

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
Frieb-Manzier Unit #1
2090' FSL & 1310' FEL
Section 30-17s-15w
Barton County, Kansas

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Dry and Abandoned

Contractor: Southwind Drilling Co. (rig #3)

Commenced: June 18, 2014

Completed: June 25, 2014

Elevation: 2026' K.B., 2024' D.F., 2018' G.L.

Casing program: Surface; 8 5/8" @ 1064'
Production, None

Sample: Samples saved and examined 3000' to the Rotary Total Depth.

Drilling time: One (1) foot drilling time recorded and kept 3000 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 Microresistivity log and Sonic

<u>Formation</u>	<u>Log Depth</u>	<u>Sub-Sea Datum</u>
Anhydrite	1069	+957
Base Anhydrite	1101	+925
Topeka	3026	-1000
Heebner	3258	-1232
Toronto	3271	-1245
Lansing	3319	-1293
Base Kansas City	3533	-1507
Conglomerate	3551	-1525
Arbuckle	3584	-1558
Rotary Total Depth	3664	-1638
Log Total Depth	3666	-1640

All tops and zones corrected to Electric Log Measurement.

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

TOPEKA SECTION

3201-3220' Limestone, gray, white, fossiliferous, few sub-oomoldic, chalky, poor visible porosity, questionable stain, no free oil and no odor.

TORONTO SECTION

3271-3290' Limestone, white/cream, finely crystalline, chalky, poor visible porosity, no shows.

LANSING SECTION

3319-3330' Limestone, gray white, fossiliferous, chalky, few cherty (dense).

3340-3346 Limestone, tan, oolitic, oomoldic, fair oomoldic porosity, plus tan, oolitic, chert, no shows.

3356-3360' Limestone, gray, oolitic, oomoldic, scattered oomoldic porosity (barren).

3387-3400' Limestone, cream, white; highly oolitic, good stain, and saturation, show of free oil and faint odor in fresh samples.

3400-3405' Limestone, white, oolitic, chalky, poor visible porosity, trace stain, no free oil and no odor.

Drill Stem Test #1

3365-3410

Times: 30-30-30-30

**Blow: Initial: weak built to 1 ¼ in
2nd: no blow**

Recovery: 20' mud with oil spots

**Pressures: ISIP 883 psi
FSIP 726 psi
IFP 17-23 psi
FFP 23-27 psi
HSH 1648-1612 psi**

3410-3420' Limestone, white, cream, oomoldic, chalky, poor porosity, no shows.

3460-3466' Limestone, gray, oolitic, few sub-oomoldic, chalky, trace gray chert, no shows.

3472-3489' Limestone, tan, cream, fossiliferous, poor visible porosity, black and brown stain, no free oil and faint odor in fresh samples.

3490-3500' Limestone, white, oolitic, chalky, poor visible porosity, no shows.

3510-3520' Limestone, gray, fossiliferous, cherty in part, gray and black stain, no free oil and no odor in fresh samples.

CONGLOMERATE SECTION

- 3551-3584' Varied colored opaque chert; few oolitic in matrix of brick red/red, green shale, trace maroon tinted limestone, and very fine grained sand, no shows.
- 3584-3592' Dolomite, cream, white, medium crystalline, scattered inter-crystalline porosity, brown and black stain, show of free oil and faint odor in fresh samples.

Drill Stem Test #2

3524-3592

Times: 45-30-45-45

Blow: Fair

**Recovery: 60' gas in pipe
60' muddy oil
(50% oil; 48% mud; 2% water)**

**Pressures: ISIP 283 psi
FSIP 494 psi
IFP 19-27 psi
FFP 30-36 psi
HSH 1754-1713 psi**

- 3592-3599' Dolomite, cream, white, medium and coarse crystalline, good inter-crystalline and vuggy type porosity, good stain and saturation, good show of free oil and good odor in fresh samples.

Drill Stem Test #3

3525-3599

Times: 30-30-30-45

Blow: Strong

**Recovery: 145' mud with oil spots
300' very slightly oil cut muddy water
(2%oil; 38% water; 60% mud)
360' muddy water**

**Pressures: ISIP 970 psi
FSIP 974 psi
IFP 20-275 psi
FFP 300-436 psi
HSH 1746-1710 psi**

Mai Oil Operations
Frieb-Manzier Unit #1
2090' FSL & 1310' FEL
Section 30-17s-15w
Barton County, Kansas

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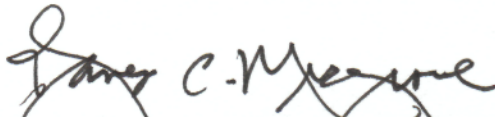
3600-3620'	Dolomite, white, cream, medium crystalline, scattered to good inter-crystalline porosity, black and brown stain, show of free oil and faint odor in fresh samples.
3620-3640'	Dolomite, as above, few sandy, no shows.
3640-3664'	Dolomite, white/cream, fine and medium crystalline, increasingly sandy; plus brick red and gray shales.

Rotary Total Depth	3664
Log Total Depth	3666

Recommendations:

The Frieb-Manzier Unit #1, was plugged and abandoned at the Rotary Depth 3664.

Respectfully submitted;


James C. Musgrove
Petroleum Geologist



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Mai Oil Operations
8411 Preston Rd. Ste. 800
Dallas, TX 75225
ATTN: Jim Musgrove

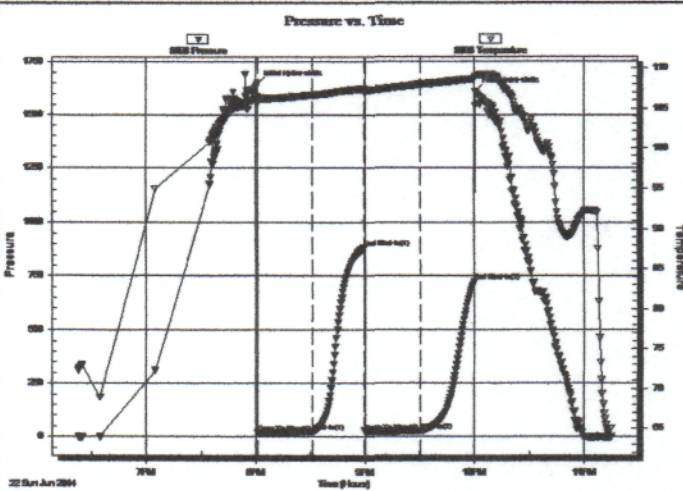
Frieb-Manzier Unit #1
30-17s-15w Barton,KS
Job Ticket: 58902 DST#: 1
Test Start: 2014.06.22 @ 18:22:41

GENERAL INFORMATION:

Formation: **LKC E-F**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 20:01:11
 Time Test Ended: 23:14:41
 Interval: **3365.00 ft (KB) To 3410.00 ft (KB) (TVD)**
 Total Depth: 3410.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Tate Lang
 Unit No: 49
 Reference Elevations: 2018.00 ft (KB)
 2010.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8898 **Outside**
 Press@RunDepth: 27.34 psig @ 3374.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.06.22 End Date: 2014.06.22 Last Calib.: 2014.06.22
 Start Time: 18:22:42 End Time: 23:14:41 Time On Btrn: 2014.06.22 @ 20:01:01
 Time Off Btrn: 2014.06.22 @ 22:00:31

TEST COMMENT: Weak surface blow built to 1 1/4"
 Dead no blow back
 Surged when opened tool then died
 Dead no blow back



PRESSURE SUMMARY

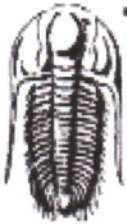
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1648.24	106.46	Initial Hydro-static
1	17.03	105.66	Open To Flow (1)
30	22.64	106.64	Shut-In(1)
59	882.60	107.44	End Shut-In(1)
59	23.47	107.19	Open To Flow (2)
90	27.34	108.00	Shut-In(2)
119	725.51	108.69	End Shut-In(2)
120	1611.53	108.96	Final Hydro-static

Recovery

Length (ft)	Description	Volume (tbt)
20.00	100% M w it oil spots	0.28

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Mai Oil Operations
 8411 Preston Rd. Ste. 800
 Dallas, TX 75225
 ATTN: Jim Musgrove

Frieb-Manzier Unit #1
30-17s-15w Barton,KS
 Job Ticket: 58903 **DST#: 2**
 Test Start: 2014.06.23 @ 15:28:20

GENERAL INFORMATION:

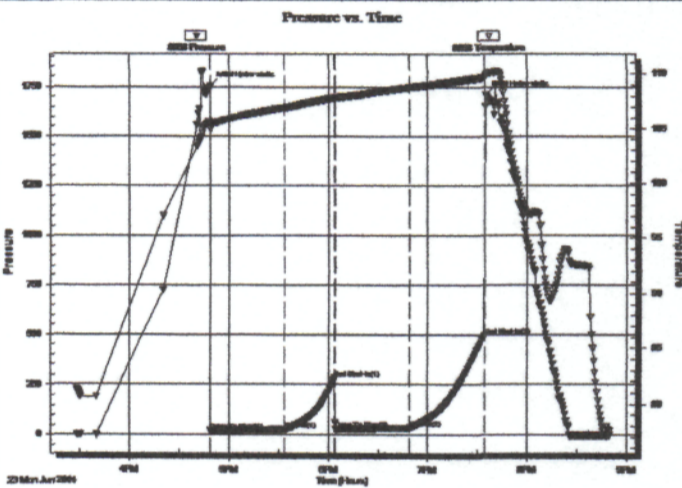
Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 16:49:00
 Time Test Ended: 20:49:29
 Interval: **3524.00 ft (KB) To 3592.00 ft (KB) (TVD)**
 Total Depth: 3592.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Tate Lang
 Unit No: 49
 Reference Elevations: 2018.00 ft (KB)
 2010.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8898

Outside

Press@RunDepth: 36.01 psig @ 3533.00 ft (KB)
 Start Date: 2014.06.23 End Date: 2014.06.23
 Start Time: 15:28:21 End Time: 20:49:30
 Capacity: 8000.00 psig
 Last Calib.: 2014.06.23
 Time On Btm: 2014.06.23 @ 16:48:50
 Time Off Btm: 2014.06.23 @ 19:34:50

TEST COMMENT: Fair blow built to 5"
 Dead no blow back
 Good blow built to 7"
 Dead no blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1754.08	105.66	Initial Hydro-static
1	19.14	104.94	Open To Flow (1)
45	27.46	106.95	Shut-In(1)
75	283.06	107.83	End Shut-In(1)
76	29.76	107.77	Open To Flow (2)
120	36.01	108.79	Shut-In(2)
166	493.67	109.68	End Shut-In(2)
166	1712.66	109.88	Final Hydro-static

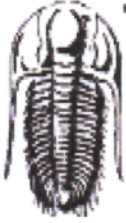
Recovery

Length (ft)	Description	Volume (bbl)
60.00	MCSGO 2%G 48%M 50%O	0.84
0.00	60 GIP	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
 8411 Preston Rd. Ste. 800
 Dallas, TX 75225
 ATTN: Jim Musgrove

Frieb-Manzier Unit #1
30-17s-15w Barton, KS
 Job Ticket: 58904 DST#: 3
 Test Start: 2014.06.24 @ 01:33:19

GENERAL INFORMATION:

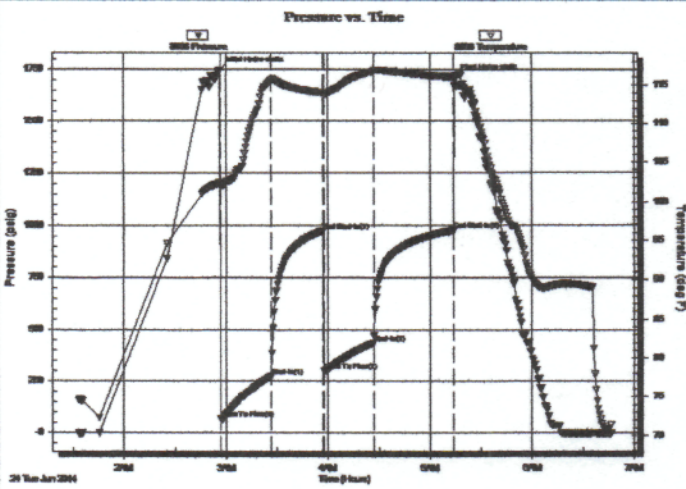
Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 02:56:59
 Time Test Ended: 06:46:39
 Interval: **3525.00 ft (KB) To 3599.00 ft (KB) (TVD)**
 Total Depth: 3599.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Tate Lang
 Unit No: 49
 Reference Elevations: 2018.00 ft (KB)
 2010.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8898

Outside

Press@RunDepth: 436.37 psig @ 3531.00 ft (KB)
 Start Date: 2014.06.24 End Date: 2014.06.24
 Start Time: 01:33:20 End Time: 06:46:39
 Capacity: 8000.00 psig
 Last Calib.: 2014.06.24
 Time On Btm: 2014.06.24 @ 02:56:19
 Time Off Btm: 2014.06.24 @ 05:14:39

TEST COMMENT: B.O.B. in 2 mins
 Dead no blow back
 B.O.B. in 5 mins
 Dead no blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1746.31	102.47	Initial Hydro-static
1	69.93	102.18	Open To Flow (1)
31	274.56	115.58	Shut-In(1)
61	969.65	114.00	End Shut-In(1)
62	300.23	113.84	Open To Flow (2)
91	436.37	116.74	Shut-In(2)
138	974.07	115.95	End Shut-In(2)
139	1710.22	115.98	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
145.00	100%M with oil spots	2.03
300.00	VSOCWM 2%O 38%O 60%M	4.21
360.00	MCW 95%W 5%M	5.05

* 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. 501

Date	Sec.	Twp.	Range	County	State	On Location	Finish
6-19-14	30	17	15	Barton	KS		9:15 AM

Location *Olmitz + Hwy 4 4w 1/2 N Waco*

Lease <i>Frieb Manzier</i>	Well No. <i>#1</i>	Owner
Contractor <i>Southwind #3</i>		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 <i>Surface</i>		
Hole Size <i>12 1/4</i>	T.D. <i>1065'</i>	Charge To <i>Ma. Oil</i>
Csg. <i>8 5/8</i>	Depth <i>1065'</i>	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. <i>30'</i>	Shoe Joint	Cement Amount Ordered <i>350 60/40 3% cc 2% gal</i>

Meas Line Displace *66 bbl*

EQUIPMENT

Pumptrk <i>16</i> No.	Cementer Helper <i>Billy</i>	Common
Bulktrk <i>19</i> No.	Driver <i>Chad</i>	Poz. Mix
Bulktrk <i>PU</i> No.	Driver <i>Brett</i>	Gel.
		Calcium

JOB SERVICES & REMARKS

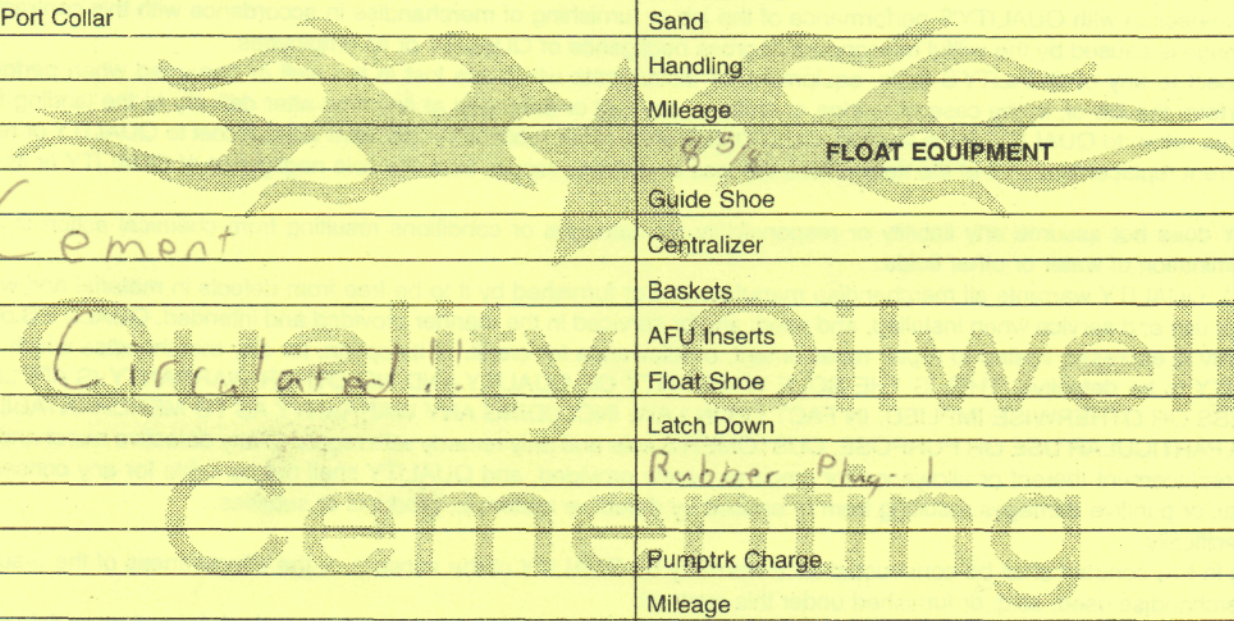
Remarks:	Hulls
Rat Hole	Salt
Mouse Hole	Flowseal
Centralizers	Kol-Seal
Baskets	Mud CLR 48
D/V or Port Collar	CFL-117 or CD110 CAF 38

Handling Sand Mileage

FLOAT EQUIPMENT

<i>Cement</i>	Guide Shoe
<i>Centralizer</i>	Centralizer
	Baskets
	AFU Inserts
	Float Shoe
	Latch Down
	<i>Rubber Plug - 1</i>
	Pumptrk Charge
	Mileage

X Signature <i>Bruce Homer</i>	Tax
	Discount
	Total Charge



ALLIED OIL & GAS SERVICES, LLC 055294

Federal Tax I.D.# 20-5975804

REMIT TO P.O. BOX 31
RUSSELL, KANSAS 67665

SERVICE POINT: Russell

DATE <u>6.25.14</u>	SEC.	TWP.	RANGE	CALLED OUT	ON LOCATION	JOB START	JOB FINISH
LEASE <u>Friedman</u>	WELL #		LOCATION <u>K-4 Jct 2 281</u>	COUNTY <u>Polk</u>		STATE <u>Ks</u>	
OLD OR NEW (Circle one)			<u>was to 130' x 1/2 n w into</u>				

CONTRACTOR <u>Southwell #3</u>	
TYPE OF JOB <u>PTI</u>	
HOLE SIZE <u>7 7/8</u>	T.D.
CASING SIZE	DEPTH
TUBING SIZE	DEPTH
DRILL PIPE <u>4 1/2</u>	DEPTH <u>3564</u>
TOOL	DEPTH
PRES. MAX	MINIMUM
MEAS. LINE	SHOE JOINT
CEMENT LEFT IN CSG.	
PERFS.	
DISPLACEMENT	

OWNER	
CEMENT	
AMOUNT ORDERED	<u>220 sk</u>
<u>60' 40' + 4' 30'</u>	
COMMON	<u>132 sk @ 179 = 23,628.00</u>
POZMIX	<u>88 sk @ 735 = 64,680.00</u>
GEL	<u>900 lb @ 105 = 94,500.00</u>
CHLORIDE	@
ASC	@
HANDLING <u>220 Ft @ 2.49 = 547.80</u>	
MILEAGE <u>2.75 @ 200 = 550.00</u>	

EQUIPMENT

PUMP TRUCK # <u>417</u>	CEMENTER <u>Tony Plannest</u>
	HELPER <u>Danny S</u>
BULK TRUCK # <u>781</u>	DRIVER <u>John P</u>
BULK TRUCK #	DRIVER

REMARKS:

See comments on log

SERVICE

DEPTH OF JOB	<u>3564'</u>
PUMP TRUCK CHARGE	<u>72,600.00</u>
EXTRA FOOTAGE	@
MILEAGE <u>Heavy 70</u>	<u>@ 77 = 5,390.00</u>
MANIFOLD <u>4.1 @ 35</u>	<u>@ 4.1 = 154.00</u>
	@
	@

CHARGE TO: Main Oil Operation

STREET _____

CITY _____ STATE _____ ZIP _____

TOTAL _____

PLUG & FLOAT EQUIPMENT

<u>1x 8" walk plug</u>	@	<u>\$110.00</u>
	@	
	@	
	@	
	@	

TOTAL \$110.00

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.

SALES TAX (If Any) _____

TOTAL CHARGES \$ _____

PRINTED NAME Jay Hrick

DISCOUNT _____ IF PAID IN 30 DAYS

SIGNATURE Jay Hrick