



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1187128  
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: \_\_\_\_\_

1187128

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  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:  Yes  No

Date of First, Resumed Production, SWD or ENHR: \_\_\_\_\_ Producing Method:  
 Flowing  Pumping  Gas Lift  Other *(Explain)* \_\_\_\_\_

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> _____ <i>(Submit ACO-4)</i>	<b>PRODUCTION INTERVAL:</b> _____ _____
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Form	ACO1 - Well Completion
Operator	Samuel Gary Jr. & Associates, Inc.
Well Name	RIEDEL FARMS 1-19
Doc ID	1187128

All Electric Logs Run

DEN-NEUT
INDUCTION
MICRO
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: 10-16-2-13  
 Invoice # 7453  
 P.O.#:  
 Due Date: #VALUE!  
 Division: Russell

# Invoice

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

DRLG  COMP  W/O  LOE  GG

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

**RECEIVED**

**OCT 30 2013**

**SAMUEL GARY JR.  
& ASSOCIATES, INC.**

**Reference:**  
 RIEDEL FARMS 1-19

**Description of Work:**  
 SURFACE JOB

Services / Items Included:	Quantity	Price	Taxable	Item	Quantity	Price	Taxable
Labor		\$ 991.39	No				
Common-Class A	180	\$ 2,931.43	Yes				
8 5/8" Basket	2	\$ 686.17	Yes				
Bulk Truck Matl-Material Service Charge	189	\$ 410.40	No				
Pump Truck Mileage-Job to Nearest Camp	32	\$ 346.73	No				
Calcium Chloride	6	\$ 310.47	Yes				
Bulk Truck Mileage-Job to Nearest Bulk Plant	32	\$ 202.90	No				
8 5/8" Centralizer	2	\$ 138.97	Yes				
Premium Gel (Bentonite)	3	\$ 53.03	Yes				

**Invoice Terms:**

Net 30

	<b>SubTotal:</b>	\$ 6,071.49
	<b>Discount Available</b> <u>ONLY</u> if Invoice is Paid & Received within listed terms of invoice:	\$ (910.72)
<hr/>		
	SubTotal for Taxable items:	\$ 3,502.06
	SubTotal for Non-Taxable Items:	\$ 1,658.71
<hr/>		
	<b>Total:</b>	\$ 5,160.77
	<b>Tax:</b>	\$ 267.91
<hr/>		
	<b>Amount Due:</b>	\$ 5,428.68
	<b>Applied Payments:</b>	
	<b>Balance Due:</b>	\$ 5,428.68

7.65% Trego County Sales Tax

**Thank You For Your Business!**

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. 7453

Date <u>10-16-13</u>	Sec. <u>19</u>	Twp. <u>12</u>	Range <u>22</u>	County <u>Trego</u>	State <u>KS</u>	On Location	Finish <u>10:30 p.m.</u>
Lease <u>Riedel Farms</u>				Well No. <u>119</u>		Location <u>Ogallah &amp; Hwy 40 4W 1/2 E into</u>	

Contractor <u>D. Seaway #4</u>	Owner	
Type Job <u>Surface</u>	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 <u>12 1/4</u>	T.D. <u>352</u>	Charge To <u>Sam Gary Jr. &amp; Associates</u>
Csg. <u>8 5/8</u>	Depth <u>352</u>	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. <u>20'</u>	Shoe Joint	Cement Amount Ordered <u>180 cu 3/4 @ 2/62</u>

Meas Line	Displace <u>21.32</u>	
-----------	-----------------------	--

EQUIPMENT			
Pumptrk <u>16</u>	No. Cementer <u>1</u>	Helper <u>1</u>	Common <u>180</u>
Bulktrk	No. Driver <u>2</u>	Driver <u>1</u>	Poz. Mix
Bulktrk <u>9</u>	No. Driver <u>1</u>	Driver <u>1</u>	Gel. <u>3</u>
			Calcium <u>6</u>

JOB SERVICES & REMARKS		
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
<u>8 5/8 on bottom. Est Circulation</u>		Sand
<u>Mix 180SK &amp; Displace</u>		Handling <u>189</u>
		Mileage

FLOAT EQUIPMENT		
<u>Cement Circulated 4</u>		Guide Shoe <u>8 5/8</u>
		Centralizer <u>2</u>
		Baskets <u>1</u>
		AFU Inserts
		Float Shoe
		Latch Down

	Pumptrk Charge <u>Surface</u>
	Mileage <u>32</u>

X Signature <u>James P. [Signature]</u>	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: 10/24/2013  
 Invoice # 7218

P.O.#:  
 Due Date: 11/23/2013  
 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

NOV 04 2013

SAMUEL GARY JR.  
 & ASSOCIATES, INC.

**Reference:**  
 RIEDEL FARMS 1-19

**Description of Work:**  
 PROD LONG STRING

DRLG  COMP  W/O  LOE  GG

Account	8300.238
Well/Prospect	
Deck	
AFE	
Approval	<i>[Signature]</i>
Description	

**Services / Items Included:**

Quantity	Price	Taxable	Item	Quantity	Price	Taxable
Labor	\$ 963.85	No	Auto Fill Float Shoe, 5 1/2"	1	\$323.00	Yes
Common-Class A	225 \$ 3,562.50	Yes	Pump Truck Mileage-Job to Nearest Camp	32	\$337.10	No
Cement Port Collar, 5 1/2"	1 \$ 2,638.89	Yes	Salt (Fine)	19	\$279.98	Yes
5 1/2" Basket	5 \$ 1,815.56	Yes	Latch Down Plug & Baffle, 5 1/2"	1	\$236.44	Yes
Gilsonite	1057 \$ 1,673.58	Yes	Bulk Truck Mileage-Job to Nearest Bulk Plant	32	\$197.26	No
CFL 117	176 \$ 1,144.39	Yes	Flo Seal	56	\$118.22	Yes
5 1/2" Turbolizer	9 \$ 551.00	Yes	KCL	2	\$63.04	Yes
Bulk Truck Mat-Material Service Charge	254 \$ 536.22	No				
CD-110	117 \$ 494.00	Yes				
Mud Clear	500 \$ 390.56	Yes				
Defoamer A or CAF-38	50 \$ 369.44	Yes				

**Invoice Terms:**

Net 30

	SubTotal: \$ 15,695.03
	Discount Available <u>ONLY</u> if Invoice is Paid & Received within listed terms of invoice: \$ (2,354.26)
<hr/>	
	SubTotal for Taxable Items: \$ 11,611.51
	SubTotal for Non-Taxable Items: \$ 1,729.27
<hr/>	
	Total: \$ 13,340.77
	Tax: \$ 888.28
<hr/>	
	Amount Due: \$ 14,229.05
	Applied Payments:
	Balance Due: \$ 14,229.05

7.65% Trego County Sales Tax

**Thank You For Your Business!**

Past Due Invoices are subject to a service charge (annual rate of 24%)  
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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. 7218

Date	Sec.	Twp.	Range	County	State	On Location	Finish
10-24-13	19	12	22	Trego	KS		08:00
				Location Ogallah old 40, 4W, 1/2 S			
Lease Riedel Farms		Well No. 1-19		Owner			
Contractor Discovery 4				To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cement and helper to assist owner or contractor to do work as listed.			
Type Job long string				Charge To Sam Gary Jr & Assoc.			
Hole Size 7 7/8		T.D. 4240		Street			
Csg. 5 1/2 15 1/2 #		Depth 4237.12		City State			
Tbg. Size		Depth		The above was done to satisfaction and supervision of owner agent or contractor.			
Tool		Depth		Cement Amount Ordered 225 sx Qpro-c 10% salt			
Cement Left in Csg.		Shoe Joint 43.45		5% gilsonite 1/4 # flow 20661 KCL			
Meas Line		Displace 99.80661		Common 225			
<b>EQUIPMENT</b>							
Pumptrk 15	No.	Cementer		Poz. Mix			
		Helper	Nick				
Bulktrk 8	No.	Driver		Gel.			
		Driver	Chad				
Bulktrk PU	No.	Driver		Calcium CD-110 117#			
		Driver	Travis	Turbs KCL 2 gal			
<b>JOB SERVICES &amp; REMARKS</b>				Salt 19			
Remarks:				Flowseal 56#			
Rat Hole 30sx				Kol-Seal 1057			
Mouse Hole 15sx				Mud CLR 48 500gal			
Centralizers				CFL-117 or CD110 CAF 38 - 50#			
Baskets				Sand 176			
D&W Port Collar 1832				Handling 254			
Pipe on bottom broke circulation pumped				Mileage			
500gal Mud CLR with 10661 fw behind 17#				<b>FLOAT EQUIPMENT</b>			
Plugged Rat hole with 30sx and Mouse hole				Guide Shoe			
with 15sx. Hooked to 5 1/2 Mixed 180sx				Centralizer 9 turbos			
Qpro-c 10% salt 5% gilsonite 1/4 Flow.				Baskets 5 wetherfords			
Shut down wash pump and lines Released				AFU Inserts			
Plug and displaced with 20661 KCL and				Float Shoe 1			
79661 fw plug landed and held				Latch Down 1			
Lift Pressure 1300 psi				1 port collar			
Plug landed at 1900 psi				Pumptrk Charge procl Long String			
				Mileage 32			
X Signature <i>James P. ...</i>				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: 11/11/2013  
 Invoice # ~~7473~~ 7473

P.O.#:

Due Date: 12/11/2013

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**

**NOV 18 2013**

**SAMUEL GARY JR.  
& ASSOCIATES, INC.**

DRLG  COMP  W/O  LOE  GC

Account	8300-238
Well/Prospect	
Deck	
AFE	
Approval Description	<i>[Signature]</i>

**Reference:**

RIEDEL FARMS 1-19

**Description of Work:**

PORT COLLAR JOB

**Services / Items Included:**

	Quantity	Price	Taxable
Labor		\$ 991.39	No
mon, MetsoBeads, Plater, Gel, FloSeal, Calcium)	160	\$ 3,321.42	Yes
Bulk Truck Matl-Material Service Charge	300	\$ 651.43	No
Pump Truck Mileage-Job to Nearest Camp	32	\$ 346.73	No
Bulk Truck Mileage-Job to Nearest Bulk Plant	32	\$ 202.90	No
Flo Seal	75	\$ 162.86	Yes
Premium Gel (Bentonite)	6	\$ 106.05	Yes
Sand	2	\$ 36.61	Yes

Item	Quantity	Price	Taxable
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**Invoice Terms:**

Net 30

	<b>SubTotal:</b>	\$	5,819.39
	<b>Discount Available <u>ONLY</u> if Invoice is Paid &amp; Received within listed terms of invoice:</b>	\$	(872.91)
<hr/>			
	<b>SubTotal for Taxable Items:</b>	\$	3,082.90
	<b>SubTotal for Non-Taxable Items:</b>	\$	1,863.58
<hr/>			
	<b>Total:</b>	\$	4,946.48
	<b>Tax:</b>	\$	235.84

7.65% Trego County Sales Tax

**Thank You For Your Business!**

**Amount Due: \$ 5,182.32**  
**Applied Payments:**  
**Balance Due: \$ 5,182.32**

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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. 7473

Date	11-11-13	Sec.	Twp.	Range	County	State	On Location	Finish
					Trego	KS		12:00 p.m.
					Location Ogallah Hwy 40 W to 2900 7/45 E into			
Lease	Reidel Farms			Well No.	1-19			
Contractor	Alliance			Owner				
Type Job	Port Collar			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.	Charge To Sam Leary					
Csg.	5 1/2	Depth	Street					
Tbg. Size	2 7/8	Depth	City State					
Tool	Port Collar	Depth	18.32					
Cement Left in Csg.		Shoe Joint	The above was done to satisfaction and supervision of owner agent or contractor.					
Meas Line		Displace	Cement Amount Ordered 300 QmDC 1/4# Flo (Used 160SK + 6 Gal 2.5 sand)					
<b>EQUIPMENT</b>				Common				
Pumptrk	15	No. Cementer	Craig					
		Helper						
Bulktrk		No. Driver	Nick					
		Driver						
Bulktrk	12	No. Driver	Doug					
		Driver						
<b>JOB SERVICES &amp; REMARKS</b>				Hulls				
Remarks:				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				
Plug 3046 Test to 100ft.				Handling				
Spot sand @ 3010. Open Tool &				Mileage				
Mix 6 Bl Gal 1 1/2 160SK Cement				<b>FLOAT EQUIPMENT</b>				
Cement Circulated. Close Tool				Guide Shoe				
Run Pressure to 100ft. Run 5 joints				Centralizer				
Wash Clean. Wash sand off Plug				Baskets				
				AFU Inserts				
				Float Shoe				
				Latch Down				
				Pumptrk Charge				
				Mileage				
				Tax				
				Discount				
				Total Charge				
Signature				Jamesh Permmual				



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Samuel Gary Jr & Ass.

**19-12s-22w Trego KS**

1515 Wynkoop Ste 700  
Denver CO, 80202

**Riedel Farms 1-19**

ATTN: Dan Prichard

Job Ticket: 54483

**DST#: 1**

Test Start: 2013.10.20 @ 22:41:00

## GENERAL INFORMATION:

Formation: **LKC "C-D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:00:45

Time Test Ended: 05:29:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Cody Bloedorn

Unit No: 53

**Interval: 3691.00 ft (KB) To 3744.00 ft (KB) (TVD)**

Reference Elevations: 2409.00 ft (KB)

Total Depth: 3744.00 ft (KB) (TVD)

2401.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

## Serial #: 6799

Inside

Press @ Run Depth: 29.11 psig @ 3726.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.10.20

End Date:

2013.10.21

Last Calib.: 2013.10.21

Start Time: 22:41:05

End Time:

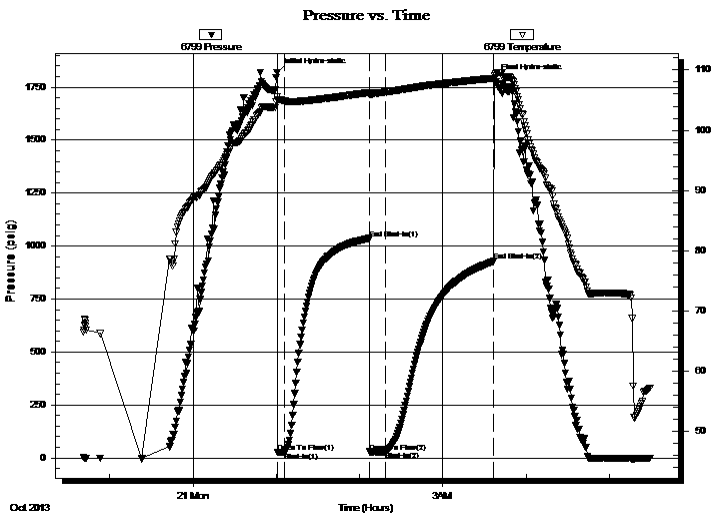
05:29:14

Time On Btm: 2013.10.21 @ 01:00:30

Time Off Btm: 2013.10.21 @ 03:37:15

TEST COMMENT: 05 - IF- 1/2" blow  
60 - IS- No return  
10 - FF- No blow  
75 - FS- No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1819.32	105.54	Initial Hydro-static
1	27.35	105.03	Open To Flow (1)
6	27.79	104.85	Shut-In(1)
67	1034.62	106.26	End Shut-In(1)
67	28.17	105.90	Open To Flow (2)
78	29.11	106.32	Shut-In(2)
157	927.84	108.63	End Shut-In(2)
157	1791.50	109.13	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud - show of oil, 100%M	0.07

## Gas Rates

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



**TRILOBITE**  
TESTING, INC.

## DRILL STEM TEST REPORT

Samuel Gary Jr & Ass.

**19-12s-22w Trego KS**

1515 Wynkoop Ste 700  
Denver CO, 80202

**Riedel Farms 1-19**

Job Ticket: 54483

**DST#: 1**

ATTN: Dan Prichard

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Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:00:45

Time Test Ended: 05:29:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Cody Bloedorn

Unit No: 53

**Interval: 3691.00 ft (KB) To 3744.00 ft (KB) (TVD)**

Reference Elevations: 2409.00 ft (KB)

Total Depth: 3744.00 ft (KB) (TVD)

2401.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 8648** Outside

Press @ Run Depth: psig @ 3726.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.10.20

End Date:

2013.10.21

Last Calib.:

2013.10.21

Start Time: 22:41:05

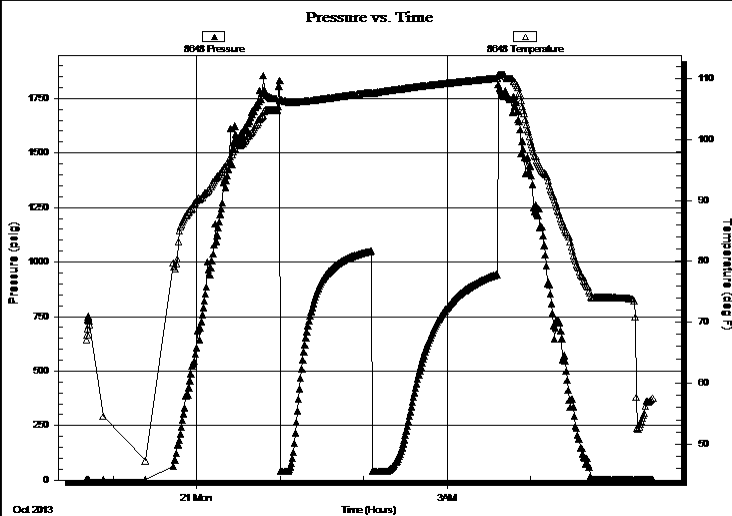
End Time:

05:27:44

Time On Btm:

Time Off Btm:

**TEST COMMENT:** 05 - IF- 1/2" blow  
60 - IS- No return  
10 - FF- No blow  
75 - FS- No return



### PRESSURE SUMMARY

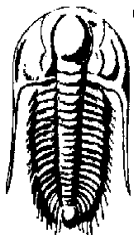
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

### Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud - show of oil, 100%M	0.07

### Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Samuel Gary Jr & Ass.

**19-12s-22w Trego KS**

1515 Wynkoop Ste 700  
Denver CO, 80202

**Riedel Farms 1-19**

Job Ticket: 54483

**DST#: 1**

ATTN: Dan Prichard

Test Start: 2013.10.20 @ 22:41:00

## GENERAL INFORMATION:

Formation: **LKC "C-D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:00:45

Time Test Ended: 05:29:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Cody Bloedorn

Unit No: 53

**Interval: 3691.00 ft (KB) To 3744.00 ft (KB) (TVD)**

Reference Elevations: 2409.00 ft (KB)

Total Depth: 3744.00 ft (KB) (TVD)

2401.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 8655 Fluid**

Press @ RunDepth: psig @ 3656.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.10.20 End Date: 2013.10.21

Last Calib.: 2013.10.21

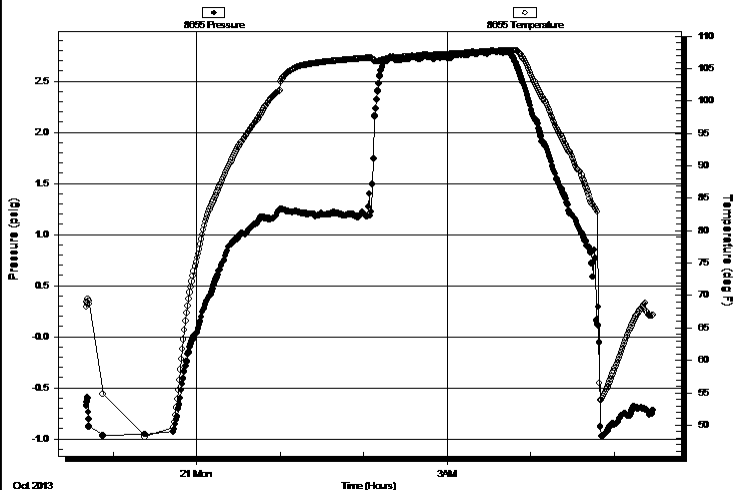
Start Time: 22:41:05 End Time: 05:27:44

Time On Btm:

Time Off Btm:

**TEST COMMENT:** 05 - IF- 1/2" blow  
60 - IS- No return  
10 - FF- No blow  
75 - FS- No return

Pressure vs. Time



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	Mud - show of oil, 100%M	0.07

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Samuel Gary Jr & Ass.

**19-12s-22w Trego KS**

1515 Wynkoop Ste 700  
Denver CO, 80202

**Riedel Farms 1-19**

Job Ticket: 54483

**DST#: 1**

ATTN: Dan Prichard

Test Start: 2013.10.20 @ 22:41:00

## 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: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.59 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	Mud - show of oil, 100%M	0.070

Total Length: 5.00 ft      Total Volume: 0.070 bbl

Num Fluid Samples: 0

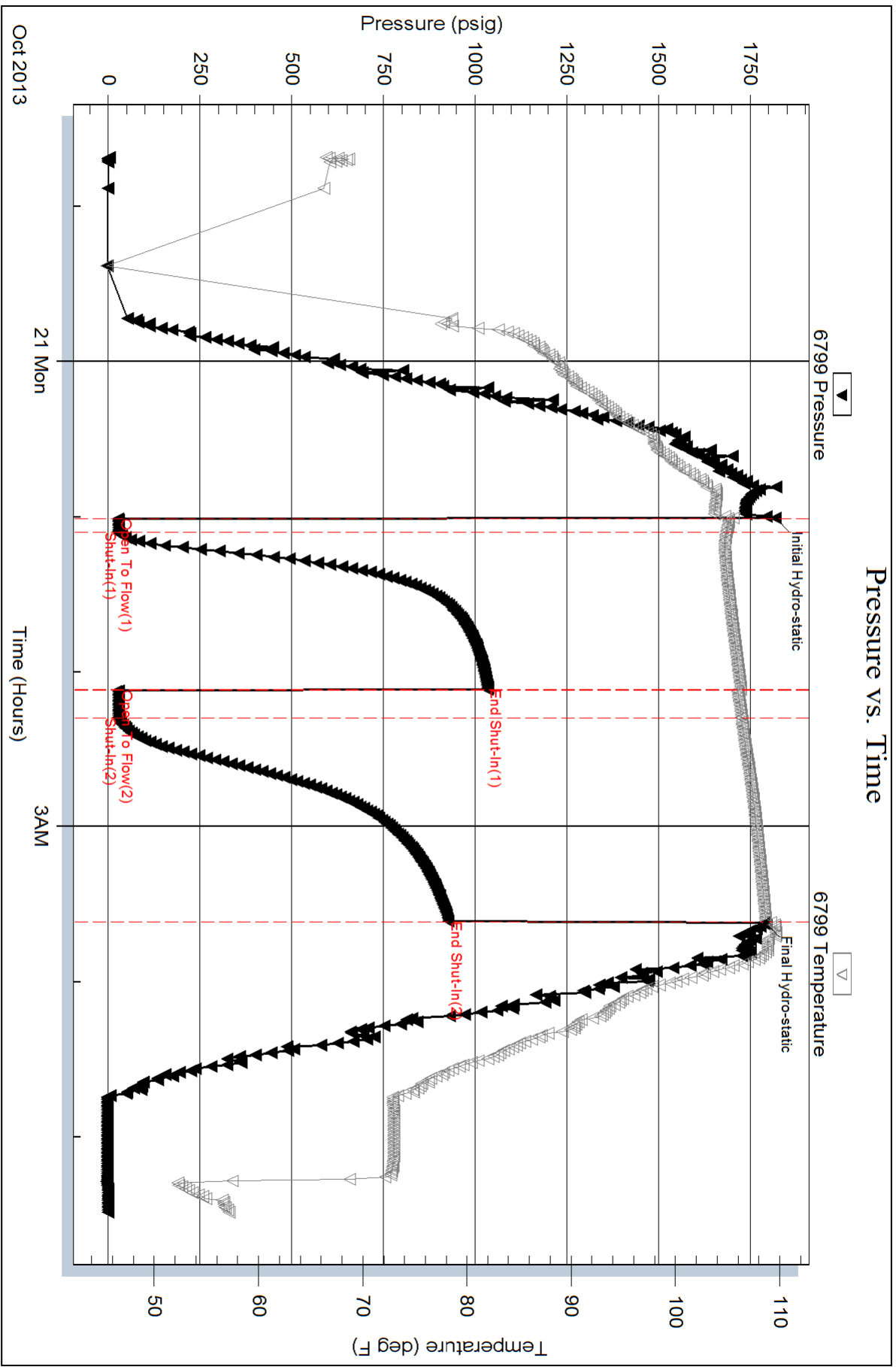
Num Gas Bombs: 0

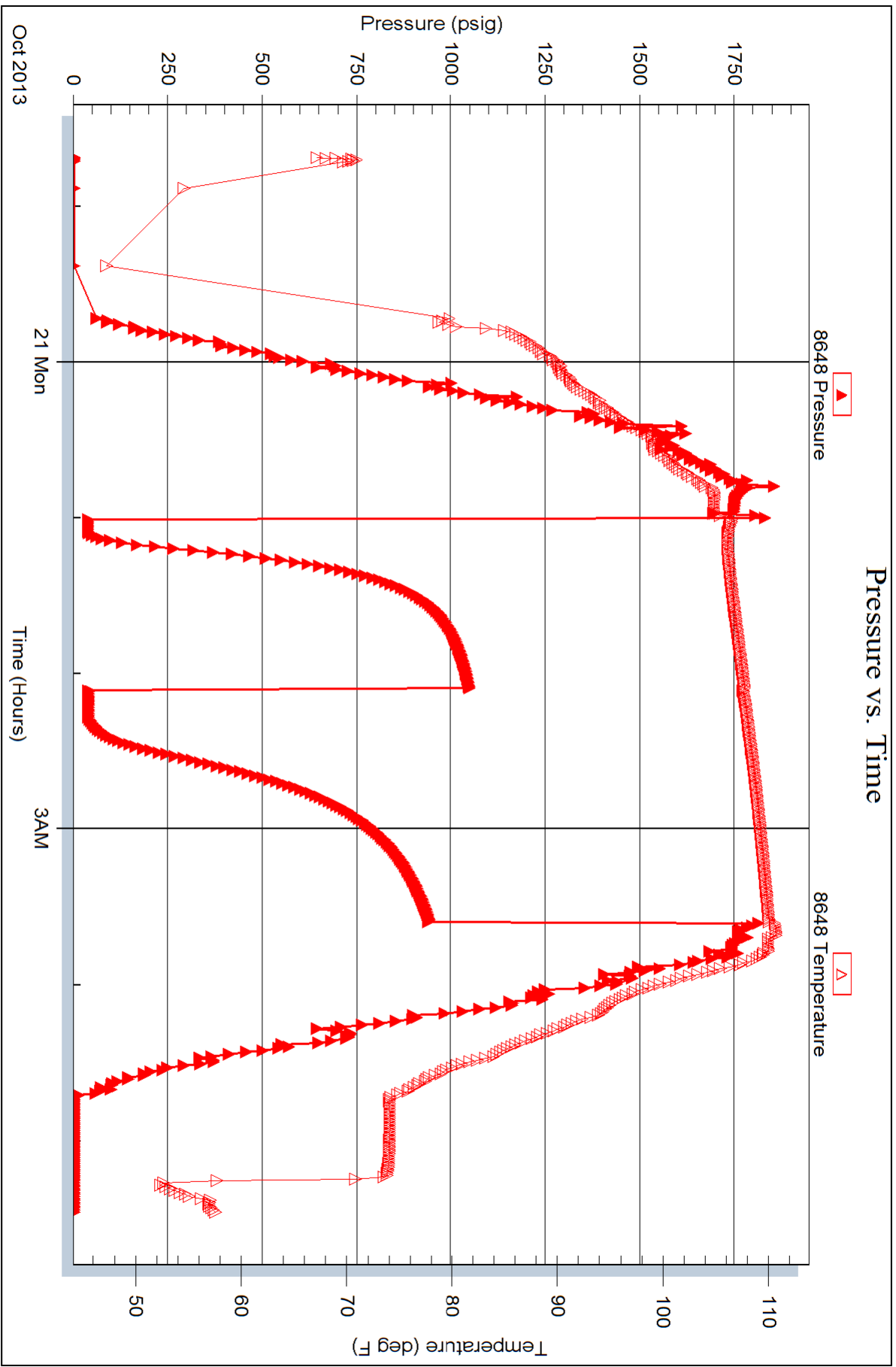
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Sampler: 200 PSI, 100% MUD, 2000ml Mud







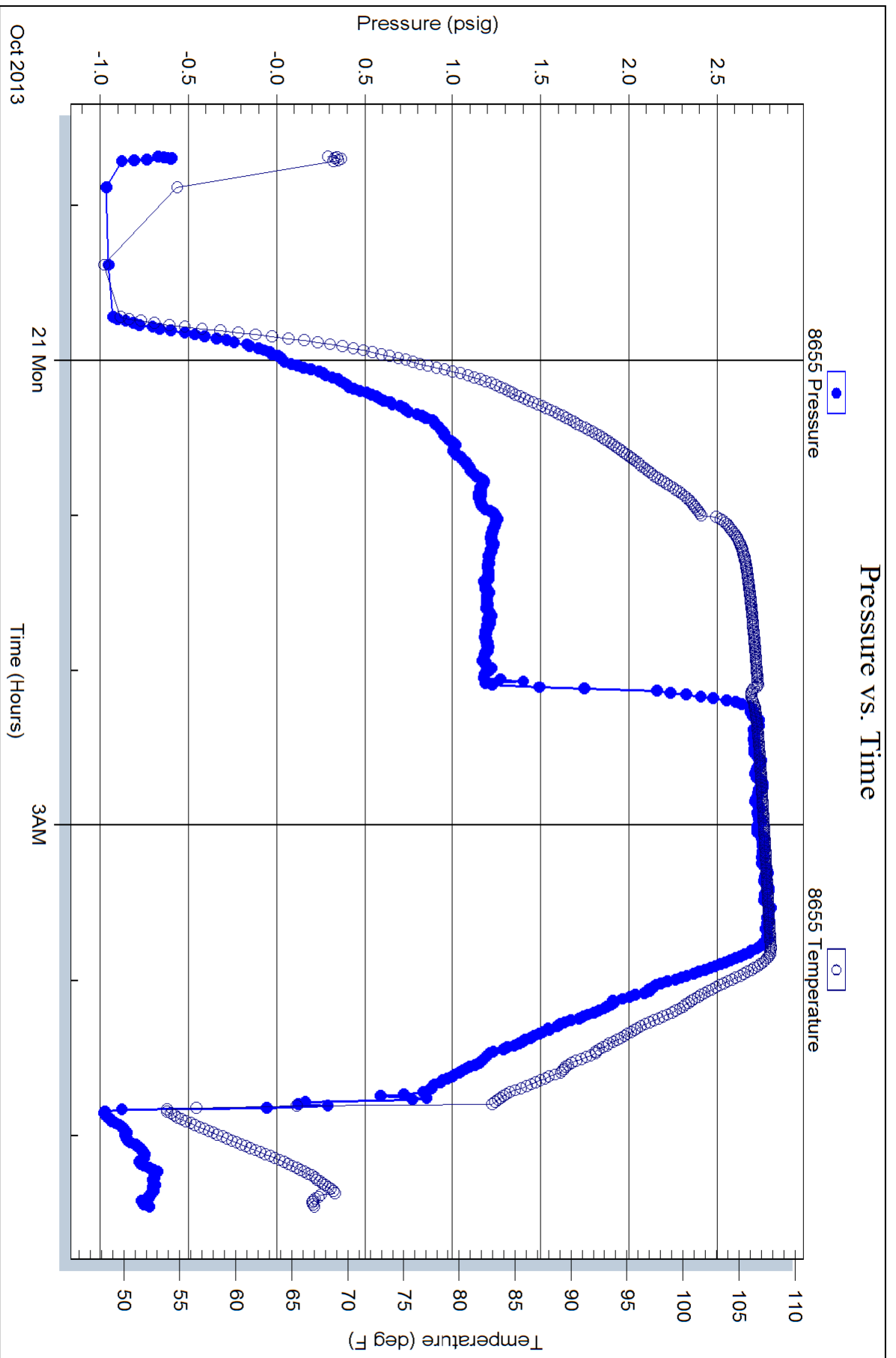
Serial #: 8655

Fluid

Samuel Gary Jr & Ass.

Riedel Farms 1-19

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 54483

Printed: 2013.10.21 @ 06:30:40



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Samuel Gary Jr & Ass.

**19-12s-22w Trego KS**

1515 Wynkoop Ste 700  
Denver CO, 80202

**Riedel Farms 1-19**

ATTN: Dan Prichard

Job Ticket: 54484

**DST#: 2**

Test Start: 2013.10.21 @ 13:33:00

## GENERAL INFORMATION:

Formation: **LKC "F-G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:31:15

Time Test Ended: 21:48:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Cody Bloedorn

Unit No: 53

**Interval: 3737.00 ft (KB) To 3796.00 ft (KB) (TVD)**

Reference Elevations: 2409.00 ft (KB)

Total Depth: 3796.00 ft (KB) (TVD)

2401.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 6799 Inside**

Press @ Run Depth: 271.07 psig @ 3773.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.10.21

End Date:

2013.10.21

Last Calib.:

2013.10.21

Start Time: 13:33:05

End Time:

21:48:14

Time On Btm:

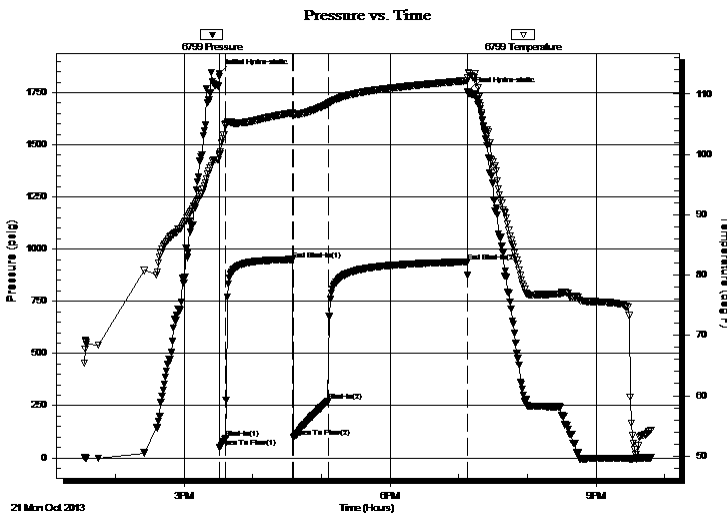
2013.10.21 @ 15:31:00

Time Off Btm:

2013.10.21 @ 19:08:00

**TEST COMMENT:** 05 - IF- 9' blow  
60 - IS- No return  
30 - FF- B.O.B. in 6 minutes  
120 - FS- Surface return, died in 37 minutes

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1839.62	99.96	Initial Hydro-static
1	51.52	100.04	Open To Flow (1)
6	94.87	104.77	Shut-In(1)
64	950.55	106.89	End Shut-In(1)
65	97.26	106.65	Open To Flow (2)
95	271.07	108.36	Shut-In(2)
217	938.25	112.24	End Shut-In(2)
217	1752.50	112.72	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
310.00	MW, 20%M, 80%W	4.35
186.00	OCWM, 20%O, 30%W, 50%M	2.61
124.00	HOCWM, 10%W, 40%O, 50%M	1.74
20.00	GO, 10%G, 90%O	0.28
0.00	90' of G.I.P.	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 & Ass.

**19-12s-22w Trego KS**

1515 Wynkoop Ste 700  
Denver CO, 80202

**Riedel Farms 1-19**

Job Ticket: 54484

**DST#: 2**

ATTN: Dan Prichard

Test Start: 2013.10.21 @ 13:33:00

## 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: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
310.00	MW, 20%M, 80%W	4.348
186.00	OCWM, 20%O, 30%W, 50%M	2.609
124.00	HOCWM, 10%W, 40%O, 50%M	1.739
20.00	GO, 10%G, 90%O	0.281
0.00	90' of G.I.P.	0.000

Total Length: 640.00 ft      Total Volume: 8.977 bbl

Num Fluid Samples: 0

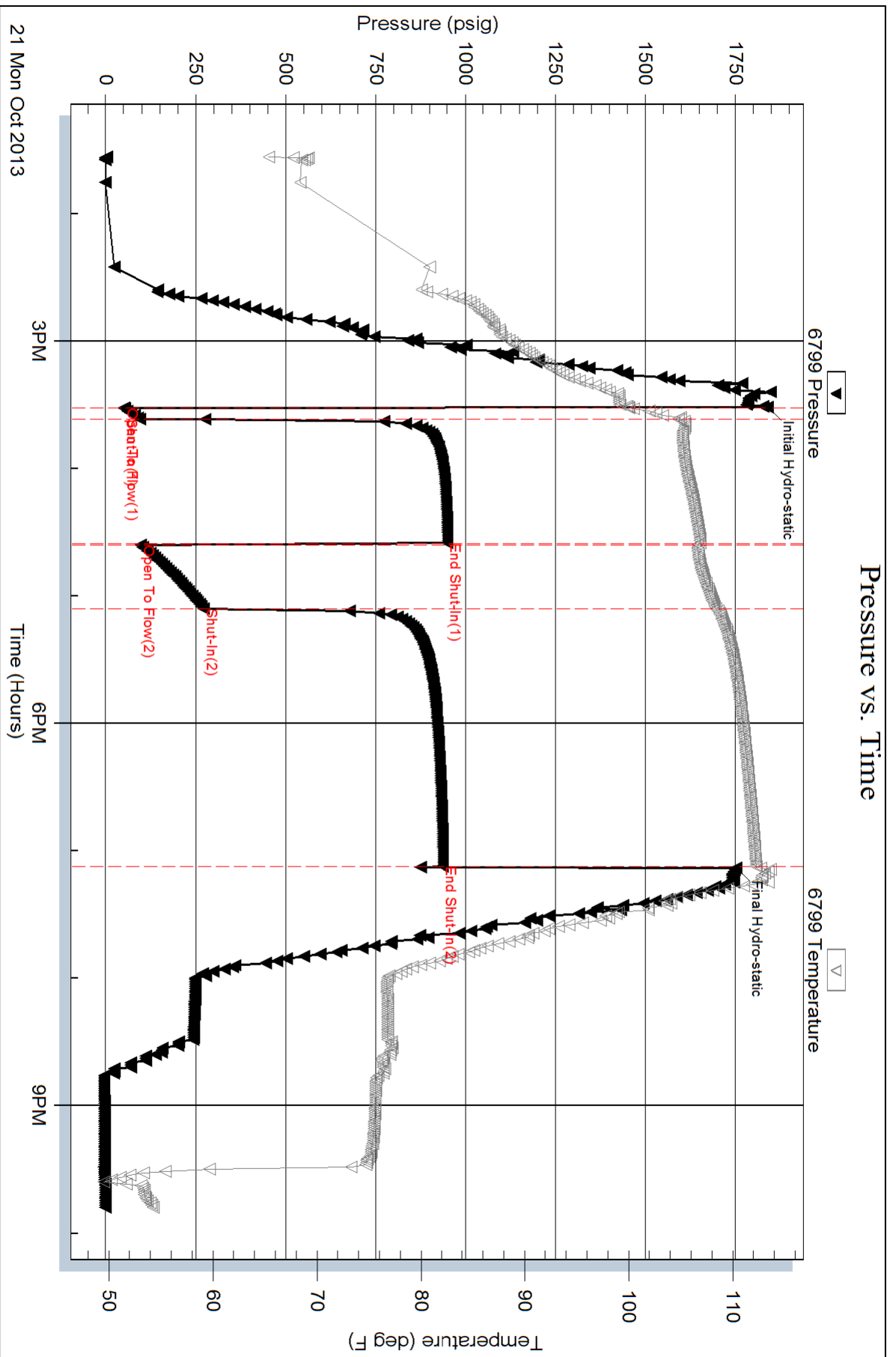
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .25 @ 60 DEGREES = 33,000 Chlorides

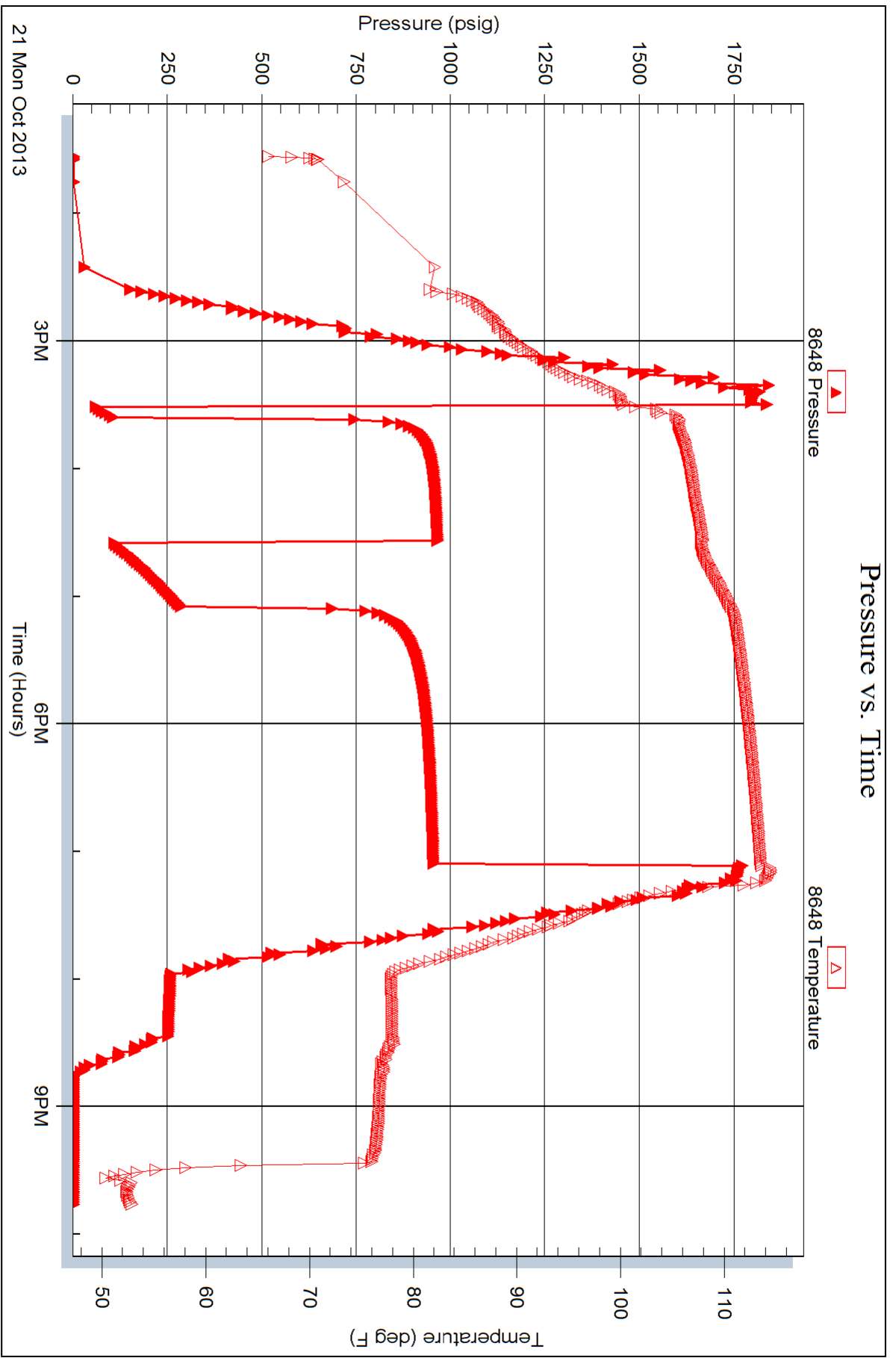


Serial #: 8648

Outside Samuel Gary Jr & Ass.

Riedel Farms 1-19

DST Test Number: 2



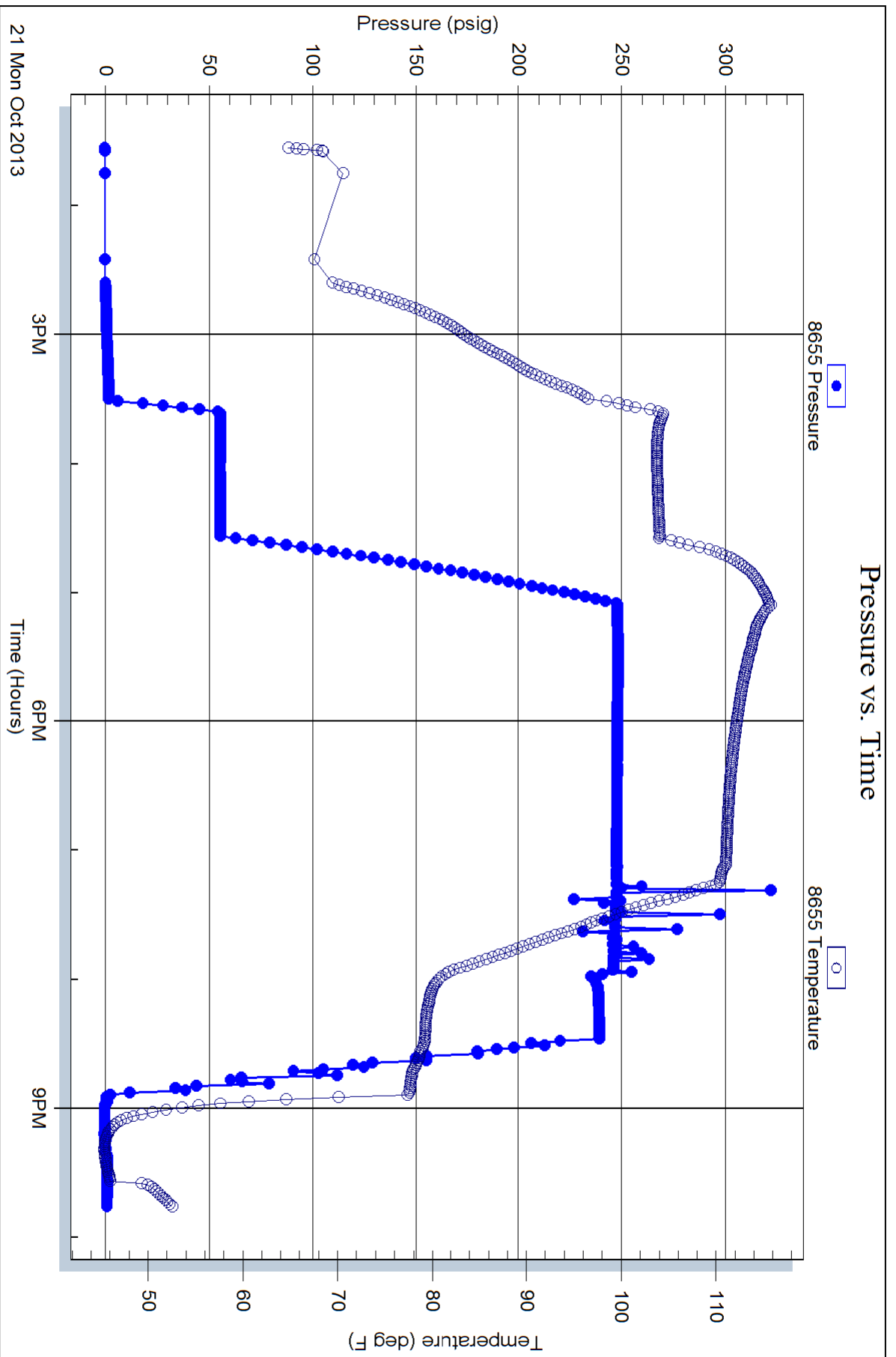
Serial #: 8655

Fluid

Samuel Gary Jr & Ass.

Riedel Farms 1-19

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 54484

Printed: 2013.10.22 @ 00:23:52





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

Well Name: RIEDEL FARMS 1-19  
 Location: SEC. 19-12S-22W TREGO COUNTY, KANSAS  
 License Number: 15-195-22891-0000 Region: WILDCAT  
 Spud Date: 10/16/13 Drilling Completed: 10/23/2013  
 Surface Coordinates: 1420 FSL/ 1260 FWL

Bottom Hole  
 Coordinates:  
 Ground Elevation (ft): 2401' K.B. Elevation (ft): 2409'  
 Logged Interval (ft): 3390' To: 4240' Total Depth (ft): 4240'  
 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: Dan Pritchard

#### 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 3691'-3744' 5-60-10-75  
 IF- 1/2" BLOW, ISI- NO RETURN, FF- NO BLOW, FSI- NO RETURN  
 IH- 1819, FH- 1791/ IF- 27 TO 27, FF- 28 TO 29/ ISI- 1034, FSI- 927  
 REC. 5' OF TF/ 5' OF MUD-SHOW OF OIL/ SMPLER: 200 PSI, 2000 ML MUD/ BHT- 108, CHLOR.- 1000 PPM  
 SYSTEM

#### DST's Report

DST# 2 3738'-3796' 5-60-30-120  
 IF- 9" BLOW, ISI- NO RETURN, FF- B.O.B. IN 6 MIN, FSI- SURF. RETURN, DIED IN 37 MIN  
 IH- 1839, FH- 1752/ IF- 51 TO 94, FF- 97 TO 271/ ISI- 950, FSI- 938  
 REC. 640' OF TF/ 310' OF MW 80% WATER, 20% MUD/ 186' OF OCWM 20% OIL, 30% WATER, 50% MUD/ 124'  
 OF HOCWM 40% OIL, 10% WATER, 50% MUD/ 20' OF GO 10% GAS, 90% OIL/ 90' OF G.I.P./ BHT- 112 DEG., API  
 RW- .25 @ 60 DEG., CHLOR.- 33,000 PPM-4,000 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
- Breclrag
- 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**

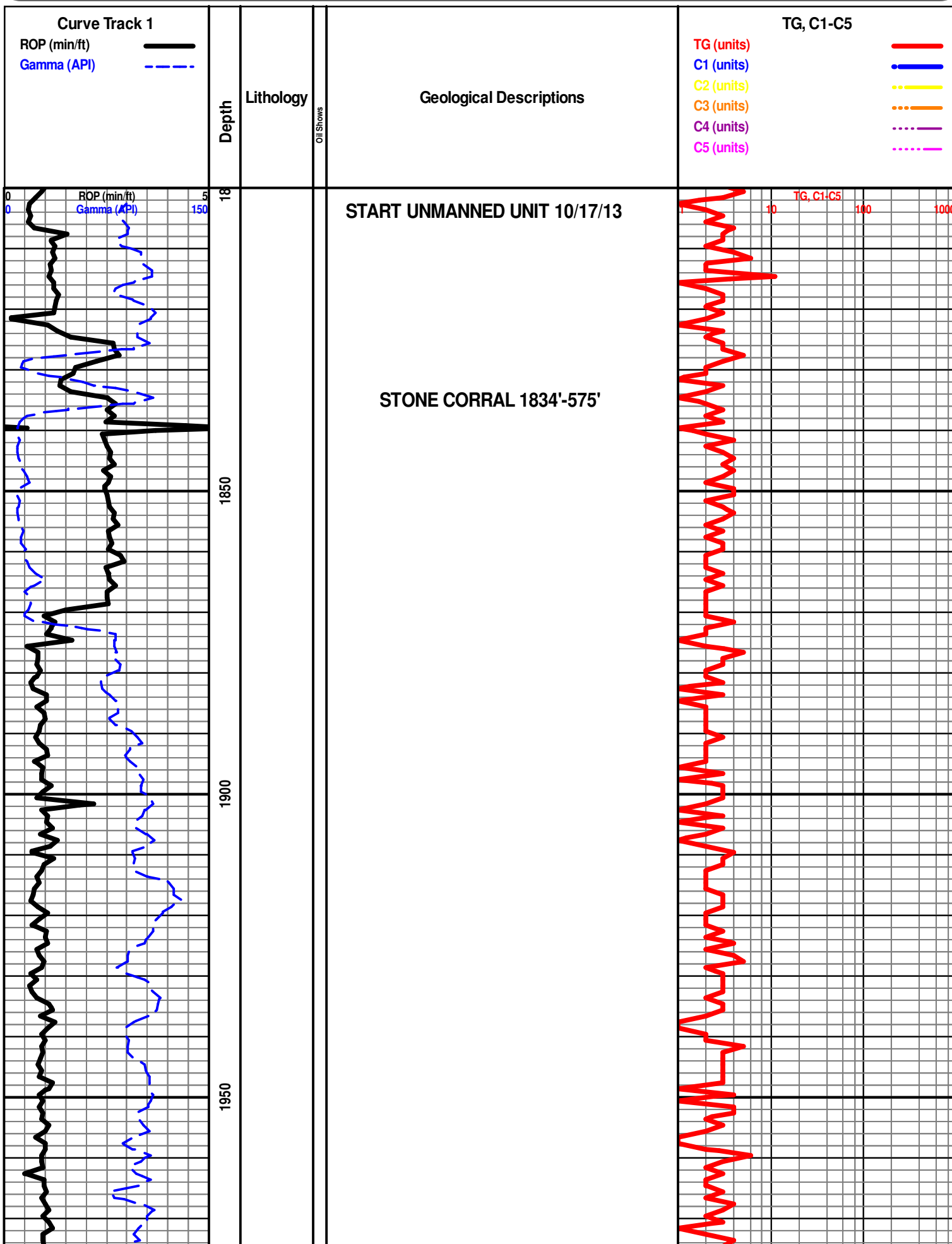
- Even
- Spotted
- Ques
- Dead
- Gas show

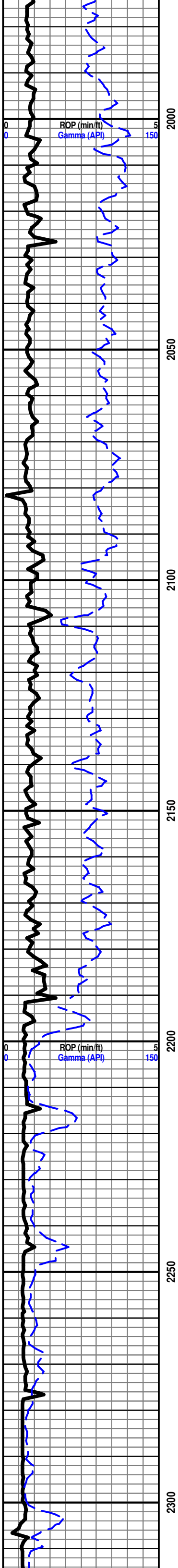
**INTERVALS**

- Core
- Dst
- Dst

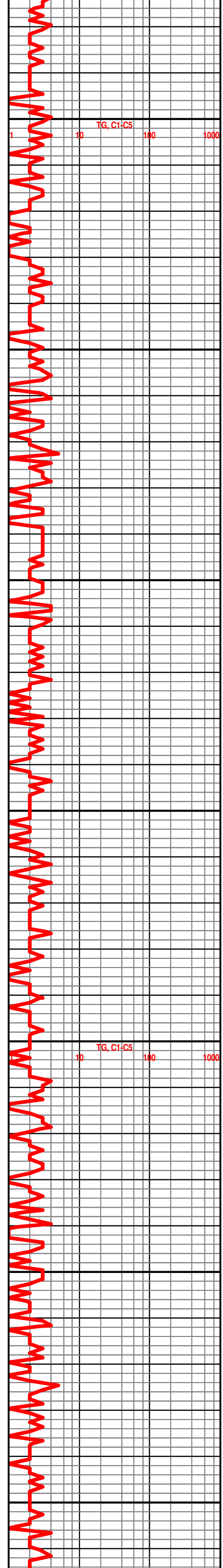
**EVENTS**

- Rft
- Sidewall

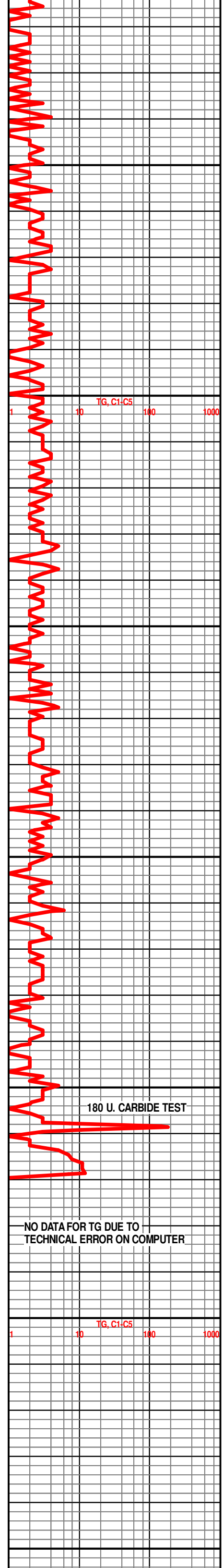
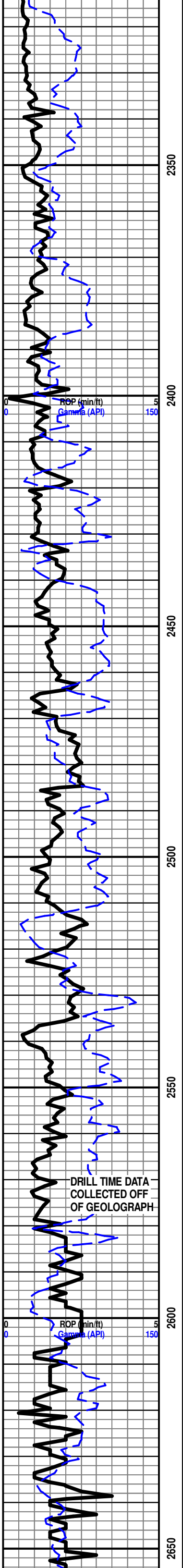


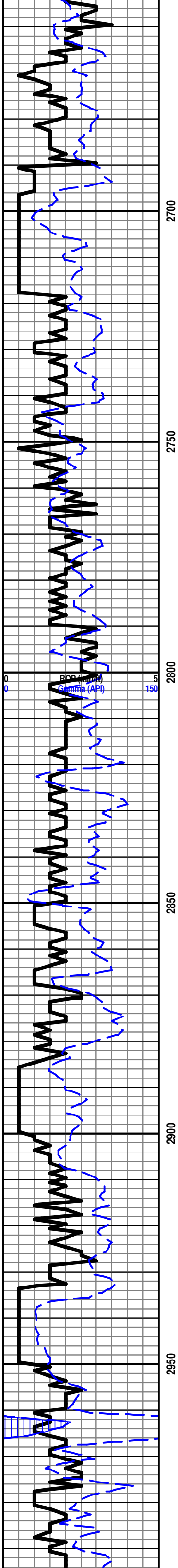


2000 2050 2100 2150 2200 2250 2300

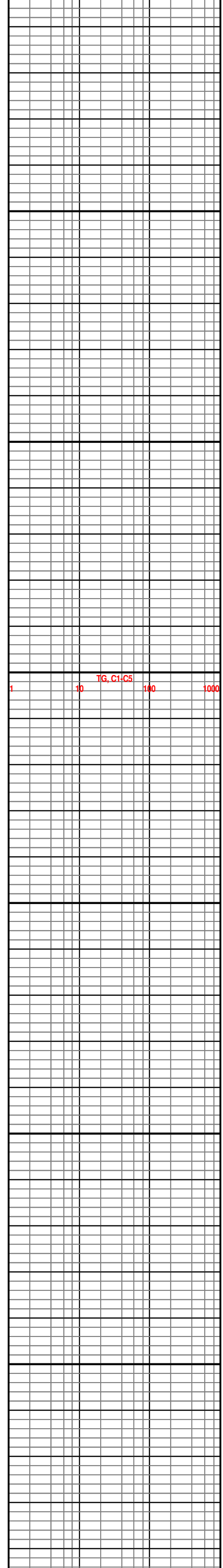


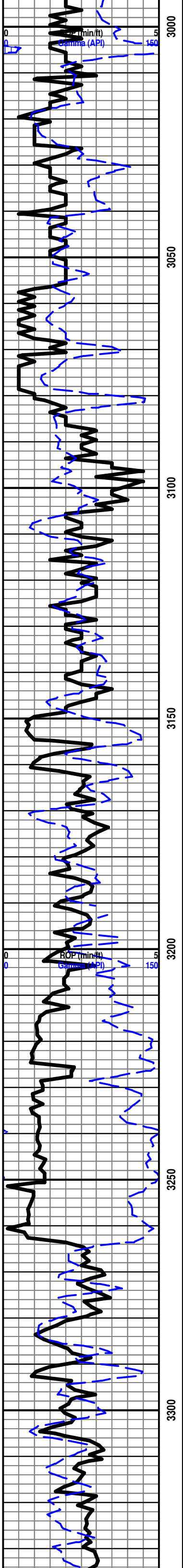
2000 2050 2100 2150 2200 2250 2300





ESKRIDGE 2929'-520'

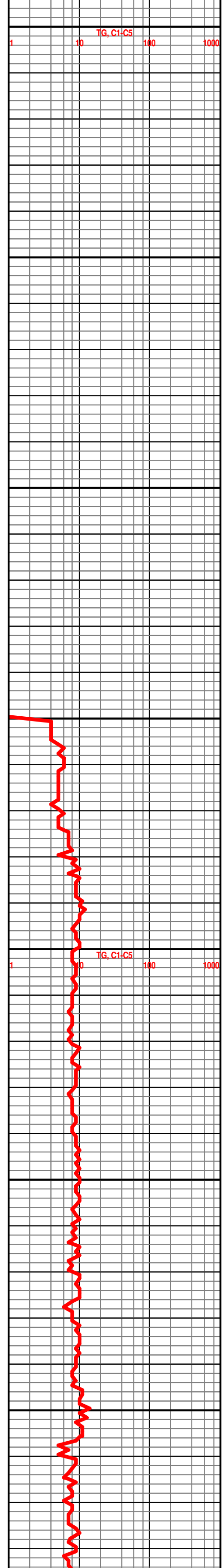




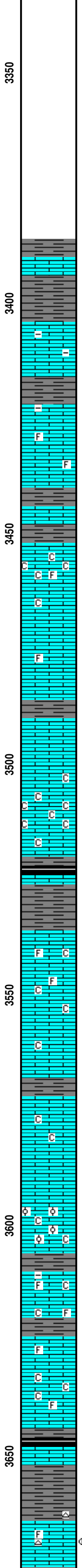
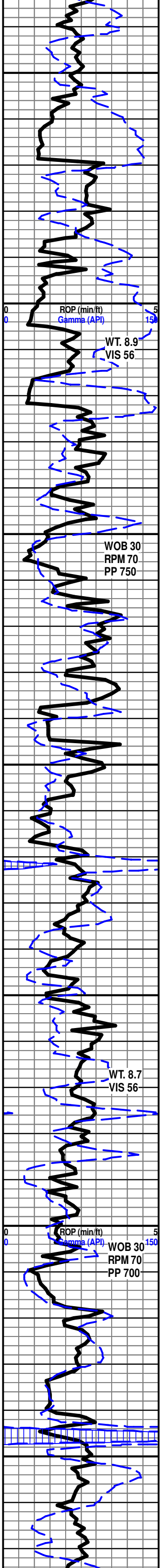
3000  
3050  
3100  
3150  
3200  
3250  
3300

MUD DISPLACEMENT

ELMONT 3263'-854'



1  
10  
100  
1000  
1  
10  
100  
1000



**START 24 HR. MANNED UNIT 10/19/13**

SH- LT GY TO GY DK GY, FRM TO SFT, BLCKY SLTY TXT,

LS- OFF WHT TO CRM BFF LT TN, HD DNS TO BRTT, MD/F-XLN RE-XLN MTRX, S-SUCRO IP, TR INTERBD SH, DUL YEL MIN FLO IN 30%, BRT YEL MIN FLO IN 10%, NO VIS POR, NO VIS CUT OR SHOW

**TOPEKA 3422'-1013'**

LS- CRM BFF TO LT TN, HD DNS TO BRTT, MD/F/VF-XLN, RE-XLN MTRX, S-SUCRO IP, TR IMB FOSS FRGS, V LT TR INTERBD SH IP, DUL YEL MIN FLO IN 30%, NO VIS POR, NO VIS CUT OR SHOW

LS- OFF WHT TO CRM LT TN IP, DNS TO SFT, V CHLKY MTRX, MD-XLN, ABDT IMB SFT WHY CHLK THRU, SLI TR FREE FOSS IP, DUL YEL MIN FLO IN 40%, BRT YEL MIN FLO IN 10%, NO VIS POR, NO VIS CUT OR SHOW

LS- LT TN TO TN, HD DNS TO TR BRTT IP, MD/F-XLN MTRX, TR RE-XLN IP, S-SUCRO IP, HVY TR IMB SM CALC-XLS, V LT TR FREE FOSSIL IP, NO VIS FLO, NO VIS POR, NO VIS SHOW

LS- WHT TO OFF WHT CRM BFF, HD DNS TO V BRTT SFT, V CHLKY MTRX, RE-XLN, ABDT IMB SFT WHT CHLK THRU, SCAT IMB SM CALC-XLS IP, DUL YEL MIN FLO IN 20%, BRT YEL MIN FLO IN 20%, NO VIS POR, NO VIS CUT OR SHOW

SH- LT GY TO GY DK GY, FRM TO SFT IP, BLCKY SMTH TXT

LS- OFF WHT TO WHT CRM BFF, HD DNS TO BRTT IP, MD/F/VF-XLN MTRX, S-CHLKY, SCAT IMB FOSS FRGS IP, LT TR IMB CALC-XLS, V LT TR SCAT SFT WHT CHLK, DUL YEL MIN FLO IN 40%, NO VIS POR, NO VIS CUT OR SHOW

LS- CRM TO LT GY, HD DNS TO TR BRTT IP, F/VF-XLN MTRX, S-SUCRO IP, V LT TR SCAT SFT WHT CHLK IP, NO VIS FLO, NO VIS POR, NO VIS SHOW

LS- CRM TO OFF WHT LT TN, HD DNS TO BRTT IP, MD/F-XLN, S-SUCRO, LT TR S-CHLKY IP, SCAT IMB SM CALC-XLS IP, LT TR SFT WHT CHLK IP

LS- CRM BFF TO LT TN IP, HD DNS TO BRTT IP, MD/F-XLN MTRX, TR RE-XLN IP, S-CHLKY, SCAT IMB OOLITES, LT TR SFT WHT CHLK IP, V LT TR IMB CALC-XLS IP, DUL YEL MIN FLO IN 30%, NO VIS POR, NO VIS CUT OR SHOW

LS- OFF WHT TO CRM BFF LT TN, HD DNS TO BRTT, MD/F-XLN, RE-XLN MTRX, S-SUCRO IP, HVY TR SFT WHT CHLK THRU, TR IMB FOSS FRGS, SLI TR IMB CALC-XLS IP, V SLI TR IMB SH, NO VIS FLO, NO VIS POR, NO VIS SHOW

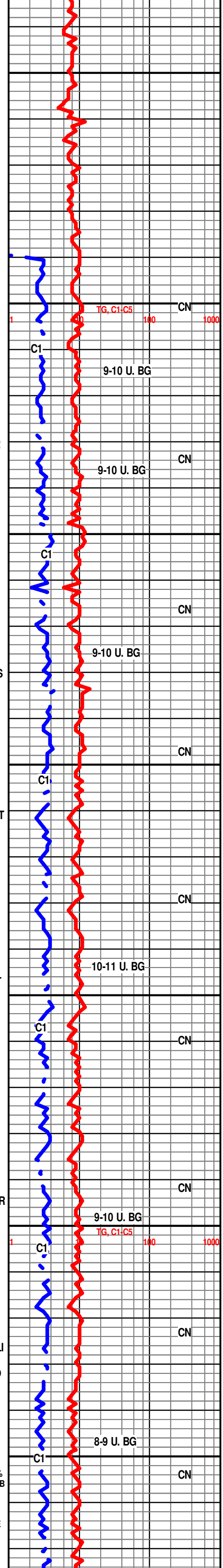
LS- CRM BFF LT TN TO TN, HD DNS TO BRTT, MD-XLN, SLI TR RE-XLN, TT SUCRO, SLI TR SFT WHT CHLK, TR IMB FOSS FRGS, FREE CALC-XLS IN TRAY, DUL YEL MIN FLO IN 10%, NO FLO IN 90%, NO VIS POR, NO VIS CUT OR SHOW

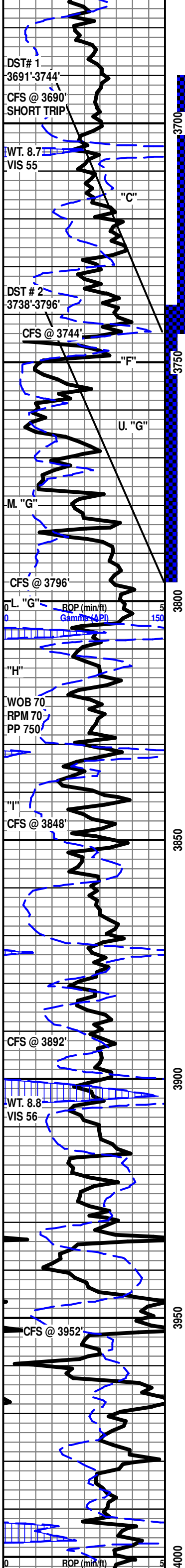
**HEEBNER 3643'-1234'**

SH- BLCK SFT CARB

3665'-3668' LS- OFF WHT TO BFF LT TN TO TN (DUE TO OIL STN IN 30% ON ONE FACES OF ROCK), MD/F-XLN XLN, RE-XLN MTRX, S-SUCRO, IMB CALC-XLS ON ONE FACES OF ROCK, SCAT IMB FOSS FRGS IP, HVY TR CLR TO WHT CHRT IN TRAY, DUL YEL GLD FLO IN 40%, BRT YEL GLD FLO IN 10%, PR TO FR INTER-XLN POR IN 2%, TR V PR TO PR VUG POR IP, FR FLSH CUT THRU (ON ONE FACES), GD SLW STRM THRU (ON ONE FACES), LT TN LCH ON DSH, NO OIL ODOR

**LANSING 3679'-1270'**





3679'-3683' LS- OFF WHT TO CRM LT TN TO TN (DUE TO OIL STN IN 40%), HD DNS TO BRIT, MD/F-XLN, V S-CHLKY, TR S-SUCRO IP, SCAT FOSS FRGS THRU TRAY, HVY TR CLR TO WHT CHRT, LT TY IMB SFT WHT CHLK THRU, DUL YEL GLD FLO IN 40%, BRT YEL GLD FLO IN 30%, V PR TO PR VIS VUG POR IP, FR FLSH CUT, PR TO FR SLW STRM THRU, LT TN LCH ON DSH, PR TO FR OIL ODOR

LS- LT TN TO CRM BFF, HD DNS TO TR BRIT IP, MD-XLN, SUCRO MTRX, IMB SM CALC-XLS IP, TR IMB SCAT FOSS FRGS, SLI TR DISS PYR, DUL YEL MIN FLO IN 50%, NO VIS POR, NO VIS CUT OR SHOW

**LANSING "C" 3717'-1270'**

3719'-3721' LS- WHT TO CRM TN TO DK TN (DUE TO OIL STN IN SCAT IN 50%), HD DNS TO TR BRIT, MD/F-XLN, RE-XLN MTRX, S-SUCRO THRU, FREE FOSSIL IN TRAY, SCAT IMB SM CALC-XLS IP, DUL YEL GLD FLO IN 40%, BRT YEL GLD FLO IN 20%, FR TO TR GD INTER-XLN POR SCAT IN 3%, PR TO FR TO GD VIS VUG POR IN 1%-2%, GD FLSH CUT THRU, GD SLW STRM IN 40%, TN LCH ON DSH, GD OIL ODOR

3731'-3735' DOLO- OFF WHT TO CRM TN TO DK TN (DUE TO OIL STN IN 60%) (LIVE OIL STN IN 10%), HD DNS TO BRIT, F-XLN, V SUCRO MTRX, ABTD IMB SM TO MD S-ANG TO S-RND DOLO GRNS THRU, V CALC THRU, HVY TRS TN ORNG CLR CHRT THRU TRAY, DUL YEL GLD FLO IN 40%, BRT YEL GLD FLO IN 10%, FR TO GD INTER-GRN POR IN 6%, TR PR VIS VUG POR IP, GD INST FLSH CUT THRU, GD TO EXCEL SLW STRM IN 60%, TN TO DK TN LCH ON DSH, GD OIL ODOR, FREE FLOATING OIL IN TRAY

**LANSING "F" 3747'-1338'**

3750'-3754' LS- WHT TO OFF WHT (W/ TN TO DK TN OIL STN IN 40%), HD DNS TO BRIT, V RE-XLN MTRX, F-XLN IP, S-SUCRO, S-CHLKY, ABTD IMB OOL THRU, V-OOLITIC, LT TR SCAT SFT WHT CHLK, TR IMB GLAUC IP, V DUL YEL GLD FLO IN 20%, V PR TO PR TR FR INTER-OOL POR IN 5%, GD INST FLSH CUT, FR TO GD SLW STRM THRU, DK TN LCH ON DSH, GD OIL ODOR

DOLO- FRSTY TO CRM LT TN IP, HD DNS TO BRIT, V TT SUCRO MTRX, RE-XLN, ABTD IMB SM S-RND TO ANG DOLO GRNS THRU, ABTD SFT WHT CHLK THRU, HVY TR CLR TO CRM CHRT, V DUL YEL MIN FLO IN 20%, PR TO FR INTER-GRN POR IN 3%, NO VIS CUT OR SHOW

3779'-3782' DOLO- CLR TO FRSTY CRM (W/ LIVE OIL STN SCAT IN 30%-40%), HD DNS TO BRIT IP, V RE-XLN, V TT SUCRO MTRX, ABTD IMB S-ANG TO RND DOLO GRNS, SCAT IMB SM S-ANG CLR QRTZ GRNS, SCAT SPTTD BRT YEL GLD FLO IN 10%, PR TO TR FR INTER-GRN POR IN 4%, EXCEL INST FLSH CUT, EXCEL SLW STRM THRU, DK TN LCH ON DSH, GD OIL ODOR

**LANSING "H" 3806'-1397'**

3807'-3810' LS- TN TO DK TN (W/ OIL STN IN 20%), V HD DNS, VF TO F SUCRO MTRX, HVY TR CLR CHRT THRU, LT TR FREE FOSSIL IN TRAY, LT TR IMB SFT WHT CHLK IP, HVY TRS PYR IN TRAY, DUL YEL GLD FLO IN 40%, BRT YEL GLD FLO IN 20%, V PR TO PR VIS MICRO VUG POR IN 1%, POSS FRACT POR, PR TO FR FLSH CUT, PR TO FR SLW STRM IN 20%, NO VIS LCH ON DSH, PR TO FR OIL ODOR

3823'-3826' LS-TN TO DRK TN WHT (DUE TO OIL STN 60%-70%), HD DNS TO TRS BRIT IP, F/VF-XLN, TT SUCRO MTRX, ABTD IMB DOLO FRGS THRU, SCATT IMB SFT WHT CHLK, V SLI TRS PYR IN TRAY, V DUL YEL GLD FLO IN 40%, SCATT BRIT YEL GLD FLO IN 15%, PR TO FR TO TRS GD VIS VUG POR IN 2%, PR TO FR INTER-FOSS POR 1%, FR FLSH CUT, FR TO GD SLW STRM IN 50%, V LT TN LCH ON DSH, GD OIL ODOR

LS- CRM BFF TO LT TN, HD DNS, F/VF-XLN, S-CHLKY IP, ABTD SFT WHT CHLK IN TRAY, IMB SML CALC-XLS, V DUL YEL MIN FLO IN 30%, NO VIS POR, NO VIS SHOW

3871'-3874' LS- CRM BFF TN TO DK TN (DUE TO OIL STN 50%), HD DNS, MD/F-VF-XLN, RE-XLN, S-SUCRO, HVY TR CLR TO WHT CHRT, TR SCAT FREE FOSSIL, V SLI TR SFT WHT CHLK IP, DUL YEL GLD FLO IN 40%, BRT YEL GLD FLO IN 30%, PR TO FR VIS MICRO-PPOR 1%-2%, PR VUG POR IP, GD FLSH CUT, GD SLW STRM IN 30%, LT TN LCH ON DSH, TR LT OIL ODOR

3883'-3886' LS- OFF WHT CRM BFF TN TO DK TN (DUE TO OIL STN IN 40%), HD DNS TO BRIT, MD/F-XLN, RE-XLN, V S-CHLKY, S-SUCRO IP, SCAT IMB SFT WHT CHLK THRU, HVY TR CLR TO WHT CHRT IN TRAY, DUL YEL GLD FLO IN 30%, BRT YEL GLD FLO IN 30%, PR FR TO GD VIS VUG POR IN 3%, PR VIS INTER-XLN POR IN 1%, GD TO EXCEL FLSH CUT, GD TO EXCEL SLW STRM IN 50%, LT TN TO TN LCH ON DSH, NO OIL ODOR

**X-SHALE 3900'-1491'**

LS- OFF WHT TO CRM LT GY, V HD DNS, VF/F-XLN MTRX, S-CHLKY IP, HVY TR ORNG TRANS CHRT THRU, V LT TR SFT WHT CHLK, LT TR IMB LT GY SH, NO VIS FLO, NO VIS POR, NO VIS SHOW

SH- RD TO GRN, SFT TO V GMMY THRU, ABTD CLR TO WHT CHRT THRU, INTERBED LMS THRU

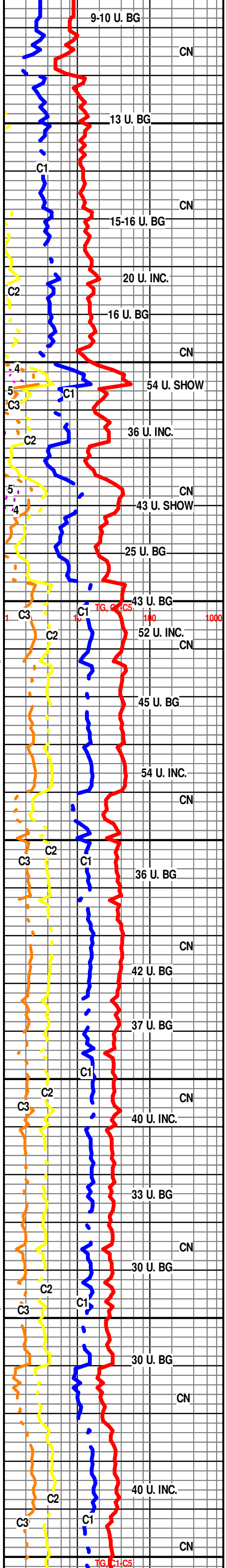
SH- LT RD TO RD, SFT TO V GMMY THRU, ABTD CLR TO LT GY WHT CHRT THRU, HVY TR SFT WHT CHLK THRU, INTERBED LMS

LS- OFF WHT TO CRM, V HD DNS, F/VF-XLN MTRX, CRYPTO-XLN IP, TR S-CHLKY IP, ABTD CLR TO WHT CHRT THRU, V LT TR SFT WHT CHLK, V DUL YEL MIN FLO IN 20%, NO VIS POR, NO VIS CUT OR SHOW

LS- CRM TO OFF WHT, V HD DNS, F/VF-XLN, RE-XLN MTRX, TRS CRYPTO-XLN IP, SLI TRS S-CHLKY, TRS WHT TO CLR CHRT THRU, TRS IMB SH, V DUL YEL MIN FLO 30%, NO VIS POR, NO VIS CUT OR SHOW

SH- LT RD TO RD BRWN, SFT TO GUMMY TRS FRM, BLKY, SLI TRS OFF WHT TO CLR CHRT THRU, TRS SFT WHT CHLK, TRS INTERBED LMS

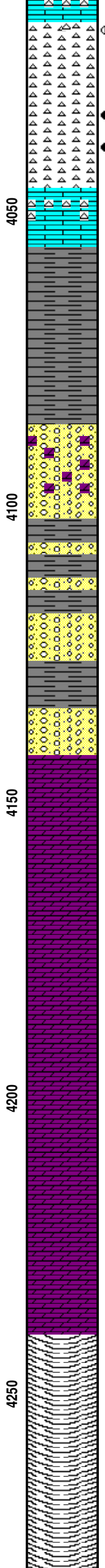
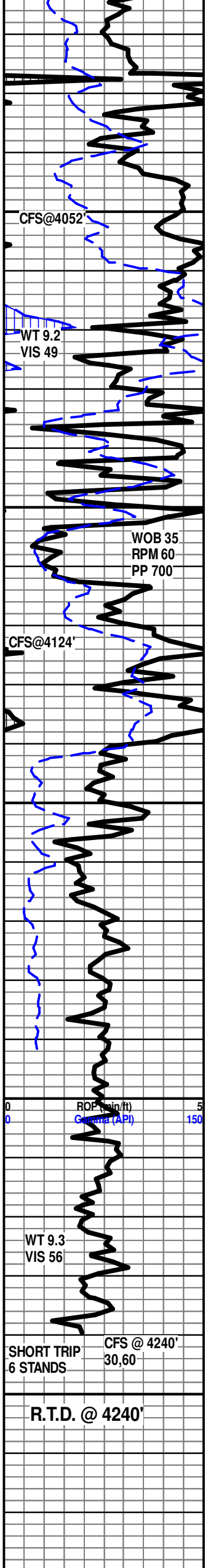
LS- OFF WHT TO CRM, HD DNS, F/VF-XLN TO CRYPTO-XLN IP, SLI TRS SFT WHT CHLK, ABTD CLR WHT ORNGE CHRT THRU, TRS IMB SH THRU, DUL YEL MIN FLO IN 30%, NO VIS POR, NO VIS CUT OR SHOW



**MARMATON 4008' -1599'**

4016'-4021' CHRT- TN TO DRK TN WHT (DUE TO OIL STN IN 60%-70%), HD DNS TO BRIT, V TT SUCRO MTRX, V





CALC WTHRD CHRT, SCATT IMBD CLR & ORNGE CHRT, ABDT CLR WHT ORNG & PNK CHRT THRU TRAY, DUL YEL GLD FLO IN 60%, V PR VIS MICRO PP POR IP, FR TO GD FLSH CUT, GD TO EXCL SLW STRM IN 70%, LT TN TO TN LCH ON DISH, PR OIL ODOR

4034'-4044' CHRT- LT TN TO TN WHT TO OFF WHT (DUE TO OIL STN IN 90%), HD DNS TO BRTT, V TT SUCRO MTRX, WTHRD CHRT, CALC IP, ABDT CLR TO WHT CHRT THRU, LT TRS ORNG CHRT, DUL YEL GLD FLO IN 50%, YEL GLD FLO IN 30%, SLI TRS V PR VIS MICRO PP POR IP, FR FLSH CUT, EXCL SLW STRM IN 90%, TN LCH ON DISH, GD TO EXCL OIL ODOR

SH- GRY TO DRK GRY PRP RD, FRM TO V SFT, SMTH TXT, ABDT CLR YEL & ORNG CHRT THRU

SH- LT GRY GRN PRP RD, V FRM TO SFT, BLKY SMTH TXT, ABDT CLR YEL ORNG PNK CHRT THRU

CONG-LS-WHT TO OFF WHT CRM IP, HD DNS TO BRTT, F/VF-XLN, ABDT UNCONSOLIDATED CLR TO FROSTY S-RND MD TO LRG QRTZ GRNS, HVY TRS MIN THRU, SCATT WHT DOLO W/ IMBD V SML RND CLR QRTZ GRNS, LT TRS QRTZ GRNS CLSTRS, ABDT WHT YEL ORNG PNK CHRT, NO VIS FLO, NO VIS CUT OR SHOW

CONG-SH- GRY GRN PRP, V FRM TO SFT IP, BLKY SMTH, ABDT ORNG YEL PNK CLR WHT FROSTY CHRT, INTERBED WHT TO CRM LMS, HVY TRS MIN THRU, NO VIS FLO, NO VIS CUT OR SHOW

**ARBUCKLE 4142'-1733'**

DOLO- OFF WHT TO CRM WHT IP, HD DNS TO BRTT, RE-XLN, SUCRO MTRX, ABDT IMBD ANG TO SUB-RND SML TO MD DOLO GRNS, LT TRS ANG SML CLR QRTZ GRNS, HVY TRS SFT WHT CHLK IN TRAY, YEL MIN FLO IN 60%, FR TO GD INTER-GRN POR 2%, NO VIS CUT OR SHOW

DOLO- WHT TO OFF WHT CRM, HD DNS TO BRTT, V RE-XLN, TT SUCRO MTRX, ABDT IMBD S-ANG TO S-RND SML TO MD DOLO GRNS, SCATT IMBD SFT WHT CHLK, LT TRS CLR CHRT THUR, DUL YEL MIN FLO IN 40%, PR TO FR VUG POR IP, NO VIS CUT OR SHOW

DOLO- WHT TO OFF WHT CRM IP, HD DNS TO BRTT, MD-XLN, RE-XLN, V SUCRO, TRS S-CHLKY IP, ABDT IMBD S-ANG SM TO MD DOLO GRNS, IMBD SFT WHT CHLK IP, DUL YEL MIN FLO IN 30%, YEL MIN FLO IN 10%, NO VIS POR, NO VIS CUT OR SHOW

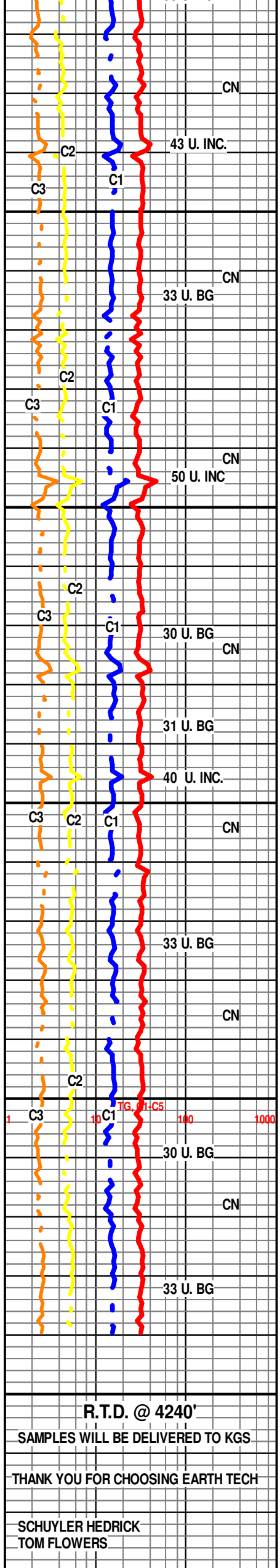
DOLO- WHT TO OFF WHT, HD DNS TO BRTT, MD TO F-XLN, RE-XLN, SUCRO, S-CHLKY IP, ABDT IMBD S-ANG SM DOLO GRNS THUR, HVY TRS SFT WHT CHLK, DUL YEL MIN FLO IN 30%, FR TO GD INTER-GRN POR IN 4%, NO VIS CUT OR SHOW

**R.T.D. @ 10:10 AM 10/23/2013**

DROP SURVEY

TOFL 11:20 AM

WEATHERFORD/ LIBERAL



**R.T.D. @ 4240'**

SAMPLES WILL BE DELIVERED TO KGS

THANK YOU FOR CHOOSING EARTH TECH

SCHUYLER HEDRICK  
TOM FLOWERS