



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1210545  
OIL & GAS CONSERVATION DIVISION

Form ACO-1

August 2013

Form must be Typed  
Form must be Signed  
All blanks must be Filled

WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

- New Well       Re-Entry       Workover
- Oil       WSW       SWD       SIOW
- Gas       D&A       ENHR       SIGW
- OG       GSW       Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic       Other (Core, Expl., etc.): \_\_\_\_\_

If Workover/Re-entry: Old Well Info as follows:

Operator: \_\_\_\_\_

Well Name: \_\_\_\_\_

Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

- Deepening       Re-perf.       Conv. to ENHR       Conv. to SWD
- Plug Back       Conv. to GSW       Conv. to Producer
- Commingled      Permit #: \_\_\_\_\_
- Dual Completion      Permit #: \_\_\_\_\_
- SWD      Permit #: \_\_\_\_\_
- ENHR      Permit #: \_\_\_\_\_
- GSW      Permit #: \_\_\_\_\_

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
-----------------------------------	-----------------	---

API No. 15 - \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE       NW       SE       SW

GPS Location: Lat: \_\_\_\_\_, Long: \_\_\_\_\_  
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum:  NAD27       NAD83       WGS84

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Vertical Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: \_\_\_\_\_ Feet

If Alternate II completion, cement circulated from: \_\_\_\_\_

feet depth to: \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite: \_\_\_\_\_

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

- Confidentiality Requested  
Date: \_\_\_\_\_
- Confidential Release Date: \_\_\_\_\_
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

1210545

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**INSTRUCTIONS:** Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <i>(Attach Additional Sheets)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Log	Formation (Top), Depth and Datum	<input type="checkbox"/> Sample
Samples Sent to Geological Survey	<input type="checkbox"/> Yes <input type="checkbox"/> No	Name	Top	Datum
Cores Taken	<input type="checkbox"/> Yes <input type="checkbox"/> No			
Electric Log Run	<input type="checkbox"/> Yes <input type="checkbox"/> No			
List All E. Logs Run:				

CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate				
<input type="checkbox"/> Protect Casing				
<input type="checkbox"/> Plug Back TD				
<input type="checkbox"/> Plug Off Zone				

Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Yes  No *(If No, fill out Page Three of the ACO-1)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD:      Size: \_\_\_\_\_ Set At: \_\_\_\_\_ Packer At: \_\_\_\_\_ Liner Run:  Yes  No

Date of First, Resumed Production, SWD or ENHR: \_\_\_\_\_ Producing Method:  
 Flowing     Pumping     Gas Lift     Other *(Explain)* \_\_\_\_\_

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

<b>DISPOSITION OF GAS:</b> <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	<b>METHOD OF COMPLETION:</b> <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
--	---	---

Form	ACO1 - Well Completion
Operator	Mai Oil Operations, Inc.
Well Name	L & E Birzer 1
Doc ID	1210545

Tops

Name	Top	Datum
Anhydrite	820	+1071
Heebner	3021	-1130
Toronto	3038	-1147
Douglas	3051	-1160
Brown Lime	3101	-1210
Lansing	3117	-1226
Base Kansas City	3334	-1443
Arbuckle	3348	-1457



**JAMES C. MUSGROVE**

Petroleum Geologist, LLC  
212 Main Street  
P.O. Box 215  
Claffin, KS 67525

Office (620) 588-4250

Res. Claffin (620) 587-3444

Mai Oil Operations

~~XXXXXXXXXX~~ *L + E Birzer #1*  
NW-SE-SW-SW (425' FSL & 785' FWL)

Section 4-17s-13w  
Barton County, Kansas  
Page 1

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

- Contractor:** Southwind Drilling Co. (Rig #3)
- Commenced:** March 10, 2014
- Completed:** March 15, 2014
- Elevation:** 1891' K.B; 1889' D.F; 1883' G.L.
- Casing program:** Surface; 8 5/8" @ 517'  
Production; 5 1/2" @ 3410'
- Sample:** Samples saved and examined 2800' to the Rotary Total Depth.
- Drilling time:** One (1) foot drilling time recorded and kept 2800 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 Completion and Production Services Co; Dual Induction, Compensated Density/Neutron Log and Micro & Sonic Log.

<u>Formation</u>	<u>Log Depth</u>	<u>Sub-Sea Datum</u>
Anhydrite	820	+1071
Base Anhydrite	848	+1043
Heebner	3021	-1130
Toronto	3038	-1147
Douglas	3051	-1160
Brown Lime	3101	-1210
Lansing	3117	-1226
Base Kansas City	3334	-1443
Arbuckle	3348	-1457
Rotary Total Depth	3415	-1524
Log Total Depth	3411	-1520

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

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

**TOPEKA SECTION**

- 2940-2960' Limestone; tan, brown, finely crystalline, few fossiliferous, poor visible porosity, no shows.
- 2966-2990' Limestone; tan, finely crystalline, few fossiliferous, poorly developed porosity, no shows.

**TORONTO SECTION**

3038-3050' Limestone; cream, finely crystalline, poor visible porosity, no shows and questionable odor in fresh samples.

**LANSING SECTION**

3117-3125' Limestone; tan, cream, finely crystalline, dense.

3129-3132' Limestone; cream, tan, oolitic, poorly developed porosity, trace black stain, no free oil and no odor.

3137-3150' Limestone; tan, cream, oolitic, few medium crystalline, good intercrystalline porosity, brown stain, show of free oil and no odor.

3158-3166' Limestone; gray, finely crystalline, oolitic, poor scattered porosity, dense, no shows.

3169-3178' Limestone; tan, gray, finely crystalline, scattered pinpoint porosity, black stain, show of free oil and questionable odor in fresh samples.

**Drill Stem Test #1 3122-3185' (3118-3181 log measurements)**

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

**Blow: Weak**

**Recovery: 25' mud**

**Pressures:**

ISIP	755	psi
FSIP	728	psi
IFP	11-16	psi
FFP	19-20	psi
HSH	1555-1494	psi

3183-3196' Limestone; tan, oomoldic, poor to fair vuggy to oomoldic porosity, trace poor stain, trace of free oil and faint odor in fresh samples.

3242-3252' Limestone; tan, brown, finely crystalline, few fossiliferous, dense.

3260-3266' Limestone; cream, white, oomoldic, fair oomoldic porosity, few with fair vuggy porosity, light brown stain, show of free oil and faint odor in fresh samples.

3276-3290' Limestone; cream, tan, finely crystalline, few oolitic, poorly developed porosity, no shows.

3305-3310' Limestone; white, cream, chalky, poor scattered porosity, brown stain, no show of free oil and no odor in fresh samples.

**MARMATON SECTION**

3335-3343' Limestone; tan, cream finely crystalline, few chalky, dense.

3343-3348' Limestone; as above, plus white/orange, opaque chert.

**ARBUCKLE SECTION**

3348-3359' Dolomite; cream, white, sucrosic, poor to fair intercrystalline porosity, few with scattered fine vuggy porosity, light brown stain, show of free oil and faint odor in fresh samples.

**Drill Stem Test #2 3325-3363' (3321-3359 log measurements)**

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

**Blow: Strong**

**Recovery: 1160' gassy oil  
252' heavily oil and mud cut water  
(50% oil, 20% water, 30% mud)  
126' muddy water**

**Pressures: ISIP 1055 psi  
FSIP 1054 psi  
IFP 117-388 psi  
FFP 412-637 psi  
HSH 1661-1615 psi**

3359-3370' Dolomite; light gray and white, fine and medium crystalline, scattered intercrystalline porosity, trace stain, trace of free oil and no odor in fresh samples, few with chalky luster and white boney chert.

3370-3390' Dolomite; white, light gray, fine and medium crystalline, fair intercrystalline porosity, slightly cherty, no shows.

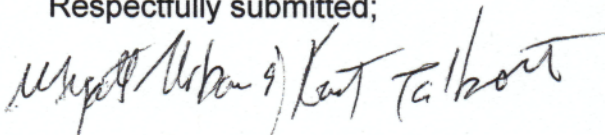
3390-3411' Dolomite; white, as above, plus white, gray, boney chert, no shows.

**Rotary Total Depth 3415  
Log Total Depth 3411**

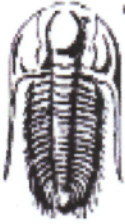
**Recommendations:**

5 1/2" production casing was set and cemented on the Hoffman Farms #1.

Respectfully submitted;



Wyatt Urban and  
Kurt Talbott,  
Petroleum Geologists



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

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

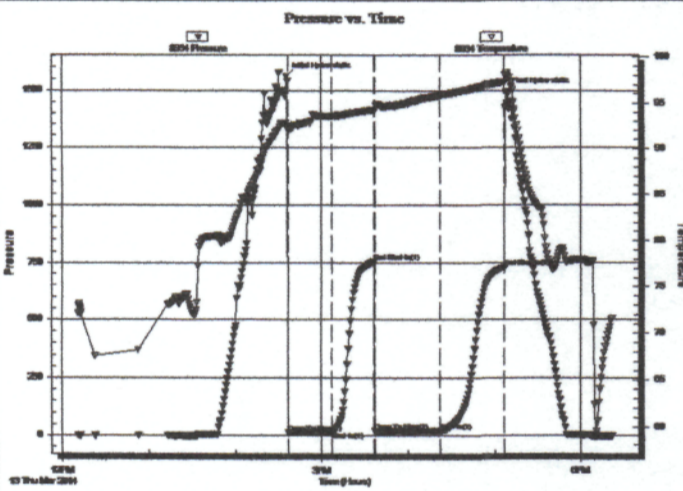
**4-17S-13W Barton,KS**  
**Hoffman Farms #1**  
 Job Ticket: 56199      **DST#: 1**  
 Test Start: 2014.03.13 @ 12:11:00

**GENERAL INFORMATION:**

Formation: **LKC A-F**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 14:37:00  
 Time Test Ended: 18:22:45  
 Interval: **3122.00 ft (KB) To 3185.00 ft (KB) (TVD)**  
 Total Depth: 3185.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Tim Phillips  
 Unit No: 59  
 Reference Elevations: 1891.00 ft (KB)  
 1886.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 8934**      **Inside**  
 Press@RunDepth: 20.93 psig @ 3149.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2014.03.13      End Date: 2014.03.13      Last Calib.: 2014.03.13  
 Start Time: 12:11:05      End Time: 18:21:44      Time On Btm: 2014.03.13 @ 14:35:45  
 Time Off Btm: 2014.03.13 @ 17:08:15

**TEST COMMENT:** IFP- Blow built to 1 1/2"  
 ISI-Dead no blow back  
 FF-Blow built to 1 1/2"  
 FSI- Dead no blow back



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1559.86	92.75	Initial Hydro-static
2	11.06	91.92	Open To Flow (1)
32	16.00	93.59	Shut-In(1)
61	755.39	94.30	End Shut-In(1)
62	19.38	94.18	Open To Flow (2)
107	20.93	95.85	Shut-In(2)
152	728.09	97.28	End Shut-In(2)
153	1494.23	98.23	Final Hydro-static

**Recovery**

Length (ft)	Description	Volume (bbl)
25.00	100% M	0.35

**Gas Rates**

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





**TRIBOLITE  
TESTING, INC**

# DRILL STEM TEST REPORT

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

**4-17S-13W Barton,KS**  
**Hoffman Farms #1**  
Job Ticket: 56200      **DST#: 2**  
Test Start: 2014.03.14 @ 10:53:00

## GENERAL INFORMATION:

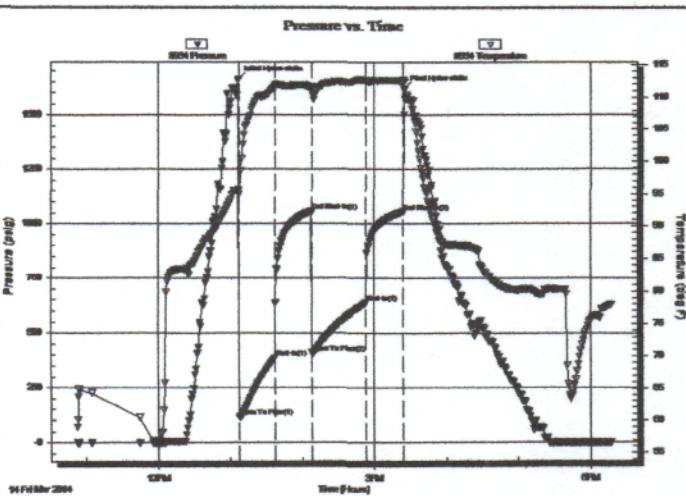
Formation: **Arbuckle**  
Deviated: **No Whipstock:**      ft (KB)  
Time Tool Opened: 13:07:45  
Time Test Ended: 18:17:00  
Interval: **3325.00 ft (KB) To 3363.00 ft (KB) (TVD)**  
Total Depth: 3363.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Good  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Tim Phillips  
Unit No: 59  
Reference Elevations: 1891.00 ft (KB)  
1886.00 ft (CF)  
KB to GR/CF: 5.00 ft

## Serial #: 8934

Inside

Press@RunDepth: 637.80 psig @ 3360.00 ft (KB)      Capacity: 8000.00 psig  
Start Date: 2014.03.14      End Date: 2014.03.14      Last Calib.: 2014.03.14  
Start Time: 10:53:05      End Time: 18:16:44      Time On Btm: 2014.03.14 @ 13:07:15  
Time Off Btm: 2014.03.14 @ 15:25:15

TEST COMMENT: IFP- BOB in 1 1/2 min  
ISI- Dead n blow back  
FF-BOB in 2 min  
FSI-Dead no blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1661.79	95.62	Initial Hydro-static
1	117.80	95.01	Open To Flow (1)
31	388.78	111.62	Shut-In(1)
61	1055.52	111.48	End Shut-In(1)
61	412.90	111.16	Open To Flow (2)
106	637.80	112.56	Shut-In(2)
138	1054.82	112.47	End Shut-In(2)
138	1615.91	112.47	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1160.00	GO 20%G, 75%O, 3%W, 2%M	16.27
252.00	WMCO 50%O, 20%W, 30%G	3.53
126.00	WCM 70%W, 30%M	1.77

\* 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. 7124

Date	3-10-14	Sec.	4	Twp.	17	Range	13	County	Barton	State	KS	On Location		Finish	5:30 PM
------	---------	------	---	------	----	-------	----	--------	--------	-------	----	-------------	--	--------	---------

Location: Susan K, 35, 14E, Nn2

Lease	Hoffman Farms	Well No.	1	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.	518	Charge To	Ma, Oil
Csg.	8 7/8	Depth	517	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.		Shoe Joint	20	Cement Amount Ordered 225 sx 60/40, 3% cc, 2% gel	

Meas Line Displace 3 1/2 bbl

**EQUIPMENT**

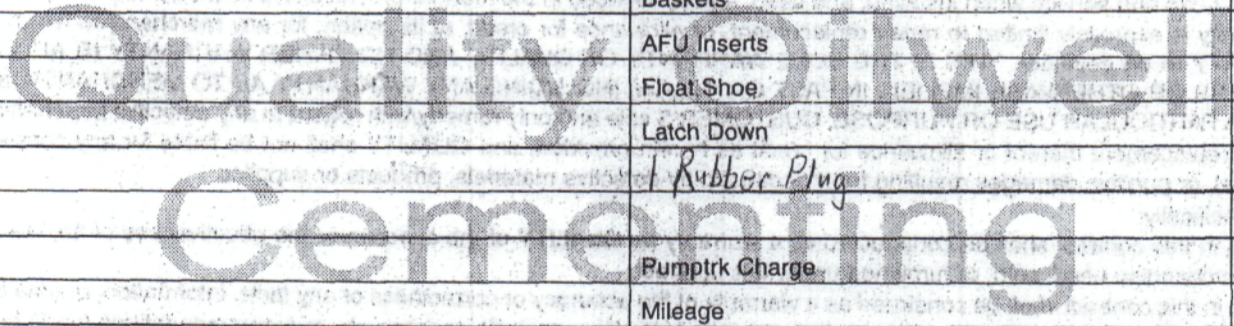
Pumptrk	5	No.	Cementer		Common
			Helper	Lonnie W.	Poz. Mix
Bulktrk	1	No.	Driver	David	Gel.
Bulktrk	PU	No.	Driver	Travis	Calcium

**JOB SERVICES & REMARKS**

Remarks:	Cement did circulate	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**

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



X Signature *Greg Hester*

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. 7132

Date	3-15-14	Sec.	4	Twp.	17	Range	13	County	Barton	State	KS	On Location		Finish	1:45PM
Lease Hoffman Farms								Well No. 1		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 Mai Oil					
Type Job long string										Street					
Hole Size 7 7/8								T.D. 3415		City State					
Csg. 5 1/2 14#								Depth 3410.12		The above was done to satisfaction and supervision of owner agent or contractor.					
Tbg. Size								Depth		Cement Amount Ordered 160sx 60/40, 10% salt, 2% gel					
Tool								Depth		Cement Left in Csg. Shoe Joint 20.69					
Meas Line								Displace 82.7 bbl		1/4# Flow					
<b>EQUIPMENT</b>												Common			
Pumptrk 16	No.	Cementer Helper Billy						Poz. Mix							
Bulktrk 3	No.	Driver Ryan						Gel.							
Bulktrk PU	No.	Driver Travis						Calcium							
<b>JOB SERVICES &amp; REMARKS</b>												Hulls			
Remarks:								Salt							
Rat Hole 30sx								Flowseal							
Mouse Hole								Kol-Seal							
Centralizers 1,2,3,4,5,6,7,9,10								Mud CLR 48 1,000 gal							
Baskets								CFL-117 or CD110 CAF 38							
D/V or Port Collar								Sand							
Pipe on bottom broke circulation. Pumped 1,000 gal Mud CLR 48 with 10 bbl fw behind it.								Handling							
Plugged Rat hole with 30sx. Hooked to 5 1/2								Mileage							
Mixed 130sx 60/40, 10% salt, 2% gel 1/4# Flow								<b>FLOAT EQUIPMENT</b>							
Shut down washed pump and lines. Released plug and displaced with 82.7 bbl fw. Plug landed and held								Guide Shoe							
Lift pressure 500 psi								Centralizer 9 turbos							
Plug landed at 1300 psi								Baskets							
								AFU Inserts							
								Float Shoe							
								Latch Down							
								Pumptrk Charge							
								Mileage							
								Tax							
								Discount							
Signature <i>Ben A. Homer</i>								Total Charge							