

**JAMES C. MUSGROVE**

Petroleum Geologist  
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P.O. Box 215  
Claflin, KS 67525

Office (620) 588-4250

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Mai Oil Operations  
B&R Dechant #1  
NW-SW-SE-NE (2150' FNL & 1175' FEL)  
Section 19-20s-22w  
Ness County, Kansas  
Page 1

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

**Contractor:** Southwest Drilling Co. (Rig #2)  
**Commenced:** January 8, 2014  
**Completed:** January 15, 2014  
**Elevation:** 2205' K.B; 2203' D.F; 2197' G.L.  
**Casing program:** Surface; 8 5/8" @ 260'  
Production; 5 1/2" @ 4408'  
**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 Log, Micro and Sonic.

<u>Formation</u>	<u>Log Depth</u>	<u>Sub-Sea Datum</u>
Anhydrite	1432	+773
Base Anhydrite	1468	+737
Heebner	3693	-1488
Toronto	3706	-1501
Lansing	3741	-1536
Stark Shale	4003	-1798
Base Kansas City	4065	-1860
Marmaton	4105	-1900
Pawnee	4188	-1983
Ft Scott	4258	-2053
Cherokee Shale	4282	-2077
Conglomerate	4321	-2116
Mississippian Osage	4345	-2140
Rotary Total Depth	4409	-2204
Log Total Depth	4412	-2207

(All tops and zones corrected to Electric Log measurements).

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

**TOPEKA THROUGH LANSING/KANSAS CITY SECTION**

3600-4065' There were several zones of well-developed porosity encountered in the drilling of the Topeka/Lansing/Kansas City Sections but no shows of oil and/or gas was noted.

**MARMATON SECTION**

4105-4120' Limestone; white/gray, chalky, poor visible porosity, no shows.

4130-4164' Limestone; gray, white, finely crystalline, granular, chalky, no shows.

4166-4186' Limestone; as above.

**PAWNEE SECTION**

4188-4254' Limestone; tan/gray, granular, chalky, shaley at base, plus trace white/tan chert, no shows.

**FT SCOTT SECTION**

4258-4270' Limestone; white/gray, finely crystalline, chalky, poor visible porosity, brown stain, weak show of free oil and no odor in fresh samples.

**Drill Stem Test #1 4240-4270' (Log measurements 4243-4273)**

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

**Blow: Weak**

**Recovery: 5' oil specked mud**

**Pressures: ISIP 44 psi  
FSIP 40 psi  
IFP 12-14 psi  
FFP 14-15 psi  
HSH 2156-1984 psi**

**CHEROKEE SECTION**

4285-4300' Limestone; gray, white, tan, chalky, few cherty, dense, plus white/gray opaque chert.

**MISSISSIPPIAN SECTION**

4345-4352' Chert; white/gray, weathered, scattered vuggy type porosity, brown stain, show of free oil, plus tan/gray, glauconitic, dolomite, fair pinpoint type porosity, brown stain, show of free oil and faint odor in fresh samples.

**Drill Stem Test #2** **4286-4349' (Log measurements 4289-4352)**

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

**Blow:** Strong

**Recovery:** 325' clean oil  
126' muddy oil  
(70% oil, 30% mud)  
186' slightly oil cut mud  
(10% gas, 10% oil, 80% mud)

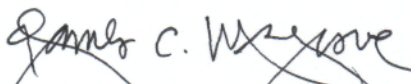
**Pressures:** ISIP 1355 psi  
FSIP 1358 psi  
IFP 22-132 psi  
FFP 137-265 psi  
HSH 2198-2021 psi

- 4352-4370' Chert; as above, scattered porosity, brown stain, show of free oil and faint to fair odor in fresh samples.
- 4370-4390' Chert; as above, poor visible porosity.
- 4390-4400' Chert; white/gray, cream, boney/opaque, trace dolomite, cream, finely crystalline, chalky, luster, no shows.
- 4400-4412' Chert and dolomite; as above, plus white chalk, no shows.

**Rotary Total Depth** 4409  
**Log Total Depth** 4412

**Recommendations:** 5 1/2" production casing was set and cemented in the B&R Dechant #1.

Respectfully submitted;

  
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: Jim Musgrove

**19 20s 22w Ness,KS**  
**B & R Dechant #1**  
 Job Ticket: 50414      **DST#: 1**  
 Test Start: 2014.01.14 @ 04:30:00

### GENERAL INFORMATION:

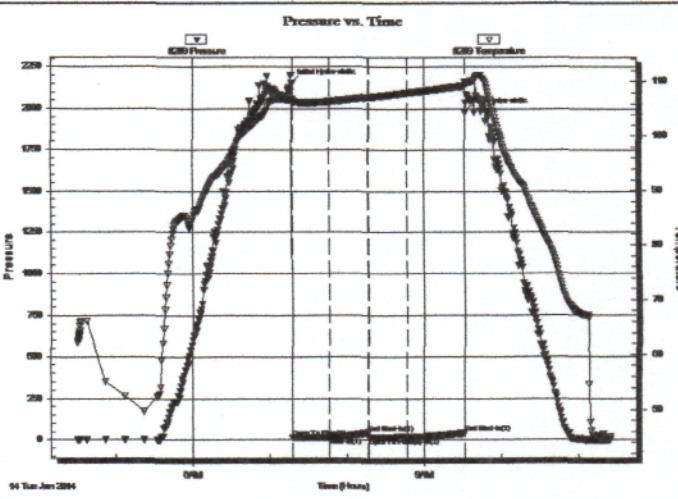
Formation: **Ft Scott**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 07:17:30  
 Time Test Ended: 11:25:00  
 Interval: **4240.00 ft (KB) To 4270.00 ft (KB) (TVD)**  
 Total Depth: 4270.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Jim Svaty  
 Unit No: 54  
 Reference Elevations: 2206.00 ft (KB)  
 2197.00 ft (CF)  
 KB to GR/CF: 9.00 ft

### Serial #: 8289

Outside

Press@RunDepth: 15.23 psig @ 4242.00 ft (KB)  
 Start Date: 2014.01.14 End Date: 2014.01.14  
 Start Time: 04:30:02 End Time: 11:25:00  
 Capacity: 8000.00 psig  
 Last Calib.: 2014.01.14  
 Time On Btm: 2014.01.14 @ 07:17:15  
 Time Off Btm: 2014.01.14 @ 09:32:00

TEST COMMENT: 30-IFP- Surface Blow Died in 7 min.  
 30-ISIP- No Blow  
 30-FFP- No Blow  
 45-FSIP- No Blow



### PRESSURE SUMMARY

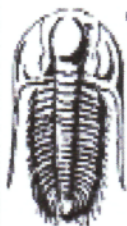
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2156.50	106.70	Initial Hydro-static
1	12.13	105.99	Open To Flow (1)
29	14.42	106.35	Shut-In(1)
60	44.61	107.11	End Shut-In(1)
60	14.63	107.10	Open To Flow (2)
90	15.23	107.95	Shut-In(2)
135	40.81	109.19	End Shut-In(2)
135	1984.29	109.93	Final Hydro-static

### Recovery

Length (ft)	Description	Volume (bbl)
1.00	Oil Speck Mud 100%	0.01

### 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 75225-5520  
 ATTN: Jim Musgrove

**19 20s 22w Ness,KS**  
**B & R Dechant #1**  
 Job Ticket: 50415      **DST#: 2**  
 Test Start: 2014.01.14 @ 22:00:00

## GENERAL INFORMATION:

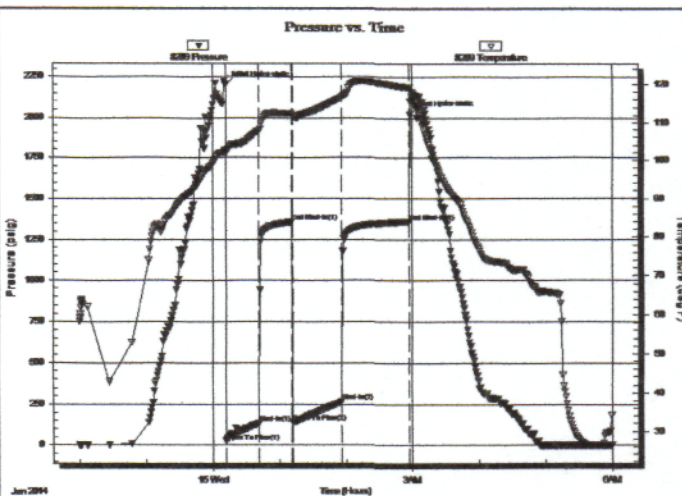
Formation: **Osage**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 00:12:00  
 Time Test Ended: 06:00:00  
 Interval: **4286.00 ft (KB) To 4349.00 ft (KB) (TVD)**  
 Total Depth: 4349.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Jim Svaty  
 Unit No: 54  
 Reference Elevations: 2206.00 ft (KB)  
 2197.00 ft (CF)  
 KB to GR/CF: 9.00 ft

## Serial #: 8289

Outside

Press@RunDepth: 265.57 psig @ 4287.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2014.01.14      End Date: 2014.01.15      Last Calib.: 2014.01.15  
 Start Time: 22:00:02      End Time: 06:00:00      Time On Btmr: 2014.01.15 @ 00:11:45  
 Time Off Btmr: 2014.01.15 @ 02:58:00

TEST COMMENT: 30-IFP- BOB in 7 min.  
 30-ISIP- Surface Blow Building to 3/4". In 10 min. Died Back in 15 min.  
 45-FFP- BOB in 8 min.  
 60-FSIP- Surface Blow Died in 4 min.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2198.79	102.61	Initial Hydro-static
1	22.04	101.65	Open To Flow (1)
30	132.98	107.72	Shut-In(1)
60	1355.51	112.45	End Shut-In(1)
61	137.60	112.04	Open To Flow (2)
105	265.57	116.58	Shut-In(2)
166	1358.83	119.21	End Shut-In(2)
167	2021.83	119.32	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
186.00	GOCM 10%g 10%o 80%m	2.61
126.00	MCO 30%m 70%o	1.77
325.00	CO 100%	4.56
0.00	GIP 305	0.00

\* Recovery from multiple tests

## Gas Rates

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

# ALLIED OIL & GAS SERVICES, LLC 062632

Federal Tax ID. # 20-8651475

REMIT TO P.O. BOX 93999  
SOUTHLAKE, TEXAS 76092

483-2169

SERVICE POINT:

Sheet Bend K  
1-8-14 1-9-14

DATE 1-8-14	SEC 19	TWP 20	RANGE 22	CALLED OUT 7:05 PM	ON LOCATION 10:15 PM	JOB START 11:45 AM	JOB FINISH 12:30 PM
LEASE Deck # 1		WELL # 1		LOCATION Bayline 3rd, 9S, 2W, 1/4S		COUNTY New	STATE Ks
OLD OR NEW (Circle one)				West into			

CONTRACTOR Surface  
 TYPE OF JOB Surface  
 HOLE SIZE 12 1/4 T.D. 261  
 CASING SIZE 8 5/8 DEPTH 261  
 TUBING SIZE DEPTH  
 DRILL PIPE DEPTH  
 TOOL DEPTH  
 PRES. MAX MINIMUM  
 MEAS. LINE SHOE JOINT  
 CEMENT LEFT IN CSG 20'  
 PERFS.  
 DISPLACEMENT 15 1/4

UW/NEK Same  
 CEMENT  
 AMOUNT ORDERED 200 ml class 4  
350cc 280ml

EQUIPMENT  
 PUMP TRUCK OPERATOR Andy Engle 1  
 # 3106 HELPER Andy Engle 3  
 BULK TRUCK  
 # 610-170 DRIVER Don Cooper 2  
 BULK TRUCK  
 # DRIVER

COMMON	200	@ 17.90	3,580.00
POZMIX		@	
GEL	1	@ 23.70	23.70
CHLORIDE	564	@ .80	451.20
ASC		@	
HANDLING	216.60	@ 2.98	645.47
MILEAGE	9.97 x 24 x	2.60	638.28
TOTAL			5,278.65

REMARKS:  
 Rem 261 of 8 5/8 casing. Reel circulation  
 Pumped 261 H<sub>2</sub>O. Added 200ml class 4  
 350cc 280ml displaced with H<sub>2</sub>O

237.11

SERVICE

DEPTH OF JOB	261		
PUMP TRUCK CHARGE			1512.32
EXTRA FOOTAGE		@	
MILEAGE	from 24	@ 7.70	184.80
MANIFOLD		@	
	from 24	@ 4.40	105.60
TOTAL			1,802.65

CHARGE TO: Max Oil Operations  
 STREET \_\_\_\_\_  
 CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

PLUG & FLOAT EQUIPMENT

	@	
	@	
	@	
	@	
	@	
	@	

To: Allied Oil & Gas Services, LLC.  
 You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

TOTAL \_\_\_\_\_

SALES TAX (if Any) 253.67

TOTAL CHARGES 7081.27

DISCOUNT 1416.25 IF PAID IN 30 DAYS

5665.02

PRINTED NAME William Sanders  
 SIGNATURE [Signature]

# 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. 7641

Date	1-16-14	Sec.	19	Twp.	20	Range	22	County	Ness	State	KS	On Location	1:00 AM	Finish	7:30 AM
Lease								Location				Buzien 3W 95 E into			
B&K Dechant								Well No.				1			
Contractor								Southwind				2			
Type Job								Lang String				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.			
Hole Size								7 7/8				Charge To			
Csg.								5 1/2				M. oil			
Tbg. Size												Street			
Tool												City			
Cement Left in Csg.								26.29				Shoe Joint			
Meas Line								Displace				104 1/2			
EQUIPMENT								Common				Cement Amount Ordered			
Pumptrk								5				175 60/40 10% Salt			
Bulktrk								9				2% gel 1/4 flow			
Bulktrk								pu				Common			
JOB SERVICES & REMARKS								Hulls				Salt			
Remarks:								Flowseal				Kol-Seal			
Rat Hole								30 5/8				Mud CLR 48			
Mouse Hole								5 1/2 20				CFL-117 or CD110 CAF 38			
Centralizers								1, 3456				Sand			
Baskets								2 28 1/2				Handling			
D/V or Port Collar								29 146L				Mileage			
Dropped Ball Circulated								for 1 hour Run and flush				5 1/2			
Dlog Bait and Mouse hole								made 125 sk down hole				FLOAT EQUIPMENT			
Displace 104 1/2 BBL of water								Lift 900 PSI				Guide Shoe			
Land 1500 PSI												Centralizer turbos 6			
												Baskets 2 Red			
												AFU Inserts			
												Float Shoe 1			
												Latch Down 1			
												port collar			
												Pumptrk Charge			
												Mileage			
												Tax			
												Discount			
												Total Charge			
Signature								Kent							



CHARGE TO: Mai Operation

ADDRESS

CITY, STATE, ZIP CODE

TICKET 26020

PAGE 1 OF 1

SERVICE LOCATIONS

1. Ness City KS WELL/PROJECT NO. 1 LEASE BIR Dechant COUNTY/PARISH Ness STATE KS CITY Ness City DATE 27 Jun 14 OWNER

2. TICKET TYPE  SERVICE  SALES CONTRACTOR RIG NAME/NO. SHIPPED VIA CT DELIVERED TO location ORDER NO.

3. WELL TYPE oil WELL CATEGORY Development JOB PURPOSE cement port collar WELL PERMIT NO. WELL LOCATION

4. REFERRAL LOCATION INVOICE INSTRUCTIONS

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	QTY.	U/M	QTY.	U/M	UNIT PRICE	AMOUNT
		LOC	ACCT	DF							
575		1			MILEAGE TRK 114	20	mi	<del>6</del>		6.00	120.00
576D		1			Pump Charge	1	hr			1500	1500.00
330		1			SMD cement	140	sk			18.50	2590.00
276		1			Flocculer	50	lb			2.50	125.00
290		1			D:AIR	2	gal			42.00	84.00
582		1			Drayage (min)	1	hr			250.00	250.00
581		1			service charge	175	sk			2.00	350.00
104		1			Port Collar Tool Rental	1	hr			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

DATE SIGNED \_\_\_\_\_ TIME SIGNED \_\_\_\_\_  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	5269.00
OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?					
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 McGill APPROVAL \_\_\_\_\_

Thank You!



JOB LOG

SWIFT Services, Inc.

DATE 27 Jan 14 PAGE NO. 1

CUSTOMER MHT Operations WELL NO. 1 LEASE B&R Deahunt JOB TYPE cement part collar TICKET NO. 26020

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
								175 sk SMD cement w/ 1/4" / 100 lbs
								2 3/4" x 5 1/2" part collar - 1461'
	1200							on loc TRK 114
	1255					1000	1000	test to 1000 psi - held
								open part collar
	1300	3 1/2	2			300		inj rate 3 1/2 @ 300 psi
	1305	3 1/2				250		mix SMD cement @ 11.2 ppg
		3 1/2	1			250		fluid to surface
		3 1/2	74			400		— cement to surface —
		3 1/2	7			400		Displace w/ 7 bbl H2O
								close part collar
	1340					1000	1000	test to 1000 psi - held
								Run 5 joints
	1355							Reverse hole clean
								- 2 cement plugs -
	1400							Wash truck
								Pick up
	1440							job complete
								Thanks
								Phil, Dave, & crew