

**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  
Alex Dechant #1  
NW-SW-SE-NE (2020' FNL & 1305' 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:** April 17, 2014  
**Completed:** April 25, 2014  
**Elevation:** 2216' K.B., 2214' D.F., 2207' G.L.  
**Casing program:** Surface; 8 5/8" @ 260'  
Production, 5 1/2" @ 4424'  
**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 two (2) Drill Stem Tests ran by Trilobite Testing Co.  
**Electric Log:** By Nabors, Dual Induction, Compensated Density/Neutron, Micro and Sonic Log.

<u>Formation</u>	<u>Log Depth</u>	<u>Sub-Sea Datum</u>
Anhydrite	1440	+776
Base Anhydrite	1477	+739
Heebner	3695	-1479
Toronto	3708	-1492
Lansing	3743	-1527
Stark	3999	-1783
Base Kansas City	4066	-1850
Marmaton	4110	-1894
Pawnee	4187	-1971
Fort Scott	4260	-2044
Cherokee Shale	4285	-2069
Mississippian	4348	-2132
Mississippian Osage	4356	-2140
Rotary Total Depth	4420	-2204
Log Total Depth	4425	-2209

(All top and zone determination were made from a correlation of Electric Log measurements).

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

**TOPEKA SECTION/TORONTO/LANSING SECTION**

3753-3796' There were several zones of well-developed porosity encountered in the drilling of the Topeka, Toronto and Lansing sections but no shows of oil and/or gas was noted (see attached sample log/geologist report).

**MARMATON SECTION**

4110-4120' Limestone, cream, gray, finely crystalline, few cherty, poor visible porosity, no shows.

4138-4154' Limestone, cream to tan, finely crystalline, cherty, poor scattered porosity; slightly chalky in part, no shows.

4164-4186' Limestone, tan, finely crystalline, cherty; plus brown boney chert; no shows.

**PAWNEE SECTION**

4187-4220' Limestone, tan, brown, finely crystalline, poor visible porosity; no shows.

4220-4254' Limestone, gray and brown; finely crystalline, slightly cherty; poor visible porosity; no shows.

**FT SCOTT SECTION**

4260-4265' Limestone, gray to white, finely crystalline, slightly cherty, few chalky, poor visible porosity (dense).

4270-4280' Limestone, tan, fine and medium crystalline, scattered pinpoint porosity, light brown stain, show of free oil and faint odor in fresh samples.

**Drill Stem Test #1** **4236-4285**  
**Log Measurements** **4241-4290**

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

**Blow:** Weak

**Recovery:** 62' very slightly oil cut mud  
(2% oil; 98% mud)

**Pressures:** ISIP 629 psi  
FSIP 637 psi  
IFP 38-47 psi  
FFP 54-58 psi  
HSH 2133-2139 psi

**CHEROKEE SECTION**

- 4290-4306' Limestone, cream to gray, finely crystalline, no visible porosity (dense).
- 4325-4330' Sand; gray fine to medium grained; sub-rounded; well sorted, friable in part, no shows.
- 4330-4340' Limestone, gray, finely crystalline, few fossiliferous, poor visible porosity; chalky; no shows.

**MISSISSIPPIAN SECTION**

- 4348-4356' Limestone, tan, finely crystalline, dense, trace; chert; yellow; brown/gray, boney; no shows.

**MISSISSIPPIAN "OSAGE"**

- 4356-4363' Chert; white; weathered in part; scattered porosity; plus tan/gray, sucrosic, dolomite; light brown stain, show of free oil and strong odor.

**Drill Stem Test #2 4298-4358  
Log Measurements 4303-4363**

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

**Blow: Strong**

**Recovery: 126' oil & gas cut mud  
 (10% gas; 10% oil; 80% mud)  
 189' gassy oil  
 (10% gas; 90% oil)  
 476' gassy oil  
 (20% gas; 80% oil))**

**Pressures: ISIP 1373 psi  
 FSIP 1371 psi  
 IFP 46-165 psi  
 FFP 175-325 psi  
 HSH 2166-2119 psi**

- 4363-4380' Poor samples – junk-

- 4380-4400' Dolomite, tan, sucrosic, fair pinpoint fine vuggy type porosity; light brown grain, show of free oil and strong odor in fresh samples.

Mai Oil Operations  
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Ness County, Kansas

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4400-4410'	Chert; gray; white , boney; light brown stain, no show of free oil and faint odor in fresh samples.
4410-4425'	Dolomite and chert as above, no show and questionable to faint odor in fresh samples.

<b>Rotary Total Depth</b>	<b>4420</b>
<b>Log Total Depth</b>	<b>4425</b>

**Recommendations:**

The 5 ½ Production Casing Set was set and cemented on the Alex Dechant #1.

Respectfully submitted;



Wyatt Urban  
Petroleum Geologist



**TRILOBITE TESTING, INC**

**DRILL STEM TEST REPORT**

Mai Oil Operations Inc.  
 8411 Preston RD. STE 800  
 Dallas TX 75225  
 ATTN: Wyatt Urban

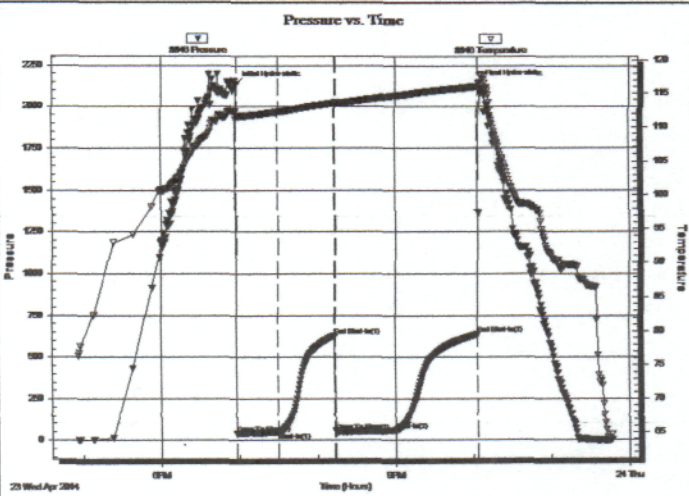
**17-20s-22w Ness, KS**  
**Alex Dechant #1**  
 Job Ticket: 56438      **DST#: 1**  
 Test Start: 2014.04.23 @ 16:56:15

**GENERAL INFORMATION:**

Formation: **Ft. Scott**  
 Deviated: No Whipstock:                      ft (KB)  
 Time Tool Opened: 18:57:45  
 Time Test Ended: 23:47:00  
 Interval: **4236.00 ft (KB) To 4285.00 ft (KB) (TVD)**  
 Total Depth: **4285.00 ft (KB) (TVD)**  
 Hole Diameter: **7.88 inches** Hole Condition: Fair  
 Test Type: **Conventional Bottom Hole (Initial)**  
 Tester: **Mike Roberts**  
 Unit No: **65**  
 Reference Elevations: **2216.00 ft (KB)**  
    **2207.00 ft (CF)**  
 KB to GR/CF: **9.00 ft**

**Serial #: 8846      Inside**  
 Press@RunDepth: **57.86 psig @ 4241.00 ft (KB)**  
 Start Date: **2014.04.23**      End Date: **2014.04.23**  
 Start Time: **16:56:15**      End Time: **23:47:00**  
 Capacity: **8000.00 psig**  
 Last Calib.: **2014.04.23**  
 Time On Btmr: **2014.04.23 @ 18:57:30**  
 Time Off Btmr: **2014.04.23 @ 22:04:30**

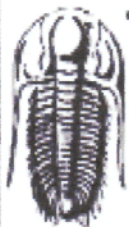
TEST COMMENT: IF: Built to 2 1/2" blow  
 IS: No return blow  
 FF: Built to 2" blow  
 FS: No return blow



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2133.14	112.25	Initial Hydro-static
1	38.22	111.11	Open To Flow (1)
33	46.96	112.19	Shut-In(1)
76	628.97	113.55	End Shut-In(1)
77	54.14	113.45	Open To Flow (2)
123	57.86	114.61	Shut-In(2)
186	637.03	116.00	End Shut-In(2)
187	2138.80	116.51	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
62.00	ocm 2 %o 98% m	0.87

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



**TRILOBITE TESTING, INC.**

**DRILL STEM TEST REPORT**

Mai Oil Operations Inc.  
 8411 Preston RD. STE 800  
 Dallas TX 75225  
 ATTN: Wyatt Urban

**17-20s-22w Ness, KS**  
**Alex Dechant #1**  
 Job Ticket: 56439      **DST#: 2**  
 Test Start: 2014.04.24 @ 13:37:15

**GENERAL INFORMATION:**

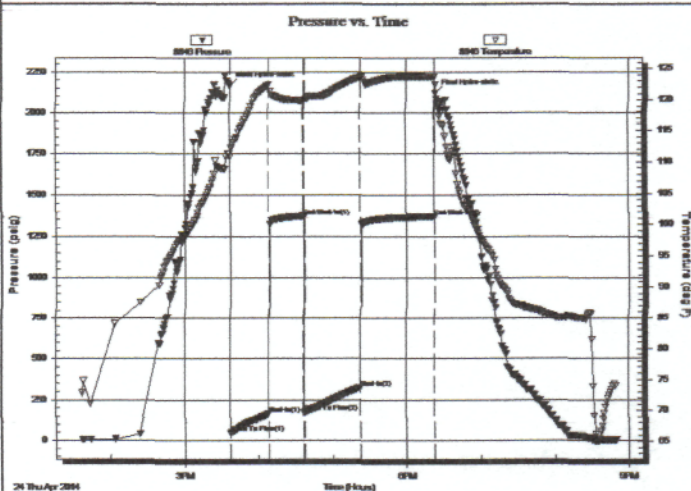
Formation: **Miss**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 15:37:15  
 Time Test Ended: 20:49:30  
 Interval: **4298.00 ft (KB) To 4358.00 ft (KB) (TVD)**  
 Total Depth: 4358.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Mike Roberts  
 Unit No: 65  
 Reference Elevations: 2216.00 ft (KB)  
 2207.00 ft (CF)  
 KB to GR/CF: 9.00 ft

**Serial #: 8846**

**Inside**

Press@RunDepth: 325.15 psig @ 4303.00 ft (KB)  
 Start Date: 2014.04.24 End Date: 2014.04.24  
 Start Time: 13:37:15 End Time: 20:49:30  
 Capacity: 8000.00 psig  
 Last Calib.: 2014.04.24  
 Time On Btm: 2014.04.24 @ 15:36:45  
 Time Off Btm: 2014.04.24 @ 18:23:15

**TEST COMMENT:** F:BOB in 8 min  
 IS:Built to weak surface blow after 15 min.  
 FF:BOB in 8 min.  
 FS:Built to weak surface blow after 15 min.



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2165.82	111.33	Initial Hydro-static
1	46.35	110.88	Open To Flow (1)
32	164.58	122.51	Shut-In(1)
60	1372.61	119.95	End Shut-In(1)
61	174.91	119.87	Open To Flow (2)
106	325.15	123.63	Shut-In(2)
166	1370.84	123.67	End Shut-In(2)
167	2119.27	122.43	Final Hydro-static

**Recovery**

Length (ft)	Description	Volume (bbl)
476.00	gco 20%g 80%o	6.68
189.00	gco 10%g 90%o	2.65
126.00	gcom 10%g 10%o 80%m	1.77

\* Recovery from multiple tests

**Gas Rates**

	Choke (inches)	Pressure (psig)	Gas Rate (MMcf/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. 413

Date	4-17-14	Sec.	17	Twp.	20	Range	22	County	Ness	State	KS	On Location		Finish	12.15
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Lease	Alex Dechant #1	Well No.		Owner	9570 HOIRD 1W 25 N
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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													
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Type Job	Surface	Charge To	Oil
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Hole Size	12 1/4	T.D.	263	Street	Oil
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Csg.	5 5/8	Depth	263.53	City		State	
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Tbg. Size		Depth		The above was done to satisfaction and supervision of owner agent or contractor		
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Tool		Depth		Cement Amount Ordered	10770 45/100
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Cement Left in Csg.	20ft	Shoe Joint	20ft	Meas Line		Displace	15.5 BBL
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<b>EQUIPMENT</b>							
Pumptrk	17	No.	Cementer	Matt	Common		
			Helper				
Bulktrk	9	No.	Driver	Nick	Poz. Mix	170	
			Driver		Gel.	3	
Bulktrk	24	No.	Driver	Ryan	Calcium	6	
			Driver		Hulls		

<b>JOB SERVICES &amp; REMARKS</b>							
Remarks:							
Rat Hole	Alex Dechant #1						
Mouse Hole							
Centralizers							
Baskets							
D/V or Port Collar							
	Cement did						
	Calculate Hook						
	You						

Handling	179	Mileage	
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<b>FLOAT EQUIPMENT</b>							
Guide Shoe							
Centralizer							
Baskets							
AFU Inserts							
Float Shoe							
Latch Down							

Pumptrk Charge	Surface
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Mileage	19
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Signature	William Dechant	Tax	
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		Discount	
--	--	----------	--

		Total Charge	
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# 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. 056

Date	9-25-14	Sec.	17	Twp.	20	Range	22	County	Ness	State	Ks	On Location	Finish	9:00 AM
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Location Bazine, Ks - 4W to AARd, 9S to 40Rd

Lease	Alex Dechant	Well No.	1	Owner	1W to Z Rd, 1/2 S, W 4th
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.	4420'	Charge To	Mat oil operations
Csg.	14# 5 1/2" New	Depth	4421'	Street	
Tbg. Size		Depth		City	State
Tool	Port Collar	Depth	1410'	The above was done to satisfaction and supervision of owner agent or contractor.	
Cement Left in Csg.	21.50'	Shoe Joint	21.50'	Cement Amount Ordered	175 60/40 2% Gel 10% Salt
Meas Line		Displace	107 1/4 Bcs	1/4# Fl-seal	1000 gal mud Clear 48

**EQUIPMENT**

Pumptrk	16	No.	Cementer Helper	Billy	Common
Bulktrk	1	No.	Driver	Lorrie Mo	Poz. Mix
Bulktrk	p.u.	No.	Driver	Rock	Gel.
			Driver		Calcium

**JOB SERVICES & REMARKS**

Remarks:	Salt
Rat Hole	NO mousehole
Mouse Hole	Flowseal
Centralizers	Kol-Seal
Baskets	Mud CLR 48
DV or Port Collar	CFL-117 or CD110 CAF 38
pipe on bottom break circulation	Sand
pump 1000 gal mud Clear 48	Handling
plug Rathole w/ 30 sr plug	Mileage
mousehole w/ 15 sr cement 30"	<b>FLOAT EQUIPMENT</b>
Casing w/ 130 sr cement, shut	Guide Shoe
down wash pump + lines Released	Centralizer
plug + Displaced w/ 10 3/4 Bcs	Baskets
of water. Released + held	AFU Inserts
	Float Shoe
	Latch Down
Lift pressure 750 #	1- Port Collar
Land plug to 1500 #	
	Pumptrk Charge
	Mileage

	Tax	
	Discount	
X Signature <i>William W. L. [Signature]</i>	Total Charge	





CHARGE TO: MAI OIL OPERATIONS  
 ADDRESS:  
 CITY, STATE, ZIP CODE:

TICKET 26358

PAGE 1 OF

SERVICE LOCATIONS 1. NESS CITY, KS  
 WELL/PROJECT NO.:  
 LEASE: ALEX DECHANT  
 COUNTY/PARISH: NESS  
 STATE: KS CITY: BAZINE, KS DATE: 19 MAY 14 OWNER:  
 2. TICKET TYPE:  SERVICE  SALES CONTRACTOR: EXPRESS WELL SERV. RIG NAME/NO.: SHIPPED VIA: DELIVERED TO: ORDER NO.:  
 3. WELL TYPE: OIL WELL CATEGORY: DEVELOPMENT JOB PURPOSE: CEMENT PORT COLLAR WELL PERMIT NO.: WELL LOCATION: 3W, 9S, 1W, 3S, W, I, U, 0  
 4. REFERRAL LOCATION: INVOICE INSTRUCTIONS:

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	QTY.		U/M		UNIT PRICE	AMOUNT	
		LOC	ACCT	DF								
575					MILEAGE #115	20	mi			6.00	120	00
576D					Pump Charge - Port Collar	1	job			1500.00	1500	00
330					SMD Cement			155	skts	18.50	2867	50
276					Flocele	1/4	lb	50	lbs	2.50	125	00
290					D-Air			5	gal	42.00	210	00
105					Port Collar Tool	1	job			350.00	350	00
581					Service Charge Cement			175	skts	2.00	350	00
583					Minimum Drayage Charge			1	ra	250.00	250	00

**LEGAL TERMS:** Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, **PAYMENT, RELEASE, INDEMNITY, and LIMITED WARRANTY** provisions.

MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS

X  
 DATE SIGNED: 5/19/14 TIME SIGNED: 1000 A.M.  P.M.

REMIT PAYMENT TO:  
 SWIFT SERVICES, INC.  
 P.O. BOX 466  
 NESS CITY, KS 67560  
 785-798-2300

SURVEY	AGREE	UN-DECIDED	DIS-AGREE	PAGE TOTAL
OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?				5772.50
WE UNDERSTOOD AND MET YOUR NEEDS?				
OUR SERVICE WAS PERFORMED WITHOUT DELAY?				
WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?				TAX
ARE YOU SATISFIED WITH OUR SERVICE?	<input type="checkbox"/> YES <input type="checkbox"/> NO			TOTAL
<input type="checkbox"/> CUSTOMER DID NOT WISH TO RESPOND				

CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES The customer hereby acknowledges receipt of the materials and services listed on this ticket.

SWIFT OPERATOR: David Muder APPROVAL:

Thank You!

**JOB LOG**

**SWIFT Services, Inc.**

DATE 19 May 14 PAGE NO.

CUSTOMER MAI OIL OPERATIONS WELL NO. # 4 LEASE FLEX DECHANT JOB TYPE CEMENT PORT COLLAR TICKET NO. 210358

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	0830							ON LOCATION
								PORT COLLAR @ 1413
	0857				✓		1000	TEST - HELD
	0900							OPEN PORT COLLAR
	0904	4	8 1/2	✓			300	MIX 155s x SMD
		3	7 1/2	✓				DISPLACE CEMENT
								CIRCULATE 20s to PTT
	0932				✓		1000	CLOSE PORT COLLAR - TEST - HELD
								RW 5 JS.
	0943	3	25		✓		300	REVERSE CLEAN
	0952							WASH TRUCK
	1030							JOB COMPLETE
								THANKS # 1/5
								JASON DAVE DOW JONN