



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1105124  
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: \_\_\_\_\_



1105124

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 <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  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				

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: <input type="checkbox"/> Yes <input type="checkbox"/> No
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Date of First, Resumed Production, SWD or ENHR.	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

<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> <input type="checkbox"/> Other <i>(Specify)</i> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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Form	ACO1 - Well Completion
Operator	Farmer, John O., Inc.
Well Name	Froelich C 1-31
Doc ID	1105124

All Electric Logs Run

Micro Resistivity Log
Dual Compensated Porosity Log
Dual Induction Log
Cement Bond Log
Computer Processed Interpretation

Form	ACO1 - Well Completion
Operator	Farmer, John O., Inc.
Well Name	Froelich C 1-31
Doc ID	1105124

Tops

Name	Top	Datum
Anhydrite	1093'	(863)
Topeka	2856'	(-900)
Heebner	3111'	(-1155)
Toronto	3132'	(-1176)
Lansing	3160'	(-1204)
Base/KC	3399'	(-1443)
Arbuckle	3424'	(-1468)
L.T.D.	3505'	(-1549)

Conservation Division  
Finney State Office Building  
130 S. Market, Rm. 2078  
Wichita, KS 67202-3802



Phone: 316-337-6200  
Fax: 316-337-6211  
<http://kcc.ks.gov/>

Mark Sievers, Chairman  
Thomas E. Wright, Commissioner  
Shari Feist Albrecht, Commissioner

Sam Brownback, Governor

December 18, 2012

Marge Schulte  
Farmer, John O., Inc.  
370 W WICHITA AVE  
PO BOX 352  
RUSSELL, KS 67665-2635

Re: ACO1  
API 15-051-26360-00-00  
Froelich C 1-31  
NE/4 Sec.27-12S-16W  
Ellis County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,  
Marge Schulte



# Discovery Drilling

P.O. Box 763 • Hays, KS 67601 • OFFICE (785) 623-2920 • CELLULAR (785) 635-1511

## DRILLER'S LOG

Operator: John O. Farmer, Inc. Lic# 5135 Contractor: Discovery Drilling Co., Inc. LIC#31548  
P.O. Box 352 - 370 West Wichita Avenue PO Box 763  
Russell, KS 67665 Hays, KS 67601

Lease: Froelich "C" # 1-31 Location: S/2-SW-NE-NE  
Section 27/ 12S/ 16W  
Ellis County, KS

Loggers Total Depth: 3505' API#15- 051-26,360-00-00  
Rotary Total Depth: 3500' Elevation: 1948 GL / 1956 KB  
Commenced: 8/30/2012 Completed: 9/5/2012  
Casing: 8 5/8" @ 230.98'W/150sks Status: Oilwell  
5 1/2" @ 3498'W/130sks  
(Port Collar @ 1095')

### DEPTHS & FORMATIONS (All from KB)

Surface, Sand & Shale	<u>0'</u>	Shale	<u>1132'</u>
Dakota Sand	<u>457'</u>	Shale & Lime	<u>1409'</u>
Shale	<u>531'</u>	Shale	<u>1913'</u>
Cedar Hill Sand	<u>601'</u>	Shale & Lime	<u>2308'</u>
Red Bed Shale	<u>780'</u>	Lime & Shale	<u>2879'</u>
Anhydrite	<u>1092'</u>	RTD	<u>3500'</u>
Base Anhydrite	<u>1132'</u>		

STATE OF KANSAS )  
) ss  
COUNTY OF ELLIS )

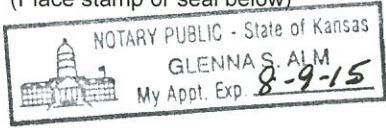
Thomas H. Alm of Discovery Drilling states that to the best of his knowledge the above and foregoing is a true and correct log of the above captioned well.

Thomas H. Alm

Subscribed and sworn to before me on 9-17-2012

My Commission expires: 8-9-2015

(Place stamp or seal below)



Notary Public

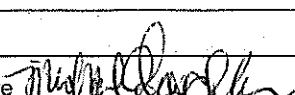
# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025  
Cell 785-324-1041

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

No. 729

Date	8-30-12	Sec.	27	Twp.	12	Range	16	County	Ellis	State	KS	On Location		Finish	7:30pm
Lease	Frolich - C			Well No.	1-31			Location	Well 1/4 N to Decatur 1/4 to 3/4 NW to hope well Rd East						
Contractor	Discovery Rig 4							Owner	To Quality Oilwell Cementing, Inc.						
Type Job	Surface							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.	231			Charge To	John O Farmer						
Csg.	8 5/8			Depth	230.98			Tbg. Size							
Tool				Depth				Street							
Cement Left in Csg.	20ft			Shoe Joint	20ft			City	State						
Meas Line				Displace	13.41 BBL			The above was done to satisfaction and supervision of owner agent or contractor.							
EQUIPMENT								Cement Amount Ordered 150 390cc 290gel							
Pumptrk	15	No.		Cementer	Matt			Common	150						
Bulktrk	14	No.		Driver	Nick			Poz. Mix							
Bulktrk		No.		Driver	Doug			Gel.	3						
JOB SERVICES & REMARKS								Calcium 5							
Remarks:								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 158							
	Cement did Circulate							Mileage							
								FLOAT EQUIPMENT							
								Guide Shoe							
								Centralizer							
								Baskets							
								AFU Inserts							
								Float Shoe							
								Latch Down							
								Pumptrk Charge Surface							
								Mileage 24							
								Tax							
								Discount							
								Total Charge							
Signature 															







# 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. 737

Date	9-11-12	Sec.	27	Twp.	12	Range	16	County	Ellis	State	KS	On Location		Finish	10:30 AM
Lease	Froelich		Well No.	C232		Location									

Contractor			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.												
Type Job	port collch		T.D.													
Hole Size	5 1/2		Depth	1095		Charge To	John O Farmer									
Csg.	2 1/2		Depth	Street John O Farmer Inc												
Tbg. Size			Depth	City State												
Tool			Shoe Joint	The above was done to satisfaction and supervision of owner agent or contractor.												
Cement Left in Csg.			Displace			Cement Amount Ordered	175 Qmdc 1/4 flow									

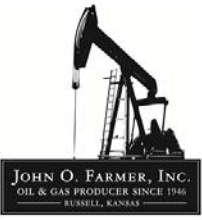
EQUIPMENT						
Pumptrk	#9	No.	Cement Helper	Matt	Common	120
Bulktrk	#19	No.	Driver	Dave	Poz. Mix	
Bulktrk	pu	No.	Driver	Cody	Gel.	600

JOB SERVICES & REMARKS	
Remarks:	Hulls
Rat Hole	Salt
Mouse Hole	Flowseal 40#
Centralizers	Kol-Seal
Baskets	Mud CLR 48
D/V or Port Collar	CFL-117 or CD110 CAF 38
	Sand
	Handling 175
	Mileage

Cement did circulate  
Tested @ 900psi & held.  
opened port collar  
mixed 3 gel & shut  
Backs in 3 more gel  
& got circ. mixed 120 gk  
& circ cement to surface  
shut too 1. pressured to  
900psi & held ran 5 ft  
& wash clean.  
Useful

FLOAT EQUIPMENT	
Guide Shoe	
Centralizer	
Baskets	
AFU Inserts	
Float Shoe	
Latch Down	
Pumptrk Charge	port collar
Mileage	23
Tax	
Discount	
Total Charge	

X Signature



# 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:** Froelich C#1-31  
**Location:** Ellis County  
**License Number:** API #15-051-26360-0000  
**Spud Date:** 8/30/2012  
**Surface Coordinates:** 1,050' FNL & 990' FEL  
**Bottom Hole Coordinates:** Section 27 - Township 12 South - Range 16 West  
**Vertical well with minimal deviation**  
**Ground Elevation (ft):** 1948' **K.B. Elevation (ft):** 1956'  
**Logged Interval (ft):** 2800' **To:** RTD **Total Depth (ft):** RTD: 3500' **LTD:** 3505'  
**Formation:** Topeka-Arbuckle  
**Type of Drilling Fluid:** Chemical (Andy's)  
**Region:** Kansas  
**Drilling Completed:** 9/4/2012

Printed by STRIP.LOG from WellSight Systems 1-800-447-1534 [www.WellSight.com](http://www.WellSight.com)

## OPERATOR

**Company:** John O. Farmer, Inc.  
**Address:** P.O. Box 352  
Russell, KS 67665-0352

## COMMENTS

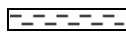



The Froelich C#1-31 well was drilled by Discovery Drilling Rig #4 (Tool Pusher: Mike Gaschler).





The location for the Froelich C#1-31 was found via 3-D seismic survey. Based on the evaluation of the logs run and the samples collected, the decision was made to set 5 1/2" production casing on 9/5/2012 to further evaluate the Froelich C#1-31 well.

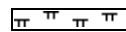

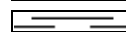
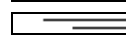


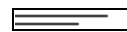



**ROCK TYPES**

-  Anhy
-  Bent
-  Brec
-  Cht








-  Clyst
-  Coal
-  Congl
-  Dol

-  Gyp
-  Igne
-  Lmst
-  Meta

-  Mrlst
-  Salt
-  Shale
-  Shcol





-  Shgy
-  Sltst
-  Ss
-  Till

**OTHER SYMBOLS**

- POROSITY**
-  Earthy
  -  Fenest
  -  Fracture
  -  Inter
  -  Moldic
  -  Organic
  -  Pinpoint

Vuggy

- SORTING**
-  Well
  -  Moderate
  -  Poor

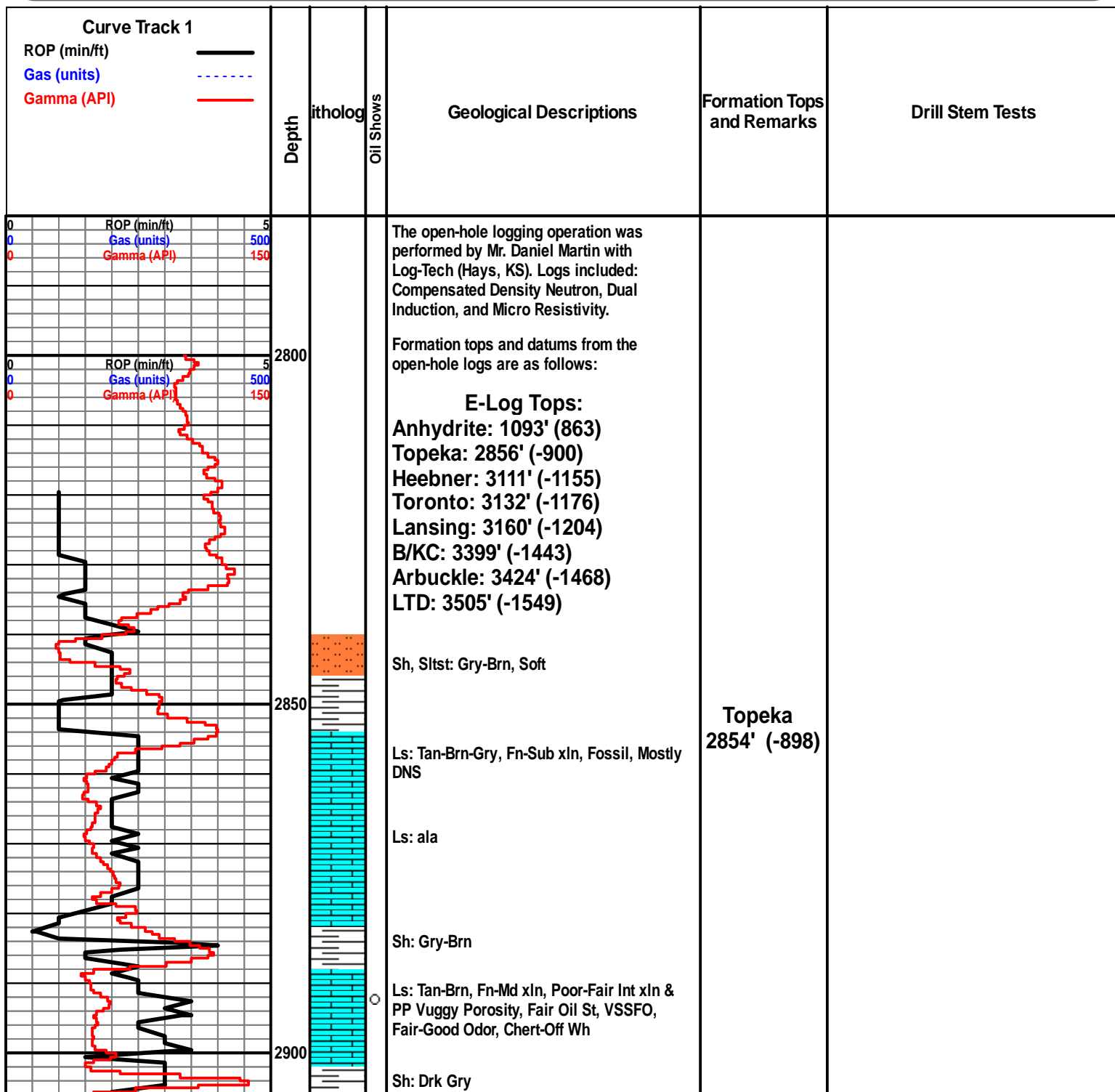
- ROUNDING**
-  Rounded
  -  Subrnd
  -  Subang
  -  Angular

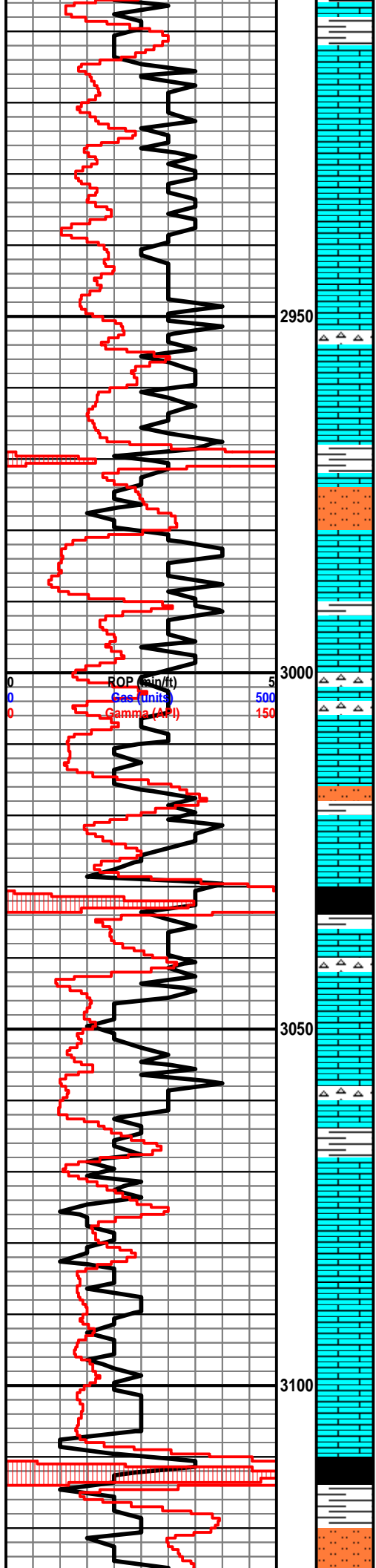
- OIL SHOW**
-  Even

-  Spotted
-  Ques
-  Dead

- INTERVAL**
-  Core
  -  Dst

- EVENT**
-  Rft
  -  Sidewall





Ls: Tan-Brn, Fn-Sub xIn, Mostly DNS, SI Fossil

Ls: ala

Ls: Lt Gry-Tan, Fn-Sub xIn, Mostly DNS, Fossil

2950  
Ls: Lt Gry-Tan-Off Wh, Fn-Sub xIn, Mostly DNS, SI Chert-Off Wh

Sh: Drk Gry-Blk

Sh, Slst: Lt Gry-Brn-Grn, Soft

Ls: Lt Gry-Gry, Fn-Sub xIn, Mostly DNS, SI Fossil

Ls: ala

ROP (ft) 5  
Gas (units) 500  
Gamma (API) 150

3000  
Ls: Lt Gry-Tan, Fn-Sub xIn, Mostly DNS, Hvy Chert-Off Wh,

Sh, Slst: Lt Gry-Brn, Soft

Sh: Drk Gry-Blk, Carb

Ls: Off Wh-Lt Gry, Fn-Sub xIn, Fossil, Mostly DNS, SI Chalky, Chert-Off Wh

3050  
Ls: ala

Ls: Lt Gry, Fn-Sub xIn, DNS, Chert-Off Wh

Ls: Off Wh, Fn xIn, Poor Int xIn & Vuggy Porosity, Fair Oil St in Porosity, Fair Odor, VSSFO, Chert-Off Wh

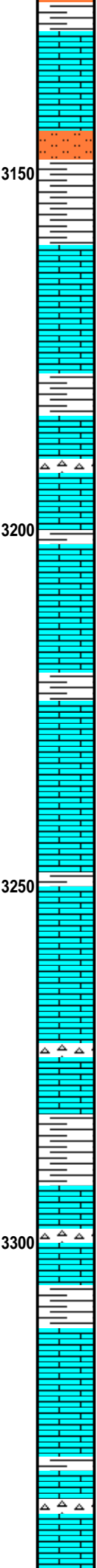
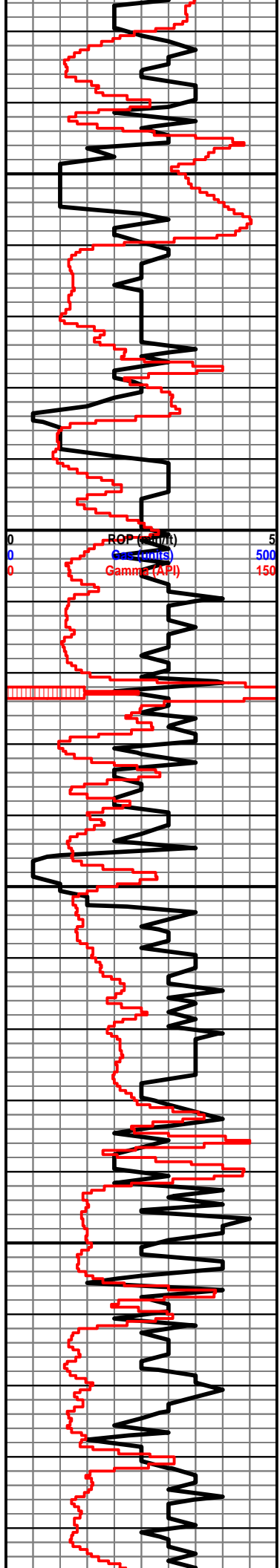
Ls: Off Wh-Lt Gry, Fn-Sub xIn, Mostly DNS

3100  
Ls: ala

Sh: Blk, Carb, Fissile

Sh, Slst: Gry-Brn-Grn, Soft

Heebner  
3107'(-1151)



Ls: Off Wh-Tan, Fn xln, Poor Int xln & PP Vuggy Porosity, Lt Oil St in Porosity, NSFO, Vry Lt Odor, Fossil

Toronto  
3128'(-1172)

Sh, Stst: Gry-Brn-Grn

Lansing  
3156'(-1200)

Ls: Off Wh-Tan, Fn xln, Poor-Fair Int xln Porosity, Lt Oil St, Fair Odor, SSFO

A

Sh: Gry-Drk Gry

Ls: Off Wh-Tan, Fn xln, Ool, Fair-Good Oom Porosity, SI Oil St in Porosity, SSFO, Fair-Good Odor, Fossil, Chert-Off Wh

B

C

Sh: Gry

Ls: Off Wh-Tan, Fn xln, Poor Int xln Porosity, SI Oil St in Porosity, Chert-Off Wh, Fossil, VSSFO

D

Sh: Drk Gry-Blk

Ls: Tan-Gry, Fn-Sub xln, Mostly DNS, SI Fossil

E

Ls: Off Wh-Tan, Fn xln, Poor Int xln Porosity, SI Oil St in Porosity, SI Odor, Chert-Off Wh, NSFO

F

Sh: Gry

Ls: Off Wh-Tan, Fn xln, Ool, Poor-Fair Oom & Int xln Porosity, Lt Oil St, Fair Odor, SSFO, Fossil

G

Ls: Off Wh-Tan, Fn-Sub xln, Mostly DNS, SI Chert-Off Wh, SI Chalky

Sh: Drk Gry

Sh: Drk Gry-Blk

Ls: Off Wh-Tan, Fn-Sub xln, Mostly DNS, Chert-Off Wh-Lt Blue, SI Chalky, Fossil

H

Sh: Drk Gry-Grn

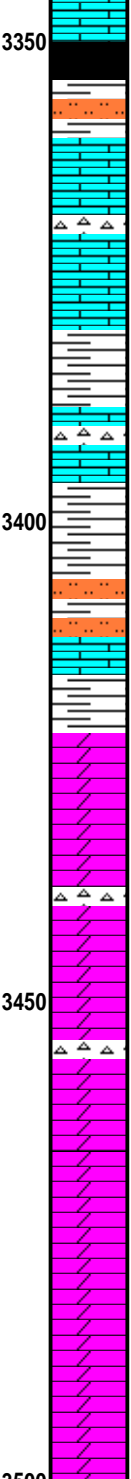
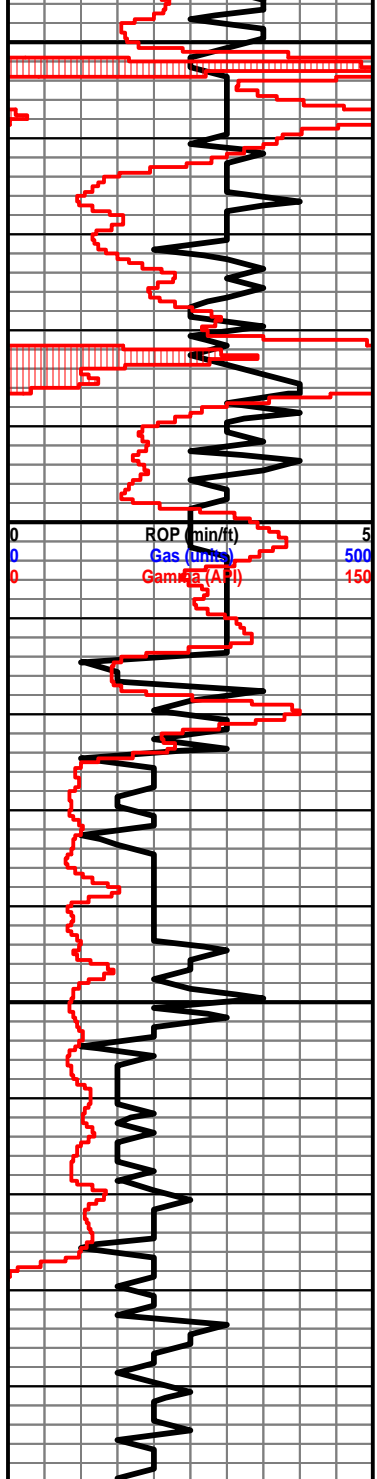
Ls: Off Wh-Tan, Fn xln, Poor Int xln Porosity, SI Oil St in Porosity, VSSFO, Lt Odor, Fossil

I

Sh: Gry-Brn-Grn

Ls: Off Wh-Tan, Fn-Sub xln, Mostly DNS, Hvy Chert-Off Wh, SI Chalky, SI Fossil

J



Sh: Drk Gry-Blk, Carb  
Sh, Sltst: Gry-Brn-Grn

① Ls: Off Wh-Tan, Fn xIn, SI Ool, Poor-Fair Int xIn Porosity, SI Oil St in Porosity, SSFO, Lt-Fair Odor, Chert-Off Wh

Sh: Gry-Brn-Grn

Ls: Tan-Off Wh, Fn-Sub xIn, Mostly DNS, SI Chert-Off Wh

Sh: Gry

Sh, Sltst: Gry-Brn-Grn, Soft

Ls: Off Wh-Tan-Brn, Fn-Sub xIn, Mostly DNS, SI Fossil

① Dolo: Tan-Lt Gry, Fn Sucrosic xIn, Poor-Fair Int xIn Porosity, Fair-Good Oil St, Fair Odor, SSFO

● Dolo: Tan-Brn, Fn Surosic xIn, Fair-Good Int xIn Porosity, Good Oil St, Strong Odor, SFO, Chert-Off Wh

Dolo: ala

● Dolo: Tan, Fn Sucrosic xIn, Poor-Fair Int xIn & PP Vuggy Porosity, Fair Oil St, Fair-Strong Odor, SFO, Chert-Off Wh

① Dolo: Off Wh-Brn, Fn xIn, Poor Int xIn Porosity, SI Oil St, SSFO, Fair Odor, Chert-Off Wh

① Dolo: ala

Dolo: Off Wh-Tan, Fn xIn, Scat Int xIn Porosity, Oil St in Porosity, Fair Odor, NSFO

K

L  
BKC  
3394'(-1438)

Arbuckle  
3419'(-1463)

RTD  
3500(-1544)