



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1166734  
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: \_\_\_\_\_



1166734

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	BOSCH 1-22
Doc ID	1166734

All Electric Logs Run

DEN-NEUT
INDUCTION
MICRO
SONIC
SPECTRAL

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

November 04, 2013

CLAYTON CAMOZZI  
Samuel Gary Jr. & Associates, Inc.  
1515 WYNKOOP, STE 700  
DENVER, CO 80202

Re: ACO1  
API 15-051-26566-00-00  
BOSCH 1-22  
NW/4 Sec.22-12S-17W  
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,  
CLAYTON CAMOZZI



**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: 7/16/2013  
 Invoice # 7984  
 P.O.#:  
 Due Date: 8/15/2013  
 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**

**JUL 24 2013**

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

**Reference:**  
 BOSCH 1-22

**Description of Work:**  
 LONG SURFACE JOB

<input checked="" type="checkbox"/> DRLG <input type="checkbox"/> COMP <input type="checkbox"/> W/O <input type="checkbox"/> LOE <input type="checkbox"/> GG	
Account	8200.138
Well/Prospect	
Deck	
AFE	
Approval	<i>SG</i>
Description	

**Services / Items Included:**

	Quantity	Price	Taxable	Item	Quantity	Price	Taxable
Labor		\$ 991.39	No				
Common-Class A	350	\$ 4,765.20	Yes				
8 5/8" Basket	3	\$ 1,029.26	Yes				
Bulk Truck Matl-Material Service Charge	370	\$ 803.43	No				
Calcium Chloride	13	\$ 672.69	Yes				
8 5/8" Centralizer	3	\$ 208.46	Yes				
Pump Truck Mileage-Job to Nearest Camp	16	\$ 173.37	No				
Premium Gel (Bentonite)	7	\$ 123.73	Yes				
8 5/8" Top Rubber Plug	1	\$ 115.09	Yes				
Baffle Plate Aluminum, 8 5/8"	1	\$ 97.71	Yes				
Bulk Truck Mileage-Job to Nearest Bulk Plant	16	\$ 101.45	No				

**Invoice Terms:**

Net 30	SubTotal: \$ 9,081.76
	Discount Available <u>ONLY</u> if Invoice is Paid & Received within listed terms of invoice: \$ (1,362.26)
	SubTotal for Taxable Items: \$ 5,960.31
	SubTotal for Non-Taxable Items: \$ 1,759.19
	Total: \$ 7,719.50
	Tax: \$ 375.50
	<b>Amount Due: \$ 8,095.00</b>
	<b>Applied Payments:</b>
	<b>Balance Due: \$ 8,095.00</b>

6.30% Ellis 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. 7984

Date	Sec.	Twp.	Range	County	State	On Location	Finish
7-16-13	22	12	17	Ellis	KS		7:30 A.M.
Location				Carpenter Rd + Buckeye Rd 1/2 W S17			

Lease	Well No.	Owner	
BOSCH	1-22	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.	
Contractor		Charge To	
DISCOVERY #2		Sam Carl	
Type Job	T.D.	Street	
Surface	817		
Hole Size	Depth	City	
12 1/4	817		
Csg.	Depth	State	
8 5/8			
Tbg. Size	Depth	The above was done to satisfaction and supervision of owner agent or contractor.	
		Cement Amount Ordered	
		350 Com. 3 1/2 CC 2 1/2 BBL	
Cement Left in Csg.	Shoe Joint		
41.74	41.74		
Meas Line	Displace		
	49 1/4 BBL		

**EQUIPMENT**

Pumptrk	No.	Cementer	Common
17		mig	350
		Helper	Poz. Mix
Bulktrk	No.	Driver	Gel.
		Cody	7
		Driver	Calcium
Bulktrk	No.	Driver	13
19		Clayton	

**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

8 5/8 on bottom. Est. Circulation. mix  
350 sack Displace.  
Cement Circulated!  
Plug landed 800ft.  
Shut in 500ft.

**FLOAT EQUIPMENT**

Guide Shoe	8 5/8
Centralizer	3
Baskets	3
AEU Inserts	Baffle Plate
Float Shoe	Rubber Plug
Latch Down	

Pumptrk Charge	Long Surface
Mileage	16

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: 7/23/2013  
 Invoice # 7427

P.O.#:  
 Due Date: 8/22/2013  
 Division: Russell

# Invoice

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

DRLG  COMP  W/O  LOE  GG

Account	8200.145
Well/Prospect	
Deck	
AFE	
Approval	AB
Description	

**RECEIVED**

**JUL 31 2013**

**Reference:**  
 BOSCH 1-22

**Description of Work:**  
 PLUG JOB

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

Services / Items Included:	Quantity	Price	Taxable	Item	Quantity	Price	Taxable
Labor		\$ 1,020.55	Yes				
Common-Class A	138	\$ 1,934.11	Yes				
Bulk Truck Matl-Material Service Charge	238	\$ 532.00	Yes				
POZ Mix-Standard	92	\$ 472.99	Yes				
Pump Truck Mileage-Job to Nearest Camp	16	\$ 178.47	Yes				
Premium Gel (Bentonite)	8	\$ 145.56	Yes				
Flo Seal	50	\$ 111.76	Yes				
Bulk Truck Mileage-Job to Nearest Bulk Plant	16	\$ 104.43	Yes				
Dry Hole Plug	1	\$ 62.59	Yes				

**Invoice Terms:**

Net 30		SubTotal: \$	4,562.46
		Discount Available <u>ONLY</u> if Invoice is Paid & Received within listed terms of invoice:	\$ (684.37)
		SubTotal for Taxable Items:	\$ 3,878.09
		SubTotal for Non-Taxable Items:	\$ -
		Total:	\$ 3,878.09
		Tax:	\$ 238.50
		<b>Amount Due:</b>	<b>\$ 4,116.59</b>
		<b>Applied Payments:</b>	
		<b>Balance Due:</b>	<b>\$ 4,116.59</b>

6.15% Ellis 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. 7427

Date	7-23-13	Sec.	22	Twp.	12	Range	17	County	Ellis	State	ks	On Location		Finish	3:45 PM								
								Location								Codell Rd & Buckeye Rd, 1/2w, Sn 2							
Lease				Bosch				Well No.				1-22				Owner							
Contractor				Discovery 2								To Quality Oilwell Cementing, Inc.				You are hereby requested to rent cementing equipment and furnish cements and helper to assist owner or contractor to do work as listed.							
Type Job				Plug								Charge To				Sam Gary Jr.							
Hole Size				7 7/8				T.D.								Street							
Csg.								Depth								City				State			
Tbg. Size								Depth															
Tool								Depth								The above was done to satisfaction and supervision of owner agent or contractor.							
Cement Left in Csg.								Shoe Joint								Cement Amount Ordered				230 sx 60/40 4% gel 1/4" Flow			
Meas Line								Displace															
EQUIPMENT																							
Pumptrk				16				No. Cementer								Common				138			
								Helper				Lonnie v.				Poz. Mix				92			
Bulktrk				8				No. Driver								Gel.				B			
								Driver				Doug				Calcium							
Bulktrk				pu				No. Driver															
								Driver				Travis				Hulls							
JOB SERVICES & REMARKS																							
Remarks:												Salt											
Rat Hole												Flowseal				30#							
Mouse Hole												Kol-Seal											
Centralizers												Mud CLR 48											
Baskets												CFL-117 or CD110 CAF 38											
D/V or Port Collar												Sand											
				50 sx at 3825								Handling				238							
				25 sx at 1335								Mileage											
				100 sx at 870								FLOAT EQUIPMENT											
				10 sx at 40								Guide Shoe											
				30 sx Rat								Centralizer											
				15 sx Mouse								Baskets											
												AFU Inserts											
												Float Shoe											
												Latch Down											
												1 wood Plug											
												Pumptrk Charge				plug 16							
												Mileage											
																Tax							
																Discount							
																Total Charge							
Signature																							





**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Samuel Gary Jr. & Associates, Inc.

22-12-17 Ellis, KS

1515 Wynkoop, Ste 700  
Denver, CO 80202

**Bosch 1-22**

Job Ticket: 50811

**DST#: 1**

ATTN: Clayton Camozzi

Test Start: 2013.07.20 @ 00:00:00

## GENERAL INFORMATION:

Formation: **Lansing F&G**

Deviated: No Whipstock: ft (KB)

Time Tool Opened:

Time Test Ended:

Test Type: Conventional Bottom Hole (Initial)

Tester: Brannan L

Unit No: 54

**Interval: 3427.00 ft (KB) To 3460.00 ft (KB) (TVD)**

Reference Elevations: 2119.00 ft (KB)

Total Depth: 3460.00 ft (KB) (TVD)

2111.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

## Serial #: 8789

Press @ Run Depth: 718.68 psig @ ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.07.20

End Date:

2013.07.21

Last Calib.:

2013.07.21

Start Time: 17:10:02

End Time:

01:15:45

Time On Btm:

2013.07.20 @ 19:32:00

Time Off Btm:

2013.07.20 @ 23:08:30

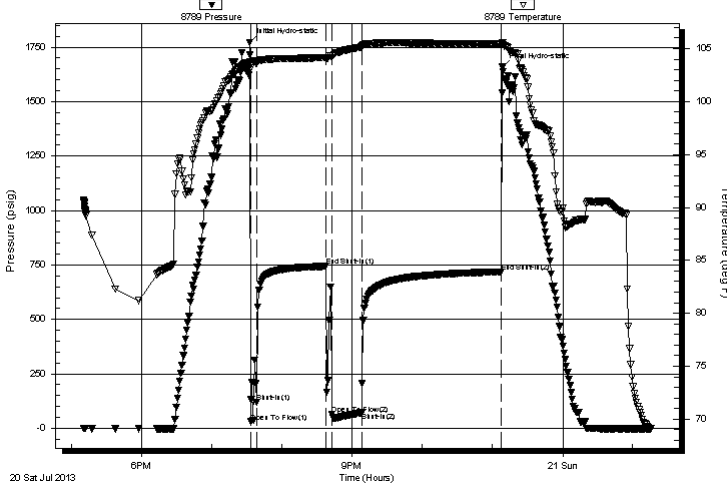
TEST COMMENT: 05- IF- 2.5"

60- IS- No blow

30- FF- BOB 25mins

120- FS- Weak surface blow

Pressure vs. Time



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1771.85	103.71	Initial Hydro-static
1	30.01	103.17	Open To Flow (1)
7	119.58	103.59	Shut-In(1)
66	743.95	104.15	End Shut-In(1)
71	62.90	104.16	Open To Flow (2)
96	72.04	105.17	Shut-In(2)
216	718.68	105.43	End Shut-In(2)
217	1657.91	105.53	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
120.00	SOCM, 100% Mw / oil spots	1.41

## Gas Rates

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







**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Samuel Gary Jr. & Associates, Inc.

**22-12-17 Ellis, KS**

1515 Wynkoop, Ste 700  
Denver, CO 80202

**Bosch 1-22**

Job Ticket: 50811

**DST#: 1**

ATTN: Clayton Camozzi

Test Start: 2013.07.20 @ 00:00:00

### 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: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.38 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	SOCM, 100%Mw / oil spots	1.410

Total Length: 120.00 ft      Total Volume: 1.410 bbl

Num Fluid Samples: 0

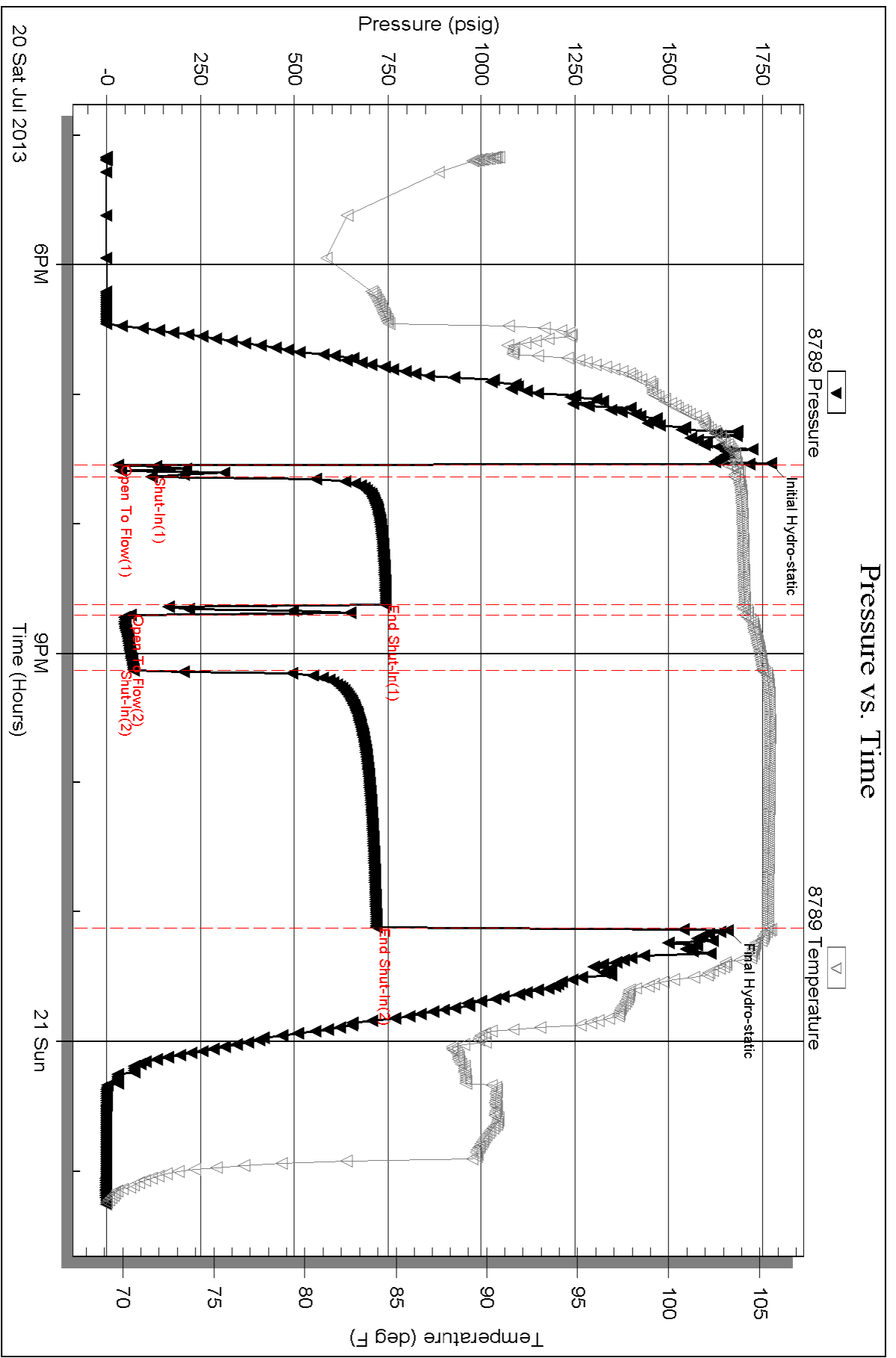
Num Gas Bombs: 0

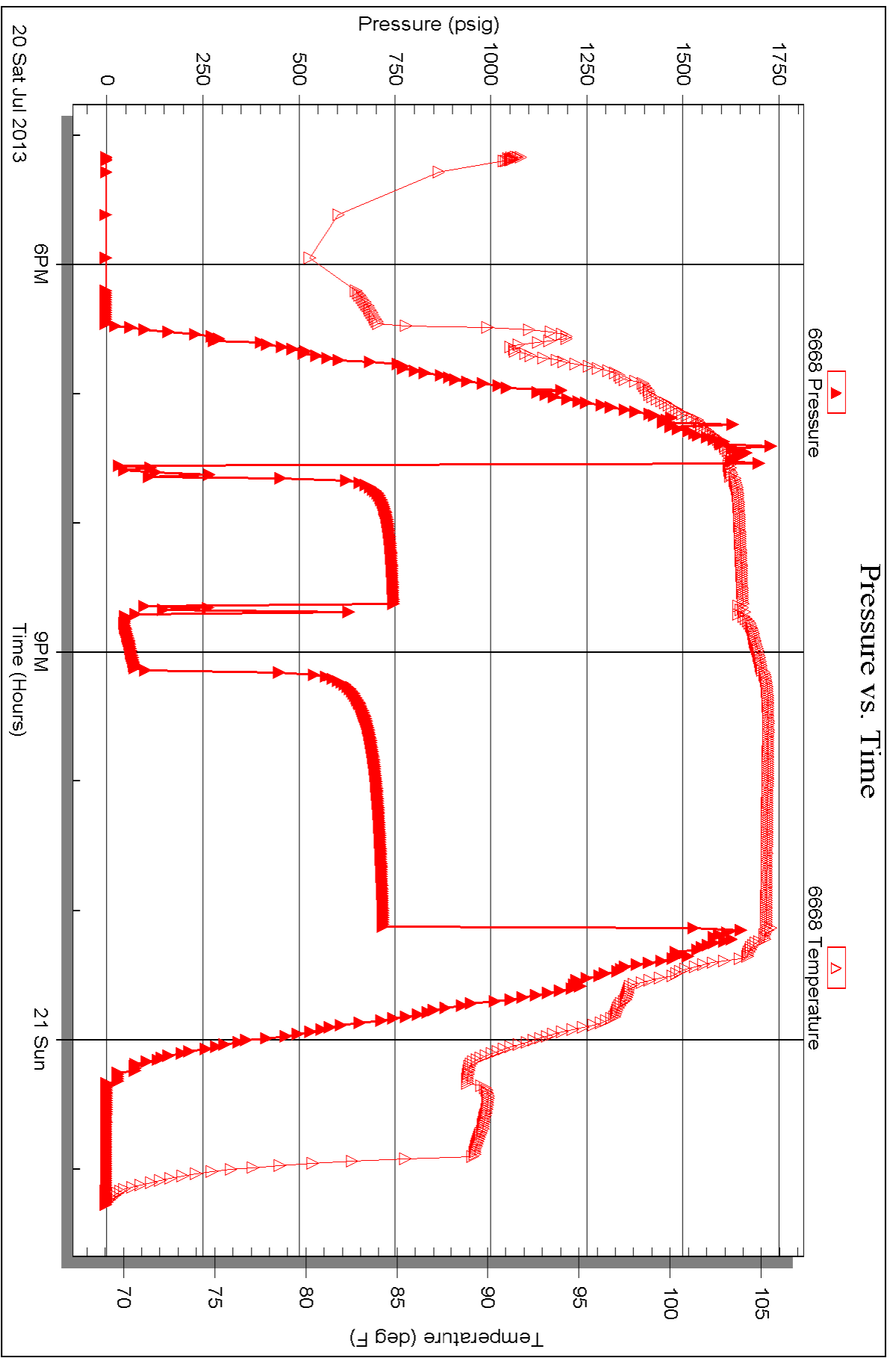
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Sampler: 1500mL W 500mL O











**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Samuel Gary Jr. & Associates, Inc.

**22-12-17 Ellis, KS**

1515 Wynkoop, Ste 700  
Denver, CO 80202

**Bosch 1-22**

Job Ticket: 50812

**DST#: 2**

ATTN: Cayton Camozzi

Test Start: 2013.07.21 @ 22:00:00

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:13:30

Time Test Ended: 06:21:15

Test Type: Conventional Bottom Hole (Reset)

Tester: Brannan L

Unit No: 54

**Interval: 3652.00 ft (KB) To 3677.00 ft (KB) (TVD)**

Reference Elevations: 2119.00 ft (KB)

Total Depth: 3677.00 ft (KB) (TVD)

2111.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 8789 Inside**

Press @ RunDepth: 32.64 psig @ 3674.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.07.21

End Date:

2013.07.22

Last Calib.:

2013.07.22

Start Time: 22:00:02

End Time:

06:21:15

Time On Btm:

2013.07.22 @ 01:12:15

Time Off Btm:

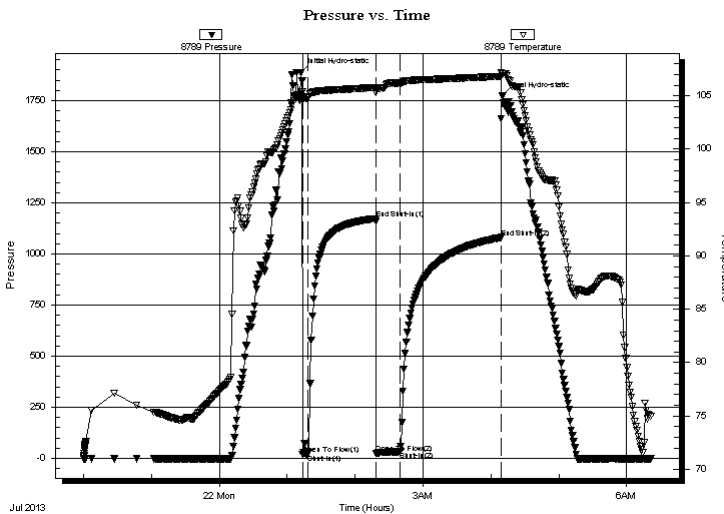
2013.07.22 @ 04:10:15

TEST COMMENT: 05- IF- 1"

60- IS- No blow

20- FF- .25"

90- FSI- No blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1885.87	105.15	Initial Hydro-static
2	20.74	104.54	Open To Flow (1)
6	22.16	104.82	Shut-In(1)
66	1173.12	105.80	End Shut-In(1)
67	25.07	105.28	Open To Flow (2)
88	32.64	106.19	Shut-In(2)
177	1080.88	106.83	End Shut-In(2)
178	1772.11	107.05	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
34.00	SOCM 5%O 95%M	0.19
1.00	O	0.01

## 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. & Associates, Inc.

**22-12-17 Ellis, KS**

1515 Wynkoop, Ste 700  
Denver, CO 80202

**Bosch 1-22**

Job Ticket: 50812

**DST#: 2**

ATTN: Cayton Camozzi

Test Start: 2013.07.21 @ 22:00:00

## 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: 70.00 sec/qt

Cushion Volume:

bbbl

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

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
34.00	SOCM 5%O 95%M	0.195
1.00	O	0.014

Total Length: 35.00 ft      Total Volume: 0.209 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

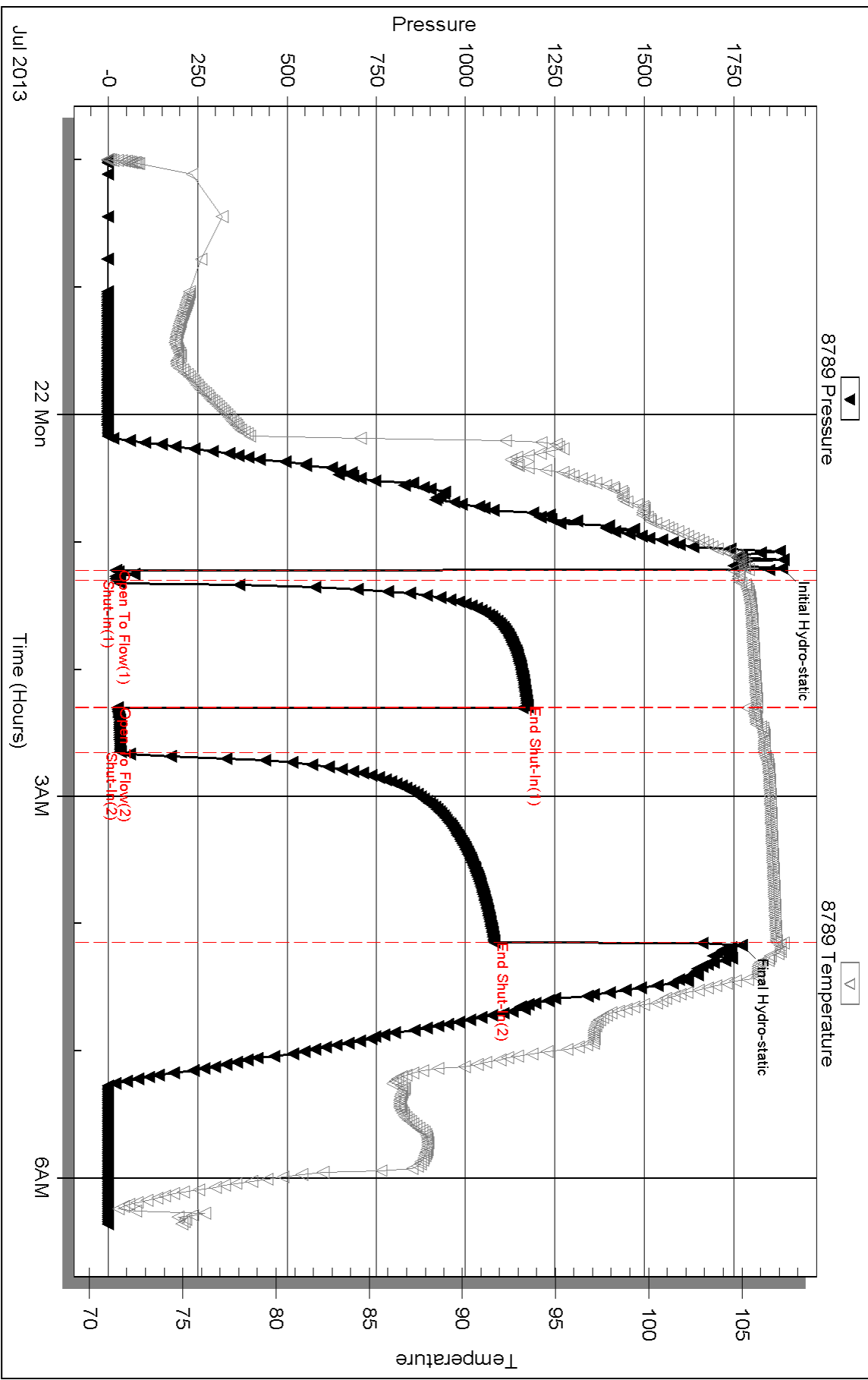
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Samper: 100mLO 1900mLM

### Pressure vs. Time



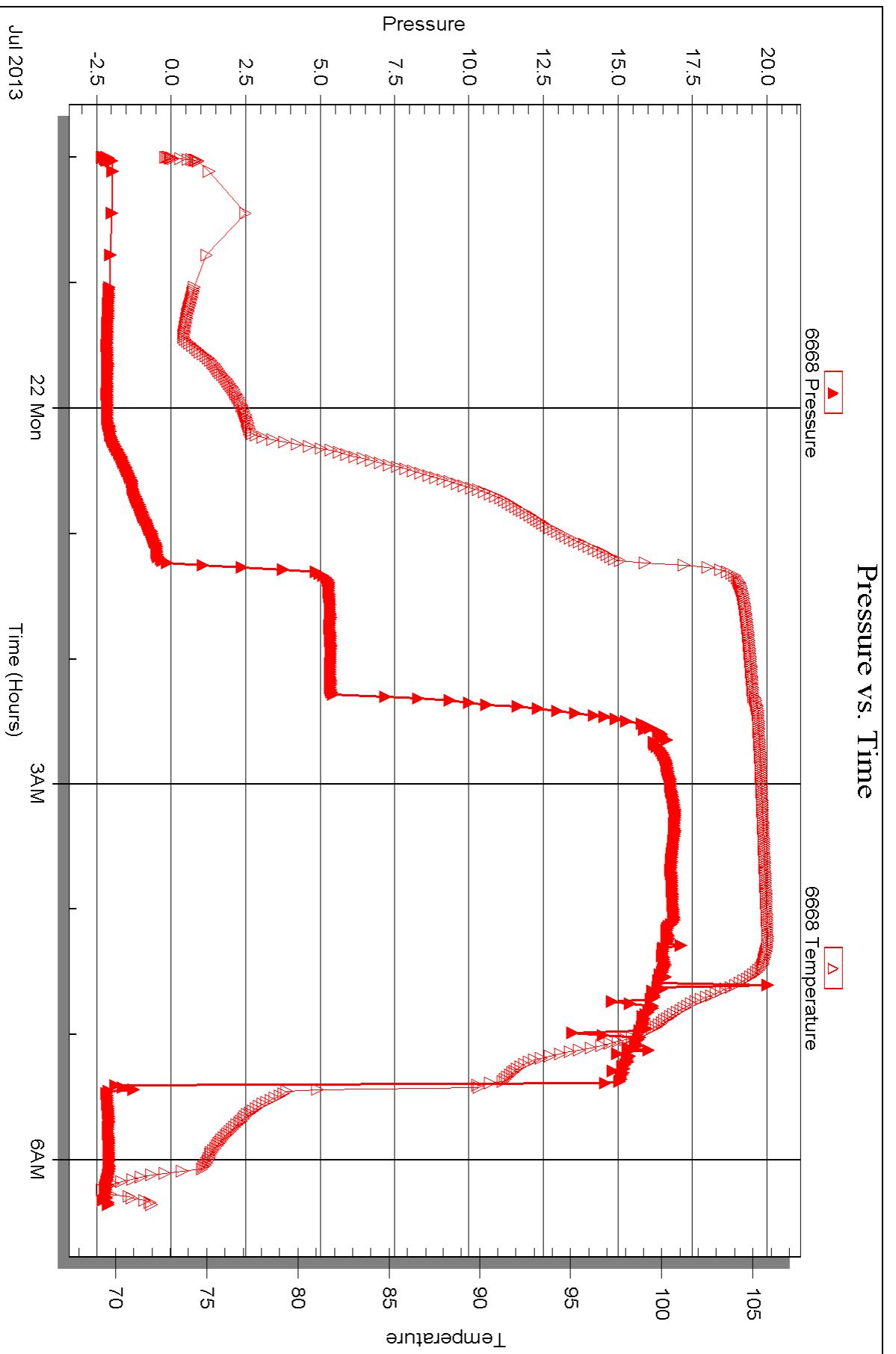
Serial #: 6668

Fluid

Samuel Gary Jr. & Associates, Inc.

Bosch 1-22

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 50812

Printed: 2013.07.22 @ 07:55:33





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Samuel Gary Jr. & Associates, Inc.

**22-12-17 Ellis, KS**

1515 Wynkoop, Ste 700  
Denver, CO 80202

**Bosch 1-22**

Job Ticket: 50813

**DST#: 3**

ATTN: Cayton Camozzi

Test Start: 2013.07.22 @ 23:23:00

## GENERAL INFORMATION:

Formation: **LKC I-J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:22:30

Time Test Ended: 07:05:15

Test Type: Conventional Straddle (Reset)

Tester: Brannan L

Unit No: 54

**Interval: 3508.00 ft (KB) To 3555.00 ft (KB) (TVD)**

Reference Elevations: 2119.00 ft (KB)

Total Depth: 3828.00 ft (KB) (TVD)

2111.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 8789**

**Inside**

Press @ Run Depth: 34.74 psig @ 3513.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.07.22

End Date:

2013.07.23

Last Calib.:

2013.07.23

Start Time: 23:23:02

End Time:

07:05:15

Time On Btm:

2013.07.23 @ 01:21:45

Time Off Btm:

2013.07.23 @ 04:46:15

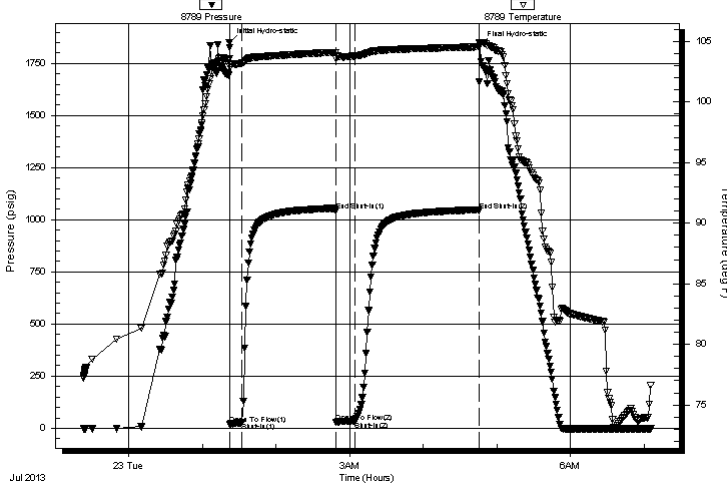
TEST COMMENT: 10- IF- 1"

75- IS- No blow

15- FF- .5"

100- FS- No blow

Pressure vs. Time



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1850.54	103.57	Initial Hydro-static
1	20.52	102.86	Open To Flow (1)
11	27.55	103.19	Shut-In(1)
87	1043.65	104.08	End Shut-In(1)
88	30.41	103.57	Open To Flow (2)
103	34.74	103.76	Shut-In(2)
204	1042.81	104.53	End Shut-In(2)
205	1836.37	104.86	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
35.00	OCM 20%O 80%M	0.21

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Samuel Gary Jr. & Associates, Inc.

22-12-17 Ellis, KS

1515 Wynkoop, Ste 700  
Denver, CO 80202

**Bosch 1-22**

Job Ticket: 50813

**DST#: 3**

ATTN: Cayton Camozzi

Test Start: 2013.07.22 @ 23:23:00

## GENERAL INFORMATION:

Formation: **LKC I-J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:22:30

Time Test Ended: 07:05:15

Test Type: Conventional Straddle (Reset)

Tester: Brannan L

Unit No: 54

**Interval: 3508.00 ft (KB) To 3555.00 ft (KB) (TVD)**

Reference Elevations: 2119.00 ft (KB)

Total Depth: 3828.00 ft (KB) (TVD)

2111.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 8736 Below (Straddle)**

Press @ Run Depth: psig @ 3573.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.07.22

End Date:

2013.07.23

Last Calib.:

2013.07.23

Start Time: 23:23:01

End Time:

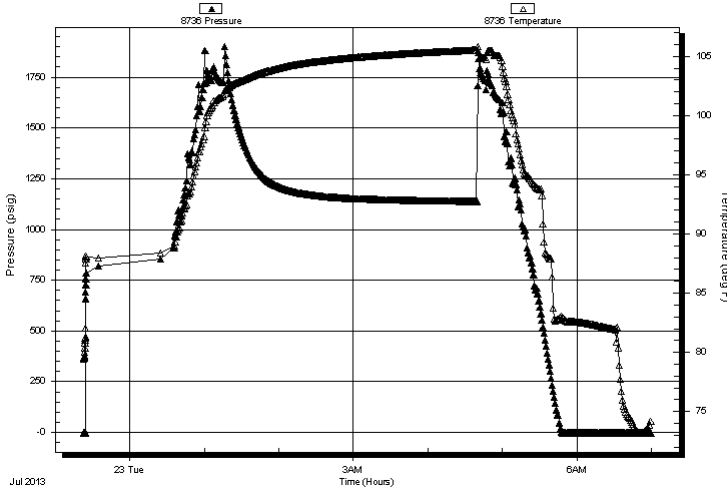
06:59:40

Time On Btm:

Time Off Btm:

**TEST COMMENT:** 10- IF- 1"  
75- IS- No blow  
15- FF- .5"  
100- FS- No blow

Pressure vs. Time



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
35.00	OCM 20%O 80%M	0.21

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Samuel Gary Jr. & Associates, Inc.

22-12-17 Ellis, KS

1515 Wynkoop, Ste 700  
Denver, CO 80202

**Bosch 1-22**

Job Ticket: 50813

**DST#: 3**

ATTN: Cayton Camozzi

Test Start: 2013.07.22 @ 23:23:00

## GENERAL INFORMATION:

Formation: **LKC I-J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:22:30

Time Test Ended: 07:05:15

Test Type: Conventional Straddle (Reset)

Tester: Brannan L

Unit No: 54

**Interval: 3508.00 ft (KB) To 3555.00 ft (KB) (TVD)**

Reference Elevations: 2119.00 ft (KB)

Total Depth: 3828.00 ft (KB) (TVD)

2111.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

## Serial #: 6668

## Fluid

Press @ Run Depth: psig @ 3473.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.07.22

End Date: 2013.07.23

Last Calib.: 2013.07.23

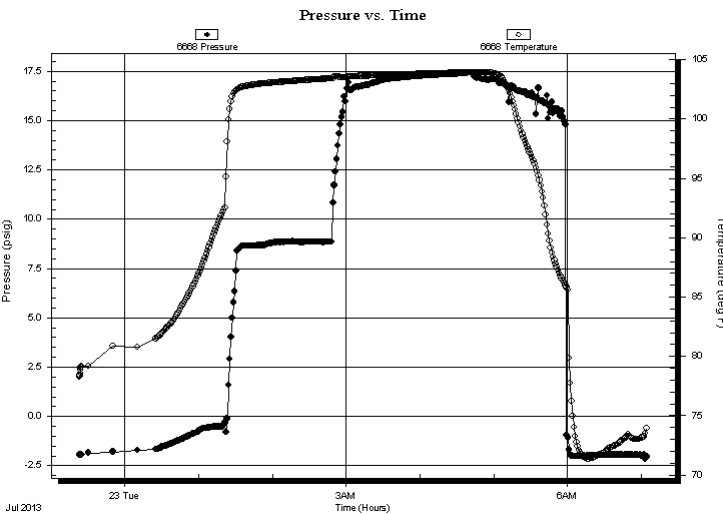
Start Time: 23:23:02

End Time: 07:04:45

Time On Btm:

Time Off Btm:

TEST COMMENT: 10- IF- 1"  
75- IS- No blow  
15- FF- .5"  
100- FS- No blow



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
35.00	OCM 20%O 80%M	0.21

## 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. & Associates, Inc.

**22-12-17 Ellis, KS**

1515 Wynkoop, Ste 700  
Denver, CO 80202

**Bosch 1-22**

Job Ticket: 50813

**DST#: 3**

ATTN: Cayton Camozzi

Test Start: 2013.07.22 @ 23:23:00

## 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: bbl

Water Loss: 9.19 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure: psig

Salinity: 5000.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
35.00	OCM 20%O 80%M	0.209

Total Length: 35.00 ft      Total Volume: 0.209 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

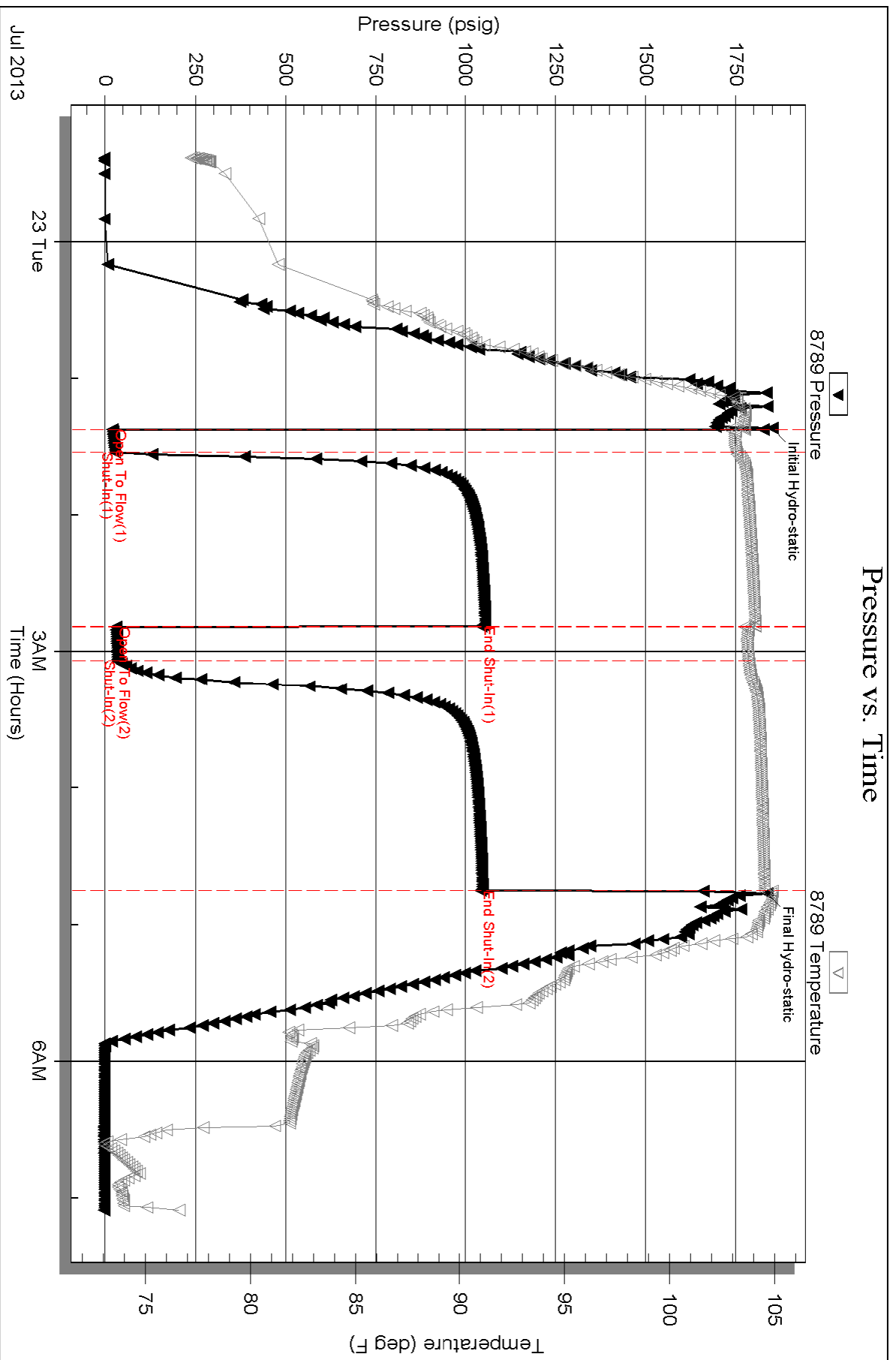
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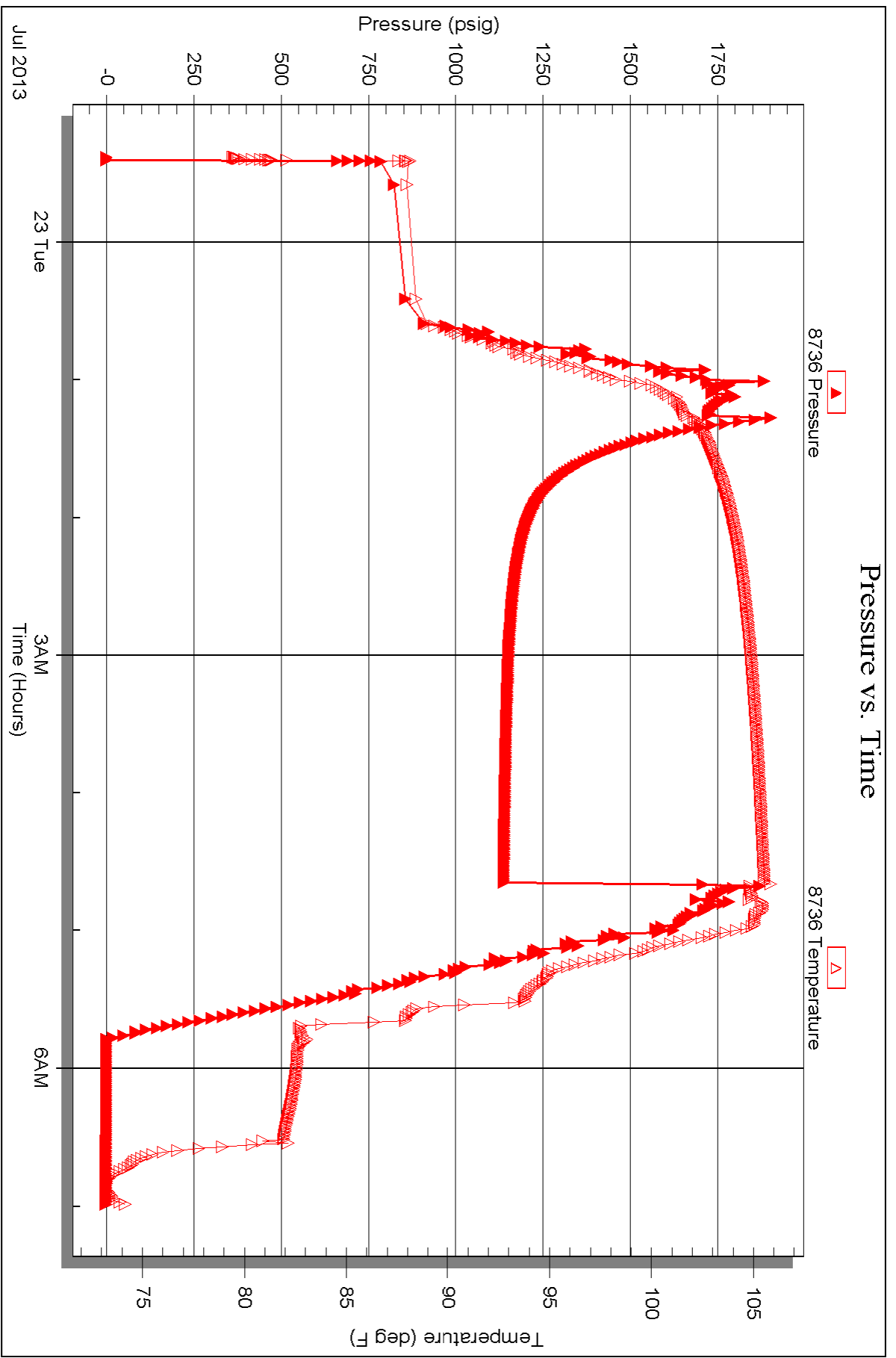
Laboratory Name:

Laboratory Location:

Recovery Comments: Sampler: 1900mLM 100mLO 160psi

### Pressure vs. Time







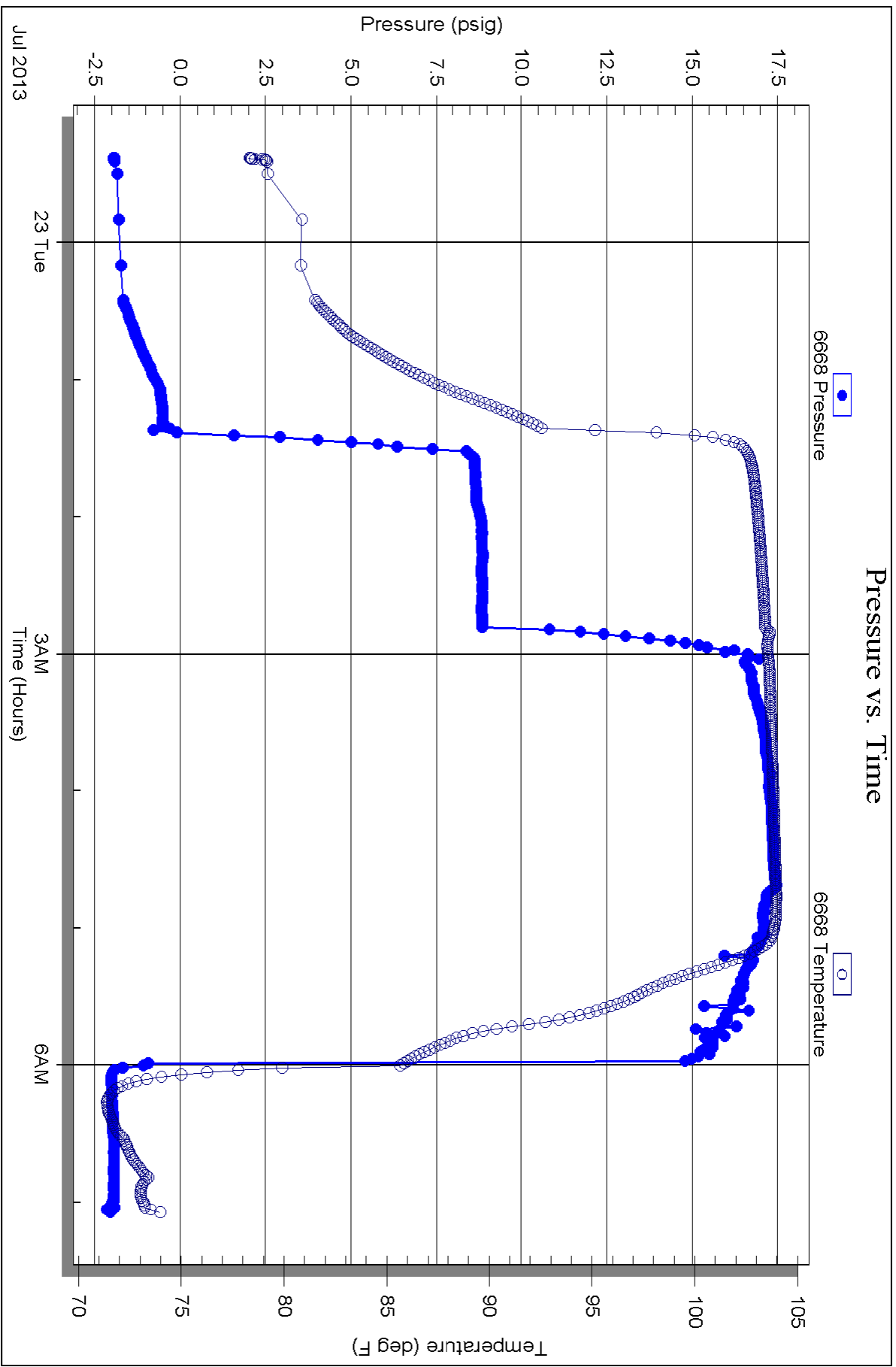
Serial #: 6668

Fluid

Samuel Gary Jr. & Associates, Inc.

Bosch 1-22

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 50813

Printed: 2013.07.23 @ 09:13:19



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

Well Name: Bosch 1-22  
 Location: Sec. 22-12S-17W Ellis County, Kansas  
 License Number: 15-051-26566-0000  
 Spud Date: July 14, 2013  
 Surface Coordinates: 1880 FSL/ 1880 FWL  
 Region: WILDCAT  
 Drilling Completed: July 22, 2013

Bottom Hole Coordinates:  
 Ground Elevation (ft): 2111' K.B. Elevation (ft): 2119'  
 Logged Interval (ft): 3050' To: 3830' Total Depth (ft): 3830'  
 Formation:  
 Type of Drilling Fluid:

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

**OPERATOR**

Company: Samuel Gary Jr. & Assoc.  
 Address: 1515 Wynkoop, Ste. # 700  
 Denver, Colo. 80202  
 Geo: Clayton Camozzi

**GEOLOGIST**

Name: Aaron Suelter  
 Company: Earth Tech OGL, Inc.  
 Address: PO Box 683  
 Hooker, Okla . 73945  
 Off. 888-543-8378 Cell: 620-600-0777

**DST's Report**

DST# 3427'-3460' 5 60 30 120  
 IF- 2 1/2" BLOW/ ISI- NO BLOW/ FF- BOB IN 25 MINS/ WEAK SURFACE BLOW  
 IH- 1772, FH- 658/ IF- 20 TO 63/ FF- 120 TO 72/ ISI- 744, FSI- 719  
 RECOVERY- 120' SOCM 100% MUD  
 SAMPLER- 500 ML OIL, 1500 ML WATER, 2000 ML TOTAL

**DST's Report**

DST#2 3652' -3677' 5 60 20 90  
 IF-1" BLOW/ ISI- NO BLOW/ FF- 1/4" BLOW/ FSI- NO BLOW  
 IH- 1886, FH- 1772/ IF- 21 TO 25/ FF- 22 TO 33/ ISI- 1173, FSI- 1081  
 RECOVERY- 34' SOCM 5% OIL, 95% MUD/ 1' OIL  
 SAMPLER- 100 ML OIL/ 1900 ML MUD/ 2000 ML TOTAL

**ROCK TYPES**

	Anhy		Gyp		Shgy		Sandylms
	Bent		Igne		Sltst		Shale
	Brec		Lmst		Ss		Sltstn
	Cht		Meta		Till		Shlyslts
	Clyst		Mrlst		Carb sh		Sltys
	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

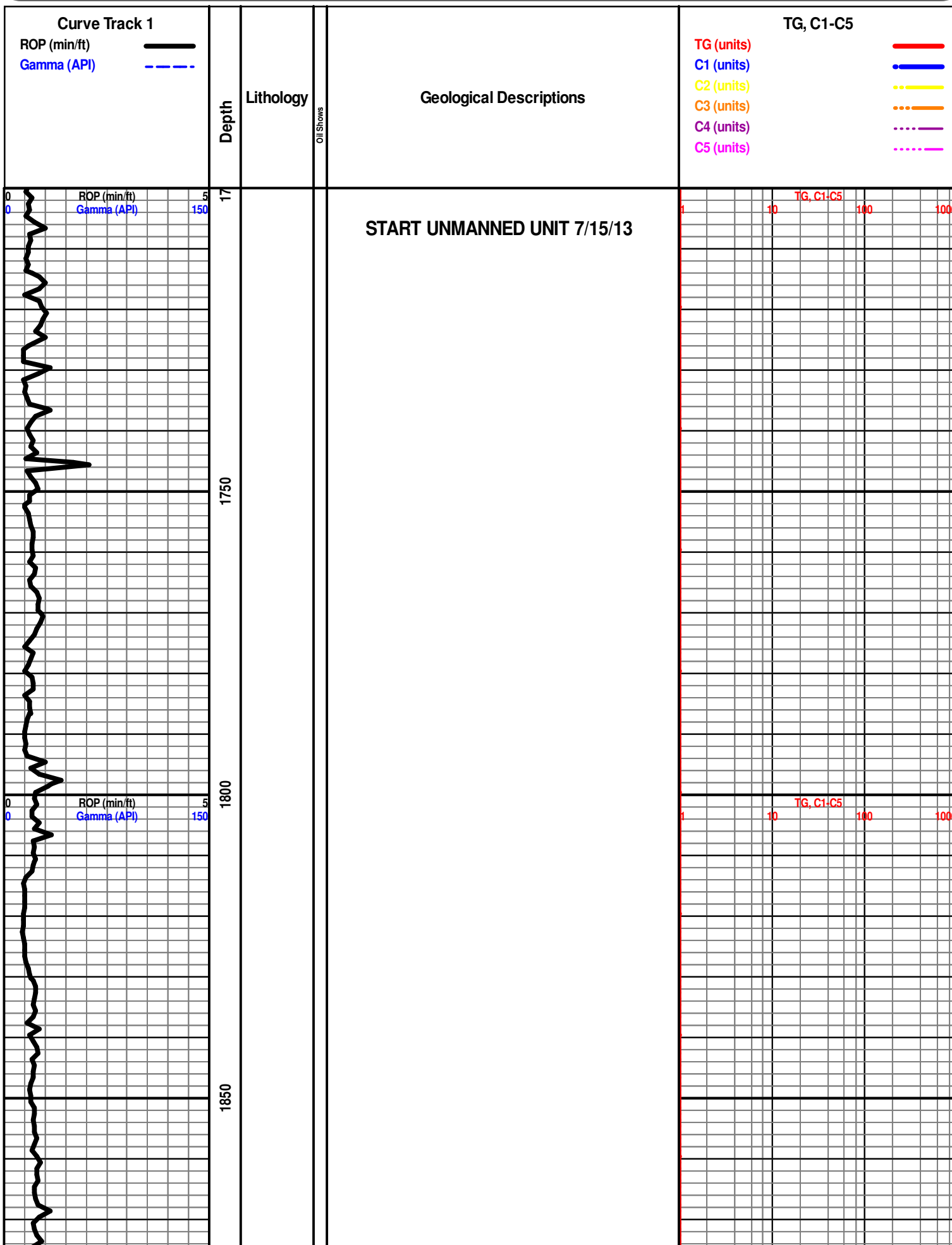
- Even
- Spotted
- Ques
- Dead
- Gas show

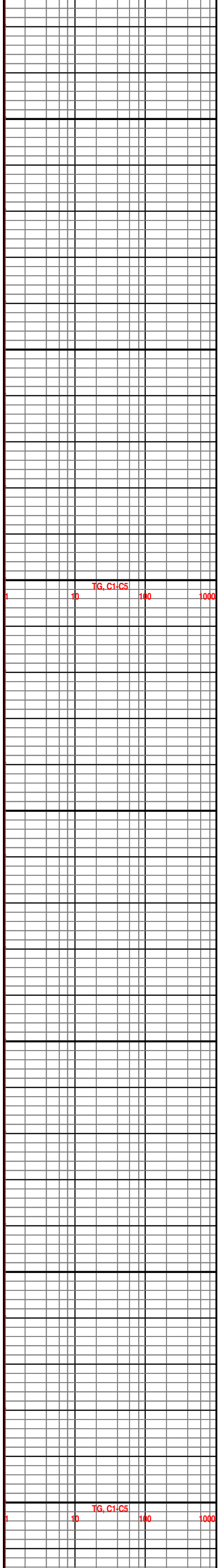
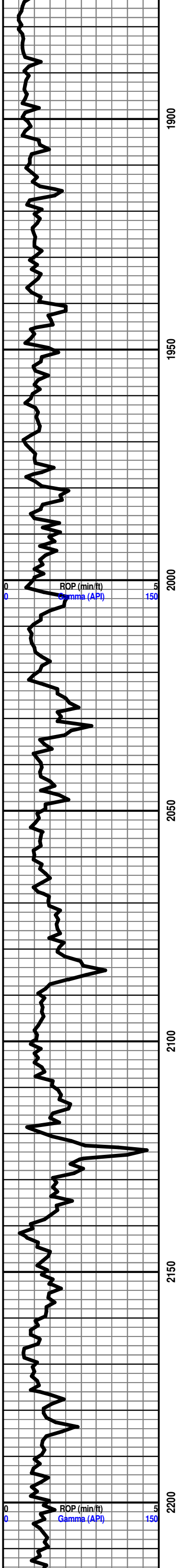
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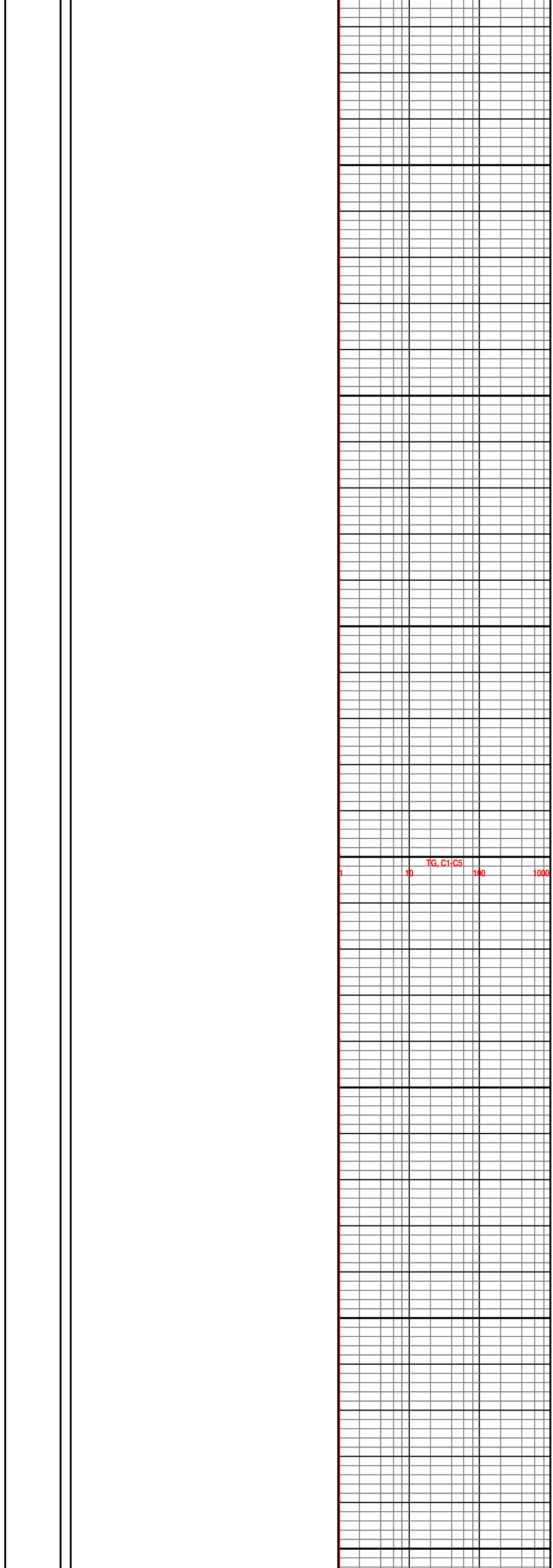
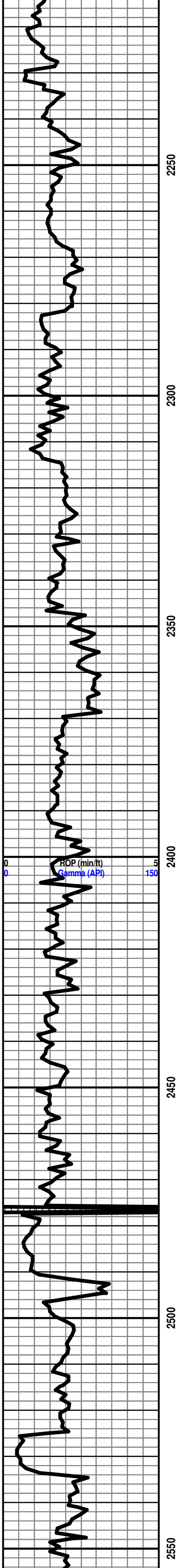
- Core
- Dst
- Dst

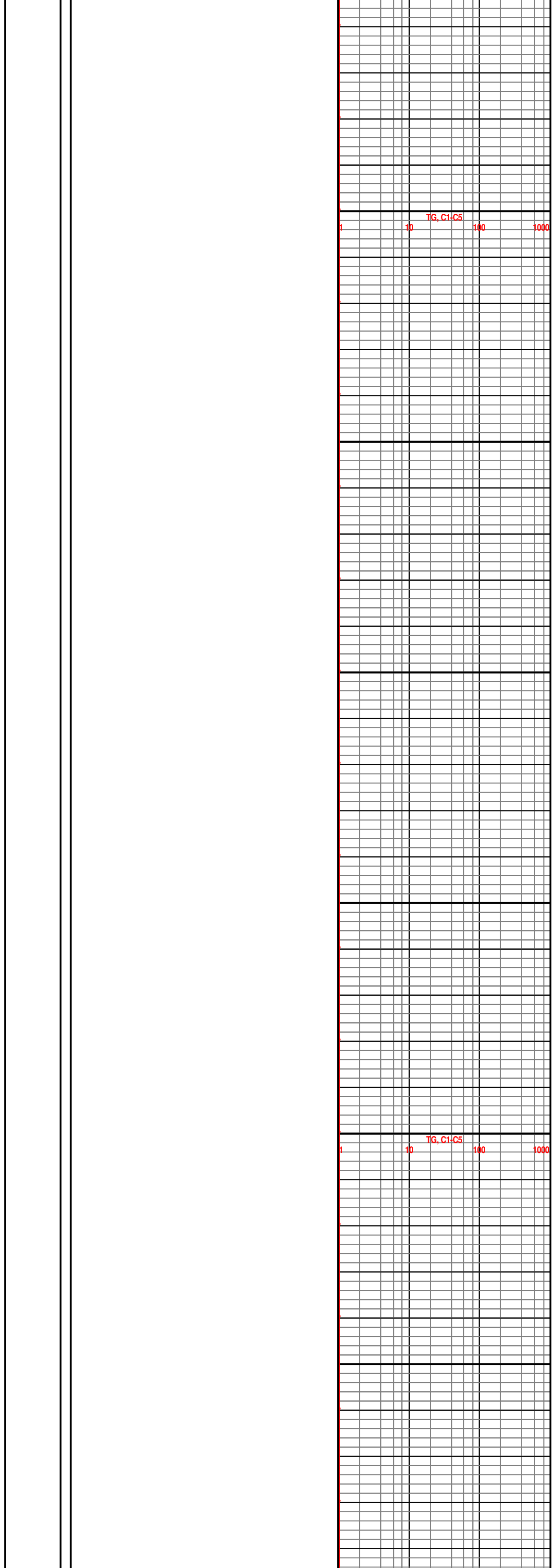
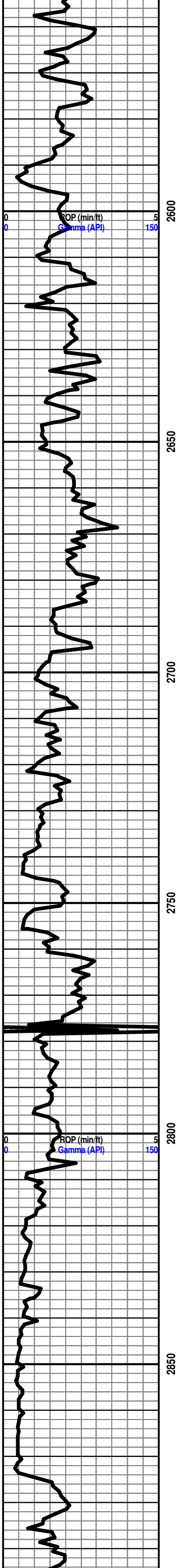
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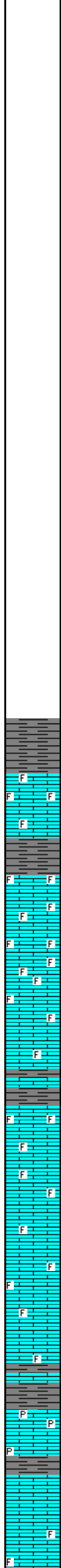
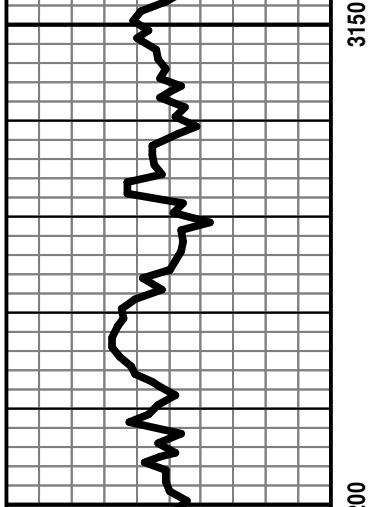
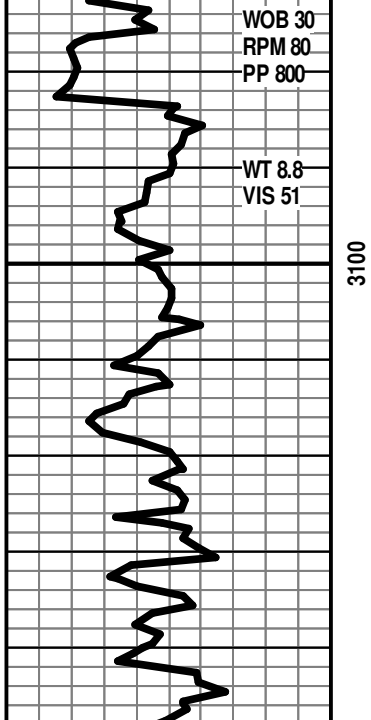
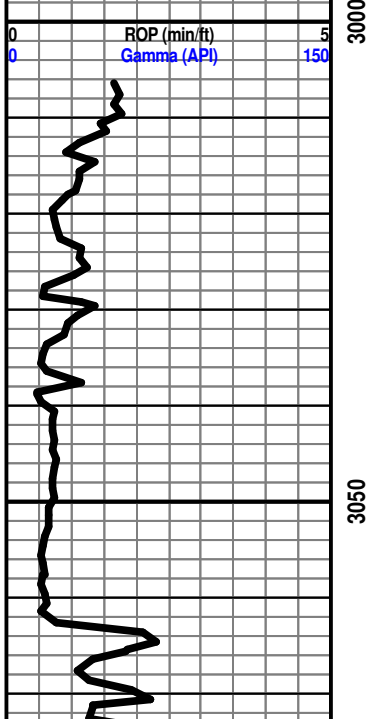
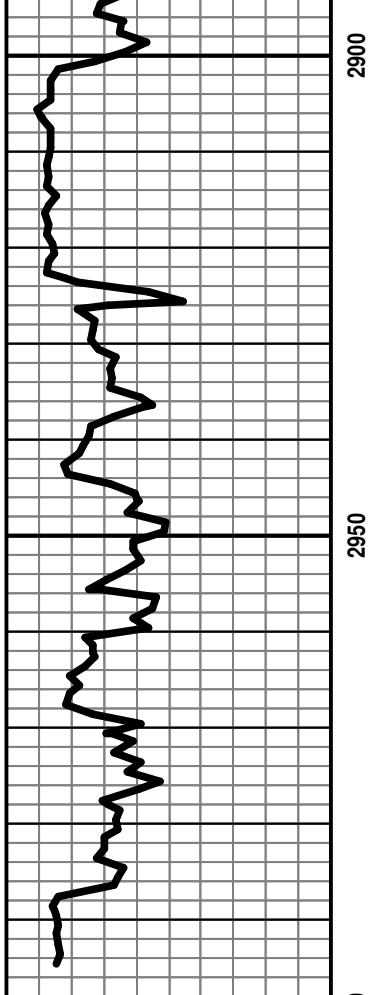
- Rft
- Sidewall











**START 24 HOUR MANNED UNIT 7/19/13**

SH- BRWN LT GY TO GY, FRM BLKY, SLTY TXT

**HOWARD 3063' -944'**

LS- LT GY GY TO DK TN, HD DNS TO BRIT IP, V/F TO F XLN SUCRO MTRX, S-CHLKY IP, SCAT IMBD FOSS FRG THRU, NO VIS FLO, NO VIS POR, NO VIS SHOW

SH- BRWN TO GY, FRM BLKY, SLTY TXT

**TOPEKA 3083' -964'**

LS- CRM TO LT TN, HD DNS TO BRIT, V/F TO F XLN SUCRO MTRX, S-CHLKY IP, IMBD FOSS FRG THRU, NO VIS FLO, NO VIS POR, NO VIS SHOW

LS- CRM TO LT TN, HD DNS TO BRIT, V/F TO F XLN SUCRO MTRX, S-CHLKY IP, ABDT IMBD FOSS FRG THRU, SCAT IMBD CALC XLS IP, NO VIS FLO, NO VIS POR, NO VIS SHOW

LS- CRM LT TN TO TN, HD DNS TO BRIT IP, V/F TO F XLN SUCRO MTRX, RE-XLN IP, SCAT IMBD FOSS FRG THRU, SLI TR IMBD CALC XLS IP, NO VIS FLO, NO VIS POR, NO VIS SHOW

SH- GY TO DK GY, FRM BLKY, SMTH TO SLTY TXT

LS- LT TN TO TN, HD DNS TO BRIT IP, V/F TO F XLN SUCRO MTRX, RE-XLN IP, SCAT IMBD FOSS FRG IP, NO VIS FLO, NO VIS POR, NO VIS SHOW

LS- LT TN TN TO DK TN, HD DNS TO BRIT IP, F TO MD XLN RE-XLN MTRX, S-SUCRO IP, SCAT IMBD FOSS FRG IP, NO VIS FLO, NO VIS POR, NO VIS SHOW

LS- TN TO DK TN, HD DNS TO BRIT IP, F TO MD XLN RE-XLN MTRX, S-SUCRO IP, SCAT IMBD FOSS FRG THRU, SLI TR IMBD CALC XLS IP, NO VIS FLO, NO VIS POR, NO VIS SHOW

LS- LT TN TO TN, HD DNS TO BRIT, F TO MD XLN RE-XLN MTRX, S-SUCRO IP, SCAT IMBD FOSS FRG THRU, NO VSI FLO, NO VIS POR, NO VIS SHOW

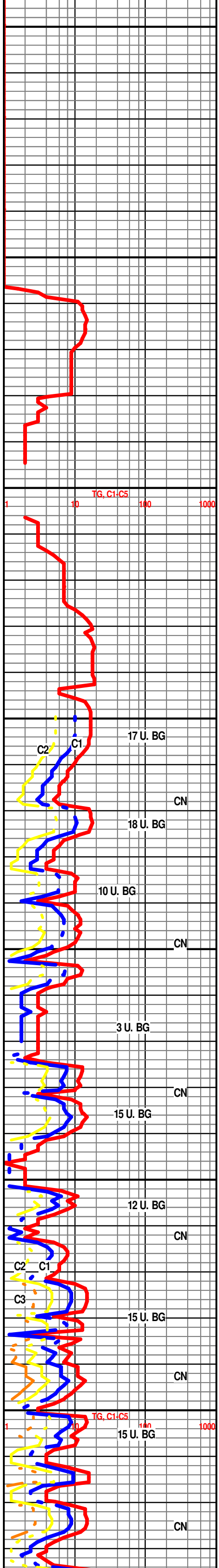
SH- GY TO DK GY, FRM SPLNTY, SMTH TXT

LS- LT TN TO TN, HD DNS TO BRIT IP, V/F TO MD XLN RE-XLN MTRX, S-SUCRO IP, SCAT IMBD PYR IP, NO VIS FLO, NO VIS POR, NO VIS SHOW

**LE COMPTON 3216' -1097'**

LS- CRM TO LT TN, HD DNS, V/F TO CRYPTO XLN IP, RE-XLN IP, NO VIS FLO, NO VIS POR, NO VIS SHOW

LS- CRM LT TN TO TN, HD DNS TO BRIT, F TO MD XLN RE XLN MTRX, S-CHLKY IP, SCAT IMBD FOSS FRG THRU, NO VIS FLO, NO VIS POR, NO VIS SHOW



WOB 30  
RPM 80  
PP 800

WT 8.8  
VIS 51

C2 C1 17 U. BG

18 U. BG

10 U. BG

CN

3 U. BG

CN

15 U. BG

12 U. BG

CN

C2 C1 C3

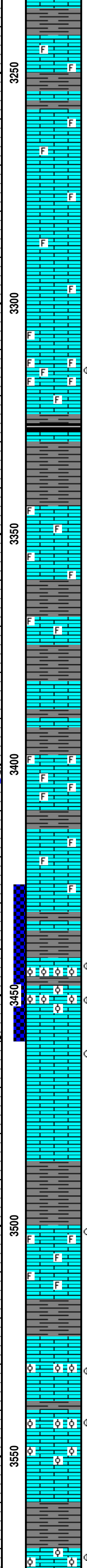
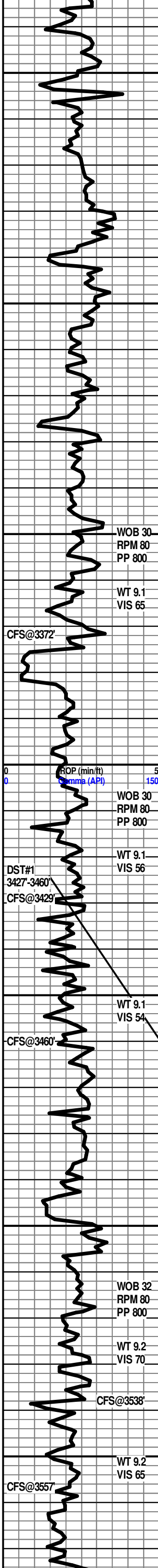
15 U. BG

CN

15 U. BG

CN





SH- GRN BRWN TO GY, FRM BLKY TO SPLNTY, SMTH TXT

LS- CRM TO LT TN, HD DNS TO BRIT IP, V/F TO F XLN SUCRO MTRX, RE-XLN IP, SCAT IMBD FOSS FRG THRU, NO VIS FLO, NO VIS POR, NO VIS SHOW

SH GRN BRWN TO GY, FRM BLKY TO SPLNTY, SMTH TXT

LS- CRM TO LT TN, HD DNS TO BRIT, F TO MD XLN RE-XLN MTRX, S-SUCRO, SCAT IMBD FOSS FRG THRU, NO VIS FLO, NO VIS POR, NO VIS SHOW

LS- LT TN TO TN, HD DNS TO BRIT, F TO MD XLN RE-XLN MTRX, S-CHLKY IP, SCAT IMBD FOSS FRG IP, NO VIS FLO, NO VIS POR, NO VIS SHOW

LS- LT TN TO TN, HD DNS TO BRIT, F TO MD XLN RE-XLN MTRX, S-CHLKY IP, SCAT IMBD FOSS FRG IP, SFT WHT CHLK IN TRAY, NO VIS FLO, NO VIS POR, NO VIS SHOW

LS- LT TN TO TN, HD DNS TO BRIT, F TO MD XLN RE-XLN MTRX, S-CHLKY IP, SCAT IMBD FOSS FRG IP, SLI TR IMBD CALC XLS IP, NO VIS FLO, NO VIS POR, NO VIS SHOW

3313'-3315' LS- CRM TO LT TN W/ TN OIL STN IN 60%, HD DNS TO BRIT, V/F TO F XLN SUCRO MTRX, ABDT IMBD FOSS FRG THRU, DUL YEL GLD FLO IN 30%, FR TO GD INTR FOSS POR IN 6%, V/GD FLSH CUT IN 60%, GD TO V/GD SLW STRM IN 60%, DK TN LCH ON DISH

**HEEBNER 3325' -1206'**

SH- BLCK, SFT, CARB

SH- BRWN GY TO DK GY, FRM BLKY TO SPLNTY, SMTH TXT

LS- LT TN TO TN, HD DNS TO BRIT IP, F XLN SUCRO MTRX, RE-XLN IP, S-CHLKY IP, ABDT IMBD FOSS FRG THRU, NO VIS FLO, NO VIS POR, NO VIS SHOW

**DOUGLAS 3361' -1242'**

**LANSING 3369' -1250'**

LS- LT TN TO TN, HD DNS TO BRIT IP, V/F TO F XLN RE-XLN MTRX, S-CHLKY IP, SLI TR IMBD FOSS FRG IP, NO VIS FLO, NO VIS POR, NO VIS SHOW

LS- CRM TO LT TN, HD DNS TO BRIT IP, V/F TO F XLN SUCRO MTRX, S-CHLKY IP, NO VIS FLO, NO VIS POR, NO VIS SHOW

**LANSING "C" 3398' 1279'**

LS- CRM TO LT TN, HD DNS TO BRIT, V/F TO F XLN SUCRO MTRX, RE-XLN IP, SCAT IMBD FOSS FRG THRU, NO VIS FLO, NO VIS POR, NO VIS SHOW

SH- GRN BRWN TO GY, FRM BLKY TO SPLNTY, SMTH TXT

LS- LT TN TO TN, DNS TO BRIT IP, V/F TO F XLN SUCRO MTRX, S-CHLKY, SCAT IMBD FOSS FRG IP, SFT WHT CHLK IN TRAY, NO VIS FLO, NO VIS POR, NO VIS SHOW

**LANSING "F" 3441" -1322'**

3444'-3445' LS- LT TN W/ TN OIL STN IN 50%, HD DNS TO BRIT IP, V/F TO F XLN SUCRO MTRX, ABDT IMBD OOL THRU, BRT YEL GLD FLO IN 50%, FR INTR OOL POR IN 4%, WK FLSH CUT IN 50%, PR TO FR SLW STRM IN 50%, NO LCH ON DISH, WK OIL ODOR

3450'-3452' LS- LT TN TO TN W/ TN OIL STN IN 60%, HD DSN TO BRIT IP, V/F TO F XLN SUCRO MTRX, ABDT IMBD OOL THRU, TR SFT WHT CHLK IN TRAY, BRT YEL GLD FLO IN 60%, PR INTR OOL POR IN 2%, GD INTR OOL POR IN 2%, GD FLSH CUT IN 60%, FR TO GD SLW STRM IN 60%, TN LCH ON DISH, GD OIL ODOR

3463'-3465' LS- CRM TO TN W/ TN OIL STN IN 20%, HD DNS TO BRIT, V/F TO F XLN SUCRO MTRX, S-CHLKY, ABDT SFT WHT CHLK IN TRAY, NO VIS FLO, V/PR VUG POR IN 2%, NO FLSH CUT, PR SLW STRM IN 20%, NO LCH ON DISH

LS- CRM TO LT TN, HD DNS TO BRIT, V/F TO F XLN SUCRO MTRX, S-CHLKY, SFT WHT CHLK IN TRAY, NO VIS FLO, NO VIS POR, NO VIS SHOW

SH- BRWN TO GY, FRM BLKY, SMTH TXT

**LANSING "H" 3499' -1380'**

3501'-3503' (2 ROCKS) LS- LT TN TO TN /W TN OIL STN IN 30%, HD DNS TO BRIT, V/F TO F XLN SUCRO MTRX, S-CHLKY IP, IMBD FOSS FRG IP, DUL YEL GLD FLO IN 30%, PR TO FR VUG POR IN 3%, FR FLSH CUT IN 30%, WK SLW STRM IN 30%, NO LCH ON DISH

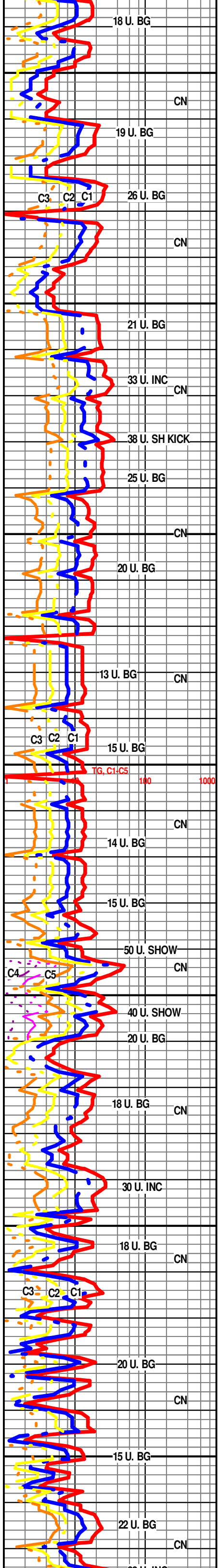
SH- GRN BRWN TO GY, FRM BLKY, SMTH TXT

3530'-3532' LS- LT TN TO TN W/ TN OIL STN IN 65%, HD DNS TO BRIT IP, F XLN SUCRO MTRX, IMBD OOL THRU, TR PYR IN TRAY, TR SFT WHT CHLK IN TRAY, DUL YEL GLD FLO IN 65%, PR TO FR VUG POR IN 5%, FR VUG POR IN 1%, FR FLSH CUT IN 65%, FR TO GD SLW STRM IN 65%, TN LCH ON DISH, GD OIL ODOR

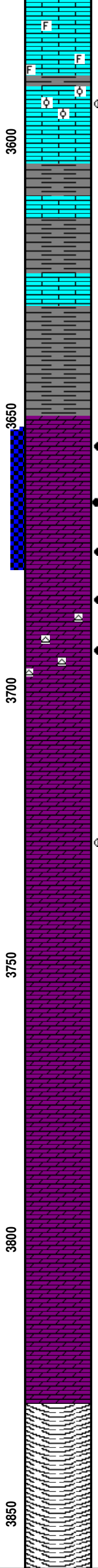
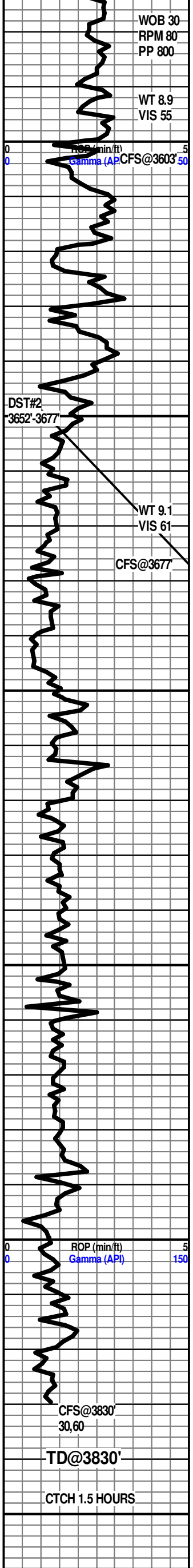
3542'-3544' LS- CRM TO LT TN W/ TN OIL STN IN 50%, HD DNS TO BRIT IP, V/F TO F XLN SUCRO MTRX, IMBD OOL IP, TR PYR IN TRAY, DUL YEL GLD FLO IN 50%, PR INTR OOL POR IN 3%, PR TO FR VUG POR IN 2%, WK FLSH CUT IN 50%, PR TO FR SLW STRM IN 50%, LT TN LCH ON DISH, WK OIL ODOR

SH- GRN BRWN TO GY, FRM BLKY, SMTH TXT

3572'-3573' LS- CRM TO LT TN W/ TN OIL STN IN 50%, HD







DNS TO BRIT IP, F TO MD XLN RE-XLN TMRX, S-SUCRO IP, ABDT IMBD OOL THRU, BRT YEL GLD FLO IN 50%, FR TO GD INTR OOL POR INTR OOL POR IN 4%, PR TO FR INTR XLN POR IN 2%, WK FLSH CUT IN 50%, PR TO FR SLW STRM IN 50%, NO LCH ON DISH

3592'-3595' LS- CRM TO DK TN W/ TN OIL STN I 60%, HD DNS TO BRIT IP, F XLN RE-XLN MTRX, S-SUCRO, IMBD OOL IP, DUL YEL GLD FLO IN 40%, FR MICRO VUG POR IN 4%, PR INTR OOL POR IN 2%, PR INTR XLN POR IN 1%WK FLSH CUT IN 50%, PR TO FR SLW STRM IN 50%, NO LCH ON DISH

**BKC 3603' -1484'**  
SH- GRN BRWN TO GY, FRM BLKY, SMTH TXT

SH- BRWN RED TO GY, FRM BLKY TO SFT GMMY, SMTH TXT

SH- BRWN RED TO GY, FRM BLKY TO SFT GMMY, SMTH TXT

**ARBUCKLE 3650' -1531'**  
3653'-3654' DOLO- CRM TO LT TN W/ TN OIL STN IN 95%, LOS IN 3%, HD DNS TO BRIT, F XLN SUCRO MTRX, ABDT IMBD SM TO CRS S-ANG TO S-RND DOLO GRNS THRU, DUL YEL GLD FLO THRU, GD TO V/GD INTR GRN POR IN 20%, GD FLSH CUT THRU, GD TO V/GD SLW STRM THRU, DK TN LCH ON DISH/ STRNG OIL/SLFR ODOR

3663'-3666' DOLO- CRM TO LT TN W/ TN OIL STN IN 95%, LOS IN 3%, HD DNS TO BRIT, F XLN SUCRO MTRX, ABDT IMBD SM TO CRS S-ANG TO S-RND DOLO GRNS THRU, DUL YEL GLD FLO THRU, GD TO V/GD INTR GRN POR IN 20%, GD FLSH CUT THRU, GD TO V/GD SLW STRM THRU, DK TN LCH ON DISH/ STRNG OIL/SLFR ODOR

3674'-3675' DOLO- CRM TO LT TN W/ TN OIL STN IN 95%, LOS IN 3%, HD DNS TO BRIT, F XLN SUCRO MTRX, ABDT IMBD SM TO CRS S-ANG TO S-RND DOLO GRNS THRU, DUL YEL GLD FLO THRU, GD TO V/GD INTR GRN POR IN 20%, GD FLSH CUT THRU, GD TO V/GD SLW STRM THRU, DK TN LCH ON DISH/ STRNG OIL/SLFR ODOR

3683'-3684' DOLO- OFF WHT CRM TO LT TN W/ TN OIL STN IN 75%, LOS IN 1%, HD DNS TO BRIT, F XLN SUCRO MTRX, ABDT IMBD SM TO MD S-ANG TO S-RND DOLO GRNS THRU, DUL YEL GLD FLO IN 75%, FR TO GD INTR GRN POR IN 15%, GD FLSH CUT IN 75%, FR TO GD SLW STRM IN 75%, TN LCH ON DISH

DOLO- OFF WHT CRM TO LT TN W/ TN OIL STN IN 75%, LOS IN 2%, HD DNS TO BRIT, F XLN SUCRO MTRX, ABDT IMBD SM TO MD S-ANG TO S-RND DOLO GRNS THRU, SCAT FRSTY TO WHT CHRT IN TRAY, DUL YEL GLD FLO IN 75%, FR TO GD INTR GRN POR IN 15%, GD FLSH CUT IN 75%, FR TO GD SLW STRM IN 75%, TN LCH ON DISH

3726'-3727' DOLO- OFF WHT CRM TO LT TN W/ TN OIL STN IN 40%, HD DNS TO BRIT IP, F XLN SUCRO MTRX, ABDT IMBD SM TO MD S-ANG TO S-RND DOLO GRNS THRU, DUL YEL GLD FLO IN 40%, GD INTR GRN POR IN 20%, WK FLSH CUT IN 40%, PR TO FR SLW STRM IN 40%, NO LCH ON DISH

DOLO- CRM TO LT TN, HD DNS TO BRIT IP, V/F TO F XLN SUCRO MTRX, ABDT IMBD SM TO MD S-ANG TO ANG DOLO GRNS THRU, NO VIS FLO, PR TO FR INTR GRN POR IN 15%, NO VIS SHOW

DOLO- OF WHT CRM TO LT TN, HD DNS TO BRIT IP, V/F TO F XLN SUCRO MTRX, ABDT IMBD SM TO MD S-ANG TO ANG DOLO GRNS THRU, NO VIS FLO, PR TO FR INTR GRN POR IN 10%, NO VIS SHOW

DOLO- CRM LT TN TO TN, HD DNS TO BRIT IP, V/F TO F XLN SUCRO MTRX, ABDT IMBD SM TO MD S-ANG TO ANG DOLO GRNS THRU, NO VIS FLO, PR TO FR INTR GRN POR IN 15%, NO VIS SHOW

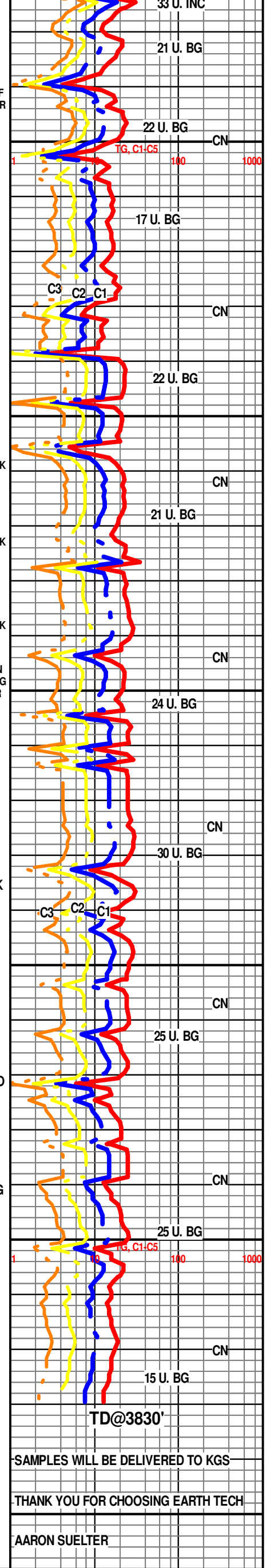
DOLO- OFF WHT CRM TO TN, HD DNS TO BRIT IP, V/F TO F XLN SUCRO MTRX, ABDT IMBD SM TO MD S-ANG TO ANG DOLO GRNS THRU, NO VIS FLO, PR TO FR INTR GRN POR IN 15%, NO VIS SHOW

R.T.D. @ 2:15 PM 7/22/13

DROP SURVEY

TOFL

WEATHERFORD/ LIBERAL



SAMPLES WILL BE DELIVERED TO KGS

THANK YOU FOR CHOOSING EARTH TECH

AARON SUELTER