# UIC - I - ___5___

# EPA FALL-OFF TEST

# 2017

## Chavez, Carl J, EMNRD

**From:** Chavez, Carl J, EMNRD
**Sent:** Friday, September 8, 2017 3:28 PM
**To:** 'Philana Thompson'
**Cc:** Ryan Davis; Jeff Davis; Griswold, Jim, EMNRD; Vermersch, Amy H, EMNRD
**Subject:** RE: 2017 Agua Moss Sunco Disposal FOT
**Attachments:** 2017-09-06 Sunco SWD (FOT) Submittal.pdf

Philana, et al.:

Good morning.

The New Mexico Oil Conservation Division (OCD) has completed its review of the above subject Fall-Off Test (FOT) conducted in June of 2017. Agua Moss, LLC appears to have done a good job on its FOT and associated documentation; however, OCD has identified one recommendation and one concern requiring attention that the Permittee should address for future FOTs to improve overall accuracy in the FOT conclusions process.

OCD comments are:

1) An MDH Plot was generated this FOT. EPA and OCD do not recommend the use of this plot. There are other replacement plots to determine the appropriate time function for the semi-log plot or pressure transient analysis, i.e., 1. Miller Dyes Hutchinson (MDH) Plot; 2. Horner Plot; 3. Agarwal Equivalent Time Plot; and 4. Superposition Time Plot. These plots can give different results for the same test. Use of the appropriate plot with the correct time function is critical for the analysis.
2) The Horner Plot was used and a pseudo-steady state condition appears to have been achieved. The Horner Plot may be used when the pseudo-steady state injection is achieved. Psuedo-steady state means the pressure response from the well has encountered all the boundaries around the well and is steady (+/- 10%) before shut-off to ensure accuracy and minimize noise in the derivative plot (see Pgs. 21, 22 and 23).
3) Agua Moss, LLC appear to display injection rate vs time plots that indicate well storage and boundary conditions around the well were encountered with re-stabilization before injection shut-off and FOT monitoring.
4) The negative value of -4 to -6 generally indicates a hydraulically fractured completion.
5) The flow regime appears to be accurate, i.e., linear flow from a highly conductive hydraulic fracture. The derivative plot displays half slopes on both the pressure and derivative curves, and the derivative curve is approximately 1/3 of a log cycle lower than the pressure curve. The derivative drop due to constant pressure near the end of FOT monitoring was not captured in the derivative plot.

OCD recommendations are:

1) OCD recommends that the “MDH Plot” data on Pg. 10 be removed from the table (see OCD Comments No. 1 above). This decreases the permeability value significantly (K~ 9 md). OCD weights the Derivative Plot data more than any other plots because it is the derivative of the pressure fall-off that caused EPA to require the FOT procedure in the UIC Program.

OCD requirements are:

1) The SP-2000 Pressure Gauges used in the FOT needs to be calibrated within at least 6 months of the FOT. According to the report, the last calibration was performed on 2/23/15. Precision and accuracy are requirements of a FOT.

OCD conclusions:

1) OCD concludes that the FOT is acceptable with a pseudo-radial flow condition evident from the derivative plot as there was no derivative drop due to constant pressure noticed at the end of FOT monitoring. The physically measured BH pressures at the end of injection before pump shut-off was 3953 psig, and at the end of FOT monitoring was 3480 psig, which is a pressure fall off of 473 psig. The P* (extrapolated formation pressure) in the derivative plot was estimated to be ~ 3235 psig, which derives a pressure fall off of 718 psig. This is result is questionable due to the gauge calibration issue.

Please contact me if you have questions. Thank you.

Mr. Carl J. Chavez, CHMM (#13099)
New Mexico Oil Conservation Division
Energy Minerals and Natural Resources Department
1220 South St Francis Drive
Santa Fe, New Mexico 87505
Ph. (505) 476-3490
E-mail: CarlJ.Chavez@state.nm.us
**"Why not prevent pollution, minimize waste to reduce operating costs, reuse or recycle, and move forward with the rest of the Nation?" (To see how, go to: http://www.emnrd.state.nm.us/OCD and see "Publications")**

**From:** Philana Thompson [mailto:pthompson@merrion.bz]
**Sent:** Tuesday, September 5, 2017 7:00 PM
**To:** Chavez, Carl J, EMNRD <CarlJ.Chavez@state.nm.us>
**Cc:** Ryan Davis <RDavis@merrion.bz>; Jeff Davis <jdaguamoss@hotmail.com>
**Subject:** 2017 Agua Moss Sunco Disposal FOT

Carl,
Attached is the 2017 FOT report. Please let me know if you have any questions or concerns.

Philana

--
Philana Thompson
Regulatory Compliance
Merrion Oil & Gas Corp
cell 505-486-1171
fax 505-324-5300

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# Sunco SWD #1

# 30-045-28653

# Class I Disposal: UICI-5-0

# 2017 Falloff Test

**Agua Moss, LLC**

**P.O Box 600**

**Farmington, NM 87499**

**ORGID 247130**

## Report Components:

1. Facility Operator Information
    a. Agua Moss, LLC
    b. PO Box 600 Farmington, NM 87499
    c. OGRID 247130
2. Well Information:
    a. UIC Permit # UICI-5-0
    b. Class I
    c. Sunco Disposal #1
    d. 30-045-28653
    e. UL E, Sec 2, T29N, R12W 1595 FNL & 1005 FWL San Juan County
3. Current Wellbore Diagram: **Attached** (page 4)
4. Copy of Electronic Log: **Previously submitted 1992** (page 5)
5. Copy of Porosity Log: **Previously submitted 1992** (page 6)
6. See attached Fall off Test analysis
    a. FOT Procedure (page 8)
    b. Analysis (page 8)
    c. Results (page 20)
    d. Summary (page 10)
7. Results Comparison attached (page 19)
8. The raw test data will be kept on file for a period of 3-year and will be made available to the NMOCD upon written request. (page 20)
9. Conclusions (page 20)
10. Any pressure or temperature anomaly: **None seen on BH readings.** As seen in Figures 4 & 5 the change in rate and surface pressure are not significant and quickly stabilize. The results, Table 1, and IRT analysis confirm that the injection rate attained a pseudo-steady state, therefore the slight variation did not affect the integrity of the results.
11. Plots attached
    a. Pressure and Rate (fig 3) (page 21)
    b. Injection Rate vs Time (fig 4) (page 22)
    c. Pressure and Rate (fig 5) (page 23)
    d. Elapsed Time (fig 2) (page 8)
    e. Derivative Plot (fig 7) (page 24)
    f. Horner Plot (fig 7) (page 25)
    g. Elapsed Gauge Time (fig 8) (page 26)
    h. Injection Volumes and Surface Pressure (fig 9) (page 27)
    i. Average Hourly Injection Rate (fig 10) (page 28)
12. NO PVT data necessary, injected fluid is fresh-to-slightly saline water. No significant hydrocarbons present that would alter the density, compressibility and/or viscosity of the fluid.
13. The Agua Moss, LLC internal Daily Injection Reports were used to determine the appropriate injection history to use for the analysis. A summary of those reports (January 2017 through June 2017) are attached. (page 29-33)

14. The Sunco Disposal #1 has injected approximately 16,154,574 bbls into the point lookout formation from 1994 through July 2017 (see attached). The offset well McGrath SWD #4 API 30-045-25923 was plugged 7/25/2013. Cumulative injection 1994-7/2013 27,746,479 bbls.
15. 1 Mile AOR:
    a. AOR 1 mile (page 34)
    b. AOR 1 mile well data (page 35)
    c. The McGrath #4 was the only offset well that was injecting into the Point Lookout formation within 1 mile. This well was plugged 7/25/2013.
16. Geological information was provided in the last Permit renewal submitted and approved in 2012.
17. Offset Wells: One offset well that was completed in the same injection interval was the McGrath #4. This well was plugged 7/2013 and therefore was not impacted.
18. Chronological listing of the daily, testing activities (operations log) attached (pages 37-53)
    a. Date of Test: **Monday June 26th , 2017 through Monday July 5th, 2017**
    b. Time of the injection period: **50.63 hours**
    c. Type of injection fluid: **Produced water**
    d. Final injection pressure & temp prior to shutting in in the well: **3953.93 psi, 84.99 °F**
    e. Total shut-in time: **159.22 hours**
    f. Final static pressure & temp at the end of the fall-off portion of the test: **3457 psi, 92.44 °F**
19. Location of the shut in valve: **A wing valve located on the well's Christmas Tree was closed to begin the FOT.**
20. Pressure Gauges: (see attached)
    a. SP-2000 Memory Pressure Gauge (page 54)
    b. Pressure range: **0-5000 psig** (page 55)
    c. Last Calibration: **2/23/15** (page 37)

## Wellbore Schematic:

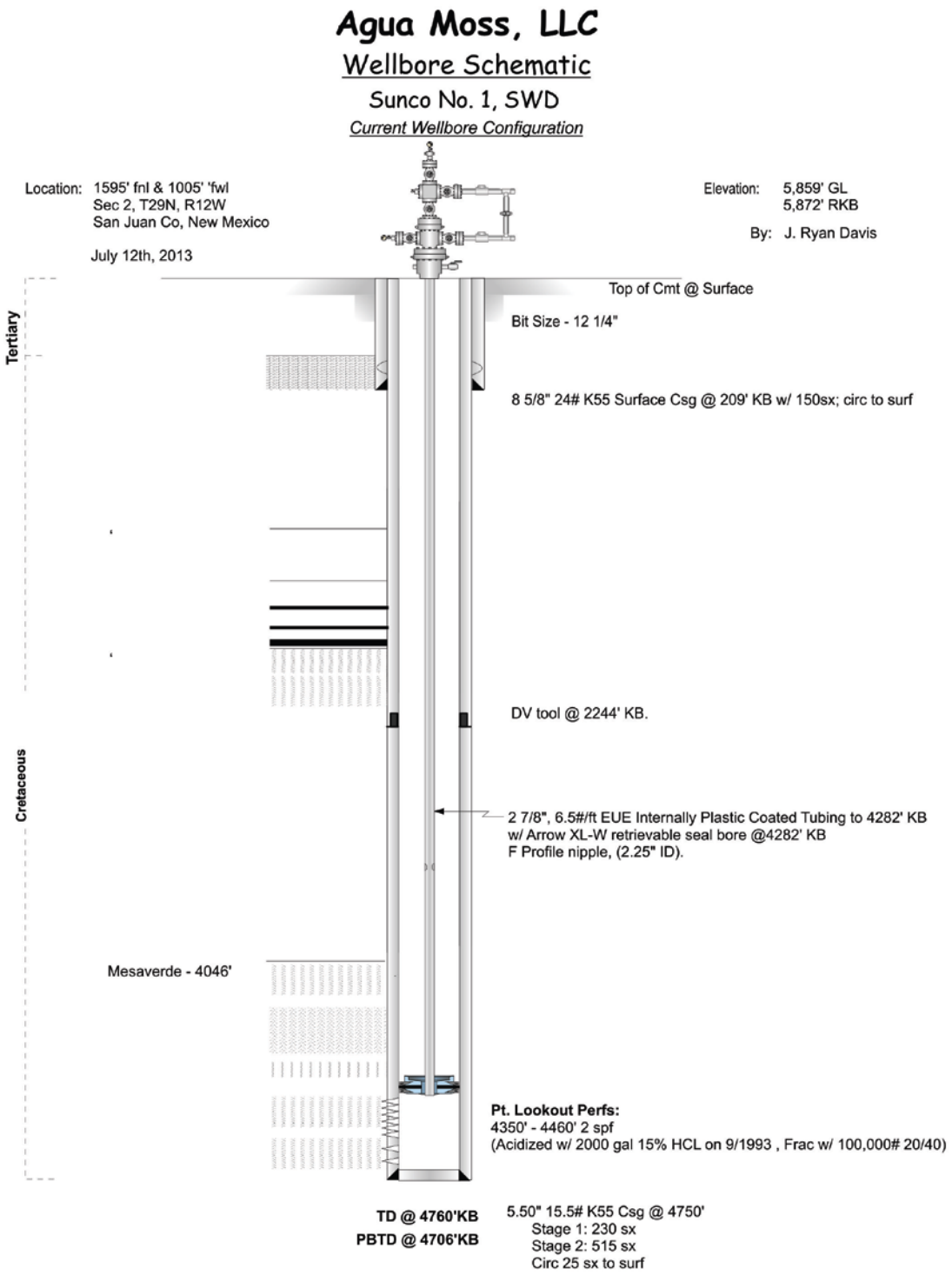
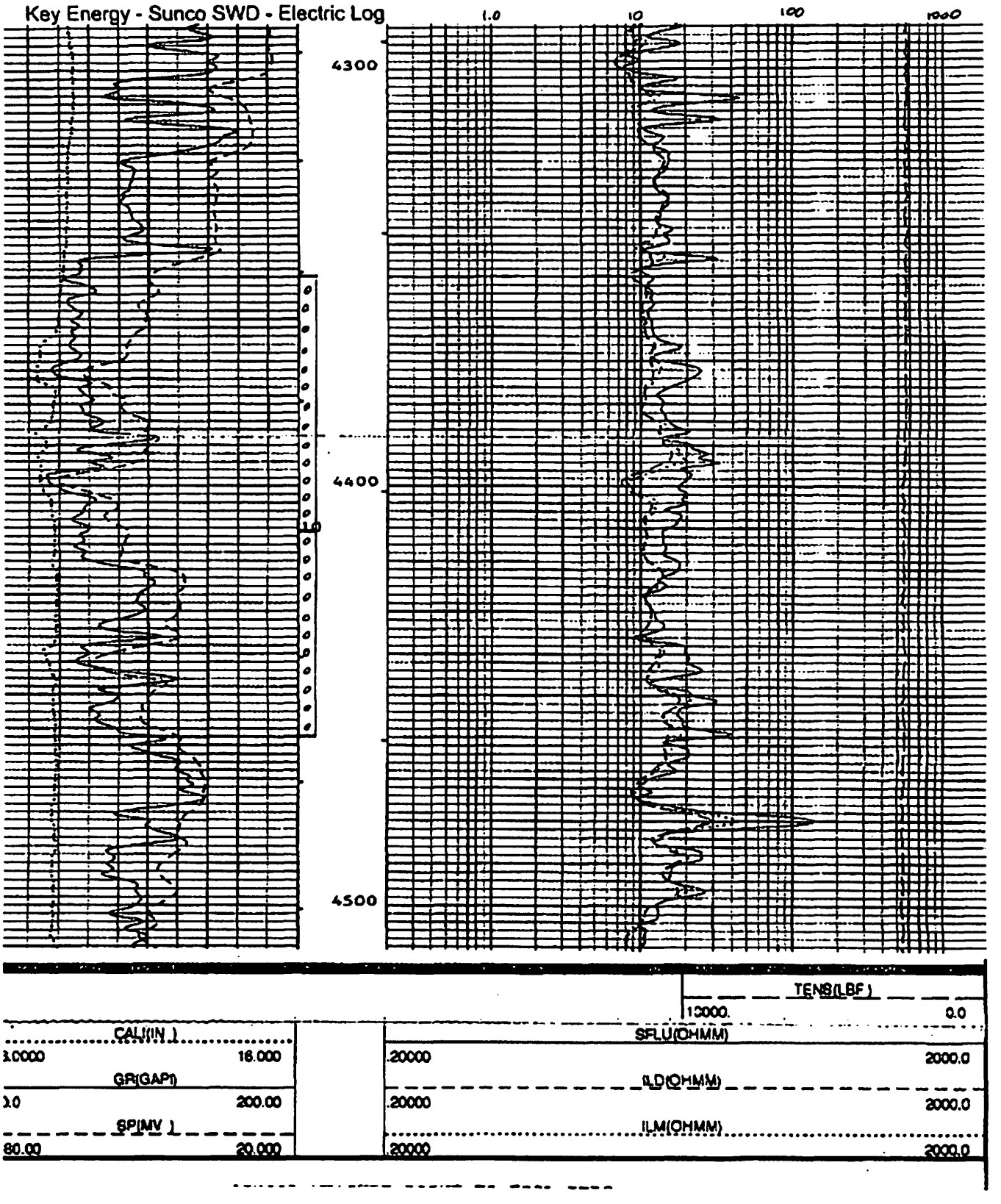
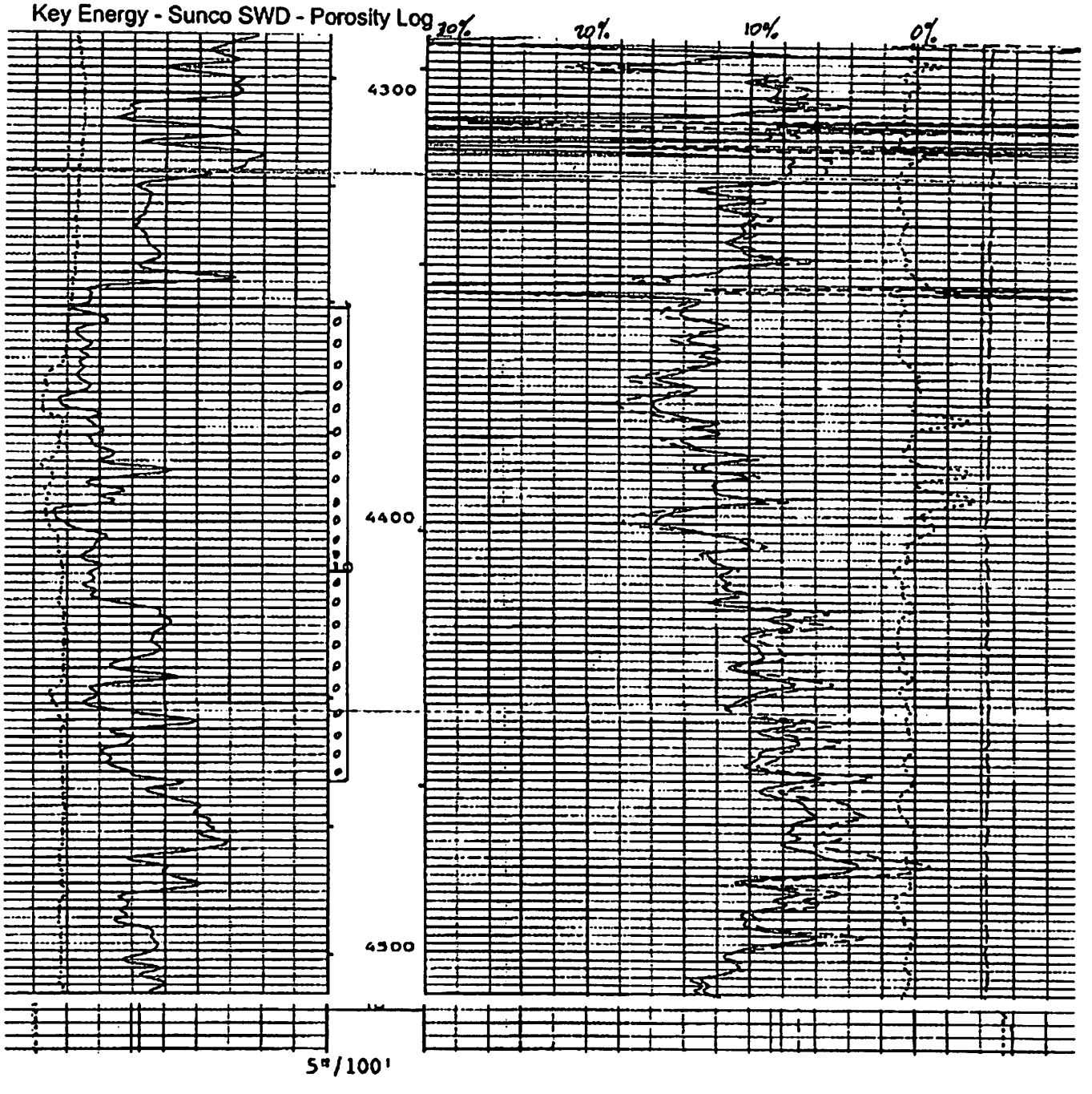



Figure 1: Wellbore Schematic


Key Energy - Sunco SWD - Electric Log
1.0
10
100
1000
4300
4400
4500
TENS(LBF)
10000.
0.0
CALI(IN)
16.000
SFLU(OHMM)
2000.0
GR(GAPI)
200.00
ILD(OHMM)
2000.0
SP(MV)
20.000
ILM(OHMM)
2000.0


Key Energy - Sunco SWD - Porosity Log
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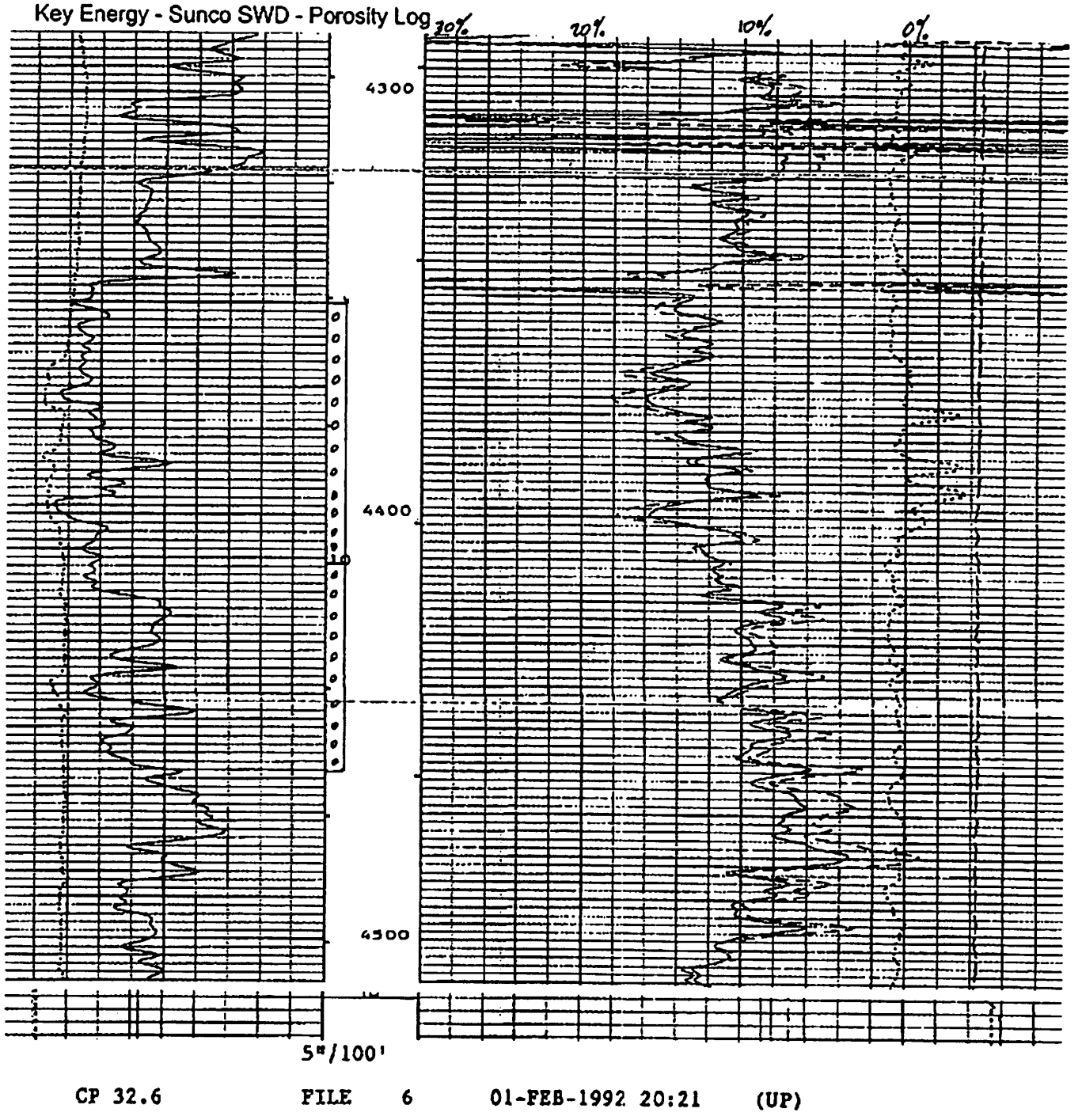
20%
10%
0%
4300
4400
4500
5"/100'
CP 32.6
FILE 6
01-FEB-1992 20:21
(UP)
DRHO(G/C3)
-.2500
.25000
TENS(LBF)
10000.
0.0
CALI(IN)
8.0000
16.000
RHOB(G/C3)
2.0000
3.0000
GR(GAPI)
0.0
200.00
DPHI(V/V)
.30000
-.1000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0%
4300
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4500
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CP 32.6
FILE 6
01-FEB-1992 20:21
(UP)
DRHO(G/C3)
-.2500
.25000
TENS(LBF)
10000.
0.0
CALI(IN)
8.0000
16.000
RHOB(G/C3)
2.0000
3.0000
GR(GAPI)
0.0
200.00
DPHI(V/V)
.30000
-.1000

At the request of the NMOCD and permit requirements, a Falloff Test (FOT) was performed on the Sunco SWD #1 Class I injection well (UICI-5-0) on **06/26/2017**. Below is a summary of findings from the FOT.

## Procedure:

Tandem electronic gauges were run in the subject well. The initial BHP was 3480 psi at a depth of 4405'. The injection period started at 3:00 pm on 06/26/2017, with a total of 6498 bbls injected over 50 hours, and an average injection rate of 3150 bpd (91 gpm). The final bottom hole injection pressure was 3953 psi. Injection was shut down and the well was shut it at the wellhead. The bottom hole pressures were monitored for 159 hours of pressure falloff. The final BHP was 3457 psi.

## Analysis:

The FOT data was compiled in excel and analyzed. The data was also given to a third party consultant for further analysis and confirmation of results, the analysis is found on pages 9 -18.

A Cartesian plot of pressure and temperature versus elapsed time is presented in Figure 2 below. The stabilization of pressure was confirmed prior to shut-in. The plot was reviewed for anomalous data and none was found.

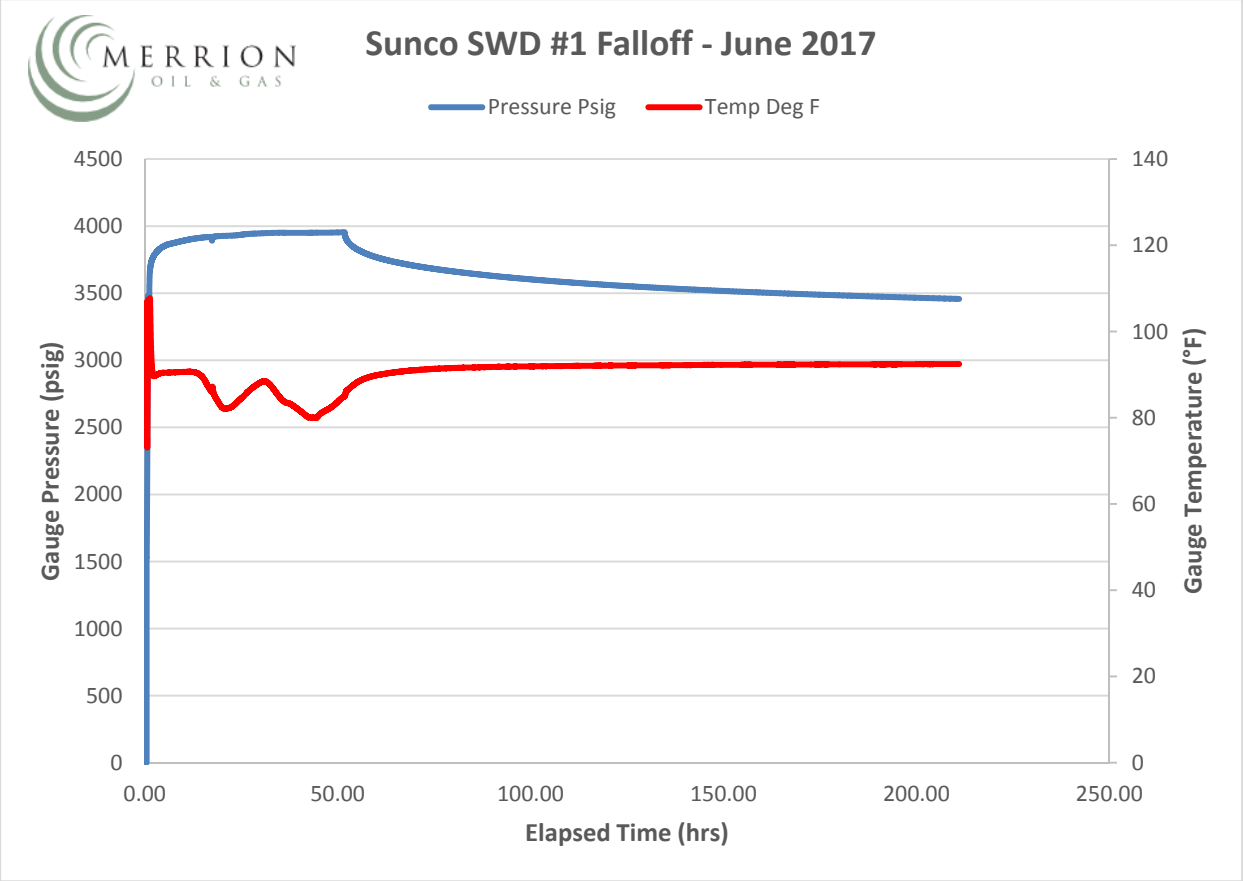



Figure 2 Pressure and Temp vs. Time


# 2017 Fall-off Pressure Test Analysis
# for the
# Sunco Disposal Well #1
# San Juan County, New Mexico

**prepared for**

**Merrion Oil and Gas Corporation**

**25 July 2017**

**International Reservoir Technologies, Inc.**
**Lakewood, Colorado, USA**

**Tel. (303) 279-0877**
**Fax (303) 279-0936**

# Sunco Disposal Well #1 2017 Fall-off Test Results

Summary:

The results of the 2017 fall off test (FOT) for the Sunco Disposal Well #1 indicate that the length of the shut-in test did just allow the transient to reach a stabilized flow period and that the well has a significant hydraulic fracture. These results are similar to the 2015 and 2016 fall-off test results. The pressure transient effect of the frac plus the wellbore storage effects do obscure to some extent the reservoir property influences; however, a reasonable and satisfactory set of reservoir properties could be calculated. The conventional straight-line analysis for extrapolated pressure and the reservoir property calculations from the Horner and MDH type plots are acceptable. The input parameters for the fluid properties (i.e. PVT data) were the same as the newly available data for the 2016 test (Report titled "2nd Quarter 2016 Sampling - Injection Well.pdf", NM1-9 INJECTION WELL ANALYTICAL RESULTS, Agua Moss Disposal Facility, Crouch Mesa Road, San Juan County, New Mexico, 6/28/16).

The results from the derivative, Horner and MDH type pressure plots are summarized in the table below. The results for the different methods were consistent and the average calculated properties were:

- Estimated Kw (permeability) = 10.4 md
- Estimated skin = -6.0
- Extrapolated pressure = 3,273 psig
- Fracture half-length = 517 feet (from derivative half-slope line)
- Radius of investigation = 1,790 feet

| Calculated Reservoir Parameters | | | | |
|---|---|---|---|---|
| | Horner Analysis | MDH Plot | Derivative Plot | Average |
| Estimated Kw (permeability, mD) | 9.9 | 12.3 | 9.1 | 10.4 |
| Estimated skin (dimensionless) | -6.0 | -5.9 | -6.1 | -6.0 |
| Extrapolated pressure (psig) | 3,255 | 3,329 | 3,235 | 3,273 |
| Fracture half-length (feet) | -- | -- | 517 | 517 |
| Radius of investigation (feet) | 1,820 | 2,000 | 1,550 | 1,790 |

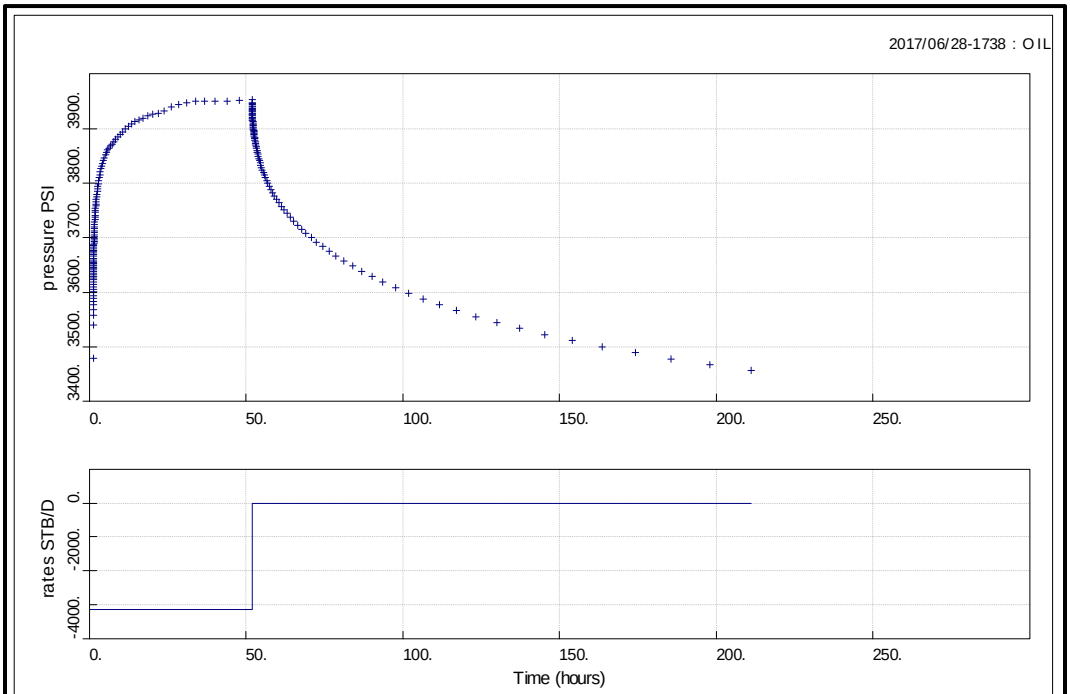
Larger versions of the plots appear at the end of this document.

Input data and assumptions:

Assumptions:

- Formation fluid properties equal injection water properties due to cumulative volume injected and miscibility of formation water and injection water
- Reservoir temperature = 91 deg F
- Porosity = 0.114 (fraction, estimated from density log)
- Net pay = 110 feet
- Rock compressibility = 4.50E-06 1/psi (correlation)
- Wellbore radius = 0.506 ft
- Wellbore volume total = 34.88 bbls (tubing = 24.79 bbls, casing = 10.09 bbls)
- Wellbore compressibility = injection water compressibility =2.64E-06 1/psi (from Osif correlation)
- Injected water specific gravity = 1.006 (pure water =1.0); density = 8.392 lb./gal, TDS = 15,500 mg/L
- Injected water FVF = 1.0023 rb/stb (McCain correlation)
- Injected water viscosity = 0.737 cp (McCain correlation)

DATA PLOT:




```
Analysis-Data ID: GAU005
Gauge-Data    ID: GAU005
Data starts at  2017-06-09 19:48:00
Data ends   at  2017-07-05 08:52:00
Number of rates = 2
Cum. Production = -59610. BBLS
```

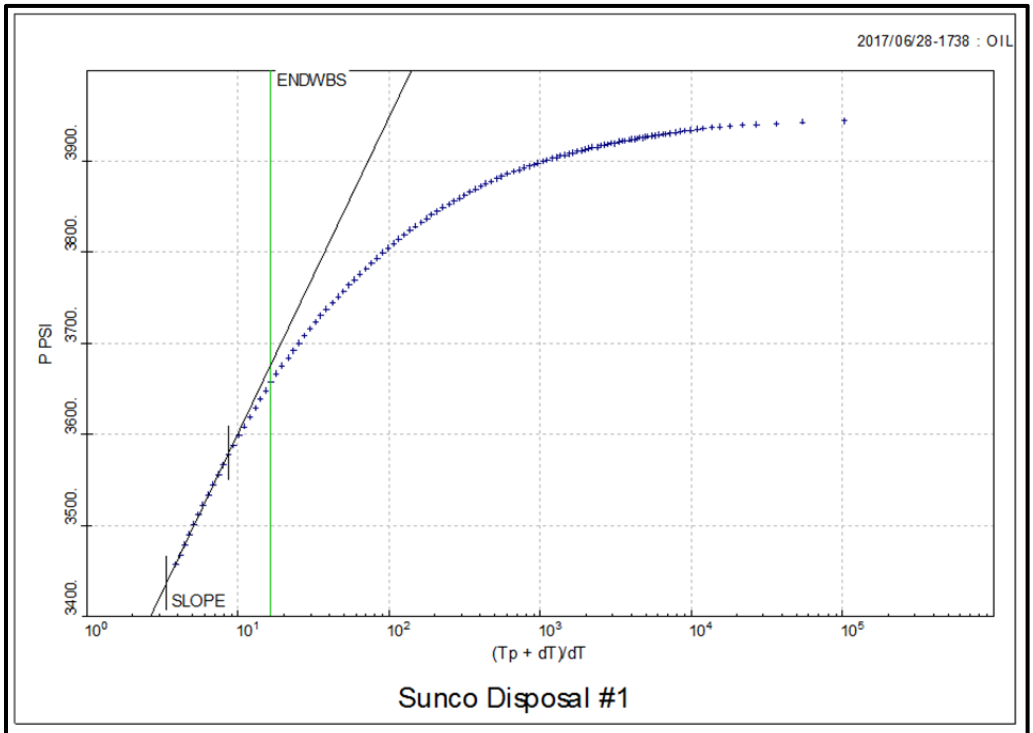
Static-Data and Constants

```
Volume-Factor  = 1.002 vol/vol
Thickness      = 110.0 FEET
Viscosity      = 0.7370 CP
Total Compress = .7140E-05 1/PSI
Rate           = -3152. STB/D
Storivity      = .8954E-04 FEET/PSI
Diffusivity    = N/A FEET^2/HR
Gauge Depth    = 4405. FEET
Perf. Depth    = 4350. FEET
Datum Depth    = 4405. FEET
Analysis-Data  ID: GAU005
Based on Gauge ID: GAU005
PFA Starts: 2017-06-09 19:48:00
PFA Ends  : 2017-07-05 08:52:00
```

HORNER PLOT:

Conclusions: The stabilized flow period was reached relatively late in the conventional straight-line extrapolation for the extrapolated pressure, however the reservoir property calculations appear reasonable.

- Estimated extrapolated pressure = 3,255 psig
- Estimated Kw (permeability) = 9.9 md
- Estimated skin = -6.04
- Radius of investigation = 1,820 feet




slope of the line = 347.1548 PSI/cycle
extrapolated pressure = 3255.03 PSI
R(inv) at 196.5 hr = 1820. FEET
R(inv) at 59.93 hr = 1010. FEET

prod. time=453.8 hr at rate=-3152.31 STB/D

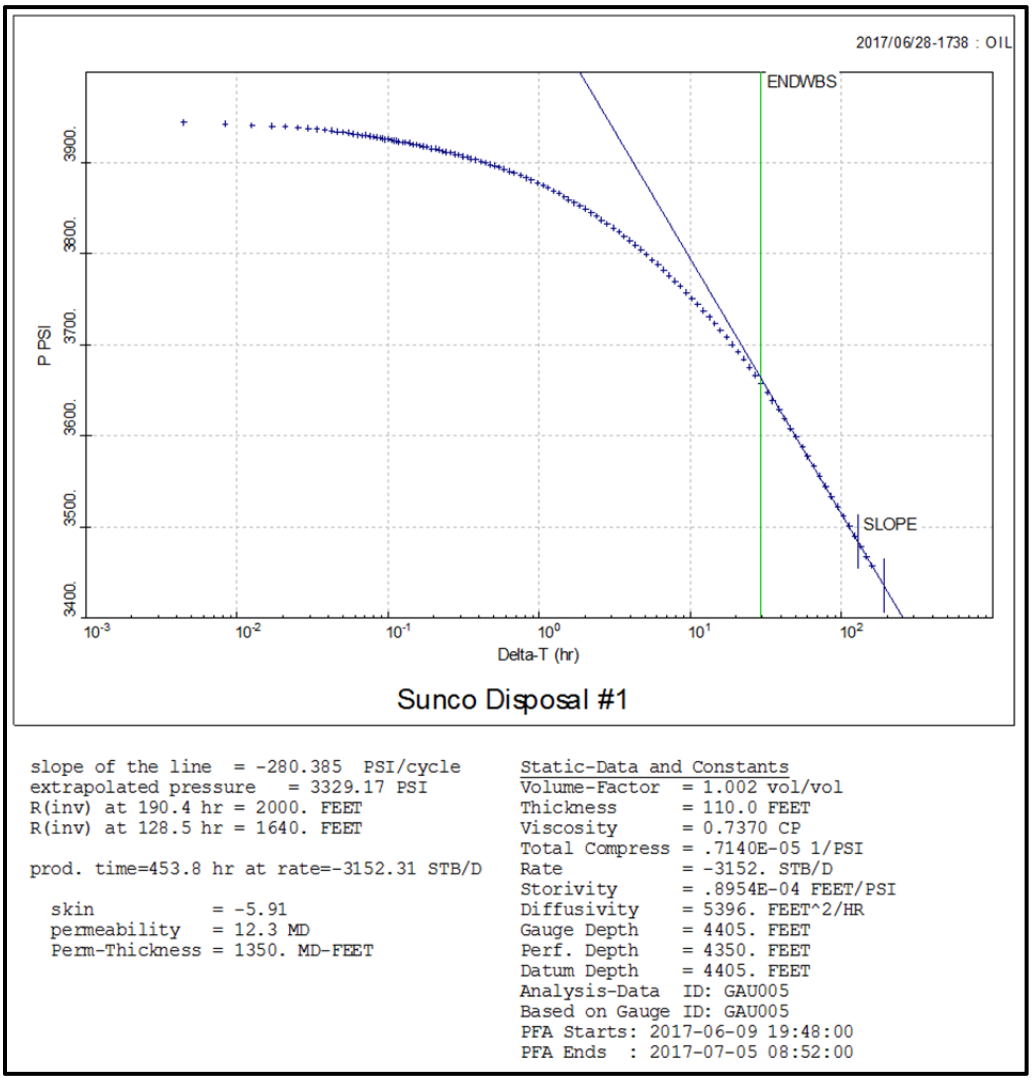
skin = -6.04
permeability = 9.92 MD
Perm-Thickness = 1090. MD-FEET

Static-Data and Constants
Volume-Factor = 1.002 vol/vol
Thickness = 110.0 FEET
Viscosity = 0.7370 CP
Total Compress = .7140E-05 1/PSI
Rate = -3152. STB/D
Storivity = .8954E-04 FEET/PSI
Diffusivity = 4359. FEET^2/HR
Gauge Depth = 4405. FEET
Perf. Depth = 4350. FEET
Datum Depth = 4405. FEET
Analysis-Data ID: GAU005
Based on Gauge ID: GAU005
PFA Starts: 2017-06-09 19:48:00
PFA Ends : 2017-07-05 08:52:00

MDH PLOT:

Conclusions: The stabilized flow period was reached relatively late in the conventional straight-line extrapolation for the extrapolated pressure, however the MDH values do appear reasonable.

- Estimated extrapolated pressure = 3,329 psig
- Estimated Kw (permeability) = 12.3 md
- Estimated skin = -5.91
- Radius of investigation = 2,000 feet




slope of the line = -280.385 PSI/cycle
extrapolated pressure = 3329.17 PSI
R(inv) at 190.4 hr = 2000. FEET
R(inv) at 128.5 hr = 1640. FEET

prod. time=453.8 hr at rate=-3152.31 STB/D

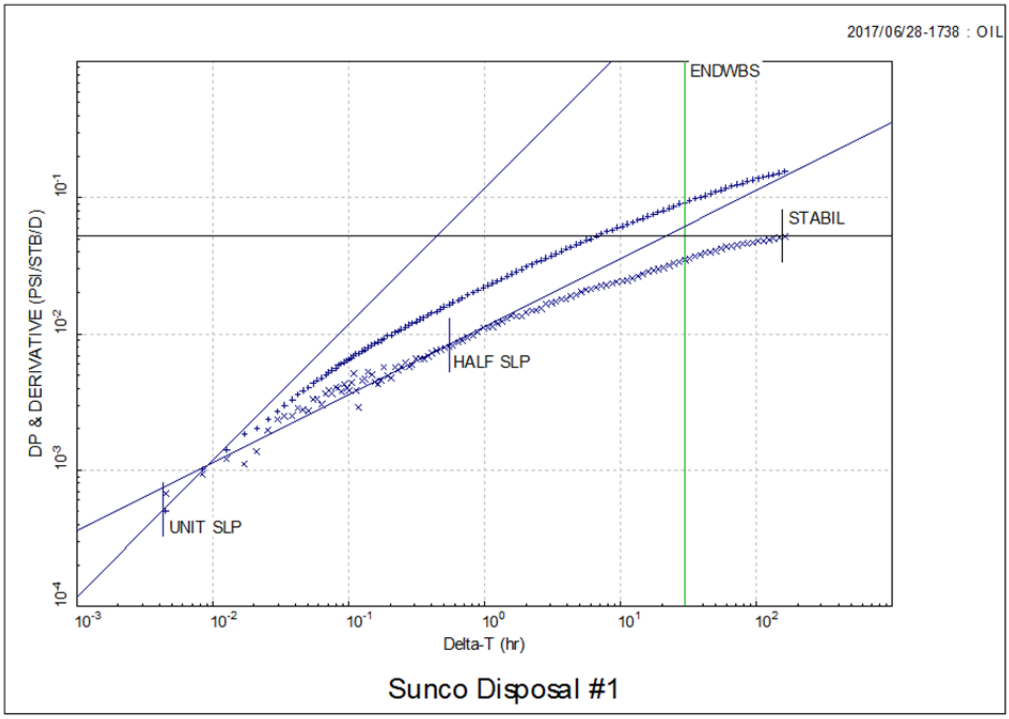
skin = -5.91
permeability = 12.3 MD
Perm-Thickness = 1350. MD-FEET

Static-Data and Constants
Volume-Factor = 1.002 vol/vol
Thickness = 110.0 FEET
Viscosity = 0.7370 CP
Total Compress = .7140E-05 1/PSI
Rate = -3152. STB/D
Storivity = .8954E-04 FEET/PSI
Diffusivity = 5396. FEET^2/HR
Gauge Depth = 4405. FEET
Perf. Depth = 4350. FEET
Datum Depth = 4405. FEET
Analysis-Data ID: GAU005
Based on Gauge ID: GAU005
PFA Starts: 2017-06-09 19:48:00
PFA Ends : 2017-07-05 08:52:00

DERIVATIVE PLOT:

Conclusions: The behavior of the derivative curve is affected by the wellbore storage and the influence of an apparent hydraulic fracture. The data does appear valid. Also the plot indicates that the length of the shut-in test was sufficient to reach a stabilized period. A half-slope is shown in the derivative curve which is characteristic of linear-flow due to a hydraulic-fracture. The calculated half-length for the fracture was 594 feet. There is no clear indication of a boundary or fault.

- Estimated extrapolated pressure = 3,235 psig
- Estimated Kw (permeability) = 9.07 md
- Estimated skin = -6.13
- Fracture half-length = 517 feet
- Radius of investigation = 1,550 feet

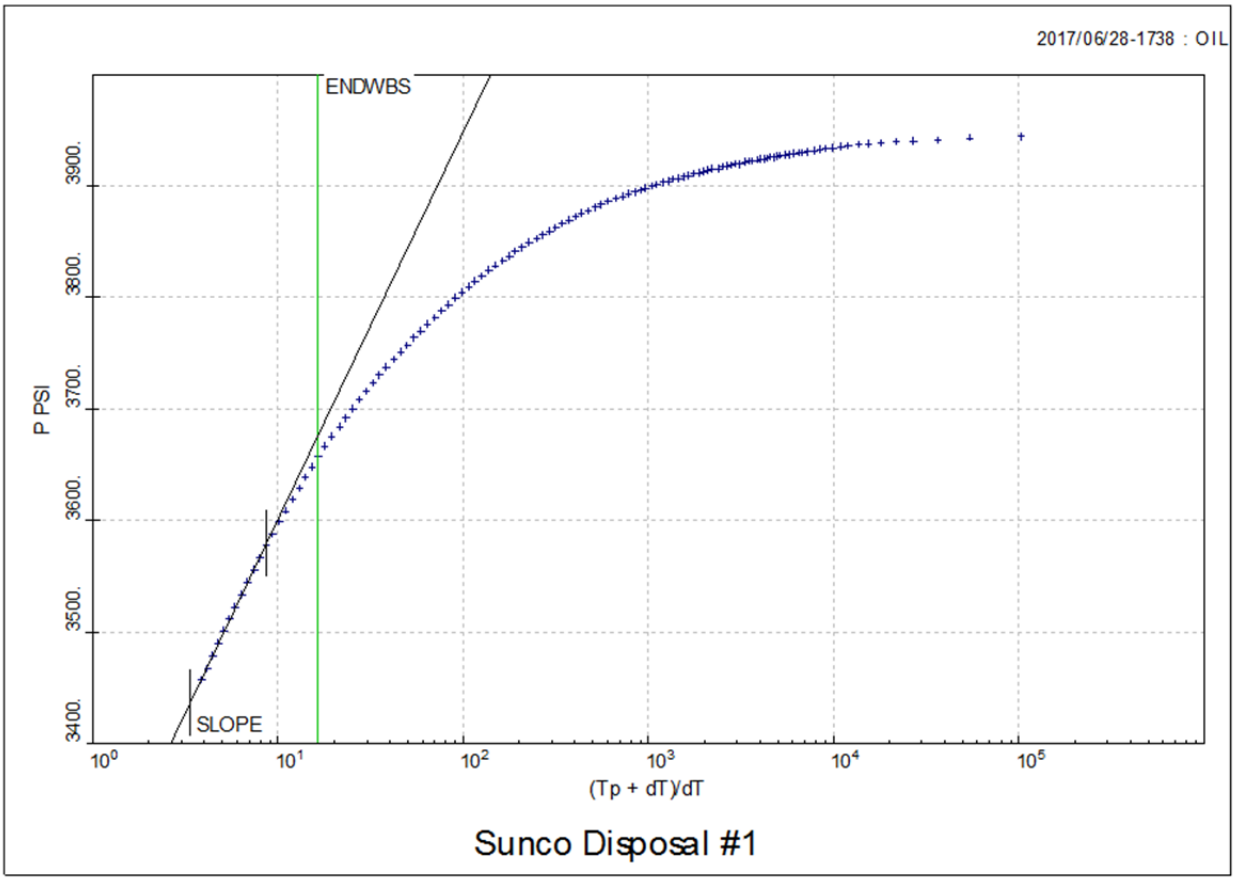



```
well. storage  = 0.353 BBLS/PSI
skin           = -6.13
permeability   = 9.07 MD
Perm-Thickness = 998. MD-FEET
Half.Length    = 517. FEET
P-extrap.      = 3234.84 PSI
R(inv) at 155.1 hr = 1550. FEET
Smoothing Coef = 0.,0.
```

```
Static-Data and Constants
Volume-Factor  = 1.002 vol/vol
Thickness      = 110.0 FEET
Viscosity      = 0.7370 CP
Total Compress = .7140E-05 1/PSI
Rate           = -3152. STB/D
Storivity      = .8954E-04 FEET/PSI
Diffusivity    = 3987. FEET^2/HR
Gauge Depth    = 4405. FEET
Perf. Depth    = 4350. FEET
Datum Depth    = 4405. FEET
Analysis-Data  ID: GAU005
Based on Gauge ID: GAU005
PFA Starts: 2017-06-09 19:48:00
PFA Ends  : 2017-07-05 08:52:00
```

**ENLARGED PLOTS:**

HORNER PLOT:

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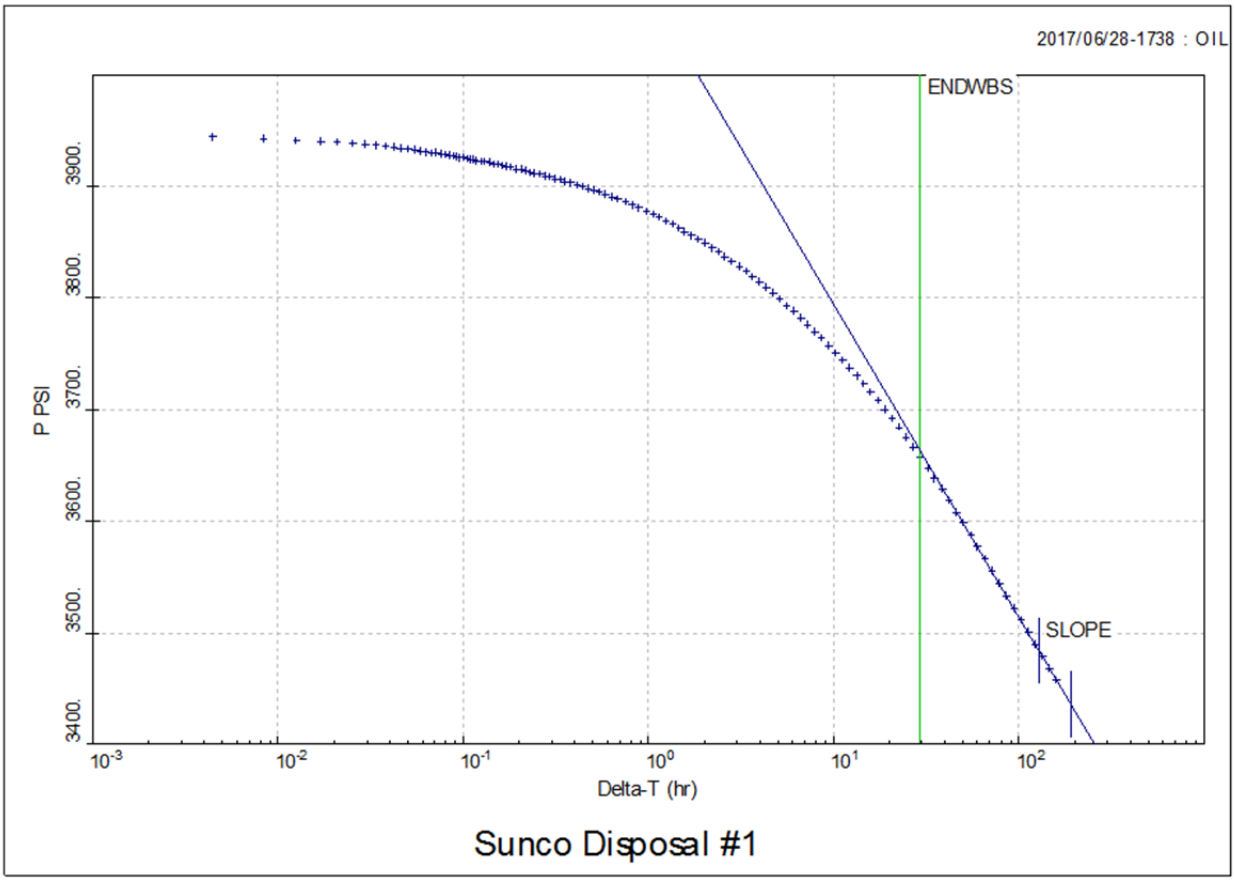
permeability = 9.92 MD
Perm-Thickness = 1090. MD-FEET

Static-Data and Constants
Volume-Factor = 1.002 vol/vol
Thickness = 110.0 FEET
Viscosity = 0.7370 CP
Total Compress = .7140E-05 1/PSI
Rate = -3152. STB/D
Storivity = .8954E-04 FEET/PSI
Diffusivity = 4359. FEET^2/HR
Gauge Depth = 4405. FEET
Perf. Depth = 4350. FEET
Datum Depth = 4405. FEET
Analysis-Data ID: GAU005
Based on Gauge ID: GAU005
PFA Starts: 2017-06-09 19:48:00
PFA Ends : 2017-07-05 08:52:00

MDH PLOT:

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Static-Data and Constants
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Viscosity = 0.7370 CP
Total Compress = .7140E-05 1/PSI
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Analysis-Data ID: GAU005
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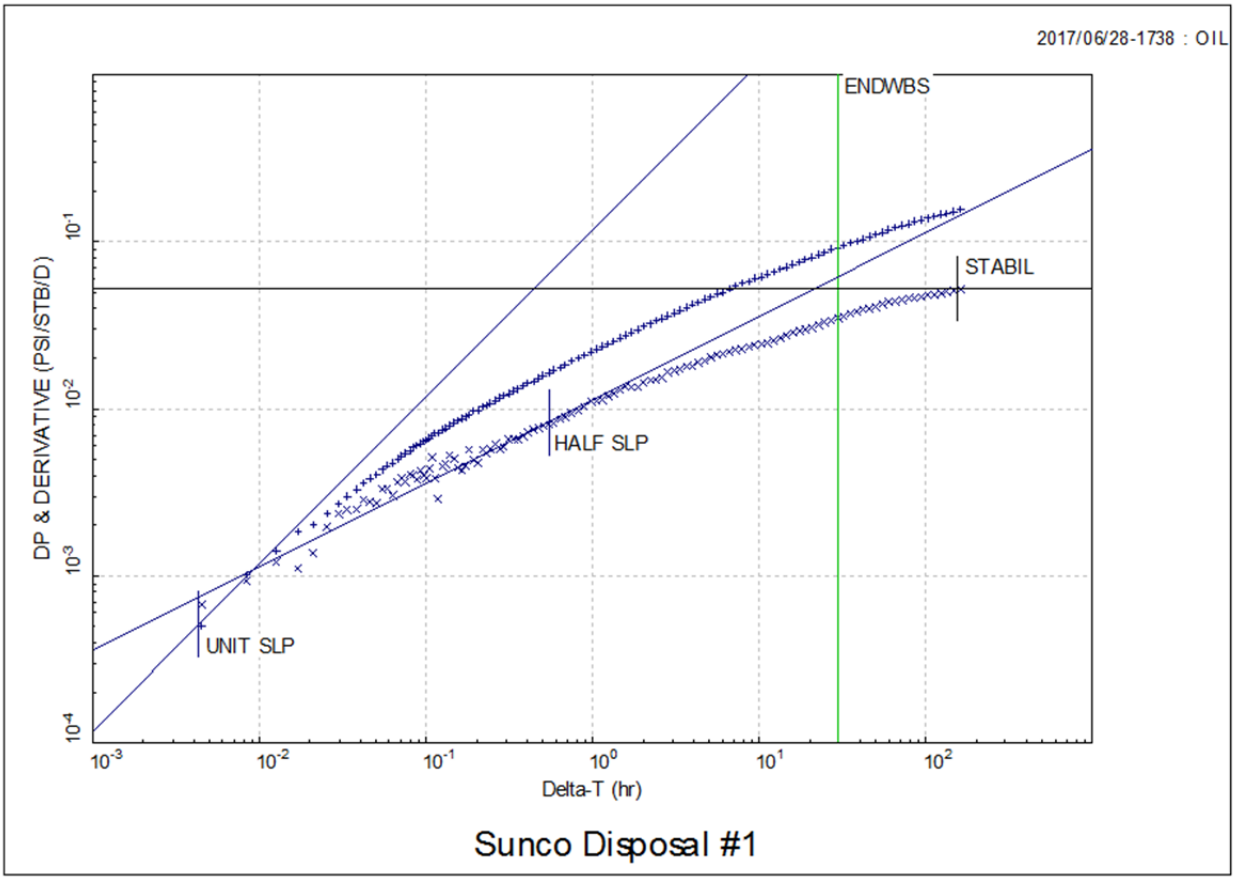
PFA Ends : 2017-07-05 08:52:00

DERIVATIVE PLOT:

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permeability = 9.07 MD
Perm-Thickness = 998. MD-FEET
Half.Length = 517. FEET
P-extrap. = 3234.84 PSI
R(inv) at 155.1 hr = 1550. FEET
Smoothing Coef = 0.,0.

Static-Data and Constants
Volume-Factor = 1.002 vol/vol
Thickness = 110.0 FEET
Viscosity = 0.7370 CP
Total Compress = .7140E-05 1/PSI
Rate = -3152. STB/D
Storivity = .8954E-04 FEET/PSI
Diffusivity = 3987. FEET^2/HR
Gauge Depth = 4405. FEET
Perf. Depth = 4350. FEET
Datum Depth = 4405. FEET
Analysis-Data ID: GAU005
Based on Gauge ID: GAU005
PFA Starts: 2017-06-09 19:48:00
PFA Ends : 2017-07-05 08:52:00

## Results:

The results from the Horner, MDH, and Derivative pressure plots are summarized in the Table 1 below. The results for the different methods were consistent and the average calculated properties were:

1. P* = 3273 psi
2. K = 10.4 md
3. S = -6.0
4. Radius of Investigation = 1790 feet
5. No indication of boundary

Table 1 Calculated Reservoir Properties

| Calculated Reservoir Parameters | | | | |
|---|---|---|---|---|
| | Horner Analysis | MDH Plot | Derivative Plot | Average |
| Estimated Kw (permeability, mD) | 9.9 | 12.3 | 9.1 | 10.4 |
| Estimated skin (dimensionless) | -6.0 | -5.9 | -6.1 | -6.0 |
| Extrapolated pressure (psig) | 3,255 | 3,329 | 3,235 | 3,273 |
| Fracture half-length (feet) | -- | -- | 517 | 517 |
| Radius of investigation (feet) | 1,820 | 2,000 | 1,550 | 1,790 |

The Derivative plot, Figure 6, shows flow regimes for wellbore storage, and linear flow, the stable or radial flow is not clearly present. The lack of a clear break-over into a flat plateau is most likely due to naturally fractured rock.

## Comparison with past Falloff Tests:

The results from the 2017 FOT were compiled with previous FOT results from the facility and are shown below in Table 2.

Table 2: Results Comparison

| | **2017** | 2016 | 2015 | 2010 | 2009 | 2008 | 2007 |
|---|---|---|---|---|---|---|---|
| Rate (bbl/day) | **3150** | 3132 | 3340 | 4500 | | | |
| P* (psi) | **3273** | 3114 | 3283 | 3231 | 3242 | 3176 | 3258 |
| K (md) | **10.4** | 11.5 | 15.8 | 13.6 | 10.2 | 20.7 | |
| S | **-6.0** | -5.93 | -5.97 | -7.18 | -7.23 | -6.79 | |
| Radius of Inv (ft) | **1790** | 1430 | 1580 | 1450 | 1250 | 1750 | 1620 |
| Frac ½ Length (ft) | **517** | 594 | 467 | 893 | 926 | 596 | 688 |
| Boundary | **none** | none | none | 648, 1520 | 755 | 987 | none |

Agua Moss did not conduct tests prior to 2015 and is relying on the 2010 report submitted by Key Energy, the past operator, for those results. The following observations were derived from a comparison of the results:

1. The differing P* over the last 3 years can most likely be explained by the increased injection volume in the months near the FOT. In both 2015 and 2017 the volume of injected water from April to June was about 20,000 and 40,000 bbls respectively more than in 2016. If given time to equilibrate before the FOT, it is expected that the P* would be close to the 2016 value.

2. The radius of investigation for 2017 was adequate enough to see out beyond all but one of the previously seem boundaries.
   **Note:** *On 2010 results seems peculiar to have a boundary beyond the Radius of Investigation.*

3. The parameters calculated compare well enough with previous FOT parameter to validate the 2017 FOT results.

The raw test data obtain during the 2017 falloff test will be kept on file for a period of three (3) years and will be available upon request.

## Conclusions:

Based on the above analysis and results comparison, Agua Moss believes the Sunco SWD #1 2017 FOT was successfully completed. The results do not show indications of concern in continuing the current waste injection operations.

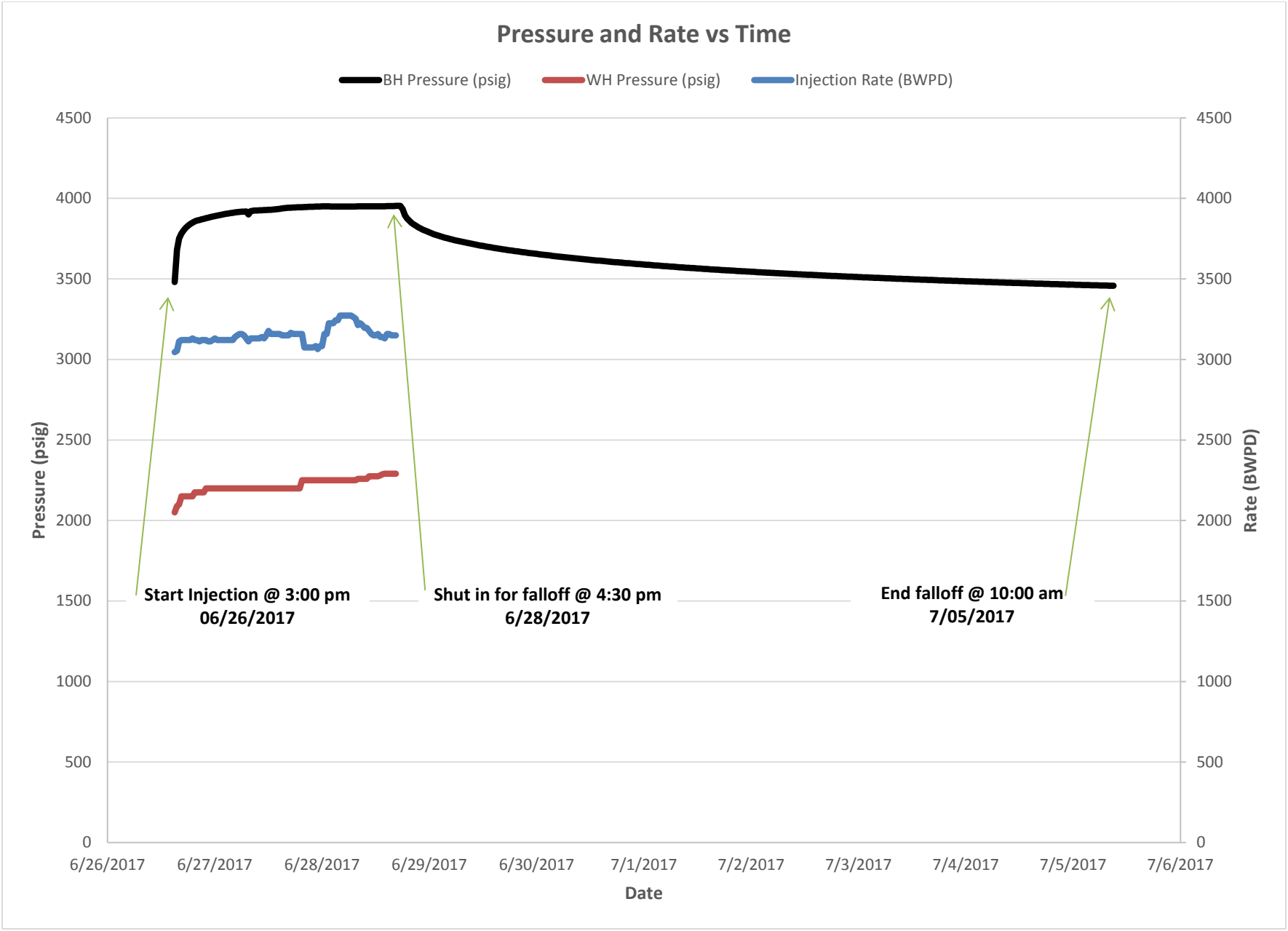



Figure 3 Pressure and Rate vs Time

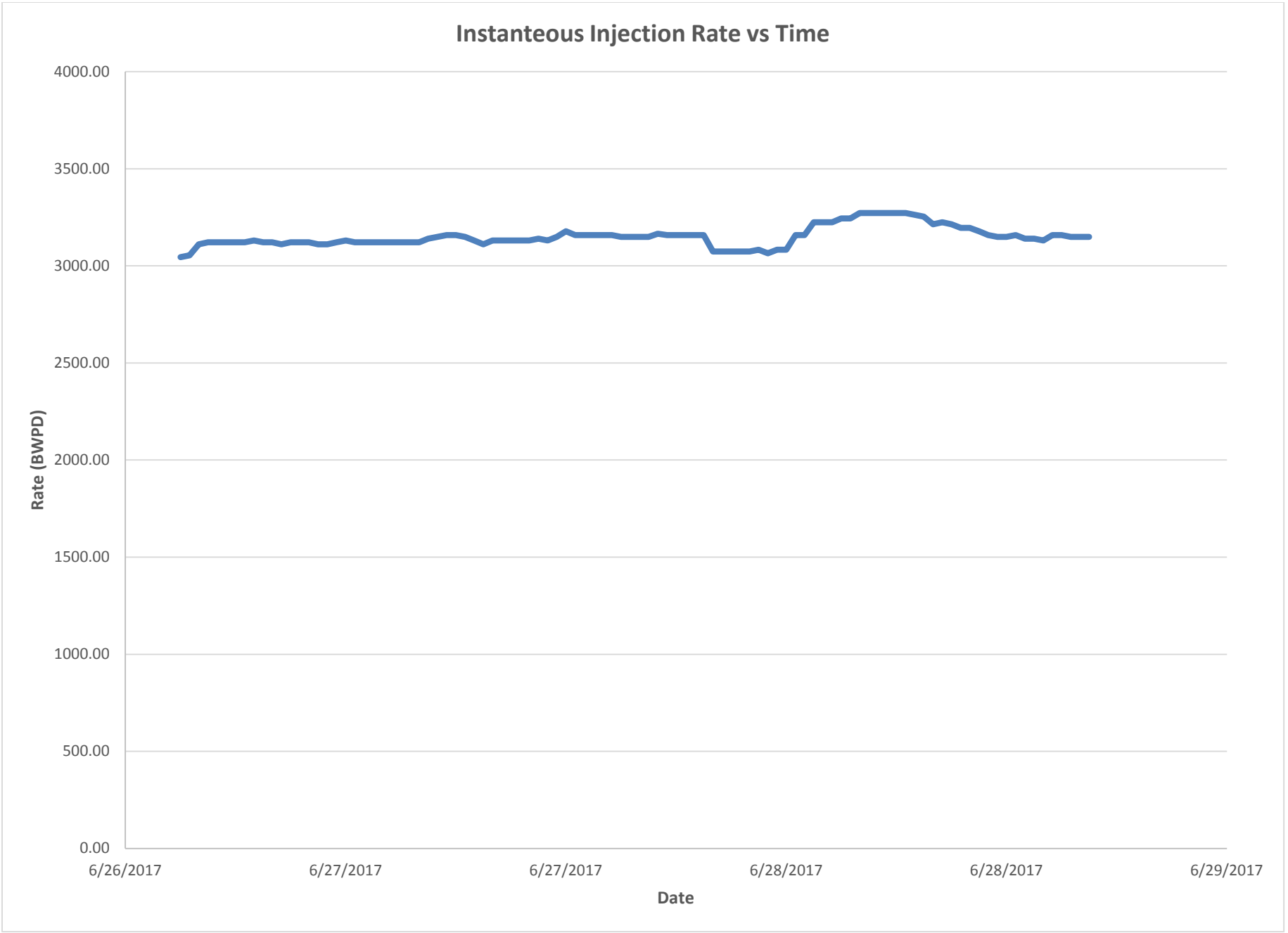



Figure 4 Injection Rate vs Time

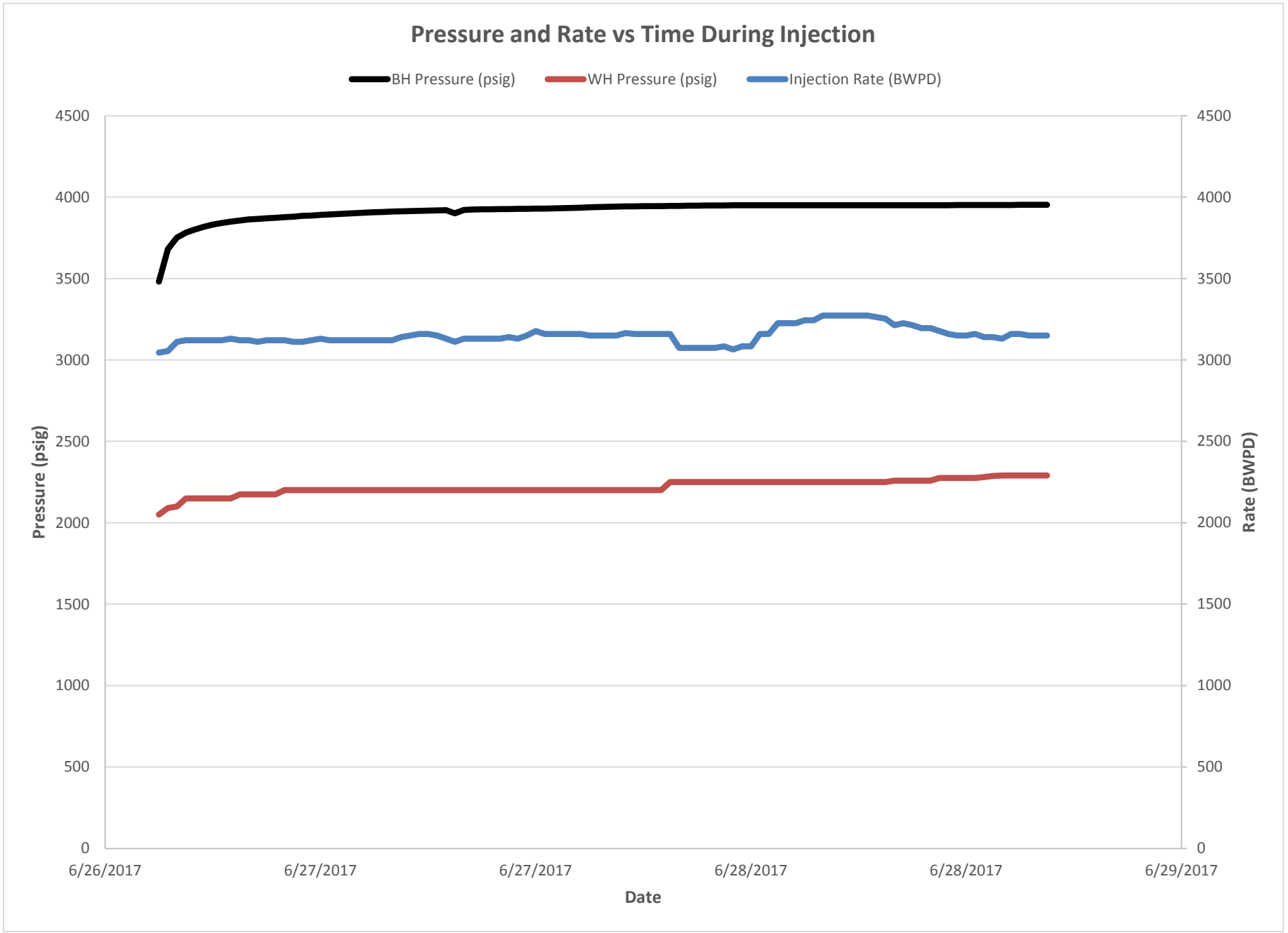



Figure 5 Pressure and Rate vs Time During Injection

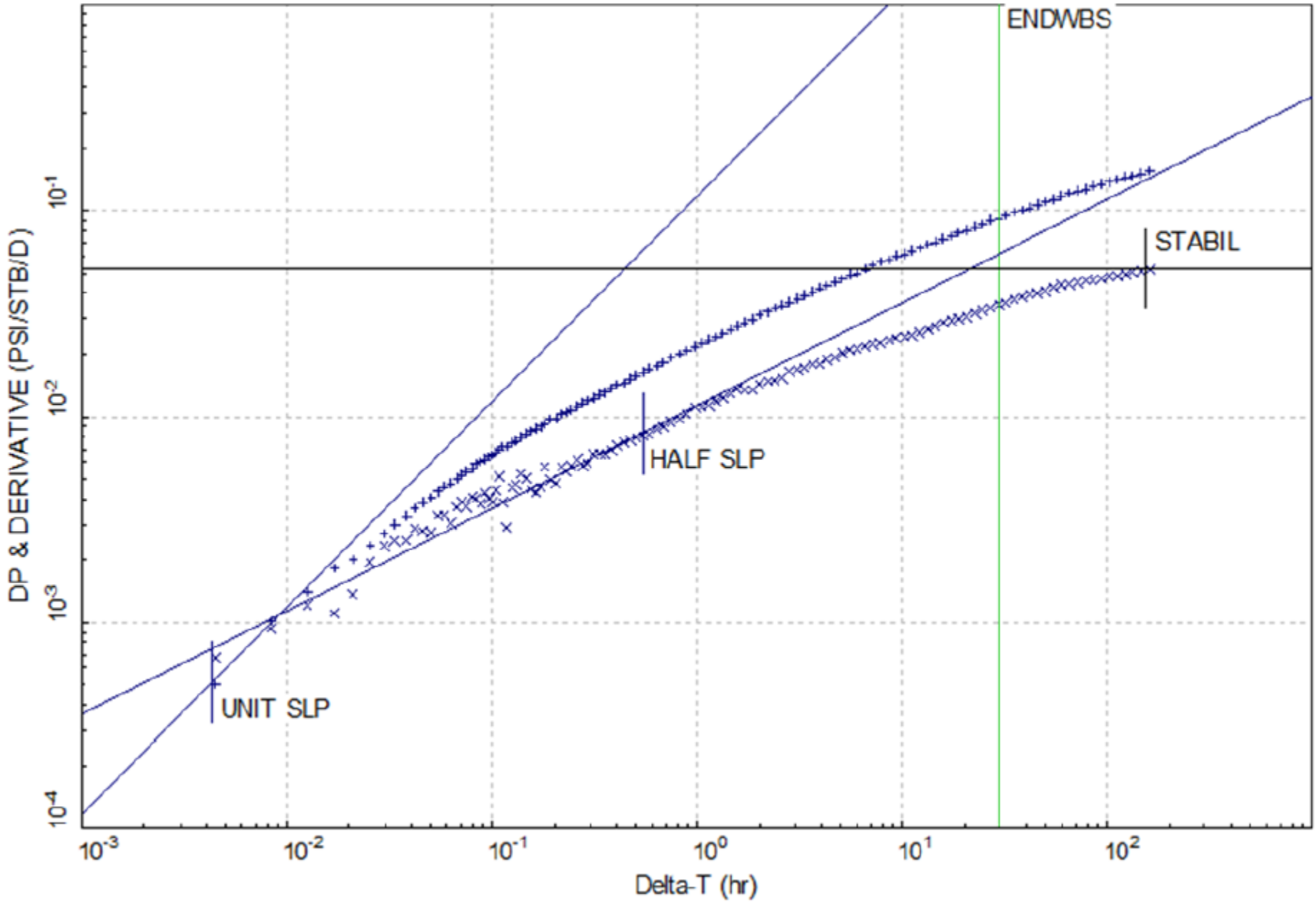



Figure 6 Derivative Plot

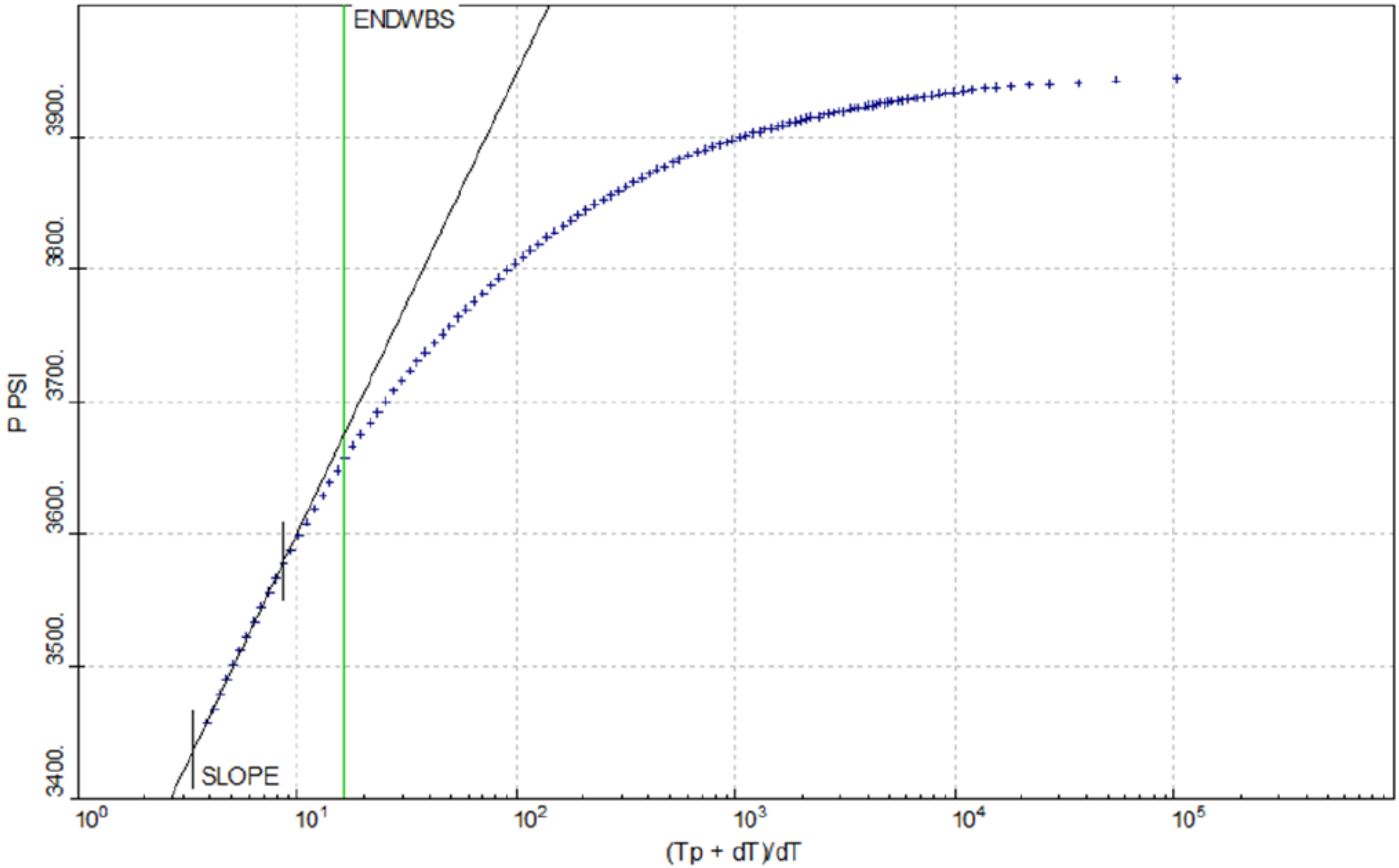



Figure 7 Horner Plot

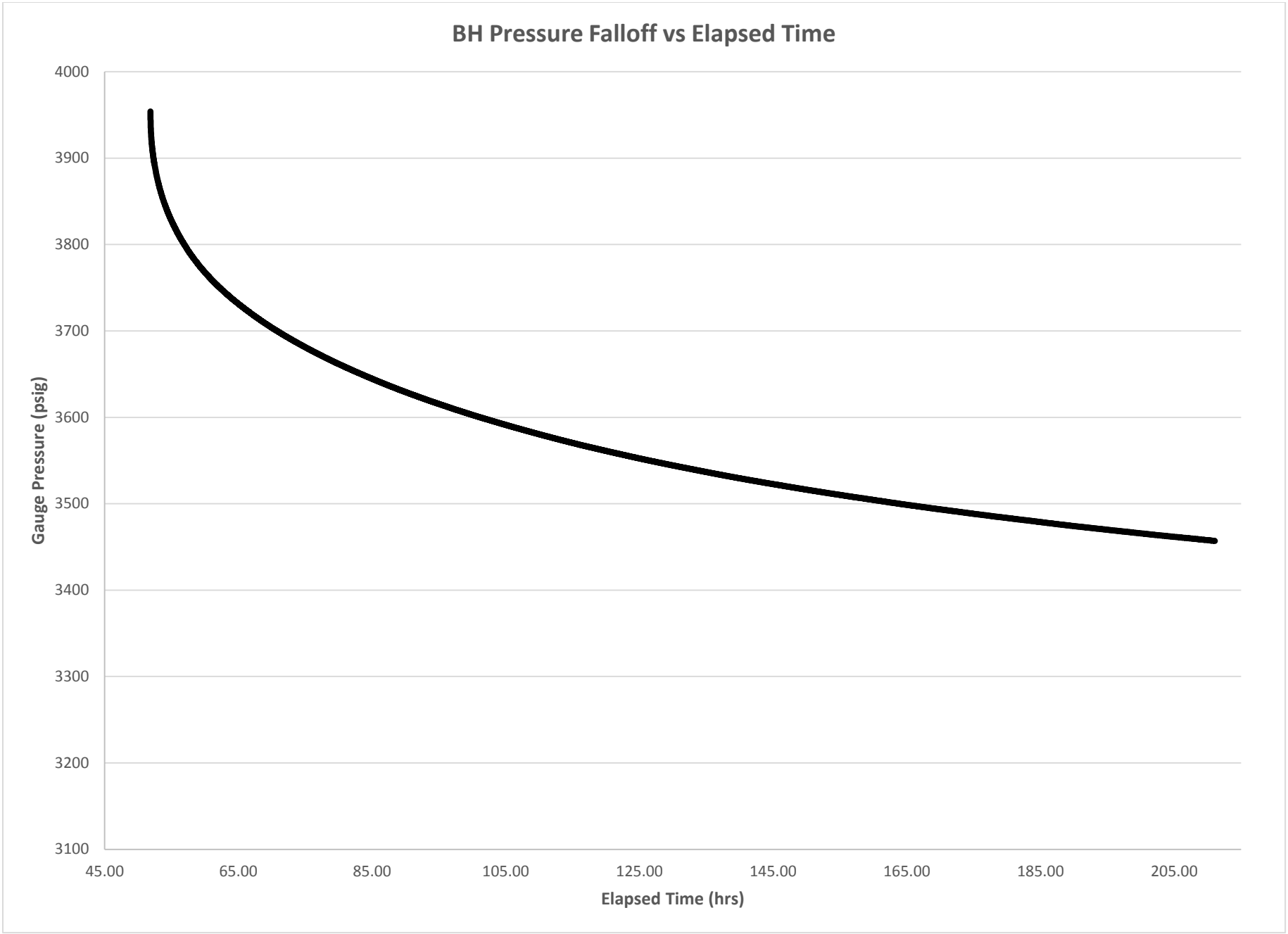



Figure 8 BH Pressure Falloff vs Elapsed Time

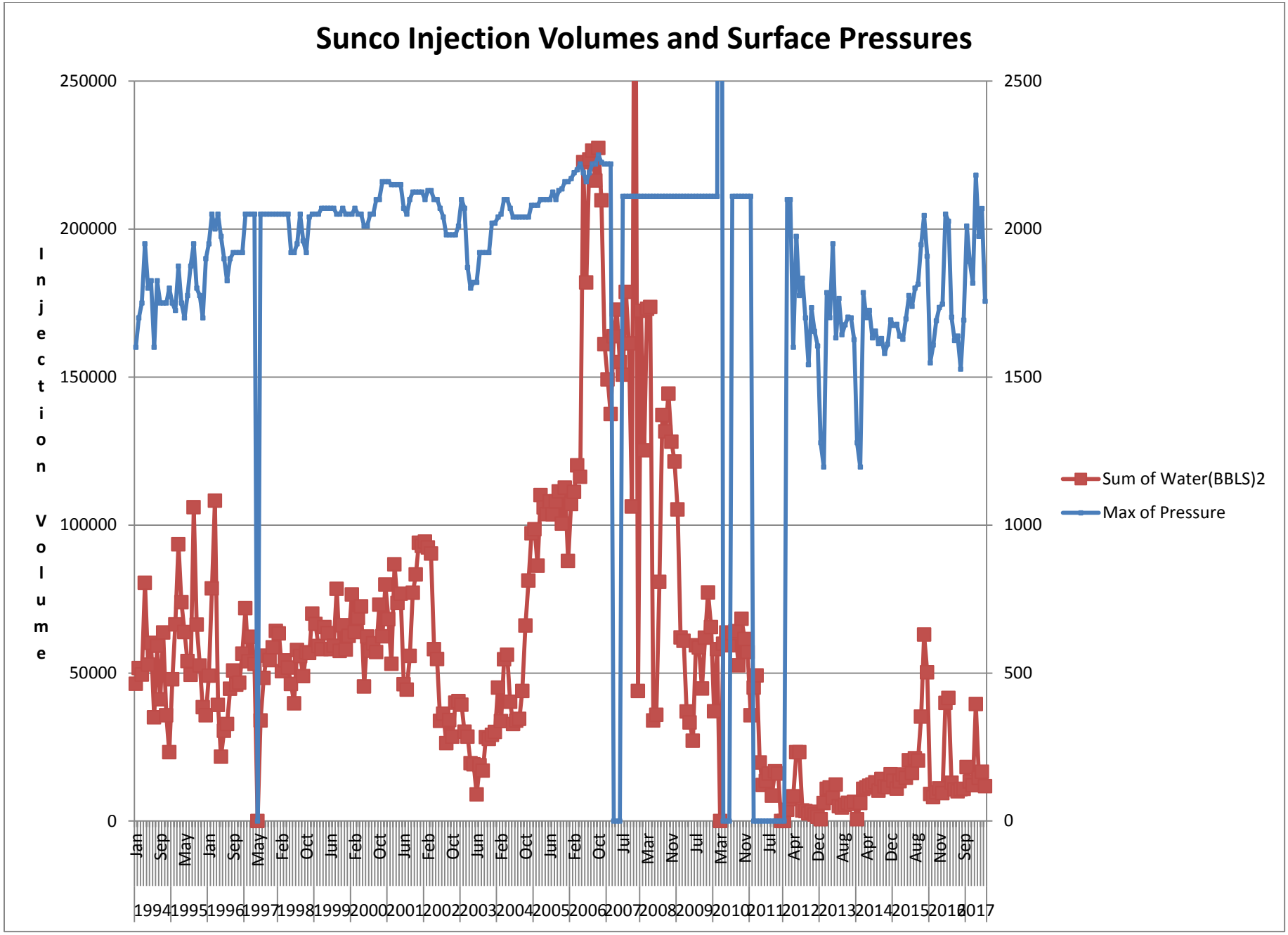



Figure 9 Injection and Pressure Plot

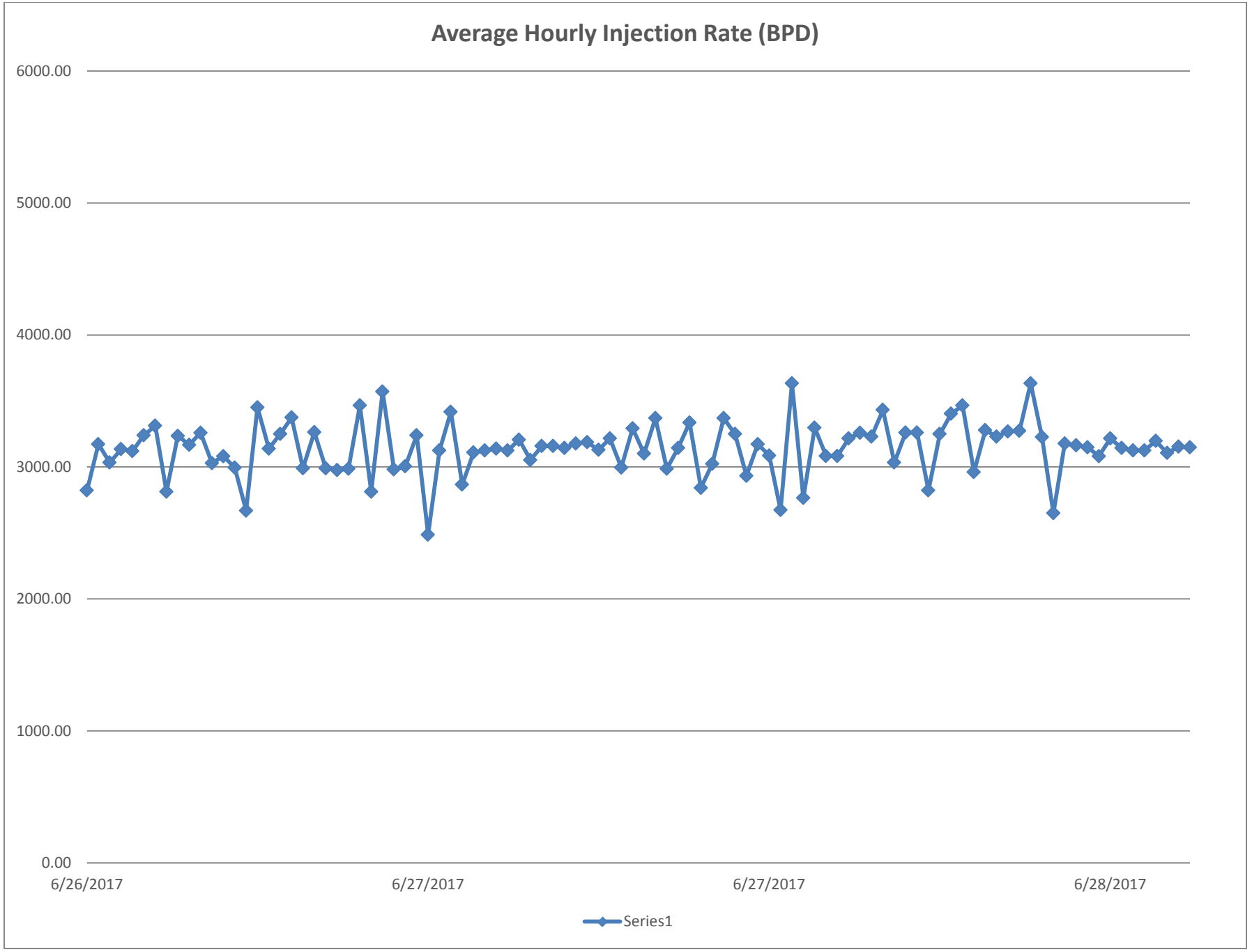



Figure 10 Avg Hourly Injection Rate vs Time

| | WH | AP | |
|---|---|---|---|
| 1/1/17 | | 0 | |
| 1/2/17 | 1750 | | |
| 1/3/17 | 1750 | | |
| 1/4/17 | 2250 | | |
| 1/5/17 | 1550 | | |
| 1/6/17 | 1850 | | |
| 1/7/17 | | | |
| 1/8/17 | | | |
| 1/9/17 | 1800 | | |
| 1/10/17 | 1750 | | |
| 1/11/17 | 1800 | | |
| 1/12/17 | 1750 | | |
| 1/13/17 | 1600 | | |
| 1/14/17 | | | |
| 1/15/17 | | | |
| 1/16/17 | 1750 | | |
| 1/17/17 | 1800 | | |
| 1/18/17 | 1500 | | |
| 1/19/17 | 1750 | | |
| 1/20/17 | 2000 | | |
| 1/21/17 | | | |
| 1/22/17 | | | |
| 1/23/17 | 1500 | | |
| 1/24/17 | 1800 | | |
| 1/25/17 | 1500 | | |
| 1/26/17 | 1850 | | |
| 1/27/17 | 1800 | | |
| 1/28/17 | | | |
| 1/29/17 | | | |
| 1/30/17 | 1750 | | |
| 1/31/17 | 1800 | | |
| | **1756.818** | **0** | **AVG** |
| | **1500** | **0** | **MIN** |
| | **2250** | **0** | **MAX** |

| | WH | AP | |
|---|---|---|---|
| 2/1/17 | 2250 | 0 | |
| 2/2/17 | 2000 | | |
| 2/3/17 | 1900 | | |
| 2/4/17 | | | |
| 2/5/17 | | | |
| 2/6/17 | 2000 | | |
| 2/7/17 | 2200 | | |
| 2/8/17 | 2000 | | |
| 2/9/17 | 1850 | | |
| 2/10/17 | 1900 | | |
| 2/11/17 | | | |
| 2/12/17 | | | |
| 2/13/17 | 1800 | | |
| 2/14/17 | 2000 | | |
| 2/15/17 | 2000 | | |
| 2/16/17 | 1500 | | |
| 2/17/17 | 1600 | | |
| 2/18/17 | | | |
| 2/19/17 | | | |
| 2/20/17 | 2000 | | |
| 2/21/17 | 1800 | | |
| 2/22/17 | 1800 | | |
| 2/23/17 | 1750 | | |
| 2/24/17 | 1900 | | |
| 2/25/17 | | | |
| 2/26/17 | | | |
| 2/27/17 | 1750 | | |
| 2/28/17 | 1800 | | |
| 3/1/17 | | | |
| | | | |
| | | | |
| | **1890** | **0** | **AVG** |
| | **1500** | **0** | **MIN** |
| | **2250** | **0** | **MAX** |

| | WH | AP | |
|---|---|---|---|
| 3/1/17 | 1800 | 0 | |
| 3/2/17 | 2250 | | |
| 3/3/17 | 1900 | | |
| 3/4/17 | | | |
| 3/5/17 | | | |
| 3/6/17 | 1900 | | |
| 3/7/17 | 1850 | | |
| 3/8/17 | 1800 | | |
| 3/9/17 | 1800 | | |
| 3/10/17 | 1900 | | |
| 3/11/17 | | | |
| 3/12/17 | | | |
| 3/13/17 | 1850 | | |
| 3/14/17 | 1850 | | |
| 3/15/17 | 1900 | | |
| 3/16/17 | 1750 | | |
| 3/17/17 | 1900 | | |
| 3/18/17 | | | |
| 3/19/17 | | | |
| 3/20/17 | 1850 | | |
| 3/21/17 | 1750 | | |
| 3/22/17 | 1750 | | |
| 3/23/17 | 1900 | | |
| 3/24/17 | 1600 | | |
| 3/25/17 | | | |
| 3/26/17 | | | |
| 3/27/17 | 1700 | | |
| 3/28/17 | 1600 | | |
| 3/29/17 | 1600 | | |
| 3/30/17 | 1800 | | |
| 3/31/17 | 1800 | | |
| | **1817.391** | **0** | **AVG** |
| | **1600** | **0** | **MIN** |
| | **2250** | **0** | **MAX** |

| | WH | AP | |
|---|---|---|---|
| 4/1/17 | | 0 | |
| 4/2/17 | | | |
| 4/3/17 | 2100 | | |
| 4/4/17 | 1850 | | |
| 4/5/17 | 2250 | | |
| 4/6/17 | 2200 | | |
| 4/7/17 | 1950 | | |
| 4/8/17 | | | |
| 4/9/17 | | | |
| 4/10/17 | 2250 | | |
| 4/11/17 | 2300 | | |
| 4/12/17 | 2250 | | |
| 4/13/17 | 2200 | | |
| 4/14/17 | 2100 | | |
| 4/15/17 | | | |
| 4/16/17 | | | |
| 4/17/17 | 2100 | | |
| 4/18/17 | 2300 | | |
| 4/19/17 | 2250 | | |
| 4/20/17 | 2300 | | |
| 4/21/17 | 2300 | | |
| 4/22/17 | | | |
| 4/23/17 | | | |
| 4/24/17 | 2300 | | |
| 4/25/17 | 2300 | | |
| 4/26/17 | 2200 | | |
| 4/27/17 | 2300 | | |
| 4/28/17 | 1850 | | |
| 4/29/17 | | | |
| 4/30/17 | | | |
| | | | |
| | **2182.5** | **0** | **AVG** |
| | **1850** | **0** | **MIN** |
| | **2300** | **0** | **MAX** |

| | WH | AP | |
|---|---|---|---|
| 5/1/17 | 2000 | 0 | |
| 5/2/17 | 2100 | | |
| 5/3/17 | 2000 | | |
| 5/4/17 | 2000 | | |
| 5/5/17 | 2100 | | |
| 5/6/17 | | | |
| 5/7/17 | | | |
| 5/8/17 | 2000 | | |
| 5/9/17 | 2000 | | |
| 5/10/17 | 2000 | | |
| 5/11/17 | 2200 | | |
| 5/12/17 | 2100 | | |
| 5/13/17 | | | |
| 5/14/17 | | | |
| 5/15/17 | 2100 | | |
| 5/16/17 | 1800 | | |
| 5/17/17 | 200 | | |
| 5/18/17 | 1750 | | |
| 5/19/17 | 2100 | | |
| 5/20/17 | | | |
| 5/21/17 | | | |
| 5/22/17 | 2100 | | |
| 5/23/17 | 2200 | | |
| 5/24/17 | 2100 | | |
| 5/25/17 | 2200 | | |
| 5/26/17 | 2100 | | |
| 5/27/17 | | | |
| 5/28/17 | | | |
| 5/29/17 | | | |
| 5/30/17 | 2200 | | |
| 5/31/17 | 2100 | | |
| | **1975** | **0** | **AVG** |
| | **200** | **0** | **MIN** |
| | **2200** | **0** | **MAX** |

| | WH | AP | |
|---|---|---|---|
| 6/1/17 | 2200 | 0 | |
| 6/2/17 | 2200 | | |
| 6/3/17 | | | |
| 6/4/17 | | | |
| 6/5/17 | 2200 | | |
| 6/6/17 | 2250 | | |
| 6/7/17 | 2000 | | |
| 6/8/17 | 1700 | | |
| 6/9/17 | 2200 | | |
| 6/10/17 | | | |
| 6/11/17 | | | |
| 6/12/17 | 1800 | | |
| 6/13/17 | 2000 | | |
| 6/14/17 | 2000 | | |
| 6/15/17 | 2000 | | |
| 6/16/17 | 1900 | | |
| 6/17/17 | | | |
| 6/18/17 | | | |
| 6/19/17 | 1850 | | |
| 6/20/17 | 2100 | | |
| 6/21/17 | 2200 | | |
| 6/22/17 | 2250 | | |
| 6/23/17 | 2250 | | |
| 6/24/17 | | | |
| 6/25/17 | | | |
| 6/26/17 | 2200 | | |
| 6/27/17 | 2200 | | |
| 6/28/17 | 2290 | | |
| 6/29/17 | 1890 | | |
| 6/30/17 | 1850 | | |
| | | | |
| | **2069.545** | **0** | **AVG** |
| | **1700** | **0** | **MIN** |
| | **2290** | **0** | **MAX** |

| |
|---|
| 7/1/17 |
| 7/2/17 |
| 7/3/17 |
| 7/4/17 |
| 7/5/17 |
| 7/6/17 |
| 7/7/17 |
| 7/8/17 |
| 7/9/17 |
| 7/10/17 |
| 7/11/17 |
| 7/12/17 |
| 7/13/17 |
| 7/14/17 |
| 7/15/17 |
| 7/16/17 |
| 7/17/17 |
| 7/18/17 |
| 7/19/17 |
| 7/20/17 |
| 7/21/17 |
| 7/22/17 |
| 7/23/17 |
| 7/24/17 |
| 7/25/17 |
| 7/26/17 |
| 7/27/17 |
| 7/28/17 |
| 7/29/17 |
| 7/30/17 |
| 7/31/17 |

| **Total Injected** | Avg Vol | Avg Flow | | Avg Vol | Avg Flow | | Avg Vol | Avg Flow | | Avg Vol | Avg Flow |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/1/2017 | | | 2/1/2017 | 1142 | 33.30833333 | 3/1/2017 | 919 | 26.80416667 | 4/1/2017 | | |
| 1/2/2017 | 714 | 20.825 | 2/2/2017 | 912 | 26.6 | 3/2/2017 | 1576 | 45.96666667 | 4/2/2017 | | |
| 1/3/2017 | 343 | 10.00416667 | 2/3/2017 | 456 | 13.3 | 3/3/2017 | 816 | 23.8 | 4/3/2017 | 1587 | 46.2875 |
| 1/4/2017 | 1319 | 38.47083333 | 2/4/2017 | | | 3/4/2017 | | | 4/4/2017 | 1231 | 35.90416667 |
| 1/5/2017 | | | 2/5/2017 | | | 3/5/2017 | | | 4/5/2017 | 1340 | 39.08333333 |
| 1/6/2017 | 952 | 27.76666667 | 2/6/2017 | 1149 | 33.5125 | 3/6/2017 | 1136 | 33.13333333 | 4/6/2017 | 2595 | 75.6875 |
| 1/7/2017 | | | 2/7/2017 | 1127 | 32.87083333 | 3/7/2017 | 1082 | 31.55833333 | 4/7/2017 | 1538 | 44.85833333 |
| 1/8/2017 | | | 2/8/2017 | 611 | 17.82083333 | 3/8/2017 | 304 | 8.866666667 | 4/8/2017 | | |
| 1/9/2017 | 861 | 25.1125 | 2/9/2017 | 978 | 28.525 | 3/9/2017 | 378 | 11.025 | 4/9/2017 | | |
| 1/10/2017 | 261 | 7.6125 | 2/10/2017 | 829 | 24.17916667 | 3/10/2017 | 550 | 16.04166667 | 4/10/2017 | 3186 | 92.925 |
| 1/11/2017 | 728 | 21.23333333 | 2/11/2017 | | | 3/11/2017 | | | 4/11/2017 | 2246 | 65.50833333 |
| 1/12/2017 | 250 | 7.291666667 | 2/12/2017 | | | 3/12/2017 | | | 4/12/2017 | 1615 | 47.10416667 |
| 1/13/2017 | | | 2/13/2017 | 822 | 23.975 | 3/13/2017 | 651 | 18.9875 | 4/13/2017 | 1723 | 50.25416667 |
| 1/14/2017 | | | 2/14/2017 | 958 | 27.94166667 | 3/14/2017 | 503 | 14.67083333 | 4/14/2017 | 1601 | 46.69583333 |
| 1/15/2017 | | | 2/15/2017 | 189 | 5.5125 | 3/15/2017 | 349 | 10.17916667 | 4/15/2017 | | |
| 1/16/2017 | 342 | 9.975 | 2/16/2017 | 43 | 1.254166667 | 3/16/2017 | 683 | 19.92083333 | 4/16/2017 | | |
| 1/17/2017 | 957 | 27.9125 | 2/17/2017 | | | 3/17/2017 | 459 | 13.3875 | 4/17/2017 | 1450 | 42.29166667 |
| 1/18/2017 | | | 2/18/2017 | | | 3/18/2017 | | | 4/18/2017 | 2272 | 66.26666667 |
| 1/19/2017 | 805 | 23.47916667 | 2/19/2017 | | | 3/19/2017 | | | 4/19/2017 | 2333 | 68.04583333 |
| 1/20/2017 | 761 | 22.19583333 | 2/20/2017 | 1240 | 36.16666667 | 3/20/2017 | 320 | 9.333333333 | 4/20/2017 | 2251 | 65.65416667 |
| 1/21/2017 | | | 2/21/2017 | 623 | 18.17083333 | 3/21/2017 | 210 | 6.125 | 4/21/2017 | 1871 | 54.57083333 |
| 1/22/2017 | | | 2/22/2017 | 162 | 4.725 | 3/22/2017 | 462 | 13.475 | 4/22/2017 | | |
| 1/23/2017 | | | 2/23/2017 | 552 | 16.1 | 3/23/2017 | 221 | 6.445833333 | 4/23/2017 | | |
| 1/24/2017 | 748 | 21.81666667 | 2/24/2017 | 530 | 15.45833333 | 3/24/2017 | | | 4/24/2017 | 2440 | 71.16666667 |
| 1/25/2017 | | | 2/25/2017 | | | 3/25/2017 | | | 4/25/2017 | 2294 | 66.90833333 |
| 1/26/2017 | 1173 | 34.2125 | 2/26/2017 | | | 3/26/2017 | | | 4/26/2017 | 2396 | 69.88333333 |
| 1/27/2017 | 489 | 14.2625 | 2/27/2017 | 461 | 13.44583333 | 3/27/2017 | 144 | 4.2 | 4/27/2017 | 1959 | 57.1375 |
| 1/28/2017 | | | 2/28/2017 | 557 | 16.24583333 | 3/28/2017 | 277 | 8.079166667 | 4/28/2017 | 1575 | 45.9375 |
| 1/29/2017 | | | | | | 3/29/2017 | | | 4/29/2017 | | |
| 1/30/2017 | 223 | 6.504166667 | | | | 3/30/2017 | 237 | 6.9125 | 4/30/2017 | | |
| 1/31/2017 | 826 | 24.09166667 | | | | 3/31/2017 | 797 | 23.24583333 | | | |
| ***AVG*** | 691.2941 | 20.1627451 | | 702.1579 | 20.47960526 | | 574.9524 | 16.76944444 | | 1975.15 | 57.60854167 |
| ***MAX*** | 1319 | 38.47083333 | | 1240 | 36.16666667 | | 1576 | 45.96666667 | | 3186 | 92.925 |
| ***MIN*** | 223 | 6.5041667 | | 43 | 1.2541667 | | 144 | 4.2000000 | | 1231 | 35.9041667 |
| ***Total for month*** | 11752 | | | 13341 | | | 12074 | | | 39503 | |

| | Avg Vol | Avg Flow |
|---|---|---|
| 5/1/2017 | 711 | 20.7375 |
| 5/2/2017 | 201 | 5.8625 |
| 5/3/2017 | 752 | 21.93333333 |
| 5/4/2017 | 719 | 20.97083333 |
| 5/5/2017 | 854 | 24.90833333 |
| 5/6/2017 | | |
| 5/7/2017 | | |
| 5/8/2017 | 594 | 17.325 |
| 5/9/2017 | 978 | 28.525 |
| 5/10/2017 | 1273 | 37.12916667 |
| 5/11/2017 | 1099 | 32.05416667 |
| 5/12/2017 | 785 | 22.89583333 |
| 5/13/2017 | | |
| 5/14/2017 | | |
| 5/15/2017 | 283 | 8.254166667 |
| 5/16/2017 | 191 | 5.570833333 |
| 5/17/2017 | 468 | 13.65 |
| 5/18/2017 | 268 | 7.816666667 |
| 5/19/2017 | 815 | 23.77083333 |
| 5/20/2017 | | |
| 5/21/2017 | | |
| 5/22/2017 | 421 | 12.27916667 |
| 5/23/2017 | 377 | 10.99583333 |
| 5/24/2017 | 521 | 15.19583333 |
| 5/25/2017 | 952 | 27.76666667 |
| 5/26/2017 | 785 | 22.89583333 |
| 5/27/2017 | | |
| 5/28/2017 | | |
| 5/29/2017 | | |
| 5/30/2017 | 1154 | 33.65833333 |
| 5/31/2017 | 351 | 10.2375 |

| | Avg Vol | Avg Flow |
|---|---|---|
| 6/1/2017 | 495 | 14.4375 |
| 6/2/2017 | 1040 | 30.33333333 |
| 6/3/2017 | | |
| 6/4/2017 | | |
| 6/5/2017 | 541 | 15.77916667 |
| 6/6/2017 | 1067 | 31.12083333 |
| 6/7/2017 | 911 | 26.57083333 |
| 6/8/2017 | | |
| 6/9/2017 | 567 | 16.5375 |
| 6/10/2017 | | |
| 6/11/2017 | | |
| 6/12/2017 | 697 | 20.32916667 |
| 6/13/2017 | 268 | 7.816666667 |
| 6/14/2017 | 627 | 18.2875 |
| 6/15/2017 | 411 | 11.9875 |
| 6/16/2017 | | |
| 6/17/2017 | | |
| 6/18/2017 | | |
| 6/19/2017 | 331 | 9.654166667 |
| 6/20/2017 | 957 | 27.9125 |
| 6/21/2017 | 200 | 5.833333333 |
| 6/22/2017 | 1089 | 31.7625 |
| 6/23/2017 | 702 | 20.475 |
| 6/24/2017 | | |
| 6/25/2017 | | |
| 6/26/2017 | 607 | 17.70416667 |
| 6/27/2017 | 3104 | 90.53333333 |
| 6/28/2017 | 3019 | 88.05416667 |
| 6/29/2017 | | |
| 6/30/2017 | | |

| | | |
|---|---|---|
| | 661.4545 | 19.29242424 |
| | 1273 | 37.12916667 |
| | 191 | 5.5708333 |
| | 14552 | |

| | | |
|---|---|---|
| | 924.0556 | 26.95162037 |
| | 3104 | 90.53333333 |
| | 200 | 5.8333333 |
| | 16633 | |

*UICI-5-0*
*Agua Moss, LLC*
*Sunco Disposal #1 30-045-28653*

**2017**
**Quarterly**
**Injection Report**

| | Average Pressure (psig) | Maximum Pressure (psig) | Minimum Pressure (psig) | Average Flow (gpm) | Maxium Flow (gpm) | Minimum Flow (gpm) | Average Annular Pressure (psig) | Maximum Annular Pressure (psig) | Minimum Annular Pressure (psig) | Average Volume (bpd) | Maximum Volume (bpd) | Minimum Volume (bpd) | Volume (barrels) | Total Cumulative Volume (barrels) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | **Previous year** | 14433658 | |
| Jan-2017 | 1756.818 | 2250 | 1500 | 20.1627451 | 38.47083333 | 6.5041667 | 0 | 0 | 0 | 691.2941176 | 1319 | 223 | 11752 | 14445410 | |
| Feb-2017 | 1890 | 2250 | 1500 | 20.47960526 | 36.16666667 | 1.2541667 | 0 | 0 | 0 | 702.1578947 | 1240 | 43 | 13341 | 14458751 | |
| Mar-2017 | 1817.391 | 2250 | 1600 | 16.76944444 | 45.96666667 | 4.2 | 0 | 0 | 0 | 574.952381 | 1576 | 144 | 12074 | 14470825 | |
| | | | | | | | | | | | | | **Previous Quarter** | 14470825 | |
| Apr-2017 | 2182.5 | 2300 | 1850 | 57.60854167 | 92.925 | 35.904167 | 0 | 0 | 0 | 1975.15 | 3186 | 1231 | 39503 | 14510328 | |
| May-2017 | 1975 | 2200 | 200 | 19.29242424 | 37.12916667 | 5.5708333 | 0 | 0 | 0 | 661.4545455 | 1273 | 191 | 14552 | 14524880 | |
| Jun-2017 | 2069.545 | 2290 | 1700 | 26.95162037 | 90.53333333 | 5.8333333 | 0 | 0 | 0 | 924.0555556 | 3104 | 200 | 16633 | 14541513 | |
| | | | | | | | | | | | | | **Previous Quarter** | 14541513 | |
| Jul-17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14541513 | |
| Aug-17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14541513 | |
| Sep-17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14541513 | |
| | | | | | | | | | | | | | **Previous Quarter** | 14541513 | |
| Oct-2017 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14541513 | |
| Nov-2017 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14541513 | |
| Dec-2017 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14541513 | |
| | | | | | | | | | | | | **Total for year** | **107855** | **14649368** | **Life Of well injected** |

## 2016 AREA OF REVIEW
## UNIT LETTERS ENCOMPASSED BY THE 1-MILE AOR

| Sec | TWN | RNG | UL | |
|---|---|---|---|---|
| 1 | 29N | 12W | DELM | |
| 2 | 29N | 12W | ALL | |
| 3 | 29N | 12W | ABCFGHIJKOP | |
| 10 | 29N | 12W | AB | |
| 11 | 29N | 12W | ABCDEF | |
| 34 | 30N | 12W | AGHIJKNOP | |
| 35 | 30N | 12W | DEFGHIJKLMNOP | |
| 36 | 30N | 12W | LM | |

**All tracts within the AOR were reviewed for activity that had ensued since 2015 Annual Report.**

| | | | | | | | | | | | | | | Surface Casing | | | INT Casing | | | Production Casing | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | API | Well Name | Well # | Current Operator | Type | Lease | Status | Sec | TWN | RNG | UL | Spud Date | TD | size | depth | Sacks TOC | size | depth | Sacks TOC | size | depth | Sacks TOC | Perfs | Packer | PLUGGED |
| x | 30-045-08851 | ALLEN A | #001 | BP America | Gas | Private | Active | 1 | 29N | 12W | D | 3/12/1961 | 6785 | 8.265 | 264 | 200 surf | | | | 4.5 | 6785 | 300 surf | 6518-6718 | | |
| x | 30-045-26214 | ALLEN A | #001E | BP America | Gas | Federal | Active | 1 | 29N | 12W | L | 3/22/1985 | 5825 | 8.625 | 318 | 225 surf | | | | 5.5 | 6622 | 820 surf | 6425-6602 | | |
| x | 30-045-32346 | CORNELL | #002R | Energen Resources | Gas | Federal | Active | 1 | 29N | 12W | M | 7/22/2004 | 2152 | 7 | 137 | 90 surf | | | | 4.5 | 2151 | 310 surf | 1702-1926 | | |
| x | 30-045-32241 | BECK | #001R | Burlington | Gas | Private | Active | 2 | 29N | 12W | G | 12/1/2004 | 2225 | 7 | 135 | 34 surf | | | | 4.5 | 2221 | 262 surf | 1774-2077 | | |
| x | 30-045-33811 | BECK | #001S | Burlington | Gas | Private | Active | 2 | 29N | 12W | D | 8/17/2006 | 2200 | 7 | 162 | 85 surf | | | | 4.5 | 2195 | 255 surf | 1730-1951 | | |
| x | 30-045-31580 | CORNELL COM | #500 | Burlington | Gas | Federal | Active | 2 | 29N | 12W | N | 7/14/2003 | 2136 | 7 | 139 | 44 surf | 6.25 | 2126 | | 4.5 | 2126 | 258 surf | 1658-1878 | | |
| x | 30-045-08714 | CORNELL SRC | #007 | Burlington | Gas | Federal | Active | 2 | 29N | 12W | L | 7/29/1944 | 2107 | 16 | 42 | 10 surf | 5.5 | 1978 | | 3.5 | 2106 | 250 surf | 1976-2010 | | |
| x | 30-045-08704 | MCGRATH B | #001 | Burlington | Gas | Private | Active | 2 | 29N | 12W | J | 11/19/1961 | 6720 | 8.625 | 318 | 225 surf | | | | 4.5 | 1865 | 1065 surf | 6489-6596 | | |
| | 30-045-28653 | SUNCO DISPOSAL | #001 | Agua Moss | Salt Water Disposal | Private | Active | 2 | 29N | 12W | E | 1/28/1992 | 4760 | 8.625 | 209 | 150 surf | | | | 5.5 | 4760 | 1010 surf | 4350-4460 | 4282 10/15/07 | 4350-4460 TA'd |
| x | 30-045-08839 | YOUNG | #001 | Burlington | Gas | Private | Active | 2 | 29N | 12W | D | 8/1/1961 | 6740 | 8.625 | 307 | 275 surf | | | | 4.5 | 6739 | 700 surf | 6446-6644 | | |
| x | 30-045-33580 | MCGRATH | #003S | Burlington | Gas | Private | Active | 3 | 29N | 12W | B | 7/13/2007 | 2132 | 7 | 218 | 150 surf | | | | 4.5 | 2112 | 289 surf | 1692-1904 | | |
| x | 30-045-08712 | MCGRATH A | #001 | Burlington | Gas | Private | Active | 3 | 29N | 12W | I | 3/14/1964 | 6689 | 8.625 | 307 | 250 surf | | | | 4.5 | 6688 | 500 surf | 6432-6524 | | |
| x | 30-045-32931 | WALKER | #100S | Burlington | Gas | Private | Active | 3 | 29N | 12W | F | 8/14/2005 | 2120 | 7 | 144 | 61 surf | | | | 4.5 | 2117 | 238 surf | 1621-1885 | | NOI to PA 5/2014 |
| x | 30-045-23889 | BECK A | #001E | Burlington | Gas | Federal | Active | 10 | 29N | 12W | B | 1/5/1981 | 6514 | 8.625 | 240 | 150 surf | | | | 4.5 | 6514 | 765 surf | 6277-6454 | | |
| x | 30-045-30381 | CORNELL | #100 | Burlington | Gas | Federal | Active | 10 | 29N | 12W | B | 1/7/2003 | 1968 | 7 | 147 | 55 surf | | | | 4.5 | 1959 | 229 surf | 1543-1704<br>1744-1800 | | |
| x | 30-045-08615 | CORNELL | #006 | Thompson Engr & Prod | Gas | Federal | Active | 11 | 29N | 12W | C | 11/7/1955 | 1839 | 8.625 | 106 | 70 surf | 5.5 | 1811 | | 3.5 | 2022 | 181 surf | 1811-1839 | | |
| x | 30-045-31581 | CORNELL | #101 | Burlington | Gas | Federal | Active | 11 | 29N | 12W | D | 10/7/2003 | 2008 | 7 | 140 | 35 surf | | | | 4.5 | 2000 | 270 surf | 1726-1764 | | |
| x | 30-045-13092 | CORNELL C | #001 | BP America | Gas | Federal | Active | 11 | 29N | 12W | D | 12/6/1961 | 6604 | 8.625 | 250 | 150 surf | | | | 4.5 | 6604 | 300 surf | 6298-6483 | | |
| x | 30-045-26141 | DUFF GAS COM | #001E | Burlington | Gas | Federal | TA'd | 34 | 30N | 12W | G | 11/20/1984 | 6608 | 8.625 | 316 | 295 surf | | | | 4.5 | 6608 | 1000 surf | 6396-6576 04'RC to FC 1492-1870 | | TA'd 3/5/14 |
| x | 30-045-08946 | CARNAHAN COM | #001 | Holcomb Oil & Gas | Gas | Private | Active | 35 | 30N | 12W | P | 12/19/1960 | 6778 | 8.625 | 301 | 200 surf | | | | 4.5 | 6760 | 445 surf | 6521-6708 94 RC to FC 1824-2037 | | |
| x | 30-045-25844 | CARNAHAN COM | #002 | Merrion Oil & Gas | Gas | Private | Active | 35 | 30N | 12W | P | 6/15/1984 | 6780 | 8.625 | 230 | 170 surf | | | | 4.5 | 6777 | 1425 surf | 6529-6714 | | |
| x | 30-045-11770 | HUDSON J | #003 | Burlington | Gas | Federal | Active | 35 | 30N | 12W | E | 7/22/1966 | 6750 | 8.625 | 306 | 250 surf | | | | 4.5 | 6750 | 750 surf | 6460-6680 01' RC to FC 1784-1994 | | |
| | 30-045-28177 | FC STATE COM | #024 | Burlington | Gas | State | Plugged | 36 | 30N | 12W | M | 10/9/1990 | 6608 | 8.625 | 316 | 250 surf | | | | 4.5 | 6609 | 6000 surf | 1492-1870 | | 3/26/2013 |
| | 30-045-08945 | MCGRATH C | #001 | Burlington | Gas | Federal | Plugged | 34 | 30n | 12W | p | 2/7/1963 | 6637 | 8.625 | 323 | 225 surf | | | | 4.5 | 6637 | 925 surf | 6367-6576 | | 4/29/2009 |

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30-045-08713 | McGrath SRC | #001 | Burlington | Gas | Private | Plugged | 2 | 29n | 12w | j | 7/7/1973 | 2136 | 13 & 10.75 | 550 & 864 | 2 sx mud 4 sx mud | 8.625 | 1526 | 5 sx mud | 5.50 & 3.50 | 2020 2136 | 12 sx mud 140 surf | 2020-2136 2012-2078 | | 1998 |
| 30-045-08797 | Pre-Ongard | | Southland | Gas | Private | Plugged | 2 | 29n | 12w | g | 4/14/1948 | 2125 | | | | | | | | | | | | 2/23/1984 |
| 30-045-30486 | MCGRATH SRC | #001R | Burlington | Gas | Private | Plugged, Not Released | 2 | 29N | 12W | J | 3/23/2001 | 2235 | 8.625 | 53 | 12 surf | | | | 2.875 | 2228 | 425 surf | 2010-2157 | | 6/25/2010 |
| 30-045-08793 | Pre-Ongard | | Southern union | Gas | Private | Plugged | 1 | 29N | 12W | E | 3/16/1948 | 2125 | | | | | | | | | | | | 3/16/1948 |
| 30-045-08656 | Cornell | 2 | Energen Resources | Gas | Federal | Plugged | 1 | 29N | 12W | M | 10/2/1955 | 1996 | 8.625 | 97 | 75 surf | | | | 5.5 | 1950 | 100 surf | 1711-1936 | | 9/15/2005 |
| 30-045-08823 | Walker SRC | 1 | Burlington | Gas | Private | Plugged | 3 | 29N | 12W | G | 2/25/1943 | 2050 | 16 | 21 | 20 surf | 5.5 | 1930 | | 3.5 | 2050 | 175 surf | 1938-1974 | | 10/12/2009 |
| 30-045-08711 | Pre-Ongard | | Union Texas | Gas | Private | Plugged | 3 | 29N | 12W | K | 6/25/1955 | 1940 | | | | | | | | | | | | 11/10/1964 |
| 30-045-23758 | Pre-Ongard | | Southland | Gas | Federal | Plugged | 10 | 29N | 12W | A | 12/19/1980 | 1870 | | | | | | | | | | | | 2/10/1984 |
| 30-045-08950 | HUDSON | 2 | Burlington | Gas | Federal | Plugged | 34 | 30N | 12W | P | 7/17/1946 | 2137 | 15.5 | 38 | 20 surf | 10 & 8.625 | 1217 1618 | 99 surf | 5.5 | 1961 | 40 surf | 1728-1938 1962-2008 | 2128 | 9/26/2008 |
| 30-045-08955 | Pre-Ongard | | Aztec O&G | Gas | Private | Plugged | 34 | 30N | 12W | N | 11/1/1944 | 1965 | | | | | | | | | | | | 10/29/1977 |
| 30-045-20140 | Pre-Ongard | | Southland | Gas | Federal | Plugged | 35 | 30N | 12W | L | 9/7/1967 | DH | | | | | | | | | | | | 6/9/1982 |
| 30-045-33573 | CORNELL COM | #500S | Burlington | Gas | Private | Plugged | 2 | 29N | 12W | P | 3/18/2006 | 2210 | 7 | 132 | 34 surf | 6.25 | 2210 | | 4.5 | 2198 | 279 surf | 1754-1939 1743-1924 | | 1/23/2013 |
| 30-045-08844 | KATTLER | #001 | Burlington | Gas | Private | Plugged | 2 | 29N | 12W | C | 1/26/1945 | 2069 | 10 | 846 | surf | 5.5 | 1960 | | 3.5 | 2050 | 205 surf | 1961-2007 | | 5/26/2012 |
| 30-045-08709 | MCGRATH | #003 | Burlington | Gas | Private | Plugged | 3 | 29N | 12W | J | 3/4/1945 | 2040 | 13.375 | 675 | 2 surf | 8.625 INT 1 5.5 INT 2 | 1460 1928 | 4 surf 58 surf | 3.5 | 2011 | 110 surf | 1872-1912 1922-1937 | 1871-1876 | 3/1/2013 |

File Reference ..... F262705.RED

| | |
|---|---|
| Customer | AGUA MOSS, LLC |
| Street | P.O. BOX 600 |
| City/State | FARMINGTON, NM 87499 |
| Country | USA |
| Service Company | TEFTELLER, INC. |
| Well Name | SUNCO SWD NO. 1 |
| Well Location | SAN JUAN COUNTY, NM |
| Field / Pool | POINT LOOKOUT FORMATION |
| Status (Oil, Gas, Other) | DISPOSAL |
| Test Type | INJECTION & FALL-OFF TESTS |
| Date of Test | 6-26-17 |
| Producing Interval | 4350' - 4460' |
| Recorder Depth | 4405' |
| Recorder Position | 4405' |
| Shut In Date Start: | 6-26-2017 |
| Stop: | 7-5-2017 |
| Duration: | 212 HRS. TANDEM ELEC. MEMORY INST. TIME |
| Bottom Hole Temperature | |

## Gauge Identification

| | |
|---|---|
| Gauge Manufacturer | MICRO-SMART SYSTEMS |
| Serial Number | 262 |
| Model Number | SP2000 |
| Pressure Range | |
| Battery Type | |
| Calibration I.D. | |
| Last Calibration | 2/23/15 |

## Gauge Setup Parameters

| | |
|---|---|
| Probe Set Up Time | 6/26/17 13: 2: 0 |
| Time Delay to First Reading | |
| Test Type Selection | INJECTION & FALL-OFF TESTS |
| Test Duration Selection | 212 HRS. TANDEM ELEC. MEMORY INST. TIME |

COMPANY: AGUA MOSS, LLC



WELL NAME : SUNCO SWD NO. 1

DATE : 07/06/17

WELL LOCATION : SAN JUAN COUNTY, NM

FILE REF: F262705.RED

| Date MM/DD | Time hh:mm:ss | Test Time mmmmmm.mmmm | Pressure Psig | Temp Deg F | deltaP Psi | Comment Ga. Press Ref. to 14.7 Psi Atm. |
|---|---|---|---|---|---|---|
| 06/26 | 13:02:00 | .0000 | .01 | 106.59 | | |
| 06/26 | 13:28:00 | 26.0000 | .01 | 104.04 | .00 | |
| 06/26 | 13:31:00 | 29.0000 | 8.77 | 103.44 | 8.76 | PRESSURED UP LUBRICATOR |
| 06/26 | 13:31:15 | 29.2500 | 35.46 | 103.38 | 26.69 | |
| 06/26 | 13:31:30 | 29.5000 | 938.47 | 102.88 | 903.01 | |
| 06/26 | 13:31:45 | 29.7500 | 1522.12 | 102.38 | 583.65 | |
| 06/26 | 13:33:30 | 31.5000 | 1534.09 | 98.87 | 11.97 | |
| 06/26 | 13:34:45 | 32.7500 | 1534.34 | 95.65 | .25 | |
| 06/26 | 13:35:30 | 33.5000 | 1549.79 | 93.30 | 15.45 | SURFACE STOP |
| 06/26 | 13:35:45 | 33.7500 | 1559.68 | 92.52 | 9.89 | |
| 06/26 | 13:36:00 | 34.0000 | 1572.86 | 91.74 | 13.19 | RAN TANDEM ELEC. MEMORY INST. IN WELL |
| 06/26 | 13:36:15 | 34.2500 | 1592.93 | 90.95 | 20.06 | |
| 06/26 | 13:36:30 | 34.5000 | 1605.41 | 90.17 | 12.48 | |
| 06/26 | 13:36:45 | 34.7500 | 1632.49 | 89.39 | 27.08 | |
| 06/26 | 13:37:00 | 35.0000 | 1666.46 | 88.61 | 33.97 | |
| 06/26 | 13:37:15 | 35.2500 | 1694.63 | 87.48 | 28.17 | |
| 06/26 | 13:37:30 | 35.5000 | 1718.72 | 86.49 | 24.09 | |
| 06/26 | 13:37:45 | 35.7500 | 1736.94 | 85.49 | 18.23 | |
| 06/26 | 13:38:00 | 36.0000 | 1755.17 | 84.50 | 18.23 | |
| 06/26 | 13:38:15 | 36.2500 | 1776.85 | 83.51 | 21.68 | |
| 06/26 | 13:38:30 | 36.5000 | 1801.40 | 82.52 | 24.55 | |
| 06/26 | 13:38:45 | 36.7500 | 1819.79 | 81.53 | 18.39 | |
| 06/26 | 13:39:00 | 37.0000 | 1838.06 | 80.53 | 18.26 | |
| 06/26 | 13:39:15 | 37.2500 | 1859.90 | 79.55 | 21.84 | |
| 06/26 | 13:39:30 | 37.5000 | 1882.91 | 78.56 | 23.01 | |
| 06/26 | 13:39:45 | 37.7500 | 1905.06 | 77.57 | 22.16 | |
| 06/26 | 13:40:00 | 38.0000 | 1931.11 | 76.58 | 26.04 | |
| 06/26 | 13:40:15 | 38.2500 | 1963.43 | 75.89 | 32.32 | |
| 06/26 | 13:40:30 | 38.5000 | 1999.92 | 75.64 | 36.49 | |
| 06/26 | 13:40:45 | 38.7500 | 2041.59 | 75.39 | 41.68 | |
| 06/26 | 13:41:00 | 39.0000 | 2088.29 | 75.13 | 46.70 | |
| 06/26 | 13:41:15 | 39.2500 | 2117.19 | 74.88 | 28.90 | |
| 06/26 | 13:41:30 | 39.5000 | 2139.49 | 74.62 | 22.30 | |
| 06/26 | 13:41:45 | 39.7500 | 2160.50 | 74.36 | 21.01 | |
| 06/26 | 13:42:00 | 40.0000 | 2183.09 | 74.10 | 22.59 | |
| 06/26 | 13:42:15 | 40.2500 | 2206.53 | 73.85 | 23.45 | |
| 06/26 | 13:42:30 | 40.5000 | 2231.14 | 73.60 | 24.60 | |
| 06/26 | 13:42:45 | 40.7500 | 2256.03 | 73.34 | 24.90 | |
| 06/26 | 13:43:00 | 41.0000 | 2279.49 | 73.09 | 23.46 | |
| 06/26 | 13:43:15 | 41.2500 | 2302.97 | 73.21 | 23.48 | |
| 06/26 | 13:43:30 | 41.5000 | 2323.38 | 73.61 | 20.41 | |
| 06/26 | 13:43:45 | 41.7500 | 2343.79 | 74.01 | 20.40 | |
| 06/26 | 13:44:00 | 42.0000 | 2362.18 | 74.41 | 18.39 | |
| 06/26 | 13:44:15 | 42.2500 | 2378.70 | 74.81 | 16.52 | |
| 06/26 | 13:44:30 | 42.5000 | 2402.97 | 75.21 | 24.28 | |
| 06/26 | 13:44:45 | 42.7500 | 2435.00 | 75.61 | 32.03 | |
| 06/26 | 13:45:00 | 43.0000 | 2467.03 | 76.01 | 32.03 | |
| 06/26 | 13:45:15 | 43.2500 | 2491.87 | 76.41 | 24.84 | |
| 06/26 | 13:45:30 | 43.5000 | 2513.26 | 76.81 | 21.39 | |
| 06/26 | 13:45:45 | 43.7500 | 2534.51 | 77.21 | 21.24 | |
| 06/26 | 13:46:00 | 44.0000 | 2555.89 | 77.61 | 21.38 | |
| 06/26 | 13:46:15 | 44.2500 | 2581.25 | 78.26 | 25.36 | |
| 06/26 | 13:46:30 | 44.5000 | 2612.10 | 79.04 | 30.85 | |
| 06/26 | 13:46:45 | 44.7500 | 2641.36 | 79.82 | 29.26 | |
| 06/26 | 13:47:00 | 45.0000 | 2666.60 | 80.60 | 25.24 | |
| 06/26 | 13:47:15 | 45.2500 | 2693.97 | 81.39 | 27.37 | |
| 06/26 | 13:47:30 | 45.5000 | 2724.22 | 82.17 | 30.24 | |
| 06/26 | 13:47:45 | 45.7500 | 2743.26 | 82.95 | 19.04 | |
| 06/26 | 13:48:00 | 46.0000 | 2765.02 | 83.74 | 21.76 | |
| 06/26 | 13:48:15 | 46.2500 | 2788.35 | 84.52 | 23.33 | |
| 06/26 | 13:48:30 | 46.5000 | 2813.83 | 85.31 | 25.48 | |
| 06/26 | 13:48:45 | 46.7500 | 2836.57 | 86.09 | 22.74 | |
| 06/26 | 13:49:00 | 47.0000 | 2859.60 | 86.88 | 23.03 | |
| 06/26 | 13:49:15 | 47.2500 | 2881.69 | 87.74 | 22.09 | |
| 06/26 | 13:49:30 | 47.5000 | 2906.89 | 88.64 | 25.21 | |

| Date MM/DD | Time hh:mm:ss | Test Time mmmmmm.mmmm | Pressure Psig | Temp Deg F | deltaP Psi | Comment Ga. Press Ref. to 14.7 Psi Atm. |
|---|---|---|---|---|---|---|
| 06/26 | 13:49:45 | 47.7500 | 2941.13 | 89.53 | 34.24 | |
| 06/26 | 13:50:00 | 48.0000 | 2972.06 | 90.42 | 30.93 | |
| 06/26 | 13:50:15 | 48.2500 | 3005.42 | 91.31 | 33.36 | |
| 06/26 | 13:50:30 | 48.5000 | 3040.77 | 92.20 | 35.35 | |
| 06/26 | 13:50:45 | 48.7500 | 3070.52 | 93.09 | 29.75 | |
| 06/26 | 13:51:00 | 49.0000 | 3095.54 | 93.98 | 25.02 | |
| 06/26 | 13:51:15 | 49.2500 | 3127.41 | 94.88 | 31.87 | |
| 06/26 | 13:51:30 | 49.5000 | 3153.12 | 95.77 | 25.71 | |
| 06/26 | 13:51:45 | 49.7500 | 3180.25 | 96.66 | 27.13 | |
| 06/26 | 13:52:00 | 50.0000 | 3213.09 | 97.56 | 32.84 | |
| 06/26 | 13:52:15 | 50.2500 | 3242.13 | 98.38 | 29.04 | |
| 06/26 | 13:52:30 | 50.5000 | 3264.89 | 99.17 | 22.76 | |
| 06/26 | 13:52:45 | 50.7500 | 3290.50 | 99.96 | 25.61 | |
| 06/26 | 13:53:00 | 51.0000 | 3311.95 | 100.75 | 21.45 | |
| 06/26 | 13:53:15 | 51.2500 | 3329.96 | 101.54 | 18.01 | |
| 06/26 | 13:53:30 | 51.5000 | 3348.11 | 102.33 | 18.15 | |
| 06/26 | 13:53:45 | 51.7500 | 3369.54 | 103.12 | 21.43 | |
| 06/26 | 13:54:00 | 52.0000 | 3392.25 | 103.91 | 22.71 | |
| 06/26 | 13:54:15 | 52.2500 | 3407.09 | 104.70 | 14.84 | |
| 06/26 | 13:54:30 | 52.5000 | 3422.78 | 105.49 | 15.69 | |
| 06/26 | 13:54:45 | 52.7500 | 3441.90 | 106.29 | 19.12 | |
| 06/26 | 13:55:00 | 53.0000 | 3463.29 | 107.08 | 21.39 | |
| 06/26 | 13:58:15 | 56.2500 | 3481.75 | 103.70 | 18.46 | TANDEM ELEC. MEMORY INST. @ 4405' |
| 06/26 | 14:00:00 | 58.0000 | 3480.40 | 100.65 | -1.36 | |
| 06/26 | 14:02:15 | 60.2500 | 3479.56 | 97.60 | -.84 | |
| 06/26 | 14:06:45 | 64.7500 | 3479.22 | 94.52 | -.34 | |
| 06/26 | 14:14:00 | 72.0000 | 3478.60 | 93.21 | -.62 | BEGAN INJECTING WATER |
| 06/26 | 14:15:00 | 73.0000 | 3540.52 | 93.13 | 61.93 | |
| 06/26 | 14:15:15 | 73.2500 | 3557.59 | 93.12 | 17.07 | |
| 06/26 | 14:15:30 | 73.5000 | 3568.93 | 93.55 | 11.34 | |
| 06/26 | 14:16:00 | 74.0000 | 3583.42 | 94.43 | 14.49 | |
| 06/26 | 14:16:15 | 74.2500 | 3589.16 | 94.86 | 5.75 | |
| 06/26 | 14:17:00 | 75.0000 | 3605.36 | 96.18 | 16.20 | |
| 06/26 | 14:17:15 | 75.2500 | 3609.52 | 96.61 | 4.16 | |
| 06/26 | 14:18:45 | 76.7500 | 3628.99 | 99.98 | 19.47 | |
| 06/26 | 14:20:00 | 78.0000 | 3643.76 | 103.13 | 14.77 | |
| 06/26 | 14:21:30 | 79.5000 | 3656.60 | 106.18 | 12.83 | |
| 06/26 | 14:24:30 | 82.5000 | 3676.32 | 107.61 | 19.72 | |
| 06/26 | 14:24:45 | 82.7500 | 3677.05 | 107.49 | .73 | |
| 06/26 | 14:29:30 | 87.5000 | 3694.48 | 104.44 | 17.43 | |
| 06/26 | 14:33:15 | 91.2500 | 3705.61 | 101.32 | 11.14 | |
| 06/26 | 14:37:45 | 95.7500 | 3717.75 | 98.20 | 12.14 | |
| 06/26 | 14:43:30 | 101.5000 | 3730.89 | 95.11 | 13.14 | |
| 06/26 | 14:52:45 | 110.7500 | 3747.23 | 92.09 | 16.34 | |
| 06/26 | 15:10:15 | 128.2500 | 3766.77 | 89.93 | 19.54 | |
| 06/26 | 15:10:30 | 128.5000 | 3767.07 | 89.92 | .30 | |
| 06/26 | 15:32:30 | 150.5000 | 3786.76 | 89.63 | 19.69 | |
| 06/26 | 15:32:45 | 150.7500 | 3786.89 | 89.63 | .13 | |
| 06/26 | 15:59:00 | 177.0000 | 3802.99 | 89.88 | 16.10 | |
| 06/26 | 16:25:00 | 203.0000 | 3817.32 | 90.11 | 14.33 | |
| 06/26 | 16:51:00 | 229.0000 | 3828.78 | 90.27 | 11.46 | |
| 06/26 | 17:17:00 | 255.0000 | 3837.80 | 90.36 | 9.02 | |
| 06/26 | 17:43:00 | 281.0000 | 3845.63 | 90.41 | 7.83 | |
| 06/26 | 18:09:00 | 307.0000 | 3852.70 | 90.45 | 7.07 | |
| 06/26 | 18:35:00 | 333.0000 | 3858.71 | 90.45 | 6.01 | |
| 06/26 | 19:01:00 | 359.0000 | 3863.16 | 90.46 | 4.45 | |
| 06/26 | 19:27:00 | 385.0000 | 3866.16 | 90.47 | 2.99 | |
| 06/26 | 19:53:00 | 411.0000 | 3869.17 | 90.50 | 3.01 | |
| 06/26 | 20:19:00 | 437.0000 | 3872.32 | 90.51 | 3.15 | |
| 06/26 | 20:45:00 | 463.0000 | 3875.20 | 90.52 | 2.88 | |
| 06/26 | 21:11:00 | 489.0000 | 3878.12 | 90.54 | 2.93 | |
| 06/26 | 21:37:00 | 515.0000 | 3881.25 | 90.55 | 3.13 | |
| 06/26 | 22:03:00 | 541.0000 | 3884.42 | 90.58 | 3.17 | |
| 06/26 | 22:29:00 | 567.0000 | 3887.32 | 90.59 | 2.90 | |
| 06/26 | 22:55:00 | 593.0000 | 3890.15 | 90.61 | 2.83 | |

| Date MM/DD | Time hh:mm:ss | Test Time mmmmmm.mmmm | Pressure Psig | Temp Deg F | deltaP Psi | Comment Ga. Press Ref. to 14.7 Psi Atm. |
|---|---|---|---|---|---|---|
| 06/26 | 23:21:00 | 619.0000 | 3892.77 | 90.63 | 2.62 | |
| 06/26 | 23:47:00 | 645.0000 | 3895.43 | 90.64 | 2.66 | |
| 06/27 | 00:13:00 | 671.0000 | 3897.97 | 90.66 | 2.54 | |
| 06/27 | 00:39:00 | 697.0000 | 3900.33 | 90.65 | 2.36 | |
| 06/27 | 01:05:00 | 723.0000 | 3902.69 | 90.64 | 2.36 | |
| 06/27 | 01:31:00 | 749.0000 | 3904.74 | 90.61 | 2.05 | |
| 06/27 | 01:57:00 | 775.0000 | 3906.68 | 90.54 | 1.95 | |
| 06/27 | 02:23:00 | 801.0000 | 3908.52 | 90.44 | 1.83 | |
| 06/27 | 02:49:00 | 827.0000 | 3910.31 | 90.27 | 1.79 | |
| 06/27 | 03:15:00 | 853.0000 | 3911.88 | 90.03 | 1.57 | |
| 06/27 | 03:41:00 | 879.0000 | 3913.44 | 89.71 | 1.56 | |
| 06/27 | 04:07:00 | 905.0000 | 3914.78 | 89.29 | 1.33 | |
| 06/27 | 04:33:00 | 931.0000 | 3915.99 | 88.77 | 1.22 | |
| 06/27 | 04:59:00 | 957.0000 | 3916.85 | 87.98 | .86 | |
| 06/27 | 05:25:00 | 983.0000 | 3917.88 | 87.35 | 1.02 | |
| 06/27 | 05:51:00 | 1009.0000 | 3918.76 | 86.74 | .88 | |
| 06/27 | 06:17:00 | 1035.0000 | 3919.72 | 86.13 | .96 | |
| 06/27 | 06:25:30 | 1043.5000 | 3900.37 | 86.10 | -19.35 | |
| 06/27 | 06:25:45 | 1043.7500 | 3899.91 | 86.11 | -.47 | |
| 06/27 | 06:51:00 | 1069.0000 | 3919.42 | 85.77 | 19.51 | |
| 06/27 | 06:52:00 | 1070.0000 | 3919.69 | 85.72 | .27 | |
| 06/27 | 07:18:00 | 1096.0000 | 3922.88 | 84.85 | 3.19 | |
| 06/27 | 07:44:00 | 1122.0000 | 3924.21 | 84.17 | 1.33 | |
| 06/27 | 08:10:00 | 1148.0000 | 3924.71 | 83.56 | .50 | |
| 06/27 | 08:36:00 | 1174.0000 | 3925.48 | 82.91 | .77 | |
| 06/27 | 09:02:00 | 1200.0000 | 3926.08 | 82.44 | .60 | |
| 06/27 | 09:28:00 | 1226.0000 | 3926.62 | 82.16 | .54 | |
| 06/27 | 09:54:00 | 1252.0000 | 3927.02 | 82.10 | .41 | |
| 06/27 | 10:20:00 | 1278.0000 | 3927.61 | 82.15 | .58 | |
| 06/27 | 10:46:00 | 1304.0000 | 3927.93 | 82.22 | .32 | |
| 06/27 | 11:12:00 | 1330.0000 | 3928.41 | 82.36 | .48 | |
| 06/27 | 11:38:00 | 1356.0000 | 3928.88 | 82.56 | .46 | |
| 06/27 | 12:04:00 | 1382.0000 | 3929.54 | 82.87 | .66 | |
| 06/27 | 12:30:00 | 1408.0000 | 3930.37 | 83.20 | .83 | |
| 06/27 | 12:56:00 | 1434.0000 | 3931.51 | 83.60 | 1.14 | |
| 06/27 | 13:22:00 | 1460.0000 | 3933.02 | 83.96 | 1.51 | |
| 06/27 | 13:48:00 | 1486.0000 | 3934.57 | 84.30 | 1.55 | |
| 06/27 | 14:14:00 | 1512.0000 | 3936.17 | 84.65 | 1.59 | |
| 06/27 | 14:40:00 | 1538.0000 | 3937.75 | 85.03 | 1.58 | |
| 06/27 | 15:06:00 | 1564.0000 | 3939.13 | 85.40 | 1.38 | |
| 06/27 | 15:32:00 | 1590.0000 | 3940.42 | 85.82 | 1.28 | |
| 06/27 | 15:58:00 | 1616.0000 | 3941.51 | 86.19 | 1.09 | |
| 06/27 | 16:24:00 | 1642.0000 | 3942.50 | 86.54 | .99 | |
| 06/27 | 16:50:00 | 1668.0000 | 3943.11 | 86.86 | .62 | |
| 06/27 | 17:16:00 | 1694.0000 | 3943.61 | 87.16 | .49 | |
| 06/27 | 17:42:00 | 1720.0000 | 3944.08 | 87.43 | .47 | |
| 06/27 | 18:08:00 | 1746.0000 | 3944.56 | 87.69 | .48 | |
| 06/27 | 18:34:00 | 1772.0000 | 3944.99 | 87.93 | .42 | |
| 06/27 | 19:00:00 | 1798.0000 | 3945.62 | 88.17 | .63 | |
| 06/27 | 19:26:00 | 1824.0000 | 3946.16 | 88.38 | .54 | |
| 06/27 | 19:52:00 | 1850.0000 | 3946.78 | 88.44 | .62 | |
| 06/27 | 20:18:00 | 1876.0000 | 3947.39 | 88.43 | .60 | |
| 06/27 | 20:44:00 | 1902.0000 | 3947.88 | 88.27 | .50 | |
| 06/27 | 21:10:00 | 1928.0000 | 3948.12 | 87.97 | .24 | |
| 06/27 | 21:36:00 | 1954.0000 | 3948.56 | 87.56 | .44 | |
| 06/27 | 22:02:00 | 1980.0000 | 3949.00 | 87.10 | .45 | |
| 06/27 | 22:28:00 | 2006.0000 | 3949.54 | 86.59 | .54 | |
| 06/27 | 22:54:00 | 2032.0000 | 3949.80 | 86.07 | .25 | |
| 06/27 | 23:20:00 | 2058.0000 | 3950.03 | 85.54 | .23 | |
| 06/27 | 23:46:00 | 2084.0000 | 3950.15 | 85.03 | .12 | |
| 06/28 | 00:12:00 | 2110.0000 | 3950.18 | 84.56 | .03 | |
| 06/28 | 00:38:00 | 2136.0000 | 3950.17 | 84.16 | -.00 | |
| 06/28 | 01:04:00 | 2162.0000 | 3950.12 | 83.81 | -.05 | |
| 06/28 | 01:30:00 | 2188.0000 | 3949.93 | 83.57 | -.19 | |
| 06/28 | 01:56:00 | 2214.0000 | 3949.88 | 83.42 | -.05 | |

| Date MM/DD | Time hh:mm:ss | Test Time mmmmmm.mmmm | Pressure Psig | Temp Deg F | deltaP Psi | Comment Ga. Press Ref. to 14.7 Psi Atm. |
|---|---|---|---|---|---|---|
| 06/28 | 02:22:00 | 2240.0000 | 3949.75 | 83.33 | -.13 | |
| 06/28 | 02:48:00 | 2266.0000 | 3949.54 | 83.18 | -.22 | |
| 06/28 | 03:14:00 | 2292.0000 | 3949.45 | 82.95 | -.09 | |
| 06/28 | 03:40:00 | 2318.0000 | 3949.55 | 82.68 | .10 | |
| 06/28 | 04:06:00 | 2344.0000 | 3949.55 | 82.41 | -.00 | |
| 06/28 | 04:32:00 | 2370.0000 | 3949.64 | 82.12 | .09 | |
| 06/28 | 04:58:00 | 2396.0000 | 3949.73 | 81.82 | .09 | |
| 06/28 | 05:24:00 | 2422.0000 | 3949.84 | 81.53 | .11 | |
| 06/28 | 05:50:00 | 2448.0000 | 3949.89 | 81.22 | .05 | |
| 06/28 | 06:16:00 | 2474.0000 | 3949.92 | 80.90 | .03 | |
| 06/28 | 06:42:00 | 2500.0000 | 3949.89 | 80.60 | -.03 | |
| 06/28 | 07:08:00 | 2526.0000 | 3949.97 | 80.30 | .08 | |
| 06/28 | 07:34:00 | 2552.0000 | 3950.07 | 80.05 | .10 | |
| 06/28 | 08:00:00 | 2578.0000 | 3950.17 | 80.04 | .10 | |
| 06/28 | 08:26:00 | 2604.0000 | 3950.17 | 80.07 | -.00 | |
| 06/28 | 08:52:00 | 2630.0000 | 3950.22 | 80.01 | .05 | |
| 06/28 | 09:18:00 | 2656.0000 | 3950.24 | 79.93 | .01 | |
| 06/28 | 09:44:00 | 2682.0000 | 3950.36 | 80.11 | .12 | |
| 06/28 | 10:10:00 | 2708.0000 | 3950.47 | 80.60 | .11 | |
| 06/28 | 10:36:00 | 2734.0000 | 3950.53 | 80.97 | .05 | |
| 06/28 | 11:02:00 | 2760.0000 | 3950.59 | 81.24 | .07 | |
| 06/28 | 11:28:00 | 2786.0000 | 3950.67 | 81.45 | .08 | |
| 06/28 | 11:54:00 | 2812.0000 | 3950.70 | 81.65 | .02 | |
| 06/28 | 12:20:00 | 2838.0000 | 3950.83 | 81.85 | .13 | |
| 06/28 | 12:46:00 | 2864.0000 | 3951.00 | 82.06 | .17 | |
| 06/28 | 13:12:00 | 2890.0000 | 3951.19 | 82.33 | .19 | |
| 06/28 | 13:38:00 | 2916.0000 | 3951.50 | 82.60 | .31 | |
| 06/28 | 14:04:00 | 2942.0000 | 3951.73 | 82.92 | .22 | |
| 06/28 | 14:30:00 | 2968.0000 | 3952.05 | 83.24 | .33 | |
| 06/28 | 14:56:00 | 2994.0000 | 3952.38 | 83.60 | .32 | |
| 06/28 | 15:22:00 | 3020.0000 | 3952.70 | 83.96 | .32 | |
| 06/28 | 15:48:00 | 3046.0000 | 3953.11 | 84.31 | .41 | |
| 06/28 | 16:14:00 | 3072.0000 | 3953.39 | 84.65 | .28 | |
| 06/28 | 16:40:00 | 3098.0000 | 3953.82 | 84.88 | .42 | |
| 06/28 | 16:55:45 | 3113.7500 | 3934.47 | 85.03 | -19.35 | STOPPED INJECTING WATER |
| 06/28 | 16:56:00 | 3114.0000 | 3933.76 | 85.03 | -.71 | BEGAN FALL-OFF TEST |
| 06/28 | 17:06:00 | 3124.0000 | 3914.44 | 85.75 | -19.32 | |
| 06/28 | 17:06:15 | 3124.2500 | 3913.95 | 85.77 | -.48 | |
| 06/28 | 17:26:45 | 3144.7500 | 3894.19 | 86.39 | -19.76 | |
| 06/28 | 17:27:00 | 3145.0000 | 3893.99 | 86.39 | -.20 | |
| 06/28 | 17:53:00 | 3171.0000 | 3877.07 | 86.63 | -16.92 | |
| 06/28 | 18:19:00 | 3197.0000 | 3863.63 | 87.00 | -13.44 | |
| 06/28 | 18:45:00 | 3223.0000 | 3852.37 | 87.32 | -11.26 | |
| 06/28 | 19:11:00 | 3249.0000 | 3842.88 | 87.63 | -9.49 | |
| 06/28 | 19:37:00 | 3275.0000 | 3834.72 | 87.92 | -8.16 | |
| 06/28 | 20:03:00 | 3301.0000 | 3827.19 | 88.19 | -7.52 | |
| 06/28 | 20:29:00 | 3327.0000 | 3820.20 | 88.42 | -6.99 | |
| 06/28 | 20:55:00 | 3353.0000 | 3813.68 | 88.61 | -6.52 | |
| 06/28 | 21:21:00 | 3379.0000 | 3807.60 | 88.81 | -6.08 | |
| 06/28 | 21:47:00 | 3405.0000 | 3801.97 | 88.98 | -5.63 | |
| 06/28 | 22:13:00 | 3431.0000 | 3796.56 | 89.11 | -5.41 | |
| 06/28 | 22:39:00 | 3457.0000 | 3791.45 | 89.26 | -5.11 | |
| 06/28 | 23:05:00 | 3483.0000 | 3786.63 | 89.39 | -4.81 | |
| 06/28 | 23:31:00 | 3509.0000 | 3782.11 | 89.50 | -4.52 | |
| 06/28 | 23:57:00 | 3535.0000 | 3777.74 | 89.60 | -4.38 | |
| 06/29 | 00:23:00 | 3561.0000 | 3773.57 | 89.70 | -4.17 | |
| 06/29 | 00:49:00 | 3587.0000 | 3769.62 | 89.79 | -3.95 | |
| 06/29 | 01:15:00 | 3613.0000 | 3765.77 | 89.87 | -3.85 | |
| 06/29 | 01:41:00 | 3639.0000 | 3762.23 | 89.96 | -3.54 | |
| 06/29 | 02:07:00 | 3665.0000 | 3758.56 | 90.02 | -3.67 | |
| 06/29 | 02:33:00 | 3691.0000 | 3755.13 | 90.09 | -3.43 | |
| 06/29 | 02:59:00 | 3717.0000 | 3751.80 | 90.15 | -3.33 | |
| 06/29 | 03:25:00 | 3743.0000 | 3748.78 | 90.21 | -3.01 | |
| 06/29 | 03:51:00 | 3769.0000 | 3745.72 | 90.28 | -3.06 | |
| 06/29 | 04:17:00 | 3795.0000 | 3742.65 | 90.34 | -3.07 | |

| Date MM/DD | Time hh:mm:ss | Test Time mmmmmm.mmmm | Pressure Psig | Temp Deg F | deltaP Psi | Comment Ga. Press Ref. to 14.7 Psi Atm. |
|---|---|---|---|---|---|---|
| 06/29 | 04:43:00 | 3821.0000 | 3739.72 | 90.40 | -2.93 | |
| 06/29 | 05:09:00 | 3847.0000 | 3736.91 | 90.46 | -2.81 | |
| 06/29 | 05:35:00 | 3873.0000 | 3734.20 | 90.52 | -2.71 | |
| 06/29 | 06:01:00 | 3899.0000 | 3731.53 | 90.57 | -2.67 | |
| 06/29 | 06:27:00 | 3925.0000 | 3728.86 | 90.61 | -2.66 | |
| 06/29 | 06:53:00 | 3951.0000 | 3726.26 | 90.66 | -2.61 | |
| 06/29 | 07:19:00 | 3977.0000 | 3723.73 | 90.70 | -2.53 | |
| 06/29 | 07:45:00 | 4003.0000 | 3721.25 | 90.74 | -2.48 | |
| 06/29 | 08:11:00 | 4029.0000 | 3718.75 | 90.78 | -2.50 | |
| 06/29 | 08:37:00 | 4055.0000 | 3716.36 | 90.83 | -2.39 | |
| 06/29 | 09:03:00 | 4081.0000 | 3713.99 | 90.87 | -2.37 | |
| 06/29 | 09:29:00 | 4107.0000 | 3711.68 | 90.90 | -2.32 | |
| 06/29 | 09:55:00 | 4133.0000 | 3709.43 | 90.93 | -2.25 | |
| 06/29 | 10:21:00 | 4159.0000 | 3707.15 | 90.97 | -2.27 | |
| 06/29 | 10:47:00 | 4185.0000 | 3705.02 | 90.99 | -2.14 | |
| 06/29 | 11:13:00 | 4211.0000 | 3702.82 | 91.03 | -2.20 | |
| 06/29 | 11:39:00 | 4237.0000 | 3700.74 | 91.06 | -2.08 | |
| 06/29 | 12:05:00 | 4263.0000 | 3698.67 | 91.10 | -2.07 | |
| 06/29 | 12:31:00 | 4289.0000 | 3696.64 | 91.14 | -2.02 | |
| 06/29 | 12:57:00 | 4315.0000 | 3694.61 | 91.16 | -2.04 | |
| 06/29 | 13:23:00 | 4341.0000 | 3692.62 | 91.19 | -1.99 | |
| 06/29 | 13:49:00 | 4367.0000 | 3690.68 | 91.21 | -1.94 | |
| 06/29 | 14:15:00 | 4393.0000 | 3688.77 | 91.23 | -1.91 | |
| 06/29 | 14:41:00 | 4419.0000 | 3686.90 | 91.26 | -1.87 | |
| 06/29 | 15:07:00 | 4445.0000 | 3685.02 | 91.29 | -1.88 | |
| 06/29 | 15:33:00 | 4471.0000 | 3683.22 | 91.30 | -1.81 | |
| 06/29 | 15:59:00 | 4497.0000 | 3681.39 | 91.33 | -1.83 | |
| 06/29 | 16:25:00 | 4523.0000 | 3679.56 | 91.36 | -1.83 | |
| 06/29 | 16:51:00 | 4549.0000 | 3677.79 | 91.37 | -1.77 | |
| 06/29 | 17:17:00 | 4575.0000 | 3676.06 | 91.39 | -1.73 | |
| 06/29 | 17:43:00 | 4601.0000 | 3674.29 | 91.41 | -1.77 | |
| 06/29 | 18:09:00 | 4627.0000 | 3672.57 | 91.43 | -1.72 | |
| 06/29 | 18:35:00 | 4653.0000 | 3670.88 | 91.44 | -1.69 | |
| 06/29 | 19:01:00 | 4679.0000 | 3669.23 | 91.46 | -1.65 | |
| 06/29 | 19:27:00 | 4705.0000 | 3667.60 | 91.48 | -1.63 | |
| 06/29 | 19:53:00 | 4731.0000 | 3665.90 | 91.49 | -1.71 | |
| 06/29 | 20:19:00 | 4757.0000 | 3664.32 | 91.51 | -1.58 | |
| 06/29 | 20:45:00 | 4783.0000 | 3662.74 | 91.52 | -1.58 | |
| 06/29 | 21:11:00 | 4809.0000 | 3661.18 | 91.54 | -1.56 | |
| 06/29 | 21:37:00 | 4835.0000 | 3659.65 | 91.55 | -1.53 | |
| 06/29 | 22:03:00 | 4861.0000 | 3658.06 | 91.56 | -1.59 | |
| 06/29 | 22:29:00 | 4887.0000 | 3656.59 | 91.58 | -1.47 | |
| 06/29 | 22:55:00 | 4913.0000 | 3655.06 | 91.58 | -1.53 | |
| 06/29 | 23:21:00 | 4939.0000 | 3653.55 | 91.61 | -1.51 | |
| 06/29 | 23:47:00 | 4965.0000 | 3652.09 | 91.62 | -1.46 | |
| 06/30 | 00:13:00 | 4991.0000 | 3650.64 | 91.63 | -1.45 | |
| 06/30 | 00:39:00 | 5017.0000 | 3649.18 | 91.64 | -1.46 | |
| 06/30 | 01:05:00 | 5043.0000 | 3647.77 | 91.64 | -1.41 | |
| 06/30 | 01:31:00 | 5069.0000 | 3646.36 | 91.64 | -1.41 | |
| 06/30 | 01:57:00 | 5095.0000 | 3644.92 | 91.65 | -1.44 | |
| 06/30 | 02:23:00 | 5121.0000 | 3643.48 | 91.65 | -1.43 | |
| 06/30 | 02:49:00 | 5147.0000 | 3642.12 | 91.67 | -1.36 | |
| 06/30 | 03:15:00 | 5173.0000 | 3640.73 | 91.68 | -1.39 | |
| 06/30 | 03:41:00 | 5199.0000 | 3639.33 | 91.69 | -1.39 | |
| 06/30 | 04:07:00 | 5225.0000 | 3638.02 | 91.70 | -1.32 | |
| 06/30 | 04:33:00 | 5251.0000 | 3636.67 | 91.70 | -1.35 | |
| 06/30 | 04:59:00 | 5277.0000 | 3635.36 | 91.72 | -1.31 | |
| 06/30 | 05:25:00 | 5303.0000 | 3633.97 | 91.74 | -1.39 | |
| 06/30 | 05:51:00 | 5329.0000 | 3632.74 | 91.75 | -1.23 | |
| 06/30 | 06:17:00 | 5355.0000 | 3631.41 | 91.76 | -1.32 | |
| 06/30 | 06:43:00 | 5381.0000 | 3630.15 | 91.77 | -1.27 | |
| 06/30 | 07:09:00 | 5407.0000 | 3628.91 | 91.77 | -1.24 | |
| 06/30 | 07:35:00 | 5433.0000 | 3627.65 | 91.78 | -1.26 | |
| 06/30 | 08:01:00 | 5459.0000 | 3626.44 | 91.79 | -1.21 | |
| 06/30 | 08:27:00 | 5485.0000 | 3625.20 | 91.79 | -1.24 | |

| Date MM/DD | Time hh:mm:ss | Test Time mmmmmm.mmmm | Pressure Psig | Temp Deg F | deltaP Psi | Comment Ga. Press Ref. to 14.7 Psi Atm. |
|---|---|---|---|---|---|---|
| 06/30 | 08:53:00 | 5511.0000 | 3624.03 | 91.79 | -1.17 | |
| 06/30 | 09:19:00 | 5537.0000 | 3622.82 | 91.81 | -1.21 | |
| 06/30 | 09:45:00 | 5563.0000 | 3621.56 | 91.81 | -1.26 | |
| 06/30 | 10:11:00 | 5589.0000 | 3620.41 | 91.82 | -1.16 | |
| 06/30 | 10:37:00 | 5615.0000 | 3619.25 | 91.83 | -1.16 | |
| 06/30 | 11:03:00 | 5641.0000 | 3618.05 | 91.84 | -1.20 | |
| 06/30 | 11:29:00 | 5667.0000 | 3616.93 | 91.84 | -1.12 | |
| 06/30 | 11:55:00 | 5693.0000 | 3615.78 | 91.84 | -1.15 | |
| 06/30 | 12:21:00 | 5719.0000 | 3614.62 | 91.86 | -1.17 | |
| 06/30 | 12:47:00 | 5745.0000 | 3613.47 | 91.87 | -1.15 | |
| 06/30 | 13:13:00 | 5771.0000 | 3612.38 | 91.88 | -1.09 | |
| 06/30 | 13:39:00 | 5797.0000 | 3611.22 | 91.88 | -1.15 | |
| 06/30 | 14:05:00 | 5823.0000 | 3610.08 | 91.89 | -1.14 | |
| 06/30 | 14:31:00 | 5849.0000 | 3608.93 | 91.89 | -1.16 | |
| 06/30 | 14:57:00 | 5875.0000 | 3607.93 | 91.89 | -1.00 | |
| 06/30 | 15:23:00 | 5901.0000 | 3606.86 | 91.89 | -1.06 | |
| 06/30 | 15:49:00 | 5927.0000 | 3605.82 | 91.89 | -1.05 | |
| 06/30 | 16:15:00 | 5953.0000 | 3604.70 | 91.90 | -1.11 | |
| 06/30 | 16:41:00 | 5979.0000 | 3603.65 | 91.91 | -1.06 | |
| 06/30 | 17:07:00 | 6005.0000 | 3602.56 | 91.91 | -1.09 | |
| 06/30 | 17:33:00 | 6031.0000 | 3601.54 | 91.92 | -1.01 | |
| 06/30 | 17:59:00 | 6057.0000 | 3600.49 | 91.92 | -1.05 | |
| 06/30 | 18:25:00 | 6083.0000 | 3599.49 | 91.93 | -1.00 | |
| 06/30 | 18:51:00 | 6109.0000 | 3598.50 | 91.93 | -.99 | |
| 06/30 | 19:17:00 | 6135.0000 | 3597.51 | 91.94 | -.99 | |
| 06/30 | 19:43:00 | 6161.0000 | 3596.50 | 91.94 | -1.01 | |
| 06/30 | 20:09:00 | 6187.0000 | 3595.51 | 91.94 | -.99 | |
| 06/30 | 20:35:00 | 6213.0000 | 3594.48 | 91.95 | -1.03 | |
| 06/30 | 21:01:00 | 6239.0000 | 3593.49 | 91.96 | -1.00 | |
| 06/30 | 21:27:00 | 6265.0000 | 3592.48 | 91.96 | -1.00 | |
| 06/30 | 21:53:00 | 6291.0000 | 3591.60 | 91.96 | -.88 | |
| 06/30 | 22:19:00 | 6317.0000 | 3590.54 | 91.96 | -1.06 | |
| 06/30 | 22:45:00 | 6343.0000 | 3589.60 | 91.97 | -.94 | |
| 06/30 | 23:11:00 | 6369.0000 | 3588.65 | 91.98 | -.96 | |
| 06/30 | 23:37:00 | 6395.0000 | 3587.74 | 91.96 | -.91 | |
| 07/01 | 00:03:00 | 6421.0000 | 3586.77 | 91.98 | -.97 | |
| 07/01 | 00:29:00 | 6447.0000 | 3585.82 | 91.99 | -.95 | |
| 07/01 | 00:55:00 | 6473.0000 | 3584.91 | 91.99 | -.91 | |
| 07/01 | 01:21:00 | 6499.0000 | 3583.98 | 91.99 | -.94 | |
| 07/01 | 01:47:00 | 6525.0000 | 3583.07 | 91.99 | -.91 | |
| 07/01 | 02:13:00 | 6551.0000 | 3582.14 | 92.00 | -.93 | |
| 07/01 | 02:39:00 | 6577.0000 | 3581.23 | 92.00 | -.91 | |
| 07/01 | 03:05:00 | 6603.0000 | 3580.26 | 92.01 | -.96 | |
| 07/01 | 03:31:00 | 6629.0000 | 3579.40 | 92.01 | -.86 | |
| 07/01 | 03:57:00 | 6655.0000 | 3578.46 | 92.01 | -.95 | |
| 07/01 | 04:23:00 | 6681.0000 | 3577.61 | 92.01 | -.85 | |
| 07/01 | 04:49:00 | 6707.0000 | 3576.70 | 92.02 | -.90 | |
| 07/01 | 05:15:00 | 6733.0000 | 3575.85 | 92.02 | -.85 | |
| 07/01 | 05:41:00 | 6759.0000 | 3574.99 | 92.03 | -.86 | |
| 07/01 | 06:07:00 | 6785.0000 | 3574.07 | 92.03 | -.92 | |
| 07/01 | 06:33:00 | 6811.0000 | 3573.29 | 92.03 | -.78 | |
| 07/01 | 06:59:00 | 6837.0000 | 3572.40 | 92.03 | -.89 | |
| 07/01 | 07:25:00 | 6863.0000 | 3571.52 | 92.03 | -.88 | |
| 07/01 | 07:51:00 | 6889.0000 | 3570.67 | 92.04 | -.85 | |
| 07/01 | 08:17:00 | 6915.0000 | 3569.86 | 92.05 | -.81 | |
| 07/01 | 08:43:00 | 6941.0000 | 3569.03 | 92.05 | -.83 | |
| 07/01 | 09:09:00 | 6967.0000 | 3568.20 | 92.06 | -.84 | |
| 07/01 | 09:35:00 | 6993.0000 | 3567.35 | 92.06 | -.84 | |
| 07/01 | 10:01:00 | 7019.0000 | 3566.55 | 92.06 | -.80 | |
| 07/01 | 10:27:00 | 7045.0000 | 3565.76 | 92.06 | -.79 | |
| 07/01 | 10:53:00 | 7071.0000 | 3564.98 | 92.07 | -.78 | |
| 07/01 | 11:19:00 | 7097.0000 | 3564.25 | 92.07 | -.73 | |
| 07/01 | 11:45:00 | 7123.0000 | 3563.46 | 92.08 | -.80 | |
| 07/01 | 12:11:00 | 7149.0000 | 3562.63 | 92.08 | -.83 | |
| 07/01 | 12:37:00 | 7175.0000 | 3561.83 | 92.08 | -.80 | |

| Date MM/DD | Time hh:mm:ss | Test Time mmmmmm.mmmm | Pressure Psig | Temp Deg F | deltaP Psi | Comment Ga. Press Ref. to 14.7 Psi Atm. |
|---|---|---|---|---|---|---|
| 07/01 | 13:03:00 | 7201.0000 | 3561.07 | 92.08 | -.76 | |
| 07/01 | 13:29:00 | 7227.0000 | 3560.27 | 92.11 | -.80 | |
| 07/01 | 13:55:00 | 7253.0000 | 3559.54 | 92.11 | -.73 | |
| 07/01 | 14:21:00 | 7279.0000 | 3558.78 | 92.11 | -.76 | |
| 07/01 | 14:47:00 | 7305.0000 | 3558.00 | 92.11 | -.78 | |
| 07/01 | 15:13:00 | 7331.0000 | 3557.28 | 92.11 | -.72 | |
| 07/01 | 15:39:00 | 7357.0000 | 3556.50 | 92.11 | -.77 | |
| 07/01 | 16:05:00 | 7383.0000 | 3555.75 | 92.12 | -.75 | |
| 07/01 | 16:31:00 | 7409.0000 | 3554.99 | 92.12 | -.76 | |
| 07/01 | 16:57:00 | 7435.0000 | 3554.25 | 92.12 | -.74 | |
| 07/01 | 17:23:00 | 7461.0000 | 3553.51 | 92.12 | -.74 | |
| 07/01 | 17:49:00 | 7487.0000 | 3552.75 | 92.13 | -.76 | |
| 07/01 | 18:15:00 | 7513.0000 | 3552.02 | 92.13 | -.73 | |
| 07/01 | 18:41:00 | 7539.0000 | 3551.30 | 92.13 | -.72 | |
| 07/01 | 19:07:00 | 7565.0000 | 3550.61 | 92.13 | -.69 | |
| 07/01 | 19:33:00 | 7591.0000 | 3549.87 | 92.13 | -.73 | |
| 07/01 | 19:59:00 | 7617.0000 | 3549.17 | 92.14 | -.70 | |
| 07/01 | 20:25:00 | 7643.0000 | 3548.48 | 92.14 | -.69 | |
| 07/01 | 20:51:00 | 7669.0000 | 3547.80 | 92.14 | -.68 | |
| 07/01 | 21:17:00 | 7695.0000 | 3547.08 | 92.13 | -.72 | |
| 07/01 | 21:43:00 | 7721.0000 | 3546.36 | 92.14 | -.72 | |
| 07/01 | 22:09:00 | 7747.0000 | 3545.69 | 92.15 | -.68 | |
| 07/01 | 22:35:00 | 7773.0000 | 3545.03 | 92.15 | -.66 | |
| 07/01 | 23:01:00 | 7799.0000 | 3544.35 | 92.15 | -.68 | |
| 07/01 | 23:27:00 | 7825.0000 | 3543.64 | 92.15 | -.71 | |
| 07/01 | 23:53:00 | 7851.0000 | 3542.98 | 92.15 | -.66 | |
| 07/02 | 00:19:00 | 7877.0000 | 3542.33 | 92.16 | -.65 | |
| 07/02 | 00:45:00 | 7903.0000 | 3541.65 | 92.16 | -.68 | |
| 07/02 | 01:11:00 | 7929.0000 | 3541.04 | 92.16 | -.61 | |
| 07/02 | 01:37:00 | 7955.0000 | 3540.38 | 92.15 | -.66 | |
| 07/02 | 02:03:00 | 7981.0000 | 3539.73 | 92.16 | -.65 | |
| 07/02 | 02:29:00 | 8007.0000 | 3539.02 | 92.17 | -.71 | |
| 07/02 | 02:55:00 | 8033.0000 | 3538.34 | 92.17 | -.68 | |
| 07/02 | 03:21:00 | 8059.0000 | 3537.72 | 92.16 | -.62 | |
| 07/02 | 03:47:00 | 8085.0000 | 3537.07 | 92.18 | -.65 | |
| 07/02 | 04:13:00 | 8111.0000 | 3536.41 | 92.18 | -.66 | |
| 07/02 | 04:39:00 | 8137.0000 | 3535.77 | 92.18 | -.64 | |
| 07/02 | 05:05:00 | 8163.0000 | 3535.13 | 92.18 | -.63 | |
| 07/02 | 05:31:00 | 8189.0000 | 3534.52 | 92.18 | -.61 | |
| 07/02 | 05:57:00 | 8215.0000 | 3533.83 | 92.19 | -.69 | |
| 07/02 | 06:23:00 | 8241.0000 | 3533.22 | 92.19 | -.61 | |
| 07/02 | 06:49:00 | 8267.0000 | 3532.56 | 92.20 | -.66 | |
| 07/02 | 07:15:00 | 8293.0000 | 3531.94 | 92.20 | -.62 | |
| 07/02 | 07:41:00 | 8319.0000 | 3531.33 | 92.20 | -.61 | |
| 07/02 | 08:07:00 | 8345.0000 | 3530.73 | 92.20 | -.60 | |
| 07/02 | 08:33:00 | 8371.0000 | 3530.10 | 92.20 | -.63 | |
| 07/02 | 08:59:00 | 8397.0000 | 3529.49 | 92.20 | -.61 | |
| 07/02 | 09:25:00 | 8423.0000 | 3528.90 | 92.21 | -.59 | |
| 07/02 | 09:51:00 | 8449.0000 | 3528.28 | 92.20 | -.62 | |
| 07/02 | 10:17:00 | 8475.0000 | 3527.69 | 92.20 | -.59 | |
| 07/02 | 10:43:00 | 8501.0000 | 3527.03 | 92.22 | -.67 | |
| 07/02 | 11:09:00 | 8527.0000 | 3526.51 | 92.22 | -.51 | |
| 07/02 | 11:35:00 | 8553.0000 | 3525.95 | 92.22 | -.56 | |
| 07/02 | 12:01:00 | 8579.0000 | 3525.34 | 92.22 | -.61 | |
| 07/02 | 12:27:00 | 8605.0000 | 3524.81 | 92.22 | -.53 | |
| 07/02 | 12:53:00 | 8631.0000 | 3524.15 | 92.23 | -.66 | |
| 07/02 | 13:19:00 | 8657.0000 | 3523.60 | 92.23 | -.55 | |
| 07/02 | 13:45:00 | 8683.0000 | 3523.07 | 92.25 | -.53 | |
| 07/02 | 14:11:00 | 8709.0000 | 3522.52 | 92.24 | -.56 | |
| 07/02 | 14:37:00 | 8735.0000 | 3521.99 | 92.25 | -.53 | |
| 07/02 | 15:03:00 | 8761.0000 | 3521.35 | 92.25 | -.64 | |
| 07/02 | 15:29:00 | 8787.0000 | 3520.79 | 92.25 | -.56 | |
| 07/02 | 15:55:00 | 8813.0000 | 3520.24 | 92.25 | -.55 | |
| 07/02 | 16:21:00 | 8839.0000 | 3519.68 | 92.25 | -.57 | |
| 07/02 | 16:47:00 | 8865.0000 | 3519.05 | 92.25 | -.62 | |

| Date MM/DD | Time hh:mm:ss | Test Time mmmmmm.mmmm | Pressure Psig | Temp Deg F | deltaP Psi | Comment Ga. Press Ref. to 14.7 Psi Atm. |
|---|---|---|---|---|---|---|
| 07/02 | 17:13:00 | 8891.0000 | 3518.57 | 92.26 | -.48 | |
| 07/02 | 17:39:00 | 8917.0000 | 3518.01 | 92.26 | -.56 | |
| 07/02 | 18:05:00 | 8943.0000 | 3517.48 | 92.26 | -.53 | |
| 07/02 | 18:31:00 | 8969.0000 | 3516.90 | 92.26 | -.57 | |
| 07/02 | 18:57:00 | 8995.0000 | 3516.34 | 92.26 | -.57 | |
| 07/02 | 19:23:00 | 9021.0000 | 3515.74 | 92.26 | -.60 | |
| 07/02 | 19:49:00 | 9047.0000 | 3515.26 | 92.27 | -.47 | |
| 07/02 | 20:15:00 | 9073.0000 | 3514.74 | 92.26 | -.53 | |
| 07/02 | 20:41:00 | 9099.0000 | 3514.19 | 92.26 | -.55 | |
| 07/02 | 21:07:00 | 9125.0000 | 3513.69 | 92.26 | -.50 | |
| 07/02 | 21:33:00 | 9151.0000 | 3513.12 | 92.27 | -.57 | |
| 07/02 | 21:59:00 | 9177.0000 | 3512.64 | 92.27 | -.48 | |
| 07/02 | 22:25:00 | 9203.0000 | 3512.07 | 92.27 | -.57 | |
| 07/02 | 22:51:00 | 9229.0000 | 3511.57 | 92.27 | -.50 | |
| 07/02 | 23:17:00 | 9255.0000 | 3511.05 | 92.27 | -.52 | |
| 07/02 | 23:43:00 | 9281.0000 | 3510.53 | 92.27 | -.52 | |
| 07/03 | 00:09:00 | 9307.0000 | 3510.06 | 92.28 | -.47 | |
| 07/03 | 00:35:00 | 9333.0000 | 3509.52 | 92.28 | -.54 | |
| 07/03 | 01:01:00 | 9359.0000 | 3509.01 | 92.28 | -.51 | |
| 07/03 | 01:27:00 | 9385.0000 | 3508.55 | 92.28 | -.46 | |
| 07/03 | 01:53:00 | 9411.0000 | 3508.00 | 92.27 | -.56 | |
| 07/03 | 02:19:00 | 9437.0000 | 3507.54 | 92.29 | -.46 | |
| 07/03 | 02:45:00 | 9463.0000 | 3507.00 | 92.29 | -.54 | |
| 07/03 | 03:11:00 | 9489.0000 | 3506.52 | 92.29 | -.48 | |
| 07/03 | 03:37:00 | 9515.0000 | 3506.04 | 92.29 | -.48 | |
| 07/03 | 04:03:00 | 9541.0000 | 3505.53 | 92.29 | -.51 | |
| 07/03 | 04:29:00 | 9567.0000 | 3505.05 | 92.29 | -.48 | |
| 07/03 | 04:55:00 | 9593.0000 | 3504.51 | 92.29 | -.54 | |
| 07/03 | 05:21:00 | 9619.0000 | 3504.02 | 92.29 | -.49 | |
| 07/03 | 05:47:00 | 9645.0000 | 3503.59 | 92.29 | -.44 | |
| 07/03 | 06:13:00 | 9671.0000 | 3503.00 | 92.30 | -.59 | |
| 07/03 | 06:39:00 | 9697.0000 | 3502.51 | 92.30 | -.49 | |
| 07/03 | 07:05:00 | 9723.0000 | 3502.03 | 92.31 | -.48 | |
| 07/03 | 07:31:00 | 9749.0000 | 3501.51 | 92.31 | -.52 | |
| 07/03 | 07:57:00 | 9775.0000 | 3501.05 | 92.31 | -.47 | |
| 07/03 | 08:23:00 | 9801.0000 | 3500.61 | 92.31 | -.44 | |
| 07/03 | 08:49:00 | 9827.0000 | 3500.05 | 92.32 | -.56 | |
| 07/03 | 09:15:00 | 9853.0000 | 3499.58 | 92.32 | -.46 | |
| 07/03 | 09:41:00 | 9879.0000 | 3499.06 | 92.32 | -.52 | |
| 07/03 | 10:07:00 | 9905.0000 | 3498.66 | 92.32 | -.40 | |
| 07/03 | 10:33:00 | 9931.0000 | 3498.16 | 92.32 | -.51 | |
| 07/03 | 10:59:00 | 9957.0000 | 3497.69 | 92.32 | -.47 | |
| 07/03 | 11:25:00 | 9983.0000 | 3497.28 | 92.33 | -.41 | |
| 07/03 | 11:51:00 | 10009.0000 | 3496.81 | 92.32 | -.47 | |
| 07/03 | 12:17:00 | 10035.0000 | 3496.33 | 92.32 | -.48 | |
| 07/03 | 12:43:00 | 10061.0000 | 3495.90 | 92.32 | -.43 | |
| 07/03 | 13:09:00 | 10087.0000 | 3495.44 | 92.33 | -.46 | |
| 07/03 | 13:35:00 | 10113.0000 | 3494.94 | 92.34 | -.50 | |
| 07/03 | 14:01:00 | 10139.0000 | 3494.50 | 92.32 | -.44 | |
| 07/03 | 14:27:00 | 10165.0000 | 3494.04 | 92.33 | -.46 | |
| 07/03 | 14:53:00 | 10191.0000 | 3493.66 | 92.34 | -.38 | |
| 07/03 | 15:19:00 | 10217.0000 | 3493.22 | 92.34 | -.43 | |
| 07/03 | 15:45:00 | 10243.0000 | 3492.73 | 92.34 | -.50 | |
| 07/03 | 16:11:00 | 10269.0000 | 3492.25 | 92.34 | -.47 | |
| 07/03 | 16:37:00 | 10295.0000 | 3491.86 | 92.34 | -.39 | |
| 07/03 | 17:03:00 | 10321.0000 | 3491.40 | 92.34 | -.46 | |
| 07/03 | 17:29:00 | 10347.0000 | 3490.95 | 92.34 | -.45 | |
| 07/03 | 17:55:00 | 10373.0000 | 3490.50 | 92.35 | -.46 | |
| 07/03 | 18:21:00 | 10399.0000 | 3490.09 | 92.35 | -.40 | |
| 07/03 | 18:47:00 | 10425.0000 | 3489.59 | 92.35 | -.51 | |
| 07/03 | 19:13:00 | 10451.0000 | 3489.21 | 92.36 | -.38 | |
| 07/03 | 19:39:00 | 10477.0000 | 3488.72 | 92.35 | -.49 | |
| 07/03 | 20:05:00 | 10503.0000 | 3488.23 | 92.36 | -.49 | |
| 07/03 | 20:31:00 | 10529.0000 | 3487.89 | 92.36 | -.34 | |
| 07/03 | 20:57:00 | 10555.0000 | 3487.45 | 92.36 | -.45 | |

| Date MM/DD | Time hh:mm:ss | Test Time mmmmmm.mmmm | Pressure Psig | Temp Deg F | deltaP Psi | Comment Ga. Press Ref. to 14.7 Psi Atm. |
|---|---|---|---|---|---|---|
| 07/03 | 21:23:00 | 10581.0000 | 3487.01 | 92.36 | -.43 | |
| 07/03 | 21:49:00 | 10607.0000 | 3486.59 | 92.36 | -.42 | |
| 07/03 | 22:15:00 | 10633.0000 | 3486.16 | 92.36 | -.43 | |
| 07/03 | 22:41:00 | 10659.0000 | 3485.77 | 92.37 | -.39 | |
| 07/03 | 23:07:00 | 10685.0000 | 3485.33 | 92.36 | -.44 | |
| 07/03 | 23:33:00 | 10711.0000 | 3484.91 | 92.36 | -.42 | |
| 07/03 | 23:59:00 | 10737.0000 | 3484.47 | 92.37 | -.44 | |
| 07/04 | 00:25:00 | 10763.0000 | 3484.10 | 92.37 | -.37 | |
| 07/04 | 00:51:00 | 10789.0000 | 3483.67 | 92.37 | -.43 | |
| 07/04 | 01:17:00 | 10815.0000 | 3483.26 | 92.37 | -.41 | |
| 07/04 | 01:43:00 | 10841.0000 | 3482.86 | 92.37 | -.40 | |
| 07/04 | 02:09:00 | 10867.0000 | 3482.49 | 92.36 | -.37 | |
| 07/04 | 02:35:00 | 10893.0000 | 3482.05 | 92.37 | -.44 | |
| 07/04 | 03:01:00 | 10919.0000 | 3481.63 | 92.38 | -.41 | |
| 07/04 | 03:27:00 | 10945.0000 | 3481.23 | 92.38 | -.41 | |
| 07/04 | 03:53:00 | 10971.0000 | 3480.89 | 92.37 | -.34 | |
| 07/04 | 04:19:00 | 10997.0000 | 3480.39 | 92.38 | -.51 | |
| 07/04 | 04:45:00 | 11023.0000 | 3480.01 | 92.37 | -.37 | |
| 07/04 | 05:11:00 | 11049.0000 | 3479.58 | 92.38 | -.43 | |
| 07/04 | 05:37:00 | 11075.0000 | 3479.15 | 92.38 | -.44 | |
| 07/04 | 06:03:00 | 11101.0000 | 3478.72 | 92.39 | -.42 | |
| 07/04 | 06:29:00 | 11127.0000 | 3478.31 | 92.37 | -.41 | |
| 07/04 | 06:55:00 | 11153.0000 | 3477.90 | 92.36 | -.41 | |
| 07/04 | 07:21:00 | 11179.0000 | 3477.48 | 92.37 | -.42 | |
| 07/04 | 07:47:00 | 11205.0000 | 3477.16 | 92.38 | -.32 | |
| 07/04 | 08:13:00 | 11231.0000 | 3476.72 | 92.37 | -.44 | |
| 07/04 | 08:39:00 | 11257.0000 | 3476.30 | 92.38 | -.41 | |
| 07/04 | 09:05:00 | 11283.0000 | 3475.91 | 92.39 | -.40 | |
| 07/04 | 09:31:00 | 11309.0000 | 3475.46 | 92.38 | -.45 | |
| 07/04 | 09:57:00 | 11335.0000 | 3475.09 | 92.39 | -.37 | |
| 07/04 | 10:23:00 | 11361.0000 | 3474.74 | 92.39 | -.35 | |
| 07/04 | 10:49:00 | 11387.0000 | 3474.33 | 92.39 | -.41 | |
| 07/04 | 11:15:00 | 11413.0000 | 3473.91 | 92.38 | -.42 | |
| 07/04 | 11:41:00 | 11439.0000 | 3473.54 | 92.39 | -.36 | |
| 07/04 | 12:07:00 | 11465.0000 | 3473.21 | 92.39 | -.34 | |
| 07/04 | 12:33:00 | 11491.0000 | 3472.87 | 92.39 | -.34 | |
| 07/04 | 12:59:00 | 11517.0000 | 3472.46 | 92.39 | -.41 | |
| 07/04 | 13:25:00 | 11543.0000 | 3472.09 | 92.40 | -.37 | |
| 07/04 | 13:51:00 | 11569.0000 | 3471.71 | 92.39 | -.38 | |
| 07/04 | 14:17:00 | 11595.0000 | 3471.34 | 92.39 | -.37 | |
| 07/04 | 14:43:00 | 11621.0000 | 3471.01 | 92.39 | -.33 | |
| 07/04 | 15:09:00 | 11647.0000 | 3470.61 | 92.39 | -.40 | |
| 07/04 | 15:35:00 | 11673.0000 | 3470.26 | 92.39 | -.35 | |
| 07/04 | 16:01:00 | 11699.0000 | 3469.89 | 92.39 | -.38 | |
| 07/04 | 16:27:00 | 11725.0000 | 3469.52 | 92.40 | -.36 | |
| 07/04 | 16:53:00 | 11751.0000 | 3469.13 | 92.40 | -.40 | |
| 07/04 | 17:19:00 | 11777.0000 | 3468.84 | 92.40 | -.29 | |
| 07/04 | 17:45:00 | 11803.0000 | 3468.40 | 92.41 | -.44 | |
| 07/04 | 18:11:00 | 11829.0000 | 3468.06 | 92.41 | -.34 | |
| 07/04 | 18:37:00 | 11855.0000 | 3467.73 | 92.41 | -.34 | |
| 07/04 | 19:03:00 | 11881.0000 | 3467.38 | 92.41 | -.35 | |
| 07/04 | 19:29:00 | 11907.0000 | 3466.98 | 92.41 | -.40 | |
| 07/04 | 19:55:00 | 11933.0000 | 3466.62 | 92.41 | -.36 | |
| 07/04 | 20:21:00 | 11959.0000 | 3466.28 | 92.41 | -.34 | |
| 07/04 | 20:47:00 | 11985.0000 | 3465.88 | 92.41 | -.40 | |
| 07/04 | 21:13:00 | 12011.0000 | 3465.50 | 92.42 | -.38 | |
| 07/04 | 21:39:00 | 12037.0000 | 3465.20 | 92.41 | -.29 | |
| 07/04 | 22:05:00 | 12063.0000 | 3464.82 | 92.41 | -.38 | |
| 07/04 | 22:31:00 | 12089.0000 | 3464.49 | 92.42 | -.34 | |
| 07/04 | 22:57:00 | 12115.0000 | 3464.08 | 92.42 | -.41 | |
| 07/04 | 23:23:00 | 12141.0000 | 3463.71 | 92.43 | -.37 | |
| 07/04 | 23:49:00 | 12167.0000 | 3463.41 | 92.43 | -.30 | |
| 07/05 | 00:15:00 | 12193.0000 | 3463.08 | 92.43 | -.33 | |
| 07/05 | 00:41:00 | 12219.0000 | 3462.81 | 92.43 | -.27 | |
| 07/05 | 01:07:00 | 12245.0000 | 3462.46 | 92.43 | -.35 | |

| Date MM/DD | Time hh:mm:ss | Test Time mmmmmm.mmmm | Pressure Psig | Temp Deg F | deltaP Psi | Comment Ga. Press Ref. to 14.7 Psi Atm. |
|---|---|---|---|---|---|---|
| 07/05 | 01:33:00 | 12271.0000 | 3462.06 | 92.43 | -.41 | |
| 07/05 | 01:59:00 | 12297.0000 | 3461.67 | 92.43 | -.39 | |
| 07/05 | 02:25:00 | 12323.0000 | 3461.36 | 92.43 | -.30 | |
| 07/05 | 02:51:00 | 12349.0000 | 3461.05 | 92.43 | -.31 | |
| 07/05 | 03:17:00 | 12375.0000 | 3460.67 | 92.44 | -.39 | |
| 07/05 | 03:43:00 | 12401.0000 | 3460.40 | 92.44 | -.27 | |
| 07/05 | 04:09:00 | 12427.0000 | 3460.07 | 92.44 | -.33 | |
| 07/05 | 04:35:00 | 12453.0000 | 3459.79 | 92.44 | -.28 | |
| 07/05 | 05:01:00 | 12479.0000 | 3459.43 | 92.45 | -.36 | |
| 07/05 | 05:27:00 | 12505.0000 | 3459.11 | 92.45 | -.32 | |
| 07/05 | 05:53:00 | 12531.0000 | 3458.78 | 92.45 | -.33 | |
| 07/05 | 06:19:00 | 12557.0000 | 3458.34 | 92.45 | -.43 | |
| 07/05 | 06:45:00 | 12583.0000 | 3458.02 | 92.45 | -.32 | |
| 07/05 | 07:11:00 | 12609.0000 | 3457.70 | 92.45 | -.33 | |
| 07/05 | 07:37:00 | 12635.0000 | 3457.34 | 92.46 | -.35 | |
| 07/05 | 08:03:00 | 12661.0000 | 3457.02 | 92.45 | -.32 | |
| 07/05 | 08:10:15 | 12668.2500 | 3438.13 | 92.43 | -18.89 | ENDED FALL-OFF TEST / INST. OFF BOTTOM |
| 07/05 | 08:10:30 | 12668.5000 | 3422.89 | 92.94 | -15.24 | |
| 07/05 | 08:10:45 | 12668.7500 | 3405.93 | 93.46 | -16.96 | |
| 07/05 | 08:11:00 | 12669.0000 | 3387.52 | 93.97 | -18.41 | |
| 07/05 | 08:11:15 | 12669.2500 | 3370.72 | 94.49 | -16.81 | |
| 07/05 | 08:11:30 | 12669.5000 | 3352.19 | 95.00 | -18.52 | |
| 07/05 | 08:11:45 | 12669.7500 | 3336.53 | 95.52 | -15.66 | |
| 07/05 | 08:12:00 | 12670.0000 | 3318.72 | 96.04 | -17.81 | |
| 07/05 | 08:12:15 | 12670.2500 | 3302.36 | 96.55 | -16.36 | |
| 07/05 | 08:12:30 | 12670.5000 | 3280.83 | 97.07 | -21.53 | |
| 07/05 | 08:13:45 | 12671.7500 | 3275.09 | 100.88 | -5.74 | |
| 07/05 | 08:14:45 | 12672.7500 | 3276.57 | 104.40 | 1.48 | |
| 07/05 | 08:15:45 | 12673.7500 | 3277.38 | 107.92 | .81 | |
| 07/05 | 08:17:15 | 12675.2500 | 3278.52 | 111.35 | 1.14 | |
| 07/05 | 08:19:00 | 12677.0000 | 3278.75 | 114.67 | .23 | STOP @ 4000' |
| 07/05 | 08:19:30 | 12677.5000 | 3262.00 | 115.08 | -16.75 | |
| 07/05 | 08:19:45 | 12677.7500 | 3227.53 | 115.17 | -34.47 | |
| 07/05 | 08:20:00 | 12678.0000 | 3191.64 | 115.26 | -35.90 | |
| 07/05 | 08:20:15 | 12678.2500 | 3155.17 | 115.36 | -36.47 | |
| 07/05 | 08:20:30 | 12678.5000 | 3119.42 | 115.45 | -35.75 | |
| 07/05 | 08:20:45 | 12678.7500 | 3083.96 | 115.54 | -35.46 | |
| 07/05 | 08:21:00 | 12679.0000 | 3046.64 | 115.64 | -37.32 | |
| 07/05 | 08:21:15 | 12679.2500 | 3012.03 | 115.74 | -34.61 | |
| 07/05 | 08:21:30 | 12679.5000 | 2972.16 | 115.83 | -39.87 | |
| 07/05 | 08:21:45 | 12679.7500 | 2926.58 | 115.92 | -45.57 | |
| 07/05 | 08:22:00 | 12680.0000 | 2888.42 | 116.02 | -38.17 | |
| 07/05 | 08:22:15 | 12680.2500 | 2849.93 | 115.84 | -38.49 | |
| 07/05 | 08:24:45 | 12682.7500 | 2846.70 | 112.83 | -3.23 | |
| 07/05 | 08:28:00 | 12686.0000 | 2846.25 | 109.68 | -.45 | |
| 07/05 | 08:29:15 | 12687.2500 | 2844.07 | 108.84 | -2.18 | STOP @ 3000' |
| 07/05 | 08:29:30 | 12687.5000 | 2810.65 | 108.67 | -33.42 | |
| 07/05 | 08:29:45 | 12687.7500 | 2768.10 | 108.50 | -42.56 | |
| 07/05 | 08:30:00 | 12688.0000 | 2725.11 | 108.33 | -42.99 | |
| 07/05 | 08:30:15 | 12688.2500 | 2679.83 | 108.17 | -45.28 | |
| 07/05 | 08:30:30 | 12688.5000 | 2629.27 | 108.00 | -50.56 | |
| 07/05 | 08:30:45 | 12688.7500 | 2581.00 | 107.83 | -48.27 | |
| 07/05 | 08:31:00 | 12689.0000 | 2528.87 | 107.66 | -52.13 | |
| 07/05 | 08:31:15 | 12689.2500 | 2473.87 | 107.32 | -55.00 | |
| 07/05 | 08:31:30 | 12689.5000 | 2421.18 | 106.76 | -52.69 | |
| 07/05 | 08:33:00 | 12691.0000 | 2407.37 | 103.37 | -13.81 | |
| 07/05 | 08:34:30 | 12692.5000 | 2406.53 | 100.10 | -.84 | |
| 07/05 | 08:36:15 | 12694.2500 | 2405.52 | 97.04 | -1.01 | |
| 07/05 | 08:38:45 | 12696.7500 | 2404.92 | 94.03 | -.60 | |
| 07/05 | 08:39:30 | 12697.5000 | 2411.05 | 93.35 | 6.14 | STOP @ 2000' |
| 07/05 | 08:39:45 | 12697.7500 | 2383.30 | 93.12 | -27.75 | |
| 07/05 | 08:40:00 | 12698.0000 | 2337.65 | 92.89 | -45.65 | |
| 07/05 | 08:40:15 | 12698.2500 | 2288.99 | 92.67 | -48.67 | |
| 07/05 | 08:40:30 | 12698.5000 | 2236.96 | 92.14 | -52.03 | |
| 07/05 | 08:40:45 | 12698.7500 | 2181.49 | 91.61 | -55.47 | |

| Date MM/DD | Time hh:mm:ss | Test Time mmmmmm.mmmm | Pressure Psig | Temp Deg F | deltaP Psi | Comment Ga. Press Ref. to 14.7 Psi Atm. |
|---|---|---|---|---|---|---|
| 07/05 | 08:41:00 | 12699.0000 | 2133.02 | 91.08 | -48.47 | |
| 07/05 | 08:41:15 | 12699.2500 | 2085.99 | 90.54 | -47.03 | |
| 07/05 | 08:41:30 | 12699.5000 | 2032.63 | 90.02 | -53.36 | |
| 07/05 | 08:41:45 | 12699.7500 | 1988.87 | 89.48 | -43.76 | |
| 07/05 | 08:42:00 | 12700.0000 | 1971.59 | 88.96 | -17.28 | |
| 07/05 | 08:42:15 | 12700.2500 | 1968.22 | 88.43 | -3.37 | |
| 07/05 | 08:43:45 | 12701.7500 | 1968.63 | 84.79 | .41 | |
| 07/05 | 08:45:00 | 12703.0000 | 1967.69 | 81.59 | -.94 | |
| 07/05 | 08:46:15 | 12704.2500 | 1966.91 | 78.54 | -.78 | |
| 07/05 | 08:48:30 | 12706.5000 | 1966.31 | 75.34 | -.60 | |
| 07/05 | 08:49:15 | 12707.2500 | 1966.05 | 74.38 | -.26 | STOP @ 1000' |
| 07/05 | 08:49:30 | 12707.5000 | 1941.62 | 74.08 | -24.43 | |
| 07/05 | 08:49:45 | 12707.7500 | 1912.80 | 73.77 | -28.82 | |
| 07/05 | 08:50:00 | 12708.0000 | 1858.70 | 73.46 | -54.10 | |
| 07/05 | 08:50:15 | 12708.2500 | 1801.72 | 73.16 | -56.98 | |
| 07/05 | 08:50:30 | 12708.5000 | 1743.16 | 72.85 | -58.56 | |
| 07/05 | 08:50:45 | 12708.7500 | 1687.03 | 72.55 | -56.13 | |
| 07/05 | 08:51:00 | 12709.0000 | 1645.12 | 72.25 | -41.91 | |
| 07/05 | 08:51:15 | 12709.2500 | 1600.33 | 71.94 | -44.78 | |
| 07/05 | 08:51:30 | 12709.5000 | 1560.00 | 71.64 | -40.33 | |
| 07/05 | 08:52:00 | 12710.0000 | 1542.97 | 71.02 | -17.03 | |
| 07/05 | 08:52:15 | 12710.2500 | 1529.87 | 70.57 | -13.10 | |
| 07/05 | 08:56:15 | 12714.2500 | 1514.26 | 70.47 | -15.61 | SURFACE STOP |
| 07/05 | 08:56:30 | 12714.5000 | 1492.29 | 70.71 | -21.97 | |
| 07/05 | 08:56:45 | 12714.7500 | 29.03 | 70.95 | -1463.26 | |
| 07/05 | 08:57:00 | 12715.0000 | .01 | 71.19 | -29.02 | |
| 07/05 | 09:00:15 | 12718.2500 | .01 | 74.35 | .00 | |
| 07/05 | 09:05:00 | 12723.0000 | .01 | 77.79 | .00 | |
| 07/05 | 09:13:00 | 12731.0000 | .01 | 80.81 | .00 | |

# EVENT SUMMARY

COMPANY : AGUA MOSS, LLC

WELL NAME : SUNCO SWD NO. 1

WELL LOCATION : SAN JUAN COUNTY, NM

PAGE : B1

DATE : 07/06/17

FILE REF: F262705.RED

| Date MM/DD | Time hh:mm:ss | Test Time mmmmmm.mmmm | Key Event | Pressure Psig | Temp Deg F |
|---|---|---|---|---|---|
| 06/26 | 13:31:00 | 29.0000 | PRESSURED UP LUBRICATOR | 8.77 | 103.44 |
| 06/26 | 13:35:30 | 33.5000 | SURFACE STOP | 1549.79 | 93.30 |
| 06/26 | 13:36:00 | 34.0000 | RAN TANDEM ELEC. MEMORY INST. IN WELL | 1572.86 | 91.74 |
| 06/26 | 13:58:15 | 56.2500 | TANDEM ELEC. MEMORY INST. @ 4405' | 3481.75 | 103.70 |
| 06/26 | 14:14:00 | 72.0000 | BEGAN INJECTING WATER | 3478.60 | 93.21 |
| 06/28 | 16:55:45 | 3113.7500 | STOPPED INJECTING WATER | 3934.47 | 85.03 |
| 06/28 | 16:56:00 | 3114.0000 | BEGAN FALL-OFF TEST | 3933.76 | 85.03 |
| 07/05 | 08:10:15 | 12668.2500 | ENDED FALL-OFF TEST / INST. OFF BOTTOM | 3438.13 | 92.43 |
| 07/05 | 08:19:00 | 12677.0000 | STOP @ 4000' | 3278.75 | 114.67 |
| 07/05 | 08:29:15 | 12687.2500 | STOP @ 3000' | 2844.07 | 108.84 |
| 07/05 | 08:39:30 | 12697.5000 | STOP @ 2000' | 2411.05 | 93.35 |
| 07/05 | 08:49:15 | 12707.2500 | STOP @ 1000' | 1966.05 | 74.38 |
| 07/05 | 08:56:15 | 12714.2500 | SURFACE STOP | 1514.26 | 70.47 |

# EVENT SUMMARY

COMPANY : AGUA MOSS, LLC

PAGE : B1

WELL NAME : SUNCO SWD NO. 1

DATE : 07/06/17

WELL LOCATION : SAN JUAN COUNTY, NM

FILE REF: F262705.DAT

| Date MM/DD | Time hh:mm:ss | Test Time mmmmmm.mmmm | Key Event | Pressure Psig | Temp Deg F |
|---|---|---|---|---|---|
| 06/26 | 13:31:00 | 29.0000 | PRESSURED UP LUBRICATOR | 8.77 | 103.44 |
| 06/26 | 13:35:00 | 33.0000 | SURFACE STOP | 1534.06 | 94.87 |
| 06/26 | 13:36:00 | 34.0000 | RAN TANDEM ELEC. MEMORY INST. IN WELL | 1572.86 | 91.74 |
| 06/26 | 13:56:00 | 54.0000 | TANDEM ELEC. MEMORY INST. @ 4405' | 3480.91 | 106.54 |
| 06/26 | 14:14:00 | 72.0000 | BEGAN INJECTING WATER | 3478.60 | 93.21 |
| 06/28 | 16:52:00 | 3110.0000 | STOPPED INJECTING WATER | 3953.94 | 85.00 |
| 06/28 | 16:53:00 | 3111.0000 | BEGAN FALL-OFF TEST | 3946.58 | 85.01 |
| 07/05 | 08:06:00 | 12664.0000 | ENDED FALL-OFF TEST / INST. OFF BOTTOM | 3457.00 | 92.44 |
| 07/05 | 08:19:00 | 12677.0000 | STOP @ 4000' | 3278.75 | 114.67 |
| 07/05 | 08:29:00 | 12687.0000 | STOP @ 3000' | 2846.14 | 109.00 |
| 07/05 | 08:39:00 | 12697.0000 | STOP @ 2000' | 2404.90 | 93.81 |
| 07/05 | 08:49:00 | 12707.0000 | STOP @ 1000' | 1966.18 | 74.63 |
| 07/05 | 08:55:00 | 12713.0000 | SURFACE STOP | 1522.53 | 69.33 |

Company: AGUA MOSS, LLC
Well: SUNCO SWD NO. 1 County: SAN JUAN
Field: POINT LOOKOUT FORMATION State: NEW MEXICO
Engineer: NEIL TEFTELLER Date: 06/26/2017
Gauge Type: ELECTRONIC MEMORY Well Type: DISPOSAL
Gauge Range: 0 - 5000 Test Type: GRADIENT
Gauge Depth: 4405 ft Status: SHUT IN
Serial No.: 262 File Name: 67072

Tubing: 2-7/8" TO 4282'
Tubing: TO
Casing: TO Oil Level
Perfs.: 4350' - 4460' H2O Level

Shut-in BHP 3481 @ 4405 ft Shut-in BHT 0 F @ 0 ft
Shut-in WHP 1523 Shut-in WHT 0 F

[ Tefteller Incorporated ]

| # | MD | TVD | PRESSURE | PSI/ft |
|---|---|---|---|---|
| 1 | 4405 | 4405 | 3481.00 | |
| 2 | 4405 | 4405 | 3457.00 | 0.000 |
| 3 | 4000 | 4000 | 3279.00 | 0.440 |
| 4 | 3000 | 3000 | 2846.00 | 0.433 |
| 5 | 2000 | 2000 | 2405.00 | 0.441 |
| 6 | 1000 | 1000 | 1966.00 | 0.439 |
| 7 | 0 | 0 | 1523.00 | 0.443 |

WATER LEVEL @ SURFACE

Company: AGUA MOSS, LLC
Well: SUNCO SWD NO. 1 County: SAN JUAN
Field: POINT LOOKOUT FORMATION State: NEW MEXICO
Engineer: NEIL TEFTELLER Date: 06/26/2017
Gauge Type: ELECTRONIC MEMORY Well Type: DISPOSAL
Gauge Range: 0 - 5000 Test Type: GRADIENT
Gauge Depth: 4405 ft Status: SHUT IN
Serial No.: 262 File Name: 67072

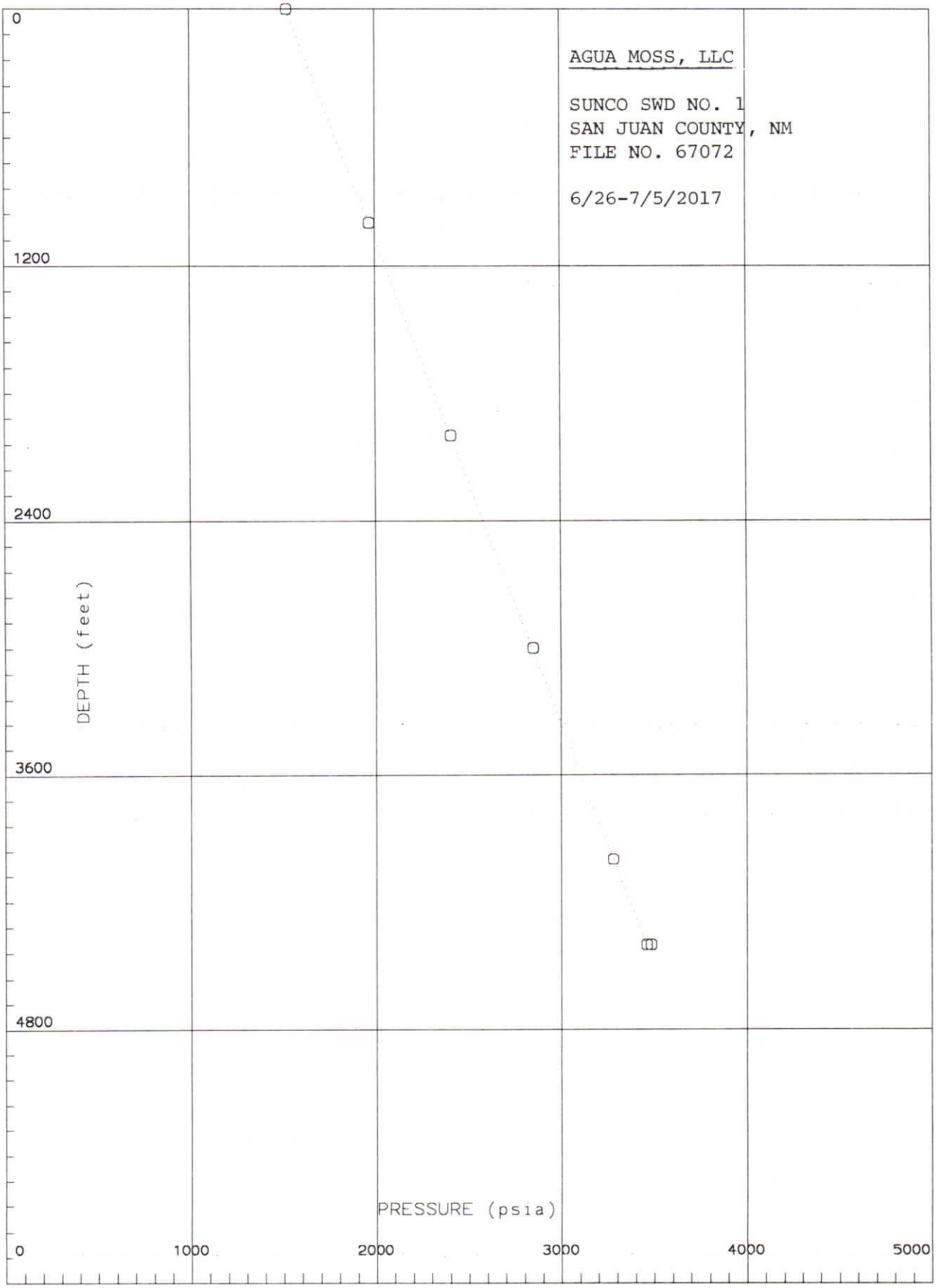
Tubing: 2-7/8" TO 4282'
Tubing: TO
Casing: TO Oil Level
Perfs.: 4350' - 4460' H2O Level

Shut-in BHP 3481 @ 4405 ft Shut-in BHT 0 F @ 0 ft
Shut-in WHP 1523 Shut-in WHT 0 F

[ Tefteller Incorporated ]

| # | MD | TVD | PRESSURE | PSI/ft |
|---|---|---|---|---|
| 1 | 4405 | 4405 | 3481.00 | |
| 2 | 4405 | 4405 | 3457.00 | 0.000 |
| 3 | 4000 | 4000 | 3279.00 | 0.440 |
| 4 | 3000 | 3000 | 2846.00 | 0.433 |
| 5 | 2000 | 2000 | 2405.00 | 0.441 |
| 6 | 1000 | 1000 | 1966.00 | 0.439 |
| 7 | 0 | 0 | 1523.00 | 0.443 |

WATER LEVEL @ SURFACE


AGUA MOSS, LLC
SUNCO SWD NO. 1
SAN JUAN COUNTY, NM
FILE NO. 67072
6/26-7/5/2017
0
1200
2400
3600
4800
DEPTH (feet)
0
1000
2000
3000
4000
5000
PRESSURE (psia)

# SP-2000

## *Downhole Memory Pressure Gauge*

The SP-2000 downhole memory pressure gauge is controlled by an internal microprocessor and powerful software.

The SP-2000 can stay downhole and collect data for hours or days; depending on your application. It is slimline and operates fully from battery power.

The microprocessor is capable of detecting the correct pressure and temperature and adjust the sampling rate automatically (once programmed for the test application).

The SP-2000 is tough, dependable, simple, and intelligent. If your job requires gauges that are reliable yet rugged and simple to use, the SP-2000 memory gauge, with it's Hybrid-Quartz sensor is the one for you. It is so simple that a paper clip can be used to program it by changing the switch settings for the Type and Duration of test.

With the use of our simple, menu driven software, you can retrieve and report the gauge data (using a compatible computer and printer) from the tool once it is removed from the well.

Advanced reporting features are available such as data printouts, gradient reports, gradient plots and most of the standard time vs. pressure/temperature plot formats.

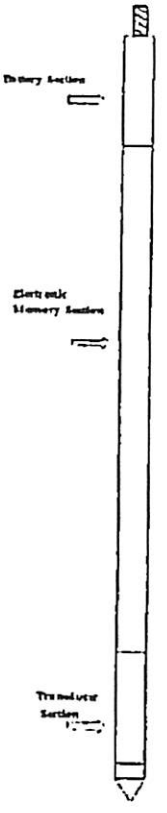
Micro-Smart Systems offers complete Well Test Interpretation, utilizing Fekete's "F.A.S.T. Well Test ™" software. This powerful state-of-the-art software includes data preparation, various analysis methods, analytical reservoir modeling and deliverability.

Micro-Smart Systems is the *SMART* choice for cutting-edge technology and superior customer support. We can save you time, money, and help you keep your customers satisfied.

### *SMART Features:*

The technological features of the SP-2000 are:

- Dual EEPROM Memory
- Tool performs internal tests and delivers audible signal to confirm operation
- Multiple-run data storage capability
- User friendly software
- Convert from memory to SRO gauge with simple module change
- Compatible with Micro-Smart's production logging tools
- Standard ASCII data storage format
- Switch selectable programming without the use of a computer
- Selectable switches for duration in *DAYS* and *TYPE* of *TEST*
- Custom computer programming
  - up to 15 time periods
  - specify time interval, sampling rate, and Δ P switching.



*"SMART AND SIMPLE"*

### SPECIFICATIONS:

Memory Capacity: 48,000 data sets (main memory)
2,000 data sets (backup memory)
(time, pressure, temp.)

Sampling Intervals: 1.875 seconds to 64 minutes
(in binary multiples)

Diameter: 1.25 inch (31.2 mm)

Resolution: Pressure .01 psi
Temp. .04° F

Accuracy: Pressure ± .05 % Full Scale
Temp. ± 1°F
Time ± .05%

Pressure Ranges: 2,500 psi (17,000 KPA)
5,000 psi (34,000 KPA)
10,000 psi (68,000 KPA)
15,000 psi (102,000 KPA)
20,000 psi (136,000 KPA)

Weight: 13 lbs. (5.9 Kg)

Operating Temp.: 32° F to 325° F
(0° C to 160° C)

Power: 13.5v (9 "c" cell Alkaline)
14.4v (4 "c" cell Lithium)

Length: 53 in. (1.3 m) plus battery pack
24 in. (.6 m) for 9 cell pack
16 in. (.4 m) for 4 cell pack

# *ACCURACY VERIFICATION*

**5-February-2014**

| | | | |
|---|---|---|---|
| Gauge Model | SP-2000 | Pressure Range | 5 K |
| Gauge S/N | 162 | Accuracy 0.05% | Full Scale |

| Applied Pressure psig | Recorded Pressure psig | Difference psi | Difference Percent (%) |
|---|---|---|---|
| 0.01 | 0.71 | 0.70 | 0.0139% |
| 774.08 | 774.96 | 0.88 | 0.0177% |
| 1498.24 | 1499.12 | 0.88 | 0.0176% |
| 2222.36 | 2222.99 | 0.63 | 0.0126% |
| 2946.53 | 2947.04 | 0.51 | 0.0102% |
| 3670.66 | 3671.23 | 0.57 | 0.0113% |
| 4394.87 | 4395.53 | 0.66 | 0.0133% |
| 5119.00 | 5119.94 | 0.94 | 0.0187% |
| 4394.87 | 4396.16 | 1.29 | 0.0258% |
| 3670.66 | 3671.99 | 1.33 | 0.0265% |
| 2946.53 | 2947.97 | 1.44 | 0.0287% |
| 2222.36 | 2223.84 | 1.48 | 0.0296% |
| 1498.24 | 1499.73 | 1.49 | 0.0299% |
| 774.08 | 775.18 | 1.10 | 0.0220% |
| 0.01 | 0.25 | 0.24 | 0.0049% |

Oven Temperature: **144.7 °F** Probe Temperature: **144.7 °F**

Smart Gauge Calibration accuracy is confirmed.

Calibrated with RUSKA Pressure Standard, model # 2451-700-00
Serial #26618, Mass Set Serial #25608
Compensated to local acceleration due to gravity

Verified by: CM

Submit 1 Copy To Appropriate District Office
District I – (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II – (575) 748-1283
811 S. First St., Artesia, NM 88210
District III – (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV – (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-103
Revised July 18, 2013

WELL API NO.
30-045-28653

5. Indicate Type of Lease
STATE ☐ FEE ☒

6. State Oil & Gas Lease No.

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

7. Lease Name or Unit Agreement Name
Sunco Disposal

1. Type of Well: Oil Well ☐ Gas Well ☐ Other SWD Class I

8. Well Number #1

2. Name of Operator
Agua Moss, LLC

9. OGRID Number
247130

3. Address of Operator
PO Box 600 Farmington, NM 87499

10. Pool name or Wildcat
SWD-MV

4. Well Location
Unit Letter_____E__:__1595____feet from the __North____ line and __1005_____feet from the __West_____line
Section 2 Township 29N Range 12W NMPM County San Juan

11. Elevation *(Show whether DR, RKB, RT, GR, etc.)*
5859' GL

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

| NOTICE OF INTENTION TO: | | | | SUBSEQUENT REPORT OF: | | | |
|---|---|---|---|---|---|---|---|
| PERFORM REMEDIAL WORK | ☐ | PLUG AND ABANDON | ☐ | REMEDIAL WORK | ☐ | ALTERING CASING | ☐ |
| TEMPORARILY ABANDON | ☐ | CHANGE PLANS | ☐ | COMMENCE DRILLING OPNS. | ☐ | P AND A | ☐ |
| PULL OR ALTER CASING | ☐ | MULTIPLE COMPL | ☐ | CASING/CEMENT JOB | ☐ | | |
| DOWNHOLE COMMINGLE | ☐ | | | | | | |
| CLOSED-LOOP SYSTEM | ☐ | | | | | | |
| OTHER: | | Perform FOT | ☒ | OTHER: | | | ☐ |

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Agua Moss, LLC would like to conduct the required Fall Off Test as outlined in the proposed/attached documents on 6/26/2017.

Spud Date: Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE [signature] TITLE Regulatory Compliance Specialist DATE 6/27/2017

Type or print name Philana Thompson E-mail address: pthompson@merrion.bz PHONE: 505-324-5336

**For State Use Only**

APPROVED BY: [signature] TITLE Environmental Engineer DATE 6/27/2017
Conditions of Approval (if any):

# Agua Moss, LLC

## Wellbore Schematic

### Sunco No. 1, SWD

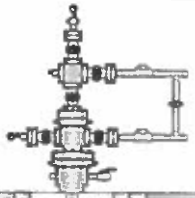
*Current Wellbore Configuration*

Location: 1595' fnl & 1005' fwl
Sec 2, T29N, R12W
San Juan Co, New Mexico

July 12th, 2013

Elevation: 5,859' GL
5,872' RKB

By: J. Ryan Davis



Top of Cmt @ Surface

Bit Size - 12 1/4"

8 5/8" 24# K55 Surface Csg @ 209' KB w/ 150sx; circ to surf

Tertiary

Cretaceous

DV tool @ 2244' KB.

2 7/8", 6.5#/ft EUE Internally Plastic Coated Tubing to 4282' KB
w/ Arrow XL-W retrievable seal bore @4282' KB
F Profile nipple, (2.25" ID).

Mesaverde - 4046'

**Pt. Lookout Perfs:**
4350' - 4460' 2 spf
(Acidized w/ 2000 gal 15% HCL on 9/1993 , Frac w/ 100,000# 20/40)

**TD @ 4760'KB**
**PBTD @ 4706'KB**

5.50" 15.5# K55 Csg @ 4750'
Stage 1: 230 sx
Stage 2: 515 sx
Circ 25 sx to surf

# Fall Off Test Procedure:

## Prepare Well for Fall Off Test

1. Arrange for adequate injection fluid storage
2. Accumulate 3000 bbls of produced water
3. Perform MIT
4. MIRU wireline
5. RIH w/ Gauge ring to SN
6. POOH w/ Gauge ring and PU impression block (or something to run thru SN)
7. RIH tag and record fill depth
8. If no restrictions exist and fill is below the perfs continue on to FOT. Otherwise remediate problem or adjust FOT procedure before continuing.

## Conduct Fall Off Test

9. POOH pick up pressure gauges
10. RIH and hang gauges off @ 4405' KB
11. Begin injection, (125 bph) 3000 bwpd, Record time
12. Inject for 50 hrs, total of 6250 bbls. Record start and stop time
    a. Ensure injection pressures have stabilized before proceeding
13. S/D injection pump and close valve @ wellhead, Record time
    a. Once surface pressure stabilizes record start time of fall off
14. Record pressure data for 164 hrs, Record start and stop time
15. POOH making gradient stops @ 4000', 3000', 2000', 1000' and surface
16. Secure well and bleed pressure off lubricator
17. R/D wireline
18. Put well back into service for normal operation.

**AGUA MOSS, LLC**

# TEST PLAN FOR PRESSURE FALL-OFF TEST (FOT)

| Well Information | | | |
|---|---|---|---|
| **Well:** | **Sunco Disposal 1** | **Field:** | Mesaverde SWD |
| **Location:** | 1595' fnl &1005' fwl<br>S2, T29N, R12W<br>San Juan Co. New Mexico | **Elevations:** | 5859' GL<br>5872' RKB |
| | | **Depths:** | 4706' KB PBTD<br>4760' KB TD |
| | | **Engineer:** | J. Ryan Davis (505.324.5335) |
| **API:** | 30-045-28653 | **Date:** | June 27, 2017 |
| **Surface Casing:** | 8- 5/8" @ 209' KB w/ 150sx; Circ to surface | **Production Casing:** | 5-1/2" @ 4750' KB w/ 230 sx stage 1, 515 sx stage 2, circ 25 sx to surf, DV tool @ 2244' KB |
| **Tubulars:** | 2- 7/8" 6.5# EUE (Epoxy Coated) @ 4282' KB | **Packer:** | Arrow XL-W retrievable seal bore @ 4282' KB. |
| **Perforations (MV)** | 4350-4460' KB 2 spf (2000 gals 15% HCL, Frac w/ 100,000# 20/40) | | |
| **Additional Perforations** | | | |
| **Perforations (MV)** | None | | |

**Version 2 : Lowereed proposed injection rate. Procedure subject to change based on changing well conditions.**

## Proposed Test Schedule:

| Date | Event | Remarks |
|---|---|---|
| Monday, June 26th 2017 | Check conditions, Perform MIT and Begin Injection (50 hrs) | TD, Fill, Restrictions and hang Gauges |
| Wednesday, June 28th 2017 | End Injection and Begin FOT | Shut-In and monitor |
| Wednesday, July 5th 2017 | 164 hrs | Could pull gauges at this point |
| | | |

## Test Considerations:

V.1 The triplex pump at the facility is capable of maintaining a constant rate of 3000 bpd against the anticipated injection pressures.

V.2 The injection rate of 3000 bpd ( 87.5 gpm) will be sufficient to produce valid test data. (For reference: *During normal injection at 3600 bpd (8 hrs) the surface pressure build up is approx. 200 psi with a mirrored fall off over a 8 hr period.*)

V.3 The normal waste liquid will be used during the FOT due to the cost effectiveness and availability.

V.4 The total volume of fluid needed for the FOT is 6250 bbls.

a) A total of 3600 bbls will be onsite prior to starting the injection for the FOT and water will continue to be hauled to facility in the case that more fluid is needed during the injection period.

b) Lowering the Injection rate will be considered if well conditions merit a change or storage of fluid becomes a constraint.

c) City water will be purchased for the FOT if it becomes necessary to make up the volume required for the test.

V.5 The gauges will be RIH and the injection period will be a minimum of 50 hrs to ensure radial flow and stabilization. A total of 15 hrs was calculated using the EPA Region 6 UIC Pressure Falloff Testing Guideline design calculations found on pg A-4. The fall off portion will be a minimum of 72 hrs justified by this being the time frame used on the previous FOT.

V.6 There will be adequate storage capacity for waste water for the duration of the FOT.

V.7 There is one offset well completed in the Point Lookout disposal formation. The McGrath #4 is a class II disposal operated by ConocoPhillips approx 1.25 miles to the north west of the Sunco #1. The well has been P&A'd, so there will not be any injection activity from offset wells during the FOT.

V.8 Crown valve is currently in-place on the Sunco #1 wellhead. The gauges will be RIH through a lubricator prior to the injection period.

V.9 A shut-in valve is located on the injection riser approx 3-feet from the wellhead. This valve can be shut quickly to reduce erratic pressure response and minimize the wellbore storage.

V.10 Prior to the FOT a gauge ring will be run through the tubing to ensure no restrictions in the tubing and slickline will also be used to tag up and determine wellbore fill. Test parameters will be adjusted accordingly or the needed the repairs will be made to remedy the situation.

V.11 Surface readout gauges will not be used in the FOT data collection due to cost and the fact Key performed the 2010 FOT with tandem memory down hole gauges with successful data collection. The gauges used will be latest available technology from Teftiller, Inc which will meet or exceed the pressure range, accuracy and resolution requirements. The gauges will be setup on auto resolution capture based on pressure change. Each gauge will be setup with a different auto resolution range to ensure all data in captured accurately.

V.12 A test log will be kept during the test and submitted with the FOT results. The log will include key events with date and times.

- Gauge ring run
- Tag depth
- Gauge activation
- Gauges on bottom
- Injection start
- Injection stop
- Well isolation
- Pressure stabilization
- End of Fall Off

V.13 Surface pressures will be recorded continuously using a chart recorder during the FOT. If any abnormal surface pressure change occurs the test validity will be questioned and the test will be aborted if deemed invalid.

V.14 The memory gauges being used for the FOT have auto resolution capability that changes the resolution based on rate of pressure change. First gauge will be configured to obtain data every 15 seconds and adjust to every one minute. The second gauge will be configured to obtain data every 30 seconds and adjust to every two minutes. Memory capacity is 35 day and 69 days respectfully. The minimum 15 second resolution was used during the 2010 FOT and proved to be acceptable. The length of the fall off portion is based on the 2016 FOT, 120 hours proved to be adequate.

V.15 The tri-plex injection pump at the facility that is normally used for injection will be used for the FOT. It is a positive displacement pump running at a constant RPM which will ensure constant injection rate during the FOT. A constant injection rate of approximately 3000 bpd will be sufficient to create a minimum of 100 psi differential between final injection pressure and shut-in pressure. The rate will be carefully monitored prior to shut down to ensure a steady state injection is maintained prior to beginning the fall-off portion of the test.