



James C. Musgrove
Petroleum Geologist

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GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY Mai Oil Operations Inc.
 LEASE Miller Farms #1
 FIELD Barrett
 LOCATION SE-SW-NE-SE (1350' FSL / 875' FEL)
 SEC 36 TWP 16³ RGE 14^W
 COUNTY Barton STATE Kansas

ELEVATIONS
 KB 1999
 DF _____
 GL 1991
 Measurements Are All
 from -KB-

CONTRACTOR Southwind Drilling (rig #3)
 SPUD 2-26-2014 COMP 3-5-2014
 RTE 3536 LTD 3534
 MUD UP 2800 TYPE MUD chemical displaced

CASING
 SURFACE 8780 517
 PRODUCTION 5 1/2" 11c 3529

ELECTRICAL SURVEYS
 By Nabors Dual induction,
Compensated Density/Neutron,
Micro, Sonic

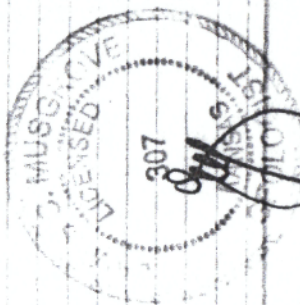
SAMPLES SAVED FROM 3000 TO _____
 DRILLING TIME KEPT FROM 3000 TO _____
 SAMPLES EXAMINED FROM 3000 TO _____
 GEOLOGICAL SUPERVISION FROM 3100 TO _____
 GEOLOGIST ON WELL Jim Musgrove

FORMATION TOPS	LOG	SAMPLES
anhydrite	951 +1048	
Base anhydrite	981 +1018	
Heebner	3155 -1156	
Toronto	3171 -1172	
Douglas	3186 -1187	
Brown lime	3231 -1233	
Mansing	3241 -1242	
Base Kansas City	3442 -1443	
Arbuckle	3451 -1452	
RTD	3536 -1537	

5 1/2" production casing set, cemented on the Miller Farms #1.

Respectfully Submitted;

James C. Musgrove
Petroleum Geologist

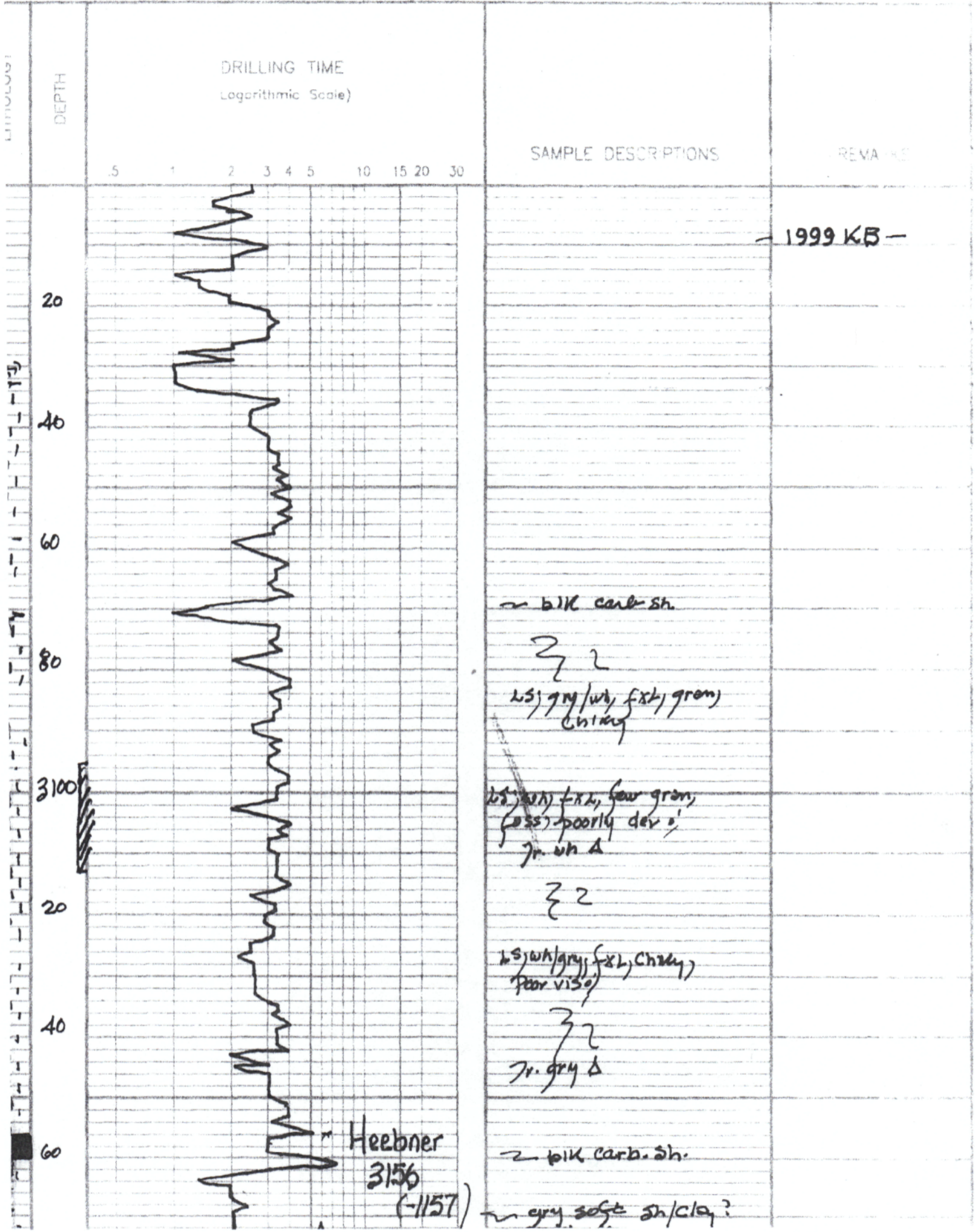
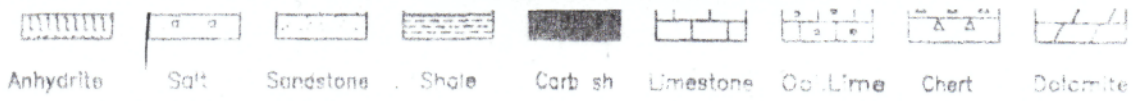


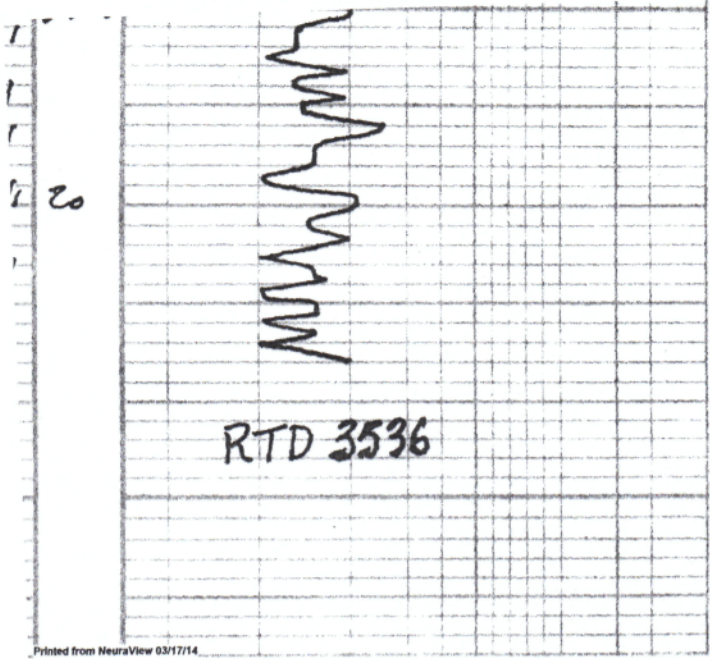
LEGEND

- Anhydrite
- Salt
- Sandstone
- Shale
- Carb sh
- Limestone
- Co. Lime
- Chert
- Dolomite

DRILLING TIME

MARKS

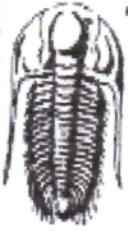




Dr 1 xl = Spotty brackish / SP
 dol; crm. tan f-mal xl sl. gray
 Poor vis. Spotty sh N50W Abadan
 dol; tan-buff fxl dense
 Poor c. P/S

1705-1681 ps
 DST # 3 3432-3466
 30-30-45-45
 Blow, strong

Rec; 125' Gassy muddy
 oil
 (20% gas, 20% mud)
 (60% oil)
 340' Gassy oil
 (20% gas, 80% oil)
 pressures / SSIP 1057 PSI
 SSIP 1064
 ICP 30-104
 SSP 110-188
 HSH
 1718
 -1710 ps



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Mai Oil Operations, Inc.

36-16s-14w Barton,KS

8411 Preston Rd STE
800 Dalls TX 75225

Miller Farms #1

Job Ticket: 56220

DST#: 1

ATTN: Jim Musgrove

Test Start: 2014.03.02 @ 20:30:00

GENERAL INFORMATION:

Formation: **KC"H"**

Deviated: **No** Whipstock: **ft (KB)**

Time Tool Opened: 22:44:45

Time Test Ended: 02:54:30

Test Type: **Conventional Bottom Hole (Initial)**

Tester: **Brett Dickinson**

Unit No: **59**

Interval: **3361.00 ft (KB) To 3391.00 ft (KB) (TVD)**

Total Depth: **3391.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Fair**

Reference Elevations: **1999.00 ft (KB)**

1991.00 ft (CF)

KB to GR/CF: **8.00 ft**

Serial #: 8736

Outside

Press@RunDepth: **21.00 psig @ 3388.00 ft (KB)**

Capacity: **8000.00 psig**

Start Date: **2014.03.02**

End Date:

2014.03.03

Last Calib.:

2014.03.03

Start Time: **20:30:05**

End Time:

02:54:29

Time On Btmr:

2014.03.02 @ 22:44:15

Time Off Btmr:

2014.03.03 @ 01:15:00

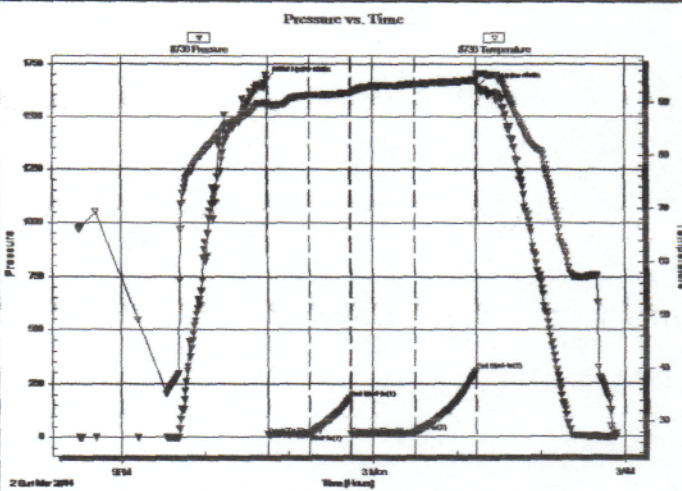
TEST COMMENT:

F-5" blow

IS- No blow

FF-7 1/2" blow

FS- No blo



PRESSURE SUMMARY

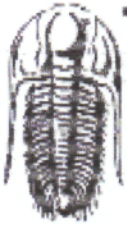
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1674.91	90.06	Initial Hydro-static
1	11.85	89.65	Open To Flow (1)
30	16.23	91.39	Shut-in(1)
59	181.52	91.81	End Shut-in(1)
60	11.40	91.82	Open To Flow (2)
106	21.00	93.57	Shut-in(2)
150	310.93	94.23	End Shut-in(2)
151	1643.24	95.47	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	OCM 30%O 70%M	0.28
0.00	100ft GIP	0.00

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Mai Oil Operations, Inc.
 8411 Preston Rd STE
 800 Dalls TX 75225
 ATTN: Jim Musgrove

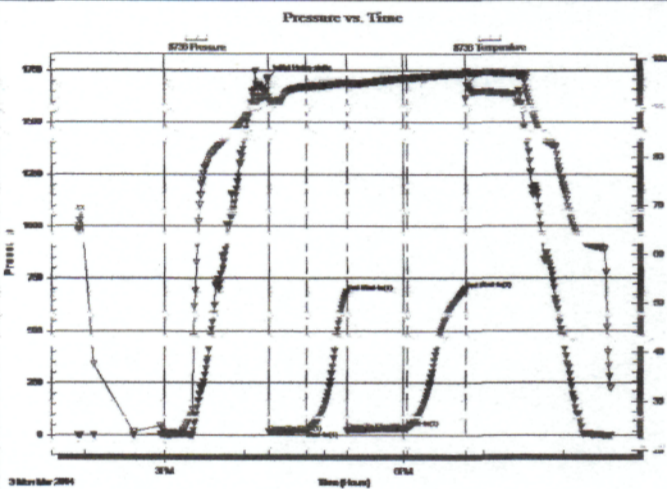
36-16s-14w Barton,KS
Miller Farms #1
 Job Ticket: 56221 **DST#: 2**
 Test Start: 2014.03.03 @ 13:55:00

GENERAL INFORMATION:

Formation: **KC"1-K"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 16:18:30
 Time Test Ended: 20:35:45
 Interval: **3393.00 ft (KB) To 3456.00 ft (KB) (TVD)**
 Total Depth: 3456.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Brett Dickinson
 Unit No: 59
 Reference Elevations: 1999.00 ft (KB)
 1991.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 0700 Outside
 Start Date: 2014.03.03 End Date: 2014.03.03
 Start Time: 13:55:05 End Time: 20:35:44
 Capacity: 0000.00 psig
 Last Calib.: 2014.03.03
 Time On Btm: 2014.03.03 @ 16:17:45
 Time Off Btm: 2014.03.03 @ 18:47:45

TEST COMMENT: F-8 3/4" blow
 FSI-No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1705.20	92.01	Initial Hydro-static
7	10.77	91.07	Open To Flow (1)
30	24.29	94.47	Shut-In(1)
60	685.40	95.23	End Shut-In(1)
60	23.82	95.01	Open To Flow (2)
105	35.21	96.14	Shut-In(2)
149	699.81	97.09	End Shut-In(2)
150	1661.34	97.56	Final Hydro-static

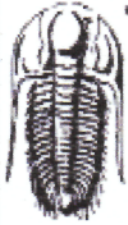
Recovery

Length (ft)	Description	Volume (bbl)
50.00	OCM 40%O 60%M	0.70
0.00	FOOT OIL	0.00

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Mai Oil Operations, Inc.
 8411 Preston Rd STE
 800 Dalls TX 75225
 ATTN: Jim Musgrove

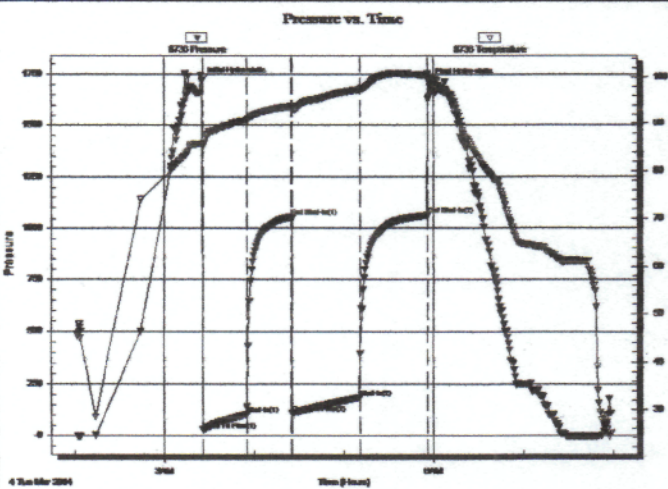
36-16s-14w Barton,KS
Miller Farms #1
 Job Ticket: 56222 **DST#: 3**
 Test Start: 2014.03.04 @ 02:02:00

GENERAL INFORMATION:

Formation: **Arb**
 Deviated: **No Whipstock:** ft (KB)
 Time Tool Opened: 03:25:45
 Time Test Ended: 07:58:45
 Interval: **3432.00 ft (KB) To 3466.00 ft (KB) (TVD)**
 Total Depth: **3466.00 ft (KB) (TVD)**
 Hole Diameter: **7.88 inches** Hole Condition: Fair
 Test Type: **Conventional Bottom Hole (Reset)**
 Tester: **Brett Dickinson**
 Unit No: **59**
 Reference Elevations: **1999.00 ft (KB)**
 1991.00 ft (CF)
 KB to GR/CF: **8.00 ft**

Serial #: 8736 Outside
 Press@RunDepth: **188.35 psig @ 3463.00 ft (KB)** Capacity: **8000.00 psig**
 Start Date: **2014.03.04** End Date: **2014.03.04** Last Calib.: **2014.03.04**
 Start Time: **02:02:05** End Time: **07:58:44** Time On Btm: **2014.03.04 @ 03:25:00**
 Time Off Btm: 2014.03.04 @ 05:57:00

TEST COMMENT: F-BOB in 4 1/2 min
 IS-1/4" blow
 FF-BOB in 7 min
 FS-1/4" blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1717.68	85.68	Initial Hydro-static
1	30.23	85.28	Open To Flow (1)
30	103.85	90.84	Shut-In(1)
60	1057.08	93.77	End Shut-In(1)
61	110.35	93.42	Open To Flow (2)
106	188.35	97.30	Shut-In(2)
151	1064.33	100.42	End Shut-In(2)
152	1709.96	99.57	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
125.00	GMCO 20%G 20%O 60%O	1.75
340.00	GO 20%G 80%O	4.77

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Mai Oil Operations, Inc.

36-16s-14w Barton,KS

8411 Preston Rd STE
800 Dalls TX 75225

Miller Farms #1

Job Ticket: 56223

DST#: 4

ATTN: Jim Musgrove

Test Start: 2014.03.04 @ 16:35:00

GENERAL INFORMATION:

Formation: **Arbuckie**

Deviated: **No Whipstock** ft (KB)

Time Tool Opened: 17:56:15

Time Test Ended: 22:59:15

Test Type: **Conventional Bottom Hole (Reset)**

Tester: **Brett Dickinson**

Unit No: **59**

Interval: **3466.00 ft (KB) To 3476.00 ft (KB) (TVD)**

Reference Elevations: **1999.00 ft (KB)**

Total Depth: **3476.00 ft (KB) (TVD)**

1991.00 ft (CF)

Hole Diameter: **7.88 inches** Hole Condition: **Fair**

KB to GR/CF: **8.00 ft**

Serial #: 8736 Outside

Press@RunDepth: **806.91 psig @ 3473.00 ft (KB)**

Capacity: **8000.00 psig**

Start Date: **2014.03.04**

End Date:

2014.03.04

Last Calib.: **2014.03.04**

Start Time: **16:35:05**

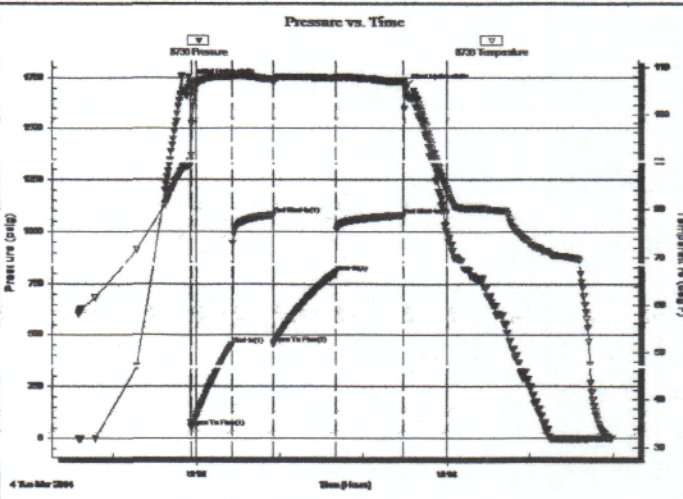
End Time:

22:59:14

Time On Btm: **2014.03.04 @ 17:55:30**

Time Off Btm: **2014.03.04 @ 20:30:00**

TEST COMMENT: **F-BOB in 1 1/2 min
ISI-1/4" blow
FF-BOB in 1 1/2 min
FSI-1/4" blow**



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1726.74	90.19	Initial Hydro-static
1	56.52	91.32	Open To Flow (1)
30	451.30	107.99	Shut-in(1)
60	1080.97	107.42	End Shut-in(1)
60	458.07	106.98	Open To Flow (2)
105	806.01	107.70	Shut in(2)
154	1078.78	106.93	End Shut-in(2)
155	1702.30	106.38	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1455.00	water	20.41
125.00	Oil Spotted Water	1.75
125.00	VSGMMCO 5%G 50%O 40%W 5%M	1.75
90.00	GO 30%G 70%O	1.26

* Recovery from multiple tests

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. 7075

Date	2-26-14	Sec.	36	Twp.	16	Range	14	County	Barton	State	KS	On Location	Finish	12:30AM
								Location						
Lease								Well No.		Owner				
Miller Farm								#1		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.				
Contractor										Charge To				
Southward #3										Mo. Oil				
Type Job										Street				
Surface										City				
Hole Size								T.D.		State				
12 1/4								517'						
Csg.								Depth		The above was done to satisfaction and supervision of owner agent or contractor.				
8 5/8								517		Cement Amount Ordered				
Tbg. Size								Depth		225 360/110 3% cc 2% bal				
Tool								Depth		Cement Left in Csg.				
										30'				
Cement Left in Csg.								Shoe Joint		Meas Line				
										Displace				
										31 bbl				
EQUIPMENT												Common		
Pumptrk 17 No. Cementer												Poz. Mix		
												Helper Nick		
Bulktrk 14 No. Driver												Gel.		
												Driver Doug		
Bulktrk PU No. Driver												Calcium		
												Driver Brent		
JOB SERVICES & REMARKS												Hulls		
Remarks:												Salt		
Rat Hole												Flowseal		
Mouse Hole												Kol-Seal		
Centralizers												Mud CLR 48		
Baskets												CFL-117 or CD110 CAF 38		
D/V or Port Collar												Sand		
												Handling		
												Mileage		
												45%		
FLOAT EQUIPMENT												Guide Shoe		
Cement												Centralizer		
												Baskets		
Quality Oilwell												AFU Inserts		
Cementing												Float Shoe		
												Latch Down		
												Wood Plug #1		
												Pumptrk Charge		
												Mileage		
												Tax		
												Discount		
X Signature												Total Charge		
Guy Houder														

