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Mai Oil Operations
GD Maier #10
NW-NW-SE-NE (1610' FNL & 1300' FEL)
Section 15-15s-14w
Russell County, Kansas

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5 1/2" Production Casing Set

Contractor: Southwind Drilling Co. (rig #3)
Commenced: November 28, 2014
Completed: December 4, 2014
Elevation: 1803' K.B., 1801' D.F., 1795' G.L.
Casing program: Surface; 8 5/8" @ 516'
Production, 5 1/2" @ 3309'
Sample: Samples saved and examined 2300' to the Rotary Total Depth.
Drilling time: One (1) foot drilling time recorded and kept 2300' 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	808	+995
Base Anhydrite	836	+967
Grand Haven	2364	-561
1 st Tarkio Sand	2372	-569
Dover	2388	-585
2 nd Tarkio Sand	2392	-589
Tarkio Lime	2434	-631
Elmont	2497	-694
Howard	2634	-832
Topeka	2706	-907
Heebner	2934	-1131
Toronto	2950	-1147
Douglas	2968	-1165
Lansing	2996	-1193
"Mai"/Base Kansas City	3198	-1395
Base Kansas City	3226	-1423
Arbuckle	3246	-1443
Rotary Total Depth	3310	-1507
Log Total Depth	3312	-1509

All tops and zones corrected to Electric Log Measurement

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

1st TARKIO SAND

2372-2384' Sand, gray, very fine grained, well-rounded friable; light brown/black stain, show of free oil and faint odor in fresh samples.

2nd TARKIO SAND

2398-2406' Sand, gray, fine grained; sub-rounded, well sorted, friable; fair brown stain, show of free oil and faint odor in fresh samples.

Drill Stem Test #1 **2366-2438**

Times: 30-45-45-60

Blow: Fair

Recovery: 120' gas in pipe
60' very slightly oil cut mud
(10% gas; 2% oil; 89% mud)
60' watery mud

Pressures: ISIP 715 psi
FSIP 704 psi
IFP 48-65 psi
FFP 68-88 psi
HSH 1204-1142 psi

TOPEKA SECTION

2887-2910' Limestone, cream, tan, fine and medium crystalline, few fossiliferous, poor visible porosity, light brown stain, no free oil and no odor.

2950-2960' Limestone, tan, cream, finely crystalline, poor visible porosity, chalky, no shows.

LANSING SECTION

2996-3008' Limestone, cream, white, finely crystalline, chalky, poor scattered porosity, light brown stain, light show of free oil and faint odor.

3020-3030' Limestone, tan, cream, finely crystalline, slightly cherty poor visible porosity, trace stain, trace of free oil and no odor in fresh samples.

3038-3046' Limestone, cream, finely crystalline, fossiliferous, no shows.

3070-3082' Limestone, tan, cream, oolitic, poorly developed porosity, trace black stain, trace of free oil and faint odor.

3093-3100' Limestone, cream, finely crystalline, few oolitic, poorly developed porosity, no shows.

- 3122-3128' Limestone, tan, finely crystalline, oolitic, sub-oomoldic, poor scattered porosity, light brown stain, show of free oil and faint odor in fresh samples.
- 3140-3150' Limestone, cream, white, finely crystalline, poor porosity, no shows.
- 3160-3170' Limestone, white, tan, finely crystalline, cherty, poor visible porosity, no shows.
- 3175-3190' Limestone, tan, finely crystalline, oolitic, oomoldic, fair porosity, light brown stain, show of free oil and no odor.
- 3210-3220' Limestone, tan, finely crystalline, oolitic, poor porosity, spotty stain, trace of free oil and no odor.

ARBUCKLE SECTION

- 3246-3250' Dolomite, white, gray, tan, finely crystalline, sucrosic, fair porosity, fair inter-crystalline porosity, golden brown stain, show of free oil and strong odor in fresh samples.

**Drill Stem Test #2 3173-3248
3178-3250)**

Log Measurements

Times: 30-30-45-45

Blow: Strong

**Recovery: 130' gas in pipe
 950' muddy gassy oil
 (10% gas; 85% oil; 5% mud)**

**Pressures: ISIP 1043 psi
 FSIP 1065 psi
 IFP 92-215 psi
 FFP 237-388 psi
 HSH 1686-1503 psi**

- 3250-3256' Dolomite; as above, show of free oil and good odor in fresh samples.

Drill Stem Test #3 3248-3254

Times: 30-30-30-30

Blow: Strong

**Recovery: 480' clean
 1620' water**

**Pressures: ISIP 1090 psi
 FSIP 1097 psi
 IFP 63-722 psi
 FFP 752-979 psi
 HSH 1681-1626 psi**

Mai Oil Operations
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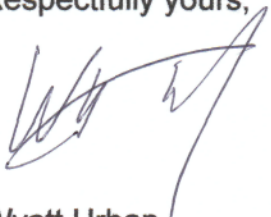
3256-3280'	Dolomite, white, gray, coarse crystalline, good inter-crystalline porosity, black/golden brown stain, trace of free oil and strong odor in fresh samples.
3280-3300'	Dolomite, white, gray, finely crystalline, scattered porosity, no shows of oil and faint odor in fresh samples.
3300-3312'	Dolomite, white, gray, finely crystalline, poor visible porosity, trace pyrite, no shows.

Rotary Total Depth	3310
Log Total Depth	3312

Recommendations:

The 5 ½" production casing was set and cemented on Mai Oil Operation Inc., G.D.Maier #10.

Respectfully yours,



Wyatt Urban
Petroleum Geologist



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Mai Oil Operations

15-15s-14w Russell,KS

8411 Preston Rd Ste 800 Dallas TX 75225-5520

GD Maier #10

Job Ticket: 61888

DST#: 1

ATTN: Wyatt Urban

Test Start: 2014.12.01 @ 00:00:00

GENERAL INFORMATION:

Formation: **Tarkio**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:36:00

Time Test Ended: 06:05:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Jared Scheck

Unit No: S5

Interval: **2366.00 ft (KB) To 2438.00 ft (KB) (TVD)**

Reference Elevations: 1815.00 ft (KB)

Total Depth: 2438.00 ft (KB) (TVD)

1807.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 6666

Inside

Press@RunDepth: 88.64 psig @ 2400.00 ft (KB)

Capacity: 5000.00 psig

Start Date: 2014.12.01

End Date:

2014.12.01

Last Calib.: 2014.12.01

Start Time: 00:01:00

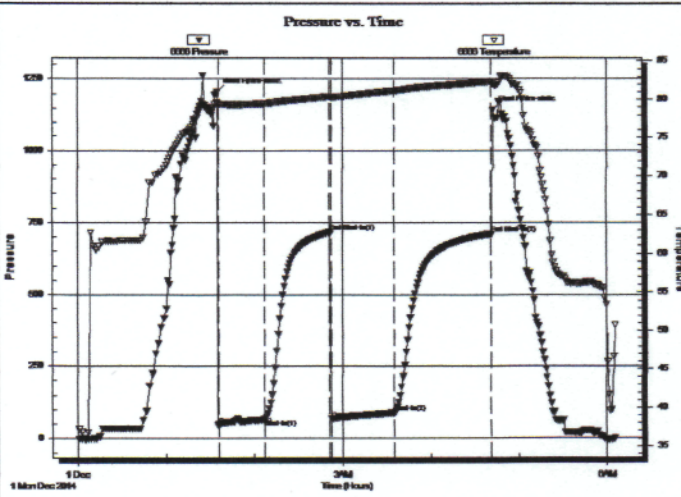
End Time:

06:05:30

Time On Btmr: 2014.12.01 @ 01:35:00

Time Off Btmr: 2014.12.01 @ 04:42:30

TEST COMMENT: FFP-30-Minutes-BOBin 20 minutes
 FSP-45-Minutes-No blow back
 FFP-45 Minutes BOB in 20 minutes
 FSP-60-Minutes-Very weak blow back



PRESSURE SUMMARY

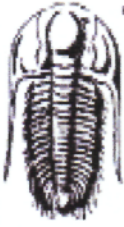
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1204.32	79.60	Initial Hydro-static
1	48.68	79.43	Open To Flow (1)
33	65.70	79.51	Shut-In(1)
76	715.23	80.39	End Shut-In(1)
78	68.36	80.30	Open To Flow (2)
121	88.64	81.15	Shut-In(2)
186	709.89	82.35	End Shut-In(2)
188	1142.74	82.00	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	w m 15%w ater85%mud	0.84
60.00	OGM 2%oil10%gas89%mud	0.84
0.00	120 gas in pipe	0.00

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Mai Oil Operations

15-15s-14w Russell, KS

8411 Preston Rd Ste 800 Dallas TX 75225-5520

GD Maier #10

ATTN: Wyatt Urban

Job Ticket: 61889

DST#: 2

Test Start: 2014.12.02 @ 23:10:00

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:22:43

Time Test Ended: 05:39:29

Test Type: Bottom Hole (Initial)

Tester: Jared Scheck

Unit No: S5

Interval: **3176.00 ft (KB) To 3248.00 ft (KB) (TVD)**

Reference Elevations: 1815.00 ft (KB)

Total Depth: 3248.00 ft (KB) (TVD)

1807.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 6999

Inside

Press@RunDepth: 1065.18 psig @ 3244.00 ft (KB)

Capacity: 5000.00 psig

Start Date: 2014.12.02

End Date:

2014.12.03

Last Calib.: 2014.12.03

Start Time: 23:11:00

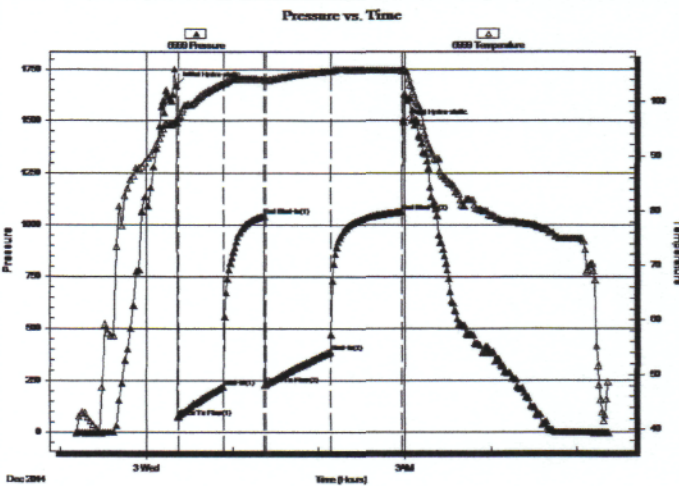
End Time:

05:21:30

Time On Btm: 2014.12.03 @ 00:21:00

Time Off Btm: 2014.12.03 @ 02:59:00

TEST COMMENT: IFP-30-BOB in 2 3/4 minutes
 ISIP-30 Minutes-Very weak blow back built to 1/2"
 FFP-45 Minutes-BOB in 4 minutes
 FSIP-45 Minutes-Very weak surface blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1674.01	96.29	Initial Hydro-static
1	75.42	96.80	Open To Flow (1)
33	220.99	103.18	Shut-In(1)
61	1044.42	103.97	End Shut-In(1)
62	230.78	103.75	Open To Flow (2)
107	387.49	105.52	Shut-In(2)
157	1065.18	105.58	End Shut-In(2)
158	1492.86	105.85	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
950.00	GMCO Gas 10% 85%oil %5mud	13.33
0.00	130' GP	0.00

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. 896

Date	12-4-14	Sec.	15	Twp.	15	Range	14	County	Russell	State	KS	On Location	12:30 PM
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Location Russell, KS - S to Mitchell Rd, 1/4 W S/Int

Lease	G.D. Maier	Well No.	10	Owner	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	Southwind	#	3	Charge To	Maier oil operations
Type Job	Production	Hole Size	7 7/8"	T.D.	3310'
Csg.	5 1/2" New 14#	Depth	3311'	Street	
Tbg. Size		Depth		City	
Tool		Depth		State	
Cement Left in Csg.	22.50'	Shoe Joint	22.50'	The above was done to satisfaction and supervision of owner agent or contractor.	
Meas Line		Displace	80 BLS	Cement Amount Ordered	100 60/40 18% Salt 2% Gel 1/4 # Flo seal

EQUIPMENT			
Pumptrk	16	No.	Cementer
			Helper
Bulktrk	1	No.	Driver
			Driver
Bulktrk	3	No.	Driver
			Driver

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
Circulation pump	Sand
48 plug	Handling
5 1/2" casing	Mileage

FLOAT EQUIPMENT	
Shut down wash pump + lines Released plug	Guide Shoe
* Displaced w/ 80 BLS of H2O.	Centralizer
Released + held	Baskets
Lift pressure 700 #	AFU Inserts
	Float Shoe
	Latch Down

Land plug to 1500 #	Pumptrk Charge
	Mileage
	Tax
	Discount
	Total Charge

X 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. 731

Date	11-28-14	Sec.	15	Twp.	15	Range	14	County	Russell	State	KS	On Location		Finish	12:00
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Location: Russell S to Mitchell Rd 1/4 W S. 16

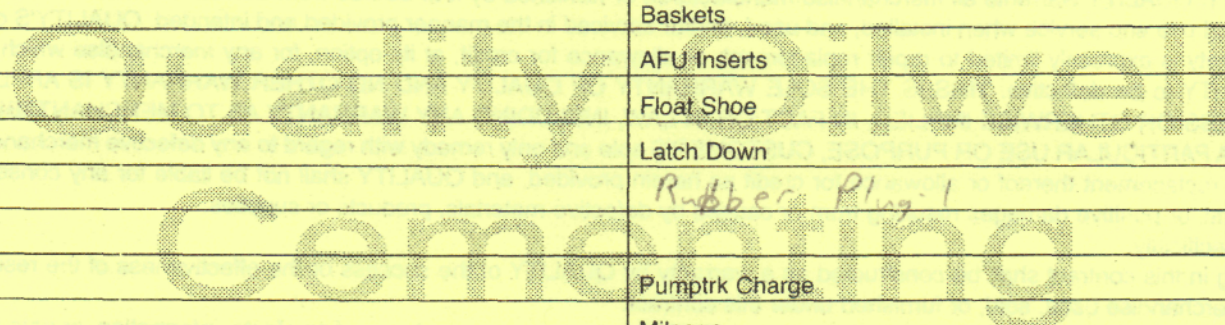
Lease	G.D. Maier	Well No.		Owner	To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.
Contractor	Southwind #3				
Type Job	Surface				
Hole Size	12 1/4	T.D.	516"	Charge To	Ma Oil
Csg.	8 5/8	Depth	516	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.	20'	Shoe Joint		Cement Amount Ordered	250 60/40 3%acc 2 1/2 gal
Meas Line		Displace	31 1/2 bbl		

EQUIPMENT

Pumptrk	5	No.	Cementer	David	Common
			Helper		Poz. Mix
Bulktrk	3	No.	Driver	Lonnie	Gel.
			Driver		Calcium
Bulktrk	Pu	No.	Driver	Brian	
			Driver		

JOB SERVICES & REMARKS

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
	4 5/8
	FLOAT EQUIPMENT
	Guide Shoe
	Centralizer
	Baskets
	AFU Inserts
	Float Shoe
	Latch Down
	Rubber Plug 1
	Pumptrk Charge
	Mileage



X Signature *Jay Brown*

Tax	
Discount	
Total Charge	