KOLAR Document ID: 1466044

Confidentiality Requested:
☐ Yes ☑ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

Form ACO-1
January 2018
Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 34888
Name: Patterson Energy LLC
Address 1: PO BOX 400
Address 2:
City: HAYS State: KS Zip: 67601 + 0400
Contact Person: Kory Pfeifer
Phone: (785) 735-4598
CONTRACTOR: License # 30606
Name: Murfin Drilling Co., Inc.
Wellsite Geologist: Austin Klaus
Purchaser:

Designate Type of Completion:
☑ New Well ☐ Re-Entry ☐ Workover
☑ Oil ☐ WSW ☐ SWD
☐ Gas ☐ DH ☐ EOR
☐ OG ☐ GSW
☐ 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 EOR ☐ Conv. to SWD
☐ Plug Back ☐ Liner ☐ Conv. to GSW ☐ Conv. to Producer

☐ Commingled Permit #:
☐ Dual Completion Permit #:
☐ SWD Permit #:
☐ EOR Permit #:
☐ GSW Permit #:

05/07/2019 Spud Date or Recompletion Date
05/11/2019 Date Reached TD
05/31/2019 Completion Date or Recompletion Date

API No.: 15-163-24391-00-00
Spot Description:
__ - SW - SW - SE Sec. 19 Twp. 9 S. R. 19 ☐ East ☑ West
330 Feet from ☐ North / ☑ South Line of Section
2310 Feet from ☑ East / ☐ West Line of Section
Footages Calculated from Nearest Outside Section Corner:
☐ NE ☐ NW ☑ SE ☐ SW
GPS Location: Lat: *(e.g. xx.xxxxx)* , Long: *(e.g. -xxx.xxxxx)*
Datum: ☐ NAD27 ☐ NAD83 ☐ WGS84
County: Rooks
Lease Name: E. HONOMICHL Well #: 1-19
Field Name:
Producing Formation: Arbuckle
Elevation: Ground: 2138 Kelly Bushing: 2143
Total Vertical Depth: 3670 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 236 Feet
Multiple Stage Cementing Collar Used? ☑ Yes ☐ No
If yes, show depth set: 1566 Feet
If Alternate II completion, cement circulated from: 1566
feet depth to: 0 w/ 255 sx cmt.

Drilling Fluid Management Plan
(Data must be collected from the Reserve Pit)
Chloride content: 3500 ppm Fluid volume: 160 bbls
Dewatering method used: Evaporated
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** ☐ **Drill Stem Tests Received**
☑ **Geologist Report / Mud Logs Received**
☐ **UIC Distribution**
ALT ☐ **I** ☑ **II** ☐ **III** **Approved by:** Karen Ritter **Date:** 08/05/2019

Operator Name: Patterson Energy LLC Lease Name: E. HONOMICHL Well #: 1-19

Sec. 19 Twp. 9 S. R. 19 ☐ East ☑ West County: Rooks

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 *(Attach Additional Sheets)*	☐ Yes	☑ No	☐ Log	Formation (Top), Depth and Datum ☐ Sample
Samples Sent to Geological Survey	☐ Yes	☑ No	Name: Arbuckle	Top: 3592 Datum: -1444
Cores Taken	☐ Yes	☑ No		
Electric Log Run	☑ Yes	☐ No		
Geologist Report / Mud Logs	☑ Yes	☐ No		

List All E. Logs Run:

Dual Induction
Compensated Density Neutron

CASING RECORD ☑ New ☐ 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
Surface	12.25	8.625	23	236	80/20	150	3%cc 2%Gel
Production	7.875	5.5	17	3670	150 Com	305	10%salt 5%gel

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
☐ Perforate ☐ Protect Casing ☐ Plug Back TD ☐ Plug Off Zone	-			
	-			

1. Did you perform a hydraulic fracturing treatment on this well? ☐ Yes ☑ No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? ☐ Yes ☐ No *(If No, skip question 3)*
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)*

Date of first Production/Injection or Resumed Production/ Injection: 06/14/2019	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:	METHOD OF COMPLETION:	PRODUCTION INTERVAL:	
		Top	Bottom
☐ Vented ☐ Sold ☐ Used on Lease *(If vented, Submit ACO-18.)*	☐ Open Hole ☑ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)*	3596	3602

Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record *(Amount and Kind of Material Used)*
4	3596	3602			250 gal MCA 15%

TUBING RECORD: Size: Set At: Packer At:

Mail to: KCC - Conservation Division, 266 N. Main, Suite 220, Wichita, Kansas 67202

Form	ACO1 - Well Completion
Operator	Patterson Energy LLC
Well Name	E. HONOMICHL 1-19
Doc ID	1466044

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
Surface	12.25	8.625	23	236	80/20	150	3%cc 2%Gel
Production	7.875	5.5	17	3670	150 Com	305	10%salt 5%gel

AUSTIN B. KLAUS

Cell 785.650.3629
Work 785.483.3145
Ext 225

PO BOX 352
Russell, KS 67665
austin.klaus@johnofarmer.com

Scale 1:240 (5"=100') Imperial
Measured Depth Log

Well Name:	**E. Honomichl #1-19**		
Location:	**Rooks County**		
License Number:	**API #15-163-24391-00-00**	**Region:**	**Kansas**
Spud Date:	**5/7/2019**	**Drilling Completed:**	**5/11/2019**
Surface Coordinates:	**Section 19, Township 9 South, Range 19 West** **330' FSL & 2310' FEL**		
Bottom Hole Coordinates:	**Vertical well w/ minimal deviation, same as above**		
Ground Elevation (ft):	**2,143**	**K.B. Elevation (ft):**	**2,148**
Logged Interval (ft):	**3,000 To: RTD**	**Total Depth (ft):**	**3,670**
Formation:	**LKC, Arbuckle**		
Type of Drilling Fluid:	**Chemical (K.D.T)**		

Printed by STRIP.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: Patterson Energy, LLC
Address: P.O. Box 400
Hays, KS 67601

GEOLOGIST

Name: Austin Klaus
Company: John O. Farmer, Inc.
Address: 370 W. Wichita Ave.
Russell, KS 67665

Comments

The E. Honomichl #1-19 well was drilled by Murfin Drilling Rig #8 (Tool Pusher: Randy Farr).

The location for the E. Honomichl #1-19 was discovered via 3D seismic survey. Rock samples were gathered and evaluated from 3,000'-3,670'. Oil shows were encountered in the LKC C,F,J,K, and Arbuckle. Structurally, the Lansing top was picked 4' low to the comparison well, 660' to the east (E. Honomichl #1 - 1947). Structural thinning occurred through the LKC, which resulted in an Arbuckle top 3' high to the comparison well. Good oil shows were observed throughout the top 25-30' of the Arbuckle. All Lansing-Kansas City oil shows should also be evaluated prior to P&A. After complete evaluation of all oil shows and electric logs, it was decided that 5 1/2" production casing be set to further test the E. Honomichl #1-19 on 5/11/19.

ROCK TYPES

Anhy, Bent, Brec, Cht, Clyst, Coal, Congl, Dol, Gyp, Igne, Lmst, Meta, Mrlst, Salt, Shale, Shcol, Shgy, Sltst, Ss, Till

OTHER SYMBOLS

POROSITY
- E Earthy
- Fenest
- F Fracture
- Inter
- Moldic
- Organic
- P Pinpoint
- V Vuggy

SORTING
- W Well
- M Moderate
- P Poor

ROUNDING
- R Rounded
- r Subrnd
- a Subang
- A Angular

OIL SHOW
- Even

- Spotted
- Ques
- D Dead

INTERVAL
- Core
- Dst

EVENT
- Rft
- Sidewall

Curve Track 1
ROP (min/ft)
Gas (units)
Gamma (API)

Depth | Lithology | Oil Shows | Geological Descriptions | DST/Mud/Survey

0 ROP (min/ft) 5
0 Gas (units) 500
0 Gamma (API) 150

29

5/6/2019 MIRT

5/7/2019 236', Drilling

5/8/2019 1,885', Drilling

5/9/2019 3,020', Drilling

5/10/2019 3,525', Drilling

5/11/2019 3,670', Run 5-1/2" Csg

3000

0 ROP (min/ft) 5
0 Gas (units) 500
0 Gamma (API) 150

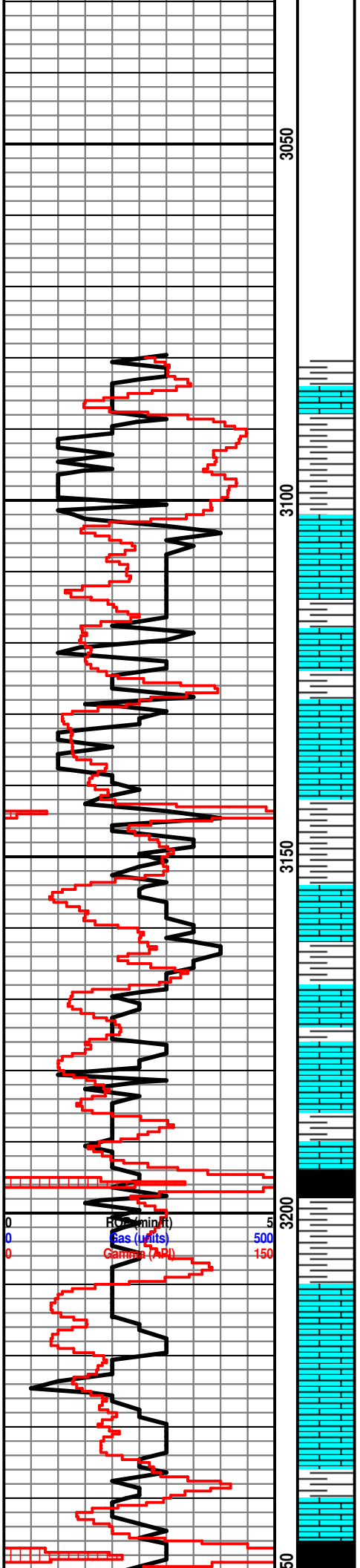
The open-hole logging was performed by Mr. Casey Patterson with Gemini Wireline, LLC (Hays, KS). Logs included: Compensated Density Neutron, Dual Induction, & Microresistivity.

Formation tops and datums from the open-hole logs include the following:

Formation	E-Log	Datum
Anhydrite	1555	593
Topeka	3103	-955
Heebner	3307	-1159
Toronto	3329	-1181
Lansing	3345	-1197
B/KC	3565	-1417
Arbuckle	3590	-1442
LTD	3670	-1522

Mud Engineer:
Chris Keas
Ken Rupp

Tester:
No Drill Stem Tests



Wt: 8.5
Vis: 75

Sh: lt gry

Topeka 3103' (-955)

Ls: off wh-tan, fn xln, scat vuggy porosity, NSFO, no odor

Ls: ala

Ls: off wh-tan, vry fn-fn xln, poor-fair int xln & scat pp vuggy porosity, scat oil stn, VSSFO, sl odor, dull yel fluor

Sh: lt gr-drk gry

Ls: tan-gry, fn-sub xln, mostly DNS, NSFO, scat chalk

Sh: drk gry, scat blk

Ls: tan-gry, fn xln, poor int xln porosity, NSFO

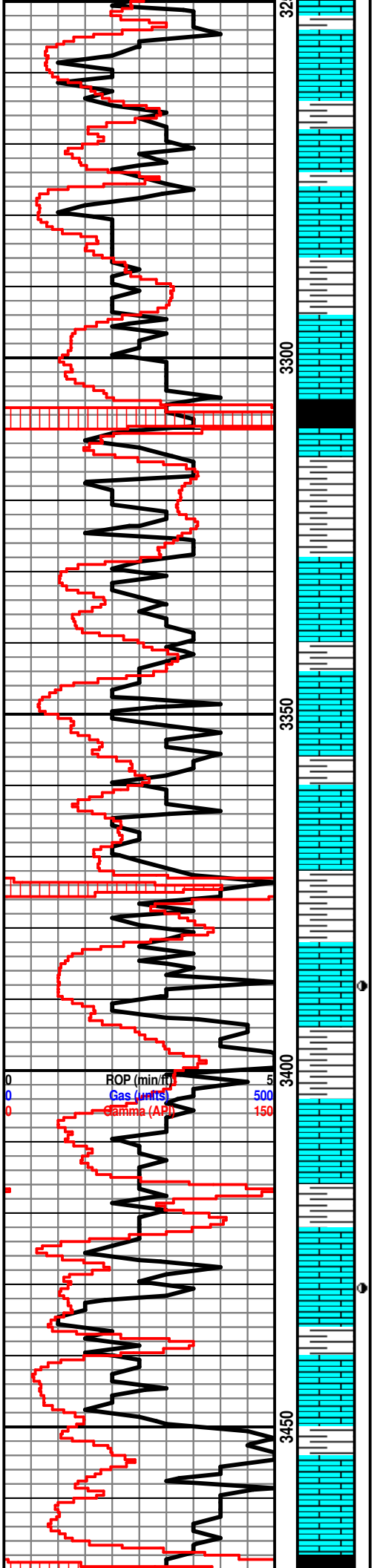
Sh: drk gry-blk

Ls: tan-gry, fn-sub xln, mostly DNS, NSFO

Ls: tan-gry, fn-vry fn xln, scat int xln porosity, scat oil stn, vry lt odor

Sh: gry

Sh: lt-drk gry



Ls: off wh-tan, fn xln, scat int xln & pp vuggy porosity, scat oil stn, sl odor

Ls: tan-gry, fn-sub xln, DNS

Ls: tan-lt gry, fn-sub xln, mostly DNS

Sh: lt-drk gry-brn

Ls: off wh-tan, fn xln

Heebner 3309' (-1161)

Sh: blk, carb, fissile

Sh: lt-drk gry

Ls: off wh-tan, fn xln, scat int xln porosity, scat oil stn, VSSFO, sl-fair odor

Sh: lt gry

Lansing 3347' (-1199)

Ls: off wh-tan, fn xln, scat int xln porosity, scat dead oil stn, NSFO, no odor

Ls: off wh-tan, scat foss, fn xln, poor int xln porosity, barren

Sh: lt-drk gry

Ls: off wh-tan, fn xln, scat ool, poor-fair ool porosity, scat-fair oil stn in porosity, SSFO, sl odor

Sh: lt-drk gry

Ls: off wh-tan, fn xln, scat foss, poor int foss porosity, scat oil stn, NSFO

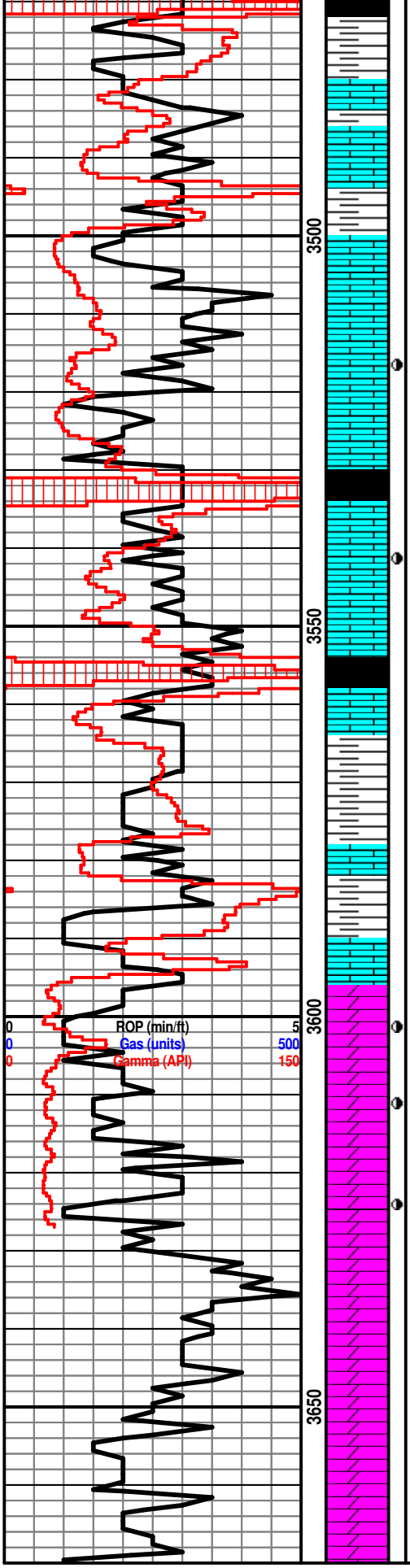
Sh: drk gry

Ls: off wh-tan, fn xln, scat-fair int xln porosity, fair oil stn in porosity, VSSFO, sl odor

Sh: gry

Ls: off wh-tan, fn xln, ool, fair-good ool porosity, mostly barren

Ls: off wh-tan, fn-sub xln, vry DNS, scat chert-off wh, NSFO



Sh: drk gry-blk

Sh: gry

Ls: off-tan, fn xln, poor int xln porosiy, NSFO, hvy chert-off wh

Sh: lt-drk gry-brn

Ls: off wh-tan, fn xln, poor int xln porosity, NSFO

Ls: off wh-tan, fn xln, ool, poor-fair int oom porosity, fair oil stn, VSSFO, sl-fair odor, scat chert-off wh

Sh: drk gry-blk

Ls: off wh-tan, fn xln, poor int xln porosity, scat oil stn, VSSFO, sl odor

Sh: drk gry-blk

Wt: 8.8
Vis: 63

Ls: off wh-tan, fn xln, mostly DNS

B/KC 3568' (-1420)

Sh: lt gry-drk gry-brn

Ls: tan-gry, fn xln, poor int xln porosity, NSFO, hvy chert-off wh

Arbuckle 3592' (-1444)

Dolo/Ls: off wh-tan, fn xln, poor int xln porosity

Dolo: off wh-tan-brn, fn-md xln, fair-good sucrosic xln porosity, fair-good oil sat, FSFO, good odor, fair yel fluor

Dolo: off wh-tan-brn, fn-md xln, fair sucrosic xln porosity, fair-good oil sat, S-FSFO, good odor, fair yel fluor

Dolo: off wh-tan-brn, fn-md xln, fair-good int xln porosity, fair oil sat, S-FSFO, fair-good odor, dul yel fluor

Dolo: off wh-tan, fn-md xln, poor int xln porosity, poor resid oil stn, sl odor

Dolo: off wh-tan-brn, fn-md xln, poor-fair int xln porosity, hvy chert-off wh

Dolo: off wh-tan, fn xln, scat int xln porosity, barren, scat chert-off wh

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025 Home Office P.O. Box 32 Russell, KS 67665 No. 1430
Cell 785-324-1041

Date	Sec.	Twp.	Range	County	State	On Location	Finish
5-6-19	19	9	19	Rooks	KS		8:30

Location [illegible]

Lease Honemichl	Well No. 1-19	Owner	
Contractor [illegible]		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 Surface			
Hole Size 12 1/4	T.D. 236	Charge To Patterson Energy	
Csg. 8 5/8	Depth 235'	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. 10'	Shoe Joint	Cement Amount Ordered 150 80/20 3% cc 2% gel	
Meas Line	Displace 14 BBL		

EQUIPMENT				
Pumptrk 5	No.	Cementer [illegible]	Common 120	
		Helper	Poz. Mix 30	
Bulktrk	No.	Driver [illegible]	Gel. 3	
		Driver	Calcium 5	
Bulktrk 14	No.	Driver	Hulls	
		Driver Michael	Salt	

JOB SERVICES & REMARKS		
Remarks:	Flowseal	
Rat Hole	Kol-Seal	
Mouse Hole	Mud CLR 48	
Centralizers	CFL-117 or CD110 CAF 38	
Baskets	Sand	
D/V or Port Collar	Handling 150	
8 5/8 on bottom Brk Circulation	Mileage	
Mix 150sk [illegible]	FLOAT EQUIPMENT 8 5/8 Surface	
Cement Circulated	Guide Shoe	
	Centralizer	
	Baskets	
	AFU Inserts	
	Float Shoe	
	Latch Down	
Thanks		
	Pumptrk Charge Surface	
	Mileage 35	
	Tax	
	Discount	
X Signature [signature]	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. 1283

Date	Sec.	Twp.	Range	County	State	On Location	Finish
5-11-19	19	9	19	Rooks	Ks		10:00 AM

Location Zurich - 3w to 7Rd, 1N, 1/2E, N/Into

Lease E. Honomichl	Well No. 1-19	Owner	
Contractor Murfin #8		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 Bottom Stage			
Hole Size 7 7/8"	T.D. 3670'	Charge To Patterson Energy	
Csg. 17# New 5 1/2"	Depth 3665'	Street	
Tbg. Size	Depth	City State	
Tool DV Tool	Depth 1566'	The above was done to satisfaction and supervision of owner agent or contractor.	
Cement Left in Csg. 23'	Shoe Joint 23'	Cement Amount Ordered 150 Com 10% Salt 5% Gilsonite	
Meas Line	Displace H2O/mud 82 Bbls	500 gal mud Clear 48 - 10 Bbls KCL	

EQUIPMENT

Pumptrk 5	No.	Cementer Helper	Craig / Rick
Bulktrk 14	No.	Driver Driver	Tony L.
Bulktrk 9	No.	Driver Driver	Tim

JOB SERVICES & REMARKS

Remarks:

Rat Hole

Mouse Hole

Centralizers 1, 3, 5, 7, 9

Baskets 11, 52, 71

(D/V) or Port Collar 1566' #52

Pipe on bottom break Circulation pump 500 gal mud Clear + 10 Bbls KCL! pump 150sx Cement shut down, wash pump + lines, Displaced w/ H2O + mud. Released + held.

Lift pressure 700 #
Land plug to 1500 #
Open tool w/ 700 #
Break Circulation

Common	
Poz. Mix	
Gel.	
Calcium	
Hulls	
Salt	
Flowseal	
Kol-Seal	
Mud CLR 48	
CFL-117 or CD110 CAF 38	
Sand	
Handling	
Mileage	

FLOAT EQUIPMENT

Guide Shoe	
Centralizer	5
Baskets	3
AFU Inserts	
Float Shoe	1
~~Latch Down~~	DV Tool
Pumptrk Charge	
Mileage	
Tax	
Discount	
Total Charge	

X Signature Ann Wiesvatsky.

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. 1284

Date	Sec.	Twp.	Range	County	State	On Location	Finish
5-11-19	19	9	19	Rooks	Ks		12:00 PM

Location Zurich - 3W to 7Rd

Lease E. Honomichl | Well No. 1-19 | Owner

Contractor Murfin #8 | 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 Top stage

Hole Size 7 7/8" | T.D. 3670' | Charge To Patterson Energy

Csg. | Depth | Street

Tbg. Size | Depth | City State

Tool DV Tool | Depth 1566' | The above was done to satisfaction and supervision of owner agent or contractor.

Cement Left in Csg. | Shoe Joint | Cement Amount Ordered 300 80/20 QMDC 1/4# Flo-seal

Meas Line | Displace 36 1/4 Bls

EQUIPMENT

Pumptrk 5 No. Cementer Helper Craig Rick

Bulktrk 9 No. Driver Driver Tim

Bulktrk 14 No. Driver Driver Tony L.

JOB SERVICES & REMARKS

Remarks:

Rat Hole 30sx

Mouse Hole 15sx

Centralizers

Baskets

(DV) or Port Collar #52 1566'

Open tool w/ 700# Break Circulation Plug Rathole + Mousehole Hook to 5 1/2" Casing + mix 300 sx Cement. Shut down Drop plug + Displaced w/ 36 1/4 Bls. Released + held.

Closed tool w/ 1700 #

Common	
Poz. Mix	
Gel.	
Calcium	
Hulls	
Salt	
Flowseal	
Kol-Seal	
Mud CLR 48	
CFL-117 or CD110 CAF 38	
Sand	
Handling	
Mileage	
FLOAT EQUIPMENT	
Guide Shoe	
Centralizer	
Baskets	
AFU Inserts	
Float Shoe	
Latch Down	
Pumptrk Charge	
Mileage	
Tax	
Discount	
Total Charge	

X Signature