

**JAMES C. MUSGROVE**

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Mai Oil Operations  
Steinle #1  
SW-NE-NW-NW (510' FNL & 690 FWL)  
Section 2-14s-15w  
Russell County, Kansas

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**5 1/2" Production Casing Set**

**Contractor:** Southwind Drilling Co. (rig #3)  
**Commenced:** October 28, 2016  
**Completed:** November 5, 2016  
**Elevation:** 1896' K.B., 1894' D.F., 1888' G.L.  
**Casing program:** Surface; 8 5/8" @ 933'  
Production, 5 1/2" @ 3388'  
**Sample:** Samples saved and examined 2300' to the Rotary Total Depth.  
**Drilling time:** One (1) foot drilling time recorded and kept 2300' to the Rotary Total Depth.  
**Measurements:** All depths measured from the Kelly Bushing.  
**Drill Stem Tests:** There were seven (7) Drill Stem Tests ran by Trilobite Testing Co.  
**Electric Log:** By Eli Wireline Services, Dual Induction, Compensated Density/Neutron Log and Micro & Sonic Log

<u>Formation</u>	<u>Log Depth</u>	<u>Sub-Sea Datum</u>
Anhydrite	931	+965
Base Anhydrite	967	+929
Grand Haven	2447	-551
1 <sup>st</sup> Tarkio	2458	-562
Dover	2476	-580
2 <sup>nd</sup> Tarkio	2481	-585
Tarkio Lime	2519	-623
Willard Shale	2540	-644
Elmont	2573	-677
Howard	2713	-817
Topeka	2773	-877
Heebner	2996	-1100
Toronto	3015	-1119
Lansing	3050	-1154
Base Kansas City	3253	-1357
Gorham Sand	3304	-1408
Reagan Sand	3340	-1444
Granite Wash	3370	-1474
Rotary Total Depth	3390	-1494
Log Total Depth	3391	-1495

(All tops and zones corrected to Electric Log Measurement)

**SAMPLE ANALYSIS, SHOWS OF OIL, TESTING DATA, ETC.**

**1<sup>st</sup> TARKIO SAND**

2457-2465' Sand; white, tan, very fine grained; sub-rounded, friable; poor porosity, no shows.

**2<sup>nd</sup> TARKIO SAND**

2481-2491' Sand, white, tan, very fine grained; sub-rounded; friable, fair intergranular porosity; few calcareous, good stain and saturation, show of free oil, fair to good odor in fresh samples.

**Drill Stem Test #1** **2478-2524**

Times: 30-30-45-60

Blow: Strong

Recovery: 310' water

Pressures: ISIP 778 psi  
FSIP 779 psi  
IFP 28-86 psi  
FFP 94-166 psi  
HSH 1164-1147 psi

**TARKIO LIME**

2519-2526' Limestone, white/gray, cream, slightly cherty, few fossiliferous, dense, poor porosity; questionable brown discoloration, no show of free oil and no odor in fresh samples.

**TOPEKA SECTION**

2773-2780' Limestone, white, gray, chalky, poor pinpoint type porosity; trace brown stain, weak show of free oil and good odor in fresh samples.

2790-2800' Limestone, as above, poor visible porosity.

**Drill Stem Test #2** **2757-2804**

Times: 30-30-30-45

Blow: Weak

Recovery: 50' gas in pipe  
10' very slightly oil cut mud  
(2% oil; 98% mud)

Pressures: ISIP 83 psi  
FSIP 110 psi  
IFP 16-18 psi  
FFP 16-20 psi  
HSH 1333-1317 psi

- 2867-2874' Limestone, tan, chalky, questionable brown stain, no show of free oil and faint odor in fresh samples.
- 2952-2966' Limestone, gray, cream, granular, slightly chalky, scattered porosity, brown stain and saturation, show of free oil and good odor in fresh samples.

**Drill Stem Test #3** **2930-2970**

**Times:** 30-30-30-30

**Blow:** Weak

**Recovery:** 70' watery mud; show of oil  
10' very slightly oil cut mud  
(2% oil; 98% mud)

**Pressures:** ISIP 857 psi  
FSIP 834 psi  
IFP 21-37 psi  
FFP 46-62 psi  
HSH 1423-1401 psi

**TORONTO SECTION**

- 3015-3021' Limestone, white/cream, chalky, poor porosity, black/brown stain, no free oil and no odor in fresh samples.

**LANSING SECTION**

- 3050-3060' Limestone, tan, finely crystalline, few fossiliferous, pinpoint porosity, chalky, brown stain, no show of free oil and good odor in fresh samples.
- 3071-3079' Limestone, gray, white, cream, finely crystalline, oolitic, sub-oomoldic, fair oomoldic porosity, brown stain, show of free oil and good odor in fresh samples.

**Drill Stem Test #4** **3053-3086**

**Times:** 30-30-45-60

**Blow:** Weak to fair

**Recovery:** 270' gas in pipe  
40' oil and gas cut mud  
(10% gas; 15% oil; 75% mud)

**Pressures:** ISIP 757 psi  
FSIP 810 psi  
IFP 27-27 psi  
FFP 28-38 psi  
HSH 1483-1463 psi

- 3091-3096' Limestone, tan, oomoldic, good oomoldic porosity; brown stain and saturating good show of free oil and good odor in fresh samples.

**Drill Stem Test #5** **3082-3106**

**Times:** 45-30-45-60

**Blow:** Weak

**Recovery:** 70' gas in pipe  
50' very slightly oil cut muddy water  
(1% gas; 40% water; 59% mud)

**Pressures:** ISIP 807 psi  
FSIP 809 psi  
IFP 17-29 psi  
FFP 33-46 psi  
HSH 1501-1487 psi

3121-3125' Limestone, white, gray, slightly fossiliferous, poor visible porosity, trace brown stain, no show of free oil and no odor.

3129-3137' Limestone, gray, white; oomoldic, good oomoldic porosity, brown stain, show of free oil and faint odor in fresh samples.

**Drill Stem Test #6** **3053-3086**

**Times:** 30-30-45-60

**Blow:** Fair

**Recovery:** 355' gas in pipe  
1' clean oil  
75' oil and gas cut mud  
(10% gas; 30% oil; 60% mud)

**Pressures:** ISIP 859 psi  
FSIP 884 psi  
IFP 22-34 psi  
FFP 43-53 psi  
HSH 1508-1493 psi

3138-3152' Limestone, gray, white oomoldic, fair to good oomoldic porosity, trace brown stain, no free oil and no odor in fresh samples.

3164-3170' Limestone, gray, white, sub-oomoldic/oomoldic, chalky, no shows.

3188-3200' Limestone, tan, slightly fossiliferous, slightly cherty, dense.

3211-3220' Limestone, white, oolitic, fair porosity, chalky in part; fair stain and saturation, trace of free oil and no odor in fresh samples.

3228-3234' Limestone, white, gray, fossiliferous, chalky, poor visible porosity, trace brown stain, no show of free oil or odor in fresh samples.

3265-3270' Limestone, cream, white, sub-oomoldic, chalky, trace poor stain, no show of free oil and no odor in fresh samples.

**GORHAM SAND**

3304-3307' Sand, clear, quartzitic, sub-rounded, few angular, fair sorting, fair stain and saturation, show of free oil and fair odor in fresh samples.

**Drill Stem Test #7** **3259-3307**

**Times:** 30-30-45-60

**Blow:** Weak

**Recovery:** 75' gas in pipe  
45' muddy gassy oil  
(10% gas; 50% oil; 40% mud)

**Pressures:** ISIP 1085 psi  
FSIP 1090 psi  
IFP 22-27 psi  
FFP 30-38 psi  
HSH 1607-1534 psi

3307-3320' Sand, very fine grained; quartzitic, rounded, good sorting, friable, fair to good intergranular porosity, good stain and saturation, good show of free oil and good odor in fresh samples.

3320-3330' Sand, as above, good stain and saturation, good show of free oil and good odor in fresh samples.

3330-3340' Sand, as above, abundant iron pyrite and large sub-rounded, quartz grains.

**REAGAN SAND**

3340-3350' Sand, clear, quartzitic, sub-rounded; friable, fair intergranular porosity, fair stain and saturation, good show of free oil and good odor in fresh samples.

3350-3370' Sand, as above, white, clear, quartzitic, sub-rounded, friable, brown stain and saturation, show of free oil and odor in fresh samples.

**GRANITE WASH**

3370-3390' Abundant loose unconsolidated quartz grains; with maroon; red, green shale, trace of pink rounded feldspar grains; and weathered, pink to orange feldspar, trace of sand, white, gray, micaceous, no shows.

Mai Oil Operations  
Steinle #1  
SW-NE-NW-NW (510' FNL & 690 FWL)  
Section 2-14s-15w  
Russell County, Kansas

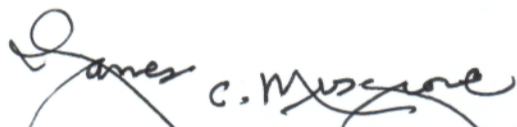
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**Rotary Total Depth            3390**  
**Log Total Depth                3391**

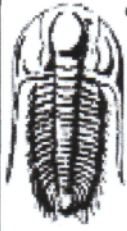
**Recommendations:**

The 5 ½" production casing was set and cemented on Mai Oil Operations Inc., Steinle #1.

Respectfully yours,

  
James C. Musgrove  
Petroleum Geologist





**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

Mai Oil Operations Inc  
8411 Preston Rd  
Ste 800  
Dallas TX 75225-5520  
ATTN: Kurt Mai, Jim Musgro

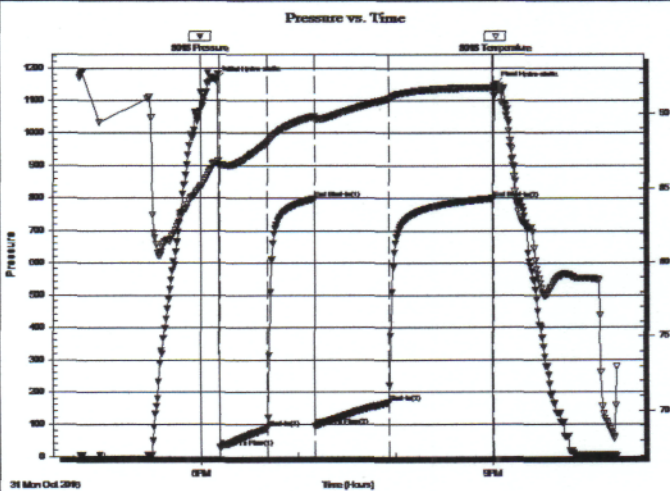
**2-14s-15w Russell,KS**  
**Steinle #1**  
Job Ticket: 63530      **DST#: 1**  
Test Start: 2016.10.31 @ 16:45:13

### GENERAL INFORMATION:

Formation: **Tarkio Sand**  
Deviated: No Whipstock:                      ft (KB)  
Time Tool Opened: 18:11:23  
Time Test Ended: 22:16:52  
Interval: **2478.00 ft (KB) To 2524.00 ft (KB) (TVD)**  
Total Depth: 2524.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Reference Elevations: 1896.00 ft (KB)  
1888.00 ft (CF)  
KB to GR/CF: 8.00 ft

**Serial #: 8018**      **Inside**  
Press@RunDepth: 166.72 psig @ 2488.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2016.10.31      End Date: 2016.10.31      Last Calib.: 2016.10.31  
Start Time: 16:45:13      End Time: 22:16:52      Time On Btm: 2016.10.31 @ 18:09:38  
Time Off Btm: 2016.10.31 @ 21:01:52

TEST COMMENT: 30-IFP-w k to strg in 18 min  
30-ISIP-no bl bk  
45-FFP-w k to strg in 27 min  
60-FSIP-no bl bk



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1164.32	86.72	Initial Hydro-static
2	28.45	86.56	Open To Flow (1)
32	86.54	88.05	Shut-in(1)
61	798.45	89.81	End Shut-in(1)
61	94.01	89.59	Open To Flow (2)
107	166.72	90.97	Shut-in(2)
171	799.99	91.72	End Shut-in(2)
173	1147.05	91.68	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
310.00	Water	4.35

\* Recovery from multiple tests

### Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mai Oil Operations Inc

**2-14s-15w Russell,KS**

8411 Preston Rd  
Ste 800

**Steinle #1**

Dallas TX 75225-5520

Job Ticket: 63530

**DST#: 1**

ATTN: Kurt Mai, Jim Musgro

Test Start: 2016.10.31 @ 16:45:13

### Tool Information

Drill Pipe:	Length: 2482.00 ft	Diameter: 3.80 inches	Volume: 34.82 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 35000.00 lb
			<u>Total Volume: 34.82 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 29000.00 lb
Depth to Top Packer:	2478.00 ft			Final 29000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	46.00 ft			
Tool Length:	67.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

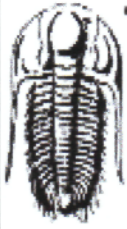
Tool Comments:

### Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			2458.00	
Shut In Tool	5.00			2463.00	
Hydraulic tool	5.00			2468.00	
Packer	5.00			2473.00	21.00 Bottom Of Top Packer
Packer	5.00			2478.00	
Change Over Sub	1.00			2479.00	
Perforations	9.00			2488.00	
Recorder	0.00	8018	Inside	2488.00	
Recorder	0.00	8700	Outside	2488.00	
Blank Spacing	33.00			2521.00	
Bullnose	3.00			2524.00	46.00 Bottom Packers & Anchor

**Total Tool Length: 67.00**





**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Mai Oil Operations Inc

**2-14s-15w Russell,KS**

8411 Preston Rd  
Ste 800  
Dallas TX 75225-5520

**Steinle #1**

Job Ticket: 63530

**DST#: 1**

ATTN: Kurt Mai, Jim Musgro

Test Start: 2016.10.31 @ 16:45:13

**Mud and Cushion Information**

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	101000 ppm
Viscosity: 65.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.09 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 800.00 ppm			
Filter Cake: 1.00 inches			

**Recovery Information**

Recovery Table

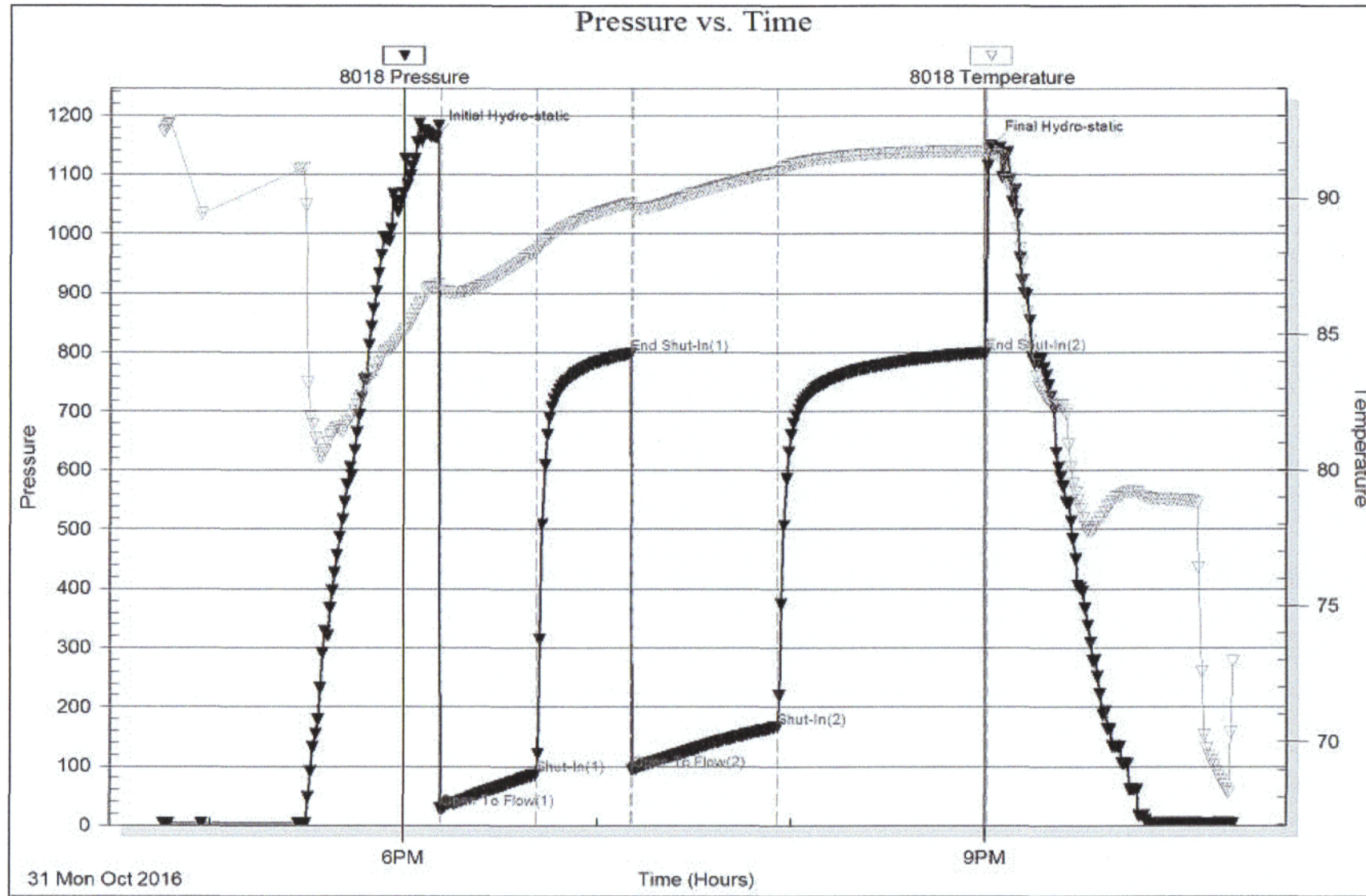
Length ft	Description	Volume bbl
310.00	Water	4.348

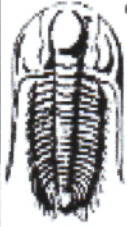
Total Length: 310.00 ft      Total Volume: 4.348 bbl

Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:

Laboratory Name:      Laboratory Location:

Recovery Comments: RW .07@75F





**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

Mai Oil Operations Inc  
8411 Preston Rd  
Ste 800  
Dallas TX 75225-5520  
ATTN: Kurt Mai, Jim Musgro

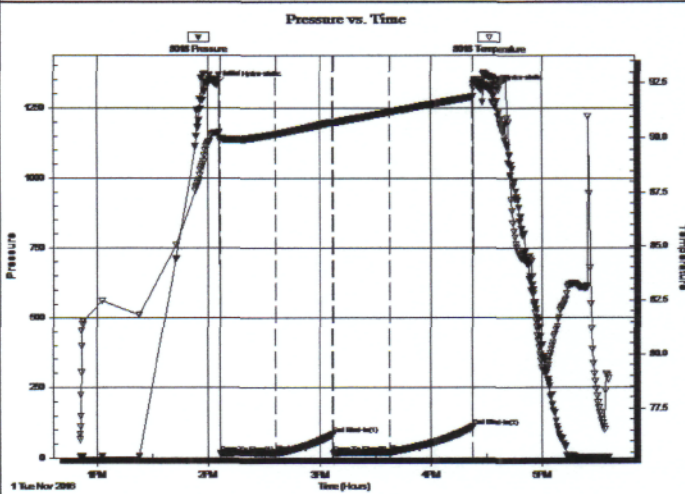
**2-14s-15w Russell,KS**  
**Steinle #1**  
Job Ticket: 63531      **DST#: 2**  
Test Start: 2016.11.01 @ 12:50:45

### GENERAL INFORMATION:

Formation: **Topeka**  
Deviated: No      Whipstock:      ft (KB)  
Time Tool Opened: 14:06:25  
Time Test Ended: 17:35:39  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Ray Schwager  
Unit No: 77  
Interval: **2751.00 ft (KB) To 2804.00 ft (KB) (TVD)**  
Reference Elevations: 1896.00 ft (KB)  
Total Depth: 2804.00 ft (KB) (TVD)      1888.00 ft (CF)  
Hole Diameter: 7.88 inches      Hole Condition: Fair      KB to GR/CF: 8.00 ft

**Serial #: 8018      Inside**  
Press@RunDepth: 20.40 psig @ 2753.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2016.11.01      End Date: 2016.11.01      Last Calib.: 2016.11.01  
Start Time: 12:50:45      End Time: 17:35:39      Time On Btm: 2016.11.01 @ 14:04:40  
Time Off Btm: 2016.11.01 @ 16:26:25

TEST COMMENT: 30-IFP-w k surface bl thru-out  
30-ISIP-no bl bk  
30-FFP-w k bl thru-out 1/8" bl  
45-FSIP-no bl bk



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1333.10	90.25	Initial Hydro-static
2	16.45	89.87	Open To Flow (1)
32	18.63	90.17	Shut-in(1)
63	83.46	90.72	End Shut-in(1)
63	16.84	90.71	Open To Flow (2)
93	20.40	91.18	Shut-in(2)
138	110.00	91.89	End Shut-in(2)
142	1317.98	92.50	Final Hydro-static

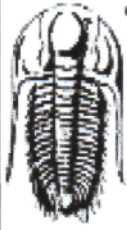
### Recovery

Length (ft)	Description	Volume (bbl)
10.00	SOCM 2%O98%M	0.14
0.00	50'GIP	0.00

\* Recovery from multiple tests

### Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**

Mai Oil Operations Inc

**2-14s-15w Russell,KS**

8411 Preston Rd  
Ste 800  
Dallas TX 75225-5520

**Steinle #1**

Job Ticket: 63531

**DST#: 2**

ATTN: Kurt Mai, Jim Musgro

Test Start: 2016.11.01 @ 12:50:45

**Tool Information**

Drill Pipe:	Length: 2762.00 ft	Diameter: 3.80 inches	Volume: 38.74 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 55000.00 lb
			<u>Total Volume: 38.74 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial 31000.00 lb
Depth to Top Packer:	2751.00 ft			Final 31000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	53.00 ft			
Tool Length:	74.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

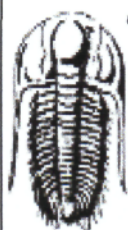
Tool Comments:

**Tool Description**

**Length (ft) Serial No. Position Depth (ft) Accum. Lengths**

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			2731.00	
Shut In Tool	5.00			2736.00	
Hydraulic tool	5.00			2741.00	
Packer	5.00			2746.00	21.00 Bottom Of Top Packer
Packer	5.00			2751.00	
Stubb	1.00			2752.00	
Perforations	1.00			2753.00	
Recorder	0.00	8018	Inside	2753.00	
Recorder	0.00	8700	Outside	2753.00	
Blank Spacing	33.00			2786.00	
Perforations	15.00			2801.00	
Bullnose	3.00			2804.00	53.00 Bottom Packers & Anchor

**Total Tool Length: 74.00**



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Mai Oil Operations Inc

**2-14s-15w Russell,KS**

8411 Preston Rd  
Ste 800  
Dallas TX 75225-5520

**Steinle #1**

Job Ticket: 63531

**DST#: 2**

ATTN: Kurt Mai, Jim Musgro

Test Start: 2016.11.01 @ 12:50:45

**Mud and Cushion Information**

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.89 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 1.00 inches

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
10.00	SOCM 2%O98%M	0.140
0.00	50'GIP	0.000

Total Length: 10.00 ft      Total Volume: 0.140 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8018

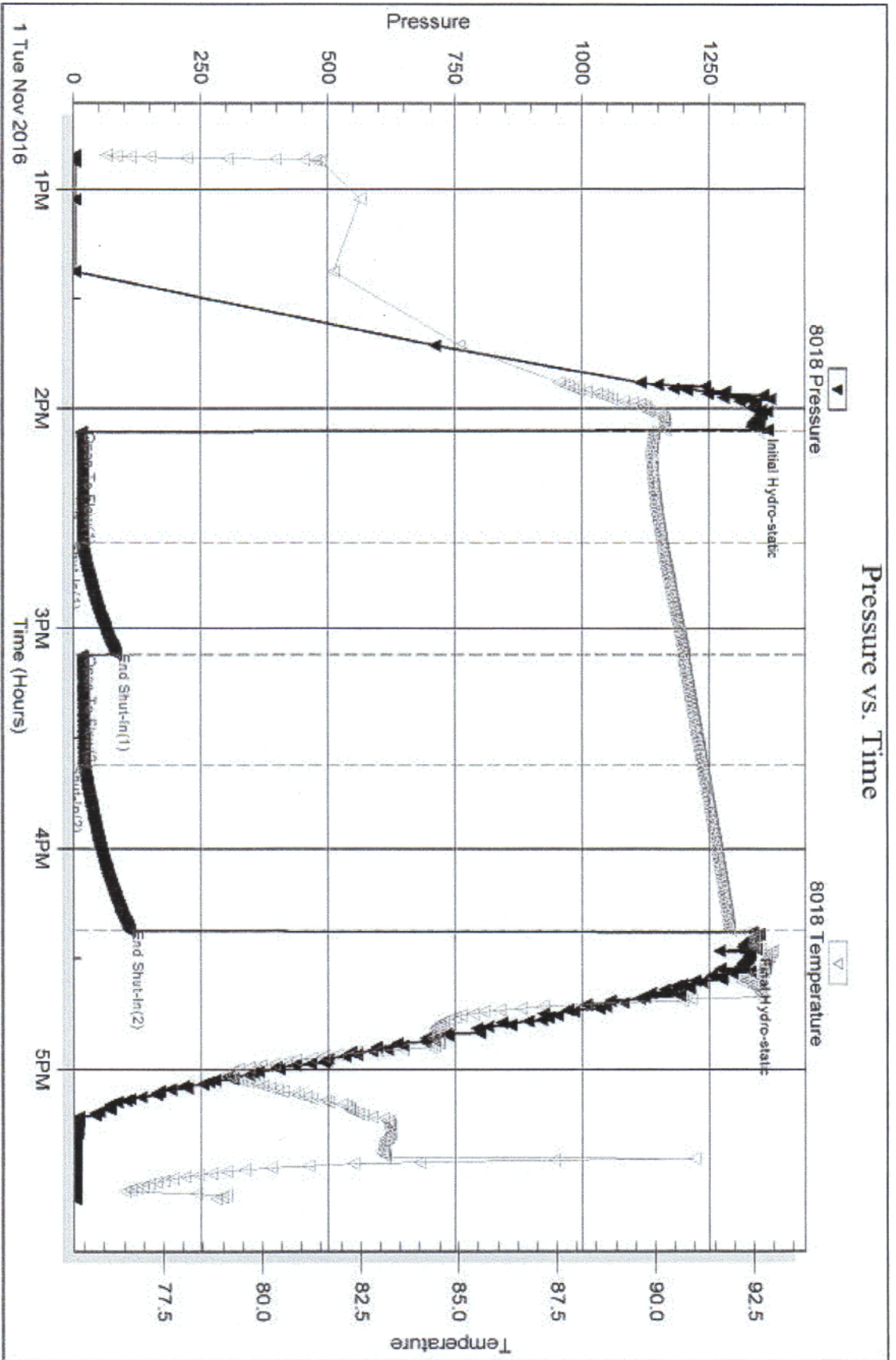
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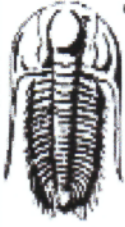
Mai Oil Operations Inc

Steinle #1

DST Test Number: 2

### Pressure vs. Time





**TRILOBITE TESTING, INC**

**DRILL STEM TEST REPORT**

Mai Oil Operations Inc  
 8411 Preston Rd  
 Ste 800  
 Dallas TX 75225-5520  
 ATTN: Kurt Mai, Jim Musgro

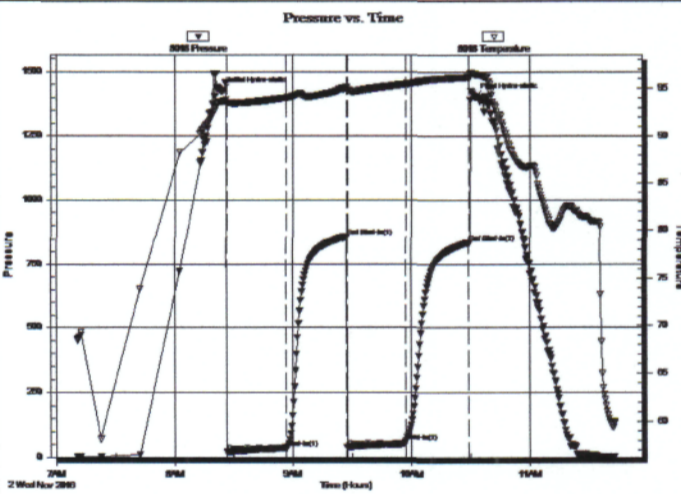
**2-14s-15w Russell,KS**  
**Steinle #1**  
 Job Ticket: 63532      **DST#: 3**  
 Test Start: 2016.11.02 @ 07:10:43

**GENERAL INFORMATION:**

Formation: **Plattsmouth**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 08:26:23 Tester: Ray Schwager  
 Time Test Ended: 11:43:15 Unit No: 77  
 Interval: **2930.00 ft (KB) To 2970.00 ft (KB) (TVD)** Reference Elevations: 1896.00 ft (KB)  
 Total Depth: 2970.00 ft (KB) (TVD) 1888.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 8.00 ft

**Serial #: 8018 Inside**  
 Press@RunDepth: 62.85 psig @ 2938.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2016.11.02 End Date: 2016.11.02 Last Calib.: 2016.11.02  
 Start Time: 07:10:43 End Time: 11:43:15 Time On Btm: 2016.11.02 @ 08:24:08  
 Time Off Btm: 2016.11.02 @ 10:32:08

TEST COMMENT: 30-IFP-w k bl thru-out 1/4" to surface bl  
 30-ISIP-no bl bk  
 30-FFP-no bl  
 30-FSIP-no bl



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1423.46	93.63	Initial Hydro-static
3	21.14	93.42	Open To Flow (1)
33	37.63	94.03	Shut-In(1)
63	857.05	95.04	End Shut-In(1)
64	40.33	94.79	Open To Flow (2)
93	62.85	95.43	Shut-In(2)
125	834.29	96.15	End Shut-In(2)
128	1401.08	96.44	Final Hydro-static

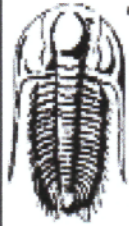
**Recovery**

Length (ft)	Description	Volume (bbl)
70.00	WM 30%W70%Mw / show of oil	0.98

**Gas Rates**

Choke (Inches)	Pressure (psig)	Gas Rate (Mcf/d)

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Mai Oil Operations Inc

**2-14s-15w Russell,KS**

8411 Preston Rd  
Ste 800  
Dallas TX 75225-5520

**Steinle #1**

Job Ticket: 63532

**DST#: 3**

ATTN: Kurt Mai, Jim Musgro

Test Start: 2016.11.02 @ 07:10:43

### Tool Information

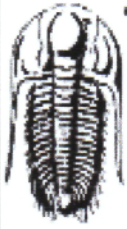
Drill Pipe:	Length: 2924.00 ft	Diameter: 3.80 inches	Volume: 41.02 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 35000.00 lb
			<u>Total Volume: 41.02 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 30000.00 lb
Depth to Top Packer:	2930.00 ft			Final 30000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	40.00 ft			
Tool Length:	61.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

### Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			2910.00	
Shut In Tool	5.00			2915.00	
Hydraulic tool	5.00			2920.00	
Packer	5.00			2925.00	21.00 Bottom Of Top Packer
Packer	5.00			2930.00	
Stubb	1.00			2931.00	
Perforations	7.00			2938.00	
Recorder	0.00	8018	Inside	2938.00	
Recorder	0.00	8700	Outside	2938.00	
Perforations	29.00			2967.00	
Bullnose	3.00			2970.00	40.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>61.00</b>				





**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Mai Oil Operations Inc

**2-14s-15w Russell,KS**

8411 Preston Rd  
Ste 800  
Dallas TX 75225-5520

**Steinle #1**

Job Ticket: 63532

**DST#: 3**

ATTN: Kurt Mai, Jim Musgro

Test Start: 2016.11.02 @ 07:10:43

**Mud and Cushion Information**

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	25000 ppm
Viscosity: 50.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.89 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 3000.00 ppm			
Filter Cake: 1.00 inches			

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
70.00	WM 30%W70%M w / show of oil	0.982

Total Length: 70.00 ft      Total Volume: 0.982 bbl

Num Fluid Samples: 0

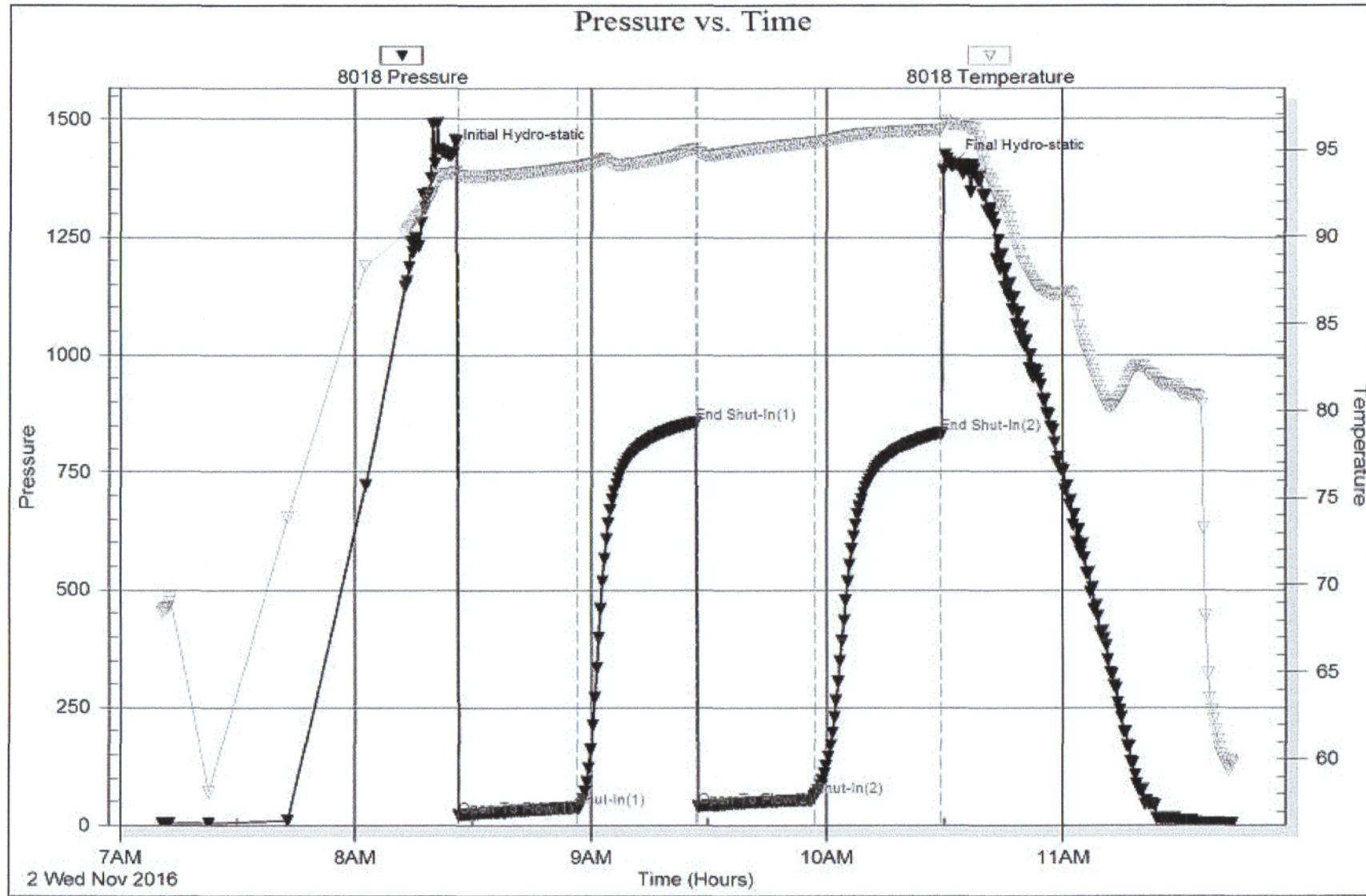
Num Gas Bombs: 0

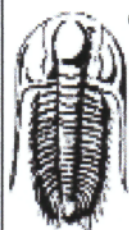
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW.28@70F





**TRILOBITE TESTING, INC**

## DRILL STEM TEST REPORT

Mai Oil Operations Inc  
 8411 Preston Rd  
 Ste 800  
 Dallas TX 75225-5520  
 ATTN: Kurt Mai, Jim Musgro

**2-14s-15w Russell,KS**  
**Steinle #1**  
 Job Ticket: 63533      **DST#: 4**  
 Test Start: 2016.11.03 @ 02:10:26

### GENERAL INFORMATION:

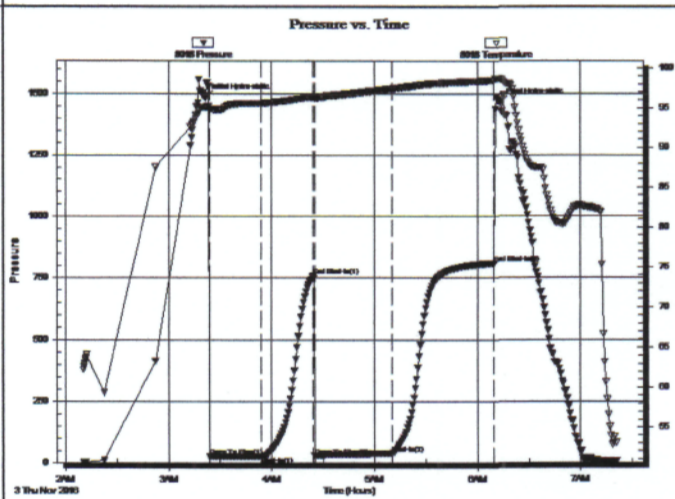
Formation: **LKC A-C**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 03:23:51  
 Time Test Ended: 07:21:20  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Ray Schwager  
 Unit No: 77  
 Interval: **3053.00 ft (KB) To 3086.00 ft (KB) (TVD)**  
 Reference Elevations: 1896.00 ft (KB)  
 Total Depth: 3086.00 ft (KB) (TVD) 1888.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 8.00 ft

### Serial #: 8018

Inside

Press@RunDepth: 38.76 psig @ 3059.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2016.11.03 End Date: 2016.11.03 Last Calib.: 2016.11.03  
 Start Time: 02:10:26 End Time: 07:21:20 Time On Btm: 2016.11.03 @ 03:21:36  
 Time Off Btm: 2016.11.03 @ 06:13:21

TEST COMMENT: 30-IFP-w k to a fr bl 1/4" to 4" bl  
 30-ISIP-no bl bk  
 45-FFP-w k to a gd bl 3" to 8" bl  
 60-FSIP-no bl bk



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1483.73	95.11	Initial Hydro-static
3	27.45	94.72	Open To Flow (1)
33	27.10	95.59	Shut-In(1)
63	757.05	96.36	End Shut-In(1)
64	28.19	96.17	Open To Flow (2)
109	38.76	97.39	Shut-In(2)
168	810.09	98.42	End Shut-In(2)
172	1463.39	98.61	Final Hydro-static

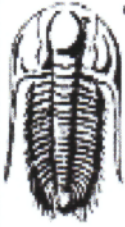
### Recovery

Length (ft)	Description	Volume (bbl)
40.00	O&GCM 10%G15%O75%M	0.56
0.00	270' GIP	0.00

\* Recovery from multiple tests

### Gas Rates

	Choke (Inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**

Mai Oil Operations Inc

**2-14s-15w Russell,KS**

8411 Preston Rd  
Ste 800  
Dallas TX 75225-5520

**Steinle #1**

Job Ticket: 63533

**DST#: 4**

ATTN: Kurt Mai, Jim Musgro

Test Start: 2016.11.03 @ 02:10:26

**Tool Information**

Drill Pipe:	Length: 3048.00 ft	Diameter: 3.80 inches	Volume: 42.76 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 45000.00 lb
			<u>Total Volume: 42.76 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 32000.00 lb
Depth to Top Packer:	3053.00 ft			Final 33000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	33.00 ft			
Tool Length:	54.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

**Tool Description**

**Length (ft) Serial No. Position Depth (ft) Accum. Lengths**

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3033.00	
Shut In Tool	5.00			3038.00	
Hydraulic tool	5.00			3043.00	
Packer	5.00			3048.00	21.00 Bottom Of Top Packer
Packer	5.00			3053.00	
Stubb	1.00			3054.00	
Perforations	5.00			3059.00	
Recorder	0.00	8018	Inside	3059.00	
Recorder	0.00	8700	Outside	3059.00	
Perforations	24.00			3083.00	
Bullnose	3.00			3086.00	33.00 Bottom Packers & Anchor

**Total Tool Length: 54.00**



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Mai Oil Operations Inc

**2-14s-15w Russell,KS**

8411 Preston Rd  
Ste 800  
Dallas TX 75225-5520

**Steinle #1**

Job Ticket: 63533

**DST#: 4**

ATTN: Kurt Mai, Jim Musgro

Test Start: 2016.11.03 @ 02:10:26

**Mud and Cushion Information**

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 52.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.89 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 3000.00 ppm			
Filter Cake: 1.00 inches			

**Recovery Information**

Recovery Table

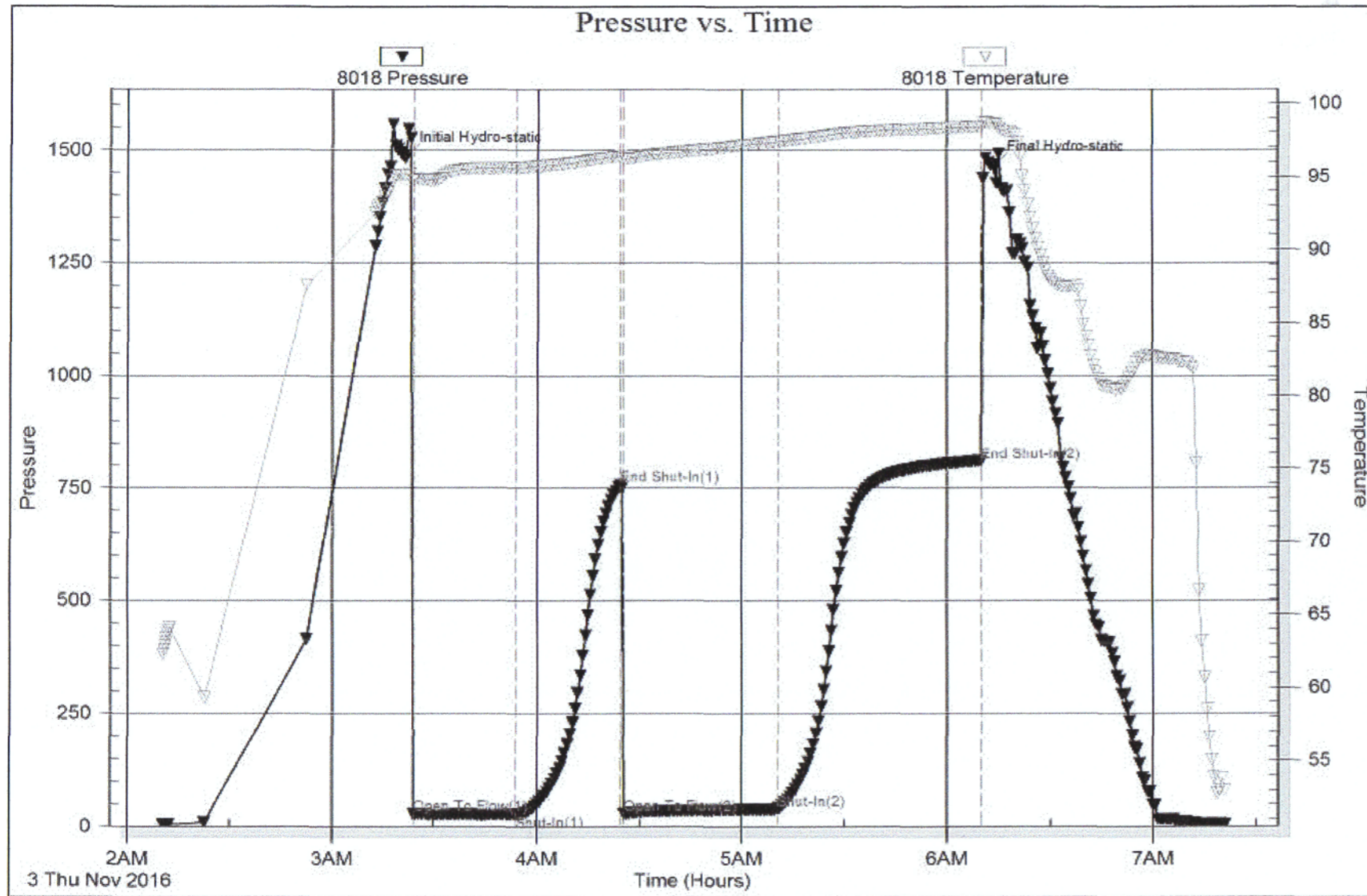
Length ft	Description	Volume bbl
40.00	O&GCM 10%G15%O75%M	0.561
0.00	270' GIP	0.000

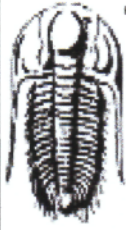
Total Length: 40.00 ft      Total Volume: 0.561 bbl

Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:

Laboratory Name:      Laboratory Location:

Recovery Comments:





**TRILOBITE TESTING, INC**

**DRILL STEM TEST REPORT**

Mai Oil Operations Inc  
 8411 Preston Rd  
 Ste 800  
 Dallas TX 75225-5520  
 ATTN: Kurt Mai, Jim Musgro

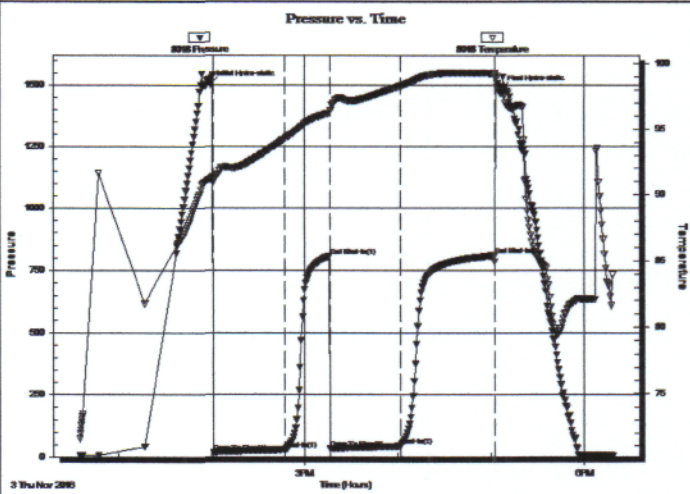
**2-14s-15w Russell,KS**  
**Steinle #1**  
 Job Ticket: 63534      **DST#: 5**  
 Test Start: 2016.11.03 @ 12:35:18

**GENERAL INFORMATION:**

Formation: **LKC D&E**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 14:01:13 Tester: Ray Schwager  
 Time Test Ended: 18:17:57 Unit No: 77  
 Interval: **3082.00 ft (KB) To 3106.00 ft (KB) (TVD)** Reference Elevations: 1896.00 ft (KB)  
 Total Depth: 3106.00 ft (KB) (TVD) 1888.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 8.00 ft

**Serial #: 8018 Inside**  
 Press@RunDepth: 46.02 psig @ 3083.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2016.11.03 End Date: 2016.11.03 Last Calib.: 2016.11.03  
 Start Time: 12:35:18 End Time: 18:17:57 Time On Btm: 2016.11.03 @ 13:59:13  
 Time Off Btm: 2016.11.03 @ 17:06:12

**TEST COMMENT:** 45-IFP-w k bl thru-out 1/4" to 1 1/2" bl  
 30-ISIP-no bl bk  
 45-FFP-w k bl thru-out 1/2" bl bk  
 60-FSIP-no bl bk



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1501.00	91.20	Initial Hydro-static
2	17.73	90.95	Open To Flow (1)
48	29.50	94.27	Shut-In(1)
77	807.14	96.22	End Shut-In(1)
78	33.50	96.44	Open To Flow (2)
123	46.02	98.30	Shut-In(2)
183	809.26	99.27	End Shut-In(2)
187	1481.78	97.75	Final Hydro-static

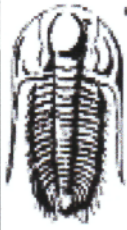
**Recovery**

Length (ft)	Description	Volume (bbl)
50.00	SOCWM 1%O40%W59%M	0.70
0.00	70' GIP	0.00

\* Recovery from multiple tests

**Gas Rates**

Choke (Inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**

Mai Oil Operations Inc

**2-14s-15w Russell,KS**

8411 Preston Rd  
Ste 800  
Dallas TX 75225-5520

**Steinle #1**

Job Ticket: 63534

**DST#: 5**

ATTN: Kurt Mai, Jim Musgro

Test Start: 2016.11.03 @ 12:35:18

**Tool Information**

Drill Pipe:	Length: 3080.00 ft	Diameter: 3.80 inches	Volume: 43.20 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose:	45000.00 lb
			<u>Total Volume: 43.20 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	19.00 ft			String Weight: Initial	33000.00 lb
Depth to Top Packer:	3082.00 ft			Final	33000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	24.00 ft				
Tool Length:	45.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

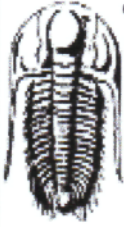
Tool Comments:

**Tool Description**

**Length (ft) Serial No. Position Depth (ft) Accum. Lengths**

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3062.00	
Shut In Tool	5.00			3067.00	
Hydraulic tool	5.00			3072.00	
Packer	5.00			3077.00	21.00 Bottom Of Top Packer
Packer	5.00			3082.00	
Stubb	1.00			3083.00	
Recorder	0.00	8018	Inside	3083.00	
Recorder	0.00	8700	Outside	3083.00	
Perforations	20.00			3103.00	
Bullnose	3.00			3106.00	24.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>45.00</b>				





**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Mai Oil Operations Inc

**2-14s-15w Russell,KS**

8411 Preston Rd  
Ste 800  
Dallas TX 75225-5520

**Steinle #1**

Job Ticket: 63534

**DST#: 5**

ATTN: Kurt Mai, Jim Musgro

Test Start: 2016.11.03 @ 12:35:18

**Mud and Cushion Information**

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

68000 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.93 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: 1.00 inches

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbbl
50.00	SOCWM 1%O40%W59%M	0.701
0.00	70' GIP	0.000

Total Length: 50.00 ft      Total Volume: 0.701 bbl

Num Fluid Samples: 0

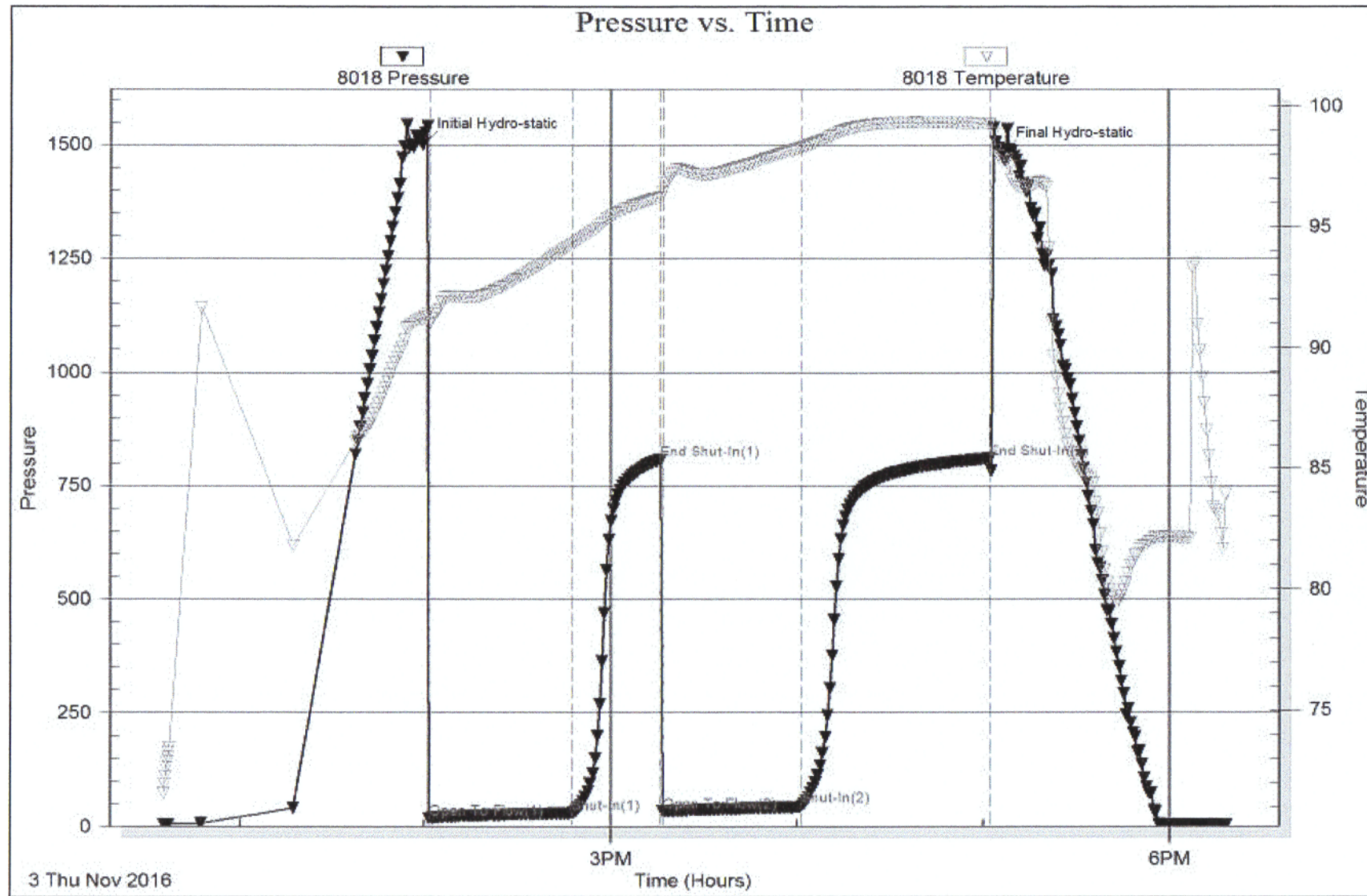
Num Gas Bombs: 0

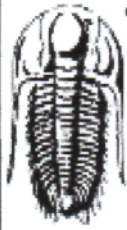
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW.11@70F





**TRILOBITE TESTING, INC**

**DRILL STEM TEST REPORT**

Mai Oil Operations Inc  
 8411 Preston Rd  
 Ste 800  
 Dallas TX 75225-5520  
 ATTN: Kurt Mai, Jim Musgro

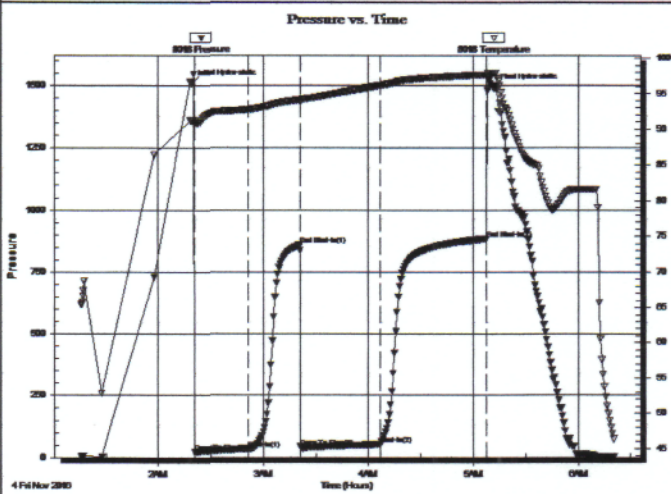
**2-14s-15w Russell,KS**  
**Steinle #1**  
 Job Ticket: 63535 **DST#: 6**  
 Test Start: 2016.11.04 @ 01:15:51

**GENERAL INFORMATION:**

Formation: **LKC F-G**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 02:21:01 Tester: Ray Schwager  
 Time Test Ended: 06:20:30 Unit No: 77  
 Interval: **3101.00 ft (KB) To 3140.00 ft (KB) (TVD)** Reference Elevations: 1896.00 ft (KB)  
 Total Depth: 3140.00 ft (KB) (TVD) 1888.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 8.00 ft

**Serial #: 8018 Inside**  
 Press@RunDepth: 53.23 psig @ 3110.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2016.11.04 End Date: 2016.11.04 Last Calib.: 2016.11.04  
 Start Time: 01:15:51 End Time: 06:20:30 Time On Btm: 2016.11.04 @ 02:19:01  
 Time Off Btm: 2016.11.04 @ 05:11:31

**TEST COMMENT:** 30-IFP-w k to a fr bl 1/2" to 7" bl  
 30-ISIP-no bl bk  
 45-FFP-w k to a fr bl 1/4" to 7" bl  
 60-FSIP-no bl bk



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1508.00	91.27	Initial Hydro-static
2	22.69	90.83	Open To Flow (1)
33	34.93	92.81	Shut-In(1)
62	859.93	94.12	End Shut-In(1)
63	43.17	93.85	Open To Flow (2)
108	53.23	96.14	Shut-In(2)
169	884.43	97.66	End Shut-In(2)
173	1493.41	97.90	Final Hydro-static

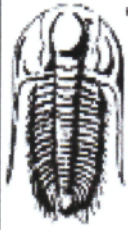
**Recovery**

Length (ft)	Description	Volume (bbl)
75.00	O&GCM 10%G30%O60%M	1.05
1.00	CO	0.01
0.00	355' GP	0.00

\* Recovery from multiple tests

**Gas Rates**

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**

Mai Oil Operations Inc

**2-14s-15w Russell,KS**

8411 Preston Rd  
Ste 800  
Dallas TX 75225-5520

**Steinle #1**

Job Ticket: 63535

**DST#: 6**

ATTN: Kurt Mai, Jim Musgro

Test Start: 2016.11.04 @ 01:15:51

**Tool Information**

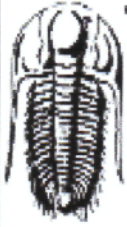
Drill Pipe:	Length: 3111.00 ft	Diameter: 3.80 inches	Volume: 43.64 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 40000.00 lb
			<u>Total Volume: 43.64 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial 32000.00 lb
Depth to Top Packer:	3101.00 ft			Final 32000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	39.00 ft			
Tool Length:	60.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

**Tool Description**

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3081.00	
Shut In Tool	5.00			3086.00	
Hydraulic tool	5.00			3091.00	
Packer	5.00			3096.00	21.00 Bottom Of Top Packer
Packer	5.00			3101.00	
Stubb	1.00			3102.00	
Perforations	8.00			3110.00	
Recorder	0.00	8018	Inside	3110.00	
Recorder	0.00	8700	Outside	3110.00	
Perforations	27.00			3137.00	
Bullnose	3.00			3140.00	39.00 Bottom Packers & Anchor

**Total Tool Length: 60.00**



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Mai Oil Operations Inc

**2-14s-15w Russell,KS**

8411 Preston Rd  
Ste 800  
Dallas TX 75225-5520

**Steinle #1**

Job Ticket: 63535

**DST#: 6**

ATTN: Kurt Mai, Jim Musgro

Test Start: 2016.11.04 @ 01:15:51

**Mud and Cushion Information**

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 49.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.94 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: 1.00 inches

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
75.00	O&GCM 10%G30%O60%M	1.052
1.00	CO	0.014
0.00	355' GIP	0.000

Total Length: 76.00 ft Total Volume: 1.066 bbl

Num Fluid Samples: 0

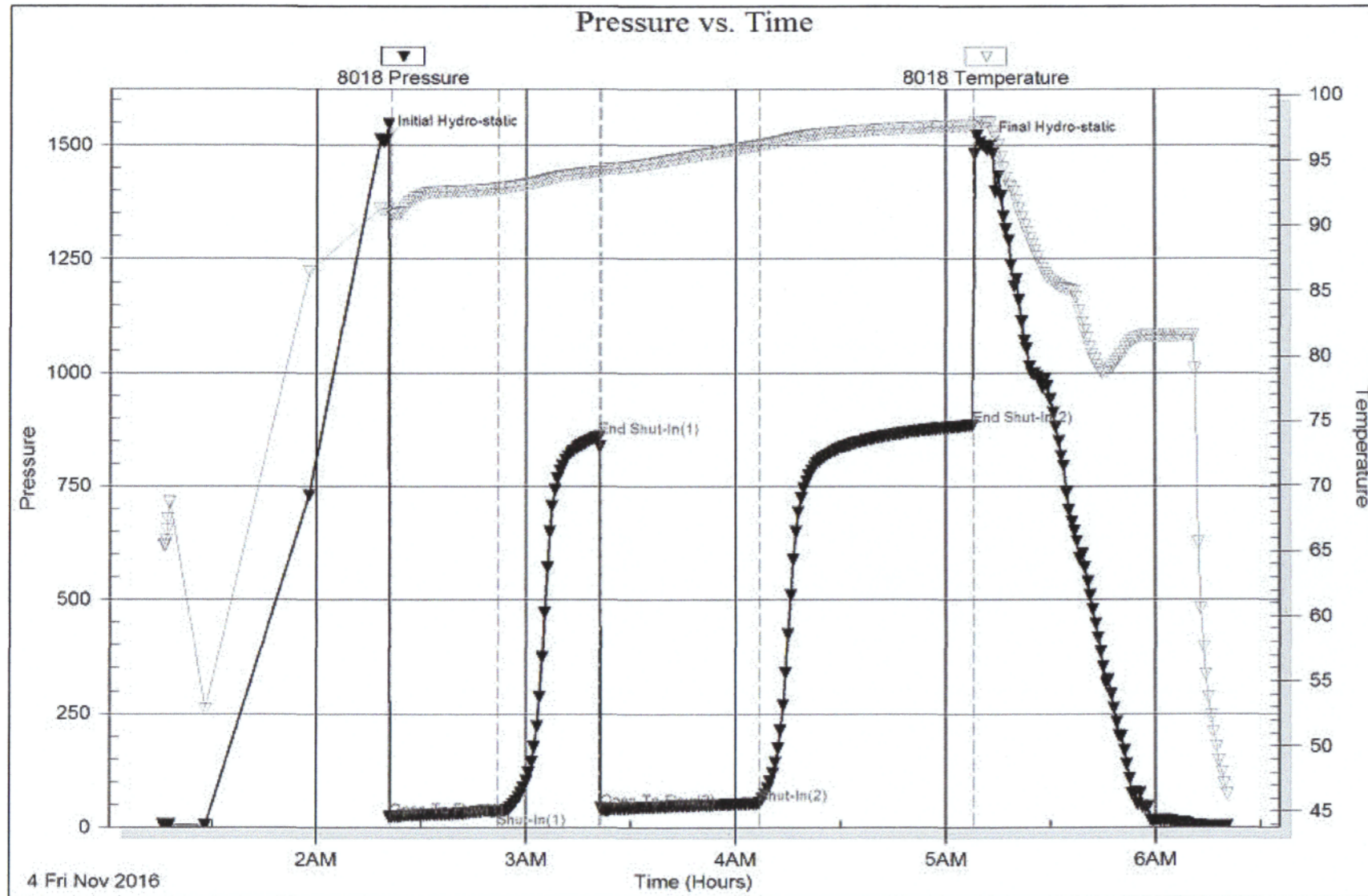
Num Gas Bombs: 0

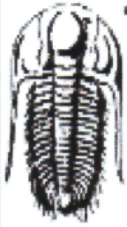
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





**TRILOBITE TESTING, INC**

**DRILL STEM TEST REPORT**

Mai Oil Operations Inc  
 8411 Preston Rd  
 Ste 800  
 Dallas TX 75225-5520  
 ATTN: Kurt Mai, Jim Musgro

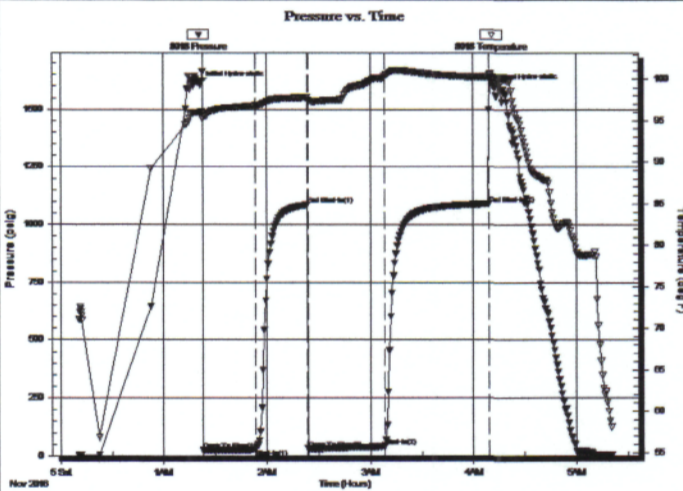
**2-14s-15w Russell,KS**  
**Steinle #1**  
 Job Ticket: 63536 **DST#: 7**  
 Test Start: 2016.11.05 @ 00:10:37

**GENERAL INFORMATION:**

Formation: **Gorham Sand**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 01:22:47 Tester: Ray Schwager  
 Time Test Ended: 05:20:46 Unit No: 77  
 Interval: **3259.00 ft (KB) To 3307.00 ft (KB) (TVD)** Reference Elevations: 1896.00 ft (KB)  
 Total Depth: 3307.00 ft (KB) (TVD) 1888.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 8.00 ft

**Serial #: 8018 Inside**  
 Press@RunDepth: 38.74 psig @ 3271.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2016.11.05 End Date: 2016.11.05 Last Calib.: 2016.11.05  
 Start Time: 00:10:37 End Time: 05:20:46 Time On Btm: 2016.11.05 @ 01:21:17  
 Time Off Btm: 2016.11.05 @ 04:12:02

**TEST COMMENT:** 30-IFP-w k bl thru-out 1/2' to 2" bl  
 30-ISIP-no bl bk  
 45-FFP-w k bl thru-out surface to 2" bl  
 60--FSIP-no bl bk



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1607.90	96.00	Initial Hydro-static
2	22.76	95.21	Open To Flow (1)
32	27.32	96.81	Shut-In(1)
62	1085.75	97.78	End Shut-In(1)
63	30.07	97.35	Open To Flow (2)
107	38.74	100.29	Shut-In(2)
168	1090.99	100.27	End Shut-In(2)
171	1594.54	100.24	Final Hydro-static

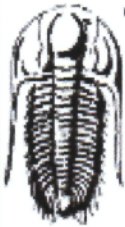
**Recovery**

Length (ft)	Description	Volume (bbl)
45.00	MGO 10%G40%M50%O	0.63
0.00	75' GIP	0.00

\* Recovery from multiple tests

**Gas Rates**

Choke (Inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**

Mai Oil Operations Inc

**2-14s-15w Russell,KS**

8411 Preston Rd  
Ste 800  
Dallas TX 75225-5520

**Steinle #1**

Job Ticket: 63536

**DST#:7**

ATTN: Kurt Mai, Jim Musgro

Test Start: 2016.11.05 @ 00:10:37

**Tool Information**

Drill Pipe:	Length: 3269.00 ft	Diameter: 3.80 inches	Volume: 45.86 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 45000.00 lb
			<u>Total Volume: 45.86 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial 32000.00 lb
Depth to Top Packer:	3259.00 ft			Final 33000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	48.00 ft			
Tool Length:	69.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

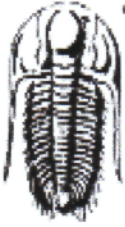
**Tool Description**

**Length (ft) Serial No. Position Depth (ft) Accum. Lengths**

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3239.00	
Shut In Tool	5.00			3244.00	
Hydraulic tool	5.00			3249.00	
Packer	5.00			3254.00	21.00 Bottom Of Top Packer
Packer	5.00			3259.00	
Stubb	1.00			3260.00	
Perforations	11.00			3271.00	
Recorder	0.00	8018	Inside	3271.00	
Recorder	0.00	8700	Outside	3271.00	
Blank Spacing	33.00			3304.00	
Bullnose	3.00			3307.00	48.00 Bottom Packers & Anchor

**Total Tool Length: 69.00**





**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Mai Oil Operations Inc

**2-14s-15w Russell,KS**

8411 Preston Rd  
Ste 800  
Dallas TX 75225-5520

**Steinle #1**

Job Ticket: 63536

**DST#: 7**

ATTN: Kurt Mai, Jim Musgro

Test Start: 2016.11.05 @ 00:10:37

**Mud and Cushion Information**

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 49.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.76 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4000.00 ppm			
Filter Cake: 1.00 inches			

**Recovery Information**

Recovery Table

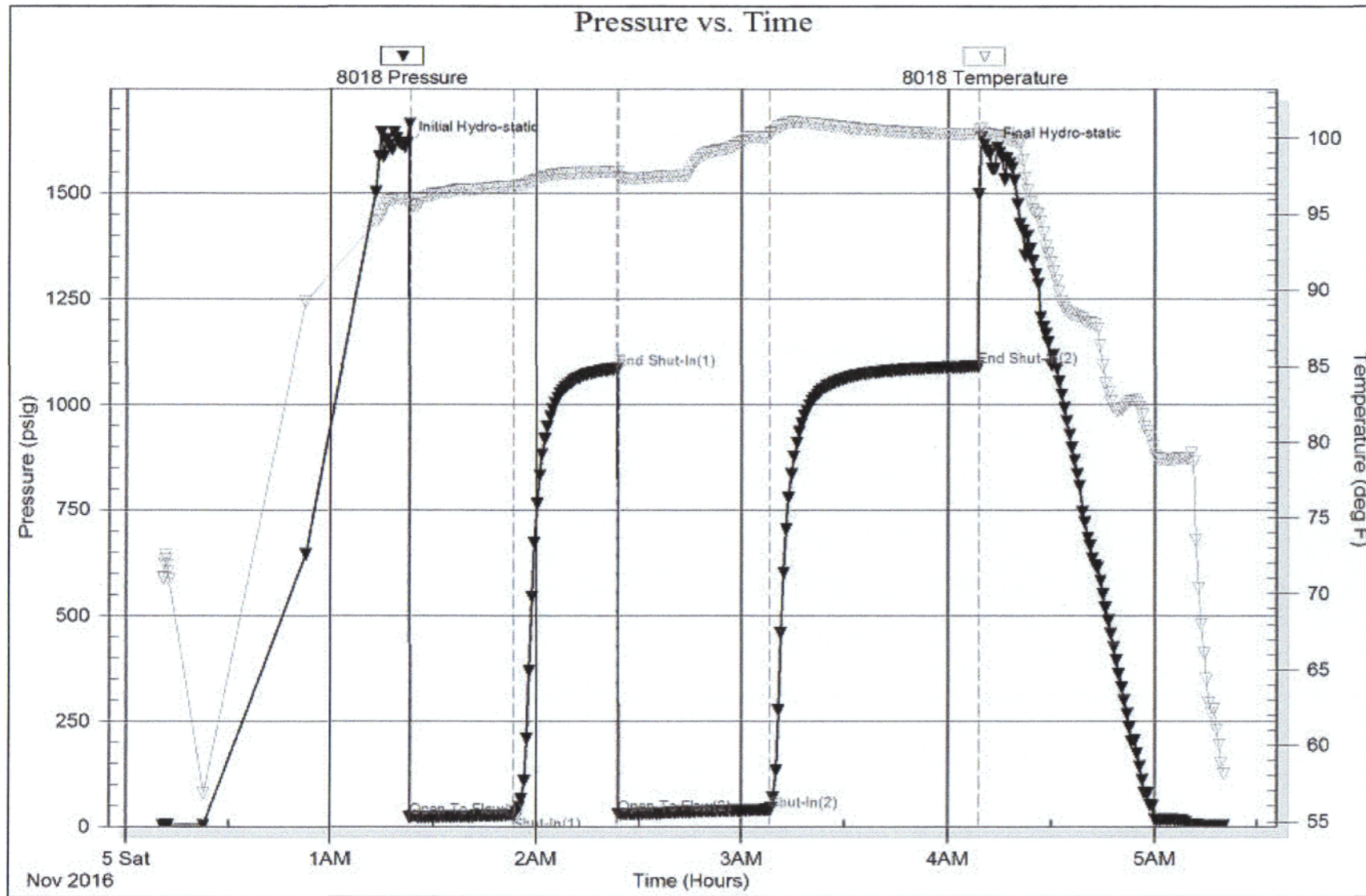
Length ft	Description	Volume bbl
45.00	MGO 10%G40%M50%O	0.631
0.00	75' GIP	0.000

Total Length: 45.00 ft      Total Volume: 0.631 bbl

Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:

Laboratory Name:      Laboratory Location:

Recovery Comments:



# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025  
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 7849

Date <i>10-29-16</i>	Sec.	Twp.	Range	County <i>Russell</i>	State <i>Ks</i>	On Location	Finish <i>5:30 PM</i>
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Location *Bobbe Rd + Old 482 W 15*

Lease <i>St. Anne</i>	Well No. <i>1</i>	Owner
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Contractor <i>Southern</i>	To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.
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Type Job <i>Long Surface</i>	Charge To <i>Mo. Oil</i>
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Hole Size <i>12 1/4</i>	T.D. <i>933</i>	Street
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Csg. <i>8 1/2</i>	Depth <i>932</i>	City
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Tbg. Size	Depth	State
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Tool	Depth	The above was done to satisfaction and supervision of owner agent or contractor.
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Cement Left in Csg. <i>20'</i>	Shoe Joint	Cement Amount Ordered <i>350 @ 3% CC 20' x 12</i>
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Meas Line	Displace <i>58 REL</i>	
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**EQUIPMENT**

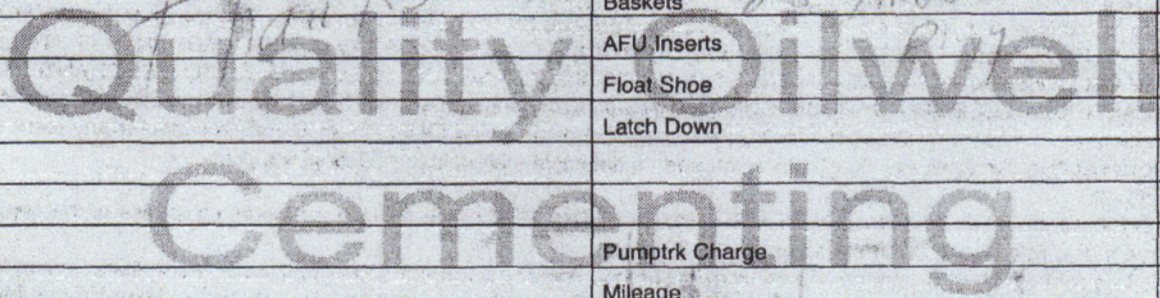
Pumptrk <i>5</i>	No.	Cementer	Helper	Common
			<i>Nick</i>	Poz. Mix
Bulktrk	No.	Driver		Gel.
Bulktrk <i>2</i>	No.	Driver	<i>Dave</i>	Calcium

**JOB SERVICES & REMARKS**

Remarks:	Hulls
Rat Hole	Salt
Mouse Hole	Flowseal
Centralizers	Kol-Seal
Baskets	Mud CLR 48
D/V or Port Collar <i>Cement</i>	CFL-117 or CD110 CAF 38
	Sand
	Handling
	Mileage

**FLOAT EQUIPMENT**

Guide Shoe	Centralizer
Baskets <i>8 1/2 Rubber</i>	AFU Inserts
	Float Shoe
	Latch Down



Pumptrk Charge	
Mileage	

	Tax	
	Discount	
	Total Charge	

X \_\_\_\_\_

# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025  
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 3064

Date	Sec.	Twp.	Range	County	State	On Location	Finish
11-6-16	2	14	15	Russell	KS		3:15 AM

Lease Stratco Well No. 1 Location Balta #1 10 15 13 1/4 Owner To Quality Oilwell Cementing, Inc.

Contractor Sunwind #3 Type Job Production string Charge To MG O.I.

Hole Size 7 7/8 T.D. 3390 Cement Amount Ordered 100 bbl No 10 / Salt 2 / GA 1 / 4 # 5 1/2

Csg. 5 1/2 140 Depth 3388 Street \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_

Tbg. Size \_\_\_\_\_ Depth \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_

Tool \_\_\_\_\_ Depth \_\_\_\_\_ The above was done to satisfaction and supervision of owner agent or contractor.

Cement Left in Csg. 32.51 Shoe Joint 32.51 Cement Amount Ordered 100 bbl No 10 / Salt 2 / GA 1 / 4 # 5 1/2

Meas Line \_\_\_\_\_ Displace 81 3/4 BBL 100 bbl No 10 / Salt 2 / GA 1 / 4 # 5 1/2 100 gal mid clear

**EQUIPMENT**

Pumptrk	No. <u>18</u>	Cementer Helper <u>AKS</u>	Poz. Mix
Bulktrk	No. <u>14</u>	Driver <u>RJK</u>	Gel.
Bulktrk	No. <u>15</u>	Driver <u>T.M.</u>	Calcium

**JOB SERVICES & REMARKS**

Remarks: \_\_\_\_\_ Hulls \_\_\_\_\_

Rat Hole 30SK \_\_\_\_\_ Salt \_\_\_\_\_

Mouse Hole \_\_\_\_\_ Flowseal \_\_\_\_\_

Centralizers \_\_\_\_\_ Kol-Seal \_\_\_\_\_

Baskets \_\_\_\_\_ Mud CLR 48 \_\_\_\_\_

D/V or Port Collar \_\_\_\_\_ CFL-117 or CD110 CAF 38 \_\_\_\_\_

\_\_\_\_\_ Sand \_\_\_\_\_

\_\_\_\_\_ Handling \_\_\_\_\_

\_\_\_\_\_ Mileage \_\_\_\_\_

**FLOAT EQUIPMENT**

\_\_\_\_\_ Guide Shoe \_\_\_\_\_

\_\_\_\_\_ Centralizer 13 Turb's \_\_\_\_\_

\_\_\_\_\_ Baskets 1 Red Basket \_\_\_\_\_

\_\_\_\_\_ AFU Inserts \_\_\_\_\_

\_\_\_\_\_ Float Shoe \_\_\_\_\_

\_\_\_\_\_ Latch Down \_\_\_\_\_

\_\_\_\_\_ Pumptrk Charge \_\_\_\_\_

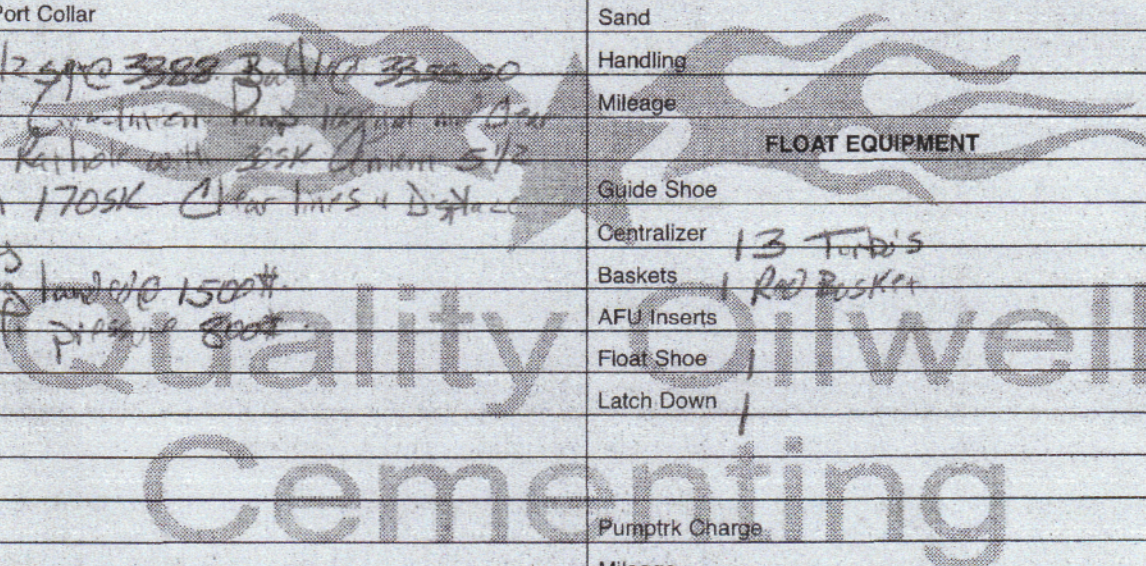
\_\_\_\_\_ Mileage \_\_\_\_\_

\_\_\_\_\_ Tax \_\_\_\_\_

\_\_\_\_\_ Discount \_\_\_\_\_

\_\_\_\_\_ Total Charge \_\_\_\_\_

Signature K. J. [unclear]



5 1/2 csg @ 3388 Balling 3388 50  
Est. Completion Pump log and draw  
Plug Rathole with 30SK Cement 5 1/2  
with 170SK Clear lines + Displace  
Plug  
Plug handle 1500ft  
2.5 pressure 800ft