

**JAMES C. MUSGROVE**

Petroleum Geologist, LLC  
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P.O. Box 215  
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Mai Oil Operations  
Alex Dechant #2  
SE-NW-SW-NE (1665' FNL & 2000' FEL)  
Section 17-20s-22w  
Ness County, Kansas

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

**Contractor:** Southwind Drilling Co. (rig #2)  
**Commenced:** July 10, 2014  
**Completed:** July 19, 2014  
**Elevation:** 2225' K.B., 2223' D.F., 2216' G.L.  
**Casing program:** Surface; 8 5/8" @ 264'  
Production, 5 1/2 @ 4429'  
**Sample:** Samples saved and examined 3600' to the Rotary Total Depth.  
**Drilling time:** One (1) foot drilling time recorded and kept 3600 ft. to the Rotary Total Depth.  
**Measurements:** All depths measured from the Kelly Bushing.  
**Drill Stem Tests:** There were three (3) Drill Stem Tests ran by Trilobite Testing Co.  
**Electric Log:** By Nabors; Dual Induction, Compensated Density/Neutron Log and Micro Log.

<u>Formation</u>	<u>Log Depth</u>	<u>Sub-Sea Datum</u>
Anhydrite	1456	+769
Base Anhydrite	1487	+738
Heebner	3701	-1476
Toronto	3713	-1488
Lansing	3746	-1521
Base Kansas City	4071	-1846
Marmaton	4110	-1885
Pawnee	4191	-1966
Fort Scott	4263	-2038
Cherokee Shale	4285	-2060
Mississippian Osage	4358	-2133
Rotary Total Depth	4430	-2205
Log Total Depth	4430	-2205

All tops and zones corrected to Electric Log Measurement.

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

**TOPEKA/TORONTO/LANSING SECTION**

- 3600-3760' The only show noted in the Topeka/Toronto/Lansing Section is as follows:
- 3763-3773' Limestone, cream, finely crystalline type porosity, trace light brown stain, no show of free oil and no odor in fresh samples.
- 3773-4071' There were several layers of well-developed porosity encountered in drills the rest of the Lansing Section but no shows of oil and/or gas was noted (see attached geologist report/samples log).

**MARMATON SECTION**

- 4110-4130' Limestone, cream, finely crystalline, chalky, fossiliferous, scattered vuggy type porosity; plus trace iron pyrite, no shows.
- 4143-4163' Limestone, cream, finely crystalline, chalky, increasingly cherty with depth, no shows.
- 4170-4190' Limestone, cream, finely crystalline, slightly cherty (dense), no shows.

**PAWNEE SECTION**

- 4191-4240' Limestone, gray, tan, finely crystalline, cherty; trace gray opaque chert, no shows.
- 4240-4256' Limestone, as above, shaley in part, no shows.

**FORT SCOTT**

- 4263-4284' Limestone, cream, finely crystalline, poor visible porosity, cherty in part, trace golden brown stain, trace of free oil and questionable odor in fresh samples.

**Drill Stem Test #1 4244-4290**

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

**Blow: Weak**

**Recovery: 5' mud**

**Pressures: ISIP 231 psi**  
**FSIP 157 psi**  
**IFP 30-32 psi**  
**FFP 31-32 psi**  
**HSH 2058-1995 psi**

**CHEROKEE SECTION**

4290-4306' Limestone, gray, white, finely crystalline, chalky in part, poor visible porosity, no shows.

**MISSISSIPPIAN OSAGE SECTION**

4358-4364' Chert, white, cream, semi tripolitic, slightly weathered, scattered vuggy type porosity, brown stain, show of free oil and strong odor in fresh samples.

**Drill Stem Test #2** **4304-4364**

**Times:** 30-30-45-60  
**Blow:** Fair  
**Recovery:** 20' slightly oil cut mud  
(5% oil; 95% mud)  
30% gassy oil  
**Pressures:** ISIP 140 psi  
FSIP 540 psi  
IFP 36-44 psi  
FFP 44-50 psi  
HSH 2108-2047 psi

4364-4370' Chert, as above.

**Drill Stem Test #3** **4304-4370**

**Times:** 30-30-45-60  
**Blow:** Fair to good  
**Recovery:** 90' gas in pipe  
40' clean gassy oil  
186' heavy oil and gas cut mud  
(30% oil; 70% mud)  
**Pressures:** ISIP 1312 psi  
FSIP 1332 psi  
IFP 54-80 psi  
FFP 85-119 psi  
HSH 2099-2020 psi

4370-4390' Chert, white, cream, semi tripolitic, scattered porosity; plus dolomitic, tan, finely crystalline, sucrosic, questionable stain, no free oil and no odor.

4390-4410' Dolomite, tan, sucrosic, fair pinpoint porosity, plus chert, white, cream, boney, no shows.

4410-4430' Dolomite and chert as above, no shows.

Mai Oil Operations  
Alex Dechant #2  
SE-NW-SW-NE (1665' FNL & 2000' FEL)  
Section 17-20s-22w  
Ness County, Kansas

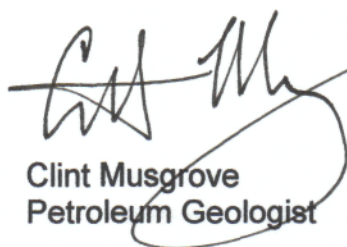
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**Rotary Total Depth**            **4430**  
**Log Total Depth**             **4430**

**Recommendations:**

5 ½" production casing set and cemented on the Mai Oil Operations Inc., Alex Dechant #2.

Respectfully yours,



Clint Musgrove  
Petroleum Geologist



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Mai Oil Operations Inc  
8411 Preston Rd, STE 800  
Dallas TX 75225  
ATTN: Clint Musgrove

**17-20s-22w Ness,KS**  
**Alex Dechant #2**  
Job Ticket: 54073      DST#: 1  
Test Start: 2014.07.16 @ 22:33:00

### GENERAL INFORMATION:

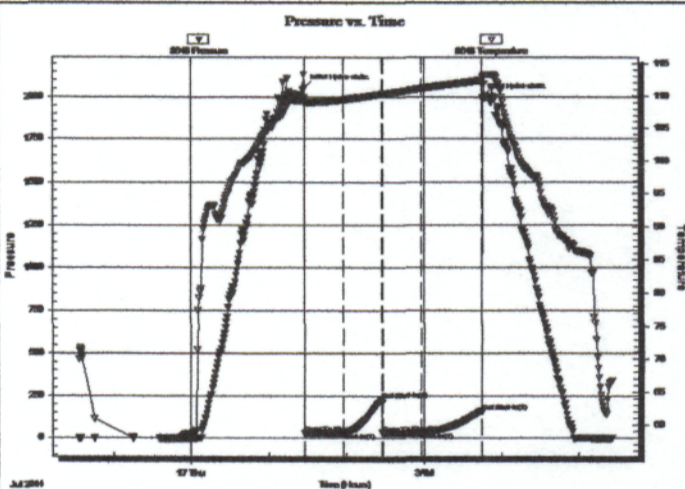
Formation: **Ft. Scott**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 01:28:00  
Time Test Ended: 05:25:45  
Interval: **4244.00 ft (KB) To 4290.00 ft (KB) (TVD)**  
Total Depth: 4290.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Fair  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Cody Bloedorn  
Unit No: 73  
Reference Elevations: 2216.00 ft (KB)  
2208.00 ft (CF)  
KB to GR/CF: 8.00 ft

### Serial #: 8648

Inside

Press@RunDepth: 32.15 psig @ 4282.00 ft (KB)  
Start Date: 2014.07.16      End Date: 2014.07.17  
Start Time: 22:33:05      End Time: 05:25:44  
Capacity: 8000.00 psig  
Last Calib.: 2014.07.17  
Time On Btmr: 2014.07.17 @ 01:27:45  
Time Off Btmr: 2014.07.17 @ 03:45:30

TEST COMMENT: 30 - IF- 1/4" blow  
30 - IS- No return  
30 - FF- No blow  
45 - FS- No return



### PRESSURE SUMMARY

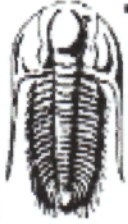
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2058.59	109.90	Initial Hydro-static
1	30.50	109.09	Open To Flow (1)
30	32.19	109.45	Shut-in(1)
60	231.33	110.34	End Shut-in(1)
61	31.68	110.27	Open To Flow (2)
91	32.15	111.18	Shut-in(2)
138	157.75	112.41	End Shut-in(2)
138	1999.53	113.00	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud, 100%M	0.07

### 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  
Dallas TX 75225  
ATTN: Clint Musgrove

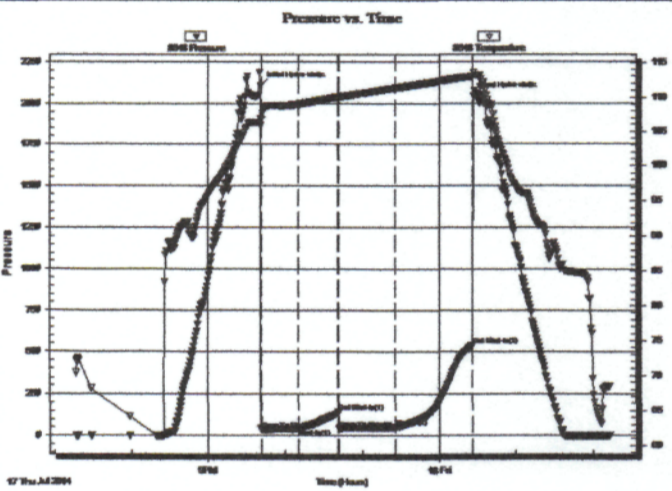
**17-20s-22w Ness,KS**  
**Alex Dechant #2**  
Job Ticket: 54074      DST#: 2  
Test Start: 2014.07.17 @ 19:17:00

### GENERAL INFORMATION:

Formation: <b>Miss</b>	Deviated: <b>No</b> Whipstock:                  ft (KB)	Test Type: <b>Conventional Bottom Hole (Reset)</b>
Time Tool Opened: 21:41:30		Tester: <b>Cody Bloedorn</b>
Time Test Ended: 02:12:45		Unit No: <b>73</b>
Interval: <b>4304.00 ft (KB) To 4364.00 ft (KB) (TVD)</b>		Reference Elevations: <b>2216.00 ft (KB)</b>
Total Depth: <b>4364.00 ft (KB) (TVD)</b>		<b>2208.00 ft (CF)</b>
Hole Diameter: <b>7.88 inches</b> Hole Condition: <b>Fair</b>		KB to GR/CF: <b>8.00 ft</b>

<b>Serial #: 8648</b>	<b>Inside</b>			Capacity: <b>8000.00 psig</b>
Press@RunDepth: <b>50.80 psig @ 4342.00 ft (KB)</b>				Last Calib.: <b>2014.07.18</b>
Start Date: <b>2014.07.17</b>	End Date: <b>2014.07.18</b>			Time On Btm: <b>2014.07.17 @ 21:40:45</b>
Start Time: <b>19:17:05</b>	End Time: <b>02:12:44</b>			Time Off Btm: <b>2014.07.18 @ 00:26:45</b>

TEST COMMENT: 30 - F- 3 1/2" blow  
30 - IS- No return  
45 - FF- 3/4" blow  
60 - FS- No return



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2108.08	106.95	Initial Hydro-static
1	36.17	106.68	Open To Flow (1)
30	44.07	109.04	Shut-In(1)
61	140.99	110.08	End Shut-In(1)
62	44.32	110.08	Open To Flow (2)
105	50.80	111.36	Shut-In(2)
166	540.36	113.03	End Shut-In(2)
166	2047.96	113.63	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
20.00	SOCM, 5%O, 95%M	0.28
35.00	GO, 5%G, 95%O	0.49
0.00	60' of G.I.P.	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  
 Dallas TX 75225  
 ATTN: Clint Musgrove

**17-20s-22w Ness,KS**  
**Alex Dechant #2**  
 Job Ticket: 54075 **DST#: 3**  
 Test Start: 2014.07.18 @ 08:36:00

## GENERAL INFORMATION:

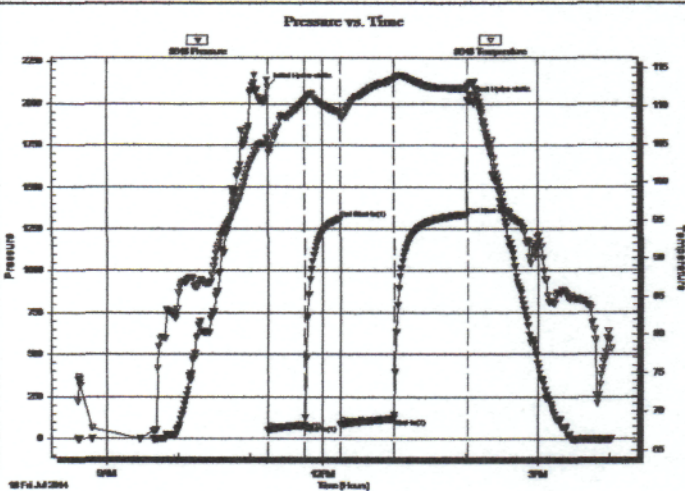
Formation: **Miss**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 11:14:45 Tester: Cody Bloedorn  
 Time Test Ended: 16:01:30 Unit No: 73  
 Interval: **4304.00 ft (KB) To 4370.00 ft (KB) (TVD)** Reference Elevations: 2216.00 ft (KB)  
 Total Depth: 4370.00 ft (KB) (TVD) 2208.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 8.00 ft

## Serial #: 8648

Inside

Press@RunDepth: 119.84 psig @ 4342.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.07.18 End Date: 2014.07.18 Last Calib.: 2014.07.18  
 Start Time: 08:36:05 End Time: 16:01:29 Time On Btmr: 2014.07.18 @ 11:14:30  
 Time Off Btmr: 2014.07.18 @ 14:01:30

TEST COMMENT: 30 - IF- 7 1/2" blow  
 30 - IS- No return  
 45 - FF- 7 1/2" blow  
 60 - FS- No return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2099.85	105.53	Initial Hydro-static
1	54.23	104.71	Open To Flow (1)
31	80.15	110.63	Shut-in(1)
61	1312.75	109.17	End Shut-in(1)
61	85.23	108.65	Open To Flow (2)
105	119.84	113.45	Shut-in(2)
167	1335.55	112.30	End Shut-in(2)
167	2020.52	112.52	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
186.00	HOCM, 30%O, 70%M	2.61
40.00	GO, 5%G, 95%O	0.56
0.00	90' of G.I.P.	0.00

\* 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. 263

Date	Sec.	Twp.	Range	County	State	On Location	Finish
7-11-14	17	20	22	Ness	KS		1:15 AM

Location Bezine, 3W to AA Rd, 9S to 40 Rd, 1W to 2 Rd.

Leasé	Well No.	Owner
<u>Alex Dechant</u>	<u>2</u>	<u>ks, un2</u>
Contractor	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.	
<u>Southwind #2</u>		
Type Job	Charge To	
<u>Surface</u>	<u>Maj Oil</u>	
Hole Size	T.D.	Street
<u>12 1/4</u>	<u>264</u>	
Csg.	Depth	City
<u>8 5/8</u>	<u>264.26</u>	State
Tbg. Size	Depth	The above was done to satisfaction and supervision of owner, agent or contractor
		Cement Amount Ordered
Tool	Depth	<u>170 sx 60/40, 3% cc, 2% gel.</u>
Cement Left in Csg.	Shoe Joint	
<u>20</u>	<u>20</u>	
Meas Line	Displace	
	<u>15 1/2 461</u>	

**EQUIPMENT**

Pumptrk	No.	Cementer	Common
<u>17</u>		<u>Lonnie W</u>	Poz. Mix
Bulktrk	No.	Driver	Gel
<u>3</u>		<u>Claton</u>	Calcium
Bulktrk	No.	Driver	Hulls
<u>P4</u>		<u>Travis</u>	Salt

**JOB SERVICES & REMARKS**

Remarks:	Flowseal
<u>Cement did circulate</u>	Kol-Seat
Rat Hole	Mud CLR 48
Mouse Hole	CFL-117 or CD110 CAF 38
Centralizers	Sand
Baskets	Handling
D/V or Port Collar	Mileage

**FLAT EQUIPMENT**

Guide Shoe
Centralizer
Baskets
AFB Inserts
Float Shoe
Latch Down

# Quality Oilwell Cementing

Signature	Pumptrk Charge	Tax
<u>William Sanders</u>	Mileage	Discount
		Total Charge



# 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. 093

Date	7-19-14	Sec.	17	Twp.	20	Range	22	County	Neosho	State	Ks	On Location		Finish	5:45
Lease	Alex Dechant			Well No.	2		Owner	1W to Z Rd, 1/2 S, W/Intro							
Contractor	Southwind			#	2		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	Production														
Hole Size	7 7/8"			T.D.	4430'		Charge To	Main oil operations							
Csg.	New 5 1/2" 14#			Depth	4424.50'										
Tbg. Size				Depth											
Tool	Port Collar			Depth	1437'		The above was done to satisfaction and supervision of owner agent or contract								
Cement Left in Csg.	21.50'			Shoe Joint	21.50'		Cement Amount Ordered	175 60/40 10% Salt 2%							
Meas Line				Displace	107 1/2 BLS		1/4# Flow Seal	1000 gal. mud. Clear 48							
EQUIPMENT							Common								
Pumptrk	16	No.		Cementer	Billy		Poz. Mix	10							
Bulktrk	9	No.		Helper			Gal.	3							
Bulktrk	P.U.	No.		Driver	Ryan		Calcium								
Bulktrk	P.U.	No.		Driver	Rick		Hulls								
JOB SERVICES & REMARKS							Salt 13								
Remarks:							Flowseal	43#							
Rat Hole							Kol-Seal								
Mouse Hole							Mud CLR 48	1000 gal							
Centralizers	turbo's #1-5 Reg #70						CFL-117 or CD110 CAF 38	7000							
Baskets	#71 10' from bottom						Sand								
D/V of Port Collar	#71 1437'						Handling								
pipe on bottom break Circulation							Mileage								
pump 1000 gal mud 48 min							FLOAT EQUIPMENT								
Rathole with 5" Hook							Guide Shoe								
+ Mix 145 cement. Shut down							Centralizer	5 turbo's 1 Reg							
wash pump + lines Released plug +							Baskets	1							
Displaced with 107 1/2 BLS of water. 1000							AFU Inserts								
Released + hold							Float Shoe								
Land plug to 800 #							Latch Down	1							
lift pressure 1300#							1 - Port Collar								
Signature <i>Ben Ashman</i>							Pumptrk Charge	<i>Proch. 4000</i>							
							Mileage	20							
												Tax			
												Discount			
												Total Charge			