

#### Kansas Corporation Commission Oil & Gas Conservation Division

1270702

Form ACO-1 November 2016 Form must be Typed Form must be Signed All blanks must be Filled

# WELL COMPLETION FORM WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License #	API No.:			
Name:	Spot Description:			
Address 1:				
Address 2:	Feet from			
City: State: Zip:+	Feet from _ East / _ West Line of Section			
Contact Person:	Footages Calculated from Nearest Outside Section Corner:			
Phone: ()	□NE □NW □SE □SW			
CONTRACTOR: License #	GPS Location: Lat:, Long:			
Name:	(e.g. xx.xxxxx) (e.gxxx.xxxxx)			
Wellsite Geologist:	Datum: NAD27 NAD83 WGS84			
Purchaser:	County:			
Designate Type of Completion:	Lease Name: Well #:			
☐ New Well ☐ Re-Entry ☐ Workover	Field Name:			
□ Oil □ WSW □ SWD	Producing Formation:			
Gas DH EOR	Elevation: Ground: Kelly Bushing:			
☐ OG ☐ GSW	Total Vertical Depth: Plug Back Total Depth:			
CM (Coal Bed Methane)	Amount of Surface Pipe Set and Cemented at: Feet			
Cathodic Other (Core, Expl., etc.):	Multiple Stage Cementing Collar Used? Yes No			
If Workover/Re-entry: Old Well Info as follows:	If yes, show depth set: Feet			
Operator:	If Alternate II completion, cement circulated from:			
Well Name:	feet depth to:w/sx cmt.			
Original Comp. Date: Original Total Depth:				
☐ Deepening ☐ Re-perf. ☐ Conv. to EOR ☐ Conv. to SWD	Drilling Fluid Management Plan			
☐ Plug Back ☐ Liner ☐ Conv. to GSW ☐ Conv. to Producer	(Data must be collected from the Reserve Pit)			
Commingled Permit #:	Chloride content: ppm Fluid volume: bbls			
Dual Completion Permit #:	Dewatering method used:			
SWD Permit #:	Location of fluid disposal if hauled offsite:			
EOR Permit #:	·			
GSW Permit #:	Operator Name:			
_	Lease Name: License #:			
Spud Date or Date Reached TD Completion Date or	Quarter Sec TwpS. R			
Recompletion Date Recompletion Date	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 Drill Stem Tests Received							
Geologist Report / Mud Logs Received							
UIC Distribution							
ALT I I II Approved by: Date:							

Page Two



Operator Name:					Lease Na	ıme: _			Well #:		
SecTwp	oS. F	R	East	West	County: _						
	flowing and sh	ut-in pressure	s, whe	ther shut-in pre	essure reache	ed stati	c level, hydrosta	tic pressures, t		val tested, time tool erature, fluid recovery,	
Final Radioactivit files must be sub							gs must be ema	iled to kcc-wel	l-logs@kcc.ks.gov	v. Digital electronic log	
Drill Stem Tests T			Ye	es No		L		on (Top), Depth		Sample	
Samples Sent to	Geological Sur	vey	Ye	es No		Nam	е		Тор	Datum	
Cores Taken Electric Log Run Geolgist Report / List All E. Logs R	_		<ul><li> Y€</li><li> Y€</li></ul>	es No							
			Repo		RECORD conductor, surfa	Ne	w Used	on, etc.			
Purpose of Str	ing Siz	e Hole		e Casing	Weight		Setting	Type of	# Sacks	Type and Percent	
Fulpose of Sti	"' <sup>g</sup> D	rilled	Set	(In O.D.)	Lbs. / F	t.	Depth	Cement	Used	Additives	
				ADDITIONAL	CEMENTING	i / SQL	JEEZE RECORD				
Purpose:		Depth Bottom	Type	of Cement	# Sacks Used Type and Percent Additives						
Perforate Protect Cas	sing										
Plug Back Plug Off Zo											
1 lug Oli 20	JIIC .										
Did you perform	a hydraulic fractu	ring treatment o	n this w	ell?			Yes	No (If No,	skip questions 2 ar	nd 3)	
2. Does the volume	e of the total base	fluid of the hydr	aulic fra	cturing treatmen	t exceed 350,00	00 gallo	ns? Yes	No (If No,	skip question 3)		
3. Was the hydrauli	ic fracturing treatr	nent information	submit	ted to the chemic	cal disclosure re	egistry?	Yes	No (If No,	fill out Page Three	of the ACO-1)	
Date of first Produc	ction/Injection or F	Resumed Produc	ction/	Producing Met	hod:						
Injection:				Flowing	Pumping		Gas Lift C	other (Explain)			
Estimated Produc Per 24 Hours	tion	Oil Bbls	S.	Gas	Mcf	Wat	er Bl	ols.	Gas-Oil Ratio	Gravity	
DISPO	OSITION OF GAS	:		N	METHOD OF C	OMPLE	TION:			N INTERVAL:	
Vented	Sold Use	d on Lease		Open Hole	Perf.			nmingled	Тор	Bottom	
(If vente	d, Submit ACO-18.	)				(Submit	ACO-5) (Subi	mit ACO-4)			
Shots Per	Perforation	Perforation	1	Bridge Plug	Bridge Plug		Acid,	Fracture, Shot, (	Cementing Squeeze	Record	
Foot	Тор	Bottom		Туре	Set At			(Amount and k	Kind of Material Used)		
						-					
TUBING RECORE	): Size:		Set At:	<u> </u>	Packer At:						

Form	ACO1 - Well Completion		
Operator	Mai Oil Operations, Inc.		
Well Name	Maag "P" 5		
Doc ID	1270702		

# Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement		Type and Percent Additives
Surface	12.25	8.625	20	847	60-40 POZ		2% Gel, 3% CC
Production	7.875	5.5	14	3365	60-40 POZ	160	2% Gel

#### **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 Maag "P" #5 N/2-SE-NW-SW (1660'FSL & 990 FWL) Section 7-15s-13w Russell County, Kansas

Page 1

# 5 1/2" Production Casing Set

Contractor:

Southwind Drilling Co. (rig #3)

Commenced:

September 17, 2015

Completed:

September 23, 2015

Elevation:

1875' K.B., 1873' D.F., 1867' G.L.

Casing program:

Surface; 8 5/8" @ 847'

Production, 5 1/2" @ 3365'

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 Casedhole Solutions, Dual Induction, Compensated Density/Neutron

Log and Micro.

<b>Formation</b>	Log Depth	Sub-Sea Datum
Anhydrite	848	+1027
Base Anhydrite	881	+994
Grand Haven	2408	-533
1 <sup>st</sup> Tarkio Sand	2417	-542
2 <sup>nd</sup> Tarkio Sand	2442	-567
Tarkio Lime	2477	-602
Willard Sand (3rd Tarkio)	2507	-632
Elmont	2542	-667
Howard	2682	-807
Topeka	2747	-872
Heebner	2980	-1105
Toronto	2997	-1122
Douglas	3012	-1137
Lansing	3045	-1170
Arbuckle	3308	-1433
Rotary Total Depth	3365	-1490
Log Total Depth	3367	-1492

All tops and zones corrected to Electric Log Measurement

Page 2

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

#### 1st TARKIO SAND

2418-2430'

Sand, gray, grayish green, very fined grained; silty in part, few friable, poor visible porosity, no shows.

#### 2<sup>nd</sup> TARKIO SAND

2442-2450'

Sand, gray, very fined grained, few sub-angular to sub-rounded, well cemented, poor visible porosity, no shows.

#### WILLARD SAND (3rd TARKIO)

2507-2523'

Sand, light gray, gray, sub-angular, poorly developed porosity, no shows.

#### **TOPEKA SECTION**

2747-2757'	Limestone, cream, tan, finely crystalline, slightly dolomite, few fossiliferous, poorly developed inter-crystalline porosity, no shows.
2800-2825'	Limestone, cream, tan, fine and medium crystalline, fossiliferous, poor visible porosity, no shows.
2860-2876'	Limestone, cream, tan, buff, finely crystalline, fossiliferous, poor scattered porosity, chalky in part, no shows.
2916-2920'	Limestone, cream, tan, fine and medium crystalline, fossiliferous/oolitic, fair inter-crystalline porosity, spotty brown stain, no free oil and no odor in fresh samples.
2930-2940'	Limestone, tan, buff, fine and medium crystalline, fossiliferous, poor scattered pin point to inter-crystalline porosity, chalky in part, plus tan/gray chert.
2942-2955'	Limestone, cream, tan, finely crystalline, fossiliferous, chalky, poor porosity, plus gray/tan chert, no shows.

#### **TORONTO SECTION**

2997-3012'

Limestone, cream, white, fine to medium crystalline, dolomitic in part, poor pinpoint to inter-crystalline porosity, trace light brown spotty stain, no free oil and faint odor in fresh samples.

Page 3

### **LANSING SECTION**

3047-3054'	Limestone, white, finely crystalline, slightly oolitic, poor scattered pin point porosity, chalky, no shows.
3063-3072'	Limestone, cream, tan, fine and medium crystalline, slightly dolomitic; poor porosity, trace brown stain, no free oil and faint odor in fresh samples.
3077-3081'	Limestone, cream, tan, finely crystalline, cherty in part, poor porosity, no shows.
3087-3091'	Limestone, cream, tan, buff, finely crystalline, oolitic, poor pinpoint porosity, slightly chalky, dark brown stain, no free oil and fair odor in fresh samples.
3118-3124'	Limestone, cream, white, oolitic, poor visible porosity, no shows.
3126-3133'	Limestone, cream, white, finely crystalline, oolitic, oomoldic, fair oomoldic porosity, chalky in part, spotty light brown stain, no free oil and fair odor in fresh samples.
3139-3160'	Limestone, white, finely crystalline, oolitic, oomoldic, chalky in part, fair to good oomoldic porosity, dark brown stain, no free oil and fair odor in fresh samples.
3193-3203'	Limestone, cream, tan, finely crystalline, fossiliferous/oolitic, poor pinpoint and inter-crystalline porosity, slightly chalky, trace stain, no free oil and faint odor in fresh samples.
3211-3216'	Limestone, tan, buff, finely crystalline, fossiliferous, poor inter-crystalline porosity, light brown stain, trace of free oil and fair odor in fresh samples.
3219-3230'	Limestone, tan, cream, finely crystalline, oolitic/fossiliferous, poor scattered porosity, light brown to golden brown stain, trace of free oil and fair odor in fresh samples.
3230-3240'	Limestone, tan, cream, finely crystalline, oolitic/fossiliferous, poor scattered porosity, light brown and golden brown stain, trace of free oil and fair odor in fresh samples.
3258-3264'	Limestone, cream, tan, finely crystalline, few fossiliferous/oolitic, poor to fair scattered porosity, light to golden brown stain, trace of free oil and fair odor in fresh samples.
3287-3290'	Limestone, cream, buff, finely crystalline, few fossiliferous, cherty in part, poor porosity, no shows.

**Drill Stem Test #1** 

3193-3290

Page 4

#### **Drill Stem Test #2**

3186-3290

Times:

30-45-45-60

Blow:

Strong

Recovery:

120' gas in pipe

62' heavily oil and gas cut mud (10% gas; 40% mud; 50% oil)

186' gassy oil (50% gas; 50% oil) 124' gassy oil (20% gas; 80% oil)

Pressures: ISIP 505

psi

**FSIP 550** 

psi

IFP 68-112 FFP 118-176

psi psi

HSH 1219-1603

psi

#### ARBUCKLE SECTION

3307-3316'

Dolomite, white, light gray, fine and medium crystalline, fair intercrystalline porosity, golden brown stain, good show of free oil and good odor in fresh samples.

#### **Drill Stem Test #3**

3273-3316

Times:

15-30-15-60

Blow:

Strong

Recovery:

2400' muddy water

Pressures:

ISIP 1091 psi

**FSIP 1096** 

psi

IFP 701-933 psi

FFP 983-1083

psi

HSH 1714-1636

psi

3316-3330'

Dolomite, white, light gray, fine and medium crystalline, fair intercrystalline and vuggy porosity, dark brown stain trace of free oil and fair odor in fresh samples.

3330-3350'

Dolomite, gray, cream, fine and medium crystalline, poor to fair intercrystalline porosity, spotty dark brown to black stain weak show of free oil and fair odor in fresh samples.

3350-3367'

Dolomite, gray, white, finely crystalline, poor to fair inter-crystalline porosity, cherty in part, spotty stain, no free oil and no odor in fresh samples.

Page 5

**Rotary Total Depth Log Total Depth** 

3365

3367

#### Recommendations:

The 5 ½" production casing was set and cemented on Mai Oil Operations Inc., Maag "P" #5.

Respectfully yours,

Petroleum Geologist



#### DRILL STEM TEST REPORT

Mai Oil Operations, Inc

7-15s-13w Russell KS

8411 Preston Rd STE 800 Dallas TX 75225

Maag "P" #5 Job Ticket: 62442

DST#:1

ATTN: Kurt Tabott

Test Start: 2015.09.21 @ 21:54:05

#### GENERAL INFORMATION:

Formation:

LKC "H-K"

Deviated:

No Whipstock:

ft (KB)

Test Type: Conventional Bottom Hole (Initial)

Tester:

Cody Bloedorn

Unit No:

73

KB to GR/CF:

1875.00 ft (KB)

Reference ⊟evations:

1867.00 ft (CF) 8.00 ft

Time Tool Opened:

Time Test Ended: 02:23:59

Interval: Total Depth:

3193.00 ft (KB) To 3290.00 ft (KB) (TVD)

Hole Diameter:

3290.00 ft (KB) (TVD)

7.88 inches Hole Condition: Fair

Serial #: 6748

Press@RunDepth:

Inside

psig @ 3198.00 ft (KB) End Date:

2015.09.22

Capacity: Last Calib.: 8000.00 psig

Start Date:

2015.09.21

Time On Btm:

2015.09.22

Start Time:

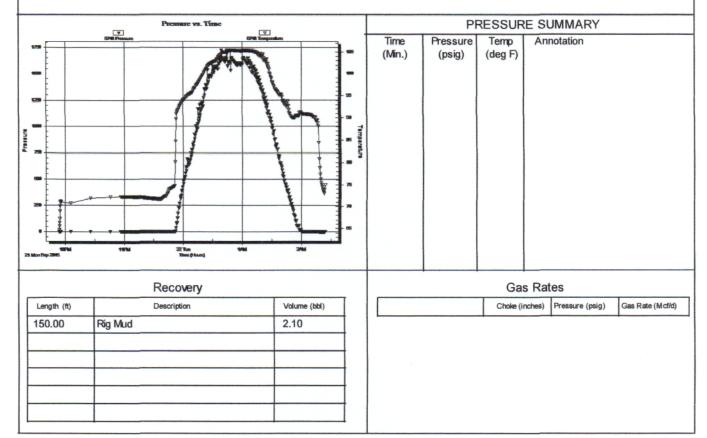
21:54:05

End Time:

02:23:59

Time Off Btm:

TEST COMMENT: Opened tool - packers failed - Reopened tool - failed - Pulled tool



Trilobite Testing, Inc

Ref. No: 62442

Printed: 2015.09.23 @ 09:43:10



#### DRILL STEM TEST REPORT

Mai Oil Operations, Inc

7-15s-13w Russell KS Maag "P" #5

8411 Preston Rd STE 800 Dallas TX 75225

Job Ticket: 62443

DST#: 2

ATTN: Kurt Tabott

Test Start: 2015.09.22 @ 02:48:00

GENERAL INFORMATION:

Time Tool Opened: 03:50:00

Time Test Ended: 08:35:15

Formation:

LKC "H-K"

Deviated:

No Whipstock:

ft (KB)

Test Type: Conventional Bottom Hole (Reset)

Tester:

Cody Bloedorn

Unit No:

73

1875.00 ft (KB)

Reference Bevations:

1867.00 ft (CF)

KB to GR/CF:

8.00 ft

Hole Diameter:

Start Date:

Start Time:

Interval:

3186.00 ft (KB) To 3290.00 ft (KB) (TVD)

Total Depth:

3290.00 ft (KB) (TVD)

7.88 inches Hole Condition: Fair

Serial #: 6748

Inside Press@RunDepth:

175.61 psig @ 3191.00 ft (KB) 2015.09.22

02:48:05

End Date:

End Time:

2015.09.22

08:35:14

Capacity:

Last Calib .:

8000.00 psig 2015.09.22

Time On Btm:

2015.09.22 @ 03:30:00 Time Off Btm: 2015.09.22 @ 06:44:45

TEST COMMENT: 30 - IF- B.O.B. in 10 minutes 45 - ISI- Surface return 45 - FF- B.O.B. in 26 minutes 60 - FSI- Surface return

se vs. Time ¥

	PRESSURE SUMMARY							
	Time	Pressure	Temp	Annotation				
	(Min.)	(psig)	(deg F)					
	0	1218.46	97.57	Initial Hydro-static				
	20	68.32	106.45	Open To Flow (1)				
	46	111.59	106.38	Shut-In(1)				
	91	505.28	107.60	End Shut-In(1)				
3	92	118.19	107.47	Open To Flow (2)				
Temperatur	136	175.61	108.37	Shut-In(2)				
5	195	549.86	109.30	End Shut-In(2)				
	195	1603.02	109.54	Final Hydro-static				

Length (ft)	Description	Volume (bbl)
62.00	GHOCM, 10%G, 40%M, 50%O	0.87
186.00	GO, 50%G, 50%O	2.61
124.00	GO, 20%G, 80%O	1.74
0.00	120' G.I.P.	0.00

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

Trilobite Testing, Inc

Ref. No: 62443

Printed: 2015.09.23 @ 09:41:59



#### DRILL STEM TEST REPORT

Mai Oil Operations, Inc

7-15s-13w Russell KS

8411 Preston Rd STE 800 Dallas TX 75225

Maag "P" #5 Job Ticket: 62444

DST#: 3

ATTN: Kurt Tabott

Test Start: 2015.09.22 @ 15:04:00

#### GENERAL INFORMATION:

Time Tool Opened: 16:26:45

Time Test Ended: 20:34:00

Formation:

Interval:

Arbuckle

Deviated:

No Whipstock:

ft (KB)

Test Type: Conventional Bottom Hole (Reset)

Tester:

Cody Bloedorn

Unit No:

73

Reference Bevations:

1875.00 ft (KB) 1867.00 ft (CF)

Total Depth: Hole Diameter:

3273.00 ft (KB) To 3316.00 ft (KB) (TVD)

3316.00 ft (KB) (TVD)

7.88 inches Hole Condition: Fair

KB to GR/CF:

8.00 ft

Serial #: 6748 Press@RunDepth: Inside

1082.93 psig @ 3278.00 ft (KB)

Capacity:

8000.00 psig

Start Date: Start Time:

2015.09.22 15:04:05

End Date: End Time:

2015.09.22 20:33:59

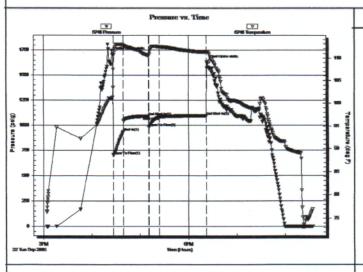
> Time (Min.)

Last Calib.: Time On Btm: 2015.09.22

Time On Btm: 2015.09.22 @ 16:26:00
Time Off Btm: 2015.09.22 @ 18:23:00 2015.09.22 @ 16:26:00

TEST COMMENT: 15 - IF- B.O.B. instantly

30 - ISI- No return 15 - FF- B.O.B. instantly 60 - FSI- No return



	Pressure	Temp	Annotation	•
	(psig)	(deg F)		
	1713.81	101.30	Initial Hydro-static	
	701.09	107.38	Open To Flow (1)	
	933.60	112.77	Shut-In(1)	
	1091.26	110.43	End Shut-In(1)	
	982.74	110.40	Open To Flow (2)	
1	4000 00	440.44	Chief In/O	

PRESSURE SUMMARY

1	701.09	107.38	Open To Flow (1)
13	933.60	112.77	Shut-In(1)
45	1091.26	110.43	End Shut-In(1)
45	982.74	110.40	Open To Flow (2)
58	1082.93	112.41	Shut-In(2)
117	1095.55	111.26	End Shut-In(2)
117	1635.53	111.46	Final Hydro-static

#### Recovery

	Length (ft)	Description	Volume (bbl)						
	124.00	WM, 40%W, 60%M	1.74						
	2046.00	DROPPED BAR & TURNED TO WATER	28.70						
	248.00	Mud - Oil on top, 100%M	3.48						
* Recovery from multiple tests									

Gas Rates

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

Trilobite Testing, Inc

Ref. No: 62444

Printed: 2015.09.23 @ 09:41:31

# 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. 1041

0 10/ 15	Sec.	Twp.	Range		County	State	On Location	Finish 3:00 A M	
Date 9-18-15	/	13	13	1/4	ssell	11 5		3.00 A 10	
10 n			+1 5	Location	on Kussel	1 S to Wint	erspt JE	1/3 N E IND	
Lease Magg P	100/1	Well No. #5	- 011	Owner To Ovelity Oilyvell Comenting, Inc.					
Contractor Southwind 3					To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish				
Type Job Surface					cementer and helper to assist owner or contractor to do work as listed.				
Hole Size /2 /4 T.D. 8 47 '.				Charge Mai Oil					
Csg. 8 5/8 Depth 8 47				Street					
Tbg. Size Depth				par, etc	City State				
Tool Depth				The above was done to satisfaction and supervision of owner agent or contractor.					
Cement Left in Csg. 20	5	Shoe J	oint		Cement Amo	ount Ordered 3 2	5 0740 5%	OCC 2% (50)	
Meas Line		Displac	e51/25	1	112				
	QUIPME	NT	elinacione no Rivin	iomedia.	Common				
Pumptrk 7 No. Cement Helper	er Bre	11			Poz. Mix				
Bulktrk 7 Driver	Billy	/			Gel.			43 10 20 20 20 20 20 20 20 20 20 20 20 20 20	
Bulktrk No. Driver Driver	Shank	2			Calcium	taece Servinillo de	UL HAROES IN	- COASU	
JOB SER	VICES &	REMA	RKS		Hulls				
Remarks:	and the second		C The Inches		Salt		design the same of		
Rat Hole	Me biss		Million book comb		Flowseal				
Mouse Hole					Kol-Seal				
Centralizers					Mud CLR 48				
Baskets	ens age	g dar	ger i dynases	House de	CFL-117 or CD110 CAF 38				
D/V or Port Collar	di	**************************************			Sand				
Name of the second			A.	Handling					
				* /	Mileage				
The state of the s					FLOAT EQUIPMENT				
				Guide Shoe					
Cement				Centralizer					
and the second		100		Baskets					
This William Town		11000	777	AFU Inserts					
Control :					Float Shoe	I A B B TA		ALCO WILLIAMS	
				Latch Down					
The state of the s	eda Y		of many	Rubber Plug-1					
				Pumptrk Charge					
di a galametrika				Mileage					
e.i	o item	re- to aleythe		Tax					
//				on other aid		Discount	ar -		
X Signature	eriono	hornebetre e	8,00			Total Charge			
								Variable Co.	

# 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. 1632

Sec. Twp. Range County State On Location Finish Kussell 45 Date W; Location Well No Lease Owner 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. Type Job Charge To Hole Size T.D Csg. Depth Street Tbg. Size Depth City State Depth Tool The above was done to satisfaction and supervision of owner agent or contractor. Cement Amount Ordered Cement Left in Csg. Shoe Joint Displace Meas Line EQUIPMENT Common Cementer Helper No. Poz. Mix Pumptrk Driver Driver No. Bulktrk Gel. Driver Driver No. Bulktrk 7 Calcium **JOB SERVICES & REMARKS** Hulls Remarks: Salt Rat Hole Flowseal Mouse Hole Kol-Seal Centralizers Mud CLR 48 Baskets D 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 Pumptrk Charge Mileage Discount X Signature Total Charge