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Mai Oil Operations
Cress-Beach #2
N/2-S/2-NE-SW (1800' FSL & 1980' FWL)
Section 13-11s-17w
Ellis County, Kansas

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5 1/2" Production Casing Set

Contractor: Southwind Drilling Co. (rig #3)
Commenced: May 19, 2015
Completed: May 25, 2015
Elevation: 1854' K.B., 1852' D.F., 1846' G.L.
Casing program: Surface; 8 5/8" @ 1046'
Production, 5 1/2" @ 3447'
Sample: Samples saved and examined 2700' to the Rotary Total Depth.
Drilling time: One (1) foot drilling time recorded and kept 2700' 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 and Micro and Sonic Log.

<u>Formation</u>	<u>Log Depth</u>	<u>Sub-Sea Datum</u>
Anhydrite	1045	+809
Base Anhydrite	1080	+774
Topeka	2772	-918
Heebner	3003	-1149
Toronto	3023	-1169
Lansing	3048	-1194
Base Kansas City	3284	-1430
Marmaton	3309	-1455
Conglomerate	3319	-1465
Simpson Shale	3342	-1488
Arbuckle	3356	-1502
Rotary Total Depth	3450	-1596
Log Total Depth	3448	-1594

All tops and zones corrected to Electric Log Measurement

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

TOPEKA SECTION

- 2772-2784' Limestone, light gray/cream, finely crystalline, fossiliferous, poor visible porosity, slightly chalky in part, no shows.
- 2800-2810' Limestone, cream, finely crystalline, fossiliferous, poor inter-crystalline type porosity, chalky, no shows.
- 2826-2846' Limestone, cream, white, finely crystalline, questionable black discoloration (stain??) no free oil and no odor.
- 2943-2950' Limestone, white, light gray, fossiliferous, poor porosity, chalky, no shows.
- 2950-2964' Limestone, white, finely crystalline, fossiliferous, dark brown stain, no show of free oil and no odor in fresh samples.

TORONTO SECTION

- 3024-3032' Limestone, white, cream, finely crystalline, few fossiliferous, poor inter-crystalline porosity, trace brown stain, no show of free oil and no odor.

LANSING SECTION

- 3048-3051' Limestone, white, gray, oolitic/fossiliferous, poor visible porosity, no shows.
- 3058-3067' Limestone, white, cream, finely crystalline, oolitic, poor visible porosity, chalky in part, no shows.
- 3076-3090' Limestone, as above.
- 3096-3110' Limestone, cream, white, finely crystalline, oolitic, poor developed porosity, chalky, no shows.
- 3122-3128' Limestone, tan, cream, oolitic, finely crystalline, few fossiliferous, poorly developed porosity, black heavy stain, trace of free oil and fair odor in fresh samples.
- 3130-3142' Limestone, cream, white, finely crystalline, oolitic/fossiliferous, oomoldic, scattered oomoldic porosity, chalky in part, no shows.
- 3180-3196' Limestone, white, cream, tan, finely crystalline, poor pinpoint to inter-crystalline porosity, chalky, plus tan/gray chert.
- 3204-3210' Limestone, light gray, cream, finely crystalline, poor scattered porosity, chalky, trace stain, no free oil and no odor.
- 3223-3234' Limestone, white, gray, cream, finely crystalline, poor visible porosity, chalky in part, plus tan/gray chert; no shows.

3250-3260' Limestone, white, cream, finely crystalline, poor pinpoint porosity, spotty brown stain, no free oil and no odor, chalky in part.

MARMATON SECTION

3309-3316' Chert, white, cream, boney; no shows.

CONGLOMERATE SECTION

3319-3324' Sand, white, red tinted, fine grained, shaley, poorly developed, no shows.

SIMPSON SECTION

3346-3350' Sand; white very fine grained, few dolomitic, no shows.

ARBUCKLE SECTION

3356-3363' Dolomite, cream, tan, fine and medium crystalline, poor to fair inter-crystalline porosity, few with scattered vuggy type porosity, golden brown to dark brown stain, show of free oil and fair odor in fresh samples.

Drill Stem Test #1 **3287-3363**

Times: 30-45-45-60

Blow: Strong

Recovery: 693' slightly water cut gassy oil
(20% gas; 60% oil; 5% water; 15% mud)
189' slightly oil and gas cut mud
(10% gas; 10% oil; 80% mud)
171' muddy gassy oil
(15% gas; 80% oil; 5% mud)

Pressures: ISIP 835 psi
FSIP 834 psi
IFP 37-257 psi
FFP 269-495 psi
HSH 1682-1604 psi

3363-3368' Dolomite, tan, fine and medium crystalline, fair vuggy type porosity, golden brown stain, show of free oil and faint/fair odor in fresh samples.

Drill Stem Test #2

3360-3368

Times: 30-45-30-60

Blow: Strong

**Recovery: 786' clean gassy oil
630' muddy water
(90% water; 10% mud)**

**Pressures: ISIP 862 psi
FSIP 864 psi
IFP 76-428 psi
FFP 495-640 psi
HSH 1780-1665 psi**

3368-3380' Dolomite, cream, tan, fine and medium crystalline poor to fair vuggy porosity, dark brown stain; trace of free oil and faint odor in fresh samples.

3380-3400' Dolomite, tan, fine and medium crystalline, fair to good inter-crystalline and vuggy type porosity, dark brown stain, trace of free oil and faint odor in fresh samples.

3400-3420' Dolomite, tan, cream, white, fine and medium crystalline, scattered porosity, plus white/cream, boney chert.

3420-3440' Dolomite, light gray, tan, fine and medium crystalline, poorly developed inter-crystalline porosity, cherty in part, trace spotty stain no show of free oil and faint odor in fresh samples.

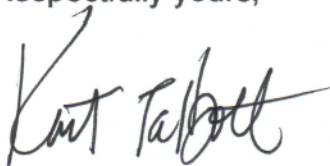
3440-3448' Dolomite, light gray/cream, fine and medium crystalline, scattered porosity, chalky luster, scattered stain, no free oil and no odor in fresh samples. Plus white/cream boney chert.

**Rotary Total Depth 3450
Log Total Depth 3448**

Recommendations:

The 5 1/2" production casing was set and cemented on Mai Oil Operation Inc., Cress-Beach #2.

Respectfully yours,



Kurt Talbott
Petroleum Geologist



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Mai Oil Operations, Inc.
 8411 Preston Rd STE 800
 Dallas, TX 75225
 ATTN: Kurt Talbott

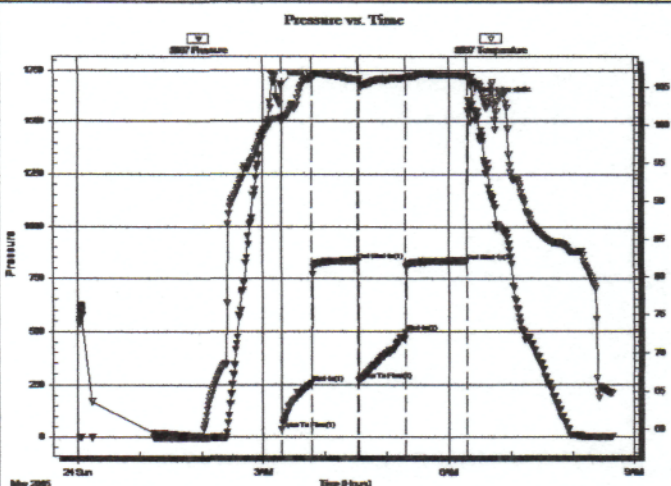
13-11s-17w Ellis,KS
Cress-Beach #2
 Job Ticket: 62471 **DST#: 1**
 Test Start: 2015.05.24 @ 00:02:00

GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 03:17:40
 Time Test Ended: 08:38:10
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Phillip Gage
 Unit No: 77
 Interval: **3287.00 ft (KB) To 3363.00 ft (KB) (TVD)**
 Total Depth: 3363.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Reference Elevations: 1852.00 ft (KB)
 1844.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8897 **Inside**
 Press@RunDepth: 495.82 psig @ 3288.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.05.24 End Date: 2015.05.24 Last Calib.: 2015.05.24
 Start Time: 00:02:01 End Time: 08:38:10 Time On Btm: 2015.05.24 @ 03:17:30
 Time Off Btm: 2015.05.24 @ 06:18:20

TEST COMMENT: 30-IF-BOB in 5 mins.
 45-ISI-1" Return in 13 mins, died in 29 mins.
 45-FF-BOB in 6 mins.
 60-FSI-1 3/4" Return, died in 20 mins.



PRESSURE SUMMARY

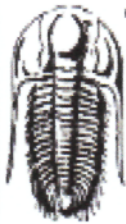
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1682.83	100.89	Initial Hydro-static
1	37.65	100.34	Open To Flow (1)
30	257.39	106.22	Shut-in(1)
75	835.14	106.07	End Shut-in(1)
75	269.77	105.84	Open To Flow (2)
121	495.82	106.29	Shut-in(2)
180	834.54	106.56	End Shut-in(2)
181	1604.49	106.14	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
693.00	VSWMGCO, 5%w, 15%m, 20%g, 60%o	9.72
189.00	SOGCM, 10%o, 10%g, 80%m	2.65
171.00	VSMGCO, 5%m, 15%g, 80%o	2.40

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: Kurt Talbott

13-11s-17w Ellis,KS
Cress-Beach #2
 Job Ticket: 62472 **DST#: 2**
 Test Start: 2015.05.24 @ 12:17:00

GENERAL INFORMATION:

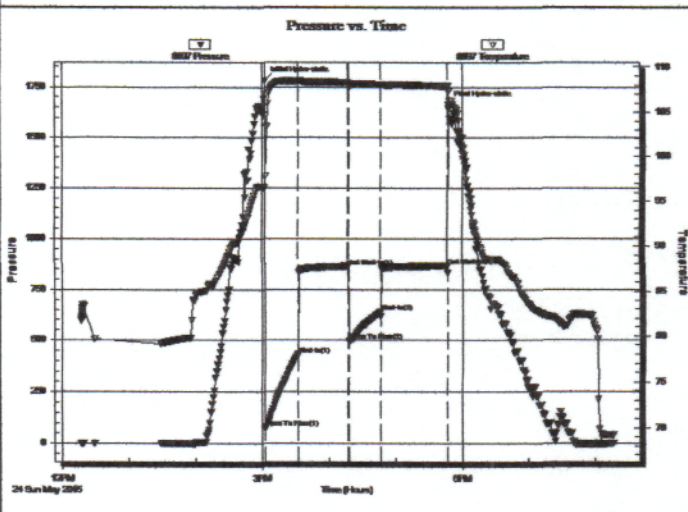
Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 15:03:00
 Time Test Ended: 20:16:30
 Interval: **3360.00 ft (KB) To 3368.00 ft (KB) (TVD)**
 Total Depth: 3368.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Phillip Gage
 Unit No: 77
 Reference Elevations: 1852.00 ft (KB)
 1844.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8897

Inside

Press@RunDepth: 640.27 psig @ 3361.00 ft (KB)
 Start Date: 2015.05.24 End Date: 2015.05.24
 Start Time: 12:17:01 End Time: 20:16:30
 Capacity: 8000.00 psig
 Last Calib.: 2015.05.24
 Time On Btm: 2015.05.24 @ 15:02:40
 Time Off Btm: 2015.05.24 @ 17:47:39

TEST COMMENT: 30-IF-BOB in 2 mins.
 45-ISI-6" Return
 30-FF-BOB in 3 mins.
 60-FSI-2 1/2" Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1780.68	96.51	Initial Hydro-static
1	76.71	97.83	Open To Flow (1)
30	428.80	108.37	Shut-In(1)
75	862.65	108.21	End Shut-In(1)
76	495.51	108.03	Open To Flow (2)
105	640.27	108.05	Shut-In(2)
165	864.60	107.89	End Shut-In(2)
165	1665.76	107.93	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
630.00	SMCW, 10%m, 90%w, with oil spots	8.84
504.00	GCO, 25%g, 75%o	7.07
282.00	SGCO, 10%g, 90%o	3.96

* 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. 942

Date	5-20-15	Sec.	13	Twp.	11	Range	17	County	Ellis	State	KS	On Location		Finish	12:00PM
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Location Catherine 2E N10 River view 1E N10

Lease	Cross-Beach	Well No.	#2	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	Ma. Oil
Type Job	Surface			Street	
Hole Size	12 1/4	T.D.	10' 16"	City	
Csg.	8 5/8	Depth	10' 6"	State	
Tbg. Size		Depth		The above was done to satisfaction and supervision of owner agent or contractor.	
Tool		Depth		Cement Amount Ordered	425 6 1/4 3 1/2 cc 2 1/2 gal
Cement Left in Csg.	20'	Shoe Joint			
Meas Line		Displace	65 1/4 bbl		

EQUIPMENT

Pumptrk	18	No.	Cementer		Common
			Helper	Cody	Poz. Mix
Bulktrk	4	No.	Driver	Lonnie	Gel.
Bulktrk	PU	No.	Driver	Brett	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
		Sand
		Handling
		Mileage

FLOAT EQUIPMENT

Cement		Guide Shoe
		Centralizer
		Baskets
		AFU Inserts
		Float Shoe
		Latch Down
		Rubber Plug
		Pumptrk Charge
		Mileage

X Signature *Jay [unclear]*

Tax	
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. 1272

Date	5-25-15	Sec.	13	Twp.	11	Range	17	County	ELLIS	State	KANSAS	On Location		Finish	6:15 PM
Location								Codell & ROR RD JCT. 1 S 1 E 3/4							

Lease	CRESS-BEACH	Well No.	2	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 DRILLING RIG #3 "gay"				
Type Job	PRODUCTION STRING				
Hole Size	7 7/8	T.D.	3450	Charge To	MAI OIL OPERATIONS INC
Csg.	5 2 USED 14"	Depth	3444'	Street	
Tbg. Size		Depth		City	State
Tool	LATCH DOWN PLUG	Depth ASSY @	3417'	The above was done to satisfaction and supervision of owner agent or contractor.	
Cement Left in Csg.	27.62	Shoe Joint	27.62	Cement Amount Ordered 160 SX 60 10% SALT 29 gel	
Meas Line	VEN LOC.	Displace	83.40 / BBL	V4#FD-SEAL	

EQUIPMENT

Pumptrk	5	No.	Cementer	GLENN G.	Common
			Helper		Poz. Mix
Bulktrk		No.	Driver	DAVID L.	Gel.
Bulktrk	9	No.	Driver	CHAD M.	Calcium

JOB SERVICES & REMARKS

Remarks:		Hulls	
Rat Hole	30 SX	Salt	
Mouse Hole		Flowseal	
Centralizers	1-10 TURBO	Kol-Seal	
Baskets		Mud CLR 48	1,200 Gel
D/V or Port Collar		CFL-117 or CD110 CAF 38	
		Sand	
		Handling	
		Mileage	
		FLOAT EQUIPMENT	
		Guide Shoe	
		Centralizer	X 10 TURBO
		Baskets	
		AFU Inserts	
		Float Shoe	X 1
		Latch Down	X 1
		Pumptrk Charge	
		Mileage	
		Tax	
		Discount	
		Total Charge	

(15#)?
Ran 82 used JOINTS OF 14" Csg.
Set @ 3444. Receive C.C.L.
Drop "AFU" Balls CIRCULATE A TOTAL
OF 45min. on bottom. Pump 1,000
GAL MUD-CLR. Plug Rat hole w/30
Pump 130 SX 60 10% SALT 29 gel 4 FD
Down Hole - STOP - CLEAR-LINE
Release Latch Down Plug. & Displace
@ TOTAL OF 822/BBL H₂O.
HAD 700 # LIFT PRESSURE
AND LATCH DOWN PLUG
@ 1500 #.
Release Pressure - AFU Plug (HOLD)
THANKS!

X Signature *[Handwritten Signature]*