

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 # \_\_\_\_\_

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

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 #: \_\_\_\_\_

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: \_\_\_\_\_

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  Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

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

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:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____				
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) (Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

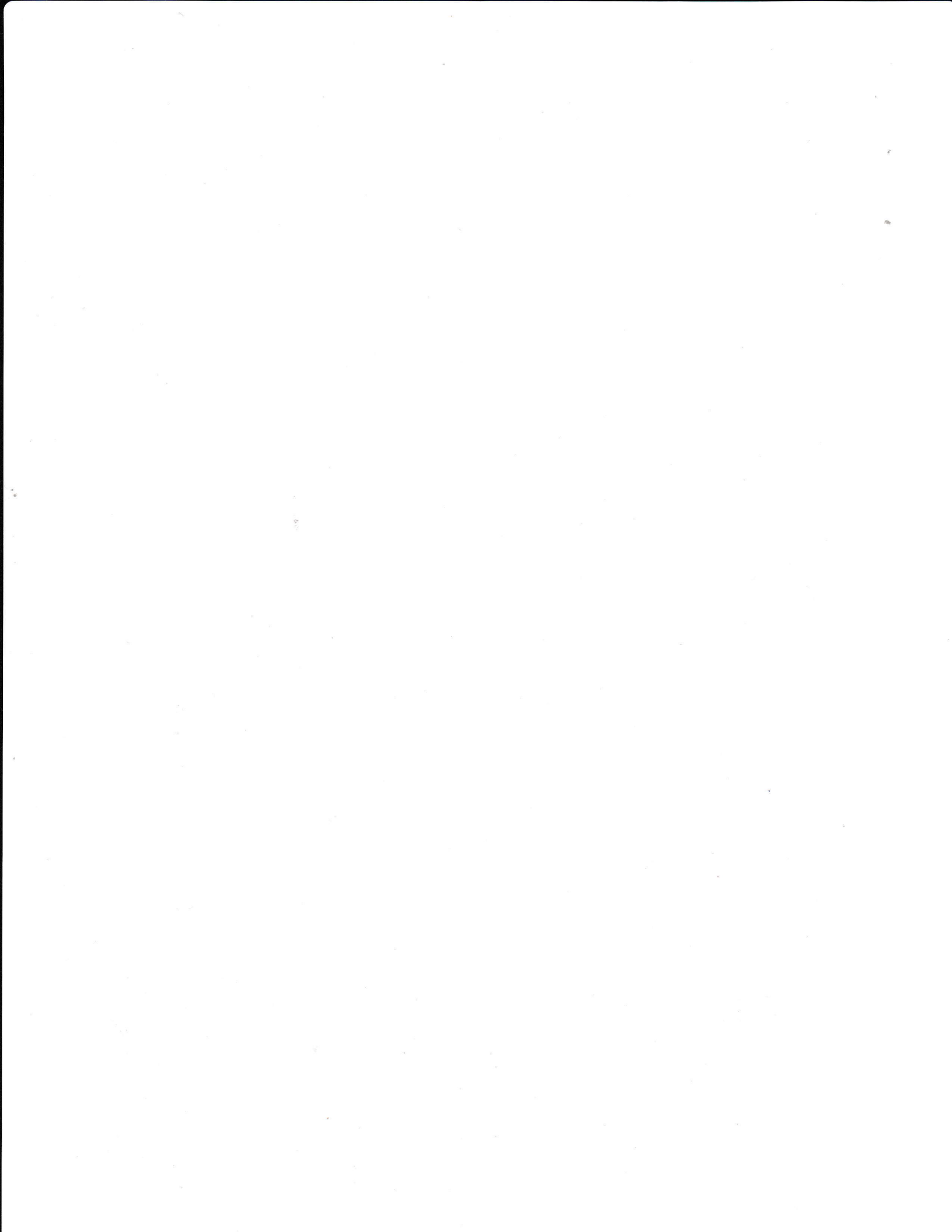
TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	Patterson Energy LLC
Well Name	BERNSTORF-JANKE 11
Doc ID	1661251

Tops

Name	Top	Datum
Anhy	750	1174
Topeka	2634	-710
Heebner	2962	-1038
Lansing	3079	-1154
B/KC	3323	-1399
Arbuckle	3348	-1424
Reagan Sand	3452	-1528
LTD	3656	-1732





# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-1071  
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 2814

Date	4-29-22	Sec.	33	Twp.	16	Range	11	County	Barton	State	Ks	On Location		Finish	5:30 PM	
Lease	Bernstorff - Janke							Location	Hitschmann - 2E, S/S							
Contractor	Murfin 16							Well No.	11							
Type Job	Surface							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.							
Hole Size	12 1/4"		T.D.	724'		Charge To	Patterson Energy									
Csg.	8 5/8"		Depth	724'		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.	30'		Shoe Joint	30'		Cement Amount Ordered	320 80/20 3% CC 2% Gel									
Meas Line			Displace	44 1/4 BW												
<b>EQUIPMENT</b>																
Pumptrk	16	No.	Cementer	David		Common	256									
			Helper			Poz. Mix	64									
Bulktrk	21	No.	Driver	Doug		Gel.	7									
Bulktrk	2.41	No.	Driver	Rick		Calcium	11									
<b>JOB SERVICES &amp; REMARKS</b>																
Remarks:	Cement did Circulate															
Rat Hole																
Mouse Hole																
Centralizers																
Baskets																
D/V or Port Collar																
	Handling 338															
	Mileage															
<b>FLOAT EQUIPMENT</b>																
	Guide Shoe Rubber plug															
	Centralizer															
	Baskets															
	AFU Inserts															
	Float Shoe															
	Latch Down															
	Pumptrk Charge Surface															
	Mileage 34															
	Thanks															
X Signature	Ag Seal										Tax					
											Discount					
											Total Charge					



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Home Office P.O. Box 32 Russell, KS 67665

No. 2818

Date **5-4-22** Sec. ~~33~~ Twp. **16** Range **11** County **Barton** State **Ks** On Location **5** Finish **12:30 PM**

Lease **Barnstorf - Janke** Location **Hitschmann - 2E 5 into** Well No. **11** Owner **To Quality Oilwell Cementing, Inc.**

Contractor **Murfin #16** 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 **Longstring** Charge To **Patterson Energy**

Hole Size **7 7/8"** T.D. **3660'** Csg. **5 1/2"** Depth **3555'** Street \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_

Tbg. Size \_\_\_\_\_ Depth **↓** City \_\_\_\_\_ State \_\_\_\_\_ Tool \_\_\_\_\_ Depth \_\_\_\_\_ The above was done to satisfaction and supervision of owner agent or contractor.

Cement Left in Csg. **38.59'** Shoe Joint **38.59'** Cement Amount Ordered **175 Com 10% Salt 5% Grit**

Meas Line \_\_\_\_\_ Displace **83 3/4 BUS** **500 gal mud Clear 48** Common **175**

**EQUIPMENT**

Pumptrk <b>16</b>	No.	Cementer <b>David</b>	Helper	Poz. Mix
Bulktrk <b>14</b>	No.	Driver <b>Jordan Clayton</b>	Driver	Gel.
Bulktrk <b>P.U.</b>	No.	Driver <b>Rick</b>	Driver	Calcium

**JOB SERVICES & REMARKS**

Remarks: \_\_\_\_\_  
 Rat Hole **30 SX** Flowseal \_\_\_\_\_  
 Mouse Hole **N/A** Kol-Seal **750#**  
 Centralizers **1, 4, 7, 10, 13** Mud CLR **48 500 gal**  
 Baskets **2** CFL-117 or CD110 CAF 38  
 D/V or Port Collar **pipe on bottom break** Sand **196**  
 Circulation pump **500 gal mud** Handling \_\_\_\_\_  
 Clear **48 plug Rathole Cement** Mileage \_\_\_\_\_  
**5 1/2" casing w/ 145 SX. Shut down**

**FLOAT EQUIPMENT**

+ wash pump + lines. Displaced **Triplex Shoe**  
 plug w/ **83 3/4 BUS of 120** Centralizer **5**  
 Released + plug **did** Baskets **1**  
**NOT Hold.** AFU Inserts \_\_\_\_\_  
 Lift pressure **700 #** Float Shoe \_\_\_\_\_  
 Land plug to **1500 #** Latch Down **1**  
 Shut in @ **650 #**

Pumptrk Charge **prod string**  
 Mileage **34**

X Signature **Tom Beer**

*Thanks*

Tax \_\_\_\_\_  
 Discount \_\_\_\_\_  
 Total Charge \_\_\_\_\_





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Well No. **11** Owner: **To Quality Oilwell Cementing, Inc.**  
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Contractor: **Murfin #16** Type Job: **Longstring** Charge To: **Patterson Energy**

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Meas Line: **83 3/4 BUS** Displace: **500 gal mud Clear 48** Common: **175**

EQUIPMENT			
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			Helper <b>David</b>
Bulktrk	14	No.	Driver
			<b>Jordan Clayton</b>
Bulktrk	P.U.	No.	Driver
			<b>Rick</b>

POZ. MIX: **175** GEL: **14** CALCIUM: **14**

REMARKS: **30 SX** FLOWSEAL: **750#**

MOUSE HOLE: **N/A** KOL-SEAL: **500 gal**

CENTRALIZERS: **1, 4, 7, 10, 13** MUD CLR: **48**

BASKETS: **2** CFL-117 or CD110 CAF: **38**

D/V or Port Collar: **pipe on bottom break** SAND: **196**

Circulation pump 500 gal mud Clear 48 plug Rathole Cement 5 1/2" casing w/ 1745 sx. Shut down + wash pump + lines. Displaced plug w/ 83 3/4 BUS of 120 Released + plug hold. Did NOT Hold.

Lift pressure 700 # HANDLING: **1**

Land plug to 1500 # MILEAGE: **34**

Shut in @ 650 # PUMPTRK CHARGE: **prod string**

Tax: **34** DISCOUNT: **0**

SIGNATURE: **Tom Beer** TOTAL CHARGE: **Thanks**

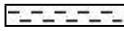
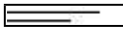

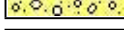
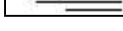


### Comments

The Bernstorf-Janke #11 well was drilled by Murfin Drilling Company Rig #16 (Tool Pusher: Andy Dinkel).

The Bernstorf-Janke #11 well was drilled for utilization as a salt-water disposal well. Drill time was recorded, and rock samples were collected and evaluated from 2,600' - 3,660'. Several Lansing zones contained good porosity development with oil staining (see below). Good porosity development and fair oil shows were also encountered in the upper Arbuckle section. Structurally, the Bernstorf-Janke #11 ran very similar to the Bernstorf-Janke #1 (2/1980; located 415' southwest) at the Lansing and Arbuckle formations. Additionally, this well encountered the Reagan Sand and Granite Wash formations. On May 4, 2022, 5-1/2" casing was set on Bernstorf-Janke #11.

### ROCK TYPES

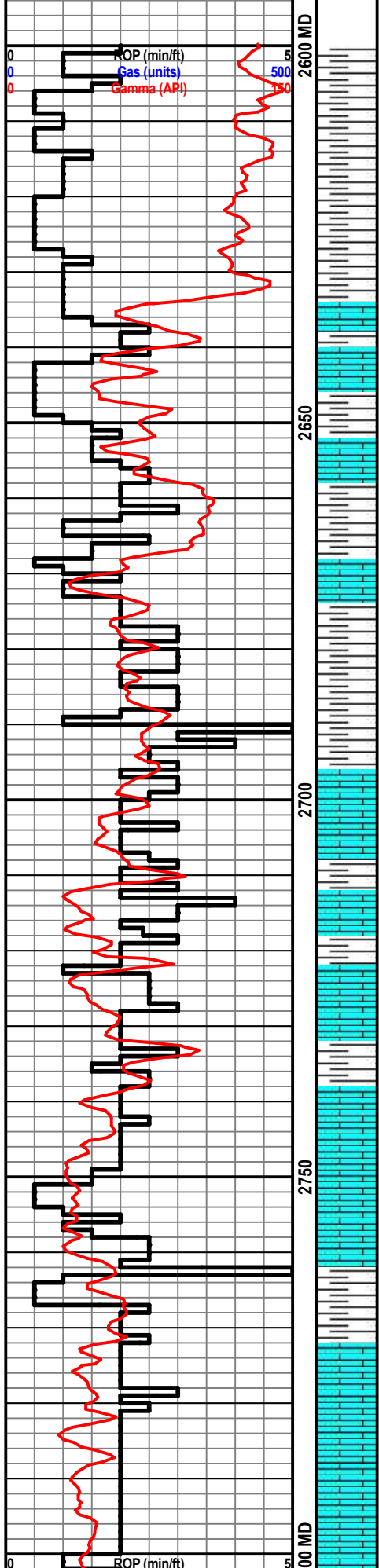
 Anhy	 Clyst	 Gyp	 Mrlst	 Shgy
 Bent	 Coal	 Igne	 Salt	 Slstst
 Brec	 Congl	 Lmst	 Shale	 Ss
 Cht	 Dol	 Meta	 Shcol	 Till

### OTHER SYMBOLS

<b>POROSITY</b>	<input checked="" type="checkbox"/> Vuggy	<b>ROUNDING</b>	<input type="checkbox"/> Spotted	<b>EVENT</b>
<input type="checkbox"/> Earthy	<b>SORTING</b>	<input type="checkbox"/> Rounded	<input type="checkbox"/> Ques	<input type="checkbox"/> Rft
<input type="checkbox"/> Fenest		<input type="checkbox"/> Subrnd	<input type="checkbox"/> Dead	<input type="checkbox"/> Sidewall
<input type="checkbox"/> Fracture		<input type="checkbox"/> Subang	<b>INTERVAL</b>	<input type="checkbox"/> Core
<input type="checkbox"/> Inter		<input type="checkbox"/> Angular		<input type="checkbox"/> Dst
<input type="checkbox"/> Moldic	<input type="checkbox"/> Well	<b>OIL SHOW</b>		
<input type="checkbox"/> Organic	<input type="checkbox"/> Moderate	<input type="checkbox"/> Even		
<input type="checkbox"/> Pinpoint	<input type="checkbox"/> Poor			

Curve Track 1	MD	Lithology	Geological Descriptions	DST/Mud/Survey																														
ROP (min/ft) ————— Gas (units) - - - - - Gamma (API) —————																																		
0 ROP (min/ft) 5 0 Gas (units) 500 0 Gamma (API) 150	25		<p><i>The open-hole logging was performed by Mr. Gus Pfanenstiel with Gemini Wireline, LLC (Hays, KS). Logs included: Compensated Density Neutron, Dual Induction, and Microresistivity.</i></p> <p><i>Formation tops and datums from the open-hole logs include the following:</i></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Formation</th> <th>E-Log</th> <th>Datum</th> </tr> </thead> <tbody> <tr><td>Anhydrite</td><td>750</td><td>1174</td></tr> <tr><td>Topeka</td><td>2634</td><td>-710</td></tr> <tr><td>Heebner</td><td>2962</td><td>-1038</td></tr> <tr><td>Toronto</td><td>2978</td><td>-1054</td></tr> <tr><td>Lansing</td><td>3079</td><td>-1155</td></tr> <tr><td>B/KC</td><td>3323</td><td>-1399</td></tr> <tr><td>Arbuckle</td><td>3348</td><td>-1424</td></tr> <tr><td>Reagan Sd.</td><td>3452</td><td>-1528</td></tr> <tr><td>Granite Wash</td><td>3517</td><td>-1593</td></tr> </tbody> </table>	Formation	E-Log	Datum	Anhydrite	750	1174	Topeka	2634	-710	Heebner	2962	-1038	Toronto	2978	-1054	Lansing	3079	-1155	B/KC	3323	-1399	Arbuckle	3348	-1424	Reagan Sd.	3452	-1528	Granite Wash	3517	-1593	<p><i>Mud Engineer: Brandon Mendez</i></p>
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-4/29/2022 415', drilling																																		
-4/30/2022 825', drilling																																		
-5/1/2022 1,970', drilling																																		
-5/2/2022 2,805', drilling																																		
-5/3/2022 3,370', drilling																																		
-5/4/2022 3,660', lay down drill pipe																																		
-5/5/2022 3,660', RDRT	2550																																	





Sh: lt-drk gry

**Topeka 2637' (-713)**

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

Ls: tan-gry, fn xln, mostly DNS, foss

Sh: lt-drk gry

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

Sh: lt-drk gry

Sh: lt-drk gry

Ls: lt gry-tan, fn xln, mostly DNS, scat foss

Ls: lt gry-tan-cm, fn xln, scat foss, NSFO

Ls: ala

Sh: lt-drk gry

Ls: tan-gry, fn-md xln, scat foss, scat int xln porosity, NSFO

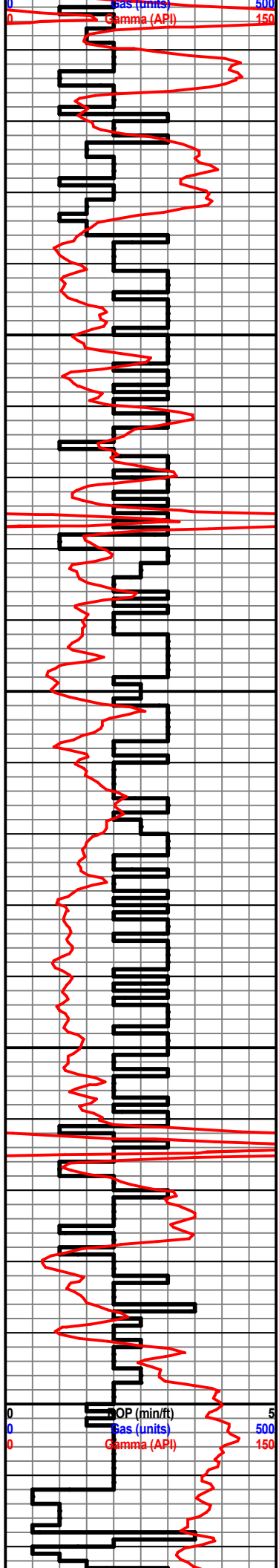
Ls: tan-gry, fn-md xln, scat foss, NSFO

Sh: lt gry

Ls: tan-lt gry, fn-sub xln, NSFO

Ls: tan-gry, fn xln, scat-poor int xln porosity, scat bm oil strn





Sh: drk gry-blk

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

Sh: lt-drk gry

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

Ls: tan-gry, fn xln, scat foss, no visible porosity

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

Ls: ala

Sh: drk gry-blk

Sh: lt gry, scat slts: gry-gm

Ls: tan-gry, fn xln, scat foss, no visible porosity, NSFO

Sh: scat lt-drk gry

Ls: tan-gry, fn xln, foss, NSFO

Ls: ala

**Heebner 2961' (-1037)**

Sh: blk, carb, fissile

**Toronto 2976' (-1052)**

Ls: off wh-tan-gry, scat foss, fn xln, fair int xln & vuggy porosity, scat edge strn, NSFO

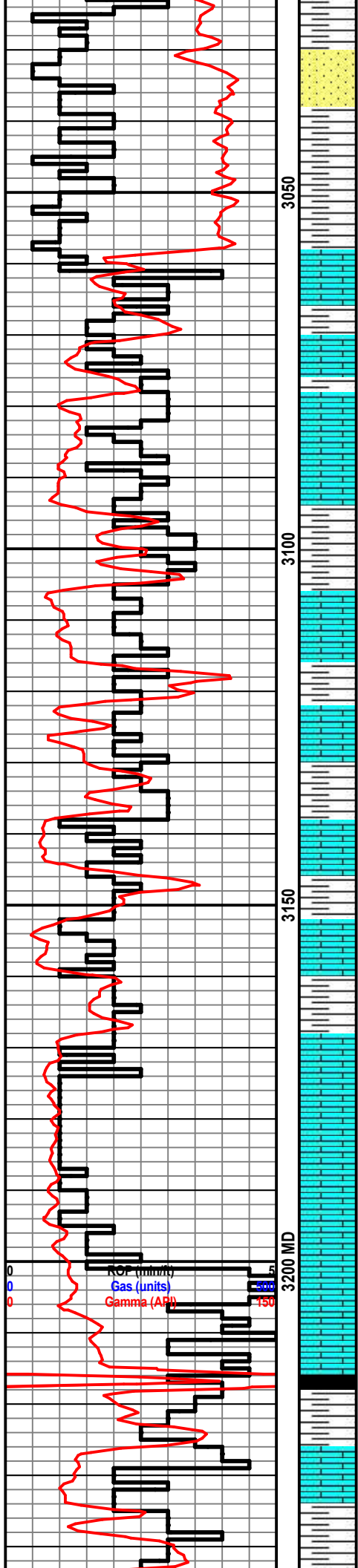
Ss: tan-lt gry, fn-vry fn gm, friable, scat strn

Ss: ala

Sh: lt gry-gm

Vis: 54

Wt: 9  
Vis: 59



Ss: tan-lt gry, vry fn gm, friable, scat sh: gry

**Brown Lime 3058' (-1134)**

Ls: tan-bm, fn xln, no visible porosity, scat chert-off wh

Sh: lt gry-gm

**Lansing 3076' (-1152)**

Ls: off wh-tan, fn xln, poor int xln porosity, few rxns w/ fair int xln porosity, scat edge stn, NSFO

Ls: tan-lt gry, fn-sub xln, DNS, scat chert

Sh: lt-drk gry

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

Sh: lt-drk gry

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

Sh: drk gry

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

Sh: lt-drk gry

Ls: off wh-tan, fn xln, ool, fair-good oom, porosity, scat dead oil stn, NSFO, scat chalk

Sh: lt-drk gry

Ls: off wh-tan, scat foss, ool, fair-good oom porosity, scat edge stn, mostly barren, NSFO, scat chert

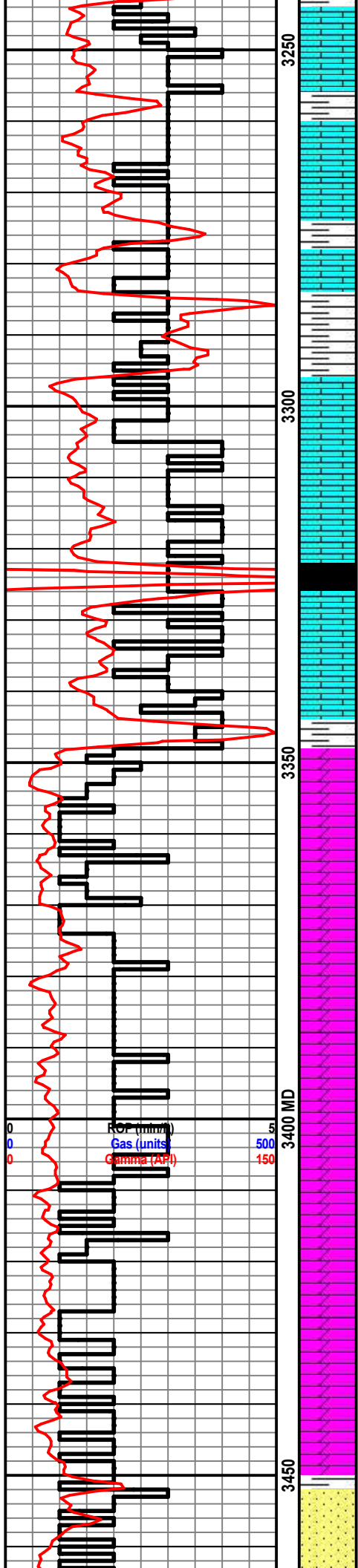
Ls: off wh-tan, foss, ool, good oom porosity, barren, scat chalk

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

Sh: drk gry, blk

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

Sh: lt-drk gry



Ls: off wh-tan-gr, fn xln, poor int xln & scat vuggy porosity, NSFO, scat chert

Sh: lt-drk gry

Ls: off wh-tan, fn xln, foss, scat int xln & int foss porosity, lt edge stn, NSFO, no odor

Sh: drk gry

Sh: drk gry-blk

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

Ls: ala

**B/KC 3327' (-1403)**

Sh: blk, carb

Ls: tan-gr, fn-sub xln, DNS, scat congl, NSFO

**Arbuckle 3344' (-1420)**

Dolo: off wh-tan, fn-md xln, fair sucrosic xln porosity, VSSFO, few rxns w SSFO when broken, sl-fair odor

Dolo: off wh-tan, fn-md xln, fair-good sucrosic xln porosity, trace stn, VSSFO, vry lt odor

Dolo: off wh-tan, md-crs xln, good sucrosic xln porosity, trace oil stn, NSFO

Wt: 9.2  
Vis: 72

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

Dolo: ala

Dolo: off wh-tan, fn xln, poor-fair int xln porosity, barren

Dolo: off wh-tan, fn xln, fair int xln porosity, scat sand, NSFO

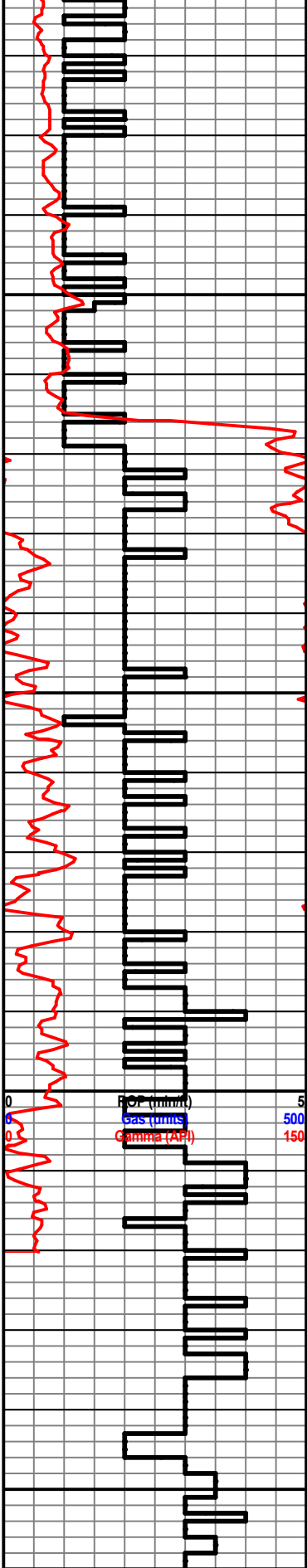
Dolo: off wh-tan, fn-md xln, fair int xln porosity, snd: fn gm, md, fair-good int gm porosity, barren

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

Dolo: off wh-tan, fn-md xln, fair-good int xln porosity, scat chert-off wh

**Reagan Sand 3454' (-1530)**

Ss: qtz, wh-clr, fn-md gm, sub round, fair sorting, friable, good int gm porosity, trace bm stn, NSFO



3500

3550

3600 MD

3650

ROP (min)  
Gas (ppms)  
Gamma (API)

500  
150

Ss: qtz, wh-clr, fn gm, sub round, fair sorting, friable, good int gm porosity, barren

Ss: qtz, wh-clr, fn-md gm, fair md, poor-fair sorting, friable, good int gm porosity, barren

Ss: qtz, wh-clr, fn-md gm, fair-sub md, poor-fair sorting, friable, good int gm porosity, barren

**Granite Wash 3519' (-1595)**

Dolo: lt tan-bm, vry fn-fn xln, fair-good int xln porosity, qtz: md-gm, hvy chert, frac

Qtz: lt-drk gry, well cemented, vry DNS, scat ls: tan-gry,

Qtz: ala

Qtz: off wh-lt gry-bm, vry DNS, scat sh: lt gry-bm, scat ss: vry fn gm

Qtz: ala

Qtz: tan-gry, vry DNS, hvy sh: drk gry-bm, scat soft

Qtz: ala

*\*Poor sample quality through Granite Wash Section*

Wt: 9.3  
Vis: 55