



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1212064
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
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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: _____

1212064

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

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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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
Barngrover #1
SE-NE-NW-SW (2200' FNL & 725' FWL)
Section 14-17s-13w
Barton County, Kansas

Page 1

5 1/2" Production Casing Set

Contractor: Southwind Drilling Co. (rig #3)
Commenced: April 30, 2014
Completed: May 6, 2014
Elevation: 1901' K.B., 1893' G.L.
Casing program: Surface; 8 5/8" @ 516'
Production, 5 1/2" @ 3422'
Sample: Samples saved and examined 2900' to the Rotary Total Depth.
Drilling time: One (1) foot drilling time recorded and kept 2900 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 and Micro Log.

<u>Formation</u>	<u>Log Depth</u>	<u>Sub-Sea Datum</u>
Anhydrite	830	+1071
Base Anhydrite	858	+1043
Heebner	3036	-1135
Toronto	3048	-1147
Lansing	3131	-1230
Base Kansas City	3334	-1433
Arbuckle	3347	-1446
Rotary Total Depth	3423	-1522
Log Total Depth	3425	-1524

(All top and zone determination were made from a correlation of Electric Log measurements).

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

TOPEKA SECTION

2920-2950' Limestone, cream, tan, brown, fine crystalline, fossiliferous, poor cherty, poor porosity, no shows.

TORONTO SECTION

- 2950-2970' Limestone, tan, brown, fine crystalline, fossiliferous, trace of pyrite, poor porosity, no shows.
- 2970-3020' Limestone, tan, brown, fine crystalline, cherty in part, dense, poor visible porosity, no shows.
- 3048-3064' Limestone, tan, fine crystalline, pinpoint scattered porosity, fossiliferous, no shows.

DOUGLAS SECTION

- 3064-3085' Silty, shell black, gray, maroon.
- 3085-3114' Sand finely grained, well sorted shell, gray, maroon, no shows.

BROWN LIME

- 3115-3129' Limestone, tan, brown, fine crystalline, cherty, poor visible porosity, no shows.

LANSING SECTION

- 3130-3170' Limestone, cream, tan, fine crystalline, fossiliferous, poor visible porosity, no shows.
- 3170-3190' Limestone, cream, tan, oolitic, poor scatter porosity, no shows.
- 3190-3200' Limestone, tan, brown, fine crystalline, poor scattered porosity, light brown stain, faint show of free oil and very faint odor in fresh sample.

Drill Stem Test #1 3134-3200

Times: 30-30-30-30

Blow: Weak surface

Recovery: 15' mud

**Pressures: ISIP 601 psi
FSIP 542 psi
IFP 24-27 psi
FFP 25-29 psi
HSH 1518-1485 psi**

- 3200-3225' Limestone, cream fine crystalline, oolitic, poor visible porosity, no shows.

- 3225-3250' Limestone, cream, highly oomoldic, good vuggy porosity, no shows.
- 3250-3270' Limestone, tan, brown, fine crystalline, cherty in part, poor visible porosity, (dense), no shows.
- 3270-3290' Limestone, cream, tan, fine crystalline, poor scattered vuggy porosity, light brown stain, no shows and no odor.
- 3290-3310' Limestone, cream, tan, fine crystalline, chalky in part, (dense) poor visible porosity, no shows.
- 3310-3334' Limestone, cream white, fine crystalline, chalky, oolitic poorly developed and developed porosity light brown stain, no shows and no odor.

BASE KANSAS CITY

- 3335-3347' Shell, gray, maroon, green, few samples of sucrosic, dolomitic, light show free oil in fresh samples.

ARBUCKLE SECTION

- 3348-3360' Dolomite white, sucrosic, fair inter-crystalline porosity, fair vuggy porosity, show of free oil, strong odor in fresh samples.

Drill Stem Test #2 3338-3360

Times: 30-30-45-45

Blow: Initial: Weak built to 6"
 2nd Opening: Weak built to 2 ½ "

Recovery: 90' gas in pipe
 120' clean oil
 30' HO&GCM (10% gas, 30% oil, 60% mud)

Pressures: ISIP 820 psi
 FSIP 755 psi
 IFP 23-45 psi
 FFP 48-66 psi
 HSH 1635-3368 psi

- 3360-3368' Dolomitic white, cream, fair inter-crystalline porosity, good vuggy porosity, show of free oil in fresh samples.

Drill Stem Test #3 **3338-3368**

Times: 30-30-45-45

Blow: Initial: Strong bottom of the bucket 5 min
2nd Opening: Strong bottom of the bucket 12 min

Recovery: 125' gas in pipe
645' clean oil
90' HO&GCM (10% gas, 40% oil, 50% mud)

Pressures: ISIP 936 psi
FSIP 958 psi
IFP 45-152 psi
FFP 159-286 psi
HSH: Initial not recorded
HSH: Final 1592 psi

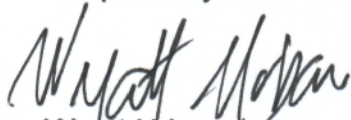
- 3368-3380' Dolomitic white, cream, sucrosic, fair and scattered porosity, show of free oil and faint odor in fresh samples.
- 3380-3400' Dolomitic white, sucrosic good inter-crystalline show of free oil and faint odor in fresh samples.
- 3400-3423' Dolomitic white, fine crystalline, poor visible porosity, no show, no odor.

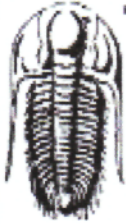
Rotary Total Depth 3423
Log Total Depth 3425

Recommendations:

The 5 ½ Production Casing Set and cemented on the Barngrover #1

Respectfully submitted;


Wyatt Urban
Petroleum Geologist



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Mai Oil Operations Inc

4-17s-13w Barton,KS

8411 Preston Rd STE 800
Dallas TX 75225-5520

Barngrover #1

Job Ticket: 55336

DST#: 1

ATTN: Kurt Mai, Wyatt Urb

Test Start: 2014.05.04 @ 12:55:30

GENERAL INFORMATION:

Formation: **LKC A-C**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:27:55

Time Test Ended: 17:38:09

Test Type: Conventional Bottom Hole (Initial)

Tester: Ray Schwager

Unit No: 70

Interval: **3134.00 ft (KB) To 3200.00 ft (KB) (TVD)**

Reference Elevations: 1901.00 ft (KB)

Total Depth: 3200.00 ft (KB) (TVD)

1893.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8369

Inside

Press@RunDepth: 28.97 psig @ 3139.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.05.04

End Date:

2014.05.04

Last Calib.: 2014.05.04

Start Time: 12:55:30

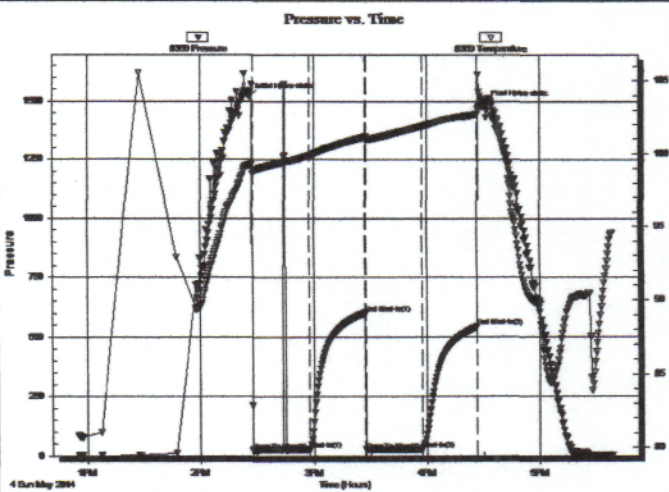
End Time:

17:38:09

Time On Btm: 2014.05.04 @ 14:26:10

Time Off Btm: 2014.05.04 @ 16:30:55

TEST COMMENT: 30-IFP-surface bl ,died in 15 min, flushed tool
30-ISIP-no bl
30-FFP-no bl
30-FSIP-no bl



PRESSURE SUMMARY

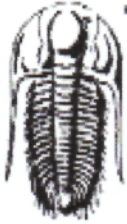
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1517.91	99.21	Initial Hydro-static
2	23.74	98.89	Open To Flow (1)
32	27.48	99.86	Shut-In(1)
62	601.04	101.11	End Shut-In(1)
62	24.59	100.89	Open To Flow (2)
92	28.97	101.86	Shut-In(2)
121	541.94	102.73	End Shut-In(2)
125	1485.00	103.33	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	Mud	0.21

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Mai Oil Operations Inc

4-17s-13w Barton,KS

8411 Preston Rd STE 800
Dallas TX 75225-5520

Barngrover #1

Job Ticket: 55337

DST#: 2

ATTN: Kurt Mai, Wyatt Urb

Test Start: 2014.05.05 @ 04:55:52

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:26:17

Time Test Ended: 10:20:46

Test Type: Conventional Bottom Hole (Reset)

Tester: Ray Schwager

Unit No: 70

Interval: **3338.00 ft (KB) To 3360.00 ft (KB) (TVD)**

Reference Elevations: 1901.00 ft (KB)

Total Depth: 3360.00 ft (KB) (TVD)

1893.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8369

Inside

Press@RunDepth: 65.83 psig @ 3339.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.05.05 End Date: 2014.05.05

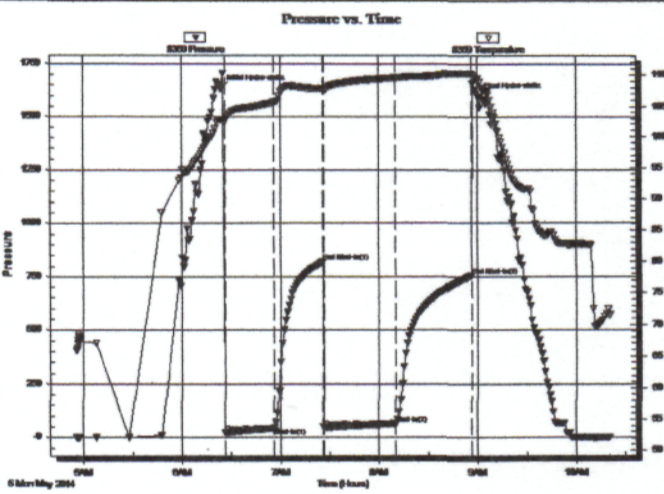
Last Calib.: 2014.05.05

Start Time: 04:55:52 End Time: 10:20:46

Time On Btrr: 2014.05.05 @ 06:24:17

Time Off Btrr: 2014.05.05 @ 09:00:17

TEST COMMENT: 30-IFP-w k to a gd bl 1/2" to 6" bl
30-ISIP-no bl
45-FFP-w k bl thru-out, surface to 2 1/2" bl
45-FSIP-no bl



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1634.74	102.69	Initial Hydro-static
2	23.07	102.20	Open To Flow (1)
32	45.24	105.61	Shut-In(1)
62	819.82	107.77	End Shut-In(1)
62	47.79	107.39	Open To Flow (2)
106	65.83	109.54	Shut-In(2)
152	754.54	110.18	End Shut-In(2)
156	1597.16	109.44	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	90'GIP	0.00
120.00	CO	1.68
30.00	HO&GCM 10%G30%O60%M	0.42

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Mai Oil Operations Inc

4-17s-13w Barton,KS

8411 Preston Rd STE 800
Dallas TX 75225-5520

Barngrover #1

Job Ticket: 55338

DST#: 3

ATTN: Kurt Mai, Wyatt Urb

Test Start: 2014.05.05 @ 14:50:25

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:52:50

Time Test Ended: 20:17:49

Test Type: Conventional Bottom Hole (Reset)

Tester: Ray Schwager

Unit No: 70

Interval: **3338.00 ft (KB) To 3368.00 ft (KB) (TVD)**

Reference Elevations: 1901.00 ft (KB)

Total Depth: 3368.00 ft (KB) (TVD)

1893.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8369

Inside

Press@RunDepth: 285.95 psig @ 3340.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.05.05 End Date: 2014.05.05

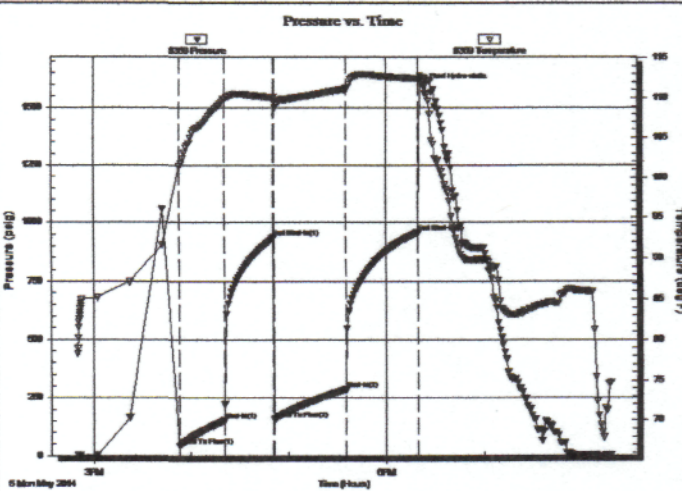
Last Calib.: 2014.05.05

Start Time: 14:50:25 End Time: 20:17:49

Time On Btm:

Time Off Btm: 2014.05.05 @ 18:23:20

TEST COMMENT: 30-IFP-w k to strg in 5 min
30-ISIP-no bl
45-FFP-w k to strg in 12 min
45-FSIP-no bl



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	44.91	101.42	Open To Flow (1)
28	151.82	109.88	Shut-in(1)
58	935.54	110.05	End Shut-in(1)
59	158.54	109.48	Open To Flow (2)
103	285.95	111.13	Shut-in(2)
147	958.29	112.40	End Shut-in(2)
151	1592.11	112.55	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	125' GIP	0.00
645.00	CO	9.05
90.00	HO&GCM 10%G40%O50%M	1.26

* 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. 423

Date	Sec.	Twp.	Range	County	State	On Location	Finish
5-1-14	4	17	13	Barton	KS	5,000ph	G. 30ph

Location *Sur Smith 2nd S E 1/4*

Lease	Well No.	Owner
<i>Barkgrover</i>	<i>7</i>	To Quality Oilwell Cementing, Inc.
Contractor		You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.
<i>Southwind</i>	<i>3</i>	
Type Job		Charge To
<i>Surface</i>		<i>Mail oil</i>
Hole Size	T.D.	Street
<i>12 1/4</i>	<i>516</i>	
Csg.	Depth	City
<i>8 7/8</i>	<i>516</i>	
Tbg. Size	Depth	State
Tool	Depth	The above was done to satisfaction and supervision of owner agent or contractor.
Cement Left in Csg.	Shoe Joint	Cement Amount Ordered
<i>20 ft</i>	<i>20 ft</i>	<i>60/40 3% CC 1% gel</i>
Meas Line	Displace	
	<i>31.5 BBL</i>	<i>2507</i>

EQUIPMENT

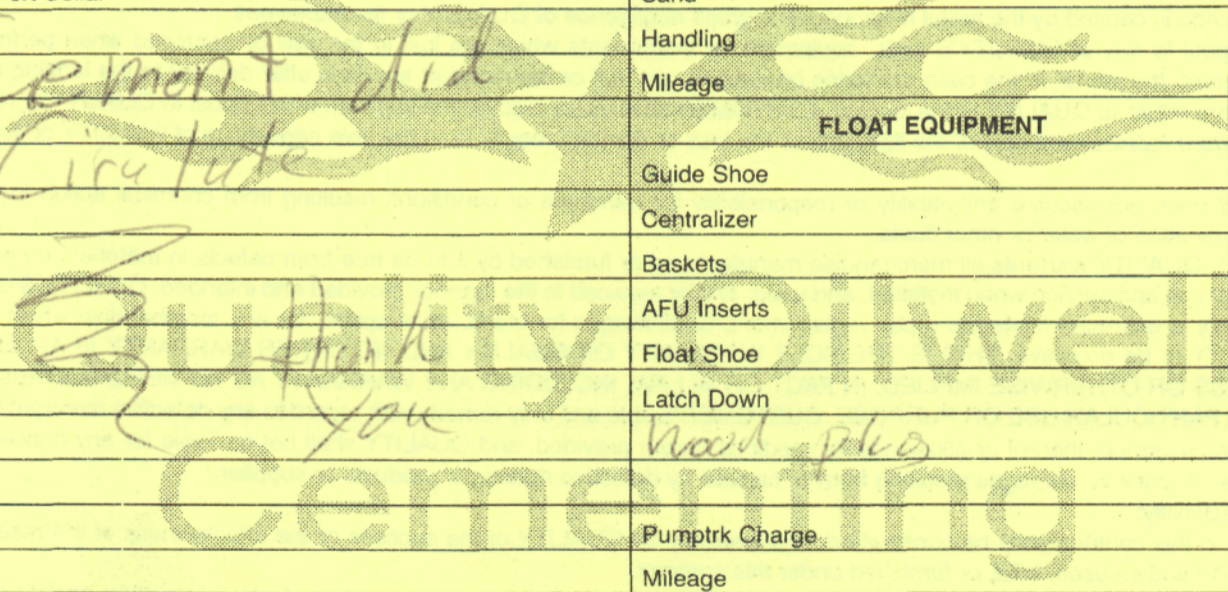
Pumptrk	No.	Cementer	Common
<i>20</i>		<i>None</i>	
		Helper	Poz. Mix
Bulktrk	No.	Driver	Gel.
<i>3</i>		<i>Vick</i>	
		Driver	Calcium
Bulktrk	No.	Driver	
<i>04</i>		<i>Ryan</i>	

JOB SERVICES & REMARKS

Remarks:	Hulls
	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
	FLOAT EQUIPMENT
	Guide Shoe
	Centralizer
	Baskets
	AFU Inserts
	Float Shoe
	Latch Down
	<i>Wood plug</i>
	Pumptrk Charge
	Mileage

	Tax
	Discount
	Total Charge

X Signature *Jay Horin*



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. 219

Date 5-6-14	Sec. 4	Twp. 17	Range 13	County Barton	State KS	On Location	Finish 5:30 PM
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Location Susank, 2 1/2 S, E n 2

Lease Barngrover	Well No. 1	Owner
Contractor Southwind #3		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 long string		
Hole Size 7 7/8	T.D. 3423	Charge To Maj Oil
Csg. 5 1/2 14 #	Depth 3421	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 21.62	Cement Amount Ordered 150 sx 6% salt, 10% salt, 2% gel,
Meas Line	Displace 82.9661	1/4 # Flow

EQUIPMENT

Pumptrk 17	No.	Cementer Helper Lonnie V.	Common
Bulktrk 4	No.	Driver Chad	Poz. Mix
Bulktrk Ph	No.	Driver Travis	Gel.
			Calcium

JOB SERVICES & REMARKS

Remarks:	Hulls
Rat Hole 30 sx	Salt
Mouse Hole	Flowseal
Centralizers 1-7, 9, 10	Kol-Seal
Baskets	Mud CLR 48 1,000 gal
D/V or Port Collar	CFL-117 or CD110 CAF 38
	Sand

Pipe on bottom broke circulation Pumped 1,000 gal mud CLR 48 with 10 lb for behind it Plug Rat hole with 30 sx Hooked to 5 1/2 Mixed 120 sx shut down washed pump and lines Released Plug and displaced with 82.9661 Pw. Plug landed and held.

Lift Pressure 700 psi

Plug landed at 1400 psi

FLOAT EQUIPMENT

	Guide Shoe
	Centralizer 9 turbos
	Baskets
	AFU Inserts
	Float Shoe
	Latch Down 1

	Pumptrk Charge
	Mileage

	Tax
	Discount
	Total Charge

X Signature *B. H. Hines*