CORPORATION	O		PERMIT TO DRILL	
995	30-015-33473	G	1	18S	27E	1750N	1650E	AAO FEDERAL NO. 7	APACHE CORPORATION	O		PERMIT TO DRILL	
996	30-015-33784	H	1	18S	27E	1650N	330E	AAO FEDERAL NO. 8	APACHE CORPORATION	O		PERMIT TO DRILL	
997	30-015-34071	F	1	18S	27E	2169N	1963W	AAO FEDERAL NO. 6	APACHE CORPORATION	O		PERMIT TO DRILL	
998	30-015-34555	M	1	18S	27E	890S	660W	AAO FEDERAL NO. 11	APACHE CORPORATION	O		PERMIT TO DRILL	
999	30-015-34576	K	1	18S	27E	2060S	2160W	AAO FEDERAL NO. 10	APACHE CORPORATION	O		PERMIT TO DRILL	
1000	30-015-00735	K	2	18S	27E	1980S	1830W	EMPIRE ABO UNIT NO. 14B	APACHE CORPORATION	O		PERMIT TO DRILL	
1001	30-015-22777	M	2	18S	27E	10S	640W	EMPIRE ABO UNIT NO. 134	APACHE CORPORATION	O		PERMIT TO DRILL	
1002	30-015-22824	M	2	18S	27E	800S	950W	EMPIRE ABO UNIT NO. 133	APACHE CORPORATION	O		PERMIT TO DRILL	
1003	30-015-22952	K	2	18S	27E	1310S	1400W	EMPIRE ABO UNIT NO. 142A	APACHE CORPORATION	O		PERMIT TO DRILL	
1004	30-015-39956	G	36	17S	27E	2176N	1858E	KIOWA STATE NO. 8	COG OPERATING, LLC	O		ACTIVE	4/30/2012
1005	30-015-40428	M	36	17S	27E	200S	485W	BIG BOY STATE NO. 2	COG OPERATING, LLC	O		ACTIVE	
1006	30-015-40429	M	36	17S	27E	492S	806W	BIG BOY STATE NO. 4	COG OPERATING, LLC	O		PERMIT TO DRILL	
1007	30-015-39898	A	1	18S	27E	1258E	1005E	EMPIRE ABO UNIT NO. 412	APACHE CORPORATION	O		PERMIT TO DRILL	
1008	30-015-39899	3	1	18S	27E	1305N	2535W	EMPIRE ABO UNIT NO. 413	APACHE CORPORATION	O		PERMIT TO DRILL	
1009	30-015-39900	4	1	18S	27E	1120N	1205W	EMPIRE ABO UNIT NO. 414	APACHE CORPORATION	O		PERMIT TO DRILL	
1011	30-015-36564	O	30	17S	28E	330S	2210E	STALEY STATE NO. 9	LRE OPERATING, LLC	O		ACTIVE	5/5/2009
1012	30-015-37673	N	30	17S	28E	330S	1650W	STALEY STATE NO. 12	LRE OPERATING, LLC	O		ACTIVE	7/7/2010
1013	30-015-38203	P	30	17S	28E	330S	990W	MAPLE STATE NO. 8	COG OPERATING LLC	O		PERMIT TO DRILL	
1014	30-015-40026	N	30	17S	28E	330S	2410W	STALEY STATE No. 17	LRE OPERATING, LLC	O		ACTIVE	4/4/2012
1015	30-015-39011	O	31	17S	28E	1190S	1320E	EMPIRE ABO UNIT NO. 419	APACHE CORPORATION	O		T/A	11/7/2011
1016	30-015-39020	O	31	17S	28E	140S	2560E	EMPIRE ABO UNIT NO. 408	APACHE CORPORATION	O		T/A	11/9/2011
1017	30-015-40257	D	31	17S	28E	184N	257W	BIG GIRL 31 STATE NO. 1	COG OPERATING, LLC	O		PERMIT TO DRILL	
1018	30-015-40258	D	31	17S	28E	195N	990W	BIG GIRL 31 STATE NO. 2	COG OPERATING, LLC	O		PERMIT TO DRILL	
1019	30-015-40259	G	31	17S	28E	2160N	2310E	BIG GIRL 31 STATE NO. 5	COG OPERATING, LLC	O		PERMIT TO DRILL	
1020	30-015-40260	D	31	17S	28E	1155N	990W	BIG GIRL 31 STATE NO. 7	COG OPERATING, LLC	O		PERMIT TO DRILL	
1021	30-015-40409	L	31	17S	28E	1920S	330W	BIG GIRL 31 STATE NO. 9H	COG OPERATING, LLC	O		PERMIT TO DRILL	
1022	30-015-40410	M	31	17S	28E	615S	10W	BIG GIRL 31 STATE NO. 11H	COG OPERATING, LLC	O		PERMIT TO DRILL	
1023	30-015-39927	K	32	17S	28E	1750S	1765W	AA STATE NO. 2	APACHE CORPORATION	O		ACTIVE	
1024	30-015-40339	D	32	17S	28E	990N	330W	ENRON STATE No. 18	LRE OPERATING, LLC	O		ACTIVE	
1025	30-015-00643	O	35	17S	27E	990S	2310E	South Red Lake Grayburg Unit #026	Legacy Reserves Operating LP	O		ACTIVE	
1026	30-015-37783	O	35	17S	27E	990S	2225E	Russell C 003	Tarco Energy, L.C.	I		ACTIVE	
1027	30-015-00644	N	35	17S	27E	330S	2310W	South Red Lake Grayburg Unit #031	Legacy Reserves Operating LP	O		ACTIVE	
1028	30-015-20104	P	35	17S	27E	990S	990E	South Red Lake Grayburg Unit #041	Legacy Reserves Operating LP	O		ACTIVE	
1029	30-015-34626	M	36	17S	27E	935N	2260E	Jeffers 36 State #4t	LRE Operating LLC	O		ACTIVE	
1030	30-015-41289	O	25	17S	27E	985S	2310E	Enron Federal #18	LRE Operating LLC	O		ACTIVE	

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ID NO	API	Unit No.	Sect	TOWNS HIP	RNG	NS FTG	EW FTG	WELL NAME	OPERATOR	WELL TYPE	PLUG DATE	STATUS	DATE - Comp or Plug
1031	30-015-41890	N	29	17S	28E	330S	2200E	Williams A Federal No 12	LRE Operating LLC	O		ACTIVE	
1032	30-015-40807	N	35	17S	27E	330N	2310W	Logan B "35" N Federal #18	Lime Rock Resources A, L.P.	O		ACTIVE	
1033	30-015-40808	P	35	17S	27E	970S	990E	Logan 35 P Federal #19	LRE Operating LLC	O		ACTIVE	
1034	30-015-41435	O	35	17S	27E	720S	1770E	Logan 35 O Federal 10	Lime Rock Resources A, L.P.	O		ACTIVE	
1035	30-015-42003	E	2	18S	27E	2515N	800W	Sb State 004	Apache Corporation	O		ACTIVE	
1036	30-015-42002	E	2	18S	27E	1900N	990W	Sb State 002	Apache Corporation	O		ACTIVE	
1037	30-015-36979	C	32	17S	28E	990N	2035W	Enron State #14	LRE Operating LLC	O		ACTIVE	
1038	30-015-41833	C	32	17S	28E	990 N	1700W	Enron State 19	LRE Operating LLC	O		ACTIVE	
1039	30-015-39996	C	32	17S	28E	230 N	2420W	Enron State 17	LRE Operating LLC	O		ACTIVE	
1040	30-015-41511	N	32	17S	28E	330 S	2365W	Ab State 647 016	Apache Corporation	O		ACTIVE	
1041	30-015-41498	M	32	17S	28E	330S	1090W	Ab State 647 014	Apache Corporation	O		ACTIVE	
1042	30-015-41493	N	32	17S	28E	1080S	2535W	Ab State 647 009	Apache Corporation	O		ACTIVE	
1043	30-015-41491	L	32	17S	28E	1650S	950W	Ab State 647 007	Apache Corporation	O		ACTIVE	
1044	30-015-41492	K	32	17S	28E	1375S	2320W	Ab State 647 008	Apache Corporation	O		ACTIVE	
1045	30-015-40783	C	2	18S	27E	990N	1500W	Logan 2c State No. 4	Lime Rock Resources A, L.P.	O		ACTIVE	
1046	30-015-38420	G	36	17S	27E	1460N	1539E	Kiowa State	COG Operating LLC	O		ACTIVE	
1047	30-015-39626	G	36	17S	27E	2152N	2103E	Kiowa State # 04	COG Operating LLC	O		ACTIVE	
1048	30-015-41500	K	32	17S	28E	2355S	2600W	Ab State 647 002	Apache Corporation	O		ACTIVE	
1049	30-015-41501	K	32	17S	28E	2370S	1650W	Ab State 647 003	Apache Corporation	O		ACTIVE	
1050	30-015-41505	L	32	17S	28E	2250S	1185W	Ab State 647 004	Apache Corporation	O		ACTIVE	
1051	30-015-41502	L	32	17S	28E	2310S	330W	Ab State 647 005	Apache Corporation	O		ACTIVE	
1052	30-015-41504	N	32	17S	28E	330S	1650W	Ab State 647 015	Apache Corporation	O		ACTIVE	
1053	30-015-41497	M	32	17S	28E	220 S	350W	Ab State 647 013	Apache Corporation	O		ACTIVE	
1054	30-015-41503	L	32	17S	28E	1730S	430W	Ab State 647 006	Apache Corporation	O		ACTIVE	
1055	30-015-41495	M	32	17S	28E	920S	960W	Ab State 647 011	Apache Corporation	O		ACTIVE	
1056	30-015-41494	N	32	17S	28E	1140S	1650W	Ab State 647 010	Apache Corporation	O		ACTIVE	
1057	30-015-41496	M	32	17S	28E	910S	930W	Ab State 647 012	Apache Corporation	O		ACTIVE	
1058	30-015-40679	B	2	18S	27E	968N	2300E	Blake State No. 4	Lime Rock Resources A, L.P.	O		ACTIVE	
1059	30-015-40621	C	2	18S	27E	968N	1650W	Brad State No. 4	Tarco Energy, L.C.	O		ACTIVE	
1060	30-015-31530	C	32	17S	28E	530N	1650W	Enron State #1	Lime Rock Resources A, L.P.	O		ACTIVE	
1061	30-015-00681	M	36	17S	27E	990S	330W	South Red Lake Grayburg Unit #027	Legacy Reserves Operating LP	O		P/A	
1062	30-015-33111	I	2	18S	27E	530N	2310W	Logan 2c State #3	Devon Energy	O		ACTIVE	
1063	30-015-22526	B	5	18S	28E	1300N	2345E	Empire Abo Unit "I" 272a	Apache Corporation	O		T/A	
1064	30-015-32070	I	2	18S	27E	660S	990W	Bb State Com #1	Apache Corporation	O		T/A	
1065	30-015-32899	I	2	18S	27E	2310S	2310W	Bm State #1	Apache Corporation	O		T/A	
1066	30-015-32900	I	2	18S	27E	1650N	2305W	Tdf State #2	Apache Corporation	O		T/A	
1067	30-015-36978	D	31	17S	28E	990N	330W	Enron State #15	LRE Operating LLC	O		ACTIVE	
1068	30-015-36513	N	29	17S	28E	1090S	1550W	Williams A Federal No. 8	LRE Operating LLC	O		ACTIVE	
1069	30-015-33232	M	29	17S	28E	690S	530W	Williams A Federal 5	LRE Operating LLC	O		ACTIVE	
1070	30-015-40480	M	29	17S	28E	600S	645W	Williams A Federal No. 10	Tarco Energy, L.C.	O		ACTIVE	
1071	30-015-40677	B	2	18S	27E	380N	1650E	Blake State No. 1	Tarco Energy, L.C.	O		Permit to Drill	
1072	30-015-40678	B	2	18S	27E	330N	2300E	Blake State No. 2	Tarco Energy, L.C.	O		Permit to Drill	
1073	30-015-41766	F	5	18S	28E	1910N	1505W	Libby State 001	Apache Corporation	O		Permit to Drill	
1074	30-015-41767	F	5	18S	28E	1570N	2245W	Libby State 002	Apache Corporation	O		Permit to Drill	
1075	30-015-41768	F	5	18S	28E	1570N	2245W	Libby State 002	Apache Corporation	O		Permit to Drill	
1076	30-015-41770	B	31	17S	28E	330N	2270E	T Rex State 001	Apache Corporation	O		Permit to Drill	
1077	30-015-41771	B	31	17S	28E	575N	1650E	T Rex State 002	Apache Corporation	O		Permit to Drill	
1078	30-015-41772	B	31	17S	28E	875N	2430E	T Rex State 003	Apache Corporation	O		Permit to Drill	
1079	30-015-41774	B	31	17S	28E	890N	1750E	T Rex State 004	Apache Corporation	O		Permit to Drill	
1080	30-015-41892	M	29	17S	28E	330S	975W	Williams A Federal 15	LRE Operating LLC	O		Permit to Drill	
1081	30-015-41959	K	2	18S	27E	2310S	1750W	Bm State 002	Apache Corporation	O		Permit to Drill	
1082	30-015-42024	1	1	18S	27E	126N	141E	Aao Federal #14	Apache Corporation	O		Permit to Drill	
1083	30-015-42025	1	1	18S	27E	1130N	2408E	Aao Federal #15	Apache Corporation	O		Permit to Drill	
1084	30-015-42026	1	1	18S	27E	1305N	2455W	Aao Federal #16	Apache Corporation	O		Permit to Drill	
1085	30-015-42029	1	1	18S	27E	1650N	865E	Aao Federal #17	Apache Corporation	O		Permit to Drill	

TABLE II
Tabulation of Wells Within One Mile Area of Review

ID NO	API	Unit No.	Sect	TOWNS HIP	RNG	NS FTG	EW FTG	WELL NAME	OPERATOR	WELL TYPE	PLUG DATE	STATUS	DATE - Comp or Plug
1086	30-015-42035	1	1	18S	27E	2310N	1650E	Aao Federal #18	Apache Corporation	O		Permit to Drill	
1087	30-015-42036	1	1	18S	27E	2188N	909W	Aao Federal #20	Apache Corporation	O		Permit to Drill	
1088	30-015-42051	1	1	18S	27E	2310N	2310W	Aao Federal #19	Apache Corporation	O		Permit to Drill	
1089	30-015-42116	M	29	17S	28E	990S	2160W	Williams A Federal 16	LRE Operating LLC	O		Permit to Drill	
1090	30-015-42121	C	2	18S	27E	658N	1984W	Brade State No. 5	Tarco Energy, L.C.	O		Permit to Drill	
1091	30-015-42156	D	32	17S	28E	385N	900W	Enron State 21	LRE Operating LLC	O		Permit to Drill	
1092	30-015-42334	1	1	18S	27E	1005N	1630W	Aao Federal #21	Apache Corporation	O		Permit to Drill	
1093	30-015-42335	1	1	18S	27E	790N	330W	Aao Federal #22	Apache Corporation	O		Permit to Drill	
1094	30-015-42336	1	1	18S	27E	226N	330E	Aao Federal #23	Apache Corporation	O		Permit to Drill	
1095	30-015-42337	1	1	18S	27E	984S	243E	Aao Federal #24	Apache Corporation	O		Permit to Drill	
1096	30-015-42338	1	1	18S	27E	2270S	1650W	Aao Federal #26	Apache Corporation	O		Permit to Drill	
1097	30-015-42339	1	1	18S	27E	360S	990W	Aao Federal #29	Apache Corporation	O		Permit to Drill	
1098	30-015-42358	1	1	18S	27E	183S	2497W	Aao Federal #28	Apache Corporation	O		Permit to Drill	
1099	30-015-42359	1	1	18S	27E	1960S	2063W	Aao Federal #27	Apache Corporation	O		Permit to Drill	
1100	30-015-42360	1	1	18S	27E	1261S	281W	Aao Federal #30	Apache Corporation	O		Permit to Drill	
1101	30-015-42361	1	1	18S	27E	2000S	1022W	Aao Federal #25	Apache Corporation	O		Permit to Drill	
1102	30-015-42372	D	31	17S	28E	330N	430W	Enron State #20	LRE Operating LLC	O		Permit to Drill	
1103	30-015-42555	O	29	17S	28E	330S	2310E	Outlaw State #005	Apache Corporation	O		Permit to Drill	
1104	30-015-42863	B	32	17S	28E	330S	2310E	Jackrabbit State #004	Apache Corporation	O		Permit to Drill	
1105	30-015-42864	B	32	17S	28E	1010N	2540E	Jackrabbit State #005	Apache Corporation	O		Permit to Drill	
1106	30-015-42985	G	32	17S	28E	1470N	2405E	Jackrabbit State #012	Apache Corporation	O		Permit to Drill	
1107	30-015-42986	G	32	17S	28E	2460N	2280E	Jackrabbit State #013	Apache Corporation	O		Permit to Drill	
1108	30-015-42726	O	30	17S	28E	505S	2140E	Staley State #029	LRE Operating LLC	O		ACTIVE	
1109	30-015-40983	O	30	17S	28E	330S	1650E	Staley State #020	LRE Operating LLC	O		ACTIVE	
1110	30-015-42597	A	31	17S	28E	570N	250E	Ranger State #001	Apache Corporation	O		Permit to Drill	
1111	30-015-42598	A	31	17S	28E	445N	1090E	Ranger State #002	Apache Corporation	O		Permit to Drill	
1112	--												
1113	30-015-42599	B	31	17S	28E	905N	1385E	Ranger State #001	Apache Corporation	O		Permit to Drill	
1114	30-015-42600	A	31	17S	28E	645N	250E	Ranger State #004	Apache Corporation	O		Permit to Drill	
1115	30-015-42673	H	31	17S	28E	1650N	990E	Ranger State #006	Apache Corporation	O		Permit to Drill	
1116	--												
1117	30-015-42674	H	31	17S	28E	2310N	990E	Ranger State #007	Apache Corporation	O		Permit to Drill	
1118	30-015-42675	H	31	17S	28E	1875N	110E	Ranger State #008	Apache Corporation	O		Permit to Drill	
1119	30-015-42677	I	31	17S	28E	210S	1130E	Ranger State #010	Apache Corporation	O		Permit to Drill	
1120	30-015-42676	H	31	17S	28E	2520N	195E	Ranger State #009	Apache Corporation	O		Permit to Drill	
1121	30-015-42678	I	31	17S	28E	1535S	760E	Ranger State #011	Apache Corporation	O		Permit to Drill	
1122	30-015-42679	I	31	17S	28E	1760S	245E	Ranger State #012	Apache Corporation	O		Permit to Drill	
1123	30-015-42680	I	31	17S	28E	1710S	245E	Ranger State #013	Apache Corporation	O		Permit to Drill	
1124	30-015-42681	P	16	17S	28E	225S	1300E	Ranger State #014	Apache Corporation	O		Permit to Drill	
1125	30-015-42806	P	31	17S	28E	245S	90E	Ranger State #016	Apache Corporation	O		Permit to Drill	
1126	30-015-42682	P	31	17S	28E	260S	1250E	Ranger State #015	Apache Corporation	O		Permit to Drill	
1127	30-015-42602	B	36	17S	27E	330N	2210E	Jeffers 36 State #005	LRE Operating LLC	O		Permit to Drill	
1128	30-015-42899	B	36	17S	27E	890N	1655E	Jeffers 36 State #006	LRE Operating LLC	O		ACTIVE	
1129	30-015-42027	H	1	18S	27E	1650N	865E	AAO Federal #017	Apache Corporation	O		Permit to Drill	
1130	30-015-42549	G	1	18S	27E	2470N	2380E	AAO Federal SWD #001	Apache Corporation	I		SHUT IN	
1131	30-015-25270	F	12	18S	27E	2310N	2310W	Chukka Federal #001	Bill L. Miller	O		ACTIVE	
1132	30-015-36252	N	30	17S	28E	990S	1980W	Staley State #004	LRE Operating, LLC	O		ACTIVE	
1133	30-015-37691	P	30	17S	28E	1050S	330E	Anthoney #1	LRE Operating, LLC	O		ACTIVE	
1134	30-015-40028	P	30	17S	28E	540S	837E	Anthoney State #4	LRE Operating, LLC	O		ACTIVE	
1135	30-015-40338	O	30	17S	28E	990S	2310E	Staley State #016	LRE Operating, LLC	O		ACTIVE	
1136	30-015-41065	N	30	17S	28E	990S	2335W	Staley State #24	LRE Operating, LLC	O		ACTIVE	
1137	30-015-40723	C	2	18S	28E	990N	1500W	Logan 2C State #4	Lime Rock Resources II-A, L.P.	O		ACTIVE	
1138	30-015-43066	N	35	17S	27E	870S	1640W	Logan B 35 N Federal 24	Lime Rock Resources II-A, L.P.	O		Permit to Drill	
1139	30-015-43252	O	35	17S	27E	720S	1670E	Logan 35 O Federal 22	Lime Rock Resources II-A, L.P.	O		Permit to Drill	
1140	30-015-42556	O	29	17S	28E	990S	1650E	The Outlaw State #006	Apache Corporation	O		ACTIVE	

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Tabulation of Wells Within One Mile Area of Review

ID NO	API	Unit No.	Sect	TOWNS HIP	RNG	NS FTG	EW FTG	WELL NAME	OPERATOR	WELL TYPE	PLUG DATE	STATUS	DATE - Comp or Plug
1141	30-015-42557	O	29	17S	28E	330S	1650E	The Outlaw State #007	Apache Corporation	O		ACTIVE	
1142	30-015-42558	O	29	17S	28E	990S	2310E	The Outlaw State #008	Apache Corporation	O		ACTIVE	
1143	30-015-42725	O	30	17S	28E	685S	1630E	Staley State #28	LRE Operating, LLC	O		ACTIVE	
1144	30-015-42727	O	30	17S	28E	850S	1680W	Staley State #30	LRE Operating, LLC	O		ACTIVE	
1145	30-015-42601	H	31	17S	28E	1825N	110E	Ranger State 005	Apache Corporation	O		Permit to Drill	
1146	30-015-42984	G	32	17S	28E	1535N	1680E	Jack Rabbit State #11	Apache Corporation	O		Permit to Drill	

TABLE III

Well Changes in the Combined One Mile Area of Review Since the 2014 PFO TEST for Navajo's WDW-1, WDW-2, and WDW-3

ID	API No.	Unit	Sect	Town	Range	Footages	Well Name	Operator	Changes	Change of Owner	P&A	T&A	Prod	Recomp	New	Total
59	30 15 27592	O	31	17S	28E	660 FSL & 2310 FEL	Mewbourne WDW-1	Navajo Refining Company, L.L.C.	Change from NAVAJO REFINING CO. PIPELINE DIVISION							
144	30 15 27163	I	1	18S	27E	1980 FSL & 990 FEL	Chalk Bluff Federal Com. 3	Lime Rock Resources II-A, LP	Converted to SWD. Lease changed to Chalk Bluff Federal SWD 1	Lease name change						
157	30 15 26575	O	1	18S	27E	790 FSL & 2250 FWL	WDW Well #3	Navajo Refining Company, L.L.C.	Change from NAVAJO REFINING CO. PIPELINE DIVISION							
860	30 15 25270	F	12	18S	27E	2310 FNL & 2310 FWL	Chukka Federal #1	Navajo Refining Company, L.L.C.	Change from NAVAJO REFINING CO. PIPELINE DIVISION							
897	30 15 895	H	14	18S	27E	1650 FNL & 330 FEL	Artesia State Unit No. 301 (001B)	Alamo Permian Resources, LLC	Well is active. Clean-out, add perforations, and acidized. (1725'-1888')					1		
969	30 15 39321	M	36	17S	27E	990FSL & 890FWL	Big Boy State No. 1	Cog Operating LLC	Well is active, Perforation added at Paddock formation 3235'-3600' and acidized with 2,536 gallons 15% HCL acid.					1		
969	30 15 39321	M	36	17S	27E	990 FSL & 890 FWL	Big Boy State #1	COG Operating, LLC	Perfed paddock at 3235' to 3600'. EOT @ 4814'.					1		
978	30 15 38234	P	30	17S	28E	430 FSL & 800 FEL	Anthoney #2	LRE Operating, LLC	Recomplete to the San Andreas & DHC. Existing perfs are 3235' to 4719'. New perfs are 1770' to 1821'. 2-7/8" tubing set at 4715'.					1		
984	30 15 39020	O	31	17S	28E	140 FSL & 2560 FEL	Empire Abo Unit 408	Apache Corporation	Application to extend TA Status (until 10-30-2015). P&A by 10-30-15			1				
986	30 15 39006	J	32	17S	28E	2400 FSL & 2450 FEL	Empire Abo Unit 407	Apache Corporation	TA staus expires 7/1/2018			1				
988	30 15 39064	O	32	17S	28E	1175 FSL & 1310 FEL	Empire Abo Unit 403	Apache Corporation	Application to extend TA Status (until 10-30-2015). P&A by 10-30-15			1				
990	30 15 39021	D	6	18S	28E	40 FNL & 145 FWL	Empire Abo Unit 411	Apache Corporation	Application to extend TA Status (until 10-30-2015). P&A by 10-30-15			1				
1024	30 15 40339	D	32	17S	28E	990 FNL & 330 FWL	Enron State #18	LRE Operating, LLC	Recomplete to commingle Artesia; Glorieta-Yeso Pool (96830) and Artesia; Queen-Grayburg-San Andres Pool (3230)					1		
1031	30 15 41890	N	29	17S	28E	330 FSL & 2200 FWL	Williams A Federal No. 12	LRE Operating, LLC	Well Completion: MD 3536'-3618' 2500 gal 15% HCL Acid					1		
1034	30 15 41435	O	35	17S	27E	720 FSL & 1770 FEL	Logan 35 O Federal #10	Lime Rock Resources II-A, L.P.	New Well Completion. Perfed Yeso (3272' to 3534') with 26 holes. Treated perfs w/1500 gal 15% HCL.					1		
1035	30 15 42003	E	2	18S	27E	2515 FNL & 800 FWL	SB State (308700) 004	Apache Corporation	Acidized perfs with 15% HCL from 3173'-3529'. Frac & flush.					1		
1039	30 15 39996	C	32	17S	28E	230 FNL & 2420 FWL	Enron State #17	LRE Operating, LLC	Revise pool allocation to Upper Zone (SA) Oil & Gas 72%, Lower Zone (Yeso) Oil & Gas 28%					1		
1042	30 15 41493	N	32	17S	28E	1080 FSL & 2535 FWL	AB State 647 #009	Apache Corporation	Spudded Well 09-05-13. Cement casing.							
1043	30 15 41491	N	32	17S	28E	1650 FSL & 950 FWL	AB State 647 #007	Apache Corporation	Spudded Well 10-29-13. Cement casing.							
1044	30 15 41492	N	32	17S	28E	1375 FSL & 2320 FWL	AB State 647 #008	Apache Corporation	Spudded Well 11-15-13. Cement casing.							
1056	30 15 41494	N	32	17S	28E	1140 FSL & 1650 FWL	AB State 647 #010	Apache Corporation	Spudded Well 10-16-13. Cement casing.							
1064	30 15 32070	M	2	18S	27E	660 FSL & 990 FWL	B B State Com 1	Apache Corporation	P&A (March 2015)		1					
1069	30 15 33232	M	29	17S	28E	690 FSL & 530 FWL	Williams A Federal #005	LRE Operating, LLC	Recompletion from Yeso to San Andreas. Perforated zones are 3326' to 3490' and ~1786' to 3201' is planned. DHC application submitted.					1		
1070	30 15 40480	M	29	17S	28E	600 FSL & 645 FWL	Williams A Federal #010	LRE Operating, LLC	Recompletion from YESO to San Andreas. Perforated zones are from 3403' to 3585' and 1780' to 3134'. DHC application submitted.					1		
1080	30 15 41892	M	29	17S	28E	470 FSL & 920 FWL	Williams A Federal No. 15	LRE Operating, LLC	Spudded well. Set 8-5/8" casing @ 438'. 7-7/8" hole to 3607'. Set 5-1/2" casing @ 3588'.					1		
1082	30 15 42024	A	1	18S	27E	126 FNL & 141 FEL	AAO Federal #014	Apache Corporation	Spudded Well 03-07-14. Fractured interval from 3454' to 4225'. Cement casing. Depth of 5-1/2" casing to 4520'.					1		
1083	30 15 42025	B	1	18S	27E	1130 FSL & 1130 FEL	AAO Federal #015	Apache Corporation	Spudded Well 03-15-14. Fractured interval from 3376' to 4350'. Cement casing. Depth of 5-1/2" casing to 4584'.					1		
1084	30 15 42026	C	1	18S	27E	1305 FNL & 2455 FWL	AAO Federal #016	Apache Corporation	Spudded Well 03-20-14. Fractured interval from 3378' to 4324'. Cement casing. Depth of 5-1/2" casing to 4529'.					1		
1086	30 15 42035	G	1	18S	27E	2310 FNL & 1650 FEL	AAO Federal #018	Apache Corporation	Spudded Well 08-09-14. Fractured interval 3471' to 4306'. Cement casing. Depth of 2-7/8" tubing is 4359'.					1		
1087	30 15 42036	E	1	18S	27E	2188 FNL & 909 FEL	AAO Federal #020	Apache Corporation	Spudded Well 04-10-14. Fractured interval 3262' to 4274'. Cement casing. Depth of 2-7/8" tubing is 4358'.					1		
1088	30 15 42051	F	1	18S	27E	2310 FNL & 2310 FWL	AAO Federal #019	Apache Corporation	Spudded Well 04-02-14. Fractured interval 3388' to 4354'. Cement casing. Depth of 2-7/8" tubing is 4423'.					1		
1089	30 15 42116	N	29	17S	28E	990 FSL & 2160 FWL	Williams A Federal No. 16	LRE Operating, LLC	Completed Well. TD @ 3609' with 7-7/8" hole. 5-1/2" J-55 casing set @ 3599'. Perfed 3424' to 3517'.					1		
1092	30 15 42334	C	1	18S	27E	1005 FNL & 1630 FWL	AAO Federal #021	Apache Corporation	Spudded Well 05-27-14. Fractured interval 3628' to 4296'. Cement casing. Depth of 2-7/8" tubing is 4390'.					1		
1093	30 15 42335	D	1	18S	27E	790 FNL & 330 FWL	AAO Federal #022	Apache Corporation	Spudded Well 07-27-14. Fractured interval 3218' to 4322'. Cement casing. Depth of 2-7/8" tubing is 4383'.					1		
1094	30 15 42336	H	1	18S	27E	2265 FNL & 330 FEL	AAO Federal #023	Apache Corporation	Spudded Well 08-04-14. Fractured interval 3468' to 4290'. Cement casing. Depth of 2-7/8" tubing is 4357'.					1		
1095	30 15 42337 1		1	18S	27E	984 FNL & 243 FEL	AAO Federal #024	Apache Corporation	Spudded Well 06-03-14. Fractured interval 3418' to 4315'. Cement casing. Depth of 2-7/8" tubing is 4425'.					1		
1096	30 15 42338	K	1	18S	27E	2270 FSL & 1650 FWL	AAO Federal #026	Apache Corporation	Spudded Well 06-10-14. Fractured interval 3368' to 4360'. Cement casing. Depth of 2-7/8" tubing is 4424'.					1		
1097	30 15 42339	M	1	18S	27E	360 FSL & 990 FWL	AAO Federal #029	Apache Corporation	Spudded Well 06-16-14. Fractured interval 3514' to 4371'. Cement casing. Depth pf 2-7/8" tubing is 4425'.					1		
1098	30 15 42358	N	1	18S	27E	183 FSL & 2497 FWL	AAO Federal #028	Apache Corporation	Spudded Well 07-12-14. Fractured interval 3624' to 4426'. Cement casing. Depth of 2-7/8" tubing is 4490'.					1		
1099	30 15 42359	K	1	18S	27E	1960 FSL & 2063 FWL	AAO Federal #027	Apache Corporation	Spudded Well 07-03-14. Fractured interval 3476' to 4430'. Cement casing. Depth of 2-7/8" tubing is 4491'.					1		
1100	30 15 42360	M	1	18S	27E	1261 FSL & 281 FWL	AAO Federal #032	Apache Corporation	Spudded Well 07-02-14. Fractured interval 3338' to 4418'. Cement casing. Depth of 2-7/8" tubing is 4489'					1		
1101	30 15 42361	L	1	18S	27E	2000 FSL & 1022 FWL	AAO Federal #025	Apache Corporation	Spudded Well 06-23-14. Fractured interval 3369' to 4418'. Cement casing. Depth of 2-7/8" tubing is 4523'.					1		
1102	30 15 42372	D	31	17S	28E	330 FNL & 430 FWL	Enron State #20	LRE Operating, LLC	Drilled 7-7/8" hole to 3710'. Cemented 5-1/2" csg @ 3706'. Gross fractured zone is 3256' to 3449'.					1		
1103	30 15 42555	O	29	17S	28E	330 FSL & 2310 FEL	The Outlaw State #005	Apache Corporation	Completed Well. TD @ 5200 with 7-7/8" hole. 5-1/2" J-55 casing set @ 5008'. Perfed 3437' to 3628'.						1	
1104	30 015 42863	B	32	17S	28E	330 FSL & 2310 FEL	Jackrabbit State #004	Apache Corporation	NEW: Permit to Drill						1	

1105	30	015	42864	B	32	17S	28E	1010 FNL & 2540 FEL	Jackrabbit State #005	Apache Corporation	NEW: Permit to Drill							1	
1106	30	15	42985	G	32	17S	28E	1470 FNL & 2405 FEL	Jack Rabbit State #12	Apache Corporation	NEW: Permit to Drill							1	
1107	30	015	42986	G	32	17S	28E	2460 FNL & 2280 FEL	Jackrabbit State #013	Apache Corporation	NEW: Permit to Drill							1	
1108	30	15	42726	O	30	17S	28E	505 FSL & 2140 FEL	Staley State #29	LRE Operating, LLC	New: Completed Well. Production casing @ 5100'. Perfed zones are 3330' to 3622', 3780' to 4058', 4208' to 4483', and 4680' to 5008'.							1	
1109	30	15	40983	O	30	17S	28E	330 FSL & 1650 FEL	Staley State #20	LRE Operating, LLC	Recomplete to the San Andreas & DHC. Existing perfs are 3290' to 4660'. News perfs are 2256' to 2647' and 1768' to 1952'.							1	
1110	30	015	42597	A	31	17S	28E	570 FNL & 250 FEL	Ranger State #001	Apache Corporation	NEW: Permit to Drill							1	
1111	30	15	42598	A	31	17S	28E	445 FNL & 1090 FEL	Ranger State 002	Apache Corporation	NEW: Permit to Drill							1	
1112					AP#1079					Apache Corporation	NEW: Permit to Drill							1	
1113	30	15	42599	B	31	17S	28E	905 FNL & 1385 FEL	Ranger State 003	Apache Corporation	NEW: Permit to Drill							1	
1114	30	015	42600	A	31	17S	28E	645 FNL & 250 FEL	Ranger State #004	Apache Corporation	NEW: Permit to Drill							1	
1115	30	015	42673	H	31	17S	28E	1650 FNL & 990 FEL	Ranger State #006	Apache Corporation	NEW: Permit to Drill							1	
1116					AP #1019					Apache Corporation	NEW: Permit to Drill							1	
1117	30	015	42674	H	31	17S	28E	2310 FNL & 990 FEL	Ranger State #007	Apache Corporation	NEW: Permit to Drill							1	
1118	30	015	42675	H	31	17S	28E	1875 FNL & 110 FEL	Ranger State #008	Apache Corporation	NEW: Permit to Drill							1	
1119	30	015	42677	I	31	17S	28E	2310 FSL & 1130 FEL	Ranger State #010	Apache Corporation	NEW: Permit to Drill							1	
1120	30	015	42676	H	31	17S	28E	2520 FNL & 195 FEL	Ranger State #009	Apache Corporation	NEW: Permit to Drill							1	
1121	30	015	42678	I	31	17S	28E	1535 FSL & 760 FEL	Ranger State #011	Apache Corporation	NEW: Permit to Drill							1	
1122	30	015	42679	I	31	17S	28E	1760 FSL & 245 FEL	Ranger State #012	Apache Corporation	NEW: Permit to Drill							1	
1123	30	015	42680	I	31	17S	28E	1710 FSL & 245 FEL	Ranger State #013	Apache Corporation	NEW: Permit to Drill							1	
1124	30	015	42681	P	16	17S	28E	225 FSL & 1300 FEL	Ranger State #014	Apache Corporation	NEW: Permit to Drill							1	
1125	30	015	42806	P	31	17S	28E	245 FSL & 90 FEL	Ranger State #016	Apache Corporation	NEW: Permit to Drill							1	
1126	30	015	42682	P	31	17S	28E	260 FSL & 1250 FEL	Ranger State #015	Apache Corporation	NEW: Permit to Drill							1	
1127	30	015	42602	B	36	17S	27E	330 FNL & 2210 FEL	Jeffers 36 State #005	LRE Operating LLC	NEW: Permit to Drill							1	
1128	30	015	42899	B	36	17S	27E	890 FNL & 1655 FEL	Jeffers 36 State #006	LRE Operating LLC	Spudded Well 05-25-15. Fractured interval 3240' to 3510'. Cement casing. Depth of 2-7/8" tubing is 3492'.							1	
1129	30	015	42027	H	1	18S	27E	1650 FNL & 865 FEL	AAO Federal #017	Apache Corporation	NEW: Permit to Drill							1	
1130	30	015	42549	G	1	18S	27E	2470 FNL & 2380 FEL	AAO Federal SWD #001	Apache Corporation	New and shut in							1	
1131	30	015	25270	F	12	18S	27E	2310 FNL & 2310 FWL	Chukka Federal #001	Bill L. Miller	NEW and active							1	
1132	30	15	36252	N	30	17S	28E	990 FSL & 1980 FWL	Staley State #004	LRE Operating, LLC	Recomplete to the San Andreas & DHC. Existing perfs are 3210' to 3994'. New perfs are 2330' to 2650' and 1728' to 2222'. 2-7/8" tubing set at 2943'.							1	
1133	30	15	37691	P	30	17S	28E	1050 FSL & 330 FEL	Anthoney #1	LRE Operating, LLC	Recomplete to the San Andreas & DHC. Existing perfs are 3314' to 4672'. New perfs are 2308' to 2694' and 1776' to 2006'. 2-7/8" tubing set at 3092'.							1	
1134	30	15	40028	P	30	17S	28E	540 FSL & 837 FEL	Anthoney State #4	LRE Operating, LLC	Recomplete to the San Andreas & DHC. Existing perfs are 3399' to 4719'. New perfs are 2322' to 2671' and 1820' to 2175'. 2-7/8" tubing set at 3175'.							1	
1135	30	15	40338	O	30	17S	28E	990 FSL & 2310 FEL	Staley State #016	LRE Operating, LLC	Recomplete to the San Andreas & DHC. Gross perforated zone is from 2300' to 3120'. 2-7/8" J-55 tubing set @ 4727'.							1	
1136	30	15	41065	N	30	17S	28E	990 FSL & 2335 FWL	Staley State #24	LRE Operating, LLC	Recomplete to the San Andreas & DHC. Existing perfs are 3300' to 4460'. News perfs are 2170' to 2585' and 1742' to 1969'. 2-7/8" J-55 tubing set @ 3045'.							1	
1137	30	15	40723	C	2	18S	28E	990 FNL & 1500 FWL	Logan 2C State #4	Lime Rock Resources II-A, L.P.	Completed well as a single Yeso oil well producing perfs @ 3498' to 3844' with lower Yeso perfs 3900-4620' SI under a RBP @ 3870'.							1	
1138	30	15	43066	N	35	17S	27E	870 FSL & 1640 FWL	Logan B 35 N Federal 24	Lime Rock Resources II-A, L.P.	NEW: Permit to Drill							1	
1139	30	15	43252	O	35	17S	27E	720 FSL & 1670 FEL	Logan 35 O Federal 22	Lime Rock Resources II-A, L.P.	NEW: Permit to Drill							1	
1140	30	15	42556	O	29	17S	28E	990 FSL & 1650 FEL	The Outlaw State #006	Apache Corporation	Completed Well. TD @ 5300' with 7-7/8" hole. 5-1/2" J-55 casing set @ 4961'. Perfed 3450' to 3687'.							1	
1141	30	15	42557	O	29	17S	28E	330 FSL & 1650 FEL	The Outlaw State #007	Apache Corporation	Completed Well. TD @ 5300' with 7-7/8" hole. 5-1/2" J-55 casing set @ 5024'. Perfed 3326' to 3728'.							1	
1142	30	15	42558	O	29	17S	28E	990 FSL & 2310 FEL	The Outlaw State #008	Apache Corporation	Completed Well. TD @ 5300' with 7-7/8" hole. 5-1/2" J-55 casing set @ 5023'. Perfed 3316' to 3615'.							1	
1143	30	15	42725	O	30	17S	28E	685 FSL & 1630 FEL	Staley State #28	LRE Operating, LLC	New: Completed Well. Production casing @ 5100'. Perfed zones are 3380' to 3694', 3956' to 4218', 4273' to 4555', and 4690' to 5002'.							1	
1144	30	15	42727	O	30	17S	28E	850 FSL & 1680 FWL	Staley State #30	LRE Operating, LLC	New: Completed Well. Production casing @ 5100'. Perfed zones are 3684' to 4008', 4118' to 4456', and 4648' to 4968'.							1	
1145	30	15	42601	H	31	17S	28E	1825 FNL & 110 FEL	Ranger State 005	Apache Corporation	NEW: Permit to Drill							1	
1146	30	15	42984	G	32	17S	28E	1535 FNL & 1680 FEL	Jack Rabbit State #11	Apache Corporation	NEW: Permit to Drill							1	

TABLE IV
Wells that have been Plugged and Abandoned since the 2014 PFO REPORT
Well Changes in the Combined One Mile Area of Review for Navajo's WDW-1, WDW-2, and WDW-3

ID	API No.			Unit	Sect	Town	Range	Footages	Well Name	Operator	Changes
1064	30	15	32070	M	2	18S	27E	660 FSL & 990 FWL	B B State Com 1	Apache Corporation	P&A (March 2015)

TABLE V
Wells that have been Temporally Abandoned since the 2014 PFO REPORT
Well Changes in the Combined One Mile Area of Review for Navajo's WDW-1, WDW-2, and WDW-3

ID	API No.			Unit	Sect	Town	Range	Footages	Well Name	Operator	Changes
984	30	15	39020	O	31	17S	28E	140 FSL & 2560 FEL	Empire Abo Unit 408	Apache Corporation	Application to extend TA Status (until 10-30-2015). P&A by 10-30-15
988	30	15	39064	O	32	17S	28E	1175 FSL & 1310 FEL	Empire Abo Unit 403	Apache Corporation	Application to extend TA Status (until 10-30-2015). P&A by 10-30-15
990	30	15	39021	D	6	18S	28E	40 FNL & 145 FWL	Empire Abo Unit 411	Apache Corporation	Application to extend TA Status (until 10-30-2015). P&A by 10-30-15
986	30	15	39006	J	32	17S	28E	2400 FSL & 2450 FEL	Empire Abo Unit 407	Apache Corporation	TA status expires 7/1/2018

TABLE VI
Wells that have been Recompleted in Upper Zones since the 2014 PFO REPORT
Well Changes in the Combined One Mile Area of Review for Navajo's WDW-1, WDW-2, and WDW-3

ID	API No.	Unit	Sect	Town	Range	Footages	Well Name	Operator	Changes
897	30 15 895	H	14	18S	27E	1650 FNL & 330 FEL	Artesia State Unit No. 301	Alamo Permian Resources, LLC	Well is active. Clean-out, add perforations, and acidized. (1725'-1888')
969	30 15 39321	M	36	17S	27E	990FSL & 890FWL	Big Boy State No. 1	Cog Operating LLC	Well is active, Perforation added at Paddock formation 3235'-3600' and acidized with 2536 gallons 15% HCL acid
969	30 15 39321	M	36	17S	27E	990 FSL & 890 FWL	Big Boy State #1	COG Operating, LLC	Perfed paddock at 3235' to 3600'. EOT @ 4814'.
978	30 15 38234	P	30	17S	28E	430 FSL & 800 FEL	Anthoney #2	LRE Operating, LLC	Recomplete to the San Andreas & DHC. Existing perfs are 3235' to 4719'. New perfs are 1770' to 1821'. 2-7/8" tubing set at 4715'.
1024	30 15 40339	D	32	17S	28E	990 FNL & 330 FWL	Enron State #18	LRE Operating, LLC	Recomplete to commingle Artesia; Glorieta-Yeso Pool (96830) and Artesia; Queen-Grayburg-San Andres Pool (3230)
1031	30 15 41890	N	29	17S	28E	330 FSL & 2200 FWL	Williams A Federal No. 12	LRE Operating, LLC	Well Completion: MD 3536'-3618' 2500 gal 15% HCL Acid
1034	30 15 41435	O	35	17S	27E	720 FSL & 1770 FEL	Logan 35 O Federal #10	Lime Rock Resources II-A, L.P.	New Well Completion. Perfed Yeso (3272' to 3534') with 26 holes. Treated perfs w/1500 gal 15% HCL.
1034	30 15 41435	O	35	17S	27E	720 FSL & 1770 FEL	Logan 35 O Federal #10	Lime Rock Resources II-A, L.P.	New Well Completion
1035	30 15 42003	E	2	18S	27E	2515 FNL & 800 FWL	SB State (308700) 004	Apache Corporation	Acidized perfs with 15% HCL from 3173'-3529'. Frac & flush.
1039	30 15 39996	C	32	17S	28E	230 FNL & 2420 FWL	Enron State #17	LRE Operating, LLC	Revise pool allocation to Upper Zone (SA) Oil & Gas 72%, Lower Zone (Yeso) Oil & Gas 28%
1042	30 15 41493	N	32	17S	28E	1080 FSL & 2535 FWL	AB State 647 #009	Apache Corporation	Spudded Well 09-05-13. Cement casing.
1043	30 15 41491	N	32	17S	28E	1650 FSL & 950 FWL	AB State 647 #007	Apache Corporation	Spudded Well 10-29-13. Cement casing.
1044	30 15 41492	N	32	17S	28E	1375 FSL & 2320 FWL	AB State 647 #008	Apache Corporation	Spudded Well 11-15-13. Cement casing.
1056	30 15 41494	N	32	17S	28E	1140 FSL & 1650 FWL	AB State 647 #010	Apache Corporation	Spudded Well 10-16-13. Cement casing.
1069	30 15 33232	M	29	17S	28E	690 FSL & 530 FWL	Williams A Federal #005	LRE Operating, LLC	Recompletion from Yeso to San Andreas. Perforated zones are 3326' to 3490' and ~1786' to 3201' is planned. DHC application submitted.
1070	30 15 40480	M	29	17S	28E	600 FSL & 645 FWL	Williams A Federal #010	LRE Operating, LLC	Recompletion from YESO to San Andreas. Perforated zones are from 3403' to 3585' and 1780' to 3134'. DHC application submitted.
1082	30 15 42024	A	1	18S	27E	126 FNL & 141 FEL	AAO Federal #014	Apache Corporation	Spudded Well 03-07-14. Fractured interval from 3454' to 4225'. Cement casing. Depth of 5-1/2" casing to 4520'.
1083	30 15 42025	B	1	18S	27E	1130 FSL & 1130 FEL	AAO Federal #015	Apache Corporation	Spudded Well 03-15-14. Fractured interval from 3376' to 4350'. Cement casing. Depth of 5-1/2" casing to 4584'.
1084	30 15 42026	C	1	18S	27E	1305 FNL & 2455 FWL	AAO Federal #016	Apache Corporation	Spudded Well 03-20-14. Fractured interval from 3378' to 4324'. Cement casing. Depth of 5-1/2" casing to 4529'.
1086	30 15 42035	G	1	18S	27E	2310 FNL & 1650 FEL	AAO Federal #018	Apache Corporation	Spudded Well 08-09-14. Fractured interval 3471' to 4306'. Cement casing. Depth of 2-7/8" tubing is 4359'.
1087	30 15 42036	E	1	18S	27E	2188 FNL & 909 FEL	AAO Federal #020	Apache Corporation	Spudded Well 04-10-14. Fractured interval 3262' to 4274'. Cement casing. Depth of 2-7/8" tubing is 4358'.
1089	30 15 42116	N	29	17S	28E	990 FSL & 2160 FWL	Williams A Federal No. 16	LRE Operating, LLC	Completed Well. TD @ 3609' with 7-7/8" hole. 5-1/2" J-55 casing set @ 3599'. Perfed 3424' to 3517'.
1092	30 15 42334	C	1	18S	27E	1005 FNL & 1630 FWL	AAO Federal #021	Apache Corporation	Spudded Well 05-27-14. Fractured interval 3628' to 4296'. Cement casing. Depth of 2-7/8" tubing is 4390'.
1093	30 15 42335	D	1	18S	27E	790 FNL & 330 FWL	AAO Federal #022	Apache Corporation	Spudded Well 07-27-14. Fractured interval 3218' to 4322'. Cement casing. Depth of 2-7/8" tubing is 4383'.
1094	30 15 42336	H	1	18S	27E	2265 FNL & 330 FEL	AAO Federal #023	Apache Corporation	Spudded Well 08-04-14. Fractured interval 3468' to 4290'. Cement casing. Depth of 2-7/8" tubing is 4357'.
1095	30 15 42337	1	1	18S	27E	984 FNL & 243 FEL	AAO Federal #024	Apache Corporation	Spudded Well 06-03-14. Fractured interval 3418' to 4315'. Cement casing. Depth of 2-7/8" tubing is 4425'.
1096	30 15 42338	K	1	18S	27E	2270 FSL & 1650 FWL	AAO Federal #026	Apache Corporation	Spudded Well 06-10-14. Fractured interval 3368' to 4360'. Cement casing. Depth of 2-7/8" tubing is 4424'.
1097	30 15 42339	M	1	18S	27E	360 FSL & 990 FWL	AAO Federal #029	Apache Corporation	Spudded Well 06-16-14. Fractured interval 3514' to 4371'. Cement casing. Depth pf 2-7/8" tubing is 4425'.
1098	30 15 42358	N	1	18S	27E	183 FSL & 2497 FWL	AAO Federal #028	Apache Corporation	Spudded Well 07-12-14. Fractured interval 3624' to 4426'. Cement casing. Depth of 2-7/8" tubing is 4490'.
1099	30 15 42359	K	1	18S	27E	1960 FSL & 2063 FWL	AAO Federal #027	Apache Corporation	Spudded Well 07-03-14. Fractured interval 3476' to 4430'. Cement casing. Depth of 2-7/8" tubing is 4491'.
1100	30 15 42360	M	1	18S	27E	1261 FSL & 281 FWL	AAO Federal #032	Apache Corporation	Spudded Well 07-02-14. Fractured interval 3338' to 4418'. Cement casing. Depth of 2-7/8" tubing is 4489'
1101	30 15 42361	L	1	18S	27E	2000 FSL & 1022 FWL	AAO Federal #025	Apache Corporation	Spudded Well 06-23-14. Fractured interval 3369' to 4418'. Cement casing. Depth of 2-7/8" tubing is 4523'.
1102	30 15 42372	D	31	17S	28E	330 FNL & 430 FWL	Enron State #20	LRE Operating, LLC	Drilled 7-7/8" hole to 3710'. Cemented 5-1/2" csg @ 3706'. Gross fractured zone is 3256' to 3449'.

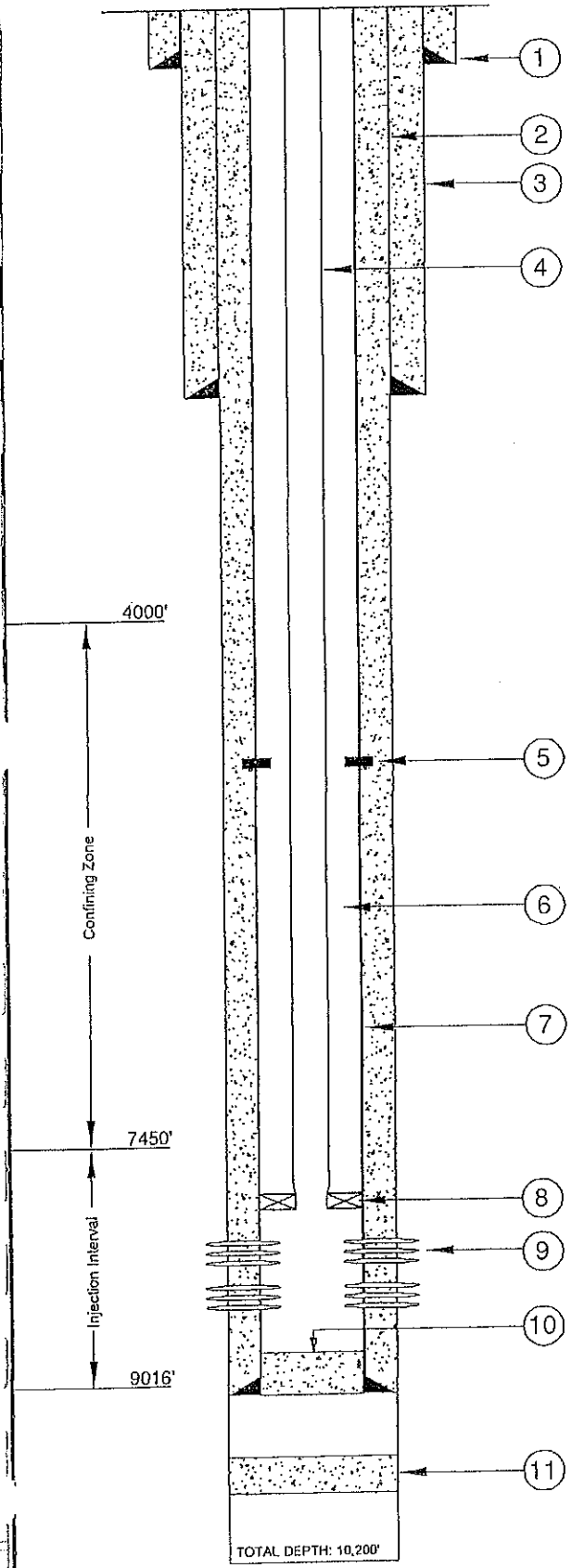
TABLE VII

Newly Drilled Wells in the Area of Review since the 2014 PFO REPORT

Well Changes in the Combined One Mile Area of Review for Navajo's WDW-1, WDW-2, and WDW-3

ID	API No.			Unit	Sect	Town	Range	Footages	Well Name	Operator	Changes
1103	30	015	42555	O	29	17S	28E	330 FSL & 2310 FEL	Outlaw State #005	Apache Corporation	NEW: Permit to Drill
1104	30	015	42863	B	32	17S	28E	330 FSL & 2310 FEL	Jackrabbit State #004	Apache Corporation	NEW: Permit to Drill
1105	30	015	42864	B	32	17S	28E	1010 FNL & 2540 FEL	Jackrabbit State #005	Apache Corporation	NEW: Permit to Drill
1106	30	015	42985	G	32	17S	28E	1470 FNL & 2405 FEL	Jackrabbit State #012	Apache Corporation	NEW: Permit to Drill
1107	30	015	42986	G	32	17S	28E	2460 FNL & 2280 FEL	Jackrabbit State #013	Apache Corporation	NEW: Permit to Drill
1108	30	015	42726	O	30	17S	28E	505 FSL & 2140 FEL	Staley State #029	LRE Operating LLC	Production casing @ 5100'. Perfed zones are 3330' to 3622', 3780' to 4058', 4208' to 4483', and 4680' to 5008'.
1109	30	015	40983	O	30	17S	28E	330 FSL & 1650 FEL	Staley State #020	LRE Operating LLC	Recomplete to the San Andreas & DHC. Existing perfs are 3290' to 4660'. News perfs are 2256' to 2647' and 1768' to 1952'.
1110	30	015	42597	A	31	17S	28E	570 FNL & 250 FEL	Ranger State #001	Apache Corporation	NEW: Permit to Drill
1111	30	015	42598	A	31	17S	28E	445 FNL & 1090 FEL	Ranger State #002	Apache Corporation	NEW: Permit to Drill
1112					AP#1079					Apache Corporation	NEW: Permit to Drill
1113	30	015	42599	B	31	17S	28E	905 FNL & 1385 FEL	Ranger State #001	Apache Corporation	NEW: Permit to Drill
1114	30	015	42600	A	31	17S	28E	645 FNL & 250 FEL	Ranger State #004	Apache Corporation	NEW: Permit to Drill
1115	30	015	42673	H	31	17S	28E	1650 FNL & 990 FEL	Ranger State #006	Apache Corporation	NEW: Permit to Drill
1116					AP #1019					Apache Corporation	NEW: Permit to Drill
1117	30	015	42674	H	31	17S	28E	2310 FNL & 990 FEL	Ranger State #007	Apache Corporation	NEW: Permit to Drill
1118	30	015	42675	H	31	17S	28E	1875 FNL & 110 FEL	Ranger State #008	Apache Corporation	NEW: Permit to Drill
1119	30	015	42677	I	31	17S	28E	2310 FSL & 1130 FEL	Ranger State #010	Apache Corporation	NEW: Permit to Drill
1120	30	015	42676	H	31	17S	28E	2520 FNL & 195 FEL	Ranger State #009	Apache Corporation	NEW: Permit to Drill
1121	30	015	42678	I	31	17S	28E	1535 FSL & 760 FEL	Ranger State #011	Apache Corporation	NEW: Permit to Drill
1122	30	015	42679	I	31	17S	28E	1760 FSL & 245 FEL	Ranger State #012	Apache Corporation	NEW: Permit to Drill
1123	30	015	42680	I	31	17S	28E	1710 FSL & 245 FEL	Ranger State #013	Apache Corporation	NEW: Permit to Drill
1124	30	015	42681	P	16	17S	28E	225 FSL & 1300 FEL	Ranger State #014	Apache Corporation	NEW: Permit to Drill
1125	30	015	42806	P	31	17S	28E	245 FSL & 90 FEL	Ranger State #016	Apache Corporation	NEW: Permit to Drill
1126	30	015	42682	P	31	17S	28E	260 FSL & 1250 FEL	Ranger State #015	Apache Corporation	NEW: Permit to Drill
1127	30	015	42602	B	36	17S	27E	330 FNL & 2210 FEL	Jeffers 36 State #005	LRE Operating LLC	NEW: Permit to Drill
1128	30	015	42899	B	36	17S	27E	890 FNL & 1655 FEL	Jeffers 36 State #006	LRE Operating LLC	Spudded Well 05-25-15. Fractured interval 3240' to 3510'. Cement casing. Depth of 2-7/8" tubing is 3492'.
1129	30	015	42027	H	1	18S	27E	1650 FNL & 865 FEL	AAO Federal #017	Apache Corporation	NEW: Permit to Drill
1130	30	015	42549	G	1	18S	27E	2470 FNL & 2380 FEL	AAO Federal SWD #001	Apache Corporation	New and shut-in
1131	30	015	25270	F	12	18S	27E	2310 FNL & 2310 FWL	Chukka Federal #001	Bill L. Miller	NEW and active
1132	30	15	36252	N	30	17S	28E	990 FSL & 1980 FWL	Staley State #004	LRE Operating, LLC	Recomplete to the San Andreas & DHC. Existing perfs are 3210' to 3994'. New perfs are 2330' to 2650' and 1728' to 2222'. 2-7/8" tubing set at 2943'.
1133	30	15	37691	P	30	17S	28E	1050 FSL & 330 FEL	Anthoney #1	LRE Operating, LLC	Recomplete to the San Andreas & DHC. Existing perfs are 3314' to 4672'. New perfs are 2308' to 2694' and 1776' to 2006'. 2-7/8" tubing set at 3092'.
1134	30	15	40028	P	30	17S	28E	540 FSL & 837 FEL	Anthoney State #4	LRE Operating, LLC	Recomplete to the San Andreas & DHC. Existing perfs are 3399' to 4719'. New perfs are 2322' to 2671' and 1820' to 2175'. 2-7/8" tubing set at 3175'.
1135	30	15	40338	O	30	17S	28E	990 FSL & 2310 FEL	Staley State #016	LRE Operating, LLC	Recomplete to the San Andreas & DHC. Gross perforated zone is from 2300' to 3120'. 2-7/8" J-55 tubing set @ 4727'.
1136	30	15	41065	N	30	17S	28E	990 FSL & 2335 FWL	Staley State #24	LRE Operating, LLC	Recomplete to the San Andreas & DHC. Existing perfs are 3300' to 4460'. News perfs are 2170' to 2585' and 1742' to 1969'. 2-7/8" J-55 tubing set @ 3045'.
1137	30	15	40723	C	2	18S	28E	990 FNL & 1500 FWL	Logan 2C State #4	Lime Rock Resources II-A, L.P.	Completed well as a single Yeso oil well producing perfs @ 3498' to 3844' with lower Yeso perfs 3900-4620' SI under a RBP @ 3870'.
1138	30	15	43066	N	35	17S	27E	870 FSL & 1640 FWL	Logan B 35 N Federal 24	Lime Rock Resources II-A, L.P.	Recomplete to the San Andreas & DHC. Existing perfs are 3399' to 4719'. New perfs are 2322' to 2671' and 1820' to 2175'. 2-7/8" tubing set at 3175'.
1139	30	15	43252	O	35	17S	27E	720 FSL & 1670 FEL	Logan 35 O Federal 22	Lime Rock Resources II-A, L.P.	NEW: Permit to Drill
1140	30	15	42556	O	29	17S	28E	990 FSL & 1650 FEL	The Outlaw State #006	Apache Corporation	Completed Well. TD @ 5300' with 7-7/8" hole. 5-1/2" J-55 casing set @ 4961'. Perfed 3450' to 3687'.
1141	30	15	42557	O	29	17S	28E	330 FSL & 1650 FEL	The Outlaw State #007	Apache Corporation	Completed Well. TD @ 5300' with 7-7/8" hole. 5-1/2" J-55 casing set @ 5024'. Perfed 3326' to 3728'.
1142	30	15	42558	O	29	17S	28E	990 FSL & 2310 FEL	The Outlaw State #008	Apache Corporation	Completed Well. TD @ 5300' with 7-7/8" hole. 5-1/2" J-55 casing set @ 5023'. Perfed 3316' to 3615'.
1143	30	15	42725	O	30	17S	28E	685 FSL & 1630 FEL	Staley State #28	LRE Operating, LLC	New: Completed Well. Production casing @ 5100'. Perfed zones are 3380' to 3694', 3956' to 4218', 4273' to 4555', and 4690' to 5002'.
1144	30	15	42727	O	30	17S	28E	850 FSL & 1680 FWL	Staley State #30	LRE Operating, LLC	New: Completed Well. Production casing @ 5100'. Perfed zones are 3684' to 4008', 4118' to 4456', and 4648' to 4968'.
1145	30	15	42601	H	31	17S	28E	1825 FNL & 110 FEL	Ranger State 005	Apache Corporation	NEW: Permit to Drill
1146	30	15	42984	G	32	17S	28E	1535 FNL & 1680 FEL	Jack Rabbit State #11	Apache Corporation	NEW: Permit to Drill

FIGURES



BELOW GROUND DETAILS

All depths are referenced to the Kelly bushing elevation of 12.5' above ground level. Ground level elevation is 3,678' above mean sea level.

1. Surface Casing: 13 ⅜", 48 lb/ft, J-55, ST&C set at 390' in a 17 ½" hole. Cemented with 150 sx Class C with 3 % calcium chloride, 375 sx Class C Litewate w/3 % calcium chloride and ½ lb/sx flocele. Circulated 86 sx to surface.

2. Intermediate Casing: 9 ⅝", 36 lb/ft, J-55, ST&C set at 2,555' in a 12 ¼ " hole. Cemented w/800 sx of Class C Lite w/ ½ lb/sx flocele and 2 lb/sx Gilsonite and 12 % salt. Followed by 200 sx of Class C w/2 % calcium chloride. Circulated 133 sx to surface.

3. Base of the USDW at 493'.

4. Injection Tubing: 4 ½", 11.6 lb/ft, N-80, SMLS, R3, LT&C set at 7,879'.

5. DV Tool: at 5,498'.

6. Annulus Fluid: 8.7 lb/gal brine water mixed w/UniChem Techni-Hib 370 corrosion inhibitor.

7. Protection Casing: 7", 29 lb/ft, N-80, LT&C: 9094' to 7031'. 7", 29 lb/ft, P-110, LT&C: 7031' to 5845'. 7", 26 lb/ft, P-110, LT&C; 5845' to surface. Casing cemented in two stages as follows:

   First Stage - 600 sx modified Class H w/0.4 % CFR-3, 5 lb/sx Gilsonite, 0.5% Halad-344, and 1 lb/sx salt mixed at 13.0 ppg. Opened DV tool at 5498' and circulated 142 sx to surface.

   Second Stage - Lead Slurry: 220 sx Interfill "C" (35:65:6) mixed at 11.7 ppg. Tail Slurry: 550 sx modified Class H w/0.4 % CFR-3, 5 lb/sx, Gilsonite, 0.5 % Halad-344, 0.1% HR-7, and 1 lb/sx mixed at 13.0 ppg. Circulated 75 sx to surface. Top out w/20 sx permium plus 3% calcium chloride.

8. Packer: 7" x 3.5" EVI Oil Tools (Arrow), Model X-1 retrievable packer set at 7879'. Minimum I.D. is 3.0". Wireline re-entry guide on bottom. To release: turn ¼ turn to the right and pick up.

9. Perforations (2 SPF):

   Upper Zone - 7924-7942', 7974-8030', 8050-8056', 8066-8080', 8118-8127', 8132-8140', 8160-8164', 8170-8188'.

   Lower Zone - 8220-8254', 8260-8270', 8280-8302', 8360-8366', 8370-8378', 8400-8410', 8419-8423', 8430-8446', 8460-8464', 8470-8476'.

10. PBTD: 9004'.

11. Cement Plug: 45 sx Class H from 9624' to 9734'.

SUBSURFACE

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

NAVAJO REFINING COMPANY
ARTESIA, NEW MEXICO

BELOW GROUND DETAILS
WASTE DISPOSAL WELL NO. 1

DATE: 07/13/01	CHECKED BY:	JOB NO: 70D5256
DRAWN BY: WDL	APPROVED BY:	DWG. NO:

FIGURE 1

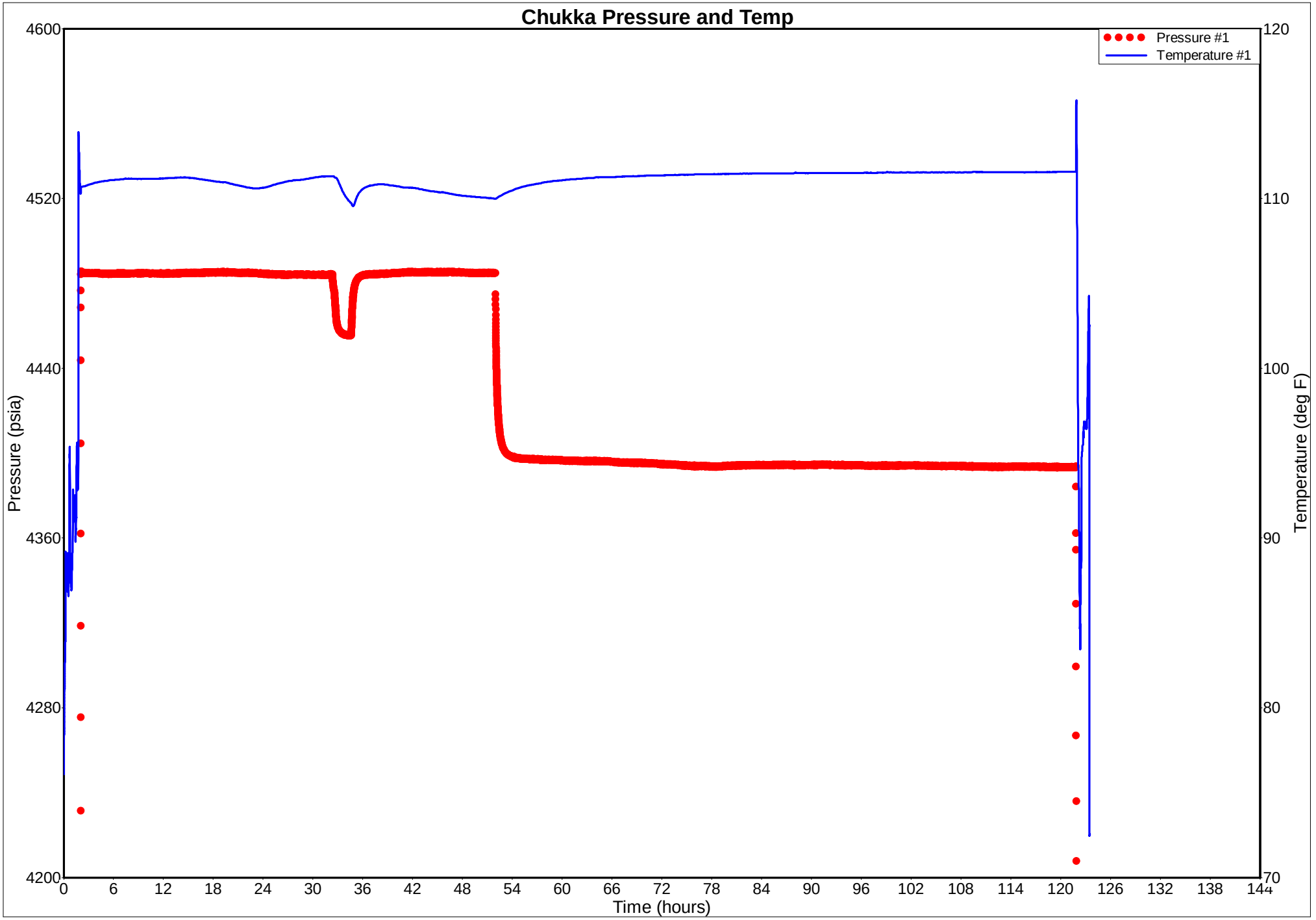

Chukka Pressure and Temp
Pressure #1
Temperature #1
Pressure (psia)
Temperature (deg F)
Time (hours)
4600
4520
4440
4360
4280
4200
120
110
100
90
80
70
0
6
12
18
24
30
36
42
48
54
60
66
72
78
84
90
96
102
108
114
120
126
132
138
144

FIGURE 2

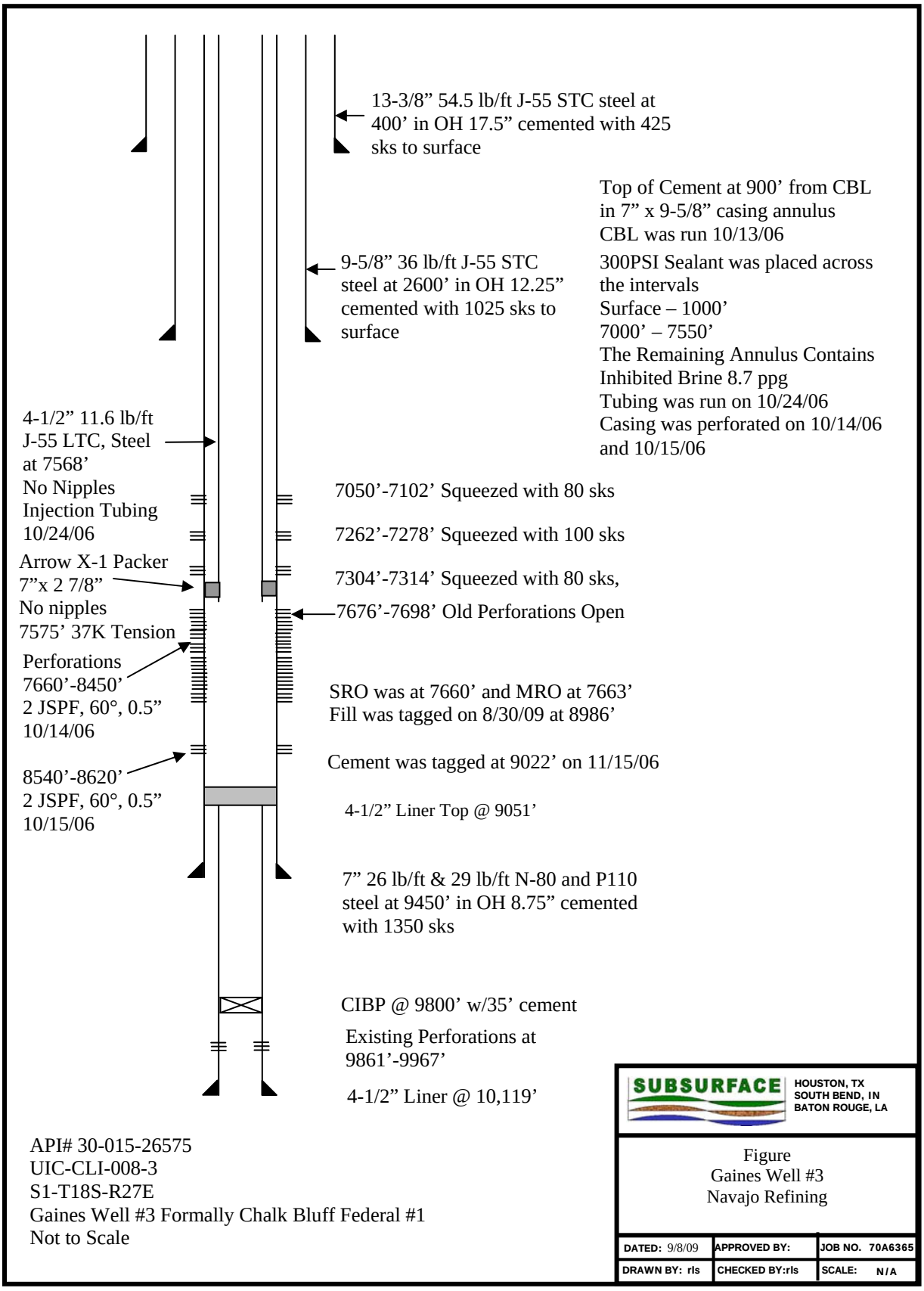
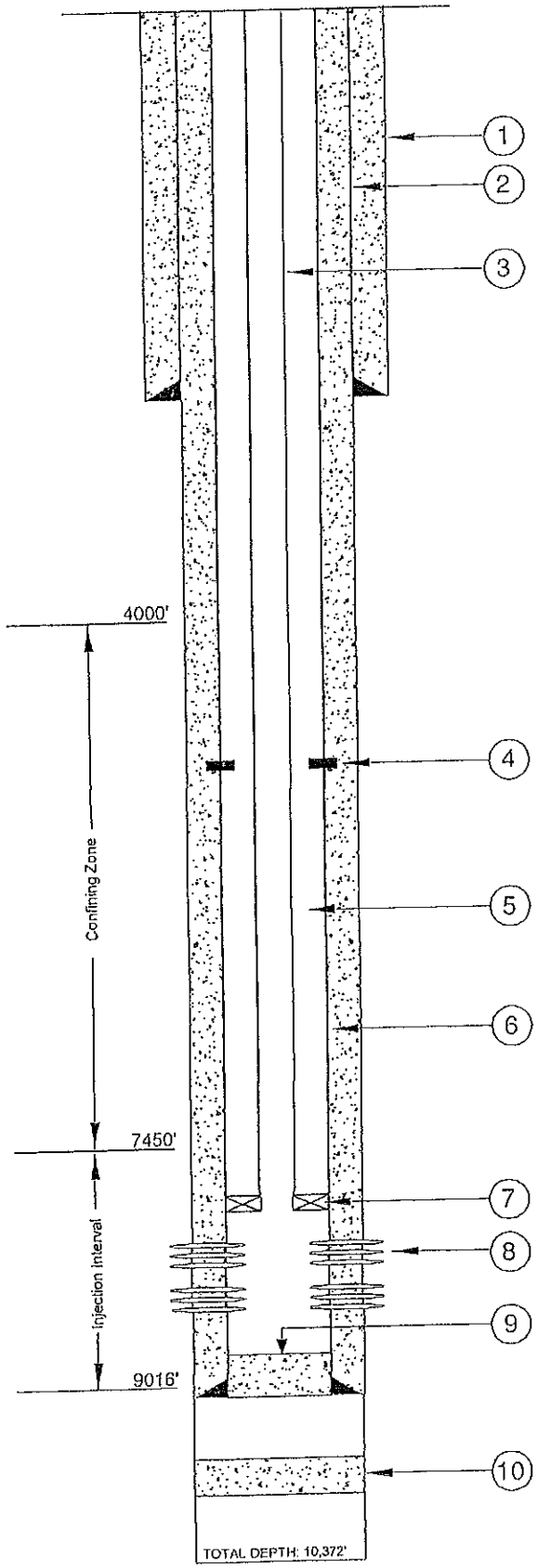

13-3/8" 54.5 lb/ft J-55 STC steel at 400' in OH 17.5" cemented with 425 sks to surface
Top of Cement at 900' from CBL in 7" x 9-5/8" casing annulus CBL was run 10/13/06
9-5/8" 36 lb/ft J-55 STC steel at 2600' in OH 12.25" cemented with 1025 sks to surface
300PSI Sealant was placed across the intervals
Surface – 1000'
7000' – 7550'
The Remaining Annulus Contains Inhibited Brine 8.7 ppg
Tubing was run on 10/24/06
Casing was perforated on 10/14/06 and 10/15/06
4-1/2" 11.6 lb/ft J-55 LTC, Steel at 7568'
No Nipples
Injection Tubing 10/24/06
7050'-7102' Squeezed with 80 sks
7262'-7278' Squeezed with 100 sks
Arrow X-1 Packer 7"x 2 7/8"
No nipples
7575' 37K Tension
7304'-7314' Squeezed with 80 sks,
7676'-7698' Old Perforations Open
Perforations 7660'-8450' 2 JSPF, 60°, 0.5" 10/14/06
SRO was at 7660' and MRO at 7663'
Fill was tagged on 8/30/09 at 8986'
Cement was tagged at 9022' on 11/15/06
8540'-8620' 2 JSPF, 60°, 0.5" 10/15/06
4-1/2" Liner Top @ 9051'
7" 26 lb/ft & 29 lb/ft N-80 and P110 steel at 9450' in OH 8.75" cemented with 1350 sks
CIBP @ 9800' w/35' cement
Existing Perforations at 9861'-9967'
4-1/2" Liner @ 10,119'
API# 30-015-26575
UIC-CLI-008-3
S1-T18S-R27E
Gaines Well #3 Formally Chalk Bluff Federal #1
Not to Scale
SUBSURFACE
HOUSTON, TX
SOUTH BEND, IN
BATON ROUGE, LA
Figure
Gaines Well #3
Navajo Refining
DATED: 9/8/09
APPROVED BY:
JOB NO. 70A6365
DRAWN BY: rls
CHECKED BY:rls
SCALE: N/A

FIGURE 3



BELOW GROUND DETAILS

All depths are referenced to the Kelly bushing elevation of 13' above ground level. Ground level elevation is 3610' above mean sea level.

1. Base of the USDW at 473'.
2. Surface Casing: 8 ⅝", 32 lb/ft, set at 1995' in an 11" hole. Cemented to surface with 800 sacks of cement.
3. Injection Tubing: 3 ½", 9.2 lb/ft, J-55, smls, NUE 10 rd, set at 7528'.
4. DV Tool: at 5,785'.
5. Annulus Fluid: 8.7 lb/gal brine water mixed w/UniChem Techni-Hib 370 corrosion inhibitor.
6. Protection Casing: 5 ½", 17 lb/ft, L-80, LT&C: 8869' to the surface and set in a 7 ⅞" 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. Topped out with 10 yards of Redi-mix.
7. Packer: 5 ½" x 2 ⅞" 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 ¼ 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.

NAVAJO REFINING COMPANY
ARTESIA, NEW MEXICO

BELOW GROUND DETAILS
WASTE DISPOSAL WELL NO. 2

DATE: 07/13/01	CHECKED BY:	JOB NO: 70D5256
DRAWN BY: WDL	APPROVED BY:	DWG. NO:

FIGURE 4

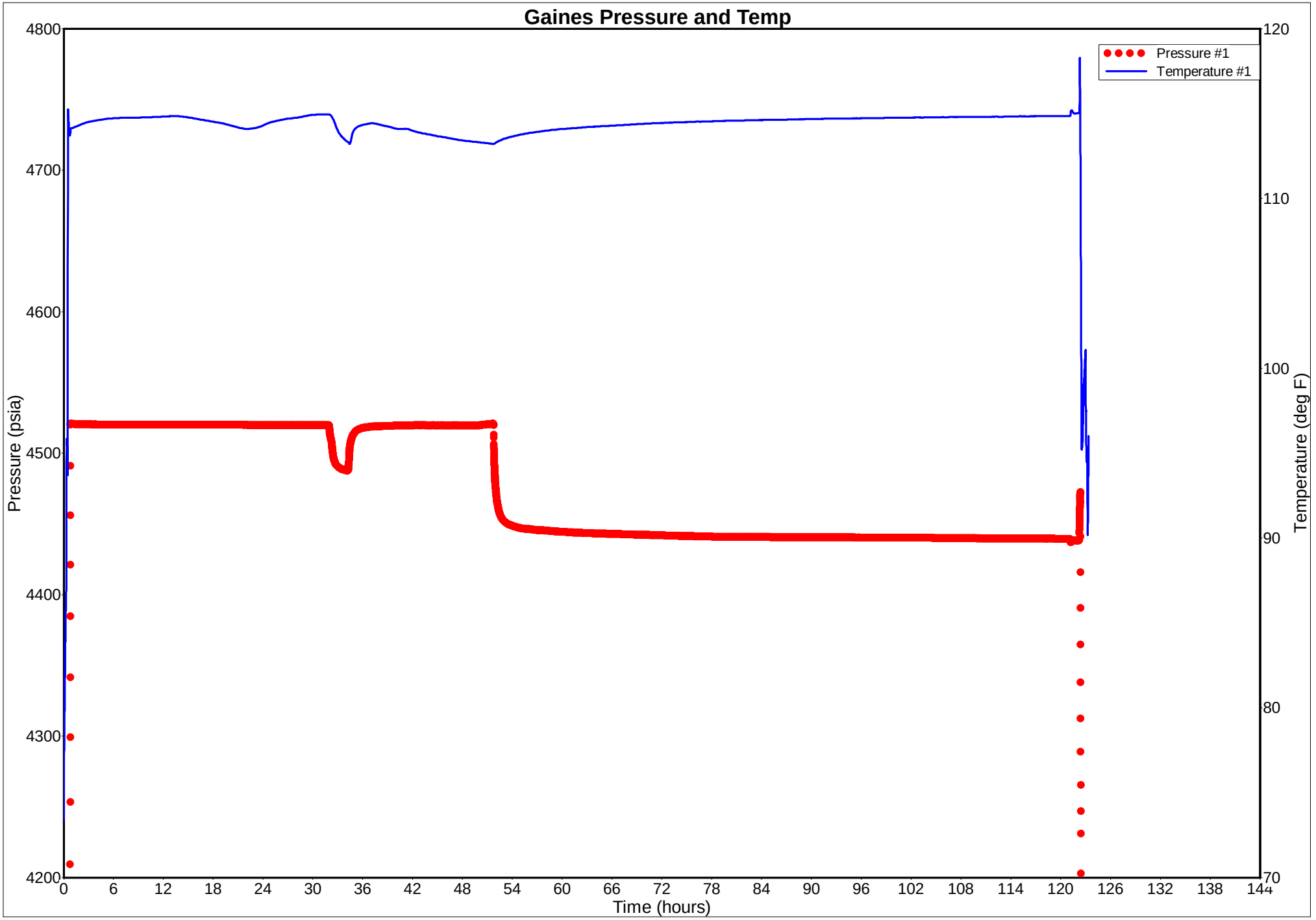

Gaines Pressure and Temp
Pressure #1
Temperature #1
Pressure (psia)
Temperature (deg F)
Time (hours)
4800
4700
4600
4500
4400
4300
4200
120
110
100
90
80
70
0
6
12
18
24
30
36
42
48
54
60
66
72
78
84
90
96
102
108
114
120
126
132
138
144

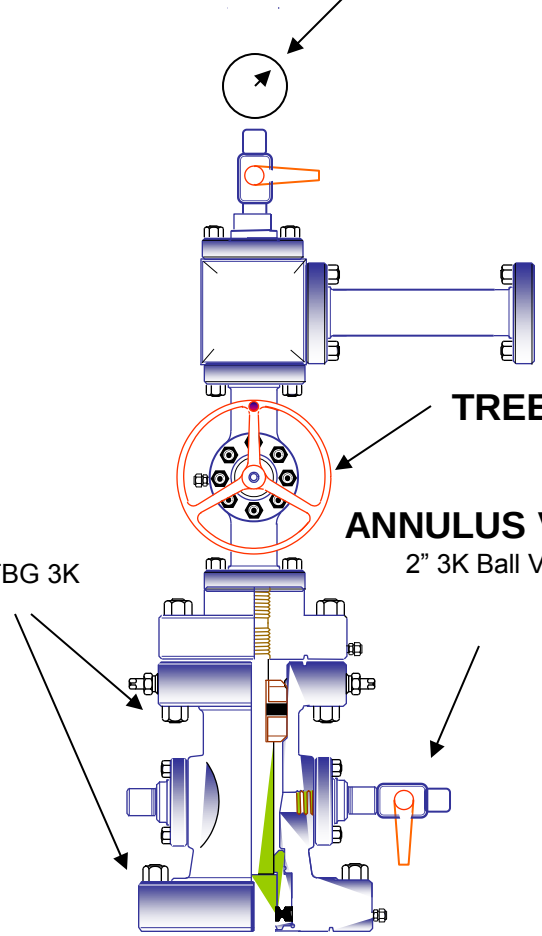
FIGURE 5

SUBSURFACE TECHNOLOGY FIGURE 7

WELL: NAVAJO REFINING MEWBOURNE WELL NO. 1

TOP CONNECTION
2-3/8” 8rd x 4-1/16” 3K
2” x 2-3/8” Ball Valve
2-3/8” Bull Plug 1/2” NPT
5000 LB Pressure Guage

UPPER TREE ASSEMBLY
A5PP,4-1/2” 3K X 4-1/16” 3K



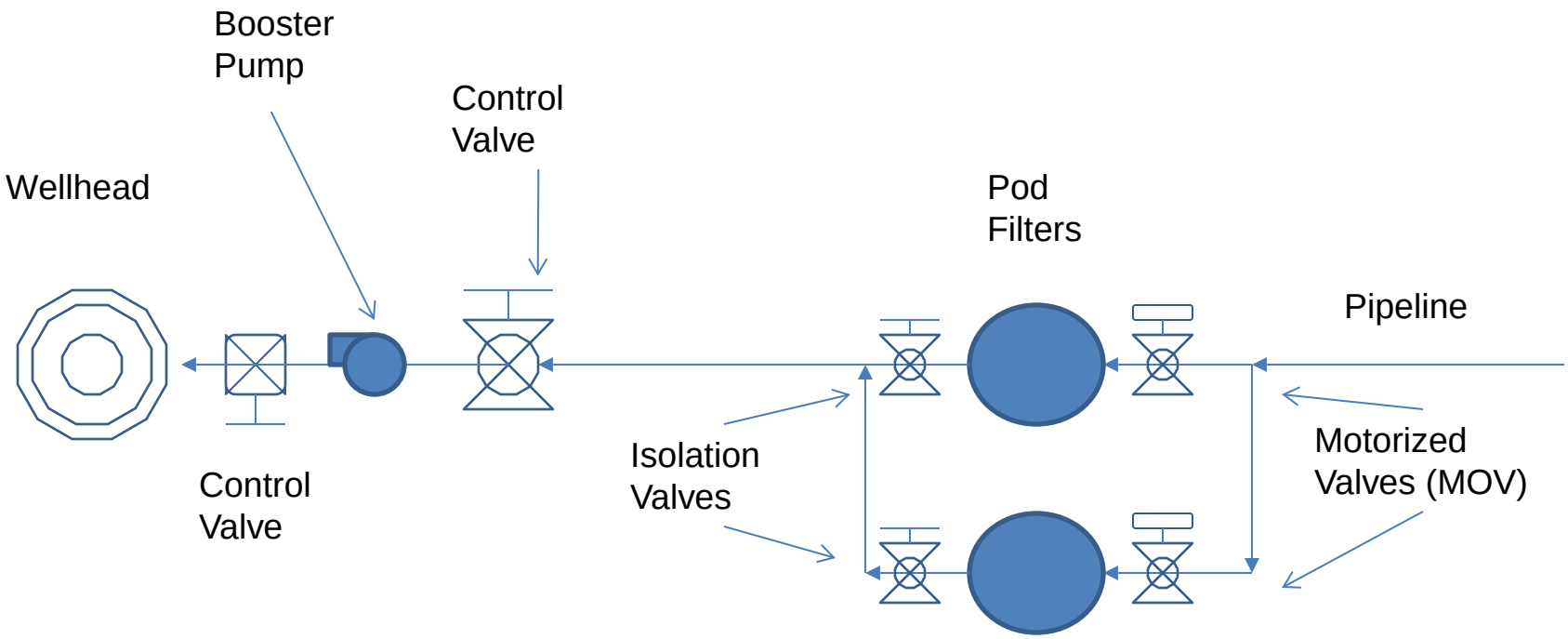
TREE GATE VALVE
4-1/16” 3K

FLANGE
7-1/16”, 3-1/2” 3K X 4-1/16” UPTBG 3K

ANNULUS VALVE
2” 3K Ball Valve

SUPERIOR WELLHEAD

FIGURE 8
Mewbourne Well No. 1
Diagram of Shut-in Valve Control



At Shut-in
- Close MOV
- Close Control Valve
- Close Isolation Valves
- Close Control Valve
- Drain POD Filters

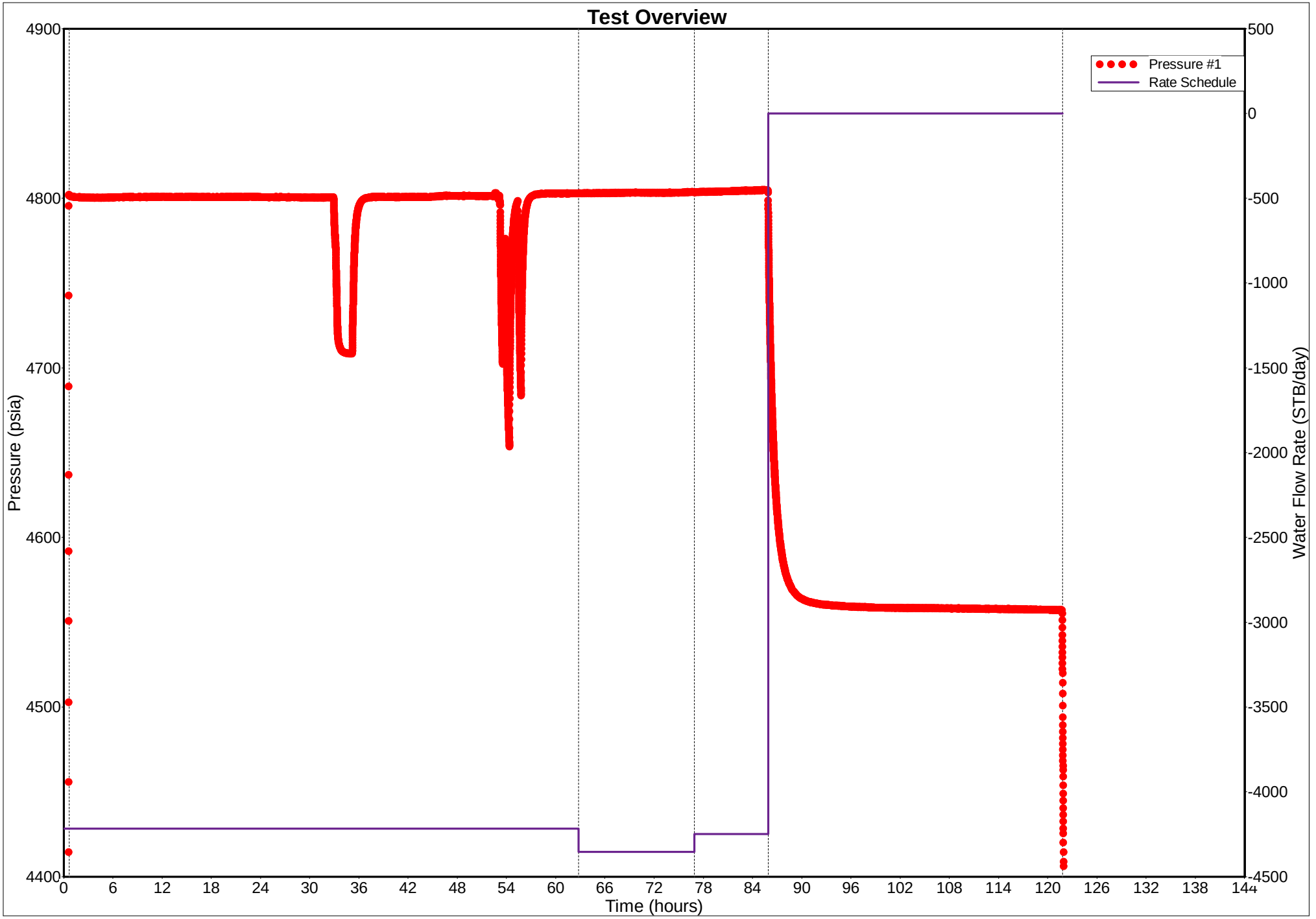

Test Overview
Pressure #1
Rate Schedule
Pressure (psia)
Water Flow Rate (STB/day)
Time (hours)
4900
4800
4700
4600
4500
4400
500
0
-500
-1000
-1500
-2000
-2500
-3000
-3500
-4000
-4500
0
6
12
18
24
30
36
42
48
54
60
66
72
78
84
90
96
102
108
114
120
126
132
138
144

FIGURE 9

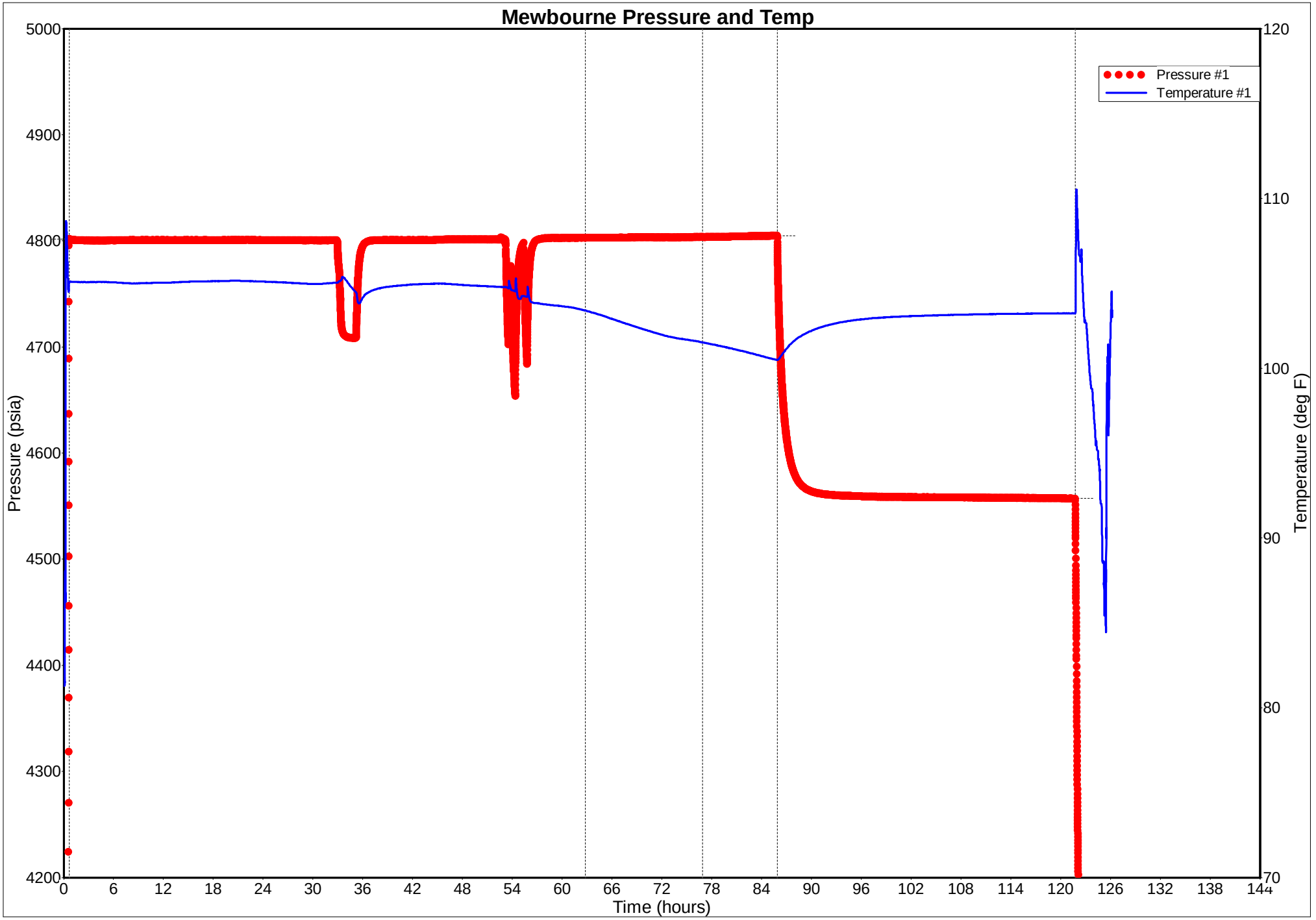

Mewbourne Pressure and Temp
Pressure #1
Temperature #1
Pressure (psia)
Temperature (deg F)
Time (hours)
5000
4900
4800
4700
4600
4500
4400
4300
4200
120
110
100
90
80
70
0
6
12
18
24
30
36
42
48
54
60
66
72
78
84
90
96
102
108
114
120
126
132
138
144

FIGURE 10

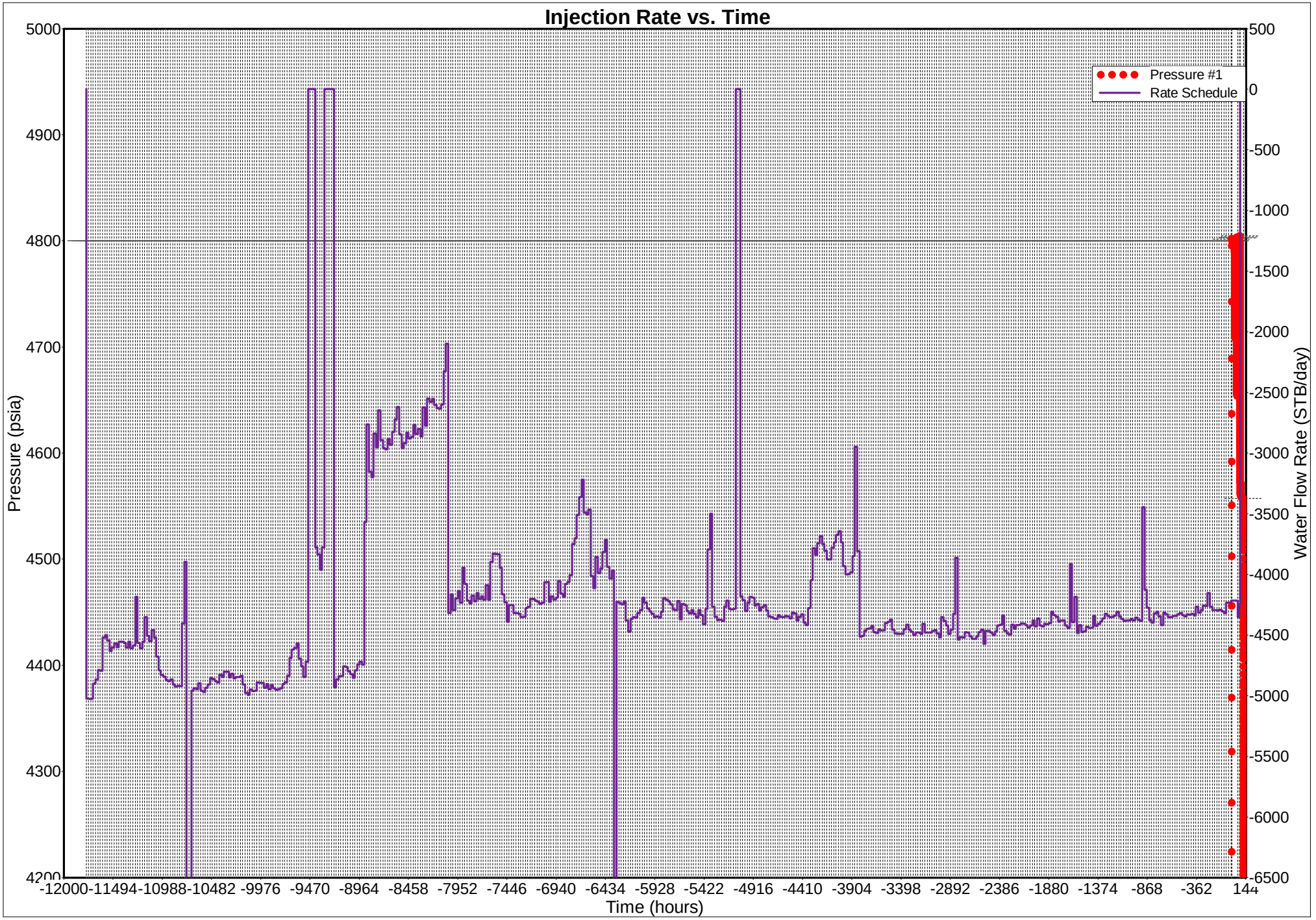

Injection Rate vs. Time
Pressure #1
Rate Schedule
Pressure (psia)
Water Flow Rate (STB/day)
Time (hours)
5000
4900
4800
4700
4600
4500
4400
4300
4200
500
0
-500
-1000
-1500
-2000
-2500
-3000
-3500
-4000
-4500
-5000
-5500
-6000
-6500
-12000 -11494 -10988 -10482 -9976 -9470 -8964 -8458 -7952 -7446 -6940 -6434 -5928 -5422 -4916 -4410 -3904 -3398 -2892 -2386 -1880 -1374 -868 -362 144

FIGURE 11

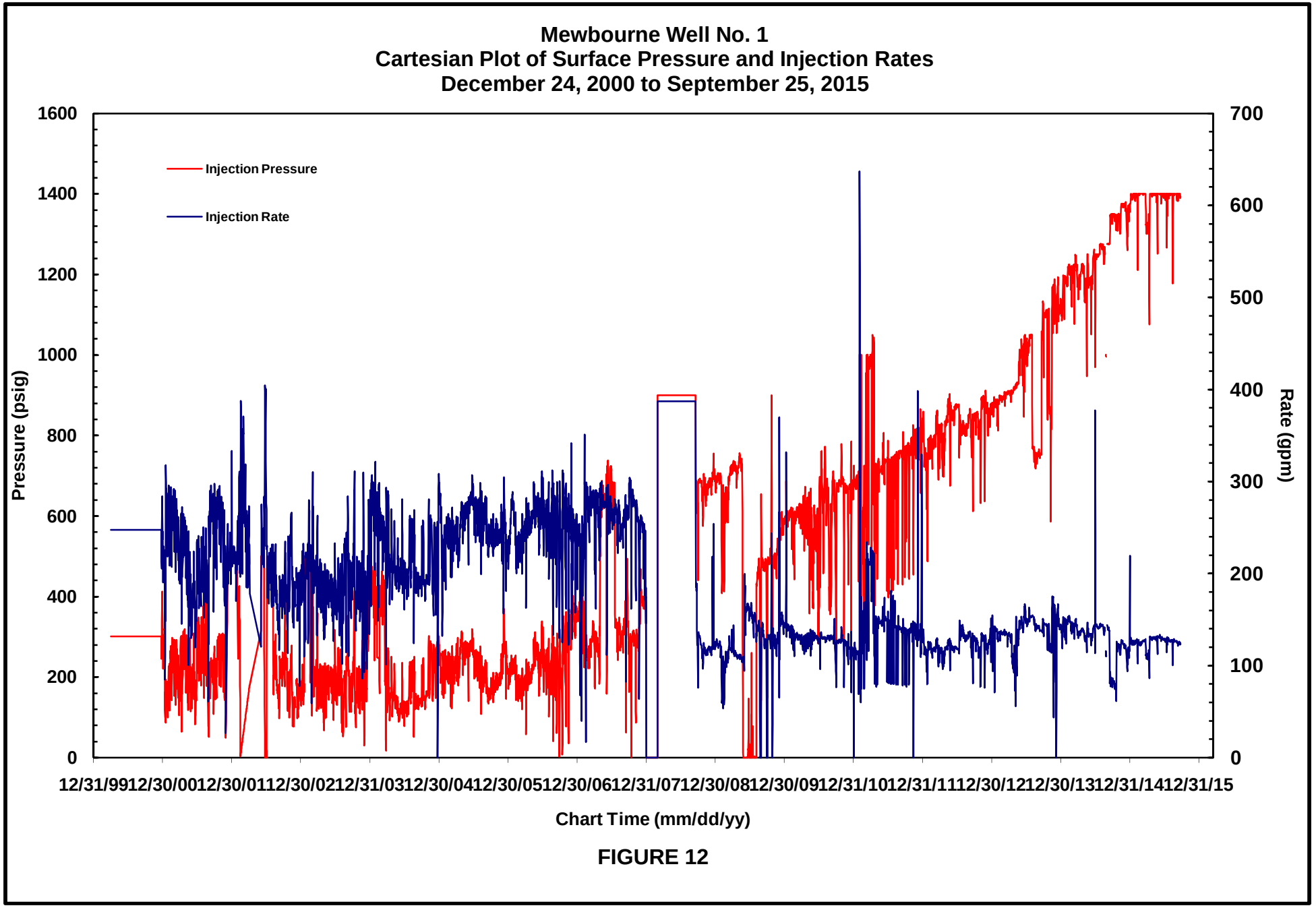

Mewbourne Well No. 1
Cartesian Plot of Surface Pressure and Injection Rates
December 24, 2000 to September 25, 2015
Injection Pressure
Injection Rate
Pressure (psig)
Rate (gpm)
1600
1400
1200
1000
800
600
400
200
0
700
600
500
400
300
200
100
0
12/31/99
12/30/00
12/30/01
12/30/02
12/31/03
12/30/04
12/30/05
12/30/06
12/31/07
12/30/08
12/30/09
12/31/10
12/31/11
12/30/12
12/30/13
12/31/14
12/31/15
Chart Time (mm/dd/yy)

FIGURE 12

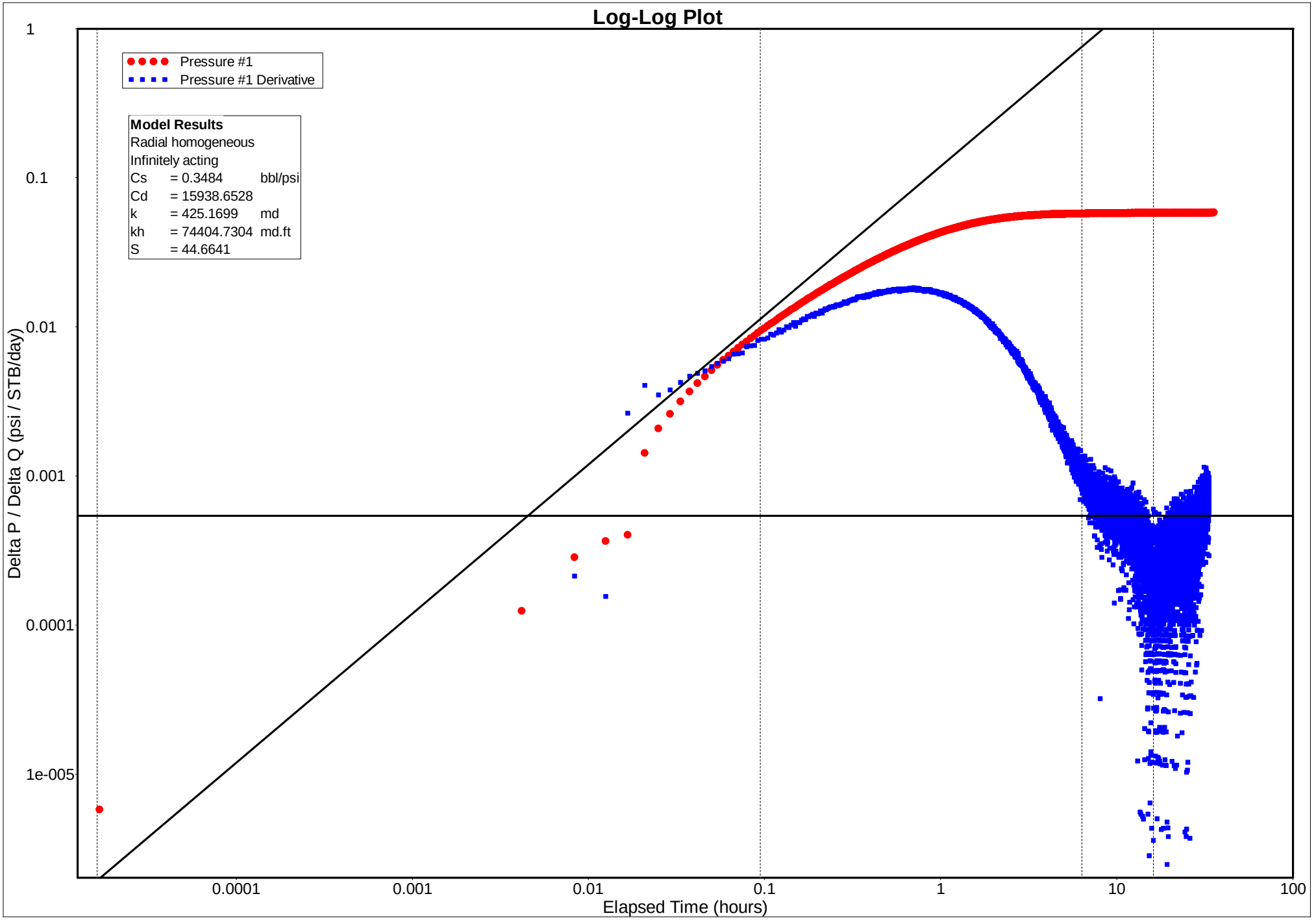

Log-Log Plot
Pressure #1
Pressure #1 Derivative
Model Results
Radial homogeneous
Infinitely acting
Cs = 0.3484 bbl/psi
Cd = 15938.6528
k = 425.1699 md
kh = 74404.7304 md.ft
S = 44.6641
Delta P / Delta Q (psi / STB/day)
1
0.1
0.01
0.001
0.0001
1e-005
0.0001
0.001
0.01
0.1
1
10
100
Elapsed Time (hours)

FIGURE 13

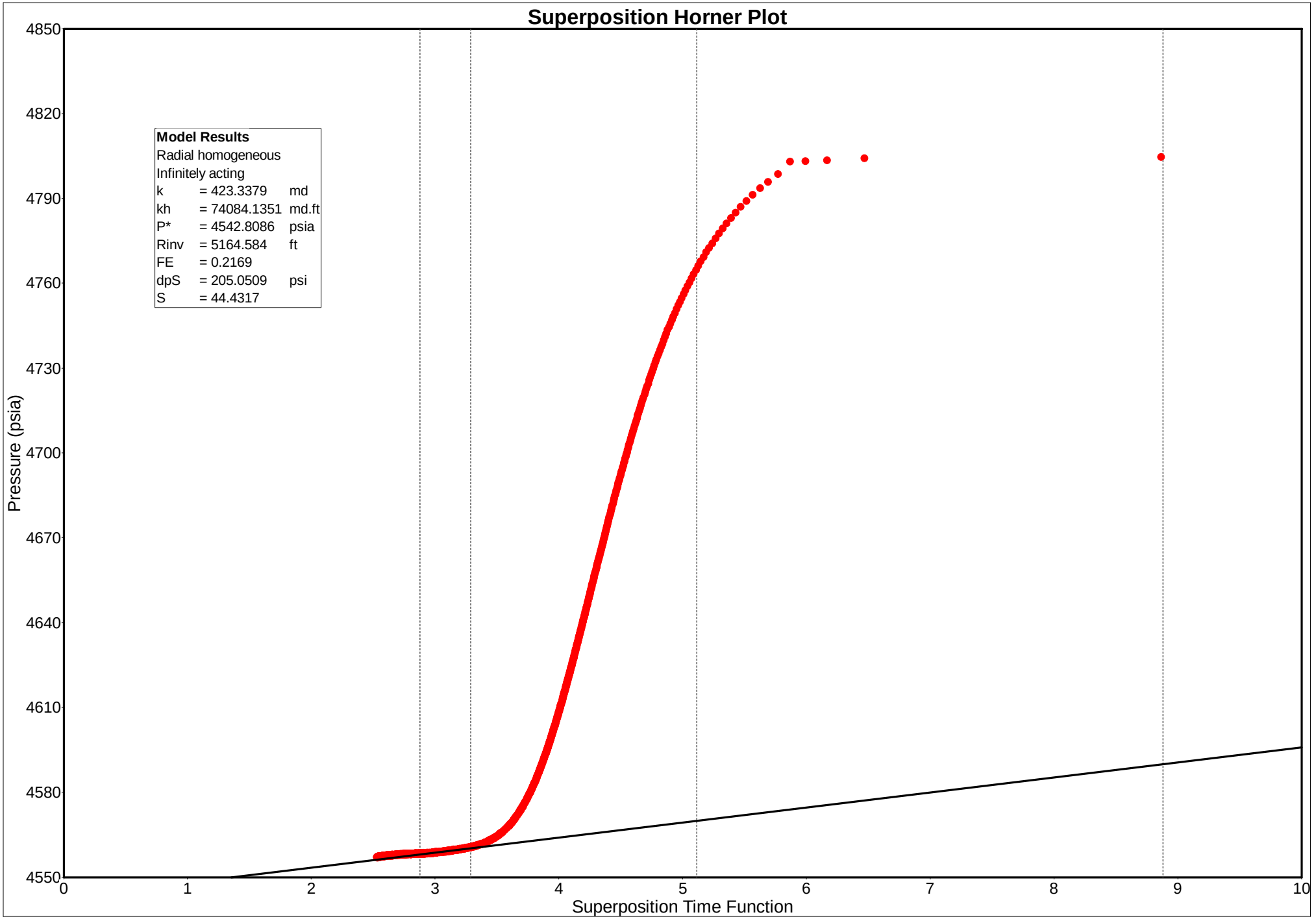

Superposition Horner Plot
Model Results
Radial homogeneous
Infinitely acting
k = 423.3379 md
kh = 74084.1351 md.ft
P* = 4542.8086 psia
Rinv = 5164.584 ft
FE = 0.2169
dpS = 205.0509 psi
S = 44.4317
Pressure (psia)
4850
4820
4790
4760
4730
4700
4670
4640
4610
4580
4550
0
1
2
3
4
5
6
7
8
9
10
Superposition Time Function

FIGURE 14

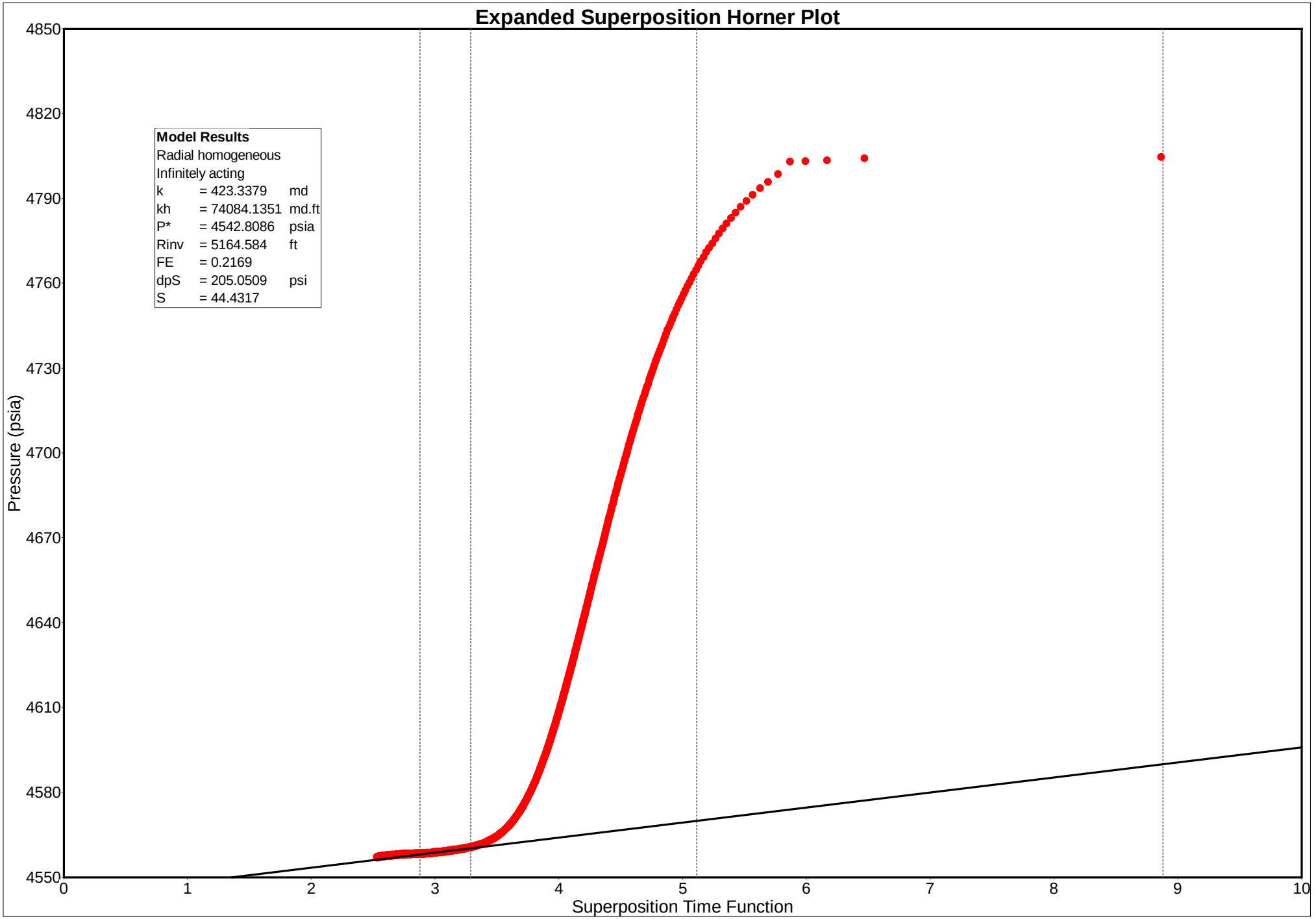

Expanded Superposition Horner Plot
Model Results
Radial homogeneous
Infinitely acting
k = 423.3379 md
kh = 74084.1351 md.ft
P* = 4542.8086 psia
Rinv = 5164.584 ft
FE = 0.2169
dpS = 205.0509 psi
S = 44.4317
Pressure (psia)
4850
4820
4790
4760
4730
4700
4670
4640
4610
4580
4550
0
1
2
3
4
5
6
7
8
9
10
Superposition Time Function

FIGURE 15

Navajo Refining Company
Mewbourne Well No. 1
August 17, 2015 to September 25, 2015
Hall Plot

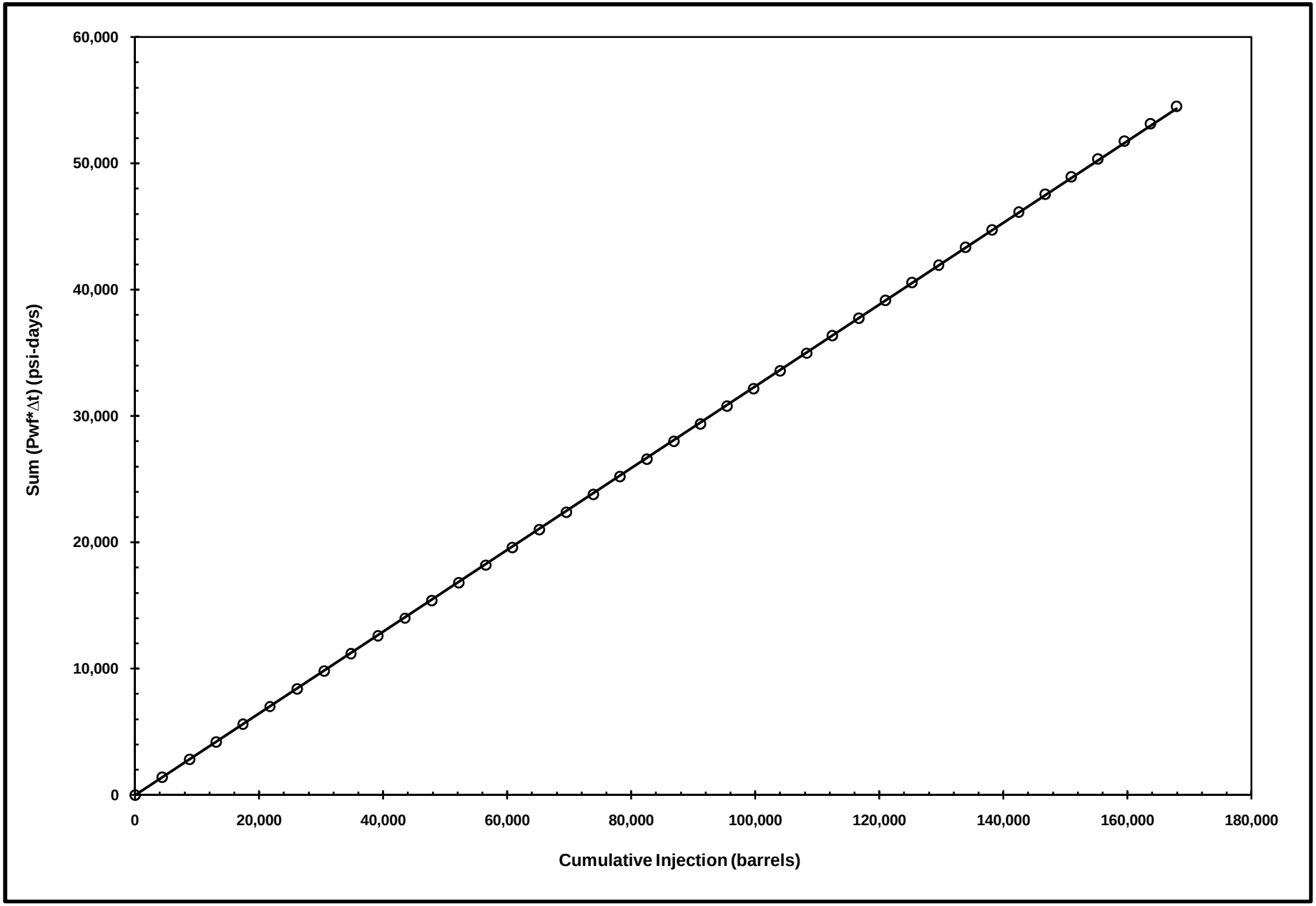
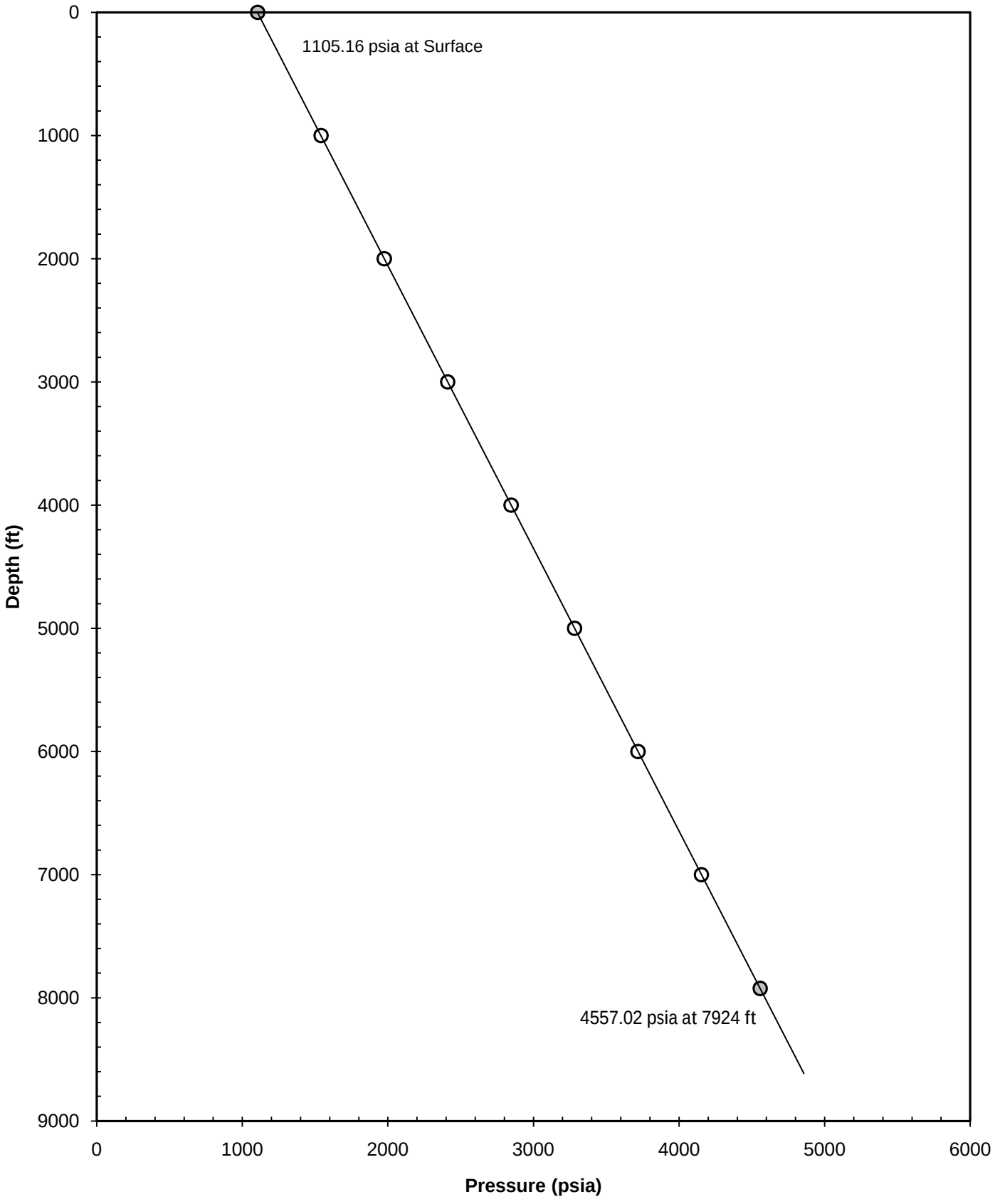


FIGURE 16

FIGURE 17

Navajo Refining Company
Static Pressure Gradient Survey
Mewbourne Well No. 1
September 27, 2015



APPENDICES

APPENDIX A

DUAL INDUCTION LOG SECTIONS FROM 7924 FEET TO 8476 FEET

APPENDIX B

NEUTRON DENSITY LOG SECTIONS FROM 7924 FEET TO 8476 FEET

APPENDIX C

COMPRESSIBILITY OF FLUID

APPENDIX C

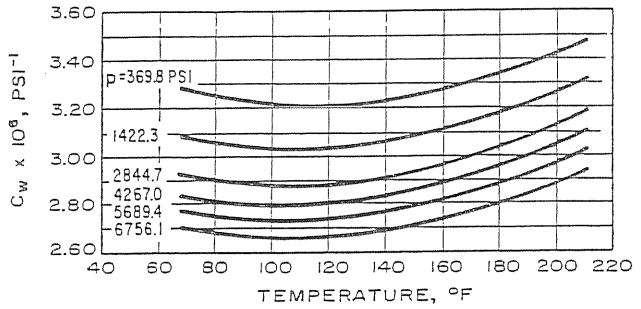


Fig. D.16 Average compressibility of distilled water. After Long and Chierici.[13]

Source: Earlougher, 1977, Advances in Well Test Analysis

COMPRESSIBILITY OF PORE VOLUME AND DISTILLED WATER

APPENDIX D

COMPRESSIBILITY OF PORE VOLUME

APPENDIX D

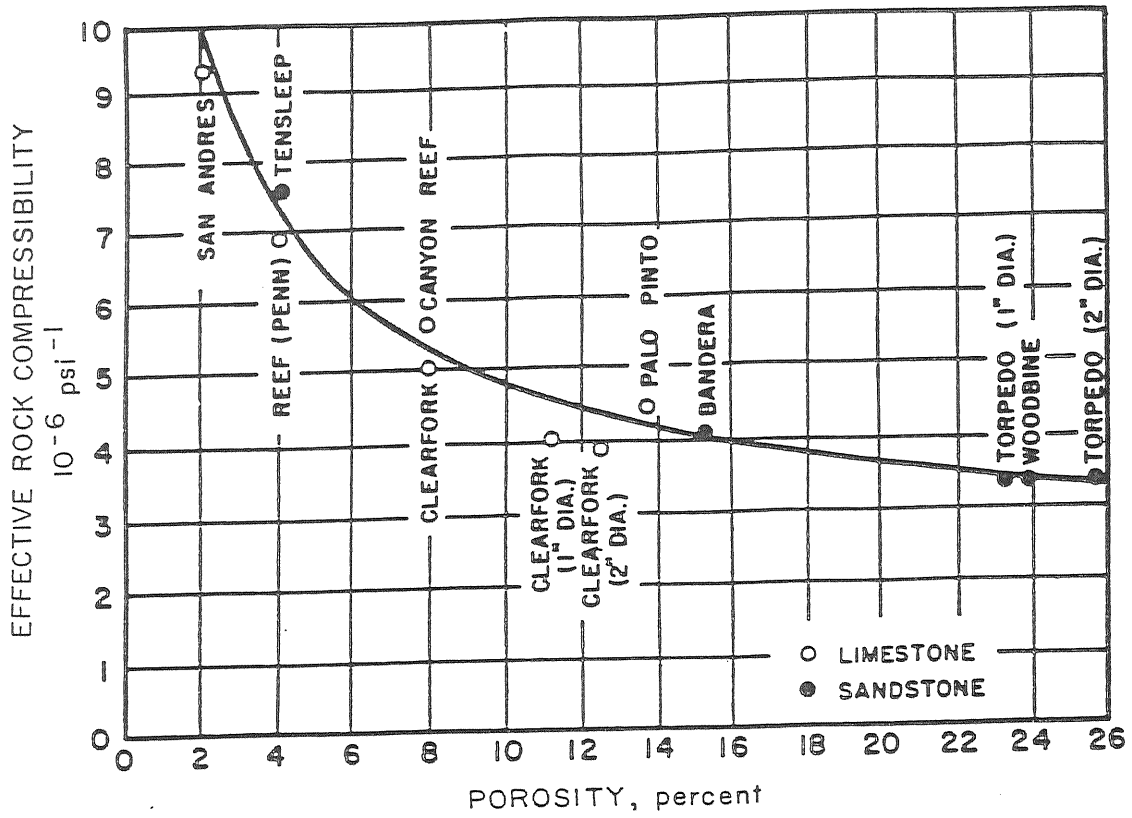


Fig. G.5 Effective formation (rock) compressibility. From Hall, *Trans.*, AIME (1953) 198, 309.

Source: Matthews and Russell, 1967, Pressure Buildup and Flow Tests in Wells

APPENDIX E

MEWBOURNE WELL NO. 1, JULY 23, 1998, TEMPERATURE LOG

APPENDIX F

WATER VOSCOSITIES AT VARIOUS SALINTIES AND TEMPERATURES

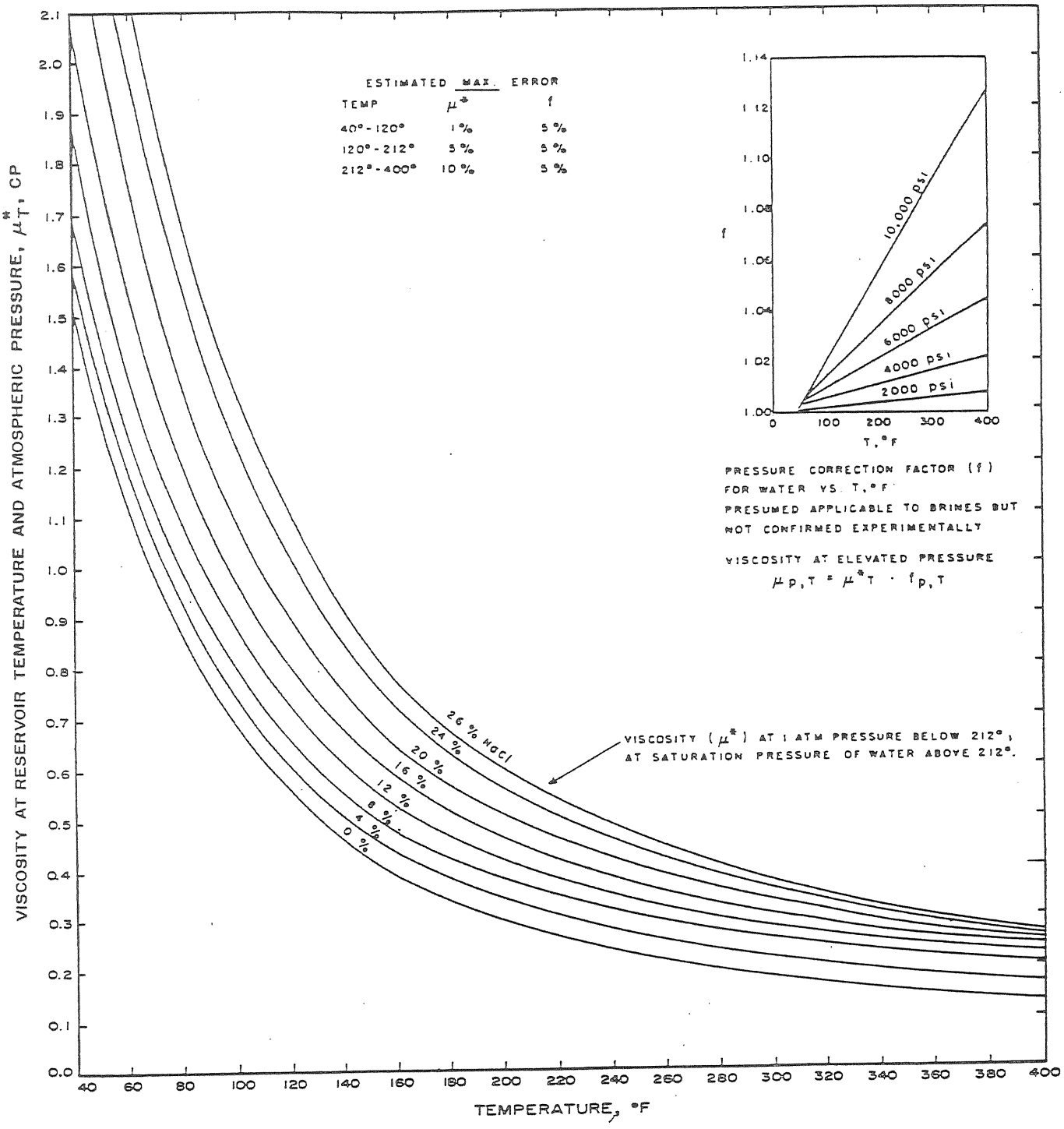


Fig. D.35 Water viscosity at various salinities and temperatures. After Matthews and Russell, data of Chesnut.[18]

FROM: Earlougher, R.C., 1977, "Advances in Well Test Analysis", SPE of AIME, Dallas, Texas

APPENDIX G

DAILY RATE HISTORY DATA

Appendix G Daily Rate History Data

Date	Time	Rate	Hours	Pressure	Rate
mm/dd/yy	hh:mm:ss	gpm	Δt	psig	bpd
05/19/2014	12:00:00 AM	131.55	-11769.22	4800.00	-04510.29
05/20/2014	12:00:00 AM	146.54	-11745.22	4800.00	-05024.10
05/21/2014	12:00:00 AM	146.62	-11721.22	4800.00	-05026.89
05/22/2014	12:00:00 AM	146.53	-11697.22	4800.00	-05023.85
05/23/2014	12:00:00 AM	142.95	-11673.22	4800.00	-04901.19
05/24/2014	12:00:00 AM	141.99	-11649.22	4800.00	-04868.15
05/25/2014	12:00:00 AM	139.71	-11625.22	4800.00	-04790.06
05/26/2014	12:00:00 AM	139.85	-11601.22	4800.00	-04794.78
05/27/2014	12:00:00 AM	131.88	-11577.22	4800.00	-04521.53
05/28/2014	12:00:00 AM	131.27	-11553.22	4800.00	-04500.63
05/29/2014	12:00:00 AM	132.53	-11529.22	4800.00	-04543.88
05/30/2014	12:00:00 AM	135.06	-11505.22	4800.00	-04630.71
05/31/2014	12:00:00 AM	134.23	-11481.22	4800.00	-04602.23
06/01/2014	12:00:00 AM	133.31	-11457.22	4800.00	-04570.48
06/02/2014	12:00:00 AM	134.21	-11433.22	4800.00	-04601.57
06/03/2014	12:00:00 AM	132.90	-11409.22	4800.00	-04556.54
06/04/2014	12:00:00 AM	132.89	-11385.22	4800.00	-04556.19
06/05/2014	12:00:00 AM	133.21	-11361.22	4800.00	-04567.22
06/06/2014	12:00:00 AM	134.25	-11337.22	4800.00	-04602.69
06/07/2014	12:00:00 AM	132.84	-11313.22	4800.00	-04554.57
06/08/2014	12:00:00 AM	134.50	-11289.22	4800.00	-04611.33
06/09/2014	12:00:00 AM	133.73	-11265.22	4800.00	-04584.88
06/10/2014	12:00:00 AM	122.08	-11241.22	4800.00	-04185.48
06/11/2014	12:00:00 AM	133.16	-11217.22	4800.00	-04565.37
06/12/2014	12:00:00 AM	134.51	-11193.22	4800.00	-04611.88
06/13/2014	12:00:00 AM	132.91	-11169.22	4800.00	-04556.93
06/14/2014	12:00:00 AM	126.97	-11145.22	4800.00	-04353.42
06/15/2014	12:00:00 AM	131.47	-11121.22	4800.00	-04507.41
06/16/2014	12:00:00 AM	132.75	-11097.22	4800.00	-04551.42
06/17/2014	12:00:00 AM	130.10	-11073.22	4800.00	-04460.58
06/18/2014	12:00:00 AM	131.91	-11049.22	4800.00	-04522.61
06/19/2014	12:00:00 AM	136.48	-11025.22	4800.00	-04679.40
06/20/2014	12:00:00 AM	139.73	-11001.22	4800.00	-04790.78
06/21/2014	12:00:00 AM	140.87	-10977.22	4800.00	-04829.74
06/22/2014	12:00:00 AM	141.23	-10953.22	4800.00	-04842.34
06/23/2014	12:00:00 AM	142.09	-10929.22	4800.00	-04871.54
06/24/2014	12:00:00 AM	142.39	-10905.22	4800.00	-04881.88
06/25/2014	12:00:00 AM	141.99	-10881.22	4800.00	-04868.33
06/26/2014	12:00:00 AM	143.18	-10857.22	4800.00	-04909.15
06/27/2014	12:00:00 AM	143.66	-10833.22	4800.00	-04925.35
06/28/2014	12:00:00 AM	143.44	-10809.22	4800.00	-04917.89
06/29/2014	12:00:00 AM	143.55	-10785.22	4800.00	-04921.80
06/30/2014	12:00:00 AM	128.46	-10761.22	4800.00	-04404.38
07/01/2014	12:00:00 AM	113.66	-10737.22	4800.00	-03897.02
07/02/2014	12:00:00 AM	378.07	-10713.22	4800.00	-12962.56
07/03/2014	12:00:00 AM	245.23	-10689.22	4800.00	-08407.92
07/04/2014	12:00:00 AM	144.67	-10665.22	4800.00	-04960.12
07/05/2014	12:00:00 AM	144.06	-10641.22	4800.00	-04939.13
07/06/2014	12:00:00 AM	144.26	-10617.22	4800.00	-04945.96
07/07/2014	12:00:00 AM	142.85	-10593.22	4800.00	-04897.54
07/08/2014	12:00:00 AM	144.67	-10569.22	4800.00	-04960.10
07/09/2014	12:00:00 AM	144.97	-10545.22	4800.00	-04970.32
07/10/2014	12:00:00 AM	144.01	-10521.22	4800.00	-04937.46
07/11/2014	12:00:00 AM	143.17	-10497.22	4800.00	-04908.73
07/12/2014	12:00:00 AM	141.59	-10473.22	4800.00	-04854.54
07/13/2014	12:00:00 AM	141.85	-10449.22	4800.00	-04863.45
07/14/2014	12:00:00 AM	142.40	-10425.22	4800.00	-04882.44
07/15/2014	12:00:00 AM	142.66	-10401.22	4800.00	-04891.06
07/16/2014	12:00:00 AM	140.78	-10377.22	4800.00	-04826.85
07/17/2014	12:00:00 AM	141.34	-10353.22	4800.00	-04846.00
07/18/2014	12:00:00 AM	140.06	-10329.22	4800.00	-04802.14
07/19/2014	12:00:00 AM	140.04	-10305.22	4800.00	-04801.26
07/20/2014	12:00:00 AM	141.51	-10281.22	4800.00	-04851.77
07/21/2014	12:00:00 AM	140.53	-10257.22	4800.00	-04818.22
07/22/2014	12:00:00 AM	141.64	-10233.22	4800.00	-04856.32
07/23/2014	12:00:00 AM	141.35	-10209.22	4800.00	-04846.14
07/24/2014	12:00:00 AM	141.40	-10185.22	4800.00	-04848.13
07/25/2014	12:00:00 AM	141.03	-10161.22	4800.00	-04835.42
07/26/2014	12:00:00 AM	143.21	-10137.22	4800.00	-04910.17
07/27/2014	12:00:00 AM	145.21	-10113.22	4800.00	-04978.52
07/28/2014	12:00:00 AM	145.65	-10089.22	4800.00	-04993.65
07/29/2014	12:00:00 AM	144.39	-10065.22	4800.00	-04950.47
07/30/2014	12:00:00 AM	144.79	-10041.22	4800.00	-04964.29
07/31/2014	12:00:00 AM	144.64	-10017.22	4800.00	-04958.99
08/01/2014	12:00:00 AM	142.65	-09993.22	4800.00	-04890.91
08/02/2014	12:00:00 AM	142.77	-09969.22	4800.00	-04895.14
08/03/2014	12:00:00 AM	142.75	-09945.22	4800.00	-04894.12
08/04/2014	12:00:00 AM	144.01	-09921.22	4800.00	-04937.36
08/05/2014	12:00:00 AM	143.07	-09897.22	4800.00	-04905.28
08/06/2014	12:00:00 AM	144.26	-09873.22	4800.00	-04945.96
08/07/2014	12:00:00 AM	143.26	-09849.22	4800.00	-04911.87
08/08/2014	12:00:00 AM	144.09	-09825.22	4800.00	-04940.17
08/09/2014	12:00:00 AM	144.45	-09801.22	4800.00	-04952.52
08/10/2014	12:00:00 AM	144.24	-09777.22	4800.00	-04945.46
08/11/2014	12:00:00 AM	144.08	-09753.22	4800.00	-04939.90
08/12/2014	12:00:00 AM	143.08	-09729.22	4800.00	-04905.68
08/13/2014	12:00:00 AM	142.62	-09705.22	4800.00	-04889.68
08/14/2014	12:00:00 AM	141.09	-09681.22	4800.00	-04837.22
08/15/2014	12:00:00 AM	136.76	-09657.22	4800.00	-04688.90
08/16/2014	12:00:00 AM	134.79	-09633.22	4800.00	-04621.35
08/17/2014	12:00:00 AM	134.39	-09609.22	4800.00	-04607.54
08/18/2014	12:00:00 AM	133.27	-09585.22	4800.00	-04569.18
08/19/2014	12:00:00 AM	136.92	-09561.22	4800.00	-04694.47
08/20/2014	12:00:00 AM	138.76	-09537.22	4800.00	-04757.50
08/21/2014	12:00:00 AM	141.34	-09513.22	4800.00	-04845.80
08/22/2014	12:00:00 AM	137.69	-09489.22	4800.00	-04720.75
08/23/2014	12:00:00 AM	000.00	-09465.22	4800.00	00000.00
08/24/2014	12:00:00 AM	000.00	-09441.22	4800.00	00000.00
08/25/2014	12:00:00 AM	000.00	-09417.22	4800.00	00000.00
08/26/2014	12:00:00 AM	110.19	-09393.22	4800.00	-03777.92
08/27/2014	12:00:00 AM	111.91	-09369.22	4800.00	-03836.97
08/28/2014	12:00:00 AM	115.63	-09345.22	4800.00	-03964.33
08/29/2014	12:00:00 AM	110.22	-09321.22	4800.00	-03778.95
08/30/2014	12:00:00 AM	000.00	-09297.22	4800.00	00000.00
08/31/2014	12:00:00 AM	000.00	-09273.22	4800.00	00000.00
09/01/2014	12:00:00 AM	000.00	-09249.22	4800.00	00000.00
09/02/2014	12:00:00 AM	000.00	-09225.22	4800.00	00000.00
09/03/2014	12:00:00 AM	143.87	-09201.22	4800.00	-04932.82
09/04/2014	12:00:00 AM	141.99	-09177.22	4800.00	-04868.26
09/05/2014	12:00:00 AM	141.14	-09153.22	4800.00	-04839.23
09/06/2014	12:00:00 AM	141.09	-09129.22	4800.00	-04837.34
09/07/2014	12:00:00 AM	138.75	-09105.22	4800.00	-04757.12
09/08/2014	12:00:00 AM	138.95	-09081.22	4800.00	-04763.89
09/09/2014	12:00:00 AM	139.98	-09057.22	4800.00	-04799.30
09/10/2014	12:00:00 AM	140.71	-09033.22	4800.00	-04824.43
09/11/2014	12:00:00 AM	141.52	-09009.22	4800.00	-04852.22
09/12/2014	12:00:00 AM	139.75	-08985.22	4800.00	-04791.50
09/13/2014	12:00:00 AM	138.37	-08961.22	4800.00	-04744.09
09/14/2014	12:00:00 AM	137.66	-08937.22	4800.00	-04719.91
09/15/2014	12:00:00 AM	138.37	-08913.22	4800.00	-04744.27
09/16/2014	12:00:00 AM	104.06	-08889.22	4800.00	-03567.62
09/17/2014	12:00:00 AM	080.56	-08865.22	4800.00	-02761.89
09/18/2014	12:00:00 AM	092.01	-08841.22	4800.00	-03154.72
09/19/2014	12:00:00 AM	093.33	-08817.22	4800.00	-03199.74
09/20/2014	12:00:00 AM	082.83	-08793.22	4800.00	-02839.95
09/21/2014	12:00:00 AM	086.06	-08769.22	4800.00	-02950.58
09/22/2014	12:00:00 AM	077.21	-08745.22	4800.00	-02647.13
09/23/2014	12:00:00 AM	084.41	-08721.22	4800.00	-02894.17
09/24/2014	12:00:00 AM	086.30	-08697.22	4800.00	-02959.00
09/25/2014	12:00:00 AM	086.60	-08673.22	4800.00	-02969.02
09/26/2014	12:00:00 AM	084.15	-08649.22	4800.00	-02885.20
09/27/2014	12:00:00 AM	085.46	-08625.22	4800.00	-02930.15
09/28/2014	12:00:00 AM	082.45	-08601.22	4800.00	-02826.86
09/29/2014	12:00:00 AM	079.44	-08577.22	4800.00	-02723.78
09/30/2014	12:00:00 AM	076.42	-08553.22	4800.00	-02620.21
10/01/2014	12:00:00 AM	082.97	-08529.22	4800.00	-02844.70
10/02/2014	12:00:00 AM	086.33	-08505.22	4800.00	-02959.84
10/03/2014	12:00:00 AM	085.07	-08481.22	4800.00	-02916.81
10/04/2014	12:00:00 AM	082.59	-08457.22	4800.00	-02831.73
10/05/2014	12:00:00 AM	084.00	-08433.22	4800.00	-02879.97
10/06/2014	12:00:00 AM	083.60	-08409.22	4800.00	-02866.39
10/07/2014	12:00:00 AM	080.69	-08385.22	4800.00	-02766.54
10/08/2014	12:00:00 AM	082.86	-08361.22	4800.00	-02841.08
10/09/2014	12:00:00 AM	081.75	-08337.22	4800.00	-02802.94
10/10/2014	12:00:00 AM	083.48	-08313.22	4800.00	-02862.13
10/11/2014	12:00:00 AM	076.56	-08289.22	4800.00	-02624.79
10/12/2014	12:00:00 AM	080.86	-08265.22	4800.00	-02772.29
10/13/2014	12:00:00 AM	074.45	-08241.22	4800.00	-02552.49
10/14/2014	12:00:00 AM	075.21	-08217.22	4800.00	-02578.67
10/15/2014	12:00:00 AM	074.48	-08193.22	4800.00	-02553.54
10/16/2014	12:00:00 AM	075.89	-08169.22	4800.00	-02602.00
10/17/2014	12:00:00 AM	076.73	-08145.22	4800.00	-02630.62
10/18/2014	12:00:00 AM	076.85	-08121.22	4800.00	-02635.02
10/19/2014	12:00:00 AM	075.80	-08097.22	4800.00	-02598.71
10/20/2014	12:00:00 AM	067.77	-08073.22	4800.00	-02323.55
10/21/2014	12:00:00 AM	061.24	-08049.22	4800.00	-02099.60
10/22/2014	12:00:00 AM	125.93	-08025.22	4800.00	-04317.48
10/23/2014	12:00:00 AM	121.43	-08001.22	4800.00	-04163.27

Appendix G Daily Rate History Data

Date	Time	Rate	Hours	Pressure	Rate
mm/dd/yy	hh:mm:ss	gpm	Δt	psig	bpd
10/24/2014	12:00:00 AM	125.30	-07977.22	4800.00	-04295.89
10/25/2014	12:00:00 AM	122.48	-07953.22	4800.00	-04199.20
10/26/2014	12:00:00 AM	120.67	-07929.22	4800.00	-04137.41
10/27/2014	12:00:00 AM	123.52	-07905.22	4800.00	-04235.01
10/28/2014	12:00:00 AM	115.05	-07881.22	4800.00	-03944.43
10/29/2014	12:00:00 AM	118.97	-07857.22	4800.00	-04079.00
10/30/2014	12:00:00 AM	122.94	-07833.22	4800.00	-04215.02
10/31/2014	12:00:00 AM	123.68	-07809.22	4800.00	-04240.44
11/01/2014	12:00:00 AM	121.77	-07785.22	4800.00	-04175.03
11/02/2014	12:00:00 AM	123.16	-07761.22	4800.00	-04222.49
11/03/2014	12:00:00 AM	121.20	-07737.22	4800.00	-04155.36
11/04/2014	12:00:00 AM	122.55	-07713.22	4800.00	-04201.72
11/05/2014	12:00:00 AM	121.93	-07689.22	4800.00	-04180.52
11/06/2014	12:00:00 AM	122.73	-07665.22	4800.00	-04208.02
11/07/2014	12:00:00 AM	119.32	-07641.22	4800.00	-04090.95
11/08/2014	12:00:00 AM	122.74	-07617.22	4800.00	-04208.29
11/09/2014	12:00:00 AM	113.70	-07593.22	4800.00	-03898.29
11/10/2014	12:00:00 AM	111.71	-07569.22	4800.00	-03830.11
11/11/2014	12:00:00 AM	111.83	-07545.22	4800.00	-03834.10
11/12/2014	12:00:00 AM	111.85	-07521.22	4800.00	-03834.81
11/13/2014	12:00:00 AM	115.10	-07497.22	4800.00	-03946.17
11/14/2014	12:00:00 AM	121.50	-07473.22	4800.00	-04165.68
11/15/2014	12:00:00 AM	123.36	-07449.22	4800.00	-04229.56
11/16/2014	12:00:00 AM	128.09	-07425.22	4800.00	-04391.81
11/17/2014	12:00:00 AM	124.04	-07401.22	4800.00	-04252.96
11/18/2014	12:00:00 AM	124.10	-07377.22	4800.00	-04254.94
11/19/2014	12:00:00 AM	126.00	-07353.22	4800.00	-04319.89
11/20/2014	12:00:00 AM	125.95	-07329.22	4800.00	-04318.27
11/21/2014	12:00:00 AM	126.13	-07305.22	4800.00	-04324.33
11/22/2014	12:00:00 AM	126.95	-07281.22	4800.00	-04352.54
11/23/2014	12:00:00 AM	126.84	-07257.22	4800.00	-04348.77
11/24/2014	12:00:00 AM	124.81	-07233.22	4800.00	-04279.37
11/25/2014	12:00:00 AM	124.51	-07209.22	4800.00	-04269.07
11/26/2014	12:00:00 AM	122.60	-07185.22	4800.00	-04203.28
11/27/2014	12:00:00 AM	122.61	-07161.22	4800.00	-04203.62
11/28/2014	12:00:00 AM	123.00	-07137.22	4800.00	-04217.01
11/29/2014	12:00:00 AM	123.24	-07113.22	4800.00	-04225.21
11/30/2014	12:00:00 AM	123.81	-07089.22	4800.00	-04244.80
12/01/2014	12:00:00 AM	123.50	-07065.22	4800.00	-04234.17
12/02/2014	12:00:00 AM	118.58	-07041.22	4800.00	-04065.48
12/03/2014	12:00:00 AM	118.52	-07017.22	4800.00	-04063.47
12/04/2014	12:00:00 AM	123.25	-06993.22	4800.00	-04225.78
12/05/2014	12:00:00 AM	121.96	-06969.22	4800.00	-04181.57
12/06/2014	12:00:00 AM	122.79	-06945.22	4800.00	-04209.80
12/07/2014	12:00:00 AM	122.30	-06921.22	4800.00	-04193.24
12/08/2014	12:00:00 AM	118.31	-06897.22	4800.00	-04056.49
12/09/2014	12:00:00 AM	121.28	-06873.22	4800.00	-04158.05
12/10/2014	12:00:00 AM	122.05	-06849.22	4800.00	-04184.53
12/11/2014	12:00:00 AM	118.94	-06825.22	4800.00	-04077.96
12/12/2014	12:00:00 AM	118.46	-06801.22	4800.00	-04061.51
12/13/2014	12:00:00 AM	116.88	-06777.22	4800.00	-04007.37
12/14/2014	12:00:00 AM	109.43	-06753.22	4800.00	-03751.91
12/15/2014	12:00:00 AM	108.01	-06729.22	4800.00	-03703.22
12/16/2014	12:00:00 AM	102.35	-06705.22	4800.00	-03509.00
12/17/2014	12:00:00 AM	098.08	-06681.22	4800.00	-03362.61
12/18/2014	12:00:00 AM	093.90	-06657.22	4800.00	-03219.56
12/19/2014	12:00:00 AM	101.81	-06633.22	4800.00	-03490.79
12/20/2014	12:00:00 AM	102.25	-06609.22	4800.00	-03505.61
12/21/2014	12:00:00 AM	101.14	-06585.22	4800.00	-03467.63
12/22/2014	12:00:00 AM	117.09	-06561.22	4800.00	-04014.35
12/23/2014	12:00:00 AM	119.95	-06537.22	4800.00	-04112.66
12/24/2014	12:00:00 AM	112.48	-06513.22	4800.00	-03856.51
12/25/2014	12:00:00 AM	116.36	-06489.22	4800.00	-03989.33
12/26/2014	12:00:00 AM	115.30	-06465.22	4800.00	-03953.08
12/27/2014	12:00:00 AM	111.33	-06441.22	4800.00	-03816.88
12/28/2014	12:00:00 AM	108.39	-06417.22	4800.00	-03716.31
12/29/2014	12:00:00 AM	114.93	-06393.22	4800.00	-03940.52
12/30/2014	12:00:00 AM	117.66	-06369.22	4800.00	-04034.17
12/31/2014	12:00:00 AM	115.82	-06345.22	4800.00	-03971.13
01/01/2015	12:00:00 AM	219.13	-06321.22	4800.00	-07512.96
01/02/2015	12:00:00 AM	123.31	-06297.22	4800.00	-04227.78
01/03/2015	12:00:00 AM	123.54	-06273.22	4800.00	-04235.76
01/04/2015	12:00:00 AM	123.87	-06249.22	4800.00	-04247.03
01/05/2015	12:00:00 AM	123.21	-06225.22	4800.00	-04224.51
01/06/2015	12:00:00 AM	127.75	-06201.22	4800.00	-04380.17
01/07/2015	12:00:00 AM	130.48	-06177.22	4800.00	-04473.73
01/08/2015	12:00:00 AM	127.33	-06153.22	4800.00	-04365.57
01/09/2015	12:00:00 AM	126.94	-06129.22	4800.00	-04352.34
01/10/2015	12:00:00 AM	127.10	-06105.22	4800.00	-04357.77
01/11/2015	12:00:00 AM	125.94	-06081.22	4800.00	-04318.09
01/12/2015	12:00:00 AM	125.24	-06057.22	4800.00	-04293.94
01/13/2015	12:00:00 AM	122.29	-06033.22	4800.00	-04192.86
01/14/2015	12:00:00 AM	123.46	-06009.22	4800.00	-04232.88
01/15/2015	12:00:00 AM	124.86	-05985.22	4800.00	-04280.92
01/16/2015	12:00:00 AM	125.59	-05961.22	4800.00	-04305.81
01/17/2015	12:00:00 AM	126.16	-05937.22	4800.00	-04325.34
01/18/2015	12:00:00 AM	127.02	-05913.22	4800.00	-04355.00
01/19/2015	12:00:00 AM	126.74	-05889.22	4800.00	-04345.50
01/20/2015	12:00:00 AM	127.12	-05865.22	4800.00	-04358.41
01/21/2015	12:00:00 AM	125.64	-05841.22	4800.00	-04307.58
01/22/2015	12:00:00 AM	122.42	-05817.22	4800.00	-04197.32
01/23/2015	12:00:00 AM	122.78	-05793.22	4800.00	-04209.74
01/24/2015	12:00:00 AM	123.16	-05769.22	4800.00	-04222.64
01/25/2015	12:00:00 AM	123.88	-05745.22	4800.00	-04247.20
01/26/2015	12:00:00 AM	125.11	-05721.22	4800.00	-04289.63
01/27/2015	12:00:00 AM	125.31	-05697.22	4800.00	-04296.50
01/28/2015	12:00:00 AM	123.03	-05673.22	4800.00	-04218.17
01/29/2015	12:00:00 AM	127.51	-05649.22	4800.00	-04371.74
01/30/2015	12:00:00 AM	123.81	-05625.22	4800.00	-04245.08
01/31/2015	12:00:00 AM	124.08	-05601.22	4800.00	-04254.34
02/01/2015	12:00:00 AM	125.43	-05577.22	4800.00	-04300.61
02/02/2015	12:00:00 AM	126.03	-05553.22	4800.00	-04321.14
02/03/2015	12:00:00 AM	125.32	-05529.22	4800.00	-04296.56
02/04/2015	12:00:00 AM	126.14	-05505.22	4800.00	-04324.81
02/05/2015	12:00:00 AM	127.08	-05481.22	4800.00	-04357.03
02/06/2015	12:00:00 AM	125.29	-05457.22	4800.00	-04295.75
02/07/2015	12:00:00 AM	126.49	-05433.22	4800.00	-04336.70
02/08/2015	12:00:00 AM	128.69	-05409.22	4800.00	-04412.26
02/09/2015	12:00:00 AM	124.94	-05385.22	4800.00	-04283.49
02/10/2015	12:00:00 AM	110.70	-05361.22	4800.00	-03795.30
02/11/2015	12:00:00 AM	102.10	-05337.22	4800.00	-03500.61
02/12/2015	12:00:00 AM	124.49	-05313.22	4800.00	-04268.35
02/13/2015	12:00:00 AM	126.90	-05289.22	4800.00	-04351.01
02/14/2015	12:00:00 AM	127.67	-05265.22	4800.00	-04377.33
02/15/2015	12:00:00 AM	127.57	-05241.22	4800.00	-04373.76
02/16/2015	12:00:00 AM	127.90	-05217.22	4800.00	-04385.09
02/17/2015	12:00:00 AM	124.46	-05193.22	4800.00	-04267.31
02/18/2015	12:00:00 AM	122.97	-05169.22	4800.00	-04216.27
02/19/2015	12:00:00 AM	124.93	-05145.22	4800.00	-04283.25
02/20/2015	12:00:00 AM	125.07	-05121.22	4800.00	-04288.23
02/21/2015	12:00:00 AM	124.96	-05097.22	4800.00	-04284.40
02/22/2015	12:00:00 AM	000.00	-05073.22	4800.00	00000.00
02/23/2015	12:00:00 AM	000.00	-05049.22	4800.00	00000.00
02/24/2015	12:00:00 AM	121.96	-05025.22	4800.00	-04181.47
02/25/2015	12:00:00 AM	122.90	-05001.22	4800.00	-04213.81
02/26/2015	12:00:00 AM	125.44	-04977.22	4800.00	-04300.74
02/27/2015	12:00:00 AM	123.43	-04953.22	4800.00	-04231.92
02/28/2015	12:00:00 AM	122.06	-04929.22	4800.00	-04184.89
03/01/2015	12:00:00 AM	122.31	-04905.22	4800.00	-04193.49
03/02/2015	12:00:00 AM	124.21	-04881.22	4800.00	-04258.64
03/03/2015	12:00:00 AM	123.80	-04857.22	4800.00	-04244.67
03/04/2015	12:00:00 AM	125.37	-04833.22	4800.00	-04298.45
03/05/2015	12:00:00 AM	124.57	-04809.22	4800.00	-04270.98
03/06/2015	12:00:00 AM	124.05	-04785.22	4800.00	-04253.24
03/07/2015	12:00:00 AM	125.38	-04761.22	4800.00	-04298.91
03/08/2015	12:00:00 AM	126.78	-04737.22	4800.00	-04346.79
03/09/2015	12:00:00 AM	126.97	-04713.22	4800.00	-04353.09
03/10/2015	12:00:00 AM	127.23	-04689.22	4800.00	-04362.08
03/11/2015	12:00:00 AM	127.36	-04665.22	4800.00	-04366.57
03/12/2015	12:00:00 AM	126.45	-04641.22	4800.00	-04335.42
03/13/2015	12:00:00 AM	126.84	-04617.22	4800.00	-04348.64
03/14/2015	12:00:00 AM	126.94	-04593.22	4800.00	-04352.07
03/15/2015	12:00:00 AM	126.64	-04569.22	4800.00	-04341.98
03/16/2015	12:00:00 AM	126.82	-04545.22	4800.00	-04348.12
03/17/2015	12:00:00 AM	127.26	-04521.22	4800.00	-04363.30
03/18/2015	12:00:00 AM	125.88	-04497.22	4800.00	-04315.80
03/19/2015	12:00:00 AM	126.07	-04473.22	4800.00	-04322.25
03/20/2015	12:00:00 AM	127.75	-04449.22	4800.00	-04380.00
03/21/2015	12:00:00 AM	126.84	-04425.22	4800.00	-04348.76
03/22/2015	12:00:00 AM	126.24	-04401.22	4800.00	-04328.37
03/23/2015	12:00:00 AM	128.22	-04377.22	4800.00	-04396.26
03/24/2015	12:00:00 AM	128.83	-04353.22	4800.00	-04417.03
03/25/2015	12:00:00 AM	124.75	-04329.22	4800.00	-04276.97
03/26/2015	12:00:00 AM	118.08	-04305.22	4800.00	-04048.45
03/27/2015	12:00:00 AM	110.39	-04281.22	4800.00	-03784.63
03/28/2015	12:00:00 AM	111.97	-04257.22	4800.00	-03838.88
03/29/2015	12:00:00 AM	109.17	-04233.22	4800.00	-03743.03
03/30/2015	12:00:00 AM	107.45	-04209.22	4800.00	-03683.99

Appendix G Daily Rate History Data

Date	Time	Rate	Hours	Pressure	Rate
mm/dd/yy	hh:mm:ss	gpm	Δt	psig	bpd
03/31/2015	12:00:00 AM	109.38	-04185.22	4800.00	-03750.01
04/01/2015	12:00:00 AM	111.02	-04161.22	4800.00	-03806.32
04/02/2015	12:00:00 AM	113.04	-04137.22	4800.00	-03875.80
04/03/2015	12:00:00 AM	113.13	-04113.22	4800.00	-03878.74
04/04/2015	12:00:00 AM	110.27	-04089.22	4800.00	-03780.80
04/05/2015	12:00:00 AM	108.99	-04065.22	4800.00	-03736.81
04/06/2015	12:00:00 AM	107.20	-04041.22	4800.00	-03675.41
04/07/2015	12:00:00 AM	106.27	-04017.22	4800.00	-03643.62
04/08/2015	12:00:00 AM	108.94	-03993.22	4800.00	-03735.05
04/09/2015	12:00:00 AM	114.72	-03969.22	4800.00	-03933.37
04/10/2015	12:00:00 AM	116.63	-03945.22	4800.00	-03998.80
04/11/2015	12:00:00 AM	116.63	-03921.22	4800.00	-03998.67
04/12/2015	12:00:00 AM	116.18	-03897.22	4800.00	-03983.43
04/13/2015	12:00:00 AM	112.32	-03873.22	4800.00	-03851.08
04/14/2015	12:00:00 AM	086.02	-03849.22	4800.00	-02949.18
04/15/2015	12:00:00 AM	111.10	-03825.22	4800.00	-03809.30
04/16/2015	12:00:00 AM	131.70	-03801.22	4800.00	-04515.35
04/17/2015	12:00:00 AM	131.46	-03777.22	4800.00	-04507.10
04/18/2015	12:00:00 AM	130.31	-03753.22	4800.00	-04467.87
04/19/2015	12:00:00 AM	129.74	-03729.22	4800.00	-04448.39
04/20/2015	12:00:00 AM	129.63	-03705.22	4800.00	-04444.50
04/21/2015	12:00:00 AM	129.09	-03681.22	4800.00	-04425.99
04/22/2015	12:00:00 AM	130.52	-03657.22	4800.00	-04475.13
04/23/2015	12:00:00 AM	130.72	-03633.22	4800.00	-04481.99
04/24/2015	12:00:00 AM	129.88	-03609.22	4800.00	-04452.96
04/25/2015	12:00:00 AM	130.19	-03585.22	4800.00	-04463.66
04/26/2015	12:00:00 AM	130.11	-03561.22	4800.00	-04460.85
04/27/2015	12:00:00 AM	128.42	-03537.22	4800.00	-04403.03
04/28/2015	12:00:00 AM	128.10	-03513.22	4800.00	-04392.04
04/29/2015	12:00:00 AM	127.57	-03489.22	4800.00	-04373.97
04/30/2015	12:00:00 AM	129.99	-03465.22	4800.00	-04456.65
05/01/2015	12:00:00 AM	130.83	-03441.22	4800.00	-04485.67
05/02/2015	12:00:00 AM	131.02	-03417.22	4800.00	-04492.16
05/03/2015	12:00:00 AM	131.00	-03393.22	4800.00	-04491.41
05/04/2015	12:00:00 AM	130.96	-03369.22	4800.00	-04489.96
05/05/2015	12:00:00 AM	129.86	-03345.22	4800.00	-04452.42
05/06/2015	12:00:00 AM	128.76	-03321.22	4800.00	-04414.56
05/07/2015	12:00:00 AM	129.97	-03297.22	4800.00	-04456.08
05/08/2015	12:00:00 AM	130.45	-03273.22	4800.00	-04472.42
05/09/2015	12:00:00 AM	131.23	-03249.22	4800.00	-04499.29
05/10/2015	12:00:00 AM	130.68	-03225.22	4800.00	-04480.55
05/11/2015	12:00:00 AM	130.70	-03201.22	4800.00	-04481.19
05/12/2015	12:00:00 AM	130.95	-03177.22	4800.00	-04489.70
05/13/2015	12:00:00 AM	128.57	-03153.22	4800.00	-04408.21
05/14/2015	12:00:00 AM	130.64	-03129.22	4800.00	-04479.02
05/15/2015	12:00:00 AM	130.63	-03105.22	4800.00	-04478.72
05/16/2015	12:00:00 AM	130.71	-03081.22	4800.00	-04481.60
05/17/2015	12:00:00 AM	130.23	-03057.22	4800.00	-04465.05
05/18/2015	12:00:00 AM	130.09	-03033.22	4800.00	-04460.18
05/19/2015	12:00:00 AM	130.90	-03009.22	4800.00	-04487.93
05/20/2015	12:00:00 AM	131.74	-02985.22	4800.00	-04516.83
05/21/2015	12:00:00 AM	126.94	-02961.22	4800.00	-04352.37
05/22/2015	12:00:00 AM	127.90	-02937.22	4800.00	-04385.20
05/23/2015	12:00:00 AM	128.98	-02913.22	4800.00	-04422.16
05/24/2015	12:00:00 AM	130.93	-02889.22	4800.00	-04489.07
05/25/2015	12:00:00 AM	130.01	-02865.22	4800.00	-04457.37
05/26/2015	12:00:00 AM	126.20	-02841.22	4800.00	-04326.99
05/27/2015	12:00:00 AM	112.68	-02817.22	4800.00	-03863.45
05/28/2015	12:00:00 AM	132.35	-02793.22	4800.00	-04537.84
05/29/2015	12:00:00 AM	131.75	-02769.22	4800.00	-04517.29
05/30/2015	12:00:00 AM	131.87	-02745.22	4800.00	-04521.23
05/31/2015	12:00:00 AM	130.59	-02721.22	4800.00	-04477.38
06/01/2015	12:00:00 AM	130.72	-02697.22	4800.00	-04481.74
06/02/2015	12:00:00 AM	131.58	-02673.22	4800.00	-04511.18
06/03/2015	12:00:00 AM	132.16	-02649.22	4800.00	-04531.18
06/04/2015	12:00:00 AM	132.16	-02625.22	4800.00	-04531.15
06/05/2015	12:00:00 AM	131.55	-02601.22	4800.00	-04510.21
06/06/2015	12:00:00 AM	130.62	-02577.22	4800.00	-04478.26
06/07/2015	12:00:00 AM	129.93	-02553.22	4800.00	-04454.59
06/08/2015	12:00:00 AM	133.33	-02529.22	4800.00	-04571.47
06/09/2015	12:00:00 AM	130.29	-02505.22	4800.00	-04467.10
06/10/2015	12:00:00 AM	130.24	-02481.22	4800.00	-04465.32
06/11/2015	12:00:00 AM	130.69	-02457.22	4800.00	-04480.67
06/12/2015	12:00:00 AM	131.27	-02433.22	4800.00	-04500.84
06/13/2015	12:00:00 AM	130.34	-02409.22	4800.00	-04468.81
06/14/2015	12:00:00 AM	128.97	-02385.22	4800.00	-04421.82
06/15/2015	12:00:00 AM	128.74	-02361.22	4800.00	-04413.87
06/16/2015	12:00:00 AM	126.57	-02337.22	4800.00	-04339.61
06/17/2015	12:00:00 AM	130.28	-02313.22	4800.00	-04466.66
06/18/2015	12:00:00 AM	130.84	-02289.22	4800.00	-04485.77
06/19/2015	12:00:00 AM	131.14	-02265.22	4800.00	-04496.30
06/20/2015	12:00:00 AM	128.77	-02241.22	4800.00	-04414.99
06/21/2015	12:00:00 AM	129.81	-02217.22	4800.00	-04450.58
06/22/2015	12:00:00 AM	128.90	-02193.22	4800.00	-04419.29
06/23/2015	12:00:00 AM	128.82	-02169.22	4800.00	-04416.65
06/24/2015	12:00:00 AM	128.47	-02145.22	4800.00	-04404.75
06/25/2015	12:00:00 AM	128.54	-02121.22	4800.00	-04407.16
06/26/2015	12:00:00 AM	128.90	-02097.22	4800.00	-04419.51
06/27/2015	12:00:00 AM	129.47	-02073.22	4800.00	-04438.81
06/28/2015	12:00:00 AM	129.01	-02049.22	4800.00	-04423.07
06/29/2015	12:00:00 AM	127.79	-02025.22	4800.00	-04381.20
06/30/2015	12:00:00 AM	129.20	-02001.22	4800.00	-04429.61
07/01/2015	12:00:00 AM	127.23	-01977.22	4800.00	-04362.14
07/02/2015	12:00:00 AM	129.01	-01953.22	4800.00	-04423.15
07/03/2015	12:00:00 AM	129.17	-01929.22	4800.00	-04428.71
07/04/2015	12:00:00 AM	128.58	-01905.22	4800.00	-04408.41
07/05/2015	12:00:00 AM	128.69	-01881.22	4800.00	-04412.23
07/06/2015	12:00:00 AM	128.40	-01857.22	4800.00	-04402.43
07/07/2015	12:00:00 AM	125.67	-01833.22	4800.00	-04308.76
07/08/2015	12:00:00 AM	126.50	-01809.22	4800.00	-04337.24
07/09/2015	12:00:00 AM	126.85	-01785.22	4800.00	-04349.10
07/10/2015	12:00:00 AM	128.09	-01761.22	4800.00	-04391.51
07/11/2015	12:00:00 AM	127.75	-01737.22	4800.00	-04379.89
07/12/2015	12:00:00 AM	127.73	-01713.22	4800.00	-04379.25
07/13/2015	12:00:00 AM	128.97	-01689.22	4800.00	-04421.82
07/14/2015	12:00:00 AM	129.56	-01665.22	4800.00	-04442.19
07/15/2015	12:00:00 AM	114.23	-01641.22	4800.00	-03916.54
07/16/2015	12:00:00 AM	128.19	-01617.22	4800.00	-04394.92
07/17/2015	12:00:00 AM	122.07	-01593.22	4800.00	-04185.36
07/18/2015	12:00:00 AM	130.79	-01569.22	4800.00	-04484.22
07/19/2015	12:00:00 AM	128.91	-01545.22	4800.00	-04419.64
07/20/2015	12:00:00 AM	130.55	-01521.22	4800.00	-04476.07
07/21/2015	12:00:00 AM	130.40	-01497.22	4800.00	-04471.02
07/22/2015	12:00:00 AM	129.24	-01473.22	4800.00	-04430.98
07/23/2015	12:00:00 AM	129.60	-01449.22	4800.00	-04443.42
07/24/2015	12:00:00 AM	129.52	-01425.22	4800.00	-04440.65
07/25/2015	12:00:00 AM	126.72	-01401.22	4800.00	-04344.81
07/26/2015	12:00:00 AM	129.04	-01377.22	4800.00	-04424.15
07/27/2015	12:00:00 AM	128.59	-01353.22	4800.00	-04408.93
07/28/2015	12:00:00 AM	127.98	-01329.22	4800.00	-04387.75
07/29/2015	12:00:00 AM	127.23	-01305.22	4800.00	-04362.28
07/30/2015	12:00:00 AM	126.17	-01281.22	4800.00	-04325.90
07/31/2015	12:00:00 AM	126.67	-01257.22	4800.00	-04343.12
08/01/2015	12:00:00 AM	126.97	-01233.22	4800.00	-04353.10
08/02/2015	12:00:00 AM	126.86	-01209.22	4800.00	-04349.36
08/03/2015	12:00:00 AM	126.61	-01185.22	4800.00	-04341.05
08/04/2015	12:00:00 AM	125.64	-01161.22	4800.00	-04307.79
08/05/2015	12:00:00 AM	126.81	-01137.22	4800.00	-04347.67
08/06/2015	12:00:00 AM	127.40	-01113.22	4800.00	-04368.08
08/07/2015	12:00:00 AM	127.86	-01089.22	4800.00	-04383.92
08/08/2015	12:00:00 AM	127.73	-01065.22	4800.00	-04379.16
08/09/2015	12:00:00 AM	127.75	-01041.22	4800.00	-04379.94
08/10/2015	12:00:00 AM	127.32	-01017.22	4800.00	-04365.40
08/11/2015	12:00:00 AM	127.80	-00993.22	4800.00	-04381.87
08/12/2015	12:00:00 AM	127.04	-00969.22	4800.00	-04355.51
08/13/2015	12:00:00 AM	127.60	-00945.22	4800.00	-04374.93
08/14/2015	12:00:00 AM	127.87	-00921.22	4800.00	-04384.22
08/15/2015	12:00:00 AM	100.47	-00897.22	4800.00	-03444.83
08/16/2015	12:00:00 AM	120.38	-00873.22	4800.00	-04127.44
08/17/2015	12:00:00 AM	124.67	-00849.22	4800.00	-04274.29
08/18/2015	12:00:00 AM	127.66	-00825.22	4800.00	-04376.97
08/19/2015	12:00:00 AM	128.24	-00801.22	4800.00	-04396.64
08/20/2015	12:00:00 AM	126.10	-00777.22	4800.00	-04323.40
08/21/2015	12:00:00 AM	125.66	-00753.22	4800.00	-04308.28
08/22/2015	12:00:00 AM	126.79	-00729.22	4800.00	-04347.07
08/23/2015	12:00:00 AM	128.88	-00705.22	4800.00	-04418.85
08/24/2015	12:00:00 AM	125.85	-00681.22	4800.00	-04314.70
08/25/2015	12:00:00 AM	126.31	-00657.22	4800.00	-04330.58
08/26/2015	12:00:00 AM	126.95	-00633.22	4800.00	-04352.46
08/27/2015	12:00:00 AM	126.98	-00609.22	4800.00	-04353.76
08/28/2015	12:00:00 AM	126.69	-00585.22	4800.00	-04343.51
08/29/2015	12:00:00 AM	126.64	-00561.22	4800.00	-04341.90
08/30/2015	12:00:00 AM	126.24	-00537.22	4800.00	-04328.32
08/31/2015	12:00:00 AM	125.98	-00513.22	4800.00	-04319.26
09/01/2015	12:00:00 AM	126.51	-00489.22	4800.00	-04337.45
09/02/2015	12:00:00 AM	126.78	-00465.22	4800.00	-04346.58
09/03/2015	12:00:00 AM	126.27	-00441.22	4800.00	-04329.19
09/04/2015	12:00:00 AM	126.41	-00417.22	4800.00	-04334.21

Appendix G Daily Rate History Data

Date	Time	Rate	Hours	Pressure	Rate
mm/dd/yy	hh:mm:ss	gpm	Δt	psig	bpd
09/05/2015	12:00:00 AM	126.22	-00393.22	4800.00	-04327.48
09/06/2015	12:00:00 AM	126.60	-00369.22	4800.00	-04340.53
09/07/2015	12:00:00 AM	124.43	-00345.22	4800.00	-04266.29
09/08/2015	12:00:00 AM	125.87	-00321.22	4800.00	-04315.38
09/09/2015	12:00:00 AM	125.28	-00297.22	4800.00	-04295.30
09/10/2015	12:00:00 AM	124.21	-00273.22	4800.00	-04258.64
09/11/2015	12:00:00 AM	124.32	-00249.22	4800.00	-04262.56
09/12/2015	12:00:00 AM	121.14	-00225.22	4800.00	-04153.51
09/13/2015	12:00:00 AM	124.47	-00201.22	4800.00	-04267.58
09/14/2015	12:00:00 AM	125.23	-00177.22	4800.00	-04293.68
09/15/2015	12:00:00 AM	125.23	-00153.22	4800.00	-04293.67
09/16/2015	12:00:00 AM	125.40	-00129.22	4800.00	-04299.27
09/17/2015	12:00:00 AM	125.21	-00105.22	4800.00	-04292.81
09/18/2015	12:00:00 AM	125.58	-00081.22	4800.00	-04305.64
09/19/2015	12:00:00 AM	125.99	-00057.22	4800.00	-04319.57
09/20/2015	12:00:00 AM	123.43	-00033.22	4800.00	-04231.78
09/21/2015	12:00:00 AM	123.45	-00009.22	4800.00	-04232.56
09/22/2015	09:54:00 AM	123.00	00000.68	4801.76	-04217.14
09/25/2015	12:00:00 AM	000.00	00062.79	4802.69	-04217.00
09/25/2015	02:08:00 PM	000.00	00076.92	4803.64	-04354.00
09/25/2015	11:08:00 PM	000.00	00085.92	4804.64	-04248.00
09/27/2015	10:55:00 AM	000.00	00121.70	4557.12	00000.00

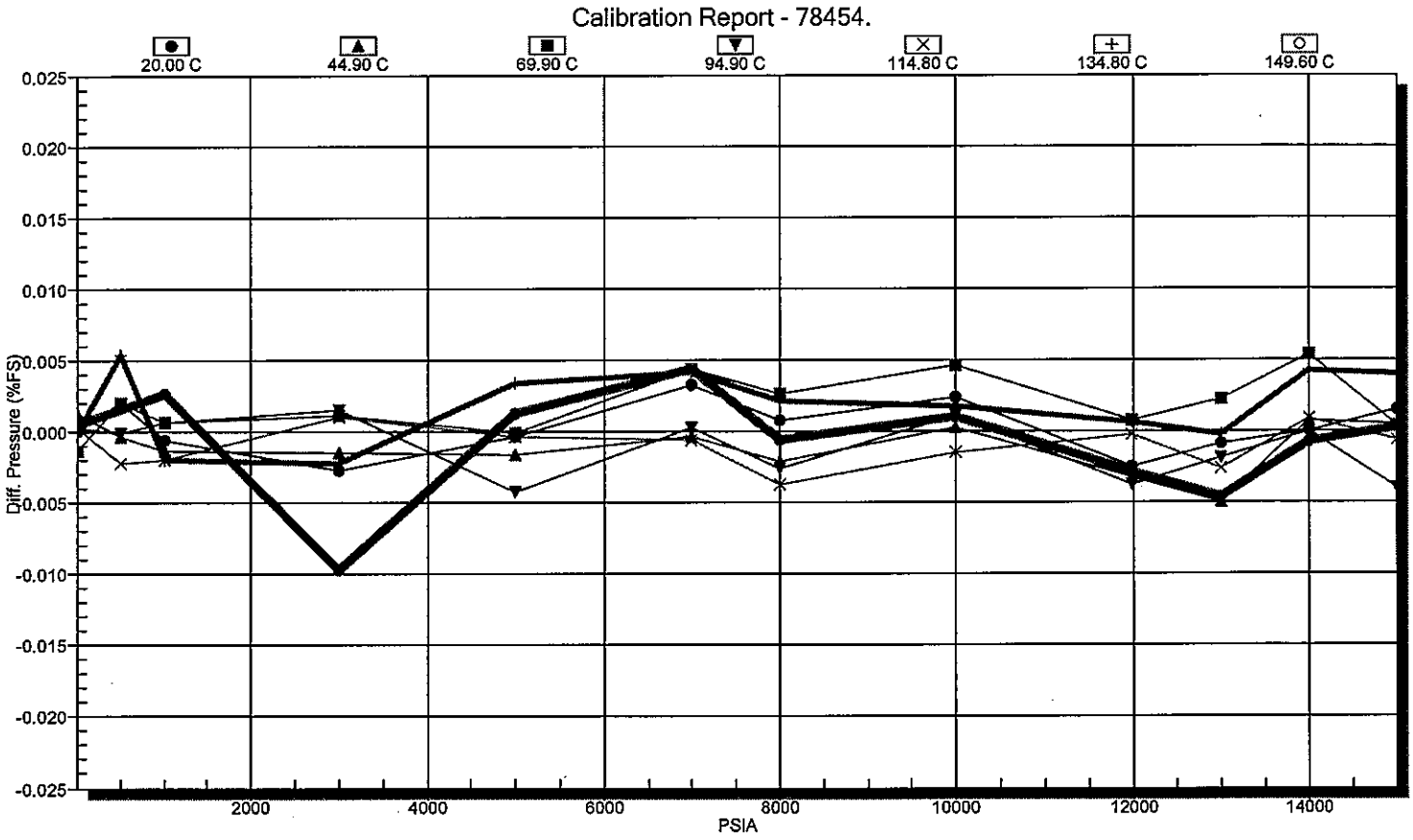
Date	Time	Rate	Hours	Pressure	Rate
mm/dd/yy	hh:mm:ss	gpm	Δt	psig	bpd

APPENDIX H

GAUGE CALIBRATION SHEETS

Spartek Systems
#1 Thevenaz Ind. Tr.
Sylvan Lake, AB, Ca, T4S 1P5
Phone (403) 887-2443
Fax (403) 887-4050

Pressure Gauge
Certificate of Calibration



GAUGE NUMBER: 78454

2-D POLYNOMIAL LMS CURVEFIT

Source of f:	Pres	Temp	Pressure Equation:
Fit Order:	3	4	Pressure (PSI) = A + xp(B + xp(C + xp(D)))
Prescale:	xp = m * (fp - fp0)	xt = m * (ft - ft0)	
m:	0.01	0.01	Temperature Compenstation:
	fp0 = 696253	ft0 = 163401	A = A0 + xt(A1 + xt(A2 + xt(A3 + xt(A4))))
			B = B0 + xt(B1 + xt(B2 + xt(B3 + xt(B4))))
			C = C0 + xt(C1 + xt(C2 + xt(C3 + xt(C4))))
			D = D0 + xt(D1 + xt(D2 + xt(D3 + xt(D4))))

	0	1	2	3	4
Pressure (psi) STANDARD FIT COEFFICIENTS:					
A	13.96002438	0.1874464339	0.0001954986796	3.143898547E-07	-5.017043321E-10
B	4.860392011	-0.004085108612	-2.075126151E-06	-7.416265765E-09	-2.633930703E-12
C	-2.555285451E-05	1.412148351E-07	1.150253046E-09	3.277423081E-12	2.385677153E-15
D	-7.274313745E-11	-3.172342456E-11	-3.103165065E-13	-9.851355562E-16	-8.948199296E-19

Temperature (C) STANDARD FIT COEFFICIENTS

A 20.13379728

B -0.3553517976

C -6.812510855E-05

D -2.760182635E-07

0 points eliminated.
Error File: Gauge # 78454

Pressure psi	Temperature Deg. C	Count (Pres)	Count (Temp)	DIFF (press) psi
14.00	20.00	696253.69	163401.75	-0.01
507.36	20.00	706416.69	163412.50	0.31
1003.47	20.00	716635.00	163426.25	-0.09
3007.88	20.00	758075.69	163467.50	-0.40
5001.00	20.00	799494.31	163493.75	-0.06
6989.72	20.00	841003.69	163499.50	0.49
8008.20	20.00	862311.00	163494.25	0.11
9995.50	20.00	904026.69	163473.25	0.35
11998.25	20.00	946189.31	163434.25	-0.37
12999.98	20.00	967342.69	163409.50	-0.13
14013.28	20.00	988756.31	163375.00	-0.01
15002.47	20.00	1009690.69	163337.75	0.23
14.00	44.90	696498.69	156321.75	0.18
507.36	44.90	706095.69	156334.75	-0.05
1003.47	44.90	715760.31	156344.75	-0.21
3007.88	44.90	754945.31	156381.25	-0.23
5001.00	44.90	794099.31	156407.50	-0.24
6989.72	44.90	833343.00	156421.00	-0.06
8008.20	44.90	853498.31	156425.50	-0.32
9995.50	44.90	892935.31	156411.00	0.04
11998.25	44.90	932789.69	156384.50	-0.50
12999.98	44.90	952770.00	156368.00	-0.75
14013.28	44.90	973021.31	156344.00	0.11
15002.47	44.90	992797.69	156318.25	0.08
14.00	69.90	696689.69	149160.25	-0.21
507.36	69.90	705806.69	149174.25	0.29
1003.47	69.90	714972.69	149187.25	0.10
3007.88	69.90	752130.31	149225.50	0.17
5001.00	69.90	789240.31	149253.75	-0.01
6989.72	69.90	826433.31	149265.00	0.66
8008.20	69.90	845530.31	149271.75	0.40
9995.50	69.90	882896.69	149264.75	0.69
11998.25	69.90	920670.31	149252.50	0.10
12999.98	69.90	939611.00	149238.25	0.34
14013.28	69.90	958806.00	149223.25	0.81
15002.47	69.90	977547.31	149206.25	0.06
14.00	94.90	696868.69	142167.50	0.04
507.36	94.90	705528.31	142177.75	-0.02
1003.47	94.90	714248.69	142190.25	0.10
3007.88	94.90	749567.31	142224.75	0.22
5001.00	94.90	784812.00	142250.00	-0.64
6989.72	94.90	820139.69	142264.75	0.04
8008.20	94.90	838276.00	142276.75	-0.38
9995.50	94.90	873768.00	142278.00	0.17
11998.25	94.90	909630.00	142269.75	-0.56
12999.98	94.90	927618.69	142260.75	-0.27
14013.28	94.90	945844.31	142250.75	0.00
15002.47	94.90	963645.00	142238.25	-0.61
14.00	114.80	697005.00	136781.25	0.04
507.36	114.80	705326.69	136793.25	-0.34
1003.47	114.80	713711.00	136807.00	-0.29
3007.88	114.80	747674.69	136839.25	0.14
5001.00	114.80	781567.31	136863.25	-0.05
6989.72	114.80	815512.69	136880.75	-0.09
8008.20	114.80	832942.31	136894.00	-0.57
9995.50	114.80	867045.69	136898.25	-0.22
11998.25	114.80	901520.31	136895.25	-0.04
12999.98	114.80	918791.69	136888.75	-0.39
14013.28	114.80	936302.69	136880.50	0.13
15002.47	114.80	953406.31	136869.75	-0.09
14.00	134.80	697147.00	131614.50	-0.02
507.36	134.80	705173.31	131622.00	0.80
1003.47	134.80	713223.31	131647.50	-0.29
3007.88	134.80	745895.69	131668.25	-0.34
5001.00	134.80	778527.31	131693.50	0.50
6989.72	134.80	811195.00	131713.00	0.62
8008.20	134.80	827967.31	131725.00	0.32
9995.50	134.80	860768.69	131728.50	0.26
11998.25	134.80	893958.00	131750.50	0.09

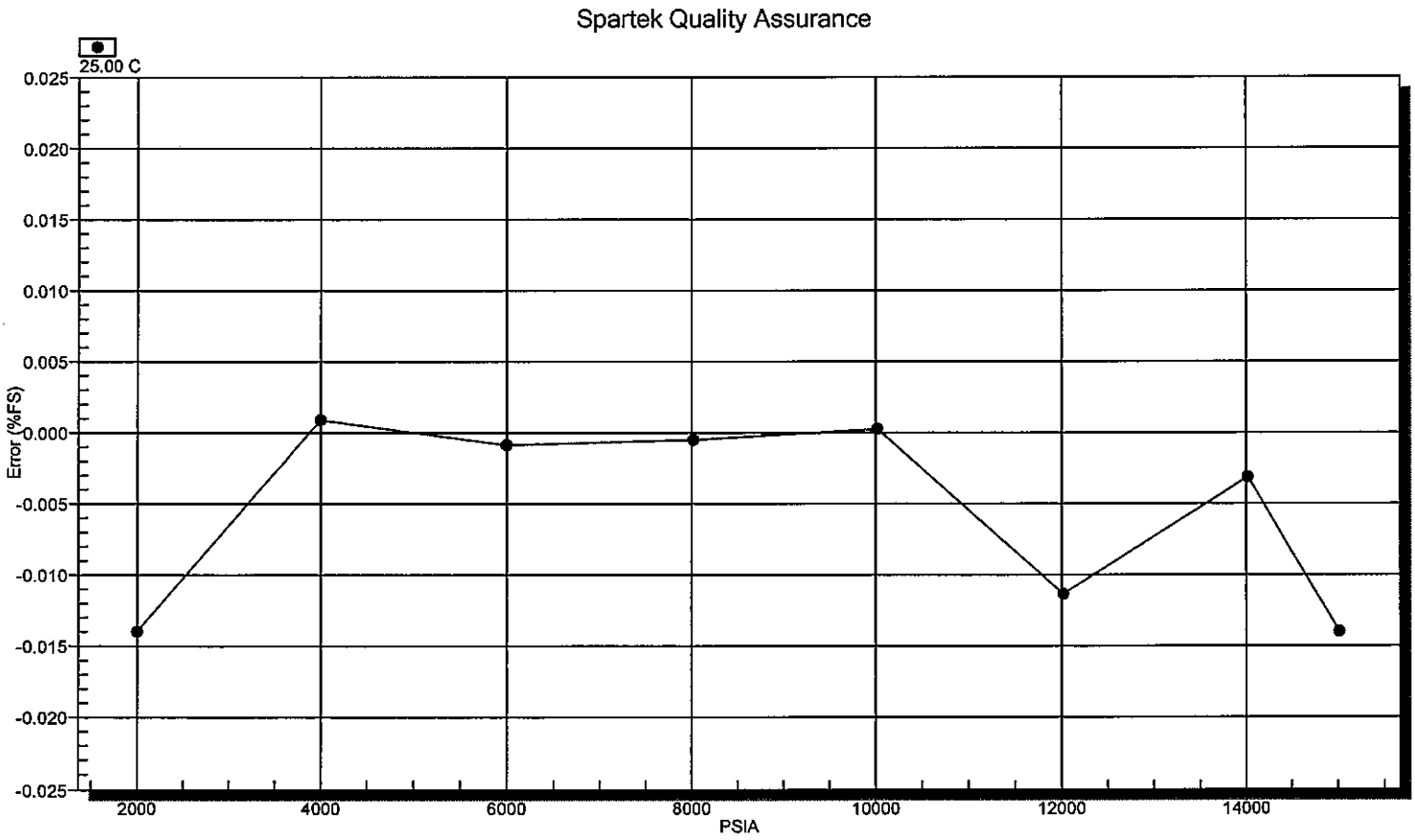
12999.98	134.80	910553.00	131731.25	-0.05
14013.28	134.80	927390.69	131721.50	0.63
15002.47	134.80	943847.00	131716.50	0.60
14.00	149.60	697262.69	127923.50	0.07
1003.47	149.60	712899.69	127958.00	0.39
3007.88	149.60	744640.00	127989.00	-1.45
5001.00	149.60	776378.31	128002.50	0.19
6989.72	149.60	808138.31	128006.75	0.66
8008.20	149.60	824455.00	128035.50	-0.09
9995.50	149.60	856352.31	128035.75	0.15
11998.25	149.60	888589.69	128039.75	-0.42
12999.98	149.60	904730.31	128028.50	-0.70
14013.28	149.60	921091.31	128016.75	-0.12
15002.47	149.60	937076.00	128005.50	0.04

Spartek Systems
#1 Thevenaz Ind. Tr.
Sylvan Lake, AB, Ca, T4S 1P5
Phone (403) 887-2443
Fax (403) 887-4050

Pressure Gauge
Certificate of Conformance

MODEL	1139	REVISION	0
SERIAL NUMBER	78454	DEADWEIGHT USED	Piston Cylinder No. 528
CALIBRATED	DEC17/07	E.U.B. CERT. DATE	May 09 2006
PRESSURE RANGE	15002.47 psi	TEMPERATURE RANGE	149.60 Deg. C

ACCURACY
As shown in the graph below, this Spartek Gauge conformed to within +/- 0.025 %F.S. of the pressure standard used in calibration, which is accurate to within +/- 0.01% of reading. This gives an overall accuracy of +/-(0.025%F.S. + 0.01% of reading)



Accepted By: _____

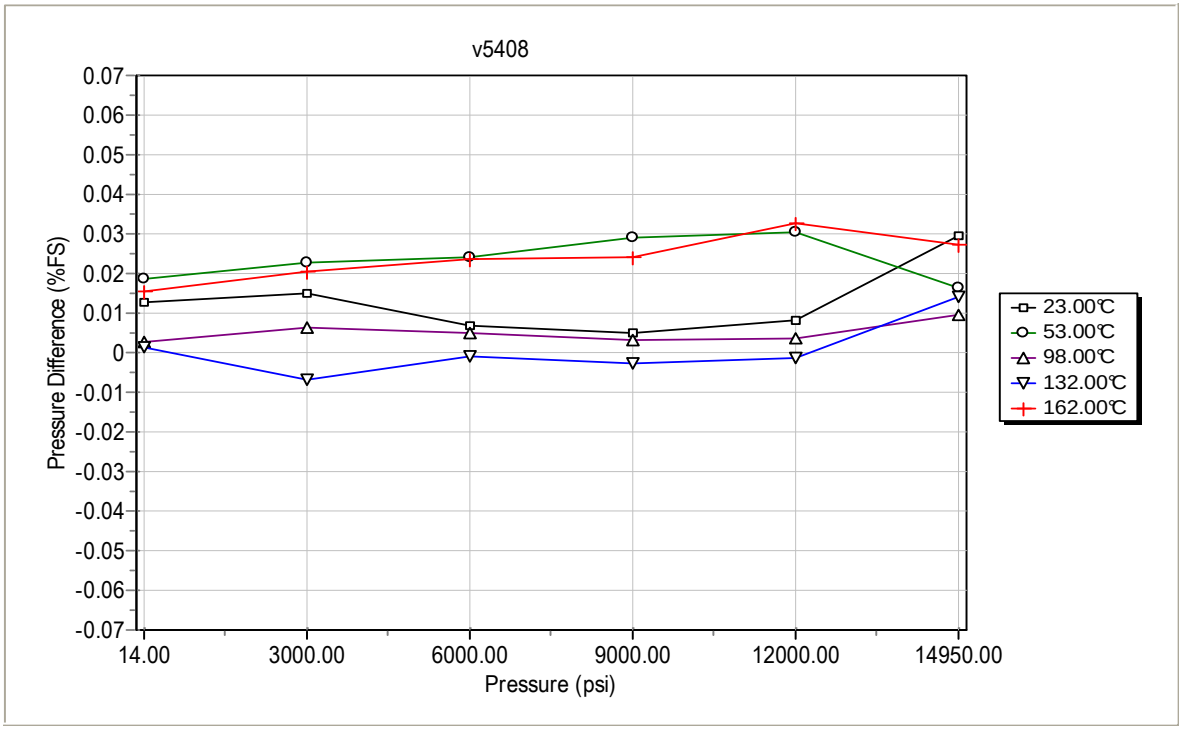
Date: Tuesday, December 18, 2007

Canada Tech

Calibration Certificate NO:5408

Model: Shortline
Serial Number: 5431
Max Pressure Rating: 15 000 psi
Temperature Rating: 177 ºC
Calibration Date: March 2011

Measurements and Derived Results



Specifications

Pressure Range:	Minimum:	50 psi	Maximum:	15 000 psi
Temperature Range:	Minimum:	0 ºC	Maximum:	177 ºC
Pressure:	Accuracy: ±	0.05 %FS		± 7.5 psi
Temperature	Accuracy:			± 1.0 ºC

Summary

Pressure Accuracy (Maximum Error):	+ 4.93psi	0.033%FS
Temperature Accuracy (Maximum Error):	- 0.30 ºC	

Calibrations are verified to 95% of maximum full scale pressure

#105, 1437 - 47Ave NE
Calgary, AB
T2E 6N7
www.canadatech.com
info@canadatech.com

Working Standards

- DHI Oil Operated Piston Gauge – Model PG 7302-5, SN301 – M Range 100kPa to 500MPa ± 0.005% FS.
- DHI 40kg Mass Set MS-AMH-40, SN2266
- Hart Scientific Black Stack – Model 2560 - SN 91362.
- Hart Scientific Platinum Resistance Thermometer – Model 5614 – SN 496051 with an accuracy of ± 0.006 ºC (± 0.011 ºF).

Traceability Statement

All working standards are traceable to nationally or internationally recognized standards.

- DHI Model DHI PC-7302-5, SN301 traceability of mass is maintained through reference mass set R100 through determination by National Institute of Standards and Technology, NIST, United States.
- The traceability of mass is maintained to the fundamental unit of the kilogram [kg] through reference mass set R100 through determinations performed by National Institute of Standards and Technology, NIST, United States.
- The measured true mass values of the PG7302-5 components is as follows:
    - The Piston mass is equal to 200.0011g with an uncertainty of ± 3 mg and has an average density of 7230 kg/m^3.
    - The Mass Carrying Bell is equal to 800.0044 g with an uncertainty of ± 8 mg and has an average density of 6100 kg/m^3.
    - The Mass Set is made up of 10 masses of 10.1 kg or less adjusted to ± 20 ppm of their nominal true mass values and has an average density of 8000 kg/m^3. The uncertainty of the masses in mg is guaranteed to be less than 5 ppm or 1 mg, whichever is greater.
- The traceability of effective area is maintained through the 2004 DHI Piston-Cylinder calibration Chain to the National Institute of Standards and Technology, NIST, United States, and the Laboratoire national d'Essais, LNE, France.
- All DH calibrations are preformed in accordance with DHI laboratory Quality assurance manual, Rev C September 2003 and conform to ISO/IEC 17025, ANSI/NCSL Z540-1-1994, ISO/IEC Guide 25, ISO 9002, ISO-10012-1, MIL-STD 45662A.
- The Platinum Resistance Thermometer (PRT) Model 5614, SN496051 was calibrated at the ice point and/or by comparison to Standard Platinum Resistance Thermometers (SPRTs). These SPRTs are calibrated to the International Temperature Scale of 1990 (ITS-90) and their calibration is traceable to the National Institute of Standards and Technology (NIST).
- Canada Tech local gravity has been determined through the National Geodetic Survey of Canada.

_____
Calibration Performed and Approved By

Canada Tech recommended recalibration interval is 1 year.

#105, 1437 - 47Ave NE
Calgary, AB
T2E 6N7
www.canadatech.com
info@canadatech.com

SPARTEK SYSTEMS
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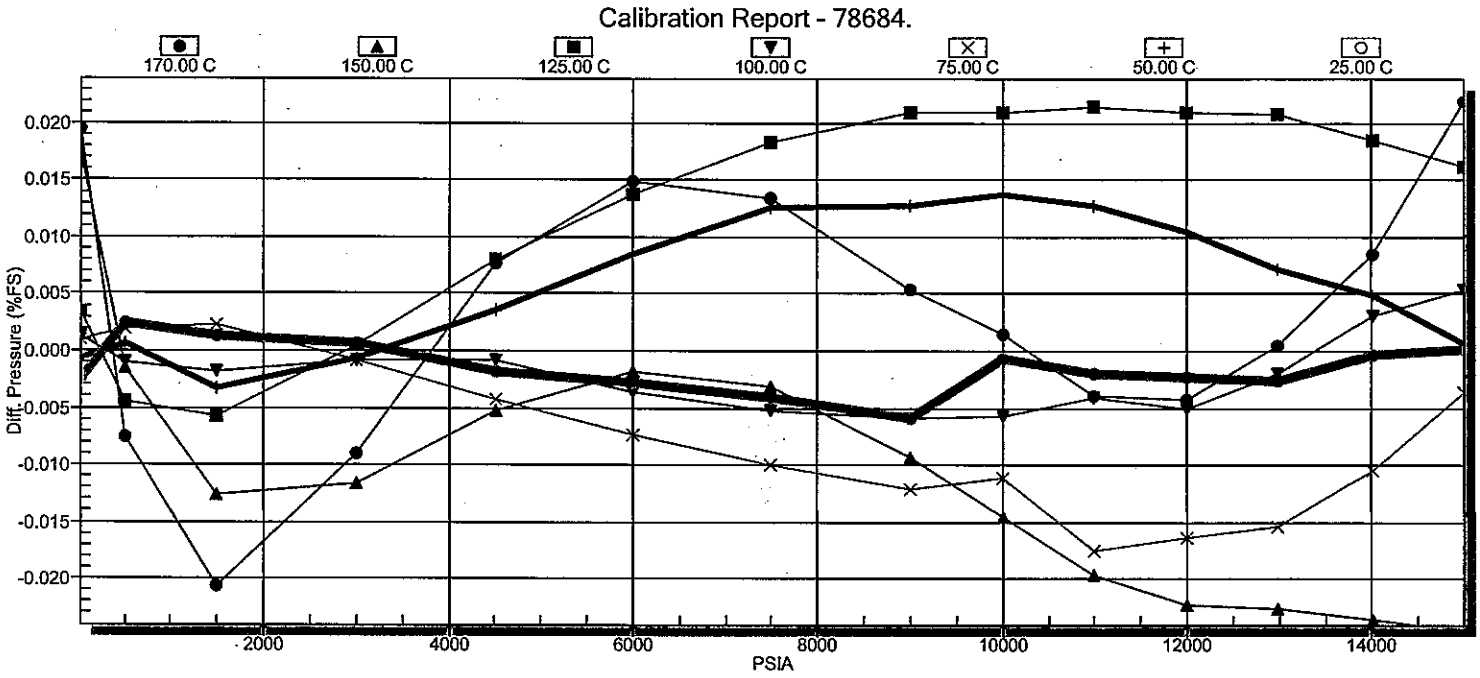
"Providing our customers with Best in Class Technology"

#1 Thevenaz Industrial Trail
Sylvan Lake, AB, Ca, T4S 2J6
Phone (403) 887-2443
Fax (403) 887-4050
www.sparteksystems.com

Pressure Gauge Certificate of Calibration



GAUGE NUMBER: 78684

2-D POLYNOMIAL LMS CURVEFIT

Source of f:	Pres	Temp	Pressure Equation:
Fit Order:	3	4	Pressure (PSI) = A + xp(B + xp(C + xp(D)))
Prescale:	xp = m * (fp - fp0)	xt = m * (ft - ft0)	
m:	0.01	0.01	Temperature Compenstation:
	fp0 = 697657	ft0 = 113856	A = A0 + xt(A1 + xt(A2 + xt(A3 + xt(A4))))
			B = B0 + xt(B1 + xt(B2 + xt(B3 + xt(B4))))
			C = C0 + xt(C1 + xt(C2 + xt(C3 + xt(C4))))
			D = D0 + xt(D1 + xt(D2 + xt(D3 + xt(D4))))

0	1	2	3	4
Pressure (psi) STANDARD FIT COEFFICIENTS:				
A 17.61044285	0.04600111568	-0.0002185821322	6.122891169E-07	-2.586188071E-10
B 5.188002354	-0.004610704204	4.660689624E-06	-5.558992779E-09	1.503858875E-12
C -3.951075419E-05	6.46040859E-07	-5.064975269E-09	1.64683037E-11	-1.856232173E-14
D 6.739468099E-09	-1.401540361E-10	1.175714186E-12	-3.969978042E-15	4.573468228E-18

Temperature (C) STANDARD FIT COEFFICIENTS

A 170.4163186

B -0.4336902401

C 0.0001291161851

D -3.831775773E-08

0 points eliminated.
Error File: Gauge # 78684

Pressure psi	Temperature Deg. C	Count (Pres)	Count (Temp)	DIFF (press) psi
14.70	170.00	697657.31	113856.25	2.93
507.11	170.00	707076.69	113852.50	-1.14
1491.77	170.00	726070.31	113854.75	-3.10
2997.70	170.00	755309.00	113872.50	-1.34
4503.59	170.00	784663.31	113891.75	1.16
6009.47	170.00	814065.69	113904.75	2.24
7486.34	170.00	842930.69	113914.50	2.00
8992.17	170.00	872367.69	113914.25	0.82
10005.69	170.00	892198.31	113917.00	0.23
10990.24	170.00	911452.69	113916.25	-0.60
12003.74	170.00	931279.69	113913.25	-0.64
12988.24	170.00	950532.69	113905.50	0.07
14001.73	170.00	970349.00	113900.75	1.27
14986.24	170.00	989577.00	113889.75	3.30
14.70	150.00	697615.31	118710.50	2.62
507.11	150.00	707459.00	118695.00	-0.22
1491.77	150.00	727248.69	118712.00	-1.89
2997.70	150.00	757630.31	118741.00	-1.74
4503.59	150.00	788086.69	118759.75	-0.79
6009.47	150.00	818586.00	118776.00	-0.27
7486.34	150.00	848519.31	118784.75	-0.46
8992.17	150.00	879051.31	118788.75	-1.39
10005.69	150.00	899606.00	118787.75	-2.20
10990.24	150.00	919577.69	118784.75	-2.94
12003.74	150.00	940141.69	118778.25	-3.35
12988.24	150.00	960111.69	118765.25	-3.40
14001.73	150.00	980676.00	118757.00	-3.53
14986.24	150.00	1000637.00	118744.50	-3.67
14.70	125.00	697539.69	124661.25	0.51
507.11	125.00	707904.69	124577.00	-0.67
1491.77	125.00	728695.31	124597.75	-0.85
2997.70	125.00	760562.31	124624.00	0.07
4503.59	125.00	792480.00	124644.50	1.20
6009.47	125.00	824430.31	124658.75	2.07
7486.34	125.00	855785.69	124662.75	2.76
8992.17	125.00	887774.31	124664.50	3.15
10005.69	125.00	909303.69	124660.50	3.14
10990.24	125.00	930225.00	124655.50	3.21
12003.74	125.00	951756.69	124646.50	3.14
12988.24	125.00	972666.00	124632.75	3.11
14001.73	125.00	994185.69	124618.75	2.77
14986.24	125.00	1015080.69	124601.50	2.44
14.70	100.00	697502.00	130822.25	0.20
507.11	100.00	708402.31	130785.25	-0.16
1491.77	100.00	730233.69	130806.75	-0.28
2997.70	100.00	763679.00	130833.50	-0.12
4503.59	100.00	797171.00	130855.25	-0.13
6009.47	100.00	830691.69	130868.50	-0.54
7486.34	100.00	863596.00	130874.25	-0.78
8992.17	100.00	897159.31	130870.00	-0.88
10005.69	100.00	919754.31	130863.50	-0.85
10990.24	100.00	941707.69	130855.00	-0.61
12003.74	100.00	964293.31	130843.75	-0.77
12988.24	100.00	986225.69	130824.00	-0.28
14001.73	100.00	1008799.69	130802.25	0.47
14986.24	100.00	1030707.69	130779.75	0.81
14.70	75.00	697455.31	137376.50	0.15
507.11	75.00	708927.31	137346.50	0.28
1491.77	75.00	731886.31	137369.75	0.34
2997.70	75.00	767041.31	137398.50	-0.12
4503.59	75.00	802248.69	137419.50	-0.65
6009.47	75.00	837497.69	137431.25	-1.10
7486.34	75.00	872092.00	137432.25	-1.49
8992.17	75.00	907383.69	137428.50	-1.81
10005.69	75.00	931140.31	137417.75	-1.68
10990.24	75.00	954179.00	137399.25	-2.62
12003.74	75.00	977937.69	137389.25	-2.45
12988.24	75.00	1000987.69	137368.00	-2.30
14001.73	75.00	1024704.69	137339.50	-1.58

14986.24	75.00	1047730.00	137308.50	-0.53
14.70	50.00	697368.69	144195.50	-0.10
507.11	50.00	709455.00	144163.25	0.09
1491.77	50.00	733620.69	144188.75	-0.49
2997.70	50.00	770661.69	144218.25	-0.10
4503.59	50.00	807758.31	144237.00	0.53
6009.47	50.00	844897.00	144245.00	1.27
7486.34	50.00	881343.00	144241.00	1.88
8992.17	50.00	918506.69	144227.50	1.91
10005.69	50.00	943523.69	144210.50	2.06
10990.24	50.00	967820.00	144191.00	1.92
12003.74	50.00	992816.31	144164.25	1.56
12988.24	50.00	1017087.31	144134.50	1.08
14001.73	50.00	1042060.00	144097.50	0.75
14986.24	50.00	1066294.38	144057.00	0.10
14.70	25.00	697225.00	151031.75	-0.36
507.11	25.00	709998.31	151015.75	0.36
1491.77	25.00	735525.31	151044.00	0.19
2997.70	25.00	774634.69	151077.75	0.10
4503.59	25.00	813799.69	151099.75	-0.27
6009.47	25.00	853006.69	151101.50	-0.43
7486.34	25.00	891478.69	151089.75	-0.61
8992.17	25.00	930707.00	151064.25	-0.88
10005.69	25.00	957091.00	151022.25	-0.11
10990.24	25.00	982745.69	151003.75	-0.28
12003.74	25.00	1009124.69	150970.00	-0.33
12988.24	25.00	1034734.00	150932.75	-0.38
14001.73	25.00	1061071.63	150884.00	-0.04
14986.24	25.00	1086632.63	150834.50	0.02

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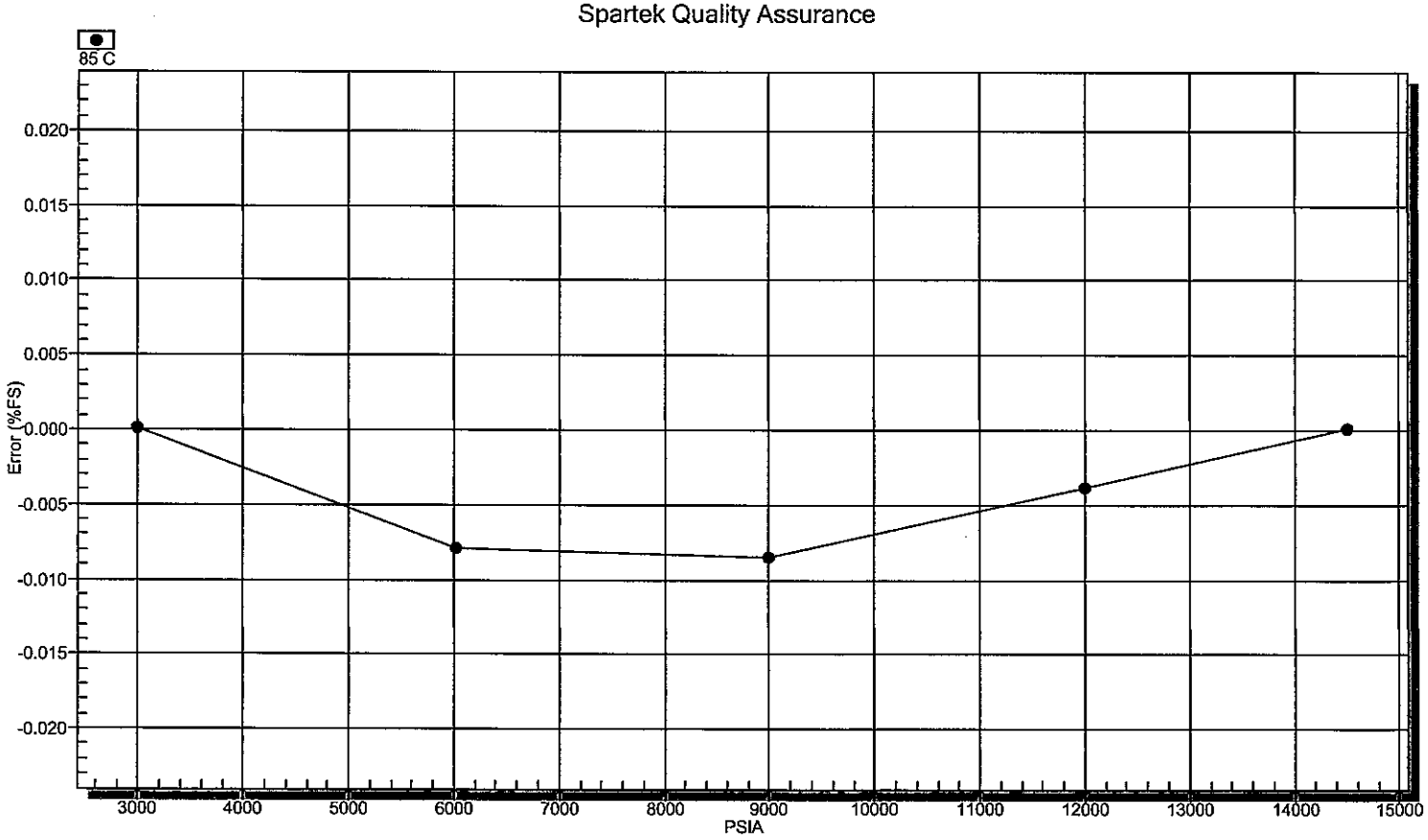
Pressure Gauge Certificate of Conformance

SERIAL NUMBER	78684	CALIBRATION DATE	NOV 08/12
MODEL NUMBER	1139 FF4	PRESSURE REFERENCE	NIST Traceable
PRESSURE RANGE	14.70 - 14986.24 psi	TEMP. REFERENCE	NIST Traceable
TEMP. RANGE	25.00 - 170.00 °C	TRACEABILITY DOC.	CAL-STANDARD-001

ACCURACY

As shown in the graph below, this Spartek Gauge conformed to within +/- 0.024 %F.S. of the pressure standard used in calibration, which is accurate to within +/- 0.01% of reading. This gives an overall accuracy of +/-(0.024%F.S. + 0.01% of reading)

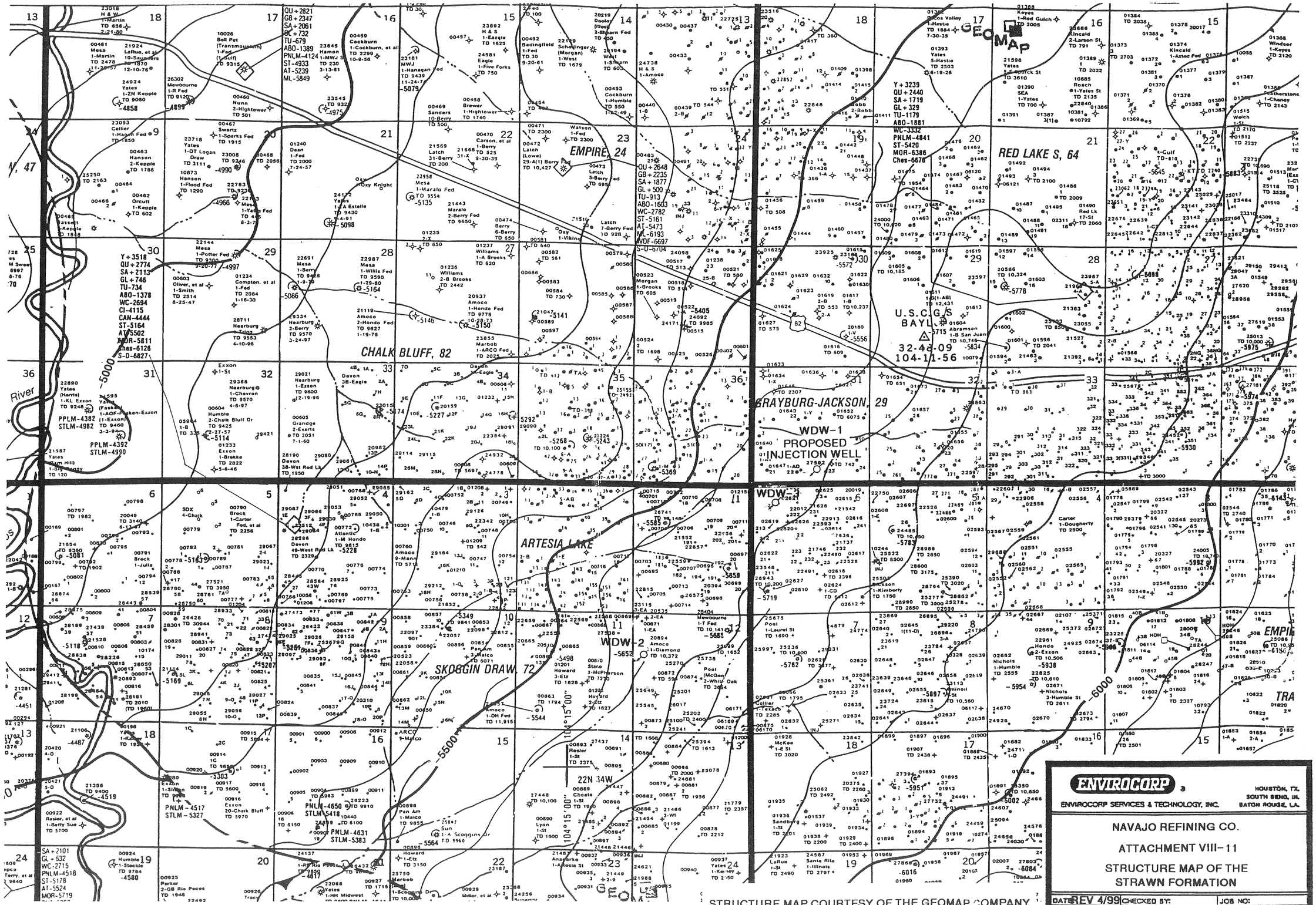


Accepted By: Jeff Barnes

Date: NOV 09/12

APPENDIX I

STRAWN STRUCTURE MAPS



STRUCTURE MAP COURTESY OF THE GEOMAP COMPANY
Poster July 1997

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

NAVAJO REFINING CO.

ATTACHMENT VIII-11

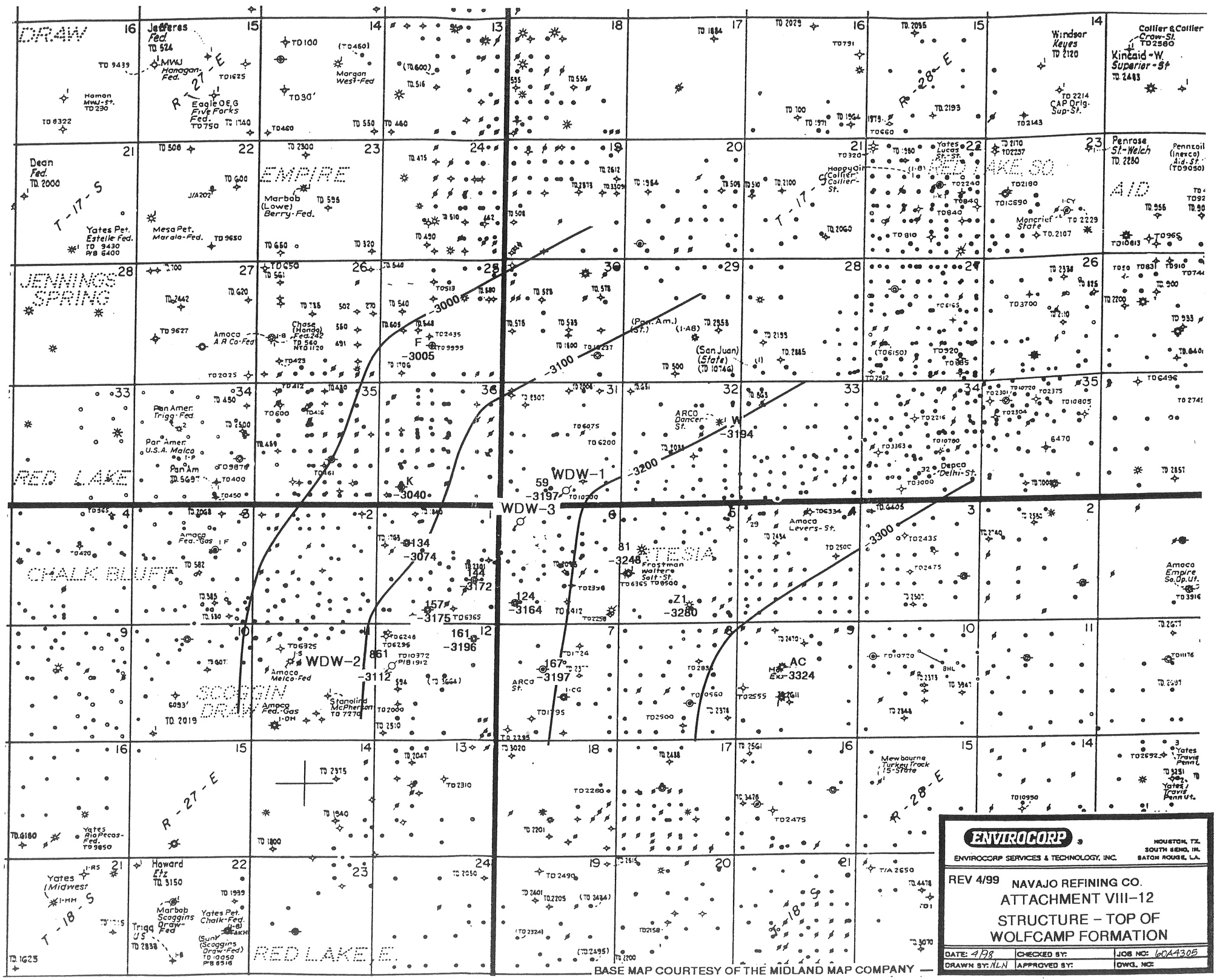
STRUCTURE MAP OF THE STRAWN FORMATION

DATE: REV 4/99	CHECKED BY:	JOB NO:
DRAWN BY:	APPROVED BY:	DWG. NO:

APPENDIX I

APPENDIX J

WOLFCAMP STRUCTURE MAPS



157 ID NO.
-4025 SUBSEA DEPTH

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

REV 4/99 NAVAJO REFINING CO.

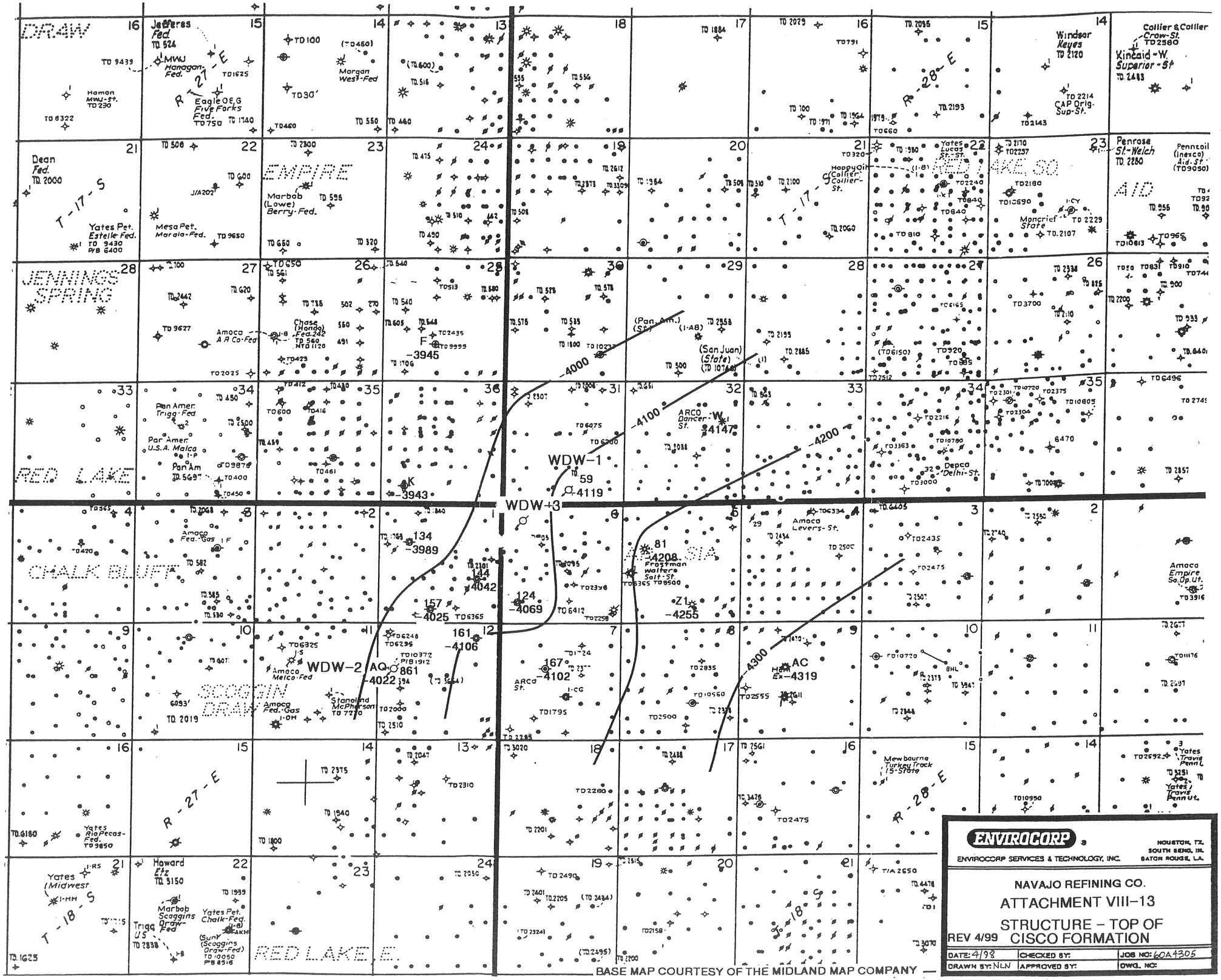
ATTACHMENT VIII-12

STRUCTURE – TOP OF WOLFCAMP FORMATION

DATE: 4/98	CHECKED BY:	JOB NO: 60A4305
DRAWN BY: MLN	APPROVED BY:	DWG. NO:

APPENDIX K

CISCO STRUCTURE MAPS



157 ID NO.
-4025 SUBSEA DEPTH

BASE MAP COURTESY OF THE MIDLAND MAP COMPANY

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

NAVAJO REFINING CO.

ATTACHMENT VIII-13

STRUCTURE – TOP OF CISCO FORMATION

REV 4/99

DATE: 4/98	CHECKED BY:	JOB NO: 60A4305
DRAWN BY: NLN	APPROVED BY:	DWG. NO:

APPENDIX K

APPENDIX L

CHRONOLOGY OF FIELD ACTIVITIES

APPENDIX L

CHRONOLOGY OF FIELD ACTIVITIES

Sunday, September 20, 2015

Hank Lichtenwaldt:

Travel to Artesia, NM from Houston,TX.

Monday, September 21, 2015

Hank Lichtenwaldt:

Pick up chart recorder from Wildcat Measurement. Go to MRC and pick up 2" bull plug with ½" NPT. Attend safety training at Navajo facility with Fesco Wireline. Travel to WDW-1. Test annular pressures of each well for 30 minutes as such: WDW-1: 645 psig to 655 psig from 13:52 hours to 14:23 hours. WDW-2: 315 psig to 305 psig from 15:02 hours to 15:34 hours. WDW-3: 705 psig to 710 psig from 16:32 hours to 17:03 hours, all successful annulus pressure tests at less than 10% pressure gain/drop. Spot Fesco Wireline trucks at each well and return to hotel.

Tuesday, September 22, 2015

Hank Lichtenwaldt:

Travel to WDW-1. Rig up wireline and complete dummy runs (using sinker bar) on the wells. Tagged bottom in WDW-1 at 8994.5 ft KB. Set bottomhole pressure recorders on all three wells. Set at the following depths: WDW-1: 7924 ft KB at 10:15 hours, WDW-2: 7570 ft KB at 1154 hours, WDW-3: 7660 ft KB at 1100 hours. Secure well and well sites. Return chart recorder to Wildcat Measurement. Refuel and eat lunch. Leave location and return to Houston,TX.

Saturday, September 26, 2015

Hank Lichtenwaldt:

Travel to Artesia, NM from Houston,TX.

Sunday, September 27, 2015

Hank Lichtenwaldt:

Travel and arrive on-site at WDW-1, hold JSA meeting. Wait on permit. Start pulling bottomhole gauges out of WDW-1 and conduct 7-minute static gradient stops at 7000 ft, 6000 ft, 5000 ft, 4000 ft, 3000 ft, 2000 ft, 1000 ft, and at surface (0 ft). Rig down at WDW-1. Fesco crews pulled the tools out of WDW-2 and WDW-3 while conducting gradient stops at WDW-1. Secure wells nad return to Navajo to begin injection operations. Drive from Artesia, NM to Houston,TX.

Monday, September 28, 2015

Hank Lichtenwaldt:

Finish travel to Houston,TX.

APPENDIX M

PANSYSTEM© ANALYSIS OUTPUT

Production Optimization Systems	Report File:	2015 WDW-1 Mewbourne PFO.pa
PanSystem Version 3.5	Analysis Date:	12/21/2015
Well Test Analysis Report		

Company	Navajo Refining Company
Location	Artesia, New Mexico
Well Name	Mewbourne Well No. 1
Testing Date	September 25-27, 2015
Gauge Depth	7924 feet
Injection Interval	7924 feet - 8476 feet
Completion Type	Perforations
Top Of Fill	8995 feet
Analyst	TJJ
Subsurface Project No	185818-7176

Remarks:

Reservoir Description

Fluid type : Water
Well orientation : Vertical
Number of wells : 1
Number of layers : 1

Layer Parameters Data

	Layer 1
Formation thickness	175.0000 ft
Average formation porosity	0.1000
Water saturation	0.0000
Gas saturation	0.0000
Formation compressibility	0.000000 psi-1
Total system compressibility	8.4000e-6 psi-1
Layer pressure	0.000000 psia
Temperature	0.000000 deg F

Well Parameters Data

	Well 1
Well radius	0.3646 ft
Distance from observation to active well	0.000000 ft
Wellbore storage coefficient	0.0000 bbl/psi
Storage Amplitude	0.000000 psi
Storage Time Constant	0.000000 hr
Second Wellbore Storage	0.000000 bbl/psi
Time Change for Second Storage	0.000000 hr
Well offset - x direction	0.0000 ft
Well offset - y direction	0.0000 ft

Fluid Parameters Data

	Layer 1
Oil gravity	0.000000 API
Gas gravity	0.000000 sp grav
Gas-oil ratio (produced)	0.000000 scf/STB
Water cut	0.000000
Water salinity	0.000000 ppm
Check Pressure	0.000000 psia
Check Temperature	0.000000 deg F
Gas-oil ratio (solution)	0.000000 scf/STB
Bubble-point pressure	0.000000 psia
Oil density	0.000 lb/ft3

Fluid Parameters Data (cont)

	Layer 1
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	0.570 cp
Water formation volume factor	1.000 RB/STB
Oil compressibility	0.000000 psi-1
Initial Gas compressibility	0.000000 psi-1
Water compressibility	0.000000 psi-1

Layer 1 Correlations
Not Used

Layer Boundaries Data
Layer 1 Boundary Type : Infinitely acting

	Layer 1
L1	0.000000 ft
L2	0.000000 ft
L3	0.000000 ft
L4	0.000000 ft
Drainage area	0.000000 acres
Dietz shape factor	0.000000

Layer 1 Model Data
Layer 1 Model Type : Radial homogeneous

	Layer 1
Permeability	0.0000 md
Skin factor (Well 1)	0.0000

Rate Change Data

Time	Pressure	Rate
Hours	psia	STB/day
-11769.217740	4800.000000	-4510.291368
-11745.217740	4800.000000	-5024.102989
-11721.217740	4800.000000	-5026.891781
-11697.217740	4800.000000	-5023.845347

Rate Change Data (cont)

Time	Pressure	Rate
Hours	psia	STB/day
-11673.217740	4800.000000	-4901.187860
-11649.217740	4800.000000	-4868.146843
-11625.217740	4800.000000	-4790.064603
-11601.217740	4800.000000	-4794.778575

Rate Change Data (cont)

Time Hours	Pressure psia	Rate STB/day
-11577.217740	4800.000000	-4521.533009
-11553.217740	4800.000000	-4500.634360
-11529.217740	4800.000000	-4543.879603
-11505.217740	4800.000000	-4630.713224
-11481.217740	4800.000000	-4602.226372
-11457.217740	4800.000000	-4570.478125
-11433.217740	4800.000000	-4601.566907
-11409.217740	4800.000000	-4556.541374
-11385.217740	4800.000000	-4556.192239
-11361.217740	4800.000000	-4567.219601
-11337.217740	4800.000000	-4602.689927
-11313.217740	4800.000000	-4554.572383
-11289.217740	4800.000000	-4611.332102
-11265.217740	4800.000000	-4584.875254
-11241.217740	4800.000000	-4185.477967
-11217.217740	4800.000000	-4565.368364
-11193.217740	4800.000000	-4611.880125
-11169.217740	4800.000000	-4556.934530
-11145.217740	4800.000000	-4353.415146
-11121.217740	4800.000000	-4507.409919
-11097.217740	4800.000000	-4551.423055
-11073.217740	4800.000000	-4460.577168
-11049.217740	4800.000000	-4522.607077
-11025.217740	4800.000000	-4679.404762
-11001.217740	4800.000000	-4790.775901
-10977.217740	4800.000000	-4829.743892
-10953.217740	4800.000000	-4842.338853
-10929.217740	4800.000000	-4871.535028
-10905.217740	4800.000000	-4881.878567
-10881.217740	4800.000000	-4868.326024
-10857.217740	4800.000000	-4909.151385
-10833.217740	4800.000000	-4925.350333
-10809.217740	4800.000000	-4917.890927
-10785.217740	4800.000000	-4921.802641
-10761.217740	4800.000000	-4404.380021
-10737.217740	4800.000000	-3897.017021

Rate Change Data (cont)

Time Hours	Pressure psia	Rate STB/day
-10713.217740	4800.000000	-1.2963e4
-10689.217740	4800.000000	-8407.917006
-10665.217740	4800.000000	-4960.115452
-10641.217740	4800.000000	-4939.126300
-10617.217740	4800.000000	-4945.957413
-10593.217740	4800.000000	-4897.543683
-10569.217740	4800.000000	-4960.101279
-10545.217740	4800.000000	-4970.324832
-10521.217740	4800.000000	-4937.461550
-10497.217740	4800.000000	-4908.732930
-10473.217740	4800.000000	-4854.544167
-10449.217740	4800.000000	-4863.447846
-10425.217740	4800.000000	-4882.441733
-10401.217740	4800.000000	-4891.063119
-10377.217740	4800.000000	-4826.845550
-10353.217740	4800.000000	-4845.996811
-10329.217740	4800.000000	-4802.136819
-10305.217740	4800.000000	-4801.256825
-10281.217740	4800.000000	-4851.771392
-10257.217740	4800.000000	-4818.222654
-10233.217740	4800.000000	-4856.323040
-10209.217740	4800.000000	-4846.138071
-10185.217740	4800.000000	-4848.128438
-10161.217740	4800.000000	-4835.422105
-10137.217740	4800.000000	-4910.166875
-10113.217740	4800.000000	-4978.519826
-10089.217740	4800.000000	-4993.652746
-10065.217740	4800.000000	-4950.468205
-10041.217740	4800.000000	-4964.291348
-10017.217740	4800.000000	-4958.987211
-9993.217739	4800.000000	-4890.905153
-9969.217739	4800.000000	-4895.135802
-9945.217739	4800.000000	-4894.117084
-9921.217739	4800.000000	-4937.356648
-9897.217739	4800.000000	-4905.275527
-9873.217739	4800.000000	-4945.959660

Rate Change Data (cont)

Time Hours	Pressure psia	Rate STB/day
-9849.217739	4800.000000	-4911.872411
-9825.217739	4800.000000	-4940.171097
-9801.217739	4800.000000	-4952.524404
-9777.217739	4800.000000	-4945.456630
-9753.217739	4800.000000	-4939.897536
-9729.217739	4800.000000	-4905.684578
-9705.217739	4800.000000	-4889.679548
-9681.217739	4800.000000	-4837.218111
-9657.217739	4800.000000	-4688.897226
-9633.217739	4800.000000	-4621.351010
-9609.217739	4800.000000	-4607.538650
-9585.217739	4800.000000	-4569.176917
-9561.217739	4800.000000	-4694.471260
-9537.217739	4800.000000	-4757.500561
-9513.217739	4800.000000	-4845.799391
-9489.217739	4800.000000	-4720.749683
-9465.217739	4800.000000	0.000000
-9441.217739	4800.000000	0.000000
-9417.217739	4800.000000	0.000000
-9393.217739	4800.000000	-3777.919040
-9369.217739	4800.000000	-3836.967083
-9345.217739	4800.000000	-3964.325099
-9321.217739	4800.000000	-3778.946232
-9297.217739	4800.000000	0.000000
-9273.217739	4800.000000	0.000000
-9249.217739	4800.000000	0.000000
-9225.217739	4800.000000	0.000000
-9201.217739	4800.000000	-4932.822170
-9177.217739	4800.000000	-4868.258858
-9153.217739	4800.000000	-4839.228843
-9129.217739	4800.000000	-4837.344236
-9105.217739	4800.000000	-4757.116124
-9081.217739	4800.000000	-4763.888434
-9057.217739	4800.000000	-4799.303305
-9033.217739	4800.000000	-4824.430902
-9009.217739	4800.000000	-4852.220305

Rate Change Data (cont)

Time Hours	Pressure psia	Rate STB/day
-8985.217739	4800.000000	-4791.498490
-8961.217739	4800.000000	-4744.090220
-8937.217739	4800.000000	-4719.914701
-8913.217739	4800.000000	-4744.267186
-8889.217739	4800.000000	-3567.622004
-8865.217739	4800.000000	-2761.893615
-8841.217739	4800.000000	-3154.720380
-8817.217739	4800.000000	-3199.743148
-8793.217739	4800.000000	-2839.948156
-8769.217739	4800.000000	-2950.575314
-8745.217739	4800.000000	-2647.128883
-8721.217739	4800.000000	-2894.174403
-8697.217739	4800.000000	-2958.997719
-8673.217739	4800.000000	-2969.022677
-8649.217739	4800.000000	-2885.197317
-8625.217739	4800.000000	-2930.147459
-8601.217739	4800.000000	-2826.860175
-8577.217739	4800.000000	-2723.783789
-8553.217739	4800.000000	-2620.212822
-8529.217739	4800.000000	-2844.697620
-8505.217739	4800.000000	-2959.835938
-8481.217739	4800.000000	-2916.809744
-8457.217739	4800.000000	-2831.732255
-8433.217739	4800.000000	-2879.973686
-8409.217739	4800.000000	-2866.386834
-8385.217739	4800.000000	-2766.541166
-8361.217739	4800.000000	-2841.078874
-8337.217739	4800.000000	-2802.940520
-8313.217739	4800.000000	-2862.130188
-8289.217739	4800.000000	-2624.789595
-8265.217739	4800.000000	-2772.294066
-8241.217739	4800.000000	-2552.486698
-8217.217739	4800.000000	-2578.674701
-8193.217739	4800.000000	-2553.539343
-8169.217739	4800.000000	-2602.002393
-8145.217739	4800.000000	-2630.624021

Rate Change Data (cont)

Time Hours	Pressure psia	Rate STB/day
-8121.217739	4800.000000	-2635.017787
-8097.217739	4800.000000	-2598.712708
-8073.217739	4800.000000	-2323.554355
-8049.217739	4800.000000	-2099.599006
-8025.217739	4800.000000	-4317.483319
-8001.217739	4800.000000	-4163.265176
-7977.217739	4800.000000	-4295.889169
-7953.217739	4800.000000	-4199.195548
-7929.217739	4800.000000	-4137.411136
-7905.217739	4800.000000	-4235.008110
-7881.217739	4800.000000	-3944.434839
-7857.217739	4800.000000	-4079.004842
-7833.217739	4800.000000	-4215.019158
-7809.217739	4800.000000	-4240.441331
-7785.217739	4800.000000	-4175.027596
-7761.217739	4800.000000	-4222.487965
-7737.217739	4800.000000	-4155.363117
-7713.217739	4800.000000	-4201.716467
-7689.217739	4800.000000	-4180.516365
-7665.217739	4800.000000	-4208.019758
-7641.217739	4800.000000	-4090.945730
-7617.217739	4800.000000	-4208.287415
-7593.217739	4800.000000	-3898.288092
-7569.217739	4800.000000	-3830.106073
-7545.217739	4800.000000	-3834.099505
-7521.217739	4800.000000	-3834.812739
-7497.217739	4800.000000	-3946.172602
-7473.217739	4800.000000	-4165.681468
-7449.217739	4800.000000	-4229.556870
-7425.217739	4800.000000	-4391.805357
-7401.217739	4800.000000	-4252.955971
-7377.217739	4800.000000	-4254.940694
-7353.217739	4800.000000	-4319.888790
-7329.217739	4800.000000	-4318.273604
-7305.217739	4800.000000	-4324.333698
-7281.217739	4800.000000	-4352.538552

Rate Change Data (cont)

Time Hours	Pressure psia	Rate STB/day
-7257.217739	4800.000000	-4348.767683
-7233.217739	4800.000000	-4279.365240
-7209.217739	4800.000000	-4269.072249
-7185.217739	4800.000000	-4203.277365
-7161.217739	4800.000000	-4203.616004
-7137.217739	4800.000000	-4217.011112
-7113.217739	4800.000000	-4225.213690
-7089.217739	4800.000000	-4244.798168
-7065.217739	4800.000000	-4234.171016
-7041.217739	4800.000000	-4065.476978
-7017.217739	4800.000000	-4063.473864
-6993.217739	4800.000000	-4225.778590
-6969.217739	4800.000000	-4181.571923
-6945.217739	4800.000000	-4209.798577
-6921.217739	4800.000000	-4193.241784
-6897.217739	4800.000000	-4056.488654
-6873.217739	4800.000000	-4158.048478
-6849.217739	4800.000000	-4184.528942
-6825.217739	4800.000000	-4077.963294
-6801.217739	4800.000000	-4061.510938
-6777.217739	4800.000000	-4007.372964
-6753.217739	4800.000000	-3751.907699
-6729.217739	4800.000000	-3703.216695
-6705.217739	4800.000000	-3509.000344
-6681.217739	4800.000000	-3362.605112
-6657.217739	4800.000000	-3219.556201
-6633.217739	4800.000000	-3490.788073
-6609.217739	4800.000000	-3505.614227
-6585.217739	4800.000000	-3467.634689
-6561.217739	4800.000000	-4014.353066
-6537.217739	4800.000000	-4112.656692
-6513.217739	4800.000000	-3856.511262
-6489.217739	4800.000000	-3989.329859
-6465.217739	4800.000000	-3953.084136
-6441.217739	4800.000000	-3816.880900
-6417.217739	4800.000000	-3716.308735

Rate Change Data (cont)

Time Hours	Pressure psia	Rate STB/day
-6393.217739	4800.000000	-3940.517896
-6369.217739	4800.000000	-4034.173819
-6345.217739	4800.000000	-3971.129169
-6321.217739	4800.000000	-7512.961315
-6297.217739	4800.000000	-4227.779850
-6273.217739	4800.000000	-4235.763526
-6249.217739	4800.000000	-4247.031168
-6225.217739	4800.000000	-4224.507729
-6201.217739	4800.000000	-4380.169350
-6177.217739	4800.000000	-4473.729011
-6153.217739	4800.000000	-4365.569421
-6129.217739	4800.000000	-4352.344030
-6105.217739	4800.000000	-4357.765826
-6081.217739	4800.000000	-4318.086158
-6057.217739	4800.000000	-4293.944093
-6033.217739	4800.000000	-4192.861841
-6009.217739	4800.000000	-4232.881165
-5985.217739	4800.000000	-4280.924720
-5961.217739	4800.000000	-4305.813912
-5937.217739	4800.000000	-4325.342668
-5913.217739	4800.000000	-4354.995547
-5889.217739	4800.000000	-4345.502986
-5865.217739	4800.000000	-4358.405760
-5841.217739	4800.000000	-4307.575126
-5817.217739	4800.000000	-4197.316608
-5793.217739	4800.000000	-4209.743608
-5769.217739	4800.000000	-4222.638885
-5745.217739	4800.000000	-4247.196968
-5721.217739	4800.000000	-4289.633483
-5697.217739	4800.000000	-4296.504798
-5673.217739	4800.000000	-4218.165755
-5649.217739	4800.000000	-4371.743824
-5625.217739	4800.000000	-4245.075195
-5601.217739	4800.000000	-4254.340174
-5577.217739	4800.000000	-4300.611381
-5553.217739	4800.000000	-4321.142137

Rate Change Data (cont)

Time Hours	Pressure psia	Rate STB/day
-5529.217739	4800.000000	-4296.558698
-5505.217739	4800.000000	-4324.805706
-5481.217739	4800.000000	-4357.030358
-5457.217739	4800.000000	-4295.754042
-5433.217739	4800.000000	-4336.695461
-5409.217739	4800.000000	-4412.257656
-5385.217739	4800.000000	-4283.486758
-5361.217739	4800.000000	-3795.297953
-5337.217739	4800.000000	-3500.610325
-5313.217739	4800.000000	-4268.353113
-5289.217739	4800.000000	-4351.006668
-5265.217739	4800.000000	-4377.332051
-5241.217739	4800.000000	-4373.759193
-5217.217739	4800.000000	-4385.094364
-5193.217739	4800.000000	-4267.314484
-5169.217739	4800.000000	-4216.270481
-5145.217739	4800.000000	-4283.253916
-5121.217739	4800.000000	-4288.233741
-5097.217739	4800.000000	-4284.398855
-5073.217739	4800.000000	0.000000
-5049.217739	4800.000000	0.000000
-5025.217739	4800.000000	-4181.470906
-5001.217739	4800.000000	-4213.814520
-4977.217739	4800.000000	-4300.744667
-4953.217739	4800.000000	-4231.915591
-4929.217739	4800.000000	-4184.894011
-4905.217739	4800.000000	-4193.492443
-4881.217739	4800.000000	-4258.643229
-4857.217739	4800.000000	-4244.672227
-4833.217739	4800.000000	-4298.448820
-4809.217739	4800.000000	-4270.978429
-4785.217739	4800.000000	-4253.236045
-4761.217739	4800.000000	-4298.909369
-4737.217739	4800.000000	-4346.787501
-4713.217739	4800.000000	-4353.086823
-4689.217739	4800.000000	-4362.082848

Rate Change Data (cont)

Time Hours	Pressure psia	Rate STB/day
-4665.217739	4800.000000	-4366.566059
-4641.217739	4800.000000	-4335.418983
-4617.217739	4800.000000	-4348.637919
-4593.217739	4800.000000	-4352.066438
-4569.217739	4800.000000	-4341.980680
-4545.217739	4800.000000	-4348.123028
-4521.217739	4800.000000	-4363.302055
-4497.217739	4800.000000	-4315.799029
-4473.217739	4800.000000	-4322.252375
-4449.217739	4800.000000	-4380.001513
-4425.217739	4800.000000	-4348.761057
-4401.217739	4800.000000	-4328.374144
-4377.217739	4800.000000	-4396.264696
-4353.217739	4800.000000	-4417.034176
-4329.217739	4800.000000	-4276.972913
-4305.217739	4800.000000	-4048.445461
-4281.217739	4800.000000	-3784.634084
-4257.217739	4800.000000	-3838.876452
-4233.217739	4800.000000	-3743.025958
-4209.217739	4800.000000	-3683.986742
-4185.217739	4800.000000	-3750.014389
-4161.217739	4800.000000	-3806.323536
-4137.217739	4800.000000	-3875.801639
-4113.217739	4800.000000	-3878.738094
-4089.217739	4800.000000	-3780.801304
-4065.217739	4800.000000	-3736.806829
-4041.217739	4800.000000	-3675.409260
-4017.217739	4800.000000	-3643.619937
-3993.217739	4800.000000	-3735.045547
-3969.217739	4800.000000	-3933.374802
-3945.217739	4800.000000	-3998.799835
-3921.217739	4800.000000	-3998.665657
-3897.217739	4800.000000	-3983.432435
-3873.217739	4800.000000	-3851.082157
-3849.217739	4800.000000	-2949.183636
-3825.217739	4800.000000	-3809.303667

Rate Change Data (cont)

Time Hours	Pressure psia	Rate STB/day
-3801.217739	4800.000000	-4515.351699
-3777.217739	4800.000000	-4507.098222
-3753.217739	4800.000000	-4467.868404
-3729.217739	4800.000000	-4448.394773
-3705.217739	4800.000000	-4444.499656
-3681.217739	4800.000000	-4425.990946
-3657.217739	4800.000000	-4475.131740
-3633.217739	4800.000000	-4481.994873
-3609.217739	4800.000000	-4452.955539
-3585.217739	4800.000000	-4463.663165
-3561.217739	4800.000000	-4460.847803
-3537.217739	4800.000000	-4403.029706
-3513.217739	4800.000000	-4392.037170
-3489.217739	4800.000000	-4373.969214
-3465.217739	4800.000000	-4456.649297
-3441.217739	4800.000000	-4485.673758
-3417.217739	4800.000000	-4492.157812
-3393.217739	4800.000000	-4491.407268
-3369.217739	4800.000000	-4489.956705
-3345.217739	4800.000000	-4452.416866
-3321.217739	4800.000000	-4414.558815
-3297.217739	4800.000000	-4456.077192
-3273.217739	4800.000000	-4472.421733
-3249.217739	4800.000000	-4499.289064
-3225.217739	4800.000000	-4480.549573
-3201.217739	4800.000000	-4481.194469
-3177.217739	4800.000000	-4489.703480
-3153.217739	4800.000000	-4408.214844
-3129.217739	4800.000000	-4479.021288
-3105.217739	4800.000000	-4478.718327
-3081.217739	4800.000000	-4481.601288
-3057.217739	4800.000000	-4465.054318
-3033.217739	4800.000000	-4460.181392
-3009.217739	4800.000000	-4487.933711
-2985.217739	4800.000000	-4516.829295
-2961.217739	4800.000000	-4352.366819

Rate Change Data (cont)

Time Hours	Pressure psia	Rate STB/day
-2937.217739	4800.000000	-4385.200299
-2913.217739	4800.000000	-4422.157762
-2889.217739	4800.000000	-4489.073427
-2865.217739	4800.000000	-4457.371334
-2841.217739	4800.000000	-4326.988998
-2817.217739	4800.000000	-3863.451013
-2793.217739	4800.000000	-4537.842497
-2769.217739	4800.000000	-4517.292570
-2745.217739	4800.000000	-4521.228539
-2721.217739	4800.000000	-4477.383408
-2697.217739	4800.000000	-4481.743634
-2673.217739	4800.000000	-4511.180589
-2649.217739	4800.000000	-4531.180979
-2625.217739	4800.000000	-4531.154355
-2601.217739	4800.000000	-4510.210071
-2577.217739	4800.000000	-4478.257810
-2553.217739	4800.000000	-4454.587521
-2529.217739	4800.000000	-4571.471435
-2505.217739	4800.000000	-4467.100151
-2481.217739	4800.000000	-4465.322506
-2457.217739	4800.000000	-4480.668968
-2433.217739	4800.000000	-4500.841313
-2409.217739	4800.000000	-4468.807729
-2385.217739	4800.000000	-4421.817836
-2361.217739	4800.000000	-4413.871272
-2337.217739	4800.000000	-4339.614368
-2313.217739	4800.000000	-4466.659193
-2289.217739	4800.000000	-4485.774579
-2265.217739	4800.000000	-4496.303113
-2241.217739	4800.000000	-4414.985061
-2217.217739	4800.000000	-4450.578931
-2193.217739	4800.000000	-4419.288262
-2169.217739	4800.000000	-4416.648542
-2145.217739	4800.000000	-4404.748437
-2121.217739	4800.000000	-4407.157067
-2097.217739	4800.000000	-4419.513114

Rate Change Data (cont)

Time Hours	Pressure psia	Rate STB/day
-2073.217739	4800.000000	-4438.806791
-2049.217739	4800.000000	-4423.068103
-2025.217739	4800.000000	-4381.203024
-2001.217739	4800.000000	-4429.613253
-1977.217739	4800.000000	-4362.140374
-1953.217739	4800.000000	-4423.152002
-1929.217739	4800.000000	-4428.708111
-1905.217739	4800.000000	-4408.409665
-1881.217739	4800.000000	-4412.230055
-1857.217739	4800.000000	-4402.429020
-1833.217739	4800.000000	-4308.757636
-1809.217739	4800.000000	-4337.241273
-1785.217739	4800.000000	-4349.099086
-1761.217739	4800.000000	-4391.512253
-1737.217739	4800.000000	-4379.888633
-1713.217739	4800.000000	-4379.246974
-1689.217739	4800.000000	-4421.823300
-1665.217739	4800.000000	-4442.188599
-1641.217739	4800.000000	-3916.543404
-1617.217739	4800.000000	-4394.920834
-1593.217739	4800.000000	-4185.362130
-1569.217739	4800.000000	-4484.221363
-1545.217739	4800.000000	-4419.636730
-1521.217739	4800.000000	-4476.066941
-1497.217739	4800.000000	-4471.019852
-1473.217739	4800.000000	-4430.982280
-1449.217739	4800.000000	-4443.418727
-1425.217739	4800.000000	-4440.645287
-1401.217739	4800.000000	-4344.807905
-1377.217739	4800.000000	-4424.146640
-1353.217739	4800.000000	-4408.930190
-1329.217739	4800.000000	-4387.752623
-1305.217739	4800.000000	-4362.278150
-1281.217739	4800.000000	-4325.895952
-1257.217739	4800.000000	-4343.115249
-1233.217739	4800.000000	-4353.103432

Rate Change Data (cont)

Time Hours	Pressure psia	Rate STB/day
-1209.217739	4800.000000	-4349.355045
-1185.217739	4800.000000	-4341.045956
-1161.217739	4800.000000	-4307.792950
-1137.217739	4800.000000	-4347.671934
-1113.217739	4800.000000	-4368.083266
-1089.217739	4800.000000	-4383.915509
-1065.217739	4800.000000	-4379.163263
-1041.217739	4800.000000	-4379.941097
-1017.217739	4800.000000	-4365.399294
-993.217739	4800.000000	-4381.874519
-969.217739	4800.000000	-4355.512210
-945.217739	4800.000000	-4374.927075
-921.217739	4800.000000	-4384.218901
-897.217739	4800.000000	-3444.825382
-873.217739	4800.000000	-4127.444613
-849.217739	4800.000000	-4274.286731
-825.217739	4800.000000	-4376.973617
-801.217739	4800.000000	-4396.636264
-777.217739	4800.000000	-4323.402801
-753.217739	4800.000000	-4308.280741
-729.217739	4800.000000	-4347.067394
-705.217739	4800.000000	-4418.845529
-681.217739	4800.000000	-4314.696104
-657.217739	4800.000000	-4330.584630
-633.217739	4800.000000	-4352.457681
-609.217739	4800.000000	-4353.760570
-585.217739	4800.000000	-4343.506532
-561.217739	4800.000000	-4341.897993
-537.217739	4800.000000	-4328.319268
-513.217739	4800.000000	-4319.262061
-489.217739	4800.000000	-4337.446327
-465.217739	4800.000000	-4346.576358
-441.217739	4800.000000	-4329.186601
-417.217739	4800.000000	-4334.209091
-393.217739	4800.000000	-4327.476142
-369.217739	4800.000000	-4340.533264

Rate Change Data (cont)

Time Hours	Pressure psia	Rate STB/day
-345.217739	4800.000000	-4266.289495
-321.217739	4800.000000	-4315.384044
-297.217739	4800.000000	-4295.298939
-273.217739	4800.000000	-4258.638814
-249.217739	4800.000000	-4262.556709
-225.217739	4800.000000	-4153.511676
-201.217739	4800.000000	-4267.584210
-177.217739	4800.000000	-4293.684605
-153.217739	4800.000000	-4293.665718
-129.217739	4800.000000	-4299.270993
-105.217739	4800.000000	-4292.806095
-81.217739	4800.000000	-4305.638787
-57.217739	4800.000000	-4319.569942
-33.217739	4800.000000	-4231.780782
-9.217739	4800.000000	-4232.557133
0.681940	4801.764000	-4217.142857
62.786110	4802.688000	-4217.000000
76.915280	4803.642000	-4354.000000
85.915261	4804.640000	-4248.000000
121.787290	4557.332541	0.000000

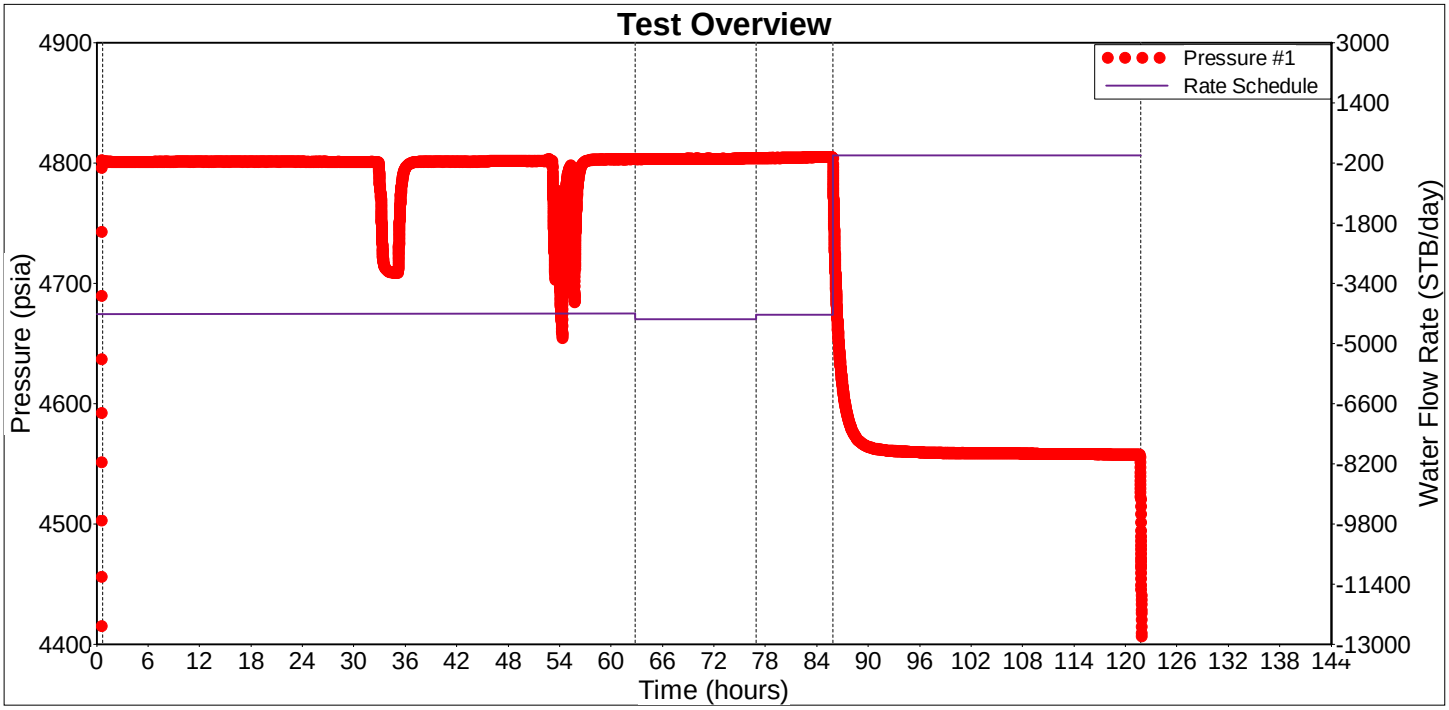
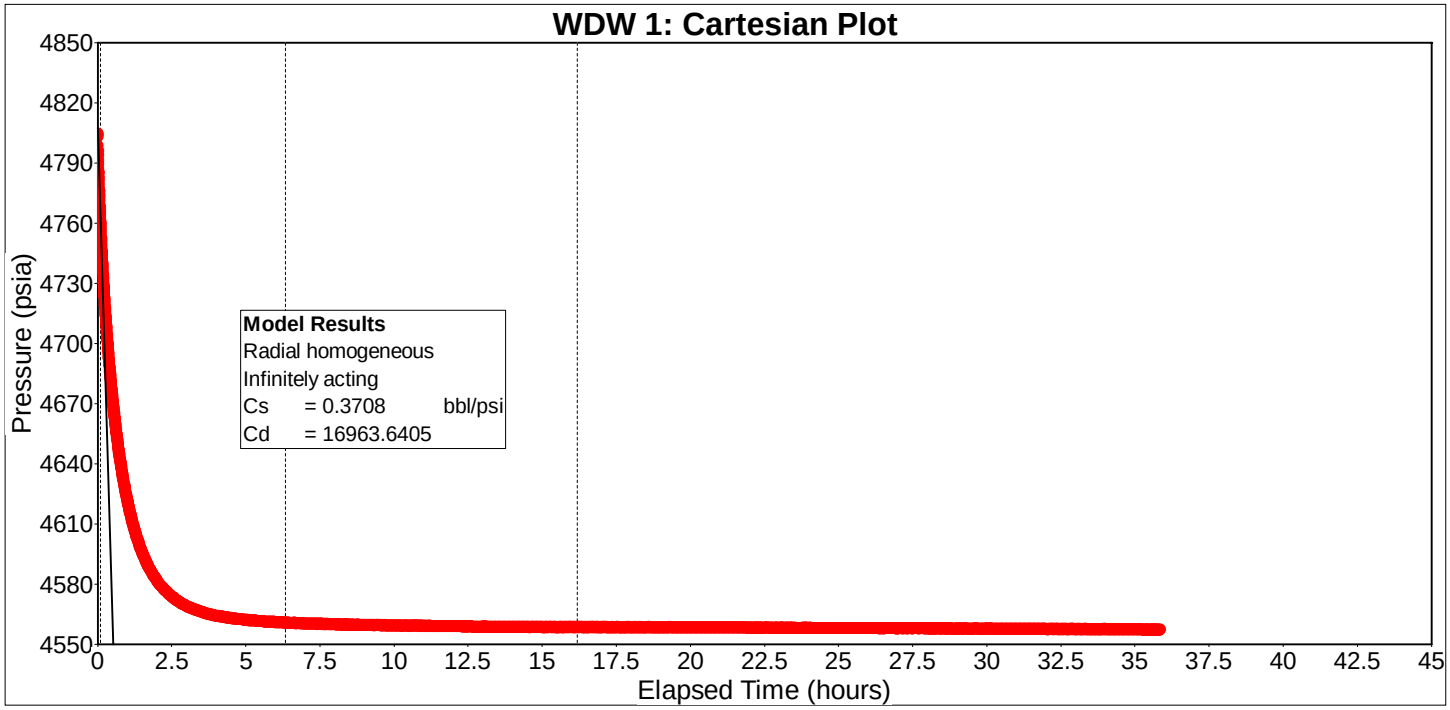

Test Overview
Pressure #1
Rate Schedule
Pressure (psia)
Water Flow Rate (STB/day)
Time (hours)
4900
4800
4700
4600
4500
4400
3000
1400
-200
-1800
-3400
-5000
-6600
-8200
-9800
-11400
-13000
0 6 12 18 24 30 36 42 48 54 60 66 72 78 84 90 96 102 108 114 120 126 132 138 144

FIGURE 9



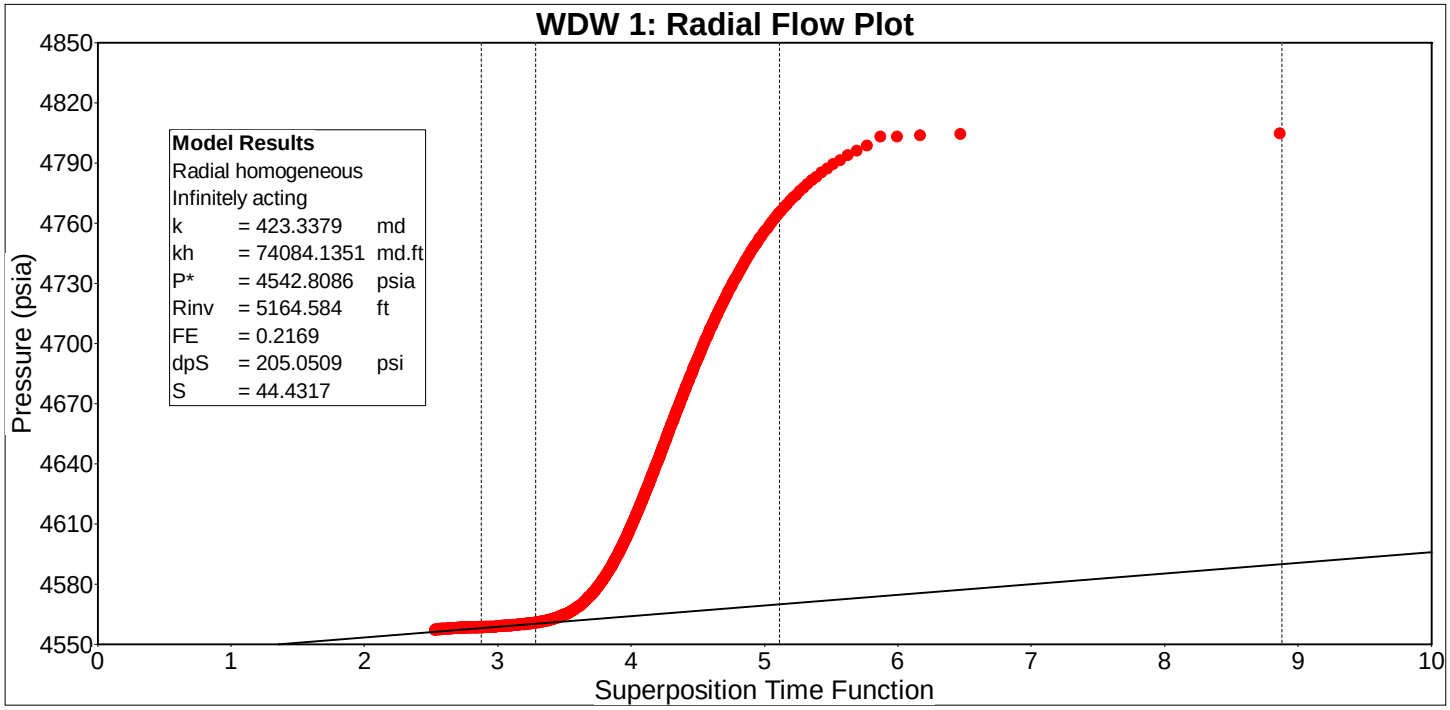
WDW 1: Cartesian Plot Model Results
Radial homogeneous - Infinitely acting

Classic Wellbore Storage

	Value
Wellbore storage coefficient	0.370794 bbl/psi
Dimensionless wellbore storage	1.6964e4

WDW 1: Cartesian Plot Line Details
Line type : Wellbore storage
Slope : -477.355
Intercept : 4807.4
Coefficient of Determination : 0.98577

Number of Intersections = 0



WDW 1: Radial Flow Plot Model Results
Radial homogeneous - Infinitely acting

Classic Wellbore Storage

	Value
Permeability	423.337915 md
Permeability-thickness	7.4084e4 md.ft
Extrapolated pressure	4542.808630 psia
Radius of investigation	5164.583992 ft
Flow efficiency	0.216859
dP skin (constant rate)	205.050944 psi
Skin factor	44.4317

WDW 1: Radial Flow Plot Line Details
Line type : Radial flow
Slope : 5.31318
Intercept : 4542.81
Coefficient of Determination : 0.965578

	Radial flow
Extrapolated pressure	4542.808630 psia
Pressure at dt = 1 hour	4564.547017 psia

Number of Intersections = 0

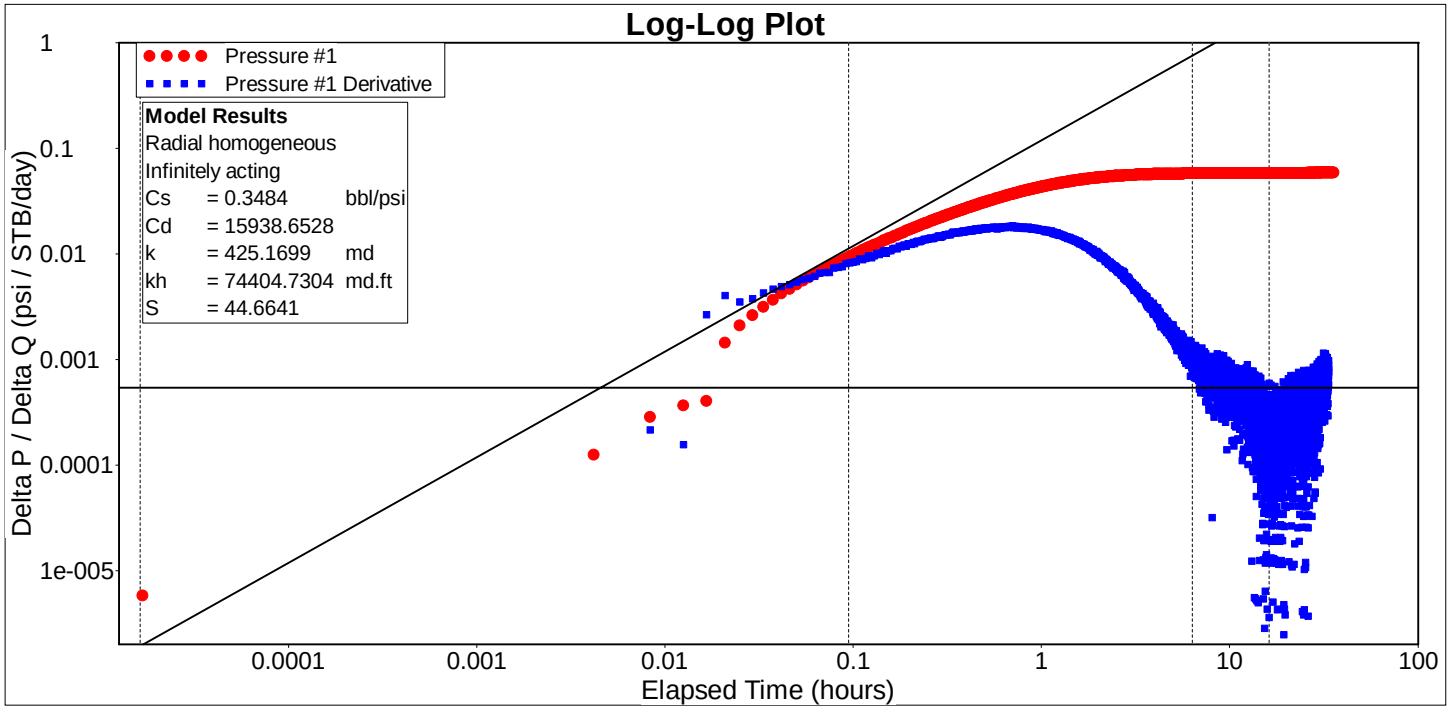


FIGURE 13

Log-Log Plot Model Results
Radial homogeneous - Infinitely acting

Classic Wellbore Storage

	Value
Wellbore storage coefficient	0.348389 bbl/psi
Dimensionless wellbore storage	1.5939e4
Permeability	425.169888 md
Permeability-thickness	7.4405e4 md.ft
Skin factor	44.664118

Log-Log Plot Line Details
Line type : Radial flow
Slope : 0
Intercept : 0.000540853
Coefficient of Determination : Not Used

Line type : Wellbore storage
Slope : 1
Intercept : 0.119598
Coefficient of Determination : Not Used

Number of Intersections = 0

LOGS

- **Dual Induction Log Sections from 7924 feet to 8476 feet**
- **Neutron Density Log Sections from 7924 feet to 8476 feet**
- **Mewbourne Well No. 1, July 23, 1998, Temperature Log**

WWT Injection Well Data for 05-17-2014 to 09-26-2015

	Pipeline Inlet Pressure	Mewborne Injection Pressure	Mewborne Annulus Pressure	Chukka Injection Pressure	Chukka Annulus Pressure	Gaines Injection Pressure	Gaines Annulus Pressure	Mewborne Flow Flow	Chukka Flow Flow	Gaines Flow Flow	Pipeline Inlet Temp	Gaines WAMS Level	Sum of All Flows
18-May-14 00:00	85	947	205	958	200	962	289	115	34	12	109	[-11059]	161
19-May-14 00:00	480	1079	189	1074	269	1083	344	132	70	69	107	[-11059]	271
20-May-14 00:00	1004	1250	552	1240	1020	1249	999	147	120	140	119	[-11059]	406
21-May-14 00:00	983	1250	785	1209	1123	1249	830	147	111	140	120	[-11059]	397
22-May-14 00:00	983	1251	852	1248	1220	1250	790	147	122	140	120	[-11059]	408
23-May-14 00:00	982	1231	870	1230	1251	1217	793	143	116	131	123	[-11059]	390
24-May-14 00:00	999	1231	866	1231	1199	1224	720	142	116	132	121	[-11059]	390
25-May-14 00:00	1007	1224	879	1224	1210	1213	705	140	114	126	120	[-11059]	379
26-May-14 00:00	1005	1224	837	1223	1135	1220	622	140	114	127	119	[-11059]	381
27-May-14 00:00	1064	1167	725	1184	1022	1147	504	132	105	106	119	[-11059]	342
28-May-14 00:00	1045	1169	703	1164	990	1122	470	131	99	97	121	[-11059]	328
29-May-14 00:00	1039	1175	711	1171	1019	1149	507	133	101	107	122	[-11059]	341
30-May-14 00:00	1066	1192	754	1187	1048	1152	522	135	105	108	122	[-11059]	348
31-May-14 00:00	1064	1190	775	1185	1052	1146	525	134	104	106	122	[-11059]	345
01-Jun-14 00:00	1064	1182	743	1176	1007	1129	480	133	102	101	123	[-11059]	336
02-Jun-14 00:00	1066	1185	765	1177	1016	1129	495	134	103	102	124	[-11059]	338
03-Jun-14 00:00	1053	1176	771	1170	986	1123	488	133	101	97	125	[-11059]	331
04-Jun-14 00:00	1068	1187	784	1180	952	1130	484	133	103	100	122	[-11059]	335
05-Jun-14 00:00	1015	1175	753	1174	870	1170	470	133	101	113	123	[-11059]	348
06-Jun-14 00:00	1010	1184	814	1161	838	1181	534	134	98	117	125	[-11059]	349
07-Jun-14 00:00	1024	1180	806	1183	750	1182	537	133	103	117	125	[-11059]	353
08-Jun-14 00:00	1028	1194	849	1192	686	1179	559	134	105	114	124	[-11059]	354
09-Jun-14 00:00	1046	1201	893	1204	649	1214	585	134	106	123	124	[-11059]	363
10-Jun-14 00:00	1071	1064	546	1217	387	1219	436	122	110	128	120	[-11059]	361
11-Jun-14 00:00	1018	1192	749	1191	391	1180	428	133	104	113	120	[-11059]	351
12-Jun-14 00:00	1037	1196	789	1195	358	1185	453	135	105	117	120	[-11059]	357
13-Jun-14 00:00	1011	1192	783	1191	287	1191	446	133	104	117	121	[-11059]	354

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14-Jun-14 00:00	1023	1162	708	1157	178	1145	391	127	94	100	122	[-11059]	321
15-Jun-14 00:00	1028	1185	719	1183	212	1179	450	131	101	115	124	[-11059]	347
16-Jun-14 00:00	1044	1190	748	1185	243	1174	514	133	101	111	126	[-11059]	345
17-Jun-14 00:00	1050	1177	749	1175	232	1175	561	130	99	112	129	[-11059]	341
18-Jun-14 00:00	1046	1187	779	1183	225	1183	605	132	100	115	128	[-11059]	347
19-Jun-14 00:00	1011	1217	857	1217	287	1219	694	136	109	125	129	[-11059]	370
20-Jun-14 00:00	987	1239	959	1232	281	1238	745	140	112	130	128	[-11059]	381
21-Jun-14 00:00	951	1246	992	1245	227	1245	745	141	116	131	128	[-11059]	388
22-Jun-14 00:00	973	1247	974	1241	141	1247	687	141	115	132	127	[-11059]	388
23-Jun-14 00:00	984	1249	969	1249	184	1248	722	142	117	133	127	[-11059]	392
24-Jun-14 00:00	1012	1250	944	1250	192	1250	742	142	117	134	128	[-11059]	393
25-Jun-14 00:00	1077	1253	793	1251	970	[-11059]	[-11059] M	142	37	[-11059] I	124	[-11059]	179
26-Jun-14 00:00	1084	1262	609	1243	769	1219	492	143	36	123	122	[-11059]	302
27-Jun-14 00:00	987	1250	571	1242	928	1232	763	144	35	129	125	[-11059]	308
28-Jun-14 00:00	986	1250	595	1250	1020	1239	877	143	37	133	126	[-11059]	313
29-Jun-14 00:00	977	1248	612	1233	970	1247	876	144	35	133	126	[-11059]	312
30-Jun-14 00:00	1064	1122	448	1263	815	1122	642	128	37	87	128	[-11059]	253
01-Jul-14 00:00	995	972	228	1227	345	989	265	114	34	29	127	[-11059]	176
02-Jul-14 00:00	7	970	181	983	315	987	262	378	11	16	97	[-11059]	405
03-Jul-14 00:00	576	1124	222	1246	468	1080	336	245	37	62	100	[-11059]	345
04-Jul-14 00:00	1013	1250	545	1242	887	1250	894	145	33	138	114	[-11059]	316
05-Jul-14 00:00	1014	1244	669	1242	901	1241	918	144	37	135	114	[-11059]	316
06-Jul-14 00:00	997	1244	703	1244	927	1243	959	144	37	135	115	[-11059]	316
07-Jul-14 00:00	966	1237	729	1237	943	1237	995	143	36	131	116	[-11059]	310
08-Jul-14 00:00	947	1245	747	1245	936	1244	1008	145	36	134	117	[-11059]	315
09-Jul-14 00:00	966	1250	771	1250	924	1250	1025	145	37	136	117	[-11059]	318
10-Jul-14 00:00	1004	1250	754	1250	840	1250	958	144	37	136	115	[-11059]	316
11-Jul-14 00:00	983	1247	733	1246	804	1245	935	143	36	134	115	[-11059]	314
12-Jul-14 00:00	992	1243	722	1242	638	1239	891	142	36	131	116	[-11059]	309
13-Jul-14 00:00	1023	1248	733	1248	518	1246	949	142	35	133	118	[-11059]	310
14-Jul-14 00:00	997	1247	762	1247	471	1247	937	142	36	133	117	[-11059]	311
15-Jul-14 00:00	979	1248	771	1245	408	1239	938	143	35	129	119	[-11059]	307
16-Jul-14 00:00	969	1244	791	1243	327	1243	987	141	35	131	120	[-11059]	307
17-Jul-14 00:00	1014	1250	818	1250	261	1250	1003	141	36	133	120	[-11059]	309

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18-Jul-14 00:00	1012	1245	816	1244	316	1240	1004	140	35	129	120	[-11059]	304
19-Jul-14 00:00	1010	1247	815	1246	351	1243	978	140	35	130	118	[-11059]	305
20-Jul-14 00:00	1017	1250	802	1243	390	1250	957	142	35	133	118	[-11059]	309
21-Jul-14 00:00	1043	1250	729	1212	884	1248	861	141	33	134	114	[-11059]	307
22-Jul-14 00:00	1007	1250	674	1250	630	1250	796	142	36	134	116	[-11059]	312
23-Jul-14 00:00	1018	1250	724	1250	601	1250	912	141	36	133	119	[-11059]	309
24-Jul-14 00:00	1030	1250	755	1250	518	1250	962	141	36	132	121	[-11059]	309
25-Jul-14 00:00	1036	1250	779	1250	479	1250	991	141	35	132	121	[-11059]	308
26-Jul-14 00:00	1023	1265	794	1263	520	1263	984	143	36	136	120	[-11059]	315
27-Jul-14 00:00	1014	1275	813	1275	487	1275	984	145	37	139	119	[-11059]	322
28-Jul-14 00:00	1015	1275	790	1275	393	1275	947	146	37	140	119	[-11059]	323
29-Jul-14 00:00	988	1271	789	1270	380	1271	974	144	36	137	119	[-11059]	318
30-Jul-14 00:00	981	1275	794	1275	338	1275	959	145	37	138	120	[-11059]	320
31-Jul-14 00:00	971	1273	816	1268	352	1262	1010	145	37	134	120	[-11059]	316
01-Aug-14 00:00	976	1275	791	1275	353	1274	960	143	37	137	119	[-11059]	317
02-Aug-14 00:00	987	1275	771	1275	395	1274	924	143	36	136	117	[-11059]	316
03-Aug-14 00:00	1001	1271	731	1270	299	1266	900	143	36	133	119	[-11059]	312
04-Aug-14 00:00	980	1270	759	1269	278	1267	922	144	37	135	118	[-11059]	315
05-Aug-14 00:00	995	1268	737	1267	344	1258	908	143	36	133	119	[-11059]	311
06-Aug-14 00:00	988	1273	733	1273	378	1272	891	144	37	136	118	[-11059]	317
07-Aug-14 00:00	1004	1262	699	1268	405	1267	867	143	36	135	117	[-11059]	315
08-Aug-14 00:00	1002	1265	662	1275	351	1275	819	144	37	138	117	[-11059]	319
09-Aug-14 00:00	1003	1275	664	1275	371	1275	852	144	37	137	118	[-11059]	318
10-Aug-14 00:00	1010	1275	653	1275	337	1275	829	144	37	136	118	[-11059]	317
11-Aug-14 00:00	1018	1275	671	1275	385	1275	882	144	37	136	118	[-11059]	317
12-Aug-14 00:00	1015	1274	649	1274	348	1273	869	143	36	135	120	[-11059]	314
13-Aug-14 00:00	1005	1270	666	1268	339	1264	866	143	36	132	120	[-11059]	311
14-Aug-14 00:00	1006	1263	660	1261	310	1256	891	141	35	130	120	[-11059]	307
15-Aug-14 00:00	1048	1243	614	1240	293	1235	854	137	34	123	120	[-11059]	293
16-Aug-14 00:00	1078	1226	551	1220	312	1225	793	135	32	121	120	[-11059]	288
17-Aug-14 00:00	1082	1225	536	1224	315	1225	799	134	33	121	120	[-11059]	288
18-Aug-14 00:00	1085	1225	526	1225	313	1225	793	133	33	122	120	[-11059]	288
19-Aug-14 00:00	1065	1243	547	1243	302	1244	822	137	34	126	120	[-11059]	298
20-Aug-14 00:00	1035	1250	579	1247	282	1253	849	139	34	129	120	[-11059]	302

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21-Aug-14 00:00	1000	1268	607	1268	315	1268	861	141	36	135	120	[-11059]	312
22-Aug-14 00:00	1026	1250	585	1250	312	1250	851	138	34	126	120	[-11059]	298
23-Aug-14 00:00	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-1105	[-11059]	0
24-Aug-14 00:00	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-1105	[-11059]	0
25-Aug-14 00:00	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-1105	[-11059]	0
26-Aug-14 00:00	1100	1001	273	1016	302	1187	682	110	10	108	126	[-11059]	228
27-Aug-14 00:00	859	998	166	1013	281	1142	512	112	10	85	124	[-11059]	207
28-Aug-14 00:00	71	996	121	1011	275	1012	312	116	10	14	109	[-11059]	140
29-Aug-14 00:00	43	996	105	1010	278	1011	299	110	9	0	103	[-11059]	120
30-Aug-14 00:00	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-1105	[-11059]	0
31-Aug-14 00:00	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-1105	[-11059]	0
01-Sep-14 00:00	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-1105	[-11059]	0
02-Sep-14 00:00	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-1105	[-11059]	0
03-Sep-14 00:00	1012	1275	340	1275	305	1275	957	144	36	138	123	[-11059]	318
04-Sep-14 00:00	1017	1275	317	1275	283	1275	970	142	36	137	120	[-11059]	315
05-Sep-14 00:00	1017	1275	284	1275	277	1275	934	141	36	136	120	[-11059]	313
06-Sep-14 00:00	1023	1275	266	1274	275	1274	932	141	36	135	119	[-11059]	312
07-Sep-14 00:00	1045	1274	187	1274	271	1273	842	139	35	135	115	[-11059]	309
08-Sep-14 00:00	1042	1275	113	1275	272	1275	683	139	35	135	113	[-11059]	310
09-Sep-14 00:00	1047	1275	95	1275	271	1275	738	140	36	137	114	[-11059]	313
10-Sep-14 00:00	1037	1275	95	1268	285	1275	691	141	35	137	116	[-11059]	312
11-Sep-14 00:00	1094	1277	144	1278	281	1139	674	142	36	79	121	[-11059]	256
12-Sep-14 00:00	1109	1275	71	1275	276	1084	407	140	36	47	123	[-11059]	222
13-Sep-14 00:00	1034	1275	112	1275	274	1275	829	138	36	132	116	[-11059]	306
14-Sep-14 00:00	1040	1275	102	1275	280	1276	646	138	36	134	111	[-11059]	307
15-Sep-14 00:00	1024	1275	70	1265	312	1275	669	138	35	133	113	[-11059]	306
16-Sep-14 00:00	1021	1275	41	1275	277	1275	683	104	34	133	115	[-11059]	271
17-Sep-14 00:00	1034	1275	35	1275	284	1275	714	81	33	134	116	[-11059]	248
18-Sep-14 00:00	980	1312	67	1312	285	1313	782	92	36	144	117	[-11059]	272
19-Sep-14 00:00	1006	1348	169	1348	287	1348	937	93	56	151	121	[-11059]	301
20-Sep-14 00:00	993	1339	158	1338	302	1338	845	83	72	146	116	[-11059]	301
21-Sep-14 00:00	992	1347	86	1347	298	1346	758	86	129	149	117	[-11059]	365
22-Sep-14 00:00	996	1324	109	1323	297	1322	818	77	123	140	116	[-11059]	340
23-Sep-14 00:00	981	1347	60	1347	296	1346	615	84	128	147	109	[-11059]	360

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24-Sep-14 00:00	985	1350	10	1350	305	1350	559	86	129	149	107	[-11059]	364
25-Sep-14 00:00	987	1350	1	1350	271	1350	638	87	129	148	110	[-11059]	363
26-Sep-14 00:00	981	1348	-1	1342	289	1349	732	84	126	146	113	[-11059]	356
27-Sep-14 00:00	975	1350	2	1350	287	1350	811	85	128	145	116	[-11059]	358
28-Sep-14 00:00	1008	1345	13	1299	285	1346	833	82	113	143	114	[-11059]	339
29-Sep-14 00:00	991	1334	1	1333	285	1330	774	79	124	140	115	[-11059]	343
30-Sep-14 00:00	1017	1325	7	1321	297	1317	838	76	121	136	114	[-11059]	333
01-Oct-14 00:00	976	1341	7	1332	290	1340	789	83	122	142	113	[-11059]	347
02-Oct-14 00:00	951	1350	180	1350	295	1350	793	86	126	144	113	[-11059]	356
03-Oct-14 00:00	948	1350	292	1350	295	1329	788	85	126	139	114	[-11059]	350
04-Oct-14 00:00	940	1345	295	1345	287	1340	816	83	124	140	114	[-11059]	347
05-Oct-14 00:00	942	1350	302	1350	285	1350	833	84	125	142	116	[-11059]	351
06-Oct-14 00:00	951	1350	344	1350	289	1350	878	84	125	141	118	[-11059]	350
07-Oct-14 00:00	968	1344	370	1344	291	1342	932	81	123	138	119	[-11059]	341
08-Oct-14 00:00	962	1347	379	1346	296	1345	921	83	123	139	119	[-11059]	345
09-Oct-14 00:00	951	1343	381	1342	295	1341	894	82	122	136	117	[-11059]	340
10-Oct-14 00:00	920	1350	373	1350	333	1350	890	83	124	140	118	[-11059]	347
11-Oct-14 00:00	945	1338	364	1337	287	1332	876	77	120	134	117	[-11059]	330
12-Oct-14 00:00	912	1350	350	1350	282	1349	829	81	123	137	116	[-11059]	341
13-Oct-14 00:00	923	1331	317	1331	285	1331	791	74	118	133	116	[-11059]	326
14-Oct-14 00:00	965	1339	304	1339	333	1338	791	75	119	133	116	[-11059]	327
15-Oct-14 00:00	961	1340	305	1340	339	1341	766	74	119	132	115	[-11059]	325
16-Oct-14 00:00	962	1343	301	1343	342	1343	777	76	120	133	116	[-11059]	329
17-Oct-14 00:00	1032	1345	293	1344	306	1342	750	77	120	134	114	[-11059]	330
18-Oct-14 00:00	1051	1345	275	1345	297	1345	764	77	120	135	118	[-11059]	332
19-Oct-14 00:00	1042	1348	324	1344	354	1344	838	76	119	134	119	[-11059]	328
20-Oct-14 00:00	1065	1328	328	1328	369	1327	866	68	115	128	121	[-11059]	310
21-Oct-14 00:00	1113	1310	295	1313	299	1319	833	61	111	126	122	[-11059]	298
22-Oct-14 00:00	1116	1346	355	1349	278	1349	835	126	119	137	120	[-11059]	382
23-Oct-14 00:00	1083	1334	501	1338	256	1333	774	121	117	133	115	[-11059]	372
24-Oct-14 00:00	1086	1348	473	1348	309	1345	764	125	120	136	118	[-11059]	381
25-Oct-14 00:00	1102	1338	519	1338	271	1339	838	122	117	131	121	[-11059]	371
26-Oct-14 00:00	1084	1325	503	1327	281	1325	830	121	115	128	121	[-11059]	364
27-Oct-14 00:00	1095	1342	570	1342	286	1341	883	124	118	133	121	[-11059]	375

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28-Oct-14 00:00	1138	1308	496	1309	288	1308	800	115	110	122	119	[-11059]	347
29-Oct-14 00:00	1146	1332	455	1328	280	1207	653	119	114	71	118	[-11059]	304
30-Oct-14 00:00	1162	1350	333	1350	279	1064	376	123	120	1	117	[-11059]	244
31-Oct-14 00:00	1162	1350	248	1350	282	1063	332	124	120	2	118	[-11059]	246
01-Nov-14 00:00	1120	1342	252	1342	271	1247	594	122	118	84	115	[-11059]	324
02-Nov-14 00:00	1095	1350	348	1350	274	1350	936	123	119	134	114	[-11059]	377
03-Nov-14 00:00	1086	1338	358	1338	274	1338	993	121	117	130	114	[-11059]	368
04-Nov-14 00:00	1078	1347	378	1346	281	1342	1003	123	118	131	116	[-11059]	372
05-Nov-14 00:00	1061	1344	379	1328	408	1341	858	122	113	130	113	[-11059]	365
06-Nov-14 00:00	1050	1349	345	1348	377	1347	828	123	118	131	114	[-11059]	372
07-Nov-14 00:00	1091	1334	332	1334	374	1331	817	119	114	127	115	[-11059]	360
08-Nov-14 00:00	1079	1350	358	1350	380	1350	793	123	118	132	115	[-11059]	372
09-Nov-14 00:00	1117	1311	307	1311	370	1311	779	114	108	119	117	[-11059]	341
10-Nov-14 00:00	1127	1303	235	1302	418	1303	762	112	105	116	120	[-11059]	333
11-Nov-14 00:00	1131	1300	327	1300	355	1296	765	112	105	115	120	[-11059]	332
12-Nov-14 00:00	1114	1316	341	1316	329	1315	723	112	107	116	117	[-11059]	335
13-Nov-14 00:00	1096	1328	323	1324	310	1328	678	115	109	119	113	[-11059]	343
14-Nov-14 00:00	1068	1364	298	1364	253	1364	719	121	119	130	107	[-11059]	370
15-Nov-14 00:00	1058	1367	207	1369	355	1367	723	123	120	133	102	[-11059]	377
16-Nov-14 00:00	1049	1375	300	1375	569	1375	898	128	123	139	106	[-11059]	390
17-Nov-14 00:00	1047	1374	323	1372	416	1374	930	124	121	133	104	[-11059]	378
18-Nov-14 00:00	1091	1375	269	1374	371	1375	882	124	121	129	105	[-11059]	374
19-Nov-14 00:00	1029	1375	192	1375	472	1375	924	126	121	135	106	[-11059]	381
20-Nov-14 00:00	934	1367	267	1367	503	1367	969	126	119	132	105	[-11059]	377
21-Nov-14 00:00	1036	1368	269	1364	456	1364	938	126	118	131	105	[-11059]	375
22-Nov-14 00:00	1096	1375	252	1375	453	1375	890	127	120	133	106	[-11059]	380
23-Nov-14 00:00	1097	1375	255	1375	468	1375	886	127	119	133	107	[-11059]	379
24-Nov-14 00:00	1129	1375	264	1375	434	1210	823	125	118	59	113	[-11059]	301
25-Nov-14 00:00	1048	1375	219	1375	552	1298	831	125	117	98	112	[-11059]	339
26-Nov-14 00:00	1080	1371	315	1371	1054	1342	930	123	116	121	112	[-11059]	359
27-Nov-14 00:00	1088	1366	329	1366	1588	1363	911	123	115	125	111	[-11059]	363
28-Nov-14 00:00	1101	1375	331	1375	1948	1365	890	123	116	125	113	[-11059]	364
29-Nov-14 00:00	1102	1375	348	1369	1054	1366	874	123	114	126	114	[-11059]	363
30-Nov-14 00:00	1104	1375	354	1375	1121	1365	808	124	116	126	112	[-11059]	366

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01-Dec-14 00:00	1106	1375	338	1375	839	1365	770	123	115	126	113	[-11059]	365
02-Dec-14 00:00	1103	1372	329	1372	606	1359	753	119	113	119	113	[-11059]	350
03-Dec-14 00:00	1111	1367	310	1375	632	1352	733	119	114	119	112	[-11059]	351
04-Dec-14 00:00	1106	1375	338	1375	1268	1360	765	123	116	125	113	[-11059]	364
05-Dec-14 00:00	1101	1375	352	1369	872	1350	784	122	115	122	115	[-11059]	358
06-Dec-14 00:00	1101	1375	348	1375	899	1360	734	123	117	126	113	[-11059]	366
07-Dec-14 00:00	1102	1375	319	1375	881	1360	745	122	117	125	112	[-11059]	365
08-Dec-14 00:00	1084	1357	251	1360	1241	1360	756	118	113	125	115	[-11059]	356
09-Dec-14 00:00	1105	1375	311	1375	1389	1360	702	121	116	124	113	[-11059]	361
10-Dec-14 00:00	1098	1380	315	1380	1138	1373	744	122	117	127	111	[-11059]	366
11-Dec-14 00:00	1110	1366	286	1365	1005	1349	700	119	113	120	113	[-11059]	352
12-Dec-14 00:00	1103	1365	280	1366	868	1355	700	118	113	123	112	[-11059]	355
13-Dec-14 00:00	1124	1358	269	1358	957	1352	678	117	111	121	112	[-11059]	349
14-Dec-14 00:00	1111	1326	223	1323	761	1320	638	109	102	110	112	[-11059]	321
15-Dec-14 00:00	1056	1321	185	1300	834	1300	655	108	96	100	113	[-11059]	305
16-Dec-14 00:00	1092	1299	158	1299	738	1298	658	102	95	98	111	[-11059]	296
17-Dec-14 00:00	1100	1276	225	1290	564	1287	621	98	92	92	111	[-11059]	282
18-Dec-14 00:00	1043	1260	202	1257	860	1260	613	94	84	82	112	[-11059]	260
19-Dec-14 00:00	983	1290	231	1292	1009	1293	704	102	94	95	113	[-11059]	291
20-Dec-14 00:00	1052	1296	275	1298	770	1297	742	102	95	97	114	[-11059]	294
21-Dec-14 00:00	1116	1294	267	1322	459	1322	794	101	101	105	113	[-11059]	308
22-Dec-14 00:00	1122	1362	356	1362	699	1358	795	117	111	119	112	[-11059]	347
23-Dec-14 00:00	1119	1372	404	1372	1480	1367	784	120	113	124	112	[-11059]	357
24-Dec-14 00:00	1130	1350	363	1346	702	1343	747	112	106	115	111	[-11059]	334
25-Dec-14 00:00	1126	1366	366	1366	630	1355	727	116	111	116	111	[-11059]	344
26-Dec-14 00:00	1113	1356	350	1356	530	1344	675	115	109	114	109	[-11059]	338
27-Dec-14 00:00	1122	1342	311	1341	626	1329	656	111	105	108	111	[-11059]	325
28-Dec-14 00:00	1115	1332	266	1332	563	1331	642	108	103	107	108	[-11059]	318
29-Dec-14 00:00	1132	1362	278	1362	748	1355	676	115	110	115	106	[-11059]	340
30-Dec-14 00:00	1119	1369	263	1369	795	1356	676	118	112	116	106	[-11059]	345
31-Dec-14 00:00	1119	1375	235	1370	706	1358	648	116	111	115	102	[-11059]	341
01-Jan-15 00:00	1078	1355	173	1354	254	1341	659	219	106	104	100	[-11059]	430
02-Jan-15 00:00	1121	1375	281	1375	253	1360	687	123	111	112	101	[-11059]	346
03-Jan-15 00:00	1124	1375	264	1375	255	1359	680	124	112	114	99	[-11059]	349

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04-Jan-15 00:00	1125	1375	238	1375	472	1361	678	124	113	116	98	[-11059]	353
05-Jan-15 00:00	1123	1375	201	1375	816	1360	676	123	113	117	97	[-11059]	353
06-Jan-15 00:00	1104	1392	199	1392	1298	1376	730	128	117	122	98	[-11059]	367
07-Jan-15 00:00	1092	1400	211	1400	1058	1390	732	130	119	128	97	[-11059]	377
08-Jan-15 00:00	1094	1397	201	1397	1258	1390	767	127	117	126	98	[-11059]	371
09-Jan-15 00:00	1096	1395	191	1395	794	1391	741	127	117	126	98	[-11059]	370
10-Jan-15 00:00	1097	1395	198	1395	564	1390	770	127	117	127	98	[-11059]	371
11-Jan-15 00:00	1099	1395	183	1395	373	1390	729	126	116	126	97	[-11059]	368
12-Jan-15 00:00	1097	1387	166	1387	493	1387	712	125	114	127	97	[-11059]	366
13-Jan-15 00:00	1099	1386	163	1387	584	1387	720	122	113	125	98	[-11059]	360
14-Jan-15 00:00	1108	1395	182	1384	338	1377	677	123	111	122	94	[-11059]	357
15-Jan-15 00:00	1103	1397	268	1398	361	1390	690	125	116	125	96	[-11059]	366
16-Jan-15 00:00	1105	1388	279	1397	587	1387	738	126	116	125	97	[-11059]	366
17-Jan-15 00:00	1104	1400	286	1400	609	1390	754	126	117	127	98	[-11059]	370
18-Jan-15 00:00	1105	1400	316	1400	327	1390	798	127	117	128	99	[-11059]	371
19-Jan-15 00:00	1106	1400	330	1400	608	1390	784	127	117	128	99	[-11059]	371
20-Jan-15 00:00	1106	1400	323	1400	1127	1390	758	127	117	130	99	[-11059]	374
21-Jan-15 00:00	1093	1398	330	1398	1088	1388	764	126	116	129	100	[-11059]	371
22-Jan-15 00:00	1084	1391	334	1391	1122	1382	760	122	114	124	99	[-11059]	360
23-Jan-15 00:00	1103	1400	317	1400	945	1390	711	123	116	128	97	[-11059]	367
24-Jan-15 00:00	1104	1400	283	1400	798	1390	639	123	116	124	93	[-11059]	363
25-Jan-15 00:00	1106	1400	231	1400	569	1391	671	124	116	122	93	[-11059]	363
26-Jan-15 00:00	1107	1400	217	1400	592	1390	711	125	117	123	93	[-11059]	365
27-Jan-15 00:00	1107	1400	210	1400	556	1391	725	125	117	124	93	[-11059]	366
28-Jan-15 00:00	1109	1382	190	1385	765	1382	742	123	113	122	95	[-11059]	359
29-Jan-15 00:00	1107	1400	229	1400	640	1390	796	128	118	127	96	[-11059]	372
30-Jan-15 00:00	1071	1389	234	1389	574	1380	805	124	115	123	95	[-11059]	361
31-Jan-15 00:00	1090	1394	223	1394	547	1384	774	124	116	120	95	[-11059]	360
01-Feb-15 00:00	1102	1400	198	1400	476	1390	733	125	118	125	95	[-11059]	368
02-Feb-15 00:00	1102	1400	208	1400	508	1390	744	126	118	125	94	[-11059]	369
03-Feb-15 00:00	1102	1398	181	1397	436	1387	724	125	118	123	93	[-11059]	366
04-Feb-15 00:00	1100	1395	169	1395	600	1386	704	126	118	124	93	[-11059]	367
05-Feb-15 00:00	1102	1400	185	1386	503	1359	738	127	115	114	98	[-11059]	356
06-Feb-15 00:00	1093	1396	356	1396	613	1352	842	125	117	112	100	[-11059]	355

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07-Feb-15 00:00	1083	1396	434	1396	518	1387	913	126	118	126	104	[-11059]	370
08-Feb-15 00:00	1095	1400	499	1400	614	1390	959	129	119	128	105	[-11059]	376
09-Feb-15 00:00	1107	1383	528	1383	634	1380	960	125	115	128	107	[-11059]	367
10-Feb-15 00:00	1036	1316	500	1316	548	1316	895	111	99	109	109	[-11059]	319
11-Feb-15 00:00	571	1211	498	1216	702	1156	840	102	65	27	101	[-11059]	194
12-Feb-15 00:00	1113	1393	289	1393	789	1268	800	124	117	81	110	[-11059]	322
13-Feb-15 00:00	1082	1400	571	1400	533	1390	1017	127	118	130	113	[-11059]	375
14-Feb-15 00:00	1083	1400	688	1400	659	1390	982	128	118	130	113	[-11059]	376
15-Feb-15 00:00	1085	1400	732	1400	525	1390	992	128	118	130	116	[-11059]	375
16-Feb-15 00:00	1086	1400	772	1400	466	1390	952	128	118	131	118	[-11059]	377
17-Feb-15 00:00	1087	1400	769	1400	351	1390	925	124	117	127	116	[-11059]	368
18-Feb-15 00:00	1085	1397	556	1400	505	1387	759	123	116	126	112	[-11059]	365
19-Feb-15 00:00	1091	1400	453	1400	455	1390	688	125	117	128	113	[-11059]	370
20-Feb-15 00:00	1090	1397	413	1397	458	1387	686	125	116	127	116	[-11059]	369
21-Feb-15 00:00	1090	1400	424	1392	647	1390	766	125	115	128	118	[-11059]	368
22-Feb-15 00:00	1089	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	118	[-11059]	0
23-Feb-15 00:00	1100	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	[-11059]	118	[-11059]	0
24-Feb-15 00:00	1086	1400	276	1400	271	1390	665	122	116	122	114	[-11059]	361
25-Feb-15 00:00	1087	1400	274	1400	606	1390	638	123	117	124	113	[-11059]	364
26-Feb-15 00:00	1086	1400	262	1400	863	1390	635	125	118	128	113	[-11059]	372
27-Feb-15 00:00	1084	1400	240	1400	735	1390	612	123	118	127	112	[-11059]	368
28-Feb-15 00:00	1081	1400	215	1400	313	1390	590	122	117	125	109	[-11059]	364
01-Mar-15 00:00	1080	1400	169	1400	307	1390	584	122	117	125	108	[-11059]	365
02-Mar-15 00:00	1084	1400	278	1400	503	1390	621	124	118	127	107	[-11059]	369
03-Mar-15 00:00	1084	1400	278	1400	398	1390	638	124	117	127	107	[-11059]	368
04-Mar-15 00:00	1083	1400	263	1400	378	1390	643	125	118	129	109	[-11059]	372
05-Mar-15 00:00	1083	1400	299	1400	349	1390	707	125	118	127	108	[-11059]	369
06-Mar-15 00:00	1082	1400	284	1400	280	1390	664	124	118	126	108	[-11059]	368
07-Mar-15 00:00	1082	1400	269	1400	338	1390	639	125	118	128	108	[-11059]	371
08-Mar-15 00:00	1081	1400	272	1400	352	1390	658	127	119	129	110	[-11059]	374
09-Mar-15 00:00	1080	1400	309	1400	391	1390	683	127	119	130	112	[-11059]	376
10-Mar-15 00:00	1088	1400	345	1400	330	1356	752	127	119	119	115	[-11059]	365
11-Mar-15 00:00	1083	1397	350	1400	370	1390	783	127	119	130	117	[-11059]	376
12-Mar-15 00:00	1068	1397	366	1400	384	1391	809	126	119	130	116	[-11059]	375

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13-Mar-15 00:00	1062	1400	298	1400	376	1390	819	127	119	131	119	[-11059]	376
14-Mar-15 00:00	1063	1400	225	1400	343	1390	793	127	119	131	119	[-11059]	377
15-Mar-15 00:00	1065	1400	198	1400	435	1390	801	127	119	131	119	[-11059]	377
16-Mar-15 00:00	1064	1400	313	1400	491	1390	812	127	119	130	121	[-11059]	376
17-Mar-15 00:00	1066	1400	346	1400	402	1390	816	127	119	131	123	[-11059]	377
18-Mar-15 00:00	1067	1400	385	1400	305	1390	798	126	118	130	122	[-11059]	374
19-Mar-15 00:00	1067	1400	378	1400	297	1390	759	126	118	131	121	[-11059]	375
20-Mar-15 00:00	1068	1400	374	1400	360	1390	704	128	119	132	120	[-11059]	379
21-Mar-15 00:00	1065	1400	362	1400	390	1390	644	127	119	132	119	[-11059]	377
22-Mar-15 00:00	1062	1400	363	1400	329	1390	630	126	119	129	118	[-11059]	374
23-Mar-15 00:00	1063	1400	350	1400	309	1390	588	128	119	133	119	[-11059]	380
24-Mar-15 00:00	1064	1400	364	1400	342	1390	563	129	119	133	119	[-11059]	381
25-Mar-15 00:00	1083	1382	353	1382	442	1379	584	125	115	129	121	[-11059]	369
26-Mar-15 00:00	1111	1353	333	1353	440	1353	556	118	108	121	122	[-11059]	347
27-Mar-15 00:00	1140	1323	259	1322	555	1322	461	110	101	110	119	[-11059]	321
28-Mar-15 00:00	1140	1324	213	1322	522	1322	467	112	101	111	119	81	325
29-Mar-15 00:00	1157	1310	178	1300	500	1300	486	109	96	105	120	81	311
30-Mar-15 00:00	1153	1300	156	1300	658	1300	533	107	96	107	122	81	310
31-Mar-15 00:00	1149	1315	184	1315	650	1298	529	109	99	103	121	81	312
01-Apr-15 00:00	1113	1318	326	1318	611	1318	591	111	101	110	120	82	322
02-Apr-15 00:00	1137	1328	378	1328	755	1328	624	113	103	115	119	82	332
03-Apr-15 00:00	1136	1328	370	1328	352	1328	586	113	103	115	119	82	332
04-Apr-15 00:00	1141	1325	354	1325	278	1325	561	110	102	112	118	82	324
05-Apr-15 00:00	1142	1325	332	1325	254	1325	528	109	101	111	117	83	321
06-Apr-15 00:00	1141	1309	302	1308	248	1308	529	107	98	108	117	83	313
07-Apr-15 00:00	1141	1300	275	1300	242	1300	543	106	96	106	120	83	308
08-Apr-15 00:00	1132	1311	298	1311	253	1311	590	109	99	110	121	83	318
09-Apr-15 00:00	1105	1338	375	1337	257	1337	633	115	106	119	122	71	339
10-Apr-15 00:00	1093	1350	452	1350	248	1350	711	117	109	123	123	65	348
11-Apr-15 00:00	1092	1350	465	1350	249	1350	710	117	109	123	124	66	348
12-Apr-15 00:00	1104	1343	427	1343	246	1336	642	116	108	120	122	66	343
13-Apr-15 00:00	491	1192	272	1242	256	1239	498	112	77	71	113	66	260
14-Apr-15 00:00	3	1075	256	1084	249	[-11059]	[-11059]	86	26	[-11059]	58	[-11059]	112
15-Apr-15 00:00	479	1251	225	1219	247	1219	238	111	68	65	93	65	244

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16-Apr-15 00:00	878	1400	565	1400	264	1390	981	132	123	139	116	64	394
17-Apr-15 00:00	868	1400	836	1400	248	1390	782	131	121	136	119	67	388
18-Apr-15 00:00	910	1400	654	1394	244	1390	606	130	119	134	119	70	383
19-Apr-15 00:00	907	1400	547	1400	241	1390	663	130	120	133	122	70	383
20-Apr-15 00:00	905	1400	576	1400	251	1390	618	130	120	134	122	71	384
21-Apr-15 00:00	916	1400	602	1400	243	1390	622	129	120	134	121	71	383
22-Apr-15 00:00	926	1400	598	1400	251	1390	549	131	120	135	121	72	385
23-Apr-15 00:00	906	1400	614	1400	248	1390	506	131	120	135	121	72	386
24-Apr-15 00:00	840	1400	607	1400	249	1390	500	130	120	133	121	73	383
25-Apr-15 00:00	849	1400	567	1400	243	1390	493	130	120	134	121	74	384
26-Apr-15 00:00	893	1400	488	1400	250	1390	543	130	120	134	123	75	384
27-Apr-15 00:00	901	1394	224	1394	252	1384	566	128	119	132	127	75	379
28-Apr-15 00:00	958	1400	282	1400	250	1390	493	128	120	133	124	76	380
29-Apr-15 00:00	946	1393	265	1393	321	1385	466	128	118	132	123	77	378
30-Apr-15 00:00	958	1400	280	1400	363	1390	487	130	120	134	126	77	384
01-May-15 00:00	943	1400	305	1400	339	1390	487	131	121	135	125	78	386
02-May-15 00:00	963	1400	264	1400	277	1390	446	131	120	136	127	79	387
03-May-15 00:00	961	1400	241	1400	233	1390	409	131	120	135	127	79	386
04-May-15 00:00	962	1400	295	1400	233	1390	424	131	120	135	126	80	386
05-May-15 00:00	965	1400	255	1400	242	1390	413	130	119	133	127	81	383
06-May-15 00:00	935	1396	259	1394	251	1390	400	129	118	137	126	82	383
07-May-15 00:00	944	1400	286	1400	240	1390	414	130	120	136	125	83	385
08-May-15 00:00	949	1400	229	1400	240	1390	472	130	121	135	127	84	386
09-May-15 00:00	961	1400	253	1400	247	1390	431	131	121	136	124	85	388
10-May-15 00:00	962	1400	250	1400	249	1390	379	131	121	135	120	85	387
11-May-15 00:00	904	1400	238	1400	247	1390	474	131	121	136	119	86	388
12-May-15 00:00	863	1400	216	1400	261	1390	531	131	121	135	119	87	387
13-May-15 00:00	861	1396	239	1396	235	1386	562	129	120	131	120	88	380
14-May-15 00:00	860	1400	233	1400	247	1390	558	131	121	138	120	89	390
15-May-15 00:00	863	1400	233	1400	250	1390	515	131	121	137	119	90	389
16-May-15 00:00	878	1399	250	1399	242	1389	539	131	121	135	119	62	387
17-May-15 00:00	909	1400	231	1400	241	1390	554	130	121	134	121	37	385
18-May-15 00:00	906	1400	207	1400	253	1390	517	130	121	135	120	38	386
19-May-15 00:00	904	1400	256	1400	237	1390	555	131	121	136	122	39	388

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20-May-15 00:00	907	1400	224	1400	252	1390	505	132	121	137	122	40	390
21-May-15 00:00	905	1379	204	1400	248	1390	461	127	120	134	121	41	382
22-May-15 00:00	900	1400	235	1400	249	1390	452	128	119	130	118	42	377
23-May-15 00:00	909	1400	184	1374	248	1390	466	129	112	135	118	43	376
24-May-15 00:00	915	1400	174	1400	252	1324	477	131	120	105	120	44	355
25-May-15 00:00	956	1400	196	1400	254	1099	251	130	120	4	122	45	255
26-May-15 00:00	993	1373	253	1363	248	1140	419	126	109	25	124	44	261
27-May-15 00:00	618	1251	255	1171	258	1157	614	113	54	37	117	44	204
28-May-15 00:00	916	1400	466	1392	272	1390	873	132	119	137	122	47	389
29-May-15 00:00	905	1400	700	1400	254	1390	885	132	121	136	124	49	389
30-May-15 00:00	909	1400	768	1400	244	1390	920	132	121	137	124	49	389
31-May-15 00:00	924	1400	793	1400	251	1390	904	131	120	135	122	49	386
01-Jun-15 00:00	946	1400	756	1400	254	1390	805	131	120	136	122	49	386
02-Jun-15 00:00	945	1400	763	1400	242	1390	792	132	120	136	123	50	388
03-Jun-15 00:00	944	1400	794	1400	248	1390	806	132	121	137	124	50	390
04-Jun-15 00:00	943	1400	826	1400	255	1390	811	132	121	137	125	50	390
05-Jun-15 00:00	939	1400	851	1400	255	1390	807	132	120	136	126	50	388
06-Jun-15 00:00	943	1400	864	1400	248	1390	781	131	119	135	125	51	385
07-Jun-15 00:00	944	1400	872	1400	249	1390	760	130	119	135	126	51	385
08-Jun-15 00:00	984	1398	776	1400	257	1390	705	133	119	134	126	52	387
09-Jun-15 00:00	994	1399	532	1391	261	1389	575	130	116	134	125	54	381
10-Jun-15 00:00	992	1400	294	1400	248	1390	640	130	119	134	125	57	383
11-Jun-15 00:00	995	1400	303	1400	250	1390	636	131	119	135	126	59	384
12-Jun-15 00:00	996	1400	324	1400	247	1390	602	131	119	136	127	61	386
13-Jun-15 00:00	997	1400	346	1400	249	1390	584	130	118	134	126	64	383
14-Jun-15 00:00	1045	1400	322	1400	250	1383	554	129	118	129	125	66	376
15-Jun-15 00:00	1070	1400	296	1400	245	1390	663	129	117	133	124	67	378
16-Jun-15 00:00	981	1375	286	1400	244	1390	700	127	117	133	124	68	377
17-Jun-15 00:00	863	1400	403	1400	246	1390	740	130	117	131	126	70	379
18-Jun-15 00:00	863	1400	425	1400	246	1390	674	131	117	133	126	71	381
19-Jun-15 00:00	864	1400	441	1400	254	1390	635	131	117	133	126	72	382
20-Jun-15 00:00	1003	1397	367	1400	252	1173	334	129	116	31	128	73	276
21-Jun-15 00:00	985	1400	224	1400	241	1286	707	130	117	87	125	73	334
22-Jun-15 00:00	961	1393	340	1398	251	1387	946	129	116	133	124	75	377

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23-Jun-15 00:00	957	1397	376	1400	250	1390	846	129	116	132	126	76	377
24-Jun-15 00:00	954	1400	395	1400	251	1390	699	128	115	131	124	77	375
25-Jun-15 00:00	956	1400	411	1400	241	1390	731	129	115	131	125	78	374
26-Jun-15 00:00	958	1400	412	1400	249	1390	652	129	104	132	125	80	365
27-Jun-15 00:00	962	1400	415	1400	252	1390	612	129	124	133	122	81	387
28-Jun-15 00:00	957	1400	374	1400	247	1390	620	129	178	132	122	82	439
29-Jun-15 00:00	963	1389	351	1400	258	1390	656	128	162	133	124	83	423
30-Jun-15 00:00	959	1400	382	1400	248	1390	648	129	279	133	124	84	541
01-Jul-15 00:00	957	1393	400	1400	250	1384	643	127	128	130	123	85	385
02-Jul-15 00:00	962	1397	378	1400	249	1354	624	129	201	117	125	86	447
03-Jul-15 00:00	957	1400	404	1400	244	1390	780	129	236	132	124	87	497
04-Jul-15 00:00	958	1400	417	1400	250	1390	758	129	272	131	124	88	532
05-Jul-15 00:00	957	1400	418	1400	248	1390	733	129	194	132	125	90	455
06-Jul-15 00:00	960	1399	448	1399	254	1389	718	128	265	132	124	91	525
07-Jul-15 00:00	974	1384	407	1380	243	1373	686	126	253	125	125	68	504
08-Jul-15 00:00	1073	1400	383	1399	248	1390	637	127	104	133	120	37	363
09-Jul-15 00:00	1075	1400	333	1400	247	1390	661	127	154	131	120	38	412
10-Jul-15 00:00	1072	1400	340	1400	252	1390	729	128	203	130	123	40	462
11-Jul-15 00:00	968	1400	382	1400	256	1359	730	128	109	117	125	41	354
12-Jul-15 00:00	943	1400	422	1400	250	1390	760	128	101	133	124	42	362
13-Jul-15 00:00	947	1397	441	1397	252	1387	707	129	130	132	126	43	391
14-Jul-15 00:00	946	1400	469	1400	245	1390	690	130	160	133	128	44	422
15-Jul-15 00:00	599	1266	349	1269	280	1266	496	114	75	75	123	45	265
16-Jul-15 00:00	1032	1397	620	1396	278	1390	761	128	112	132	127	49	373
17-Jul-15 00:00	794	1344	599	1334	250	1319	629	122	95	102	126	51	318
18-Jul-15 00:00	969	1400	717	1400	252	1390	828	131	114	134	128	54	379
19-Jul-15 00:00	961	1387	751	1386	252	1291	542	129	111	88	131	57	328
20-Jul-15 00:00	992	1400	661	1400	305	1245	655	131	114	70	131	59	315
21-Jul-15 00:00	950	1400	796	1400	275	1390	792	130	110	132	129	64	372
22-Jul-15 00:00	944	1400	832	1400	267	1390	611	129	111	132	129	68	372
23-Jul-15 00:00	973	1400	837	1400	216	1390	572	130	108	133	130	71	371
24-Jul-15 00:00	966	1400	856	1400	241	1390	537	130	97	133	130	74	360
25-Jul-15 00:00	983	1388	857	1388	291	1378	525	127	106	127	131	78	360
26-Jul-15 00:00	963	1400	864	1400	250	1390	565	129	51	132	130	81	312

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27-Jul-15 00:00	996	1400	857	1400	241	1390	512	129	110	131	129	85	369
28-Jul-15 00:00	1022	1400	847	1400	226	1390	558	128	133	130	130	67	391
29-Jul-15 00:00	1012	1400	850	1393	259	1390	670	127	156	130	130	38	414
30-Jul-15 00:00	986	1396	820	1400	253	1390	840	126	144	132	128	40	403
31-Jul-15 00:00	975	1400	830	1400	213	1390	881	127	190	130	129	41	447
01-Aug-15 00:00	991	1400	842	1400	228	1390	863	127	204	130	129	42	461
02-Aug-15 00:00	993	1400	856	1400	248	1390	855	127	213	128	129	43	468
03-Aug-15 00:00	992	1400	844	1400	243	1390	777	127	252	128	129	45	506
04-Aug-15 00:00	999	1397	844	1400	244	1390	775	126	298	126	127	46	550
05-Aug-15 00:00	1005	1400	806	1400	249	1390	743	127	280	131	127	48	538
06-Aug-15 00:00	1006	1399	504	1395	246	1390	671	127	168	127	126	51	423
07-Aug-15 00:00	998	1400	308	1400	258	1390	736	128	148	125	127	55	401
08-Aug-15 00:00	1004	1400	289	1400	231	1390	901	128	145	125	127	58	398
09-Aug-15 00:00	1011	1400	287	1400	242	1390	928	128	172	121	126	59	422
10-Aug-15 00:00	1004	1400	270	1400	253	1390	921	127	223	123	125	60	473
11-Aug-15 00:00	1000	1400	273	1400	249	1390	938	128	163	115	128	62	406
12-Aug-15 00:00	1004	1400	280	1400	255	1390	855	127	197	124	123	63	449
13-Aug-15 00:00	1020	1400	222	1400	221	1390	824	128	156	122	125	64	406
14-Aug-15 00:00	1033	1400	255	1400	253	1390	840	128	170	122	124	66	420
15-Aug-15 00:00	319	1177	150	1180	253	1180	552	100	193	33	116	67	326
16-Aug-15 00:00	894	1331	449	1374	372	1365	860	120	159	121	121	70	401
17-Aug-15 00:00	970	1381	715	1400	223	1390	973	125	200	131	122	72	455
18-Aug-15 00:00	961	1400	775	1400	243	1390	900	128	176	128	122	74	432
19-Aug-15 00:00	971	1400	435	1400	236	1390	797	128	189	129	120	77	446
20-Aug-15 00:00	971	1400	242	1400	255	1390	943	126	154	127	117	80	407
21-Aug-15 00:00	978	1396	188	1400	240	1390	969	126	228	127	116	82	481
22-Aug-15 00:00	985	1398	160	1400	262	1381	970	127	254	126	119	83	507
23-Aug-15 00:00	1002	1399	455	1400	251	1390	957	129	191	127	121	85	447
24-Aug-15 00:00	1089	1397	531	1401	235	1390	966	126	263	125	123	87	514
25-Aug-15 00:00	1060	1400	581	1400	252	1376	902	126	212	120	126	54	458
26-Aug-15 00:00	1032	1400	643	1400	242	1390	926	127	199	126	126	36	452
27-Aug-15 00:00	1034	1400	658	1400	249	1390	862	127	171	124	128	38	423
28-Aug-15 00:00	1035	1400	689	1400	242	1390	818	127	210	108	126	40	445
29-Aug-15 00:00	1027	1400	679	1400	243	1390	814	127	223	106	127	42	456

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30-Aug-15 00:00	1015	1400	677	1400	249	1390	780	126	241	110	124	44	477
31-Aug-15 00:00	1019	1400	648	1400	248	1390	783	126	184	97	123	46	407
01-Sep-15 00:00	989	1400	617	1400	253	1390	792	127	237	113	123	48	476
02-Sep-15 00:00	1055	1400	622	1400	247	1390	850	127	214	119	124	50	460
03-Sep-15 00:00	1094	1400	616	1400	252	1390	799	126	221	118	124	52	465
04-Sep-15 00:00	1092	1400	609	1400	246	1390	781	126	209	133	122	54	468
05-Sep-15 00:00	1094	1400	587	1388	320	1390	792	126	202	132	123	56	460
06-Sep-15 00:00	1094	1400	588	1400	235	1390	815	127	212	104	124	58	443
07-Sep-15 00:00	1082	1383	584	1400	384	1390	834	124	236	123	125	61	484
08-Sep-15 00:00	1084	1399	637	1394	332	1388	837	126	257	160	125	63	543
09-Sep-15 00:00	1074	1400	648	1400	259	1390	805	125	103	105	126	65	333
10-Sep-15 00:00	1051	1395	658	1394	231	1384	789	124	101	120	126	67	345
11-Sep-15 00:00	1039	1400	665	1400	240	1390	792	124	102	111	125	68	337
12-Sep-15 00:00	1006	1382	649	1379	251	1390	778	121	99	121	127	70	341
13-Sep-15 00:00	1003	1400	669	1400	240	1390	779	124	104	110	126	72	339
14-Sep-15 00:00	990	1400	686	1400	246	1390	764	125	105	89	125	74	319
15-Sep-15 00:00	993	1400	656	1400	250	1390	737	125	105	109	123	76	339
16-Sep-15 00:00	997	1400	621	1400	244	1390	740	125	105	135	122	78	365
17-Sep-15 00:00	993	1397	605	1393	267	1387	749	125	104	129	124	80	358
18-Sep-15 00:00	984	1397	627	1400	256	1390	773	126	106	183	126	54	415
19-Sep-15 00:00	982	1400	682	1400	247	1390	763	126	105	206	127	41	437
20-Sep-15 00:00	980	1400	696	1400	234	1390	716	123	101	211	126	44	435
21-Sep-15 00:00	973	1400	688	1394	285	1390	713	123	99	192	124	46	414
22-Sep-15 00:00	967	1400	650	1395	297	1390	710	124	105	195	124	47	424
23-Sep-15 00:00	972	1400	645	1400	247	1390	851	125	106	191	124	48	422
24-Sep-15 00:00	966	1389	633	1389	253	1377	899	123	97	209	124	49	429
25-Sep-15 00:00	987	1393	591	1281	260	1279	746	124	70	296	128	50	490
26-Sep-15 00:00	1061	1394	371	1112	248	1116	531	123	56	238	133	50	416

WWT Injection Well Data for 05-17-2014 to 09-26-2015

WWT Injection Well Data for 05-17-2014 to 09-26-2015

WDW-1	Vol (gal)	WDW-2	Vol(gal)	WDW-3	Vol (gal)
132	189432.2375	70	101017.6633	69	99692.90102
147	211012.3255	120	172837.1623	140	201165.3733
147	211129.4548	111	159274.3386	140	201801.8694
147	211001.5046	122	175084.125	140	200918.575
143	205849.8901	116	167539.6323	131	188109.8204
142	204462.1674	116	167461.876	132	189573.1265
140	201182.7133	114	164078.005	126	180998.6031
140	201380.7001	114	163876.3216	127	183421.8286
132	189904.3864	105	150690.2133	106	152175.352
131	189026.6431	99	143115.7282	97	139937.3028
133	190842.9433	101	145847.7168	107	153687.2571
135	194489.9554	105	151433.6571	108	155854.9733
134	193293.5076	104	150355.0013	106	153236.6325
133	191960.0813	102	147166.9924	101	144991.9564
134	193265.8101	103	147968.435	102	146189.7436
133	191374.7377	101	145075.5559	97	140353.9244
133	191360.0741	103	147949.4239	100	143500.8163
133	191823.2232	101	145933.3093	113	163316.3016
134	193312.9769	98	141118.1723	117	168322.1067
133	191292.0401	103	148254.7833	117	168097.4602
134	193675.9483	105	150924.9917	114	164819.5398
134	192564.7607	106	152643.1559	123	177466.4285
122	175790.0746	110	159075.5951	128	184799.59
133	191745.4713	104	150259.4479	113	163192.6081
135	193698.9652	105	151585.272	117	168594.8753
133	191391.2503	104	149486.5848	117	169165.4972

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127	182843.4361	94	135169.9047	100	144267.686
131	189311.2166	101	145722.9835	115	165042.6583
133	191159.7683	101	145737.3597	111	160524.7003
130	187344.2411	99	142085.0819	112	161989.4719
132	189949.4972	100	144472.2973	115	165601.2192
136	196535	109	156847.0244	125	180009.3883
140	201212.5878	112	161315.2223	130	186679.9207
141	202849.2435	116	166500.1924	131	189295.1029
141	203378.2318	115	164955.5484	132	190295.7043
142	204604.4712	117	167885.1359	133	191980.1312
142	205038.8998	117	168230.0334	134	192932.6349
142	204469.693	37	53742.9812		0
143	206184.3582	36	51784.19023	123	177398.2382
144	206864.714	35	50939.61803	129	185778.8957
143	206551.4189	37	52585.56084	133	191942.0907
144	206715.7109	35	50287.78906	133	192205.4537
128	184983.9609	37	53638.82608	87	125546.8353
114	163674.7149	34	48471.89816	29	41945.05094
378	544427.5997	11	15888.89873	16	22909.36412
245	353132.5143	37	53854.45452	62	89844.77443
145	208324.849	33	48117.55144	138	199102.423
144	207443.3046	37	52657.60945	135	194912.3213
144	207730.2114	37	52937.81515	135	194577.3085
143	205696.8347	36	51588.92368	131	189172.675
145	208324.2537	36	52410.89254	134	193074.9965
145	208753.643	37	52629.79779	136	195914.0304
144	207373.3851	37	52590.8384	136	195628.9038
143	206166.7831	36	51973.92024	134	193333.2613
142	203890.855	36	51412.07408	131	189315.1856
142	204264.8095	35	50907.07869	133	191356.1737
142	205062.5528	36	51405.61345	133	192074.532
143	205424.651	35	51056.67365	129	185407.6781
141	202727.5131	35	50537.10657	131	188456.7019
141	203531.8661	36	51179.90827	133	190884.8537

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140	201689.7464	35	50535.97319	129	186175.8134
140	201652.7867	35	50584.29761	130	186751.2928
142	203774.3985	35	50053.84411	133	191548.0068
141	202365.3515	33	47540.06224	134	192750.6134
142	203965.5677	36	51443.00827	134	193216.4091
141	203537.799	36	51141.00884	133	190804.2152
141	203621.3944	36	51127.40123	132	190445.1037
141	203087.7284	35	51060.85502	132	189883.8142
143	206227.0088	36	52399.63864	136	195440.1718
145	209097.8327	37	53818.37177	139	200543.8627
146	209733.4153	37	53812.86171	140	201081.2564
144	207919.6646	36	52423.61046	137	197832.7683
145	208500.2366	37	53598.61756	138	198980.9594
145	208277.4629	37	53078.00127	134	193651.5934
143	205418.0164	37	52950.73021	137	197900.8347
143	205595.7037	36	52547.89468	136	196479.6718
143	205552.9175	36	51885.08937	133	192004.7182
144	207368.9792	37	52616.99535	135	193969.2391
143	206021.5721	36	51282.1273	133	190955.6021
144	207730.3057	37	53202.0205	136	196100.2132
143	206298.6413	36	52509.60667	135	194552.9367
144	207487.1861	37	53385.99876	138	198449.1079
144	208006.0249	37	53057.01633	137	197275.484
144	207709.1785	37	53007.35198	136	195663.9637
144	207475.6965	37	52857.08708	136	195984.1584
143	206038.7523	36	52405.87773	135	194301.2271
143	205366.541	36	51759.9853	132	190398.0639
141	203163.1607	35	50963.63888	130	187571.064
137	196933.6835	34	48546.65005	123	177146.8584
135	194096.7424	32	46075.36383	121	174122.8202
134	193516.6233	33	46928.33587	121	174202.9552
133	191905.4305	33	47059.28784	122	175279.1604
137	197167.7929	34	49195.38437	126	182145.6636
139	199815.0236	34	49004.30862	129	186151.403

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141	203523.5744	36	51852.83431	135	193716.8466
138	198271.4867	34	49359.19454	126	181191.0819
	0		0		0
	0		0		0
	0		0		0
110	158672.5997	10	14589.74511	108	155317.6253
112	161152.6175	10	14943.04899	85	122280.1659
116	166501.6541	10	14349.52645	14	20742.56398
110	158715.7417	9	13656.88441	0	0
	0		0		0
	0		0		0
	0		0		0
	0		0		0
144	207178.5312	36	52521.48816	138	198610.6878
142	204466.872	36	52133.7228	137	196969.4121
141	203247.6114	36	51914.04309	136	195603.3523
141	203168.4579	36	51586.8066	135	193875.386
139	199798.8772	35	51059.18643	135	194280.3322
139	200083.3142	35	51117.1031	135	194992.8006
140	201570.7388	36	51369.30781	137	197653.07
141	202626.0979	35	50533.77956	137	196835.5568
142	203793.2528	36	51812.55386	79	113701.2042
140	201242.9366	36	51282.11111	47	67536.08151
138	199251.7893	36	51147.9975	132	190435.5553
138	198236.4174	36	51120.92586	134	192395.8354
138	199259.2218	35	49984.58783	133	190969.7768
104	149840.1242	34	48958.0617	133	191175.0046
81	115999.5318	33	48069.94067	134	193406.3138
92	132498.256	36	51704.2749	144	207450.7713
93	134389.2122	56	81154.64998	151	218011.1185
83	119277.8225	72	104044.0884	146	210049.0412
86	123924.1632	129	186343.7808	149	214727.7172
77	111179.4131	123	177723.7148	140	201383.8232
84	121555.3249	128	184854.4778	147	211383.7274

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86	124277.9042	129	185469.6431	149	214321.0871
87	124698.9525	129	185382.7492	148	212459.7567
84	121178.2873	126	180846.5303	146	210520.3918
85	123066.1933	128	183791.7205	145	209363.1984
82	118728.1273	113	163346.1223	143	205575.8604
79	114398.9191	124	177850.1446	140	200954.8382
76	110048.9385	121	174123.4493	136	195199.4316
83	119477.3	122	175954.7581	142	204760.6483
86	124313.1094	126	182036.4017	144	206678.1452
85	122506.0093	126	181580.6975	139	199922.2767
83	118932.7547	124	179247.1303	140	201372.6635
84	120958.8948	125	180377.3379	142	204147.1222
84	120388.247	125	180129.3521	141	203298.475
81	116194.729	123	176835.1477	138	198623.0521
83	119325.3127	123	177328.2458	139	199448.3799
82	117723.5018	122	175383.499	136	196511.0591
83	120209.4679	124	177996.0584	140	201306.8201
77	110241.163	120	172734.7372	134	192425.115
81	116436.3508	123	176765.2029	137	197196.253
74	107204.4413	118	170601.7761	133	191864.3882
75	108304.3374	119	171808.5333	133	191045.85
74	107248.6524	119	171448.0924	132	189439.1825
76	109284.1005	120	172231.6328	133	192035.784
77	110486.2089	120	172456.3833	134	192895.2001
77	110670.747	120	172231.6333	135	194733.3971
76	109145.9338	119	171049.2583	134	192506.2528
68	97589.28292	115	165107.8796	128	183632.35
61	88183.15827	111	159607.9371	126	181645.5948
126	181334.2994	119	171951.1666	137	197400.8
121	174857.1374	117	168591.592	133	192083.4667
125	180427.3451	120	172561.5245	136	196166.45
122	176366.213	117	168953.7318	131	188714.3867
121	173771.2677	115	165547.4352	128	184238.7451
124	177870.3406	118	170484.7083	133	191132.9083

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115	165666.2633	110	158722.4727	122	175553.2084
119	171318.2033	114	164430.1075	71	102113.4666
123	177030.8047	120	172403.3357	1	1897.466667
124	178098.5359	120	173135.7611	2	3192.598735
122	175351.159	118	170040.9845	84	121326.0251
123	177344.4945	119	171823.4203	134	193004.5512
121	174525.2509	117	167829.6613	130	187580.3192
123	176472.0916	118	169897.349	131	189291.3154
122	175581.6873	113	162451.605	130	187292.4008
123	176736.8298	118	169462.0731	131	189339.4551
119	171819.7206	114	164011.6749	127	182362.9937
123	176748.0714	118	169400.8726	132	189782.9007
114	163728.0998	108	155229.4153	119	171529.1684
112	160864.4551	105	151820.8555	116	166978.519
112	161032.1792	105	151389.3908	115	165529.9149
112	161062.135	107	154721.9954	116	167163.9959
115	165739.2493	109	156970.3486	119	171847.156
121	174958.6217	119	170791.2321	130	187350.2879
123	177641.3885	120	173121.6054	133	191950.8642
128	184455.825	123	177027.3878	139	199795.9908
124	178624.1508	121	173599.8826	133	191954.5409
124	178707.5092	121	173538.3153	129	186247.1655
126	181435.3292	121	173962.431	135	193901.4093
126	181367.4914	119	171462.5694	132	189475.8495
126	181622.0153	118	169520.3328	131	188585.7377
127	182806.6192	120	172182.9896	133	191506.0872
127	182648.2427	119	171217.0045	133	191726.3878
125	179733.3401	118	169513.4049	59	84667.84944
125	179301.0344	117	168735.4056	98	140493.9204
123	176537.6493	116	166362.456	121	174448.449
123	176551.8721	115	165283.007	125	180633.8167
123	177114.4667	116	166987.2403	125	180224.0834
123	177458.975	114	164060.9106	126	181062.525
124	178281.5231	116	166554.7145	126	181599.4167

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123	177835.1827	115	165870.4295	126	181479.6583
119	170750.0331	113	162083.8372	119	171123.9935
119	170665.9023	114	163986.1483	119	170772.687
123	177482.7008	116	166386.8684	125	179652.2452
122	175626.0208	115	165099.7003	122	175330.1347
123	176811.5402	117	169098.8647	126	181449.3415
122	176116.1549	117	168637.6412	125	180613.4765
118	170372.5235	113	162690.5221	125	179351.9841
121	174638.0361	116	167466.7313	124	177965.6293
122	175750.2156	117	168393.4865	127	182662.2268
119	171274.4583	113	162640.746	120	172725.5667
118	170583.4594	113	162688.6603	123	177631.4803
117	168309.6645	111	159843.89	121	174149.3401
109	157580.1233	102	147006.0953	110	157916.9592
108	155535.1012	96	138507.9294	100	144562.4156
102	147378.0144	95	137269.379	98	141287.5366
98	141229.4147	92	132656.8011	92	132902.9551
94	135221.3604	84	120332.8137	82	118247.6583
102	146613.0991	94	134677.6691	95	137374.2666
102	147235.7975	95	136532.9857	97	139356.3364
101	145640.6569	101	145829.9199	105	151707.175
117	168602.8288	111	159642.6339	119	172072.4139
120	172731.5811	113	162617.0362	124	178695.3325
112	161973.473	106	152756.1682	115	166168.5458
116	167551.8541	111	159675.7436	116	167645.4218
115	166029.5337	109	156600.7146	114	163954.6382
111	160308.9978	105	151418.0821	108	156133.8613
108	156084.9669	103	147809.6715	107	153936.7476
115	165501.7516	110	158409.6713	115	166102.6692
118	169435.3004	112	160630.3884	116	167171.1938
116	166787.4251	111	159596.7557	115	165177.2309
219	315544.3752	106	153114.3405	104	149957.3352
123	177566.7537	111	159966.4502	112	161314.622
124	177902.0681	112	160701.8472	114	163683.6041

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124	178375.309	113	162016.4233	116	167258.181
123	177429.3246	113	162162.2077	117	168322.3074
128	183967.1127	117	167986.9262	122	176224.0654
130	187896.6185	119	171271.8006	128	184383.7352
127	183353.9157	117	168966.9234	126	181985.2549
127	182798.4492	117	168205.4296	126	181298.2188
127	183026.1647	117	167822.9043	127	182929.0915
126	181359.6186	116	166752.2989	126	182091.7038
125	180345.6519	114	164457.204	127	182756.3891
122	176100.1973	113	162504.742	125	179505.9026
123	177781.0089	111	160486.7696	122	175852.1195
125	179798.8382	116	167115.3514	125	180145.5513
126	180844.1843	116	166828.216	125	179453.7892
126	181664.3921	117	168243.6081	127	182291.4366
127	182909.813	117	168124.2608	128	183694.3619
127	182511.1254	117	167768.2328	128	184674.2227
127	183053.0419	117	168285.9444	130	187129.7919
126	180918.1553	116	167435.7034	129	186388.7962
122	176287.2975	114	163855.1586	124	177966.6926
123	176809.2315	116	166827.499	128	184916.1963
123	177350.8332	116	166917.5562	124	178715.4585
124	178382.2726	116	167472.4797	122	176343.7063
125	180164.6063	117	167969.9805	123	176979.9136
125	180453.2015	117	167961.5069	124	178134.4563
123	177162.9617	113	162915.1402	122	176187.3768
128	183613.2406	118	169928.4507	127	182540.853
124	178293.1582	115	165397.2969	123	176755.6012
124	178682.2873	116	167028.7664	120	172451.7858
125	180625.678	118	169569.2462	125	180315.6128
126	181487.9698	118	169925.6182	125	180603.9947
125	180455.4653	118	169264.442	123	177505.0768
126	181641.8396	118	169354.6253	124	178094.0871
127	182995.2751	115	165710.5451	114	164219.9787
125	180421.6698	117	168955.5134	112	161790.2783

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126	182141.2094	118	169553.2728	126	180838.1561
129	185314.8215	119	171016.3381	128	185029.4714
125	179906.4438	115	165192.9482	128	183613.9708
111	159402.514	99	142806.858	109	156505.0506
102	147025.6337	65	93654.14682	27	38664.75654
124	179270.8307	117	168059.598	81	116867.3903
127	182742.2801	118	169754.4572	130	187800.5753
128	183847.9461	118	170294.0368	130	187254.2504
128	183697.8861	118	170117.349	130	186900.0315
128	184173.9633	118	170278.8896	131	188638.7982
124	179227.2083	117	167948.1307	127	183221.7784
123	177083.3602	116	167694.633	126	180926.3184
125	179896.6645	117	168128.516	128	184416.1613
125	180105.8171	116	167497.7479	127	183510.5588
125	179944.7519	115	164947.2804	128	184906.8079
	0		0		0
	0		0		0
122	175621.7781	116	167688.3159	122	176385.207
123	176980.2098	117	168390.3967	124	178859.2961
125	180631.276	118	170525.0866	128	184873.3181
123	177740.4548	118	169313.1076	127	182383.971
122	175765.5484	117	168415.4021	125	179669.1333
122	176126.6826	117	168668.3292	125	180288.0511
124	178863.0156	118	169432.4656	127	183048.7331
124	178276.2335	117	169007.48	127	182822.733
125	180534.8504	118	170052.9675	129	185282.8721
125	179381.094	118	169656.3684	127	183017.9945
124	178635.9139	118	169331.802	126	181340.2206
125	180554.1935	118	170248.3186	128	183759.3102
127	182565.075	119	170735.428	129	185517.2883
127	182829.6466	119	170810.8193	130	187750.7871
127	183207.4796	119	170986.9374	119	171607.4599
127	183395.7745	119	170916.5656	130	187579.0577
126	182087.5973	119	170838.1948	130	187568.2374

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127	182642.7926	119	171010.6177	131	188009.0867
127	182786.7904	119	171134.2282	131	188610.9869
127	182363.1886	119	171075.0794	131	189018.3244
127	182621.1672	119	170883.1223	130	187384.731
127	183258.6863	119	171091.8333	131	188531.5019
126	181263.5592	118	170206.2959	130	187152.9604
126	181534.5998	118	170421.6669	131	188121.2805
128	183960.0635	119	171377.5013	132	189707.6211
127	182647.9644	119	171050.5562	132	189478.4938
126	181791.714	119	170792.9431	129	185797.6119
128	184643.1172	119	171856.4861	133	190819.7585
129	185515.4354	119	172069.582	133	191598.3643
125	179632.8624	115	165842.0666	129	185951.4423
118	170034.7094	108	156107.0093	121	174233.8076
110	158954.6315	101	144956.5926	110	157933.499
112	161232.811	101	145755.1849	111	160486.4899
109	157207.0902	96	138760.8691	105	151454.5546
107	154727.4431	96	138572.384	107	153413.0742
109	157500.6043	99	142554.1906	103	148783.1585
111	159865.5885	101	145136.1073	110	159045.6387
113	162783.6688	103	149016.2793	115	165761.2703
113	162907	103	148719.5607	115	166152.1212
110	158793.6548	102	146656.3681	112	161468.3951
109	156945.8868	101	146050.9066	111	159569.3609
107	154367.1889	98	141211.2662	108	155811.4224
106	153032.0374	96	138511.9439	106	152543.2945
109	156871.913	99	142707.523	110	158191.2487
115	165201.7417	106	152141.2106	119	171462.639
117	167949.5931	109	156411.5085	123	176521.2534
117	167943.9576	109	156765.8692	123	176696.7692
116	167304.1623	108	155096.22	120	172168.1449
112	161745.4506	77	111595.5558	71	101625.7515
86	123865.7127	26	37877.43632		0
111	159990.754	68	97933.0741	65	93519.50222

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132	189644.7713	123	176908.8774	139	200451.5446
131	189298.1253	121	174945.7963	136	195124.9054
130	187650.473	119	171150.4916	134	193435.4206
130	186832.5805	120	173117.0184	133	191943.6754
130	186668.9855	120	173102.5987	134	193326.3809
129	185891.6197	120	172369.4269	134	192607.043
131	187955.5331	120	173168.0073	135	193976.3475
131	188243.7847	120	173478.6555	135	194629.6928
130	187024.1327	120	173083.5383	133	191686.2918
130	187473.8529	120	173163.2183	134	192801.1471
130	187355.6077	120	173014.0195	134	192848.015
128	184927.2477	119	171004.5509	132	189631.4372
128	184465.5611	120	172522.9657	133	190902.2993
128	183706.707	118	170323.0762	132	190443.9867
130	187179.2705	120	173333.7023	134	192297.2538
131	188398.2978	121	173669.1016	135	194450.2449
131	188670.6281	120	173505.4742	136	195246.4574
131	188639.1053	120	173028.725	135	194702.8697
131	188578.1816	120	172562.6528	135	194588.9896
130	187001.5084	119	171936.4069	133	191945.411
129	185411.4702	118	169259.7785	137	196572.3367
130	187155.2421	120	172733.7997	136	195144.9341
130	187841.7128	121	173563.6799	135	194597.6309
131	188970.1407	121	174019.3713	136	195398.8068
131	188183.0821	121	174322.4186	135	194716.7514
131	188210.1677	121	174510.0871	136	195525.8855
131	188567.5462	121	174573.9763	135	194524.3388
129	185145.0234	120	172605.5187	131	189158.0419
131	188118.8941	121	174455.9021	138	198659.7719
131	188106.1697	121	174774.5045	137	196973.0739
131	188227.2541	121	174135.7834	135	194371.7986
130	187532.2814	121	173890.1911	134	193596.1767
130	187327.6185	121	173930.9299	135	194053.4316
131	188493.2159	121	174174.5171	136	195372.4301

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132	189706.8304	121	174507.8098	137	197383.2278
127	182799.4064	120	172972.0665	134	193659.7671
128	184178.4125	119	171547.3318	130	187671.22
129	185730.626	112	161736.1945	135	193821.3556
131	188541.0839	120	172708.6213	105	150558.5826
130	187209.596	120	173455.5546	4	5853.349888
126	181733.5379	109	157339.473	25	36587.39161
113	162264.9425	54	78439.69835	37	53325.69067
132	190589.3849	119	171409.3424	137	197561.6457
132	189726.2879	121	174136.6478	136	196373.9639
132	189891.5986	121	173754.989	137	196651.6607
131	188050.1032	120	172913.905	135	194630.681
131	188233.2326	120	173032.421	136	195289.2676
132	189469.5847	120	173432.5802	136	196159.4627
132	190309.6011	121	173712.8356	137	197641.7703
132	190308.4829	121	173645.9776	137	197920.2953
132	189428.823	120	172733.8008	136	196336.9598
131	188086.828	119	171989.595	135	194174.1483
130	187092.6759	119	171947.0037	135	194979.0432
133	192001.8003	119	171876.2424	134	193461.4913
130	187618.2063	116	167679.8457	134	193105.6454
130	187543.5453	119	170920.0628	134	192496.6038
131	188188.0966	119	170742.8073	135	194163.575
131	189035.3351	119	171240.3799	136	195642.6292
130	187689.9246	118	170441.2937	134	193577.9507
129	185716.3491	118	169379.8337	129	185841.7562
129	185382.5934	117	168820.7316	133	190817.1553
127	182263.8034	117	168954.7456	133	191656.9268
130	187599.6861	117	168622.8558	131	189322.5507
131	188402.5323	117	168735.3566	133	191116.1796
131	188844.7307	117	168798.5173	133	192082.1375
129	185429.3725	116	167730.4828	31	44705.16516
130	186924.3151	117	167962.964	87	125451.617
129	185610.107	116	166913.1562	133	190865.8321

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129	185499.2388	116	167067.2583	132	190701.3818
128	184999.4343	115	166274.9333	131	188851.0126
129	185100.5968	115	165137.2633	131	188953.5943
129	185619.5508	104	150067.4955	132	190274.9779
129	186429.8852	124	179099.6992	133	191118.5767
129	185768.8603	178	255726.5568	132	190419.1632
128	184010.527	162	233160.5791	133	191733.5059
129	186043.7566	279	402406.8675	133	191062.7819
127	183209.8957	128	184162.7824	130	187624.6846
129	185772.3841	201	289201.8738	117	169134.9184
129	186005.7406	236	339874.845	132	190250.1404
129	185153.2059	272	391966.2148	131	188245.8193
129	185313.6623	194	278958.1791	132	190344.3057
128	184902.0189	265	380882.6459	132	190156.8094
126	180967.8207	253	364758.5426	125	180291.0454
127	182164.1335	104	150055.9473	133	191173.7871
127	182662.1616	154	221907.2273	131	188988.5067
128	184443.5146	203	292705.0164	130	187744.7095
128	183955.3226	109	157093.4197	117	168380.482
128	183928.3729	101	145357.3322	133	191456.499
129	185716.5786	130	187353.7333	132	190209.7401
130	186571.9212	160	230023.7631	133	191066.1456
114	164494.823	75	108717.8216	75	108692.6306
128	184586.675	112	161321.1249	132	190762.3998
122	175785.2095	95	136344.9859	102	146303.4153
131	188337.2973	114	164656.4152	134	192582.4396
129	185624.7426	111	160118.8392	88	127079.9882
131	187994.8115	114	164467.6337	70	101194.4184
130	187782.8338	110	157737.9236	132	190647.3398
129	186101.2558	111	160310.1567	132	189658.6257
130	186623.5866	108	155474.7573	133	191620.1726
130	186507.1021	97	139963.9692	133	191681.888
127	182481.932	106	152350.8969	127	183577.9042
129	185814.1589	51	73543.5086	132	189950.0045

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129	185175.068	110	157972.5289	131	188822.7641
128	184285.6102	133	191256.5191	130	186960.6068
127	183215.6823	156	224799.3176	130	187489.3596
126	181687.63	144	207769.2097	132	190762.3356
127	182410.8404	190	274037.679	130	187696.4271
127	182830.3441	204	293915.1279	130	186909.6956
127	182672.9119	213	306222.3319	128	184820.8464
127	182323.9301	252	362768.6429	128	183949.2998
126	180927.3039	298	429554.2959	126	181693.2322
127	182602.2212	280	403725.5242	131	188030.9427
127	183459.4972	168	242465.274	127	183247.0885
128	184124.4514	148	212593.1786	125	180672.1298
128	183924.857	145	209506.785	125	179873.5483
128	183957.5261	172	248294.4921	121	174711.554
127	183346.7703	223	320754.5503	123	176535.1981
128	184038.7298	163	235024.0703	115	165750.2953
127	182931.5128	197	284359.1338	124	178883.6084
128	183746.9372	156	225313.854	122	175697.3854
128	184137.1938	170	244612.8933	122	175879.5549
100	144682.666	193	277259.4494	33	47914.55589
120	173352.6738	159	229635.4854	121	174655.9302
125	179520.0427	200	287561.3509	131	188799.8209
128	183832.8919	176	253457.4406	128	184680.9182
128	184658.7231	189	272639.628	129	185437.2052
126	181582.9176	154	221686.4343	127	182160.7935
126	180947.7911	228	328808.6117	127	182592.7312
127	182576.8305	254	366119.6617	126	180978.6021
129	185591.5122	191	275450.0346	127	183009.8972
126	181217.2364	263	378077.1223	125	180621.7142
126	181884.5545	212	305152.1885	120	172545.0008
127	182803.2226	199	286687.8412	126	181273.9819
127	182857.944	171	246438.8092	124	179162.9168
127	182427.2744	210	302992.5583	108	155346.2589
127	182359.7157	223	321204.0881	106	152890.0897

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126	181789.4093	241	347436.4631	110	158295.6629
126	181409.0066	184	265116.9698	97	139387.2253
127	182172.7458	237	340764.3377	113	162646.079
127	182556.207	214	308569.8915	119	170940.2453
126	181825.8373	221	318626.0763	118	169859.4787
126	182036.7818	209	300411.7643	133	191191.5703
126	181753.998	202	291388.2999	132	189428.7162
127	182302.3971	212	304709.8564	104	150422.1565
124	179184.1588	236	340536.4295	123	176801.2276
126	181246.1299	257	369461.0831	160	230813.6115
125	180402.5554	103	148156.1983	105	151072.5756
124	178862.8302	101	145589.7864	120	172531.6642
124	179027.3818	102	147095.9061	111	159467.3861
121	174447.4904	99	141959.2116	121	174708.3807
124	179238.5368	104	150416.3412	110	157897.1982
125	180334.7534	105	150827.2816	89	128567.0388
125	180333.9601	105	150938.4288	109	156732.3815
125	180569.3817	105	151237.609	135	194030.266
125	180297.856	104	149348.3045	129	186475.1854
126	180836.8291	106	152885.367	183	263972.1169
126	181421.9376	105	151314.3672	206	296058.598
123	177734.7928	101	145936.5074	211	303190.3523
123	177767.3996	99	142727.9449	192	276146.4025
124	178747.4224	105	151259.5925	195	280221.717
125	180267.6828	106	152355.7721	191	275668.9456
123	176474.1716	97	140115.027	209	301318.2011
124	177957.33				
	87,594,427.76		76,893,660.17		86,017,149.86

Total from:

5/18/2014	1,583,523,441.00	1,019,974,703.00	497,909,558.00

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1,671,117,869	1,096,868,363	583,926,708

3,351,912,940