



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1185762  
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
-----------------------------------	-----------------	---

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: \_\_\_\_\_

1185762

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
--	---

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
----------------	-------	---------	------------	---

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> _____ _____
--	--	---

Form	ACO1 - Well Completion
Operator	Samuel Gary Jr. & Associates, Inc.
Well Name	PALMER TRUST 1-20
Doc ID	1185762

All Electric Logs Run

INDUCTION
MICRO
POROSITY
SONIC
SPECTRAL





**QUALITY OILWELL CEMENTING, INC.**  
 PO Box 32 - 740 West Wichita Ave, Russell KS 67665  
 Phone: 785-324-1041 fax: 785-483-1087  
 Email: cementing@ruraltel.net

Date: 10/11/2013  
 Invoice # 7793  
 P.O.#:  
 Due Date: 11/10/2013  
 Division: Russell

11/7

# Invoice

**Contact:**  
 Samuel Gary Jr & Associates Inc  
**Address/Job Location:**  
 Samuel Gary Jr & Associates Inc  
 1815 11th Street  
 Great Bend, KS 67530

**Reference:**  
 PALMER 1-20

**Description of Work:**  
 SURFACE JOB

DPLG  COMP  W/O  LOE  GG

Account	8200.138
Well/Prospect	
Deck	
AFE	
Approval	<i>[Signature]</i>
Description	

Services / Items Included:	Quantity	Price	Taxable	Item	Quantity	Price	Taxable
Labor		\$ 977.42	No				
Common-Class A	200	\$ 3,211.27	Yes				
8 5/8" Basket	2	\$ 676.51	Yes				
Bulk Truck Matl-Material Service Charge	211	\$ 451.72	No				
Calcium Chloride	7	\$ 357.11	Yes				
Pump Truck Mileage-Job to Nearest Camp	21	\$ 224.34	No				
8 5/8" Centralizer	2	\$ 137.01	Yes				
Bulk Truck Mileage-Job to Nearest Bulk Plant	21	\$ 131.28	No				
Baffle Plate Aluminum, 8 5/8"	1	\$ 96.34	Yes				
8 5/8" Wooden Plug	1	\$ 89.92	Yes				
Premium Gel (Bentonite)	4	\$ 69.71	Yes				

**Invoice Terms:**

Net 30

SubTotal: \$ 6,422.62  
 Discount Available ONLY if Invoice is Paid & Received within listed terms of invoice: \$ (963.39)

SubTotal for Taxable Items:	\$ 3,942.18
SubTotal for Non-Taxable Items:	\$ 1,517.04
<b>Total:</b>	<b>\$ 5,459.23</b>
Tax:	\$ 281.87

7.15% Barton County Sales Tax

**Thank You For Your Business!**

**Amount Due: \$ 5,741.10**  
**Applied Payments:**  
**Balance Due: \$ 5,741.10**

Past Due Invoices are subject to a service charge (annual rate of 24%)  
 This does not include any applicable taxes unless it is listed.  
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RECEIVED

OCT 23 2013

SAMUEL GARY JR.  
 & ASSOCIATES, INC.

# 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. 7793

Date	10-11-13	Sec.	20	Twp.	17	Range	12	County	Barton	State	Ks	On Location		Finish	2:30 AM
Location								Beaver, Ks - 65 to 130th Rd, Winto							
Lease	Palmer		Well No.	1-20		Owner									
Contractor	Discovery		2		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		Charge To Samuel Gray Jr + Associates												
Hole Size	12 1/4"		T.D.	393'		Street									
Csg.	8 5/8"		Depth	392'		City									
Tbg. Size			Depth			State									
Tool			Depth			The above was done to satisfaction and supervision of owner agent or contractor.									
Cement Left in Csg.	42' 20'		Shoe Joint	42' 20'		Cement Amount Ordered 200 Common 3% CC 2% Gel									
Meas Line			Displace												
EQUIPMENT												Common 200			
Pumptrk	16	No.	Cementer	Billy		Poz. Mix									
Bulktrk	3	No.	Helper	Lorrie M.		Gel. 4									
Bulktrk	p.u.	No.	Driver	Rick		Calcium 7									
JOB SERVICES & REMARKS												Hulls			
Remarks:	Cement did		Circulate.		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 211			
												Mileage			
FLOAT EQUIPMENT															
Guide Shoe															
Centralizer 2															
Baskets 2															
AFU Inserts															
Float Shoe															
Latch Down															
1 - wooden plug															
1 - Baffle plate															
Pumptrk Charge Surface															
Mileage 21															
X Signature												Tax			
												Discount			
												Total Charge			



**QUALITY OILWELL CEMENTING, INC.**  
 PO Box 32 - 740 West Wichita Ave, Russell KS 67665  
 Phone: 785-324-1041 fax: 785-483-1087  
 Email: cementing@ruraltel.net

Date: 10/17/2013  
 Invoice # 7889

P.O.#:

Due Date: 11/16/2013

Division: Russell

# Invoice

**Contact:**  
 Samuel Gary Jr & Associates Inc  
**Address/Job Location:**  
 Samuel Gary Jr & Associates Inc  
 1815 11th Street  
 Great Bend, KS 67530

**RECEIVED**  
 OCT 28 2013  
 SAMUEL GARY JR.  
 & ASSOCIATES, INC.

DRLG  COMP  W/O  LOE  GG

Account	8300.238
Well/Prospect	
Deck	
AFE	
Approval	AB
Description	

**Reference:**  
 PALMER TRUST 1-20

**Description of Work:**  
 PROD LONG STRING

Services / Items Included:	Quantity	Price	Taxable	Item	Quantity	Price	Taxable
Labor		\$ 963.85	No	Salt (Fine)	19	\$279.98	Yes
Common-Class A	225	\$ 3,562.50	Yes	Latch Down Plug & Baffle, 5 1/2"	1	\$236.44	Yes
Gilsonite	1057	\$ 1,673.58	Yes	Pump Truck Mileage-Job to Nearest Camp	21	\$221.22	No
CFL 117	176	\$ 1,144.39	Yes	Bulk Truck Mileage-Job to Nearest Bulk Plant	21	\$129.45	No
5 1/2" Basket	3	\$ 1,089.33	Yes	Flo Seal	56	\$118.22	Yes
Bulk Truck Matl-Material Service Charge	254	\$ 536.22	No	KCL	2	\$63.04	Yes
CD-110	117	\$ 494.00	Yes				
5 1/2" Turbolizer	8	\$ 489.78	Yes				
Mud Clear	500	\$ 390.56	Yes				
Defoamer A or CAF-38	50	\$ 369.44	Yes				
Auto Fill Float Shoe, 5 1/2"	1	\$ 323.00	Yes				

**Invoice Terms:**

Net 30	SubTotal: \$ 12,085.01
	Discount Available <u>ONLY</u> if Invoice is Paid & Received within listed terms of invoice: \$ (1,812.75)
	SubTotal for Taxable Items: \$ 8,699.13
	SubTotal for Non-Taxable Items: \$ 1,573.14
	Total: \$ 10,272.26
	Tax: \$ 621.99

7.15% Barton County Sales Tax

**Thank You For Your Business!**

**Amount Due: \$ 10,894.25**  
**Applied Payments:**  
**Balance Due: \$ 10,894.25**

Past Due Invoices are subject to a service charge (annual rate of 24%)  
 This does not include any applicable taxes unless it is listed.  
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# 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. 7889

Date	10-17-13	Sec.	20	Twp.	17	Range	12	County	Barton	State	KS	On Location	11:30 PM	Finish	4:15 AM
Lease								Palmer trust		Well No.		1-20			
Contractor								Discriminy 2		Owner					
Type Job								Pipe Job		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				7 7/8				T.D.		3510					
Csg.				5 1/2				Depth		<del>30000</del>					
Tbg. Size								Depth		3949					
Tool								Depth		The above was done to satisfaction and supervision of owner agent or contractor.					
Cement Left in Csg.				42.44				Shoe Joint		42.44					
Meas Line				15.5				Displace		82.5 BBL					
EQUIPMENT								Cement Amount Ordered							
Pumptrk				15				No. Cementer/Helper		2 Matt					
Bulktrk				1				No. Driver		1 Nick					
Bulktrk				pu				No. Driver		2 Lonnie					
JOB SERVICES & REMARKS								Common							
Remarks:								CAF 38 30% Cd 110							
Rat Hole								Salt 19							
Mouse Hole								Flowseal 56#							
Centralizers								Kol-Seal 1057							
Baskets								Mud CLR 48 500g							
D/V or Port Collar								CFL-117 or CD110 CAF 38 → 50#							
Dropel Pull Centralizer								Sand <del>176#</del>							
1 hour Plug Ret max								Handling 176# (254)							
hole mix 180 5/8								Mileage 5 1/2							
Down hole Displace 82.5 BBL								FLOAT EQUIPMENT							
Lift 900# PSI								Guide Shoe							
Lend 1600# PSI								Centralizer tubes 8							
								Baskets 3							
								AFU Inserts							
								Float Shoe 1							
								Latch Down 1							
								Pumptrk Charge prod Long String							
								Mileage 21							
Signature								Tax							
								Discount							
								Total Charge							





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Samuel Gary Jr & Assoc.

**20 17s 12w Barton KS**

1515 Wynkoop Ste 700  
Denver CO 80202

**Palmer Trust # 1-20**

ATTN: Clayton Camozzi

Job Ticket: 52261

**DST#: 1**

Test Start: 2013.10.14 @ 05:34:00

## GENERAL INFORMATION:

Formation: **Plattsmouth**

Deviated: No Whipstock: 1891.00 ft (KB)

Time Tool Opened: 07:59:15

Time Test Ended: 14:32:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Jim Svaty

Unit No: 54

**Interval: 2975.00 ft (KB) To 3000.00 ft (KB) (TVD)**

Reference Elevations: 1891.00 ft (KB)

Total Depth: 3000.00 ft (KB) (TVD)

1883.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 6668 Outside**

Press @ Run Depth: 18.93 psig @ 2977.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.10.14

End Date:

2013.10.14

Last Calib.: 2013.10.14

Start Time: 05:34:02

End Time:

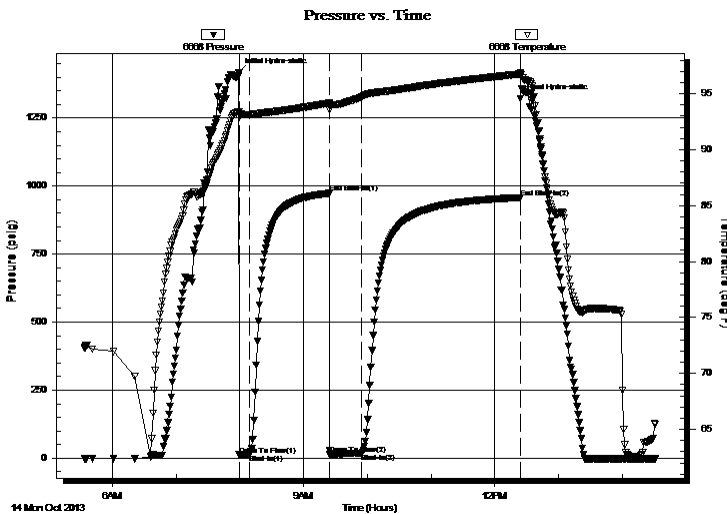
14:31:45

Time On Btm: 2013.10.14 @ 07:59:00

Time Off Btm: 2013.10.14 @ 12:24:15

**TEST COMMENT:** 10-IFP- Weak Surface Blow  
75-ISIP- No Blow  
30-FFP- Weak Surface Blow  
150-FSIP- No Blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1417.96	93.35	Initial Hydro-static
1	12.08	92.86	Open To Flow (1)
10	14.83	93.12	Shut-In(1)
85	973.62	94.16	End Shut-In(1)
86	15.50	93.90	Open To Flow (2)
116	18.93	94.73	Shut-In(2)
265	958.00	96.76	End Shut-In(2)
266	1322.87	96.90	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud 100% Show of Oil	0.02

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Samuel Gary Jr & Assoc.

**20 17s 12w Barton KS**

1515 Wynkoop Ste 700  
Denver CO 80202

**Palmer Trust # 1-20**

Job Ticket: 52261

**DST#: 1**

ATTN: Clayton Camozzi

Test Start: 2013.10.14 @ 05:34:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 47.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.76 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5200.00 ppm

Filter Cake: 0.50 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud 100% Show of Oil	0.025

Total Length: 5.00 ft      Total Volume: 0.025 bbl

Num Fluid Samples: 0

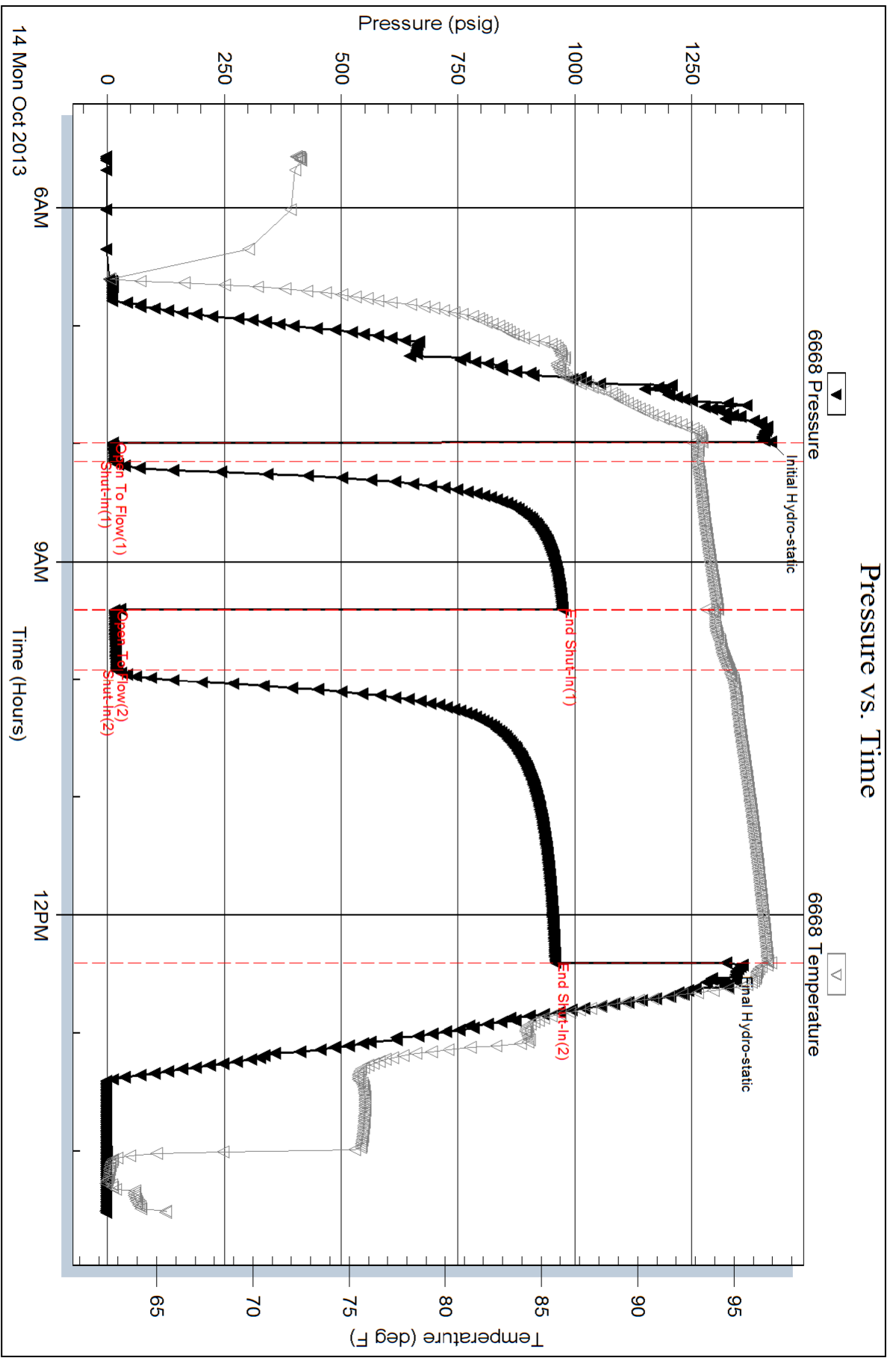
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: SAMPLER - 500ml Mud 250 psi



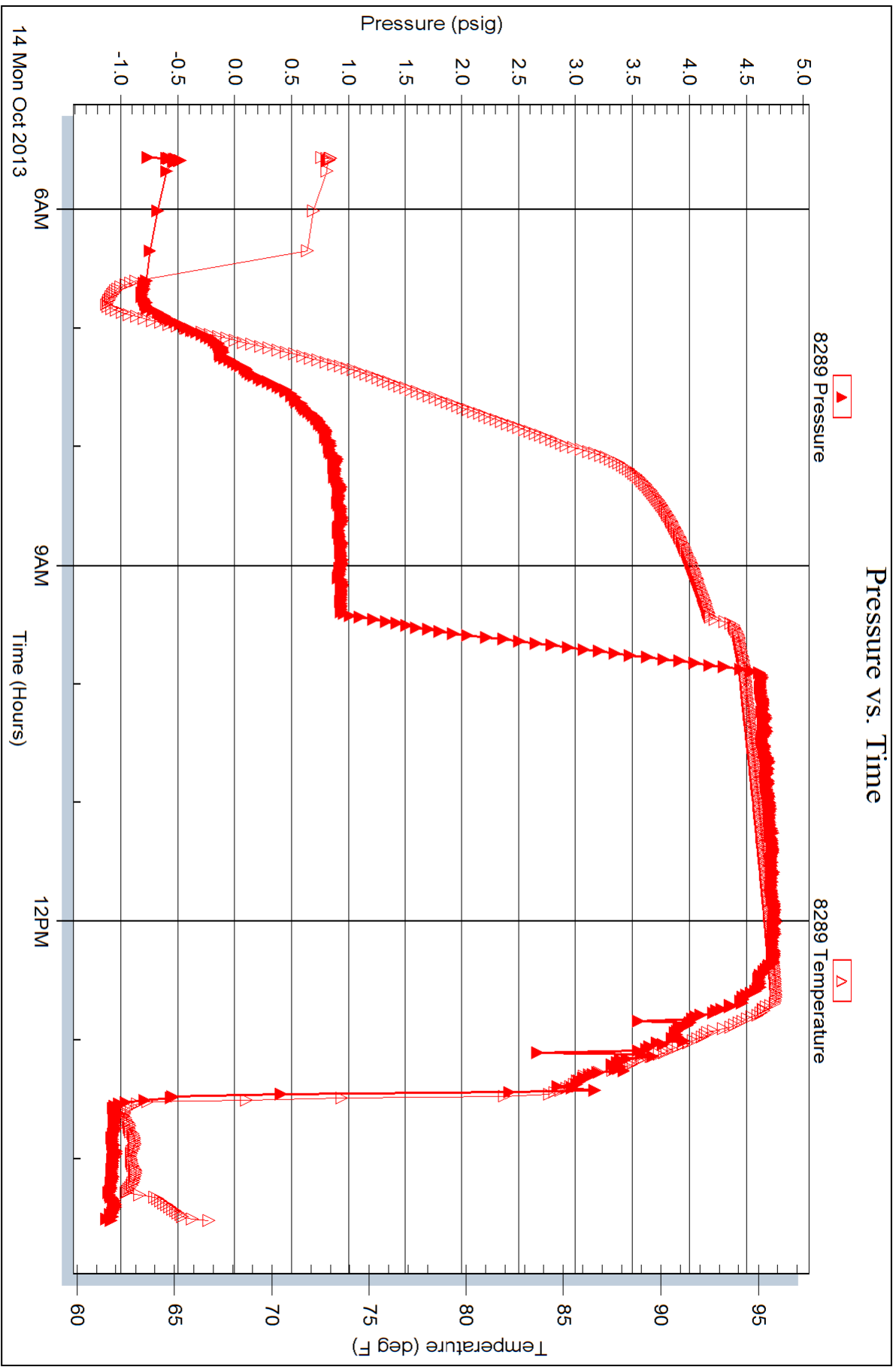
Serial #: 8289

Fluid

Samuel Gary Jr & Assoc.

Palmer Trust # 1-20

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 52261

Printed: 2013.10.14 @ 14:57:19



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Samuel Gary Jr & Assoc.

**20 17s 12w Barton KS**

1515 Wynkoop Ste 700  
Denver CO 80202

**Palmer Trust # 1-20**

ATTN: Clayton Camozzi

Job Ticket: 52262

**DST#: 2**

Test Start: 2013.10.15 @ 03:33:00

## GENERAL INFORMATION:

Formation: **LKC " A-E "**

Deviated: No Whipstock: 1891.00 ft (KB)

Time Tool Opened: 05:30:45

Time Test Ended: 12:27:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Jim Svaty

Unit No: 54

**Interval: 3148.00 ft (KB) To 3193.00 ft (KB) (TVD)**

Reference Elevations: 1891.00 ft (KB)

Total Depth: 3193.00 ft (KB) (TVD)

1883.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 8789**

**Inside**

Press @ Run Depth: 183.71 psig @ 3158.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.10.15

End Date:

2013.10.15

Last Calib.:

2013.10.15

Start Time: 03:33:02

End Time:

12:26:45

Time On Btm:

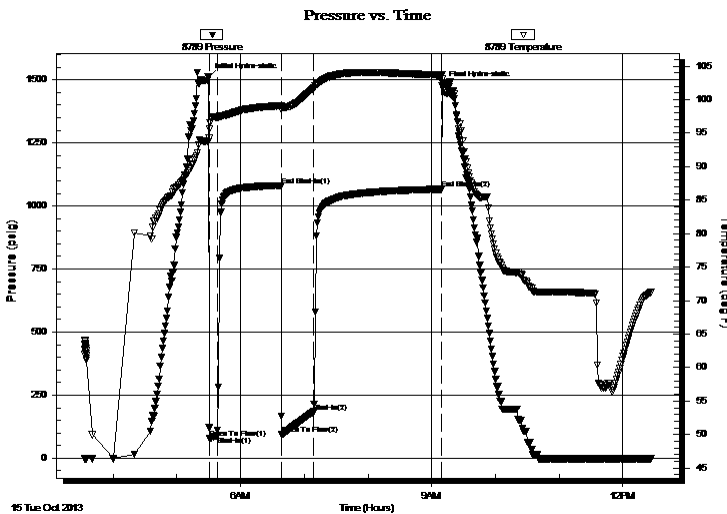
2013.10.15 @ 05:29:30

Time Off Btm:

2013.10.15 @ 09:09:45

**TEST COMMENT:** 5-IFP- BOB in 30 sec.  
60-ISIP- Surface Blow Building to 1/4in. Died in 24min.  
30-FFP- BOB in 1min 30sec.  
120-FSIP- BOB in 2 min.

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1510.60	93.79	Initial Hydro-static
2	79.98	95.56	Open To Flow (1)
9	88.74	97.33	Shut-In(1)
69	1080.32	99.06	End Shut-In(1)
70	95.10	98.84	Open To Flow (2)
100	183.71	101.70	Shut-In(2)
220	1066.52	103.63	End Shut-In(2)
221	1477.99	103.73	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
67.00	OWCM 20%o 35%w 45%m	0.67
62.00	WMCO 5%w 10%m 85%o	0.87
288.00	GMCO 15%g 30%m 55%o	4.04
0.00	Gas to Surface	0.00

## Gas Rates

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

\* Recovery from multiple tests





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Samuel Gary Jr & Assoc.

**20 17s 12w Barton KS**

1515 Wynkoop Ste 700  
Denver CO 80202

**Palmer Trust # 1-20**

Job Ticket: 52262

**DST#: 2**

ATTN: Clayton Camozzi

Test Start: 2013.10.15 @ 03:33:00

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

39 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

40000 ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.37 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5500.00 ppm

Filter Cake: 0.50 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
67.00	OWCM 20%o 35%w 45%m	0.667
62.00	WMCO 5%w 10%m 85%o	0.870
288.00	GMCO 15%g 30%m 55%o	4.040
0.00	Gas to Surface	0.000

Total Length: 417.00 ft

Total Volume: 5.577 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

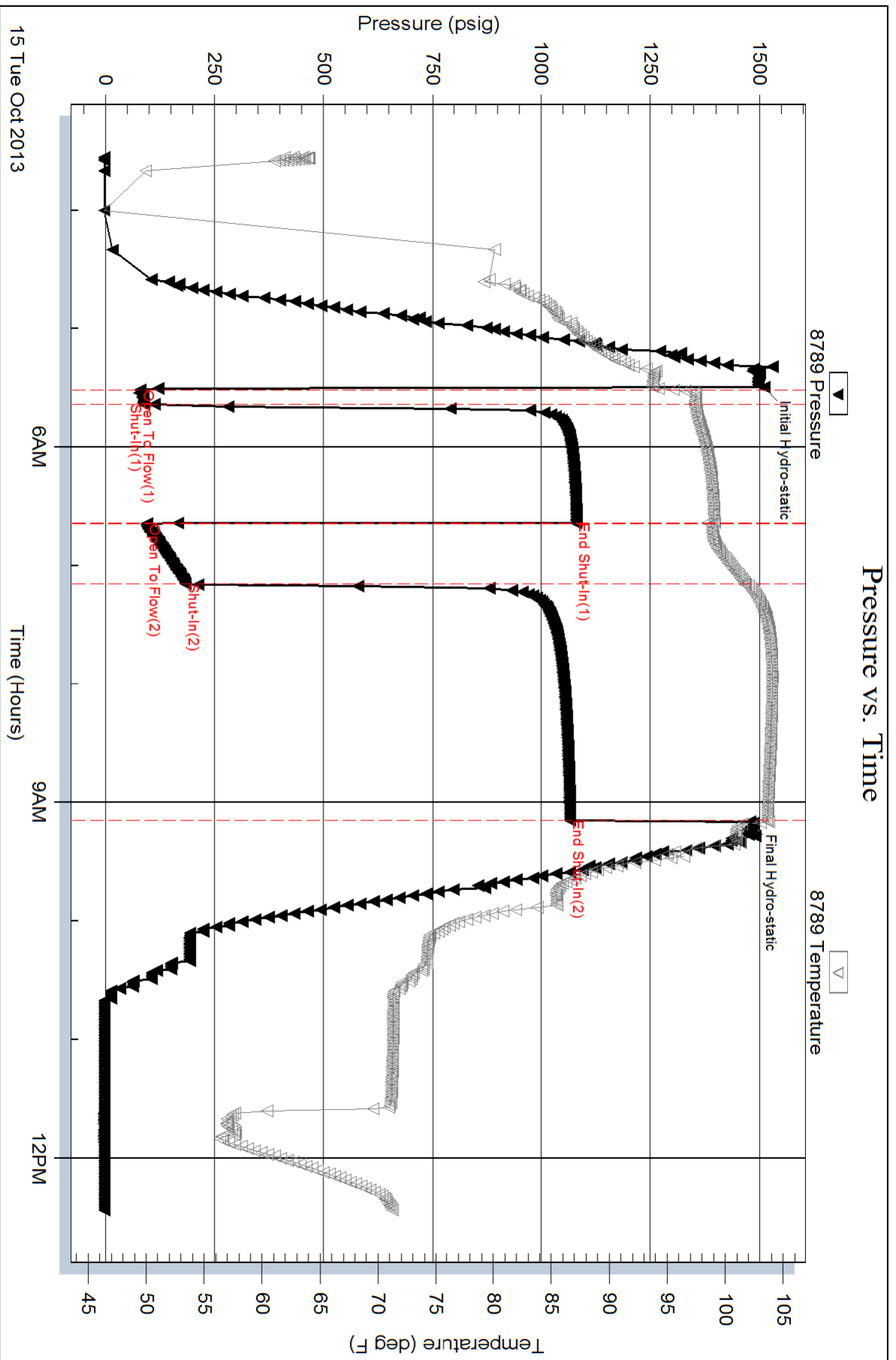
Laboratory Name:

Laboratory Location:

Recovery Comments: SAMPLER - 700psi - 2200ml CO - 39gravity  
.232 @ 54



### Pressure vs. Time



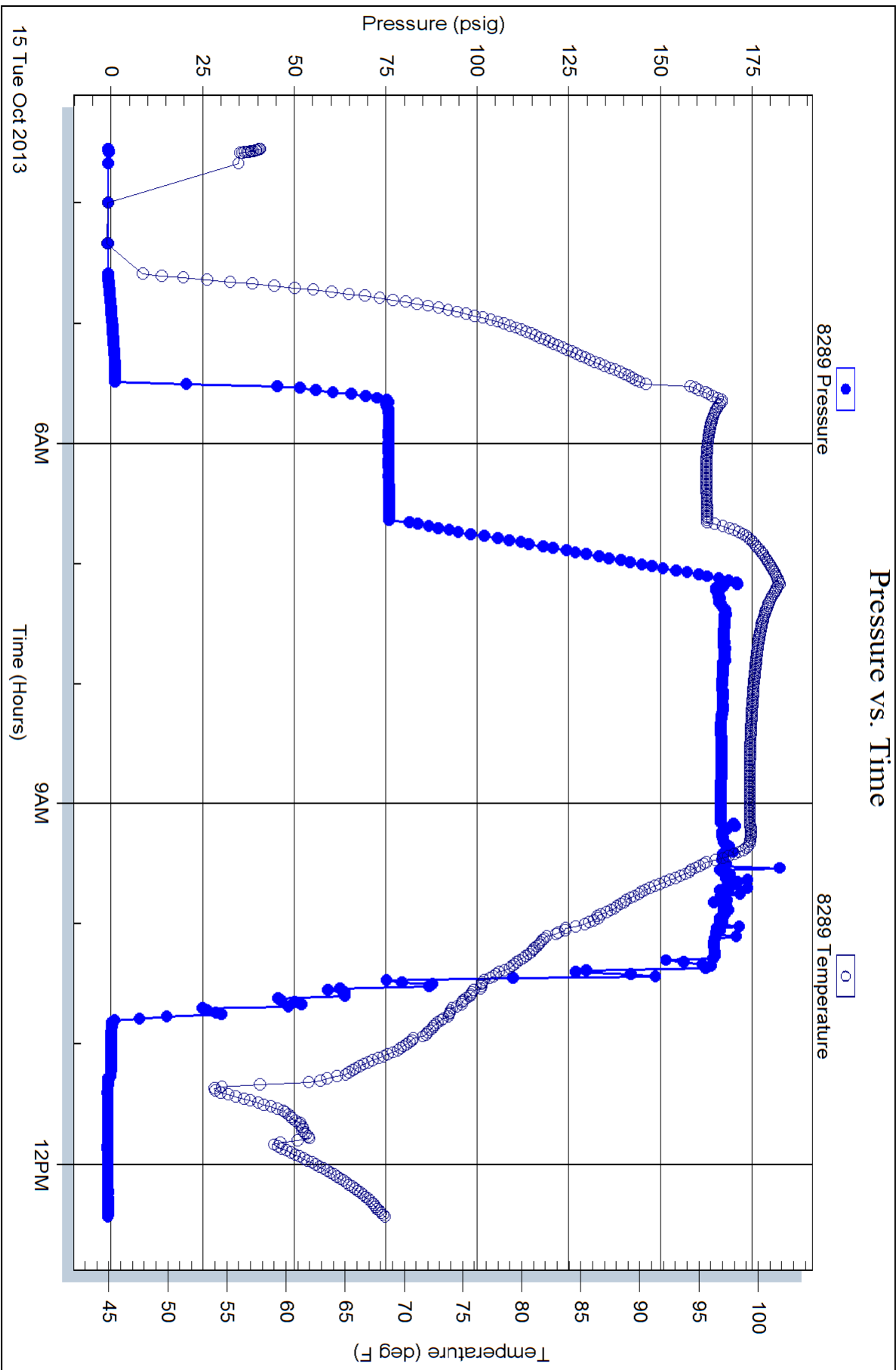
Serial #: 8289

Fluid

Samuel Gary Jr & Assoc.

Palmer Trust # 1-20

DST Test Number: 2





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

Well Name: PALMER TRUST 1-20  
 Location: SEC. 20-17S-12W BARTON CO., KS  
 License Number: 15-009-25889-0000 Region: Wildcat  
 Spud Date: 10/10/13 Drilling Completed: 10/16/13  
 Surface Coordinates: 400 FSL/ 445 FEL

Bottom Hole Coordinates:  
 Ground Elevation (ft): 1883' K.B. Elevation (ft): 1891'  
 Logged Interval (ft): 2730' To: 3510' Total Depth (ft): 3510'  
 Formation: Lansing/ Arbuckle  
 Type of Drilling Fluid: Natural Chemical

Printed by WellSight Log Viewer from WellSight Systems 1-800-447-1534 www.WellSight.com

**OPERATOR**

Company: Sam Gar Jr. & Associates  
 Address: 1515 Wynkoop, Ste. # 700  
 Denver, Co. 80202  
 Co. Geo: Clayton Camozzi

**GEOLOGIST**

Name: Schuyler Hedrick/ Tom Flowers  
 Company: Earth Tech OGL, Inc.  
 Address: PO Box 683  
 Hooker, Okla. 73945  
 1-(888)- 543-8378 Cell-(580)-754-0062



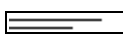

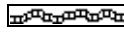



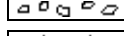



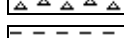








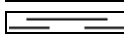
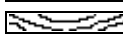


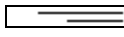




**DST's Report**

DST# 1 2975'-3000' 10-75-30-150  
 IF- WK SURF. BLW, ISI- NO BLW, FF- WK SURF. BLW, FSI- NO BLW  
 IH- 1417, FH- 1322/ IF- 12 TO 14, FF- 15 TO 18/ ISI- 973, FSI- 958  
 REC. 5' OF TF/ 5' OF MUD SHOW OF OIL 100% MUD/ BHT- 96, CHLOR.- 5200 PPM

**DST's Report**

DST# 2 3148'-3193' 5-60-30-120  
 IF- BOB IN 30 SEC, ISI- SURF BLW BUILDING TO 1/4" DIED IN 24 MIN, FF- BOB IN 1 MIN 30 SEC, FSI- BOB IN 2 MIN, GAS TO SURF 17 MIN INTO SHUT IN DIED BACK 62 MIN  
 IH- 1510, FH- 1477/ IF- 79 TO 88, FF- 96 TO 183/ ISI- 1080, FSI- 1066  
 REC. 417' OF TF/ 67' OF OWCM 20% OIL, 35% WATER, 45% MUD/ 62' OF WMCO 85% OIL, 5% WATER, 10% MUD/ 288' MCO GASSY 15% GAS, 55% OIL, 30% MUD/ BHT- 103, GRAVITY- 39, API RW- .232 @ 54 DEG., CHLOR- 40,000 PPM/ CHLOR- 5500 PPM SYSTEM

**ROCK TYPES**

 Anhy	 Gyp	 Shgy	 Sandylms
 Bent	 Igne	 Sltst	 Shale
 Brec	 Lmst	 Ss	 Sltstn
 Cht	 Meta	 Till	 Shlyslts
 Clyst	 Mrlst	 Carb sh	 Sltyslts
 Coal	 Salt	 Dol	 Lms
 Congl	 Shale	 Dtd	
 Dol	 Shcol	 Gry sh	

**ACCESSORIES**

**MINERAL**

- Anhy
- Arggrn
- Arg
- Bent
- Bit
- Brefracg
- Calc
- Carb
- Chtdk
- Chtlt
- Dol
- Feldspar
- Ferrpel
- Ferr
- Glau
- Gyp
- Hvymin
- Kaol
- Marl
- Minxl
- Nodule
- Phos
- Pyr

- Salt
- Sandy
- Silt
- Sil
- Sulphur
- Tuff
- Chlorite
- Dol
- Sand
- Slty

**FOSSIL**

- Algae
- Amph
- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral
- Crin
- Echin
- Fish
- Foram

- Fossil
- Gastro
- Oolite
- Ostra
- Pelec
- Pellet
- Pisolite
- Plant
- Strom
- Fuss
- Oomold

**STRINGER**

- Anhy
- Arg
- Bent
- Coal
- Dol
- Gyp
- Ls
- Mrst
- Sltstrg
- Ssstrg
- Carbsh

- Clystn
- Dol
- Grysh
- Gryslt
- Lms
- Sandyms
- Sh
- Sltstn

**TEXTURE**

- Boundst
- Chalky
- Cryxln
- Earthy
- Finexln
- Grainst
- Lithogr
- Microxln
- Mudst
- Packst
- Wackest

**OTHER SYMBOLS**

**POROSITY TYPE**

- Earthy
- Fenest
- Fracture
- Inter
- Moldic
- Organic
- Pinpoint
- Vuggy

**SORTING**

- Well
- Moderate
- Poor

**ROUNDING**

- Rounded
- Subrnd
- Subang

**Angular**

**OIL SHOWS**

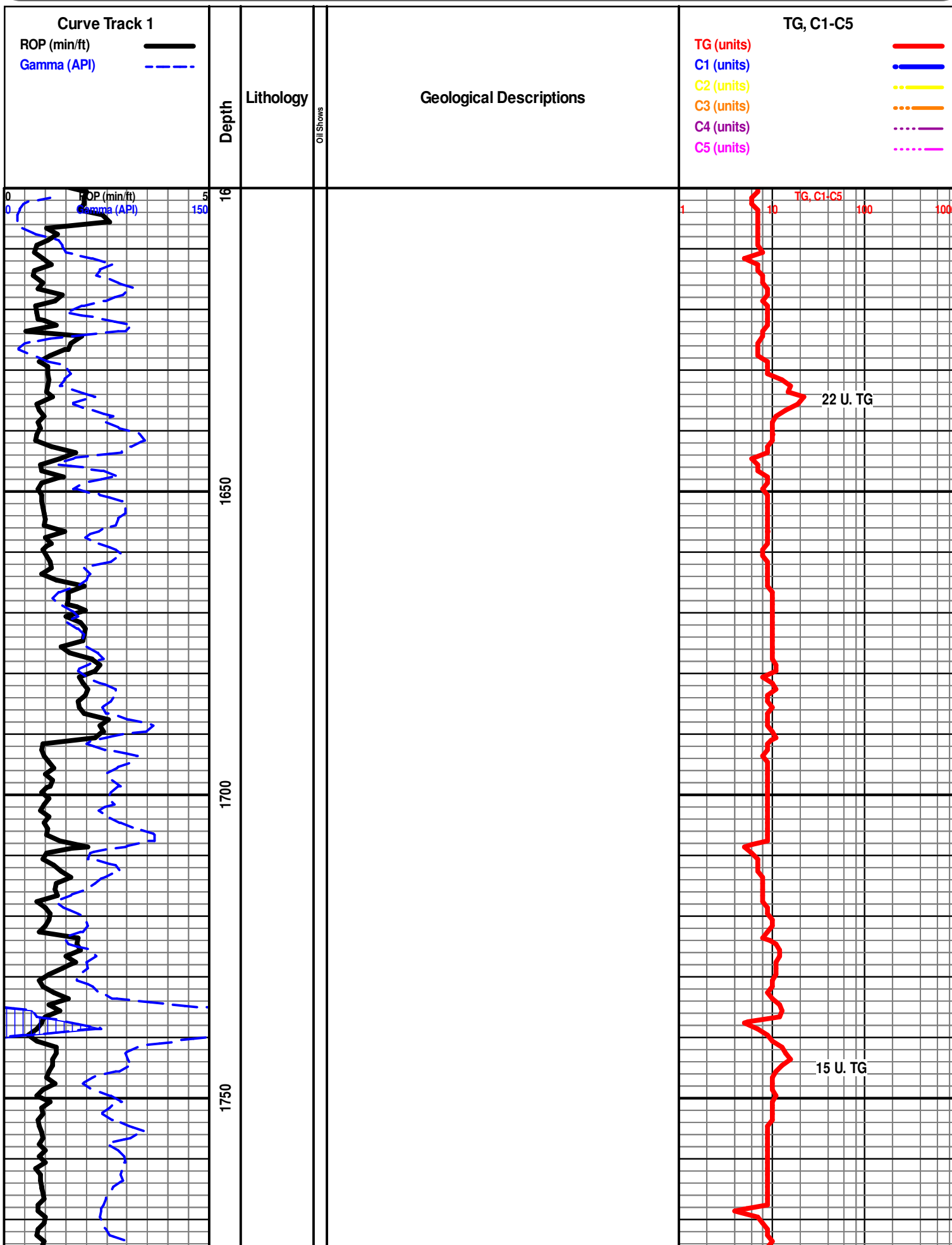
- Even
- Spotted
- Ques
- Dead
- Gas show

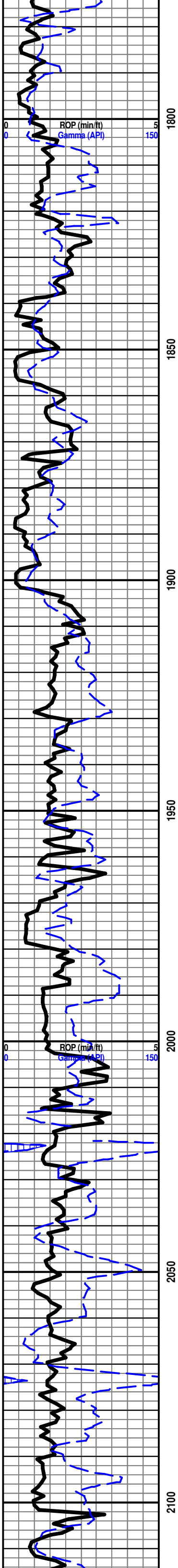
**INTERVALS**

- Core
- Dst
- Dst

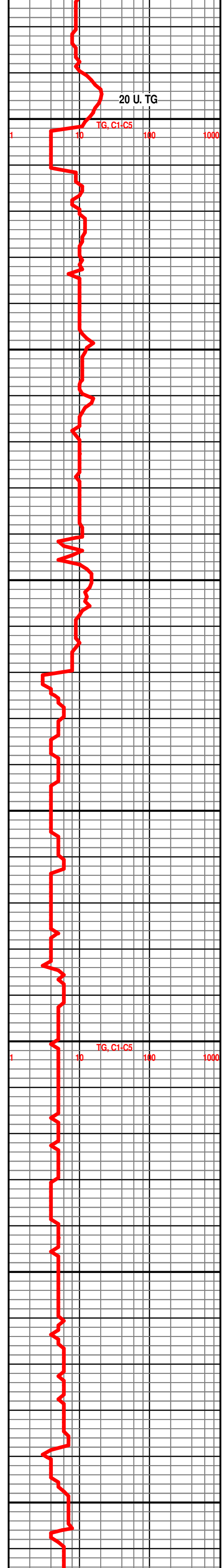
**EVENTS**

- Rft
- Sidewall

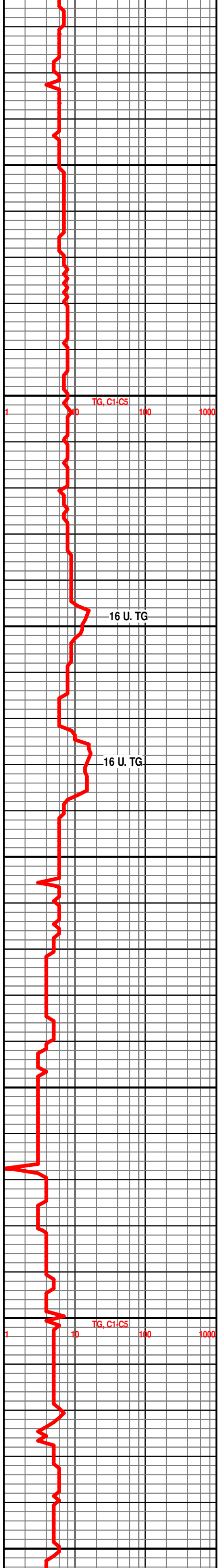
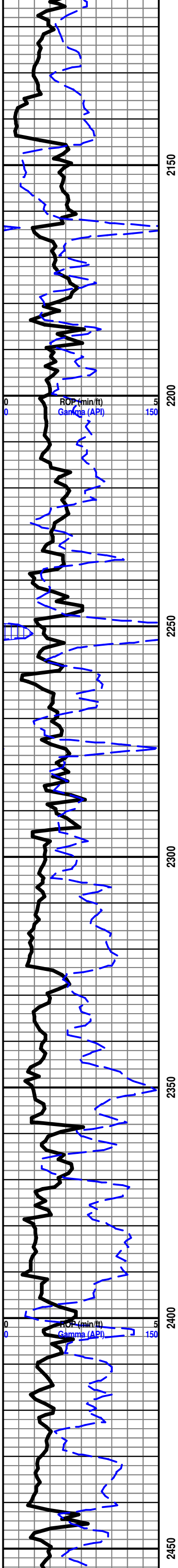


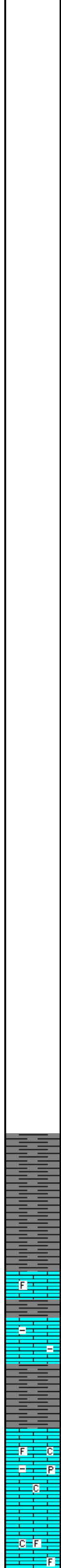
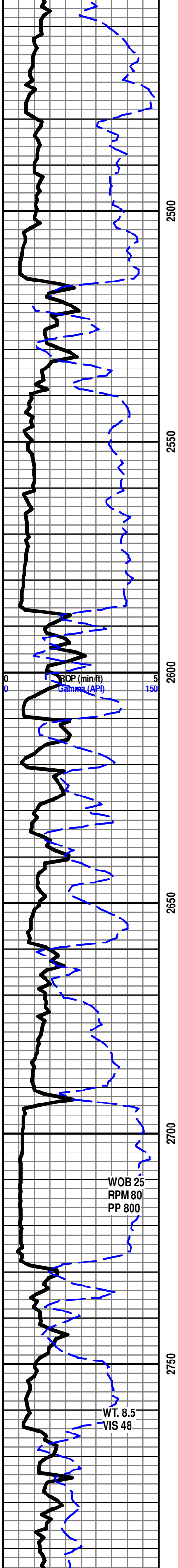


1800 1850 1900 1950 2000 2050 2100



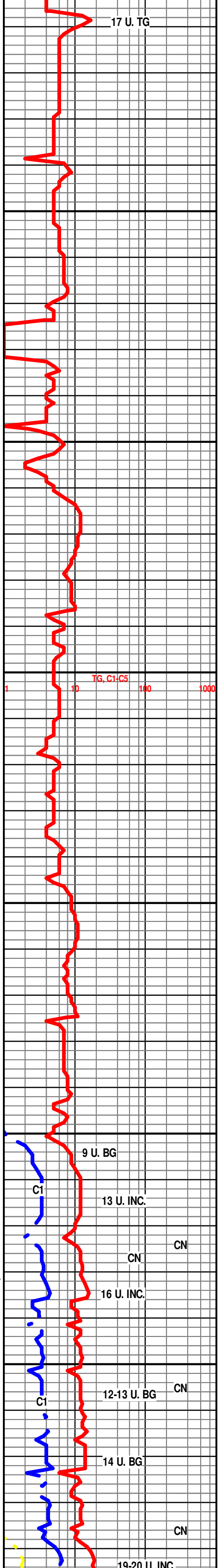
1800 1850 1900 1950 2000 2050 2100





**BRS 2514'-623'**

**MUD DISPLACEMENT**



WOB 25  
RPM 80  
PP 800

WT. 8.5  
VIS 48

**HOWARD 2728'-837'**

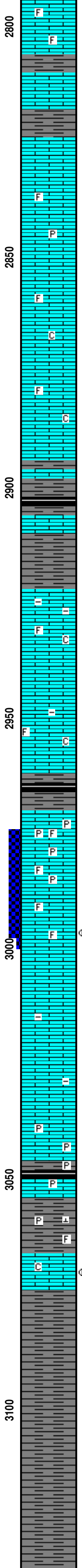
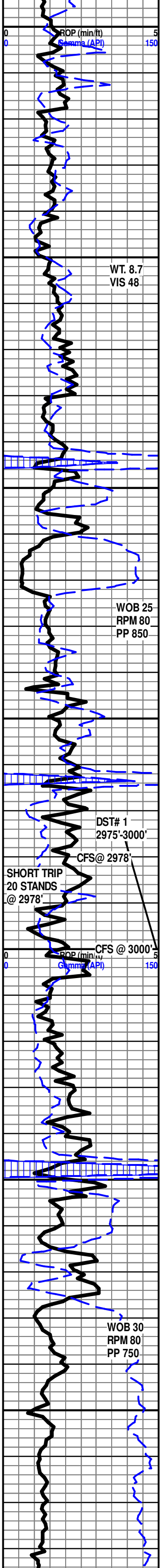
LS- OFF WHT TO WHT CRM, HD DNS, SUCRO MTRX, SCAT FREE CALC-XLS, W/ IMB CALC-XLS IP, TR FOSS FRGS IP, DUL YEL FLO IN 40%, YEL FLO IP, NO VIS POR, NO VIS CUT OR SHOW

LS- CRM TO OFF WHT TR LT GY, HD DNS, MD/F-XLN MTRX, S-SUCRO, ABTD FREE CALC-XLS THRU, TR SCAT INTERBED LT GY SH, DUL YEL FLO IN 20%, YEL FLO IN 20%, NO VIS POR, NO VIS CUT OR SHOW

**TOPEKA 2764'-873'**

LS- WHT TO OFF WHT CRM, HD DNS TO BRIT, F-XLN, RE-XLN, S-CHLKY IP, TR FOSS FRGS IP, LT TR INTERBD LT GY SH IP, V LT TR PYR IP, DUL YEL FLO IN 30%, BRT YEL MIN FLO IN 20%, NO VIS POR, NO VIS CUT OR SHOW

LS- CRM TO OFF WHT LT GY, HD DNS TO BRIT, F/VF-XLN



MTRX, TR S-CHLKY IP, ABDT FOSS FRGS THRU, DUL YEL FLO IN 20%, BRT YEL MIN FLO IN 10%, NO FLO IN 70%, NO VIS POR, NO VIS CUT OR SHOW

LS- OFF WHT CRM TO LT TN, HD DNS TO BRTT, VF/F-XLN RE-XLN MTRX, TR FOSS FRGS IP, INTERBED LT GY TO GY SH, DUL YEL FLO IN 20%, NO FLO IN 80%, NO VIS POR, NO VIS CUT OR SHOW

LS- WHT TO OFF WHT, HD DNS TO TR BRTT, MD/F-XLN, RE-XLN MTRX, SLI TR FOSS FRGS IP, TR PYR IP, DUL YEL FLO IN 20%, NO FLO IN 80%, NO VIS POR, NO VIS CUT OR SHOW

LS- CRM TO OFF WHT LT TN, HD DNS TO BRTT, VF/F-XLN RE-XLN MTRX, TR FOSS FRGS IP, SLI TR CHLK, DUL YEL MIN FLO IN 30%, NO FLO IN 70%, NO VIS POR, NO VIS CUT OR SHOW

LS- OFF WHT TO WHT CRM, HD DNS TO BRTT, F-XLN, RE-XLN, SLI TR FOSS FRGS IP, SLI TR CHLK, DUL YEL MIN FLO IN 30%, NO FLO IN 70%, NO VIS POR, NO VIS CUT OR SHOW

SH- GY TO LT GY, FRM TO SFT, CALC IP, TR BRWN TO RD SH, BLK SFT CARB

**LECOMPTON 2922'-1031'**

LS- CRM TO OFF WHT WHT, HD DNS, F/VF-XLN, RE-XLN MTRX, TR FOSS FRGS IP, SLI TR IMB LT GY TO GY SH, V SLI TR CHLK, DUL YEL MIN FLO IN 30%, BRT YEL MIN FLO IN 20%, NO FLO IN 50%, NO VIS POR, NO VIS CUT OR SHOW

LS- CRM TO OFF WHT, HD DNS TO BRTT, F-XLN, RE-XLN MTRX, SLI TR FOSS FRGS, SLI TR IMB LT GY TO GY SH, V SLI TR WHT SFT CHLK, DUL YEL FLO IN 10%, BRT YEL FLO IN 10%, NO VIS POR, NO VIS CUT OR SHOW

SH- BLCK SFT CARB, W/ LT GY TO GRN SH, FRM TO SFT IP, BLCKY SMTH TXT

2995'-2997' LS-(ONE ROCK) TN TO DRK TN OFF WHT (DUE TO OIL STN 50-60%) (LIVE OIL STN IP) HD DNS TO BRTT, MED/F-XLN, SUCRO MTRX, LT TRS IMBD FOSS FRG, HVY TRS PYR IP, DUL YEL GLD FLO IN 50%, YEL GLD FLO IN 10%, PR TO GD VIS VUG POR, FR TO GD FLUSH CUT, V-GD SLOW STRM, V-LT TRS LT TN LCH ON DISH

LS- OFF WHT CRM TO BFF, HD DNS TO BRTT, MD/F-XLN, RE-XLN IP, S-SUCRO, SCAT IMB SM CALC-XLS THRU, TR IINTERBD LT GY SH, DUL YEL MIN FLO IN 10%, NO FLO IN 90%, NO VIS POR, NO VIS CUT OR SHOW

**HEEBNER 3046'-1155'**

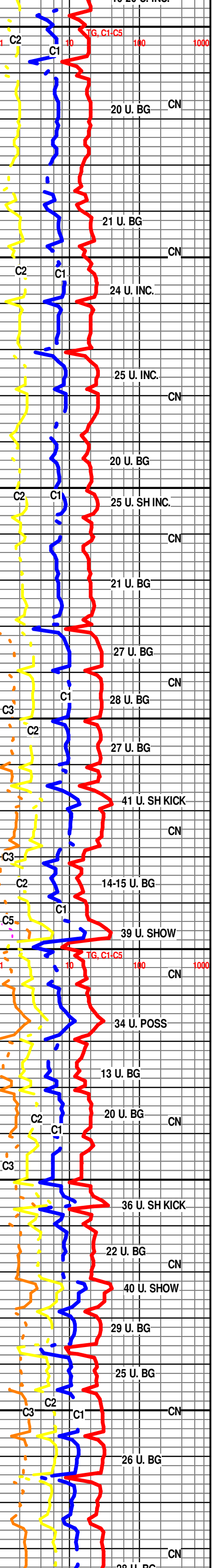
SH- BLCK SFT CARB, W/ LT GY TO LT GRN FRM BLCKY SH, SCAT DISS PYR

3018'-3021' LS- WHT TO OFF WHT LT TN TO TN (DUE TO OIL STN IN 50%), HD DNS TO TR BRTT IP, MD/F-XLN MTRX, TR RE-XLN IP, S-SUCRO IP, V SLI TR SFT WHT CHLK IP, YEL GLD FLO IN 40%, BRT YEL GLD FLO IN 20%, V PR TO TR PR MICRO VUG POR IP, FR TO GD FLSH CUT, GD SLW STRM IN 60%, LT TN LCH ON DSH, NO OIL ODOR

**DOUGLAS 3075'-1183'**

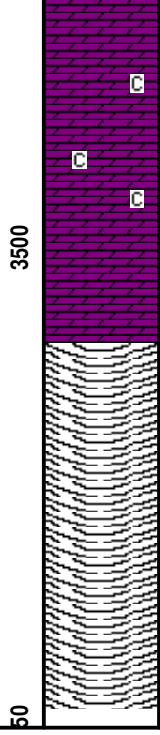
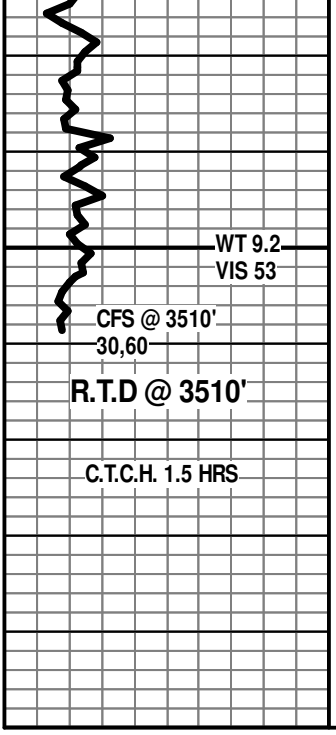
SH- LT GY TO GY BRWN GRN, FRM TO SFT BLCKY, SLTY TXT, SLI TR DISS PYR, SLI TR CALC-IP

SH- LT GY TO GY GRN BRWN, FRM TO SFT BLCKY, SLTY TXT, SLI TRS CALC-IP





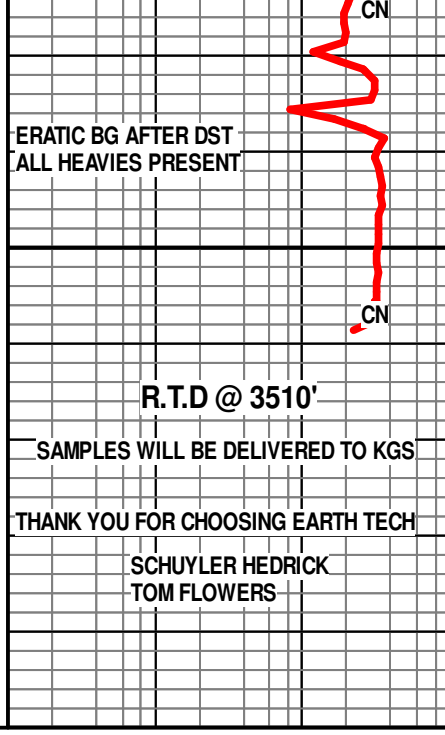




DOLO, OFF WHT TO CRM, HD DNS TO BRIT, MD TO F-XLN, V S-CHLKY THRU, ABTD IMBD SML TO MD S-ANG S-RND CLR QRTZ GRNS, ABTD SFT WHT CHLK THRU, V LT TRS UNCONSOLIDATED CLR QRTZ GRNS, DUL YEL MIN FLO IN 50%, YEL MIN FLO IN 30%, NO VIS POR, NO CUT OR SHOW

**R.T.D. @ 12:45 P.M 10/16/13**

DROP SURVEY  
T.O.F.L @ 1:15 P.M  
WEATHERFORD/ LIBERAL, KS



ERATIC BG AFTER DST  
ALL HEAVIES PRESENT

**R.T.D @ 3510'**

SAMPLES WILL BE DELIVERED TO KGS  
THANK YOU FOR CHOOSING EARTH TECH  
SCHUYLER HEDRICK  
TOM FLOWERS