

JAMES C. MUSGROVE

Petroleum Geologist, LLC
212 Main Street
P.O. Box 215
Claflin, KS 67525

Office (620) 588-4250

Res. Claflin (620) 587-3444

Mai Oil Operations
Madden #1
SW-NE-NW-SE (2145' FSL & 1970' FEL)
Section 25-20s-12w
Barton County, Kansas

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Dry and Abandoned

Contractor: Southwind Drilling Co. (rig #3)

Commenced: November 8, 2014

Completed: November 15, 2014

Elevation: 1825' K.B., 1823' D.F., 1817' G.L.

Casing program: Surface; 8 5/8" @ 609'
Production, 5 1/2" @ none

Sample: Samples saved and examined 2800' to the Rotary Total Depth.

Drilling time: One (1) foot drilling time recorded and kept 2800' to the Rotary Total Depth.

Measurements: All depths measured from the Kelly Bushing.

Drill Stem Tests: There were six (6) Drill Stem Tests ran by Trilobite Testing Co.

Electric Log: By Nabors Completion and Production Services Co.; Dual Induction, Compensated Density/Neutron, Micro and Sonic.

<u>Formation</u>	<u>Log Depth</u>	<u>Sub-Sea Datum</u>
Anhydrite	592	+1233
Base Anhydrite	611	+1214
Heebner	2994	-1169
Toronto	3014	-1189
Douglas	3023	-1198
Brown Lime	3123	-1298
Lansing	3137	-1312
Base Kansas City	3364	-1539
Arbuckle	3378	-1553
Rotary Total Depth	3460	-1635
Log Total Depth	3458	-1633

All tops and zones corrected to Electric Log Measurement

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

TOPEKA SECTION

2800-2994' No shows of oil and/or gas was noted in the drilling of the Topeka Section (see attached geological report/sample log).

TORONTO SECTION

3014-3023' Limestone, cream, finely crystalline, chalky, poorly developed porosity, no shows.

LANSING SECTION

3137-3150' Limestone, cream, finely crystalline, chalky, poor porosity, black spotty stain, no show of free oil and no odor.

3156-3162' Limestone, cream, finely crystalline, chalky, poor visible porosity, black stain, trace free oil; trace gas bubbles and fair odor in fresh samples.

3170-3173' Limestone, as above.

Drill Stem Test #1 **3140-3175**

Times: 30-45-30-45

Blow: Weak

Recovery: 40' mud

Pressures: ISIP 103 psi
FSIP 70 psi
IFP 47-49 psi
FFP 49-50 psi
HSH 1529-1508 psi

3193-3200' Limestone, cream, gray, finely crystalline, fossiliferous, poor visible porosity, no shows.

3203-3206' Limestone, cream, white, cherty, few chalky, poor porosity, no shows.

3214*3230' Limestone, cream, finely crystalline, few medium crystalline, fair vuggy type porosity, fair brown stain, show of free oil and no odor in fresh samples.

3236-3250' Limestone, cream fine to medium crystalline, few cherty, poor porosity, trace stain, trace of free oil and no odor in fresh samples.

Drill Stem Test #2

3200-3256

Times: 30-30-45-60

Blow: Weak to fair

Recovery: 75' mud, show of oil

**Pressures: ISIP 693 psi
FSIP 693 psi
IFP 40-53 psi
FFP 66-77 psi
HSH 1593-1564 psi**

- 3266-3273' Limestone, cream, finely crystalline, fossiliferous, no shows.
- 3284-3294' Limestone, cream, finely crystalline, few oolitic, chalky, poor visible porosity, trace of black stain, show of free oil and no odor in fresh samples.
- 3300-3311' Limestone, cream, finely crystalline, oolitic, oomoldic in part, scattered porosity, trace brown stain, show of free oil and no odor in fresh samples.
- 3326-3340' Limestone, cream, finely crystalline, scattered porosity, trace brown stain, trace of free oil and no odor in fresh samples.

Drill Stem Test #3

3270-3340

Times: 30-30-45-60

Blow: Weak to fair

Recovery: 25' oil spotted mud

**Pressures: ISIP 186 psi
FSIP 399 psi
IFP 46-50 psi
FFP 49-55 psi
HSH 1646-1617 psi**

ARBUCKLE SECTION

- 3378-3384' Dolomite, tan, cream, finely crystalline, few sucrosic, fair inter-crystalline porosity, light brown stain, show of free oil and fair odor in fresh samples.

Drill Stem Test #4 **3350-3384**

Times: 30-30-45-45
Blow: Weak
Recovery: 2' muddy oil
(50% oil; 50% mud)
Pressures: ISIP 45 psi
FSIP 40 psi
IFP 27-28 psi
FFP 27-28 psi
HSH 1675-1665 psi

3384-3393' Dolomite, as above, scattered inter-crystalline porosity, brown spotty stain, show of free oil and faint to fair odor in fresh samples.

Drill Stem Test #5 **3350-3393**

Times: 30-30-45-45
Blow: Weak
Recovery: 1' clean oil
15' oil cut mud
(15% oil; 85% mud)
Pressures: ISIP 447 psi
FSIP 738 psi
IFP 32-33 psi
FFP 34-38 psi
HSH 1678-1658 psi

3393-3406' Dolomite, tan, medium crystalline, fair inter-crystalline porosity, trace brown stain, show of free oil and strong odor in fresh samples.

Drill Stem Test #6 **3394-3406**

Times: 30-30-45-45
Blow: Strong
Recovery: 2' clean oil
759' muddy water
Pressures: ISIP 526 psi
FSIP 596 psi
IFP 97-262 psi
FFP 272-358 psi
HSH 1683-1661 psi

Mai Oil Operations
Madden #1
SW-NE-NW-SE (2145' FSL & 1970' FEL)
Section 25-20s-12w
Barton County, Kansas

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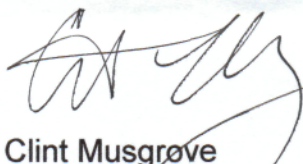
3406-3420'	Dolomite, as above, trace stain, show of free oil and strong odor in fresh samples.
3420-3440'	Dolomite, tan, cream, medium crystalline, fair inter-crystalline porosity, show of free oil and strong odor in fresh samples.
3440-3450'	Dolomite, tan, sucrosic, fair inter-crystalline/pinpoint type porosity, trace of brown stain, show of free oil and faint odor in fresh samples.
3450-3460'	Dolomite, as above, no shows of oil and no odor in fresh samples.

Rotary Total Depth	3460
Log Total Depth	3458

Recommendations:

The Madden #1 was plugged and abandoned at the Rotary Depth 3460.

Respectfully yours,



Clint Musgrove
Petroleum Geologist



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Mai Oil Operations Incorporated

25-20s-12w Barton,KS

8411 Preston Road
Suite 800
Dallas, TX 75225+5520
ATTN: Clint Musgrove

Madden #1

Job Ticket: 61919

DST#: 1

Test Start: 2014.11.11 @ 13:53:00

GENERAL INFORMATION:

Formation: **LKC A-C**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:59:30

Time Test Ended: 18:35:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Ken Swinney

Unit No: S1

Interval: 3140.00 ft (KB) To 3175.00 ft (KB) (TVD)

Total Depth: 3175.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 1825.00 ft (KB)

1817.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 6749

Inside

Press@RunDepth: 50.52 psig @ 3166.00 ft (KB)

Start Date: 2014.11.11

End Date:

2014.11.11

Start Time: 13:54:00

End Time:

18:35:00

Capacity: 8000.00 psig

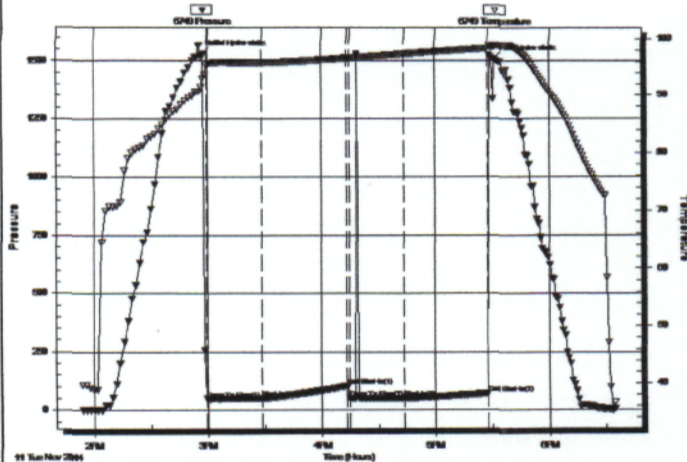
Last Calib.: 2014.11.11

Time On Btm: 2014.11.11 @ 14:57:30

Time Off Btm: 2014.11.11 @ 17:31:00

TEST COMMENT: 1ST Open 30 Minutes/Tool slide 7 ft/Blow at 7 inches at open no further build/Flush no help/Blow died to 1inch
1ST Shut In 45 Minutes/No blow back
2ND Open 30 Minutes/No blow /Flush tool light surge then dead
2ND Shut In 45 Mintues/No blow back

Pressure vs. Time



PRESSURE SUMMARY

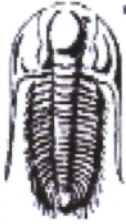
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1529.11	93.00	Initial Hydro-static
2	47.39	95.22	Open To Flow (1)
31	49.45	95.74	Shut-In(1)
76	103.00	96.56	End Shut-In(1)
77	49.54	96.58	Open To Flow (2)
106	50.52	97.29	Shut-In(2)
150	70.45	98.32	End Shut-In(2)
154	1508.67	98.64	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
40.00	Mud 100%	0.56

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Mai Oil Operations Incorporated

25-20s-12w Barton, KS

8411 Preston Road
Suite 800
Dallas, TX 75225+5520
ATTN: Clint Musgrove

Madden #1

Job Ticket: 61920

DST#: 2

Test Start: 2014.11.12 @ 03:11:00

GENERAL INFORMATION:

Formation: **LKC G**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:53:30

Time Test Ended: 08:49:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Ken Swinney

Unit No: S1

Interval: **3200.00 ft (KB) To 3256.00 ft (KB) (TVD)**

Reference Elevations: 1825.00 ft (KB)

Total Depth: 3256.00 ft (KB) (TVD)

1817.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 8.00 ft

Serial #: 6749

Inside

Press@RunDepth: 77.98 psig @ 3252.42 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.12 End Date: 2014.11.12

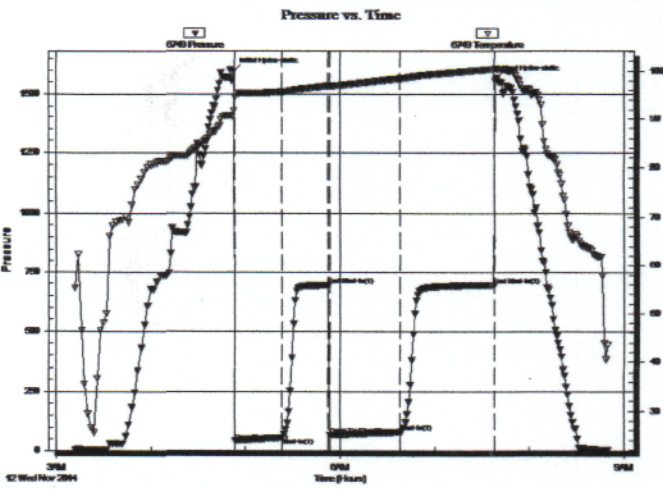
Last Calib.: 2014.11.12

Start Time: 03:12:00 End Time: 08:49:30

Time On Btrr: 2014.11.12 @ 04:52:30

Time Off Btrr: 2014.11.12 @ 07:39:00

TEST COMMENT: 1ST Open 30 Minutes/1 foot slide to bottom/Fair blow /Blow built to 8 inches
1ST Shut In 30 Minutes/No blow back
2ND Open 45 Minutes/Weak blow /Blow built to 4 1/2 inches
2ND Shut In 60 Minutes/No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1593.90	91.77	Initial Hydro-static
1	40.47	94.60	Open To Flow (1)
31	53.99	95.71	Shut-In(1)
60	693.01	96.91	End Shut-In(1)
61	66.92	96.82	Open To Flow (2)
106	77.98	98.41	Shut-In(2)
165	693.47	100.34	End Shut-In(2)
167	1564.80	100.49	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
75.00	Watery Mud with show of oil/Mud 100%	1.05

Gas Rates

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



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25-20s-12w Barton,KS

8411 Preston Road
Suite 800
Dallas, TX 75225+5520
ATTN: Clint Musgrove

Madden #1

Job Ticket: 61921

DST#: 3

Test Start: 2014.11.12 @ 19:21:00

GENERAL INFORMATION:

Formation: **LKC H-J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:39:30

Time Test Ended: 00:54:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Ken Swinney

Unit No: S1

Interval: **3270.00 ft (KB) To 3340.00 ft (KB) (TVD)**

Total Depth: 3340.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 1825.00 ft (KB)

1817.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 6838

Outside

Press@RunDepth: 399.34 psig @ 3337.22 ft (KB)

Start Date: 2014.11.12

End Date:

2014.11.13

Start Time: 19:22:00

End Time:

00:53:30

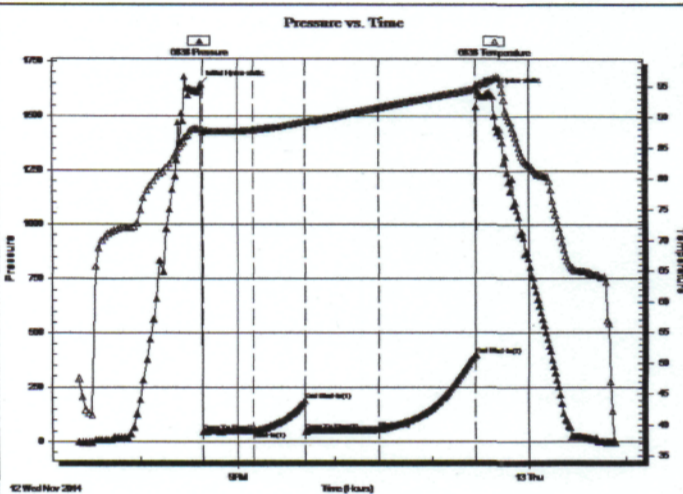
Capacity: 8000.00 psig

Last Calib.: 2014.11.13

Time On Btmr: 2014.11.12 @ 20:37:30

Time Off Btmr: 2014.11.12 @ 23:28:30

TEST COMMENT: 1ST Open 30 Minutes/Weak blow/Blow built to 4 3/4 inch
1ST Shut In 30 Minutes/No blow back
2ND Open 45 Minutes/Weak blow/Blow built to 5 1/2 inches
2ND Shut In 60 Minutes/No blow back



PRESSURE SUMMARY

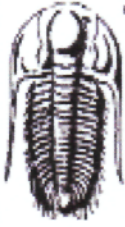
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1645.78	88.02	Initial Hydro-static
1	45.28	87.52	Open To Flow (1)
33	50.01	87.85	Shut-In(1)
64	186.41	89.26	End Shut-In(1)
65	46.81	89.22	Open To Flow (2)
110	55.80	91.59	Shut-In(2)
170	399.34	94.59	End Shut-In(2)
171	1615.56	95.24	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
25.00	Lightly oil spotted mud/Mud 100%	0.35

Gas Rates

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



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DRILL STEM TEST REPORT

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25-20s-12w Barton, KS

8411 Preston Road
Suite 800
Dallas, TX 75225+5520
ATTN: Clint Musgrove

Madden #1

Job Ticket: 61922

DST#: 4

Test Start: 2014.11.13 @ 11:10:00

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:36:00

Time Test Ended: 16:19:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Ken Swinney

Unit No: S1

Interval: **3350.00 ft (KB) To 3384.00 ft (KB) (TVD)**

Reference Elevations: 1825.00 ft (KB)

Total Depth: 3384.00 ft (KB) (TVD)

1817.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 8.00 ft

Serial #: 6838

Outside

Press@RunDepth: 39.08 psig @ 3381.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.13

End Date:

2014.11.13

Last Calib.: 2014.11.13

Start Time: 11:11:00

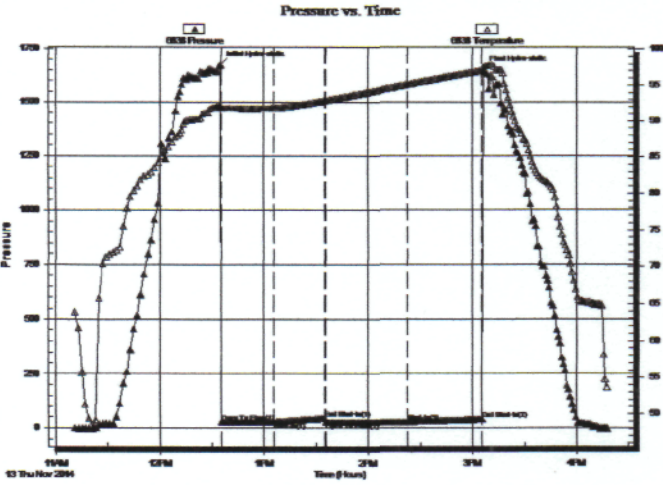
End Time:

16:18:00

Time On Btm: 2014.11.13 @ 12:35:00

Time Off Btm: 2014.11.13 @ 15:06:30

TEST COMMENT: 1ST Open 30 Mintues/Weak blow/Blow built to 1/2 inch
1ST Shut In 30 Minutes/No blow back
2ND Open 45 Minutes/Weak surface blow/Blow died in 30 minutes
2ND Shut In 45 Minutes/No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1675.18	92.18	Initial Hydro-static
1	26.71	91.72	Open To Flow (1)
31	27.05	91.82	Shut-In(1)
60	44.58	92.85	End Shut-In(1)
61	27.19	92.86	Open To Flow (2)
108	27.66	95.09	Shut-In(2)
151	39.08	97.03	End Shut-In(2)
152	1652.80	97.55	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2.00	Oily Mud/Oil 50% Mud 50%	0.03

Gas Rates

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



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DRILL STEM TEST REPORT

Mai Oil Operations Incorporated

25-20s-12w Barton,KS

8411 Preston Road
Suite 800
Dallas, TX 75225+5520
ATTN: Clint Musgrove

Madden #1

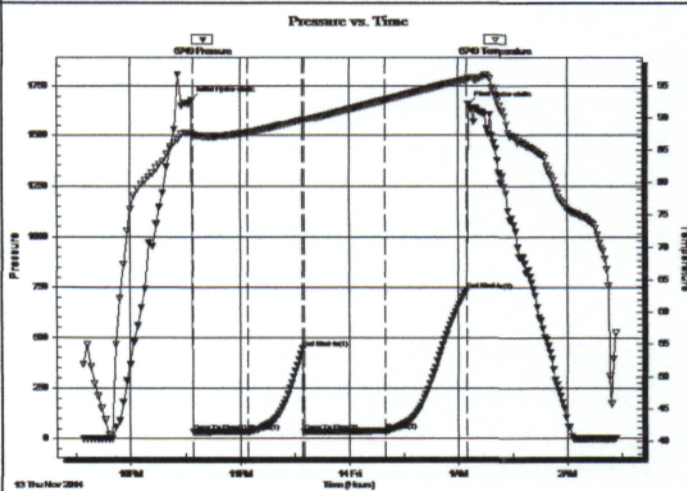
Job Ticket: 61923 **DST#: 5**
Test Start: 2014.11.13 @ 21:33:00

GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 22:34:30
 Time Test Ended: 02:26:30
 Interval: **3350.00 ft (KB) To 3393.00 ft (KB) (TVD)**
 Total Depth: 3393.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ken Swinney
 Unit No: S1
 Reference Elevations: 1825.00 ft (KB)
 1817.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 6749 Inside
 Press@RunDepth: 38.00 psig @ 3389.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.11.13 End Date: 2014.11.14 Last Calib.: 2014.11.14
 Start Time: 21:34:00 End Time: 02:26:30 Time On Btm: 2014.11.13 @ 22:33:30
 Time Off Btm: 2014.11.14 @ 01:05:30

TEST COMMENT: 1ST Open 30 Mintues/Weak blow/Blow built to 2 inches
 1ST Shut In 30 Mintues/No blow back
 2ND Open 45 Mintues/Weak blow/Blow built to 1 1/2 inches
 2ND Shut In 45 Mintues/No blow back



PRESSURE SUMMARY

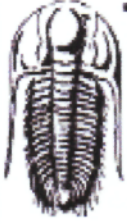
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1678.70	87.61	Initial Hydro-static
1	32.19	87.27	Open To Flow (1)
31	33.51	87.67	Shut-In(1)
61	447.28	89.70	End Shut-In(1)
62	34.56	89.69	Open To Flow (2)
107	38.00	92.89	Shut-In(2)
151	738.47	96.04	End Shut-In(2)
152	1658.18	96.27	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	Oil cut Mud/Oil 15% Mud 85%	0.21
1.00	Clean oil	0.01

Gas Rates

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



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Mai Oil Operations Incorporated
 8411 Preston Road
 Suite 800
 Dallas, TX 75225+5520
 ATTN: Clint Musgrove

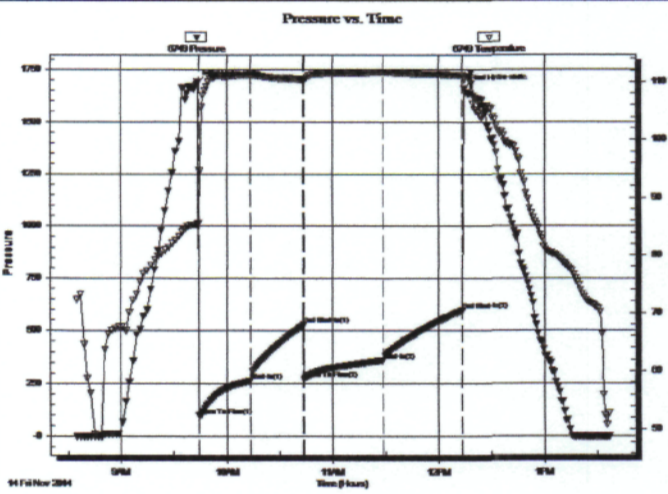
25-20s-12w Barton,KS
Madden #1
 Job Ticket: 61925 **DST#: 6**
 Test Start: 2014.11.14 @ 08:34:00

GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 09:44:00
 Time Test Ended: 13:36:30
 Interval: **3394.00 ft (KB) To 3406.00 ft (KB) (TVD)**
 Total Depth: 3406.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ken Swinney
 Unit No: S1
 Reference Elevations: 1825.00 ft (KB)
 1817.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 6749 Inside
 Press@RunDepth: 358.53 psig @ 3402.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.11.14 End Date: 2014.11.14 Last Calib.: 2014.11.14
 Start Time: 08:35:00 End Time: 13:36:30 Time On Btm: 2014.11.14 @ 09:43:00
 Time Off Btm: 2014.11.14 @ 12:14:30

TEST COMMENT: 1ST Open 30 Minutes/Strong blow/Blow built to bottom of bucket in 1 minute
 1ST Shut In 30 Minutes/No blow back
 2ND Open 45 Minutes/Strong blow/Blow built to bottom of bucket in 4 minutes 15 seconds
 2ND Shut In 45 Minutes/No blow back



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1683.31	85.29	Initial Hydro-static
1	97.53	85.53	Open To Flow (1)
31	262.05	111.09	Shut-In(1)
61	526.60	110.36	End Shut-In(1)
61	272.69	110.29	Open To Flow (2)
106	358.53	111.62	Shut-In(2)
151	596.01	111.05	End Shut-In(2)
152	1661.28	110.35	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
2.00	Oil 100%	0.03
759.00	Muddy Water/Mud 15% Water 85%	10.65

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

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. 378

Date	11-8-14	Sec.	25	Twp.	20	Range	12	County	Barton	State	Ks	On Location		Finish	6:00PM
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Location Ellinwood KS - 65 to 60th Rd

Lease	Madden	Well No.	#1	Owner	1/2 W, 3/4 Into
Contractor	Southwind #3	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.			
Type Job	Surface				
Hole Size	12 1/4"	T.D.	596'	Charge To	Maioil
Csg.	8 5/8"	Depth	596'	Street	
Tbg. Size		Depth		City	State
Tool		Depth		The above was done to satisfaction and supervision of owner agent or contractor.	
Cement Left in Csg.	20'	Shoe Joint	20'	Cement Amount Ordered 400 60/100 4% Gel 1/4 # Fines	
Meas Line		Displace	36 1/2 BLS		

EQUIPMENT

Pumptrk	17	No.	Cementer		Common
			Helper	Lonnie W.	Poz. Mix
Bulktrk	4	No.	Driver	Tyler	Gel.
			Driver		Calcium
Bulktrk	P.U.	No.	Driver	Rick	
			Driver		

JOB SERVICES & REMARKS

Remarks:	Cement did Circulate	Hulls
Rat Hole		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
	Baskets
	AFU Inserts
	Float Shoe
	Latch Down
	1 - Rubber plug
	Pumptrk Charge
	Mileage

X Signature *Jay Klein*

Tax	
Discount	
Total Charge	

