



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1147936  
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: \_\_\_\_\_



1147936

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:  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> <i>(Submit ACO-4)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
--	---	---

Form	ACO1 - Well Completion
Operator	Samuel Gary Jr. & Associates, Inc.
Well Name	BALL 1-12
Doc ID	1147936

All Electric Logs Run

INDUCTION
MICRO
DEN-NEUT
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

June 14, 2013

CHRISTOPHER MITCHELL  
Samuel Gary Jr. & Associates, Inc.  
1515 WYNKOOP, STE 700  
DENVER, CO 80202

Re: ACO1  
API 15-051-26476-00-00  
BALL 1-12  
SE/4 Sec.12-15S-16W  
Ellis County, Kansas

Dear Production Department:

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

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

Respectfully,  
CHRISTOPHER MITCHELL



**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: 2/26/2013  
 Invoice # 6524

P.O.#:  
 Due Date: 3/28/2013  
 Division: Russell

# Invoice

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

**Reference:**  
 BALL 1-12

**Description of Work:**  
 LONG SURFACE JOB

**RECEIVED**

MAR 01 2013

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

<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	[Signature]			
Approval	[Signature]			
Description				

Services / Items Included:	Quantity	Price	Taxable	Item	Quantity	Price	Taxable
Labor		\$ 991.39	No				
Common-Class A	325	\$ 4,424.83	Yes				
8 5/8" Basket	3	\$ 1,029.26	Yes				
Bulk Truck Matl-Material Service Charge	343	\$ 744.80	No				
Calcium Chloride	12	\$ 620.94	Yes				
8 5/8" Centralizer	3	\$ 208.46	Yes				
Pump Truck Mileage-Job to Nearest Camp	19	\$ 205.87	No				
8 5/8" Top Rubber Plug	1	\$ 115.09	Yes				
Bulk Truck Mileage-Job to Nearest Bulk Plant	19	\$ 120.47	No				
Premium Gel (Bentonite)	6	\$ 106.05	Yes				
Baffle Plate Aluminum, 8 5/8"	1	\$ 97.71	Yes				

**Invoice Terms:**

Net 30

SubTotal: \$ 8,664.87  
 Discount Available ONLY if Invoice is Paid & Received within listed terms of invoice: \$ (1,299.73)

SubTotal for Taxable Items:	\$ 5,611.99
SubTotal for Non-Taxable Items:	\$ 1,753.15
<b>Total:</b>	<b>\$ 7,365.14</b>
<b>Tax:</b>	<b>\$ 353.56</b>

6.30% Ellis County Sales Tax

**Thank You For Your Business!**

**Amount Due: \$ 7,718.70**  
**Applied Payments:**  
**Balance Due: \$ 7,718.70**

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

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

No. 6524

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

Date	2-24-13	Sec.	12	Twp.	15	Range	16	County	Ellis	State	KS	On Location		Finish	2:00 p.m.
Lease								Well No.		Owner					
Ball								1-12		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 Leary Jr & Assoc.					
Type Job								T.D.		Street					
Surface								851							
Hole Size								Depth		City					
12 1/4								850		State					
Csg.								Depth		The above was done to satisfaction and supervision of owner agent or contractor.					
8 5/8										Cement Amount Ordered					
Tbg. Size										325 lbm 30/100 20/100					
Tool															
Cement Left in Csg.								Shoe Joint							
41.04								41.04							
Meas Line								Displace							
								5 1/2 BCL							
<b>EQUIPMENT</b>								Common							
Pumptrk								No.		325					
9								Cementer		Craig					
								Helper							
Bulktrk								No.		6					
								Driver		Cody					
Bulktrk								No.		12					
4								Driver		Clayton					
								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							
8 5/8 on bottom. Est. Circulation.								Handling							
Mix 325 SK + Displace Plug.								343							
Cement Circulated								Mileage							
								<b>FLOAT EQUIPMENT</b>							
								Guide Shoe		8 5/8					
								Centralizer		3					
								Baskets		3					
								AFU Inserts		Baffle Plate					
								Float Shoe		Rubber Plug					
								Latch Down							
								Pumptrk Charge		Long Surface					
								Mileage		19					
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: 3/5/2013  
 Invoice # 6476

P.O.#:  
 Due Date: 4/4/2013  
 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**

**MAR 12 2013**

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

**Reference:**  
 BALL 1-12

**Description of Work:**  
 PROD LONG STRING

DRLG  COMP  W/O  LOE  GG

Account	8300.338
Well/Prospect	
Deck	
AFE	
Approval	RB
Description	

**Services / Items Included:**

Quantity	Price	Taxable	Item	Quantity	Price	Taxable
Labor	\$ 950.65	No	Salt (Fine)	19	\$276.14	Yes
Common-Class A	225 \$ 2,937.45	Yes	Latch Down Plug & Baffle, 5 1/2"	1	\$233.21	Yes
Gilsonite	1057 \$ 1,650.66	Yes	Pump Truck Mileage-Job to Nearest Camp	19	\$197.41	No
CFL 117	176 \$ 1,128.71	Yes	Flo Seal	56	\$116.60	Yes
5 1/2" Basket	3 \$ 718.36	Yes	Bulk Truck Mileage-Job to Nearest Bulk Plant	19	\$115.52	No
Bulk Truck Matl-Material Service Charge	254 \$ 528.88	No	KCL	2	\$62.17	Yes
CD-110	117 \$ 487.23	Yes				
5 1/2" Turbolizer	8 \$ 483.07	Yes				
Mud Clear	500 \$ 385.21	Yes				
Defoamer A or CAF-38	50 \$ 364.38	Yes				
Auto Fill Float Shoe, 5 1/2"	1 \$ 318.58	Yes				

**Invoice Terms:**

Net 30	SubTotal: \$ 10,954.22
	Discount Available <u>ONLY</u> if Invoice is Paid & Received within listed terms of invoice: \$ (1,643.13)
	SubTotal for Taxable Items: \$ 7,787.50
	SubTotal for Non-Taxable Items: \$ 1,523.59
	Total: \$ 9,311.09
	Tax: \$ 490.61
<b>Thank You For Your Business!</b>	<b>Amount Due: \$ 9,801.70</b>
	<b>Applied Payments:</b>
	<b>Balance Due: \$ 9,801.70</b>

6.30% Ellis County Sales Tax

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. 6476

Date	3-3-13	Sec.	12	Twp.	15	Range	16	County	ELLIS	State	KANSAS	On Location		Finish	3:30 AM
------	--------	------	----	------	----	-------	----	--------	-------	-------	--------	-------------	--	--------	---------

Location **GORHAM STO MITCHELL RD - 1/2 SW - N/INTO**

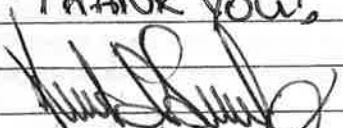
Lease	BALL	Well No.	# 1-12	Owner	SAM GARY
Contractor	D.D #2	To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.			
Type Job	PROD-STRING	Charge To	SAM GARY JR + ASSOC.		
Hole Size	7 7/8"	T.D.	3,550'	Street	1515 WYNKOOP - STE 700
Csg.	5 1/2" - 15.5 LB - NEW	Depth	3541.01"	City	DENVER
Tbg. Size		Depth		State	CO, 80202
Tool		Depth		The above was done to satisfaction and supervision of owner agent or contractor.	
Cement Left in Csg.		Shoe Joint	42.46"	Cement Amount Ordered	225 Q prod - C-10 1/2" - 5 7/8" - 1/4 FLU
Meas Line		Displace	83 1/2 BBLs		

EQUIPMENT				Common	
Pumptrk #15	No.	Cementer Helper	NTCK W.	225	
Bulktrk	No.	Driver	BULLY K.	Poz. Mix	
Bulktrk #14	No.	Driver	CISCO A.	Gel.	
		Driver		Calcium	CD 110 - 117#

JOB SERVICES & REMARKS				Hulls	
Remarks:				Salt	19
Rat Hole	30 SKS			Flowseal	56#
Mouse Hole	15 SKS			Kol-Seal	1057#
Centralizers	1, 3, 5, 7, 9, 11, 13, 15			Mud CLR 48	500 gal's.
Baskets	3, 9, 15			CFL-117 or CD110 (CAF 38)	50#
D/V or Port Collar				Sand	176#
DROPPED BALL - BROKE CIRCULATION - CIRCULATED ON BOTTOM 1 hr - PUMPED 500 GAL'S OF MUD CLR 48 - PLUGGED RATHOLE 30 SKS - PLUGGED MOUSE HOLE 15 SKS. MIXED & PUMPED 180 SKS DOWN 5 1/2" - BROKE - CONNECTION DROPPED PLUG & WASHED - PUMP - DISPLACES PLUG - PLUG LANDED - & HELD!				Handling	254
				Mileage	

FLOAT EQUIPMENT			
Guide Shoe			
Centralizer	8-5 1/2" TURBOS		
Baskets	3-5 1/2"		
AFU Inserts			
Float Shoe	1-5 1/2" w/BALL		
Latch Down	1-5 1/2" w/PLUG		
	20 BBLs OF KCL		

LIFT PRESSURE @ 1000 LBS	
PLUG LANDED @ 835 BBLs @ 1800 LBS.	
Pumptrk Charge	prod Long String
Mileage	19

THANK YOU!  Signature	Tax
	Discount
	Total Charge





## DRILL STEM TEST REPORT

Prepared For: **Samuel Gary Jr & Assoc Inc**

1515 Wnykoop Ste 700  
Denver CO 80202

ATTN: Chris Mitchell

### **Ball #1-12**

#### **12-15s-16w Ellis,KS**

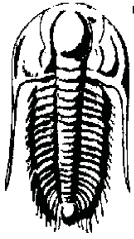
Start Date: 2013.03.01 @ 12:51:01

End Date: 2013.03.01 @ 21:27:26

Job Ticket #: 50360                      DST #: 1

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2013.03.08 @ 10:09:01



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Samuel Gary Jr & Assoc Inc

**12-15s-16w Ellis,KS**

1515 Wnykoop Ste 700  
Denver CO 80202

**Ball #1-12**

Job Ticket: 50360

**DST#: 1**

ATTN: Chris Mitchell

Test Start: 2013.03.01 @ 12:51:01

## GENERAL INFORMATION:

Formation: **LKC C-D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:46:41

Time Test Ended: 21:27:26

Test Type: Conventional Bottom Hole (Initial)

Tester: Ray Schwager

Unit No: 42

**Interval: 3189.00 ft (KB) To 3217.00 ft (KB) (TVD)**

Reference Elevations: 1921.00 ft (KB)

Total Depth: 3217.00 ft (KB) (TVD)

1913.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 8369**

**Inside**

Press@RunDepth: 110.35 psig @ 3190.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.03.01

End Date:

2013.03.01

Last Calib.:

2013.03.01

Start Time: 12:51:01

End Time:

21:27:26

Time On Btm:

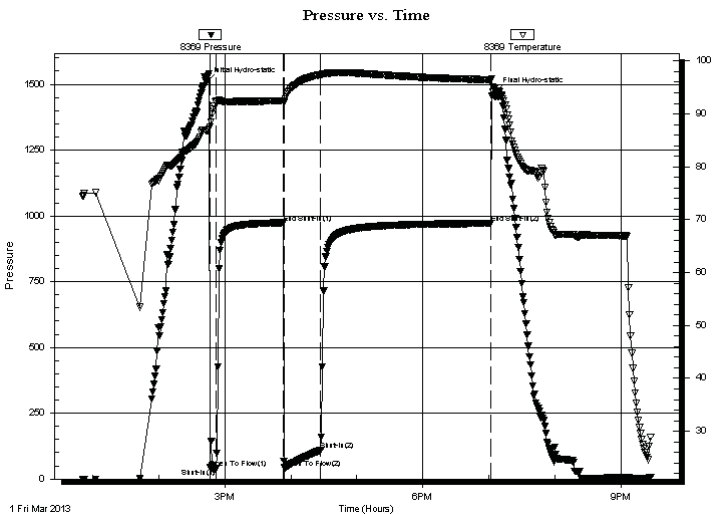
2013.03.01 @ 14:43:56

Time Off Btm:

2013.03.01 @ 19:06:25

**TEST COMMENT:** 5-IFP-w k to strg in 2 min  
60-ISIP-no bl bk  
35-FFP-strg bl thru-out  
150-FSIP-2" bl bk

## PRESSURE SUMMARY



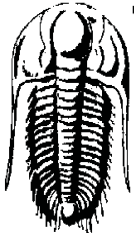
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1510.04	86.88	Initial Hydro-static
3	42.81	87.54	Open To Flow (1)
8	39.38	92.19	Shut-In(1)
70	973.72	92.43	End Shut-In(1)
70	42.88	92.29	Open To Flow (2)
104	110.35	97.41	Shut-In(2)
258	971.58	96.46	End Shut-In(2)
263	1472.96	93.26	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
90.00	Water	0.99
124.00	MGO 5%G20%W20%G55%O	1.74
0.00	1270'GIP	0.00

## Gas Rates

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



**TRILOBITE**  
**TESTING, INC**

## DRILL STEM TEST REPORT

Samuel Gary Jr & Assoc Inc

**12-15s-16w Ellis,KS**

1515 Wnykoop Ste 700  
Denver CO 80202

**Ball #1-12**

Job Ticket: 50360

**DST#: 1**

ATTN: Chris Mitchell

Test Start: 2013.03.01 @ 12:51:01

### GENERAL INFORMATION:

Formation: **LKC C-D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:46:41

Time Test Ended: 21:27:26

Interval: **3189.00 ft (KB) To 3217.00 ft (KB) (TVD)**

Total Depth: 3217.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Test Type: Conventional Bottom Hole (Initial)

Tester: Ray Schwager

Unit No: 42

Reference Elevations: 1921.00 ft (KB)

1913.00 ft (CF)

KB to GR/CF: 8.00 ft

**Serial #: 8700 Outside**

Press@RunDepth: psig @ 3190.00 ft (KB)

Start Date: 2013.03.01

End Date: 2013.03.01

Start Time: 12:50:28

End Time: 21:25:38

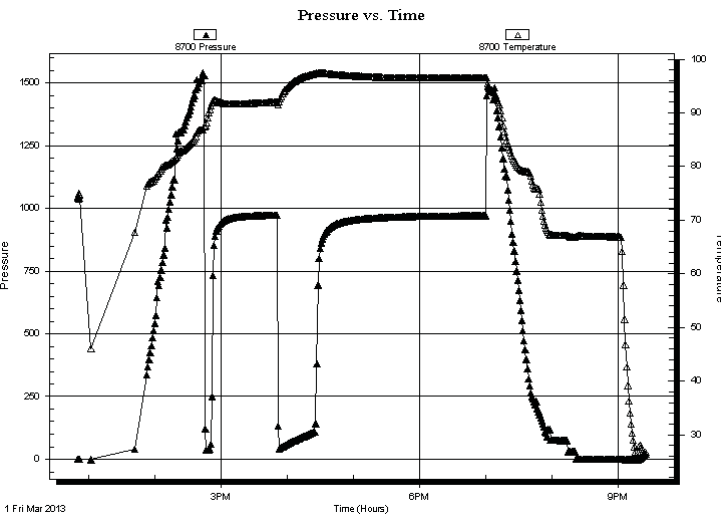
Capacity: 8000.00 psig

Last Calib.: 2013.03.01

Time On Btm:

Time Off Btm:

TEST COMMENT: 5-IFP-w k to strg in 2 min  
60-ISIP-no bl bk  
35-FFP-strg bl thru-out  
150-FSIP-2" bl bk



### PRESSURE SUMMARY

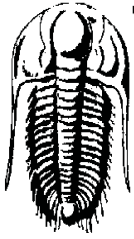
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

### Recovery

Length (ft)	Description	Volume (bbl)
90.00	Water	0.99
124.00	MGO 5%G20%W20%G55%O	1.74
0.00	1270'GIP	0.00

### Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Samuel Gary Jr & Assoc Inc

**12-15s-16w Ellis,KS**

1515 Wnykoop Ste 700  
Denver CO 80202

**Ball #1-12**

Job Ticket: 50360

**DST#: 1**

ATTN: Chris Mitchell

Test Start: 2013.03.01 @ 12:51:01

## GENERAL INFORMATION:

Formation: **LKC C-D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:46:41

Time Test Ended: 21:27:26

Test Type: Conventional Bottom Hole (Initial)

Tester: Ray Schwager

Unit No: 42

**Interval: 3189.00 ft (KB) To 3217.00 ft (KB) (TVD)**

Reference Elevations: 1921.00 ft (KB)

Total Depth: 3217.00 ft (KB) (TVD)

1913.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 8374 Fluid**

Press@RunDepth: psig @ 3155.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.03.01

End Date:

2013.03.01

Last Calib.:

2013.03.01

Start Time: 12:50:21

End Time:

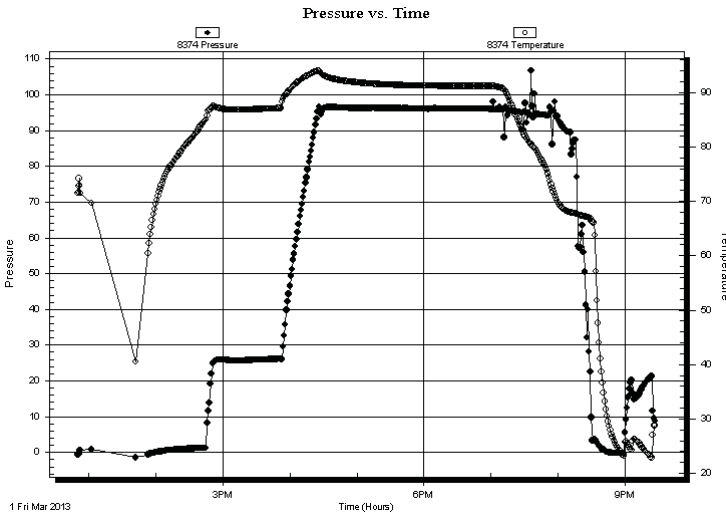
21:27:01

Time On Btm:

Time Off Btm:

**TEST COMMENT:** 5-IFP-w k to strg in 2 min  
60-ISIP-no bl bk  
35-FFP-strg bl thru-out  
150-FSIP-2" bl bk

## PRESSURE SUMMARY



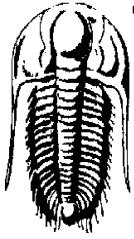
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

## Recovery

Length (ft)	Description	Volume (bbl)
90.00	Water	0.99
124.00	MGO 5%G20%W20%G55%O	1.74
0.00	1270'GIP	0.00

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Samuel Gary Jr & Assoc Inc

**12-15s-16w Ellis,KS**

1515 Wnykoop Ste 700  
Denver CO 80202

**Ball #1-12**

Job Ticket: 50360

**DST#: 1**

ATTN: Chris Mitchell

Test Start: 2013.03.01 @ 12:51:01

## Tool Information

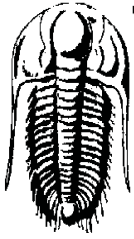
Drill Pipe:	Length: 3136.00 ft	Diameter: 3.80 inches	Volume: 43.99 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	65000.00 lb
			<u>Total Volume: 44.14 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial	52000.00 lb
Depth to Top Packer:	3189.00 ft			Final	56000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	28.00 ft				
Tool Length:	62.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Recorder	0.00	8374	Fluid	3155.00	
Blank Spacing	4.00			3159.00	
Change Over Sub	1.00			3160.00	
Shut In Tool	5.00			3165.00	
Sampler	2.00			3167.00	
Hydraulic tool	5.00			3172.00	
Jars	5.00			3177.00	
Safety Joint	2.00			3179.00	
Packer	5.00			3184.00	34.00 Bottom Of Top Packer
Packer	5.00			3189.00	
Stubb	1.00			3190.00	
Recorder	0.00	8369	Inside	3190.00	
Recorder	0.00	8700	Outside	3190.00	
Perforations	24.00			3214.00	
Bullnose	3.00			3217.00	28.00 Bottom Packers & Anchor

**Total Tool Length: 62.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Samuel Gary Jr & Assoc Inc

**12-15s-16w Ellis,KS**

1515 Wnykoop Ste 700  
Denver CO 80202

**Ball #1-12**

Job Ticket: 50360

**DST#: 1**

ATTN: Chris Mitchell

Test Start: 2013.03.01 @ 12:51:01

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

36 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

90000 ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.17 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5100.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
90.00	Water	0.989
124.00	MGO 5%G20%W20%G55%O	1.739
0.00	1270'GIP	0.000

Total Length: 214.00 ft      Total Volume: 2.728 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Sampler Data:500PSI 1000ML oil 500ML gas 500ML water RW .10@60F

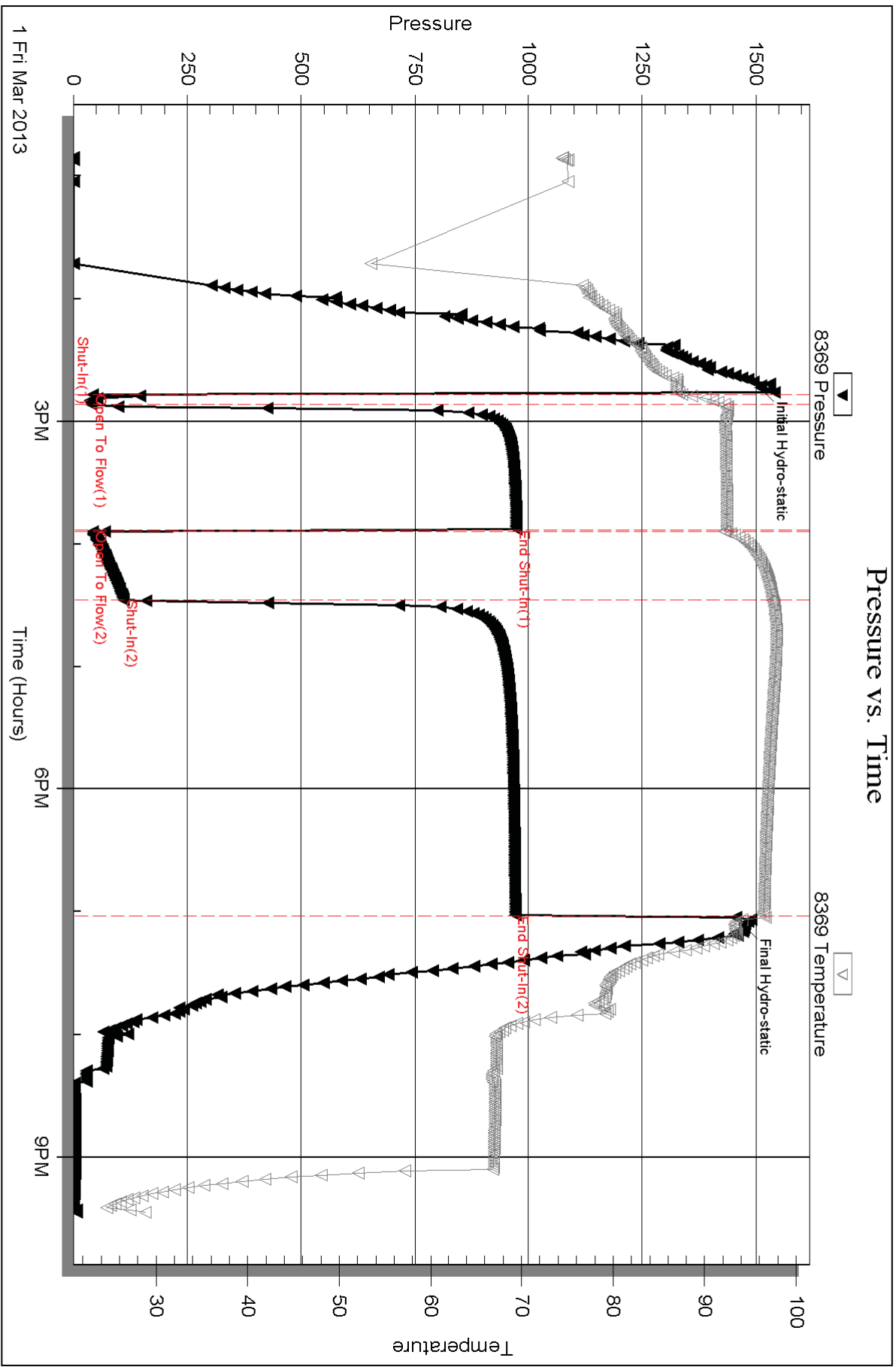
Serial #: 8369

Inside

Samuel Gary Jr & Assoc Inc

Ball #1-12

DST Test Number: 1

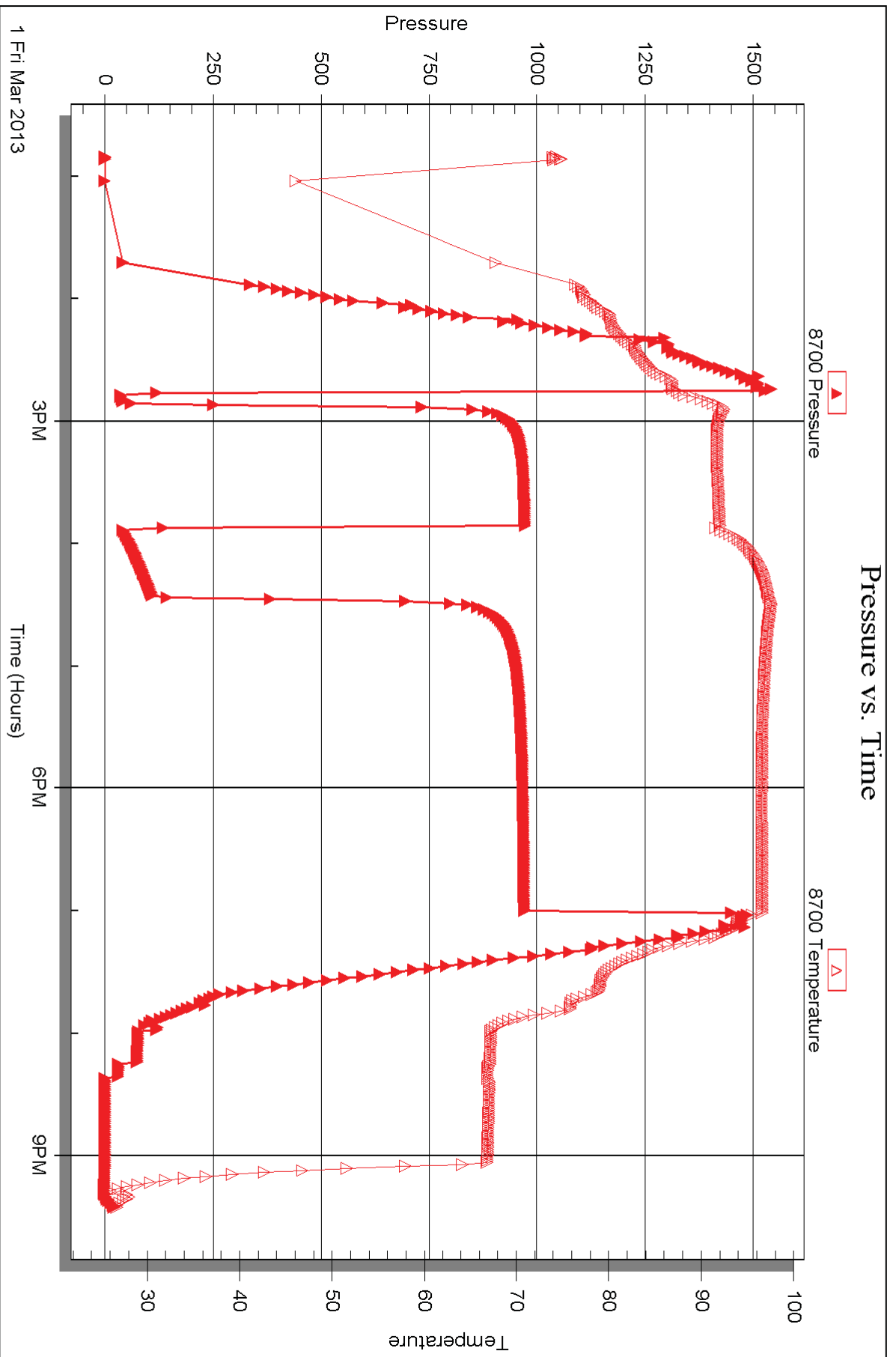


Serial #: 8700

Outside Samuel Gary Jr & Assoc Inc

Ball #1-12

DST Test Number: 1





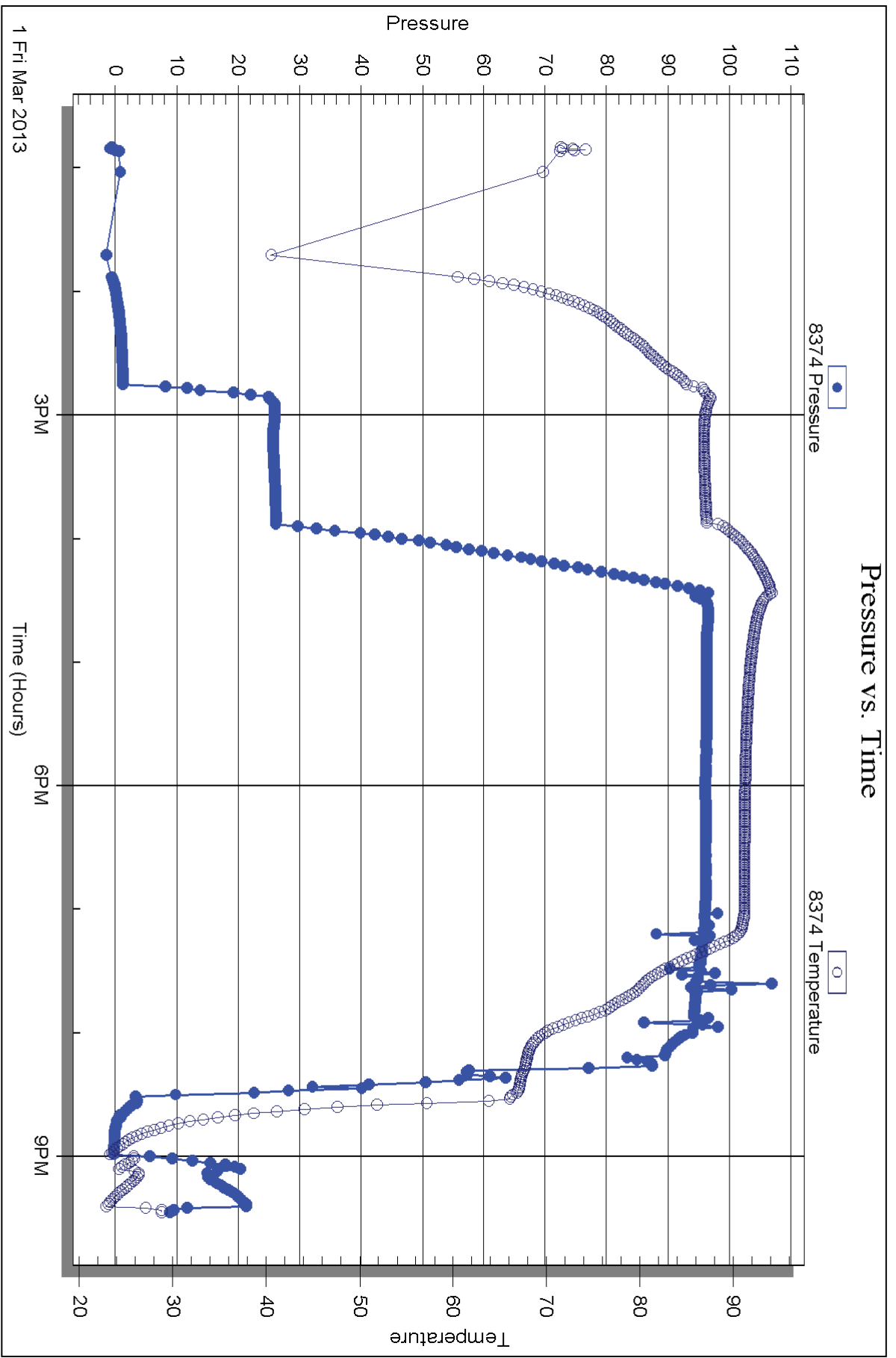
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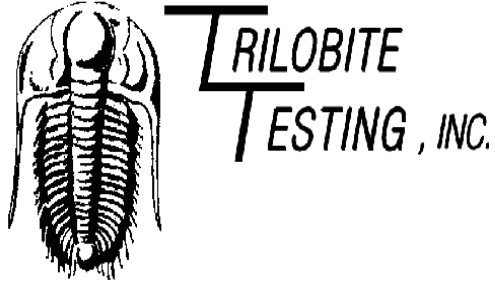
Fluid

Samuel Gary Jr & Assoc Inc

Ball #1-12

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **Samuel Gary Jr & Assoc Inc**

1515 Wnykoop Ste 700  
Denver CO 80202

ATTN: Chris Mitchell

### **Ball #1-12**

#### **12-15s-16w Ellis,KS**

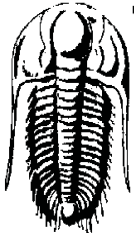
Start Date: 2013.03.02 @ 12:25:30

End Date: 2013.03.02 @ 20:33:54

Job Ticket #: 50361                      DST #: 2

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620

Printed: 2013.03.08 @ 10:08:09



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Samuel Gary Jr & Assoc Inc

**12-15s-16w Ellis,KS**

1515 Wnykoop Ste 700  
Denver CO 80202

**Ball #1-12**

Job Ticket: 50361

**DST#: 2**

ATTN: Chris Mitchell

Test Start: 2013.03.02 @ 12:25:30

## GENERAL INFORMATION:

Formation: **LKC J-K**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:13:10

Time Test Ended: 20:33:54

Test Type: Conventional Bottom Hole (Reset)

Tester: Ray Schwager

Unit No: 42

**Interval: 3324.00 ft (KB) To 3364.00 ft (KB) (TVD)**

Reference Elevations: 1921.00 ft (KB)

Total Depth: 3364.00 ft (KB) (TVD)

1913.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 8369**

**Inside**

Press@RunDepth: 377.38 psig @ 3330.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.03.02

End Date:

2013.03.02

Last Calib.:

2013.03.02

Start Time: 12:25:30

End Time:

20:33:54

Time On Btm:

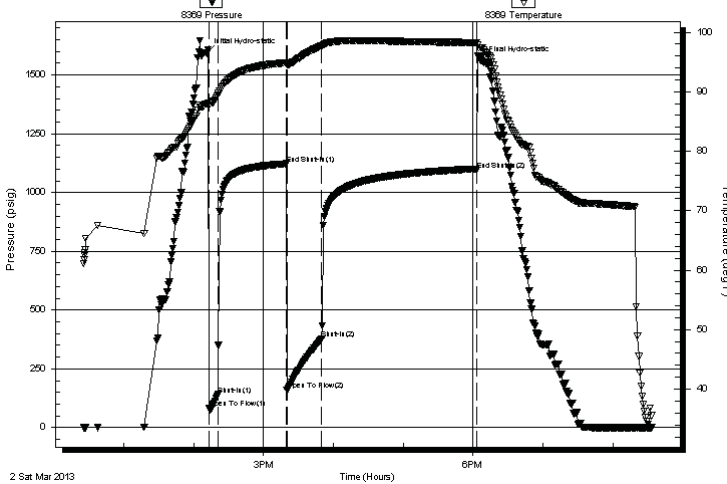
2013.03.02 @ 14:11:10

Time Off Btm:

2013.03.02 @ 18:07:09

**TEST COMMENT:** 5-IFP-strg bl in 2 min  
60-ISIP-1/8" bl bk  
30-FFP-strg bl in 2 min  
120-FSIP-1/8" bl bk

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1593.01	87.96	Initial Hydro-static
2	81.07	87.59	Open To Flow (1)
10	140.55	89.49	Shut-In(1)
69	1122.07	94.85	End Shut-In(1)
69	158.94	94.60	Open To Flow (2)
99	377.38	97.69	Shut-In(2)
232	1095.66	98.25	End Shut-In(2)
236	1561.06	97.35	Final Hydro-static

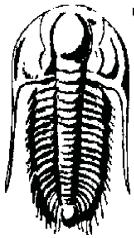
Recovery

Length (ft)	Description	Volume (bbl)
600.00	Water	8.14
120.00	SOCW 2%O98%W	1.68
15.00	O&GCMW 5%G10%O20%M65%W	0.21
0.00	105'GIP	0.00

Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE**  
TESTING, INC

# DRILL STEM TEST REPORT

Samuel Gary Jr & Assoc Inc

12-15s-16w Ellis,KS

1515 Wnykoop Ste 700  
Denver CO 80202

Ball #1-12

Job Ticket: 50361

DST#: 2

ATTN: Chris Mitchell

Test Start: 2013.03.02 @ 12:25:30

## GENERAL INFORMATION:

Formation: **LKC J-K**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:13:10

Time Test Ended: 20:33:54

Test Type: Conventional Bottom Hole (Reset)

Tester: Ray Schwager

Unit No: 42

Interval: **3324.00 ft (KB) To 3364.00 ft (KB) (TVD)**

Reference Elevations: 1921.00 ft (KB)

Total Depth: 3364.00 ft (KB) (TVD)

1913.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: **8700** Outside

Press@RunDepth: psig @ 3330.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.03.02 End Date: 2013.03.02

Last Calib.: 2013.03.02

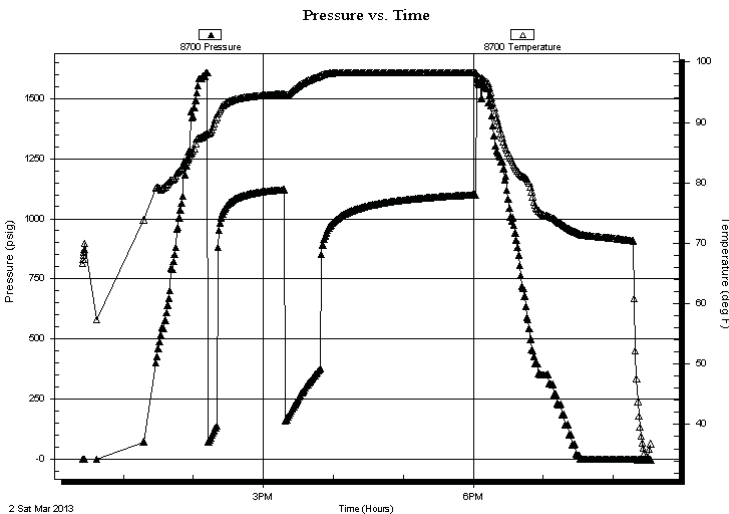
Start Time: 12:25:14 End Time: 20:32:08

Time On Btm:

Time Off Btm:

TEST COMMENT: 5-IFP-strg bl in 2 min  
60-ISIP-1/8" bl bk  
30-FFP-strg bl in 2 min  
120-FSIP-1/8" bl bk

## PRESSURE SUMMARY



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

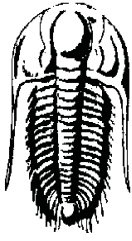
## Recovery

Length (ft)	Description	Volume (bbl)
600.00	Water	8.14
120.00	SOCW 2%O98%W	1.68
15.00	O&GCMW 5%G10%O20%M65%W	0.21
0.00	105'GIP	0.00

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Samuel Gary Jr & Assoc Inc

**12-15s-16w Ellis,KS**

1515 Wnykoop Ste 700  
Denver CO 80202

**Ball #1-12**

Job Ticket: 50361

**DST#: 2**

ATTN: Chris Mitchell

Test Start: 2013.03.02 @ 12:25:30

## GENERAL INFORMATION:

Formation: **LKC J-K**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:13:10

Time Test Ended: 20:33:54

Test Type: Conventional Bottom Hole (Reset)

Tester: Ray Schwager

Unit No: 42

**Interval: 3324.00 ft (KB) To 3364.00 ft (KB) (TVD)**

Reference Elevations: 1921.00 ft (KB)

Total Depth: 3364.00 ft (KB) (TVD)

1913.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 8374 Fluid**

Press@RunDepth: psig @ 3290.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.03.02

End Date: 2013.03.02

Last Calib.: 2013.03.02

Start Time: 12:25:55

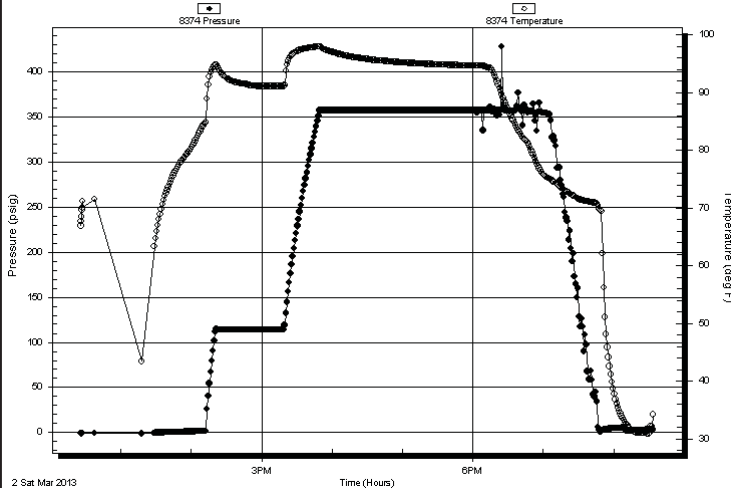
End Time: 20:33:34

Time On Btm:

Time Off Btm:

**TEST COMMENT:** 5-IFP-strg bl in 2 min  
60-ISIP-1/8" bl bk  
30-FFP-strg bl in 2 min  
120-FSIP-1/8" bl bk

Pressure vs. Time



## PRESSURE SUMMARY

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

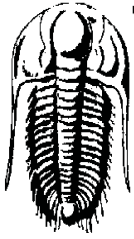
## Recovery

Length (ft)	Description	Volume (bbl)
600.00	Water	8.14
120.00	SOCW 2%O98%W	1.68
15.00	O&GCMW 5%G10%O20%M65%W	0.21
0.00	105'GIP	0.00

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Samuel Gary Jr & Assoc Inc

**12-15s-16w Ellis,KS**

1515 Wnykoop Ste 700  
Denver CO 80202

**Ball #1-12**

Job Ticket: 50361

**DST#: 2**

ATTN: Chris Mitchell

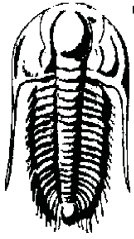
Test Start: 2013.03.02 @ 12:25:30

## Tool Information

Drill Pipe:	Length: 3285.00 ft	Diameter: 3.80 inches	Volume: 46.08 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 46.23 bbl</u>	Tool Chased 5.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3324.00 ft			Final 59000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	40.00 ft			
Tool Length:	74.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments: slid tool 5' to bottom

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Recorder	0.00	8374	Fluid	3290.00	
Blank Spacing	4.00			3294.00	
Change Over Sub	1.00			3295.00	
Shut In Tool	5.00			3300.00	
Sampler	2.00			3302.00	
Hydraulic tool	5.00			3307.00	
Jars	5.00			3312.00	
Safety Joint	2.00			3314.00	
Packer	5.00			3319.00	34.00 Bottom Of Top Packer
Packer	5.00			3324.00	
Stubb	1.00			3325.00	
Perforations	5.00			3330.00	
Recorder	0.00	8369	Inside	3330.00	
Recorder	0.00	8700	Outside	3330.00	
Perforations	31.00			3361.00	
Bullnose	3.00			3364.00	40.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>74.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Samuel Gary Jr & Assoc Inc

**12-15s-16w Ellis,KS**

1515 Wnykoop Ste 700  
Denver CO 80202

**Ball #1-12**

Job Ticket: 50361

**DST#: 2**

ATTN: Chris Mitchell

Test Start: 2013.03.02 @ 12:25:30

## 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:

74000 ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 7100.00 ppm

Filter Cake: 1.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
600.00	Water	8.143
120.00	SOCW 2%O98%W	1.683
15.00	O&GCMW 5%G10%O20%M65%W	0.210
0.00	105'GIP	0.000

Total Length: 735.00 ft      Total Volume: 10.036 bbl

Num Fluid Samples: 0

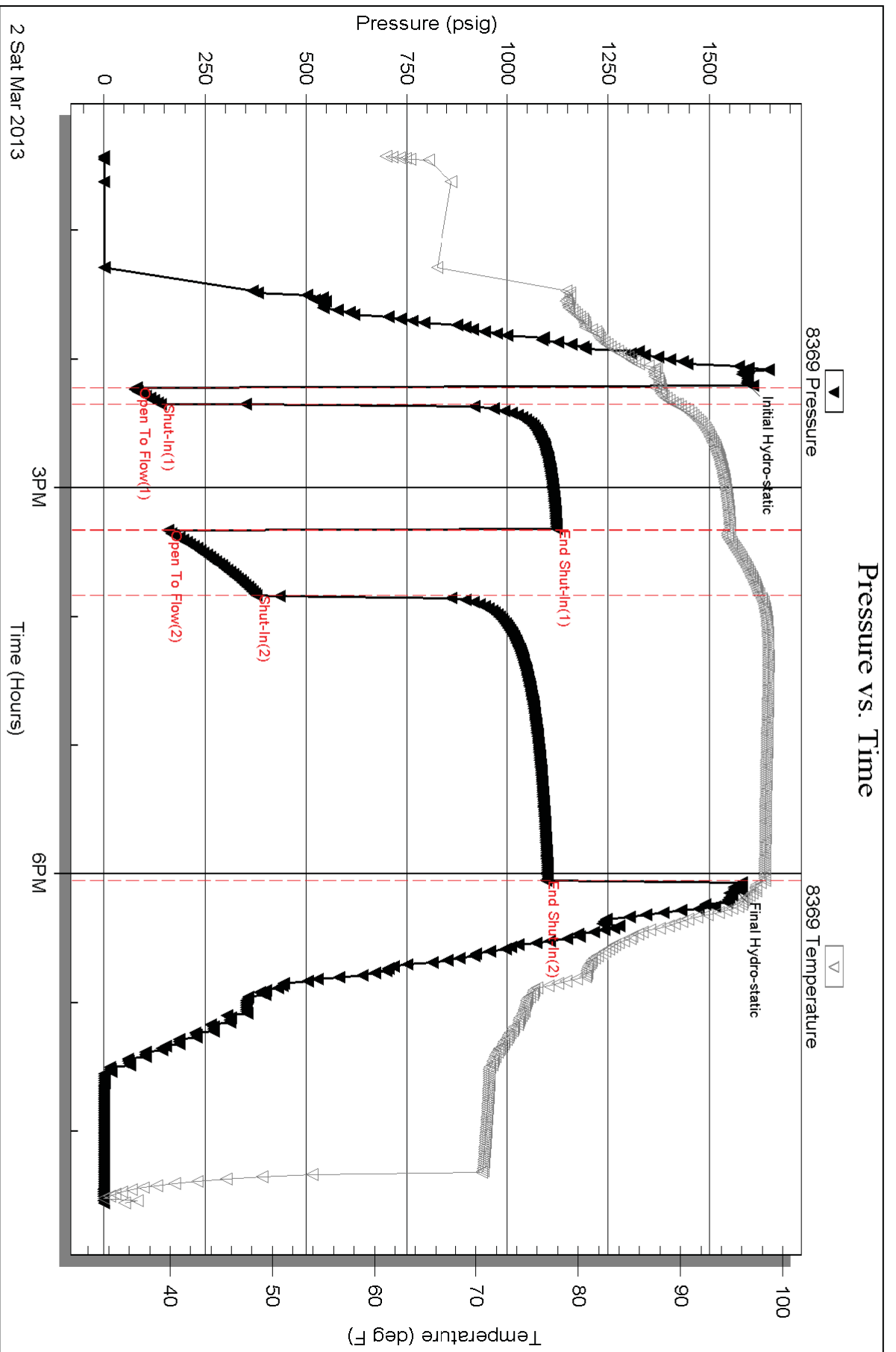
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Sampler Data:450PSI 40MLoil 1960ML Water RW .12 @ 60F



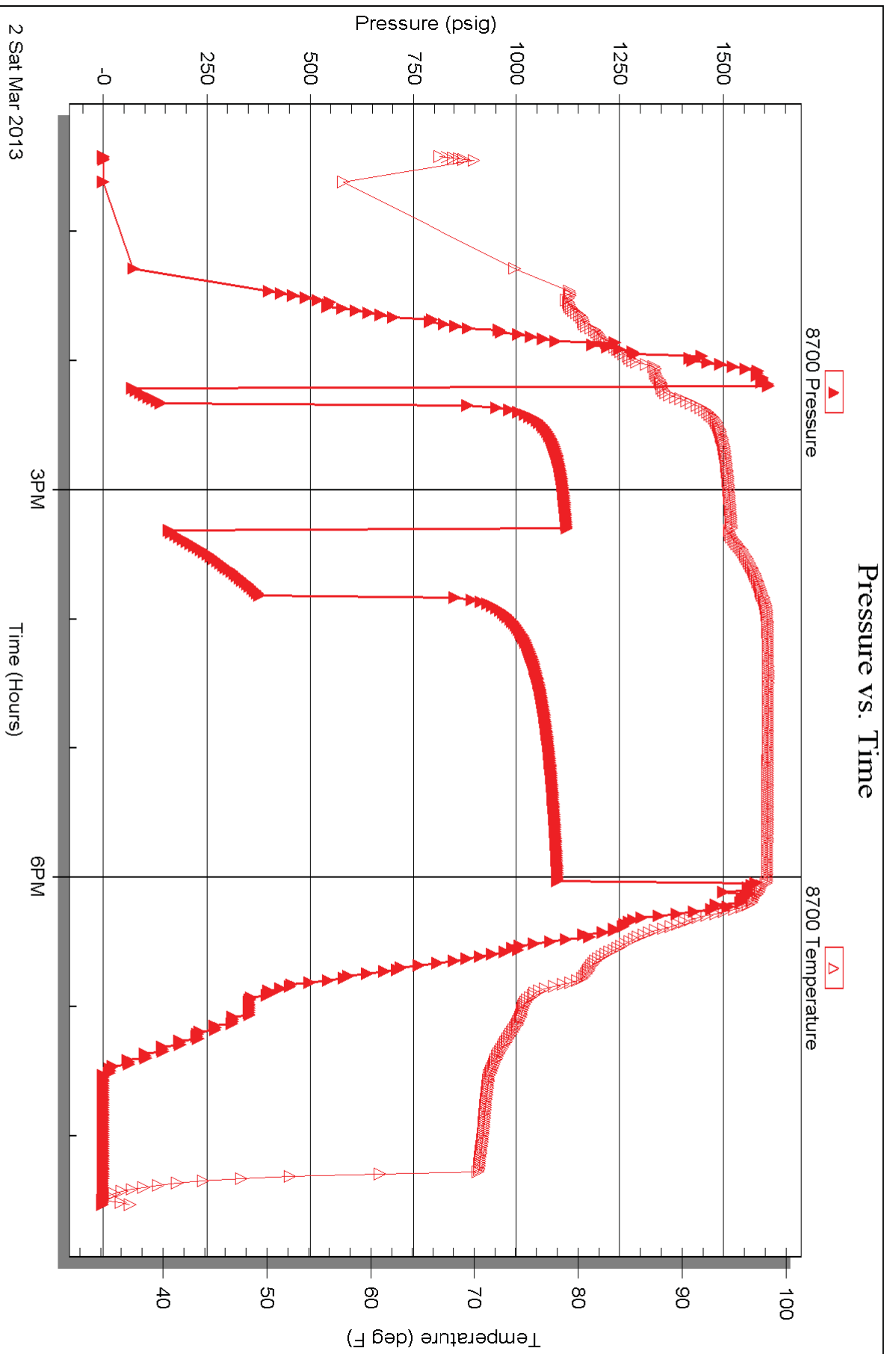


Serial #: 8700

Outside Samuel Gary Jr & Assoc Inc

Ball #1-12

DST Test Number: 2



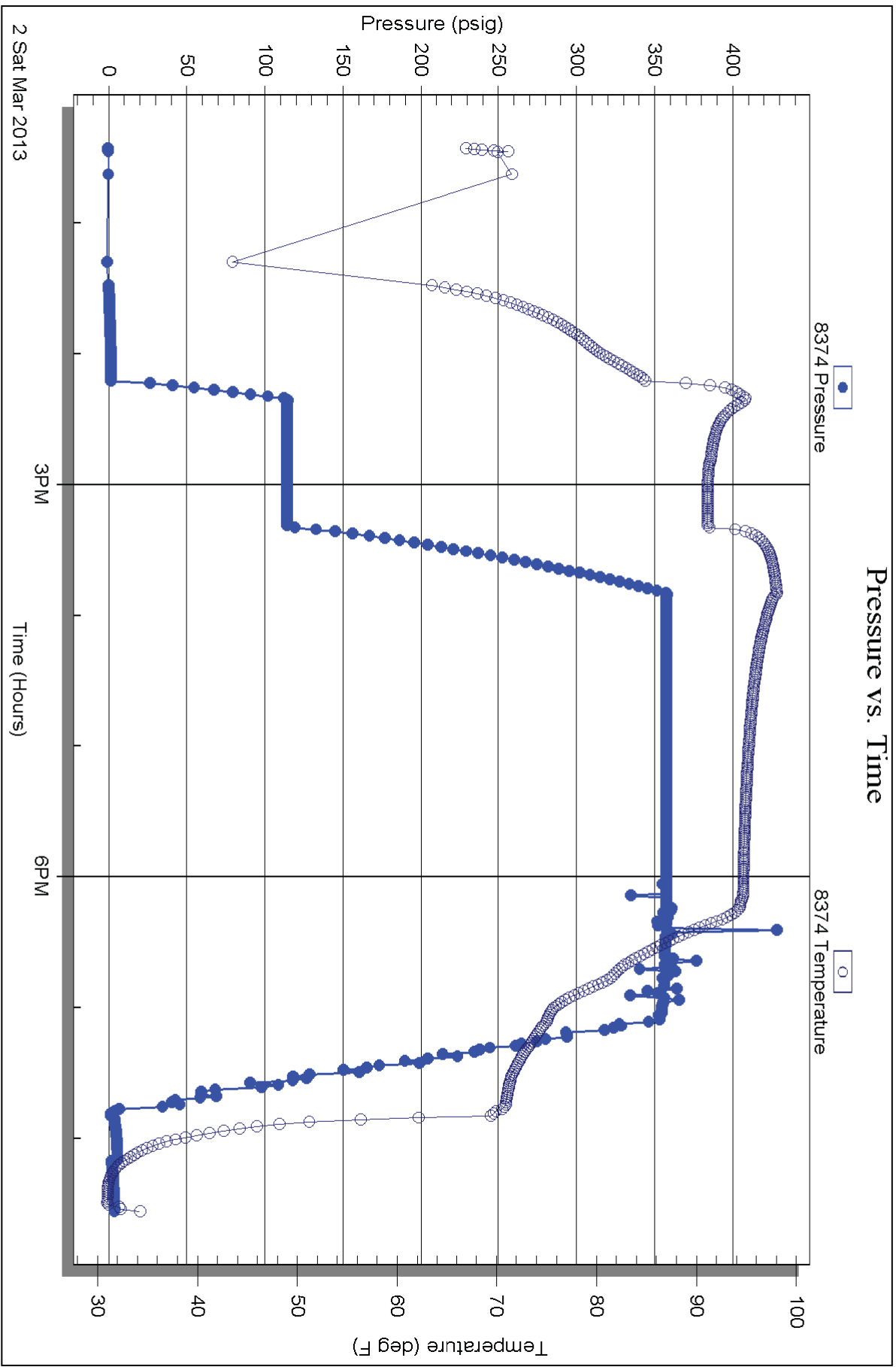
Serial #: 8374

Fluid

Samuel Gary Jr & Assoc Inc

Ball #1-12

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 50361

Printed: 2013.03.08 @ 10:08:14



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 50360

Well Name & No. BALL #1-12 Test No. 1 Date 3-1-13  
 Company SAMUEL GARY JR + ASSOCIATES INC Elevation 1921 KB 1913 GL  
 Address 1515 WYNKOOP STE 700 DENVER, CO 80202  
 Co. Rep / Geo. CHRIS MITCHELL Rig DISCOVERY RIG 2  
 Location: Sec. 12 Twp. 15<sup>S</sup> Rge. 16<sup>W</sup> Co. FLLIS State KO

Interval Tested 3189-3217 Zone Tested LKC C-D  
 Anchor Length 28 Drill Pipe Run 3136 Mud Wt. 8.8  
 Top Packer Depth 3184 Drill Collars Run 30 Vis 50  
 Bottom Packer Depth 3189 Wt. Pipe Run - WL 7.2  
 Total Depth 3217 Chlorides 5100 ppm System LCM -

Blow Description IFP - WEAK TO STRONG IN 2 MIN  
ISIP - NO BLOW  
FFP - STRONG BLOW THRU-OUT  
FSIP - 2" BLOW BACK

Rec	Feet of	%gas	%oil	%water	%mud
<u>1270</u>	<u>GIP</u>				
<u>90</u>	<u>WATER</u>				
<u>124</u>	<u>MGO</u>	<u>20</u>	<u>55</u>	<u>20</u>	<u>5</u>

Rec Total 214 BHT 96 Gravity 36 API RW .10 @ 60 °F Chlorides 90000 ppm

(A) Initial Hydrostatic <u>1510</u>	<input checked="" type="checkbox"/> Test 1150	T-On Location <u>1205</u>
(B) First Initial Flow <u>42</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>1250</u>
(C) First Final Flow <u>39</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>1445</u>
(D) Initial Shut-In <u>973</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>1855</u>
(E) Second Initial Flow <u>42</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>2127</u>
(F) Second Final Flow <u>110</u>	<input checked="" type="checkbox"/> Mileage <u>46RT</u> 71.30	Comments _____
(G) Final Shut-In <u>971</u>	<input checked="" type="checkbox"/> Sampler 250	_____
(H) Final Hydrostatic <u>1472</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer

Initial Open 5  
 Initial Shut-In 60  
 Final Flow 35  
 Final Shut-In 150

Shale Packer  
 Extra Packer  
 Extra Recorder 200  
 Day Standby  
 Accessibility

Sub Total 1996.30

Sub Total 1996.30

Approved By \_\_\_\_\_ Our Representative RAY SCHWAGER Thank you

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



# TRILOBITE TESTING, INC.

P.O. Box 362 • Hays, Kansas 67601

## FLUID SAMPLER DATA

Ticket No. 50360 Date 3-1-13  
 Company Name Samuel Gary Jr + Assoc Inc  
 Lease Ball #1-12 Test No. 1  
 County Ellis Sec. 12 Twp. 15<sup>s</sup> Rng. 16<sup>w</sup>

### SAMPLER RECOVERY

Gas 500 ML  
 Oil 1000 ML  
 Mud — ML  
 Water 500 ML  
 Other — ML  
 Pressure 500 # ML  
 Total 2000 ML

### PIT MUD ANALYSIS

Chlorides 5100 ppm.  
 Resistivity 1.5 ohms @ 54 F  
 Viscosity 50  
 Mud Weight 8.8  
 Filtrate 7.2  
 Other \_\_\_\_\_

### SAMPLER ANALYSIS

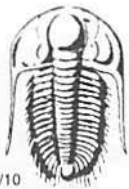
Resistivity .10 ohms @ 60 F  
 Chlorides 90000 ppm.  
 Gravity \_\_\_\_\_ corrected @60F

### PIPE RECOVERY

**TOP**  
 Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ F  
 Chlorides \_\_\_\_\_ ppm.

**MIDDLE**  
 Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ F  
 Chlorides \_\_\_\_\_ ppm.

**BOTTOM**  
 Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ F  
 Chlorides \_\_\_\_\_ ppm.



# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 50362

Well Name & No. Ball #1-12 Test No. 2 Date 3-2-13  
 Company SAMUEL GARY JR & ASSOCIATES INC Elevation 1921 KB 1913 GL  
 Address 1515 WYNKOOP, STE 700 DENVER, CO 80202  
 Co. Rep / Geo. CHRIS MITCHELL Rig DISCOVERY RIG 2  
 Location: Sec. 12 Twp. 15<sup>S</sup> Rge. 16<sup>W</sup> Co. ELLIS State K

Interval Tested 3324-3364 Zone Tested LKC J-K  
 Anchor Length 40 Drill Pipe Run 3285 Mud Wt. 8.9  
 Top Packer Depth 3319 Drill Collars Run 30 Vis 53  
 Bottom Packer Depth 3324 Wt. Pipe Run - WL 6.8  
 Total Depth 3364 Chlorides 7100 ppm System LCM -

Blow Description IFP - STRONG BLOW IN 2 MIN  
ISIP - 1/8" BLOW BACK  
FFP - STRONG BLOW IN 2 MIN  
FSIP - 1/8" BLOW BACK

Rec	Feet of	%gas	%oil	%water	%mud
<u>105</u>	<u>GIP</u>				
<u>600</u>	<u>WATER</u>				
<u>15</u>	<u>DTGCMW</u>	<u>5</u>	<u>10</u>	<u>65</u>	<u>20</u>
<u>120</u>	<u>SOCMW</u>		<u>2</u>	<u>98</u>	
Rec	Feet of	%gas	%oil	%water	%mud

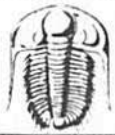
Rec Total 735 BHT 98 Gravity - API RW .12 @ 60 ° F Chlorides 74000 ppm

(A) Initial Hydrostatic 1593  Test 1150 T-On Location 1100  
 (B) First Initial Flow 81  Jars 250 T-Started 1225  
 (C) First Final Flow 140  Safety Joint 75 T-Open 1415  
 (D) Initial Shut-In 1122  Circ Sub T-Pulled 1750  
 (E) Second Initial Flow 158  Hourly Standby T-Out 2033  
 (F) Second Final Flow 377  Mileage 46 RT 71.30 Comments \_\_\_\_\_  
 (G) Final Shut-In 1095  Sampler 250 \_\_\_\_\_  
 (H) Final Hydrostatic 1561  Straddle  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer  Ruined Packer \_\_\_\_\_  
 Extra Packer  Extra Copies \_\_\_\_\_

Initial Open 5  
 Initial Shut-In 60  Extra Recorder 200 Sub Total 0  
 Final Flow 30  Day Standby Total 1996.30  
 Final Shut-In 120  Accessibility MP/DST Disc't \_\_\_\_\_  
 Sub Total 1996.30

Approved By \_\_\_\_\_ Our Representative RAY SCHWAGY THANK YOU

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



# TRILOBITE TESTING, INC.

P.O. Box 362 • Hays, Kansas 67601

## FLUID SAMPLER DATA

Ticket No. 50362 Date 3-2-13  
 Company Name SAMUEL GARY JR + ASSOC INC  
 Lease BALL # 1-12 Test No. 2  
 County ELLIS Sec. 12 Twp. 15<sup>s</sup> Rng. 16<sup>w</sup>

### SAMPLER RECOVERY

Gas — ML  
 Oil 40 ML  
 Mud — ML  
 Water 1960 ML  
 Other — ML  
 Pressure 450 # ML  
 Total 2000 ML

### PIT MUD ANALYSIS

Chlorides 7100 ppm.  
 Resistivity 1.2 ohms @ 50 F  
 Viscosity 53  
 Mud Weight 8.9  
 Filtrate 6.8  
 Other —

### SAMPLER ANALYSIS

Resistivity .12 ohms @ 60 F  
 Chlorides 74000 ppm.  
 Gravity \_\_\_\_\_ corrected @60F

### PIPE RECOVERY

**TOP**  
 Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ F  
 Chlorides \_\_\_\_\_ ppm.

**MIDDLE**  
 Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ F  
 Chlorides \_\_\_\_\_ ppm.

**BOTTOM**  
 Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ F  
 Chlorides \_\_\_\_\_ ppm.



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

Well Name: SGA Ball 1-12  
 Location: Sec. 12 - 15S - 16W Ellis County, Kansas  
 License Number: 15-051-26476-0000  
 Spud Date: Feb 25, 2013  
 Surface Coordinates: 1515 FSL/ 2300 FWL  
 Region: WILDCAT  
 Drilling Completed: March 3, 2013

Bottom Hole Coordinates:  
 Ground Elevation (ft): 1913' K.B. Elevation (ft): 1921'  
 Logged Interval (ft): 2850' To: 3550' Total Depth (ft): 3550'  
 Formation: LANSING/ ARBUCKLE  
 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: Chris Mitchell

**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#1 3189'-3217' 5 60 35 150  
 IF- WEAK TO STRONG IN 2 MIN/ ISI- NO BLOW/ FF- STRONG BLOW THRU OUT/ FSI- 2" BLOW BACK  
 IH- 1510, FH- 1472/ IF- 42 TO 42/ FF- 39 TO 110/ ISI- 973, FSI- 971  
 RECOVERY- 1270' GIP/ 90' WATER/ 124' MGO 20% GAS, 55% OIL, 20% WATER, 5% MUD  
 SAMPLER- 500 ML GAS, 1000 ML OIL, 500 ML WATER, 2000 ML TOTAL

**DST's Report**

DST#2 3324'-3364' 5 60 30 120  
 IF- STRONG BLOW IN 2 MIN/ ISI 1/8" BLOW BACK/ FF- STRONG BLOW IN 2 MIN/ FSI- 1/8" BLOW BACK  
 IH- 1593, FH- 1561/ IF- 81 TO 158/ FF- 140 TO 377/ ISI- 1122, FSI- 1095  
 RECOVERY- 105 GIP/ 600' WATER/ 15' O+GCMW 5% GAS, 10% OIL, 65% WATER, 20% MUD/ 120' SOCMW 2% OIL, 98% WATER  
 SAMPLER- 40 ML OIL/ 1960 ML WATER/ 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		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
- Sandylms
- 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**

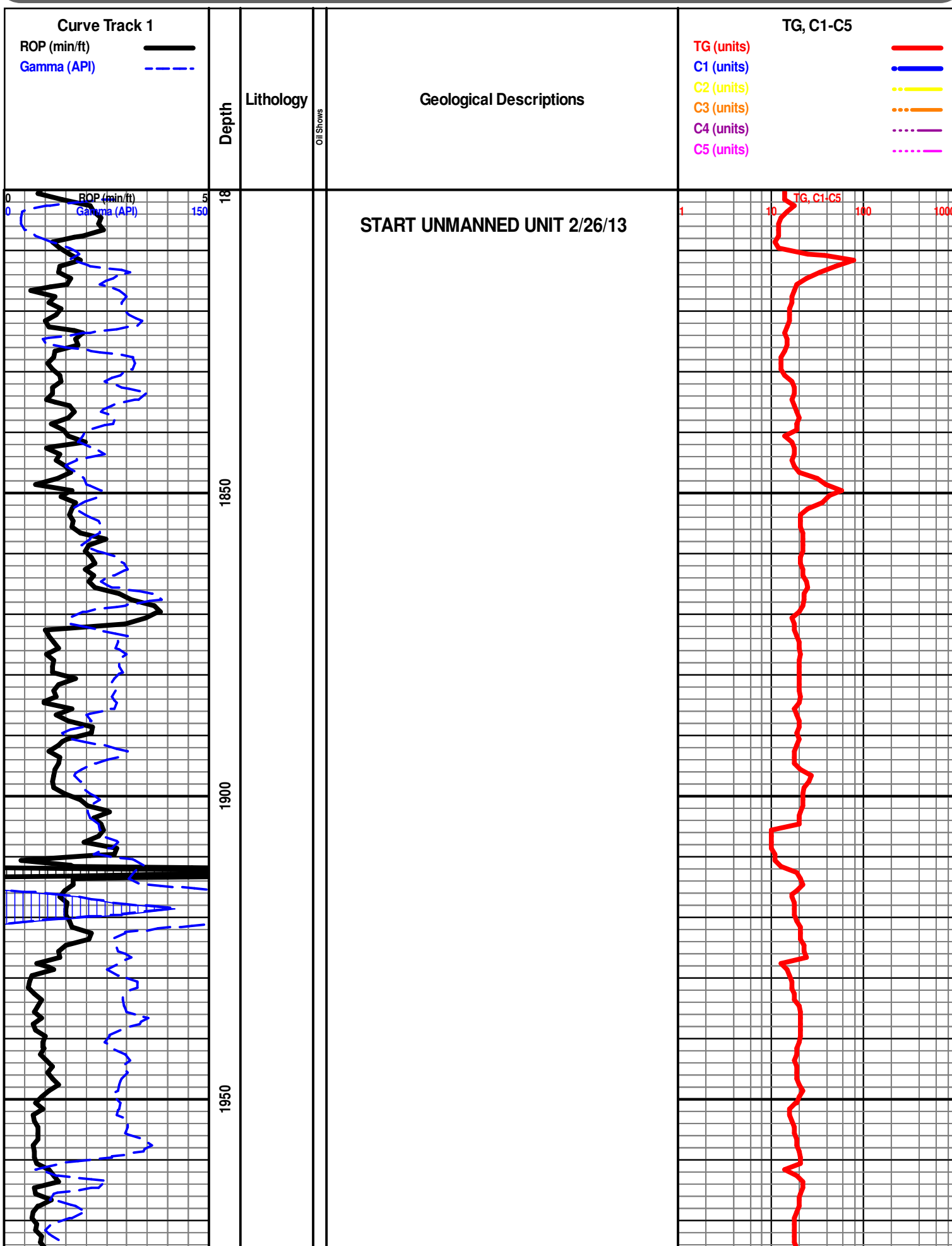
- Even
- Spotted
- Ques
- Dead
- Gas show

**INTERVALS**

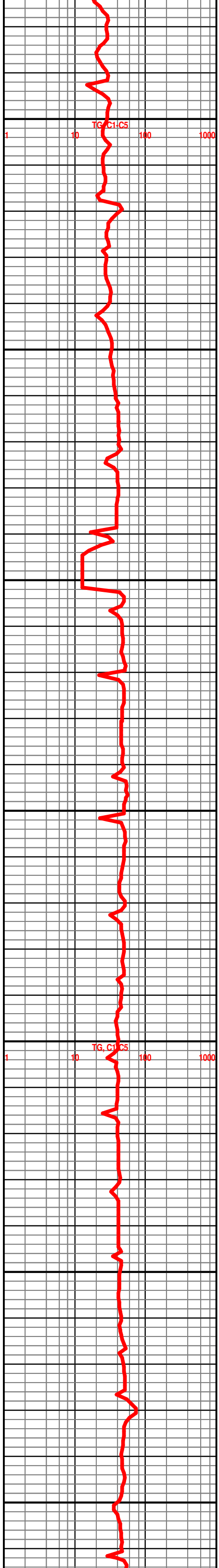
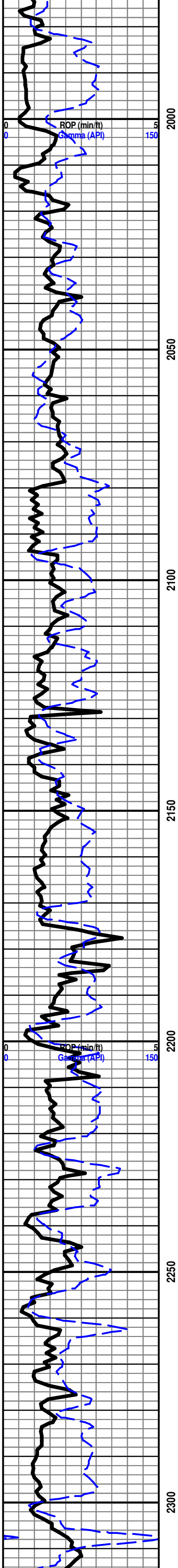
- Core
- Dst
- Dst

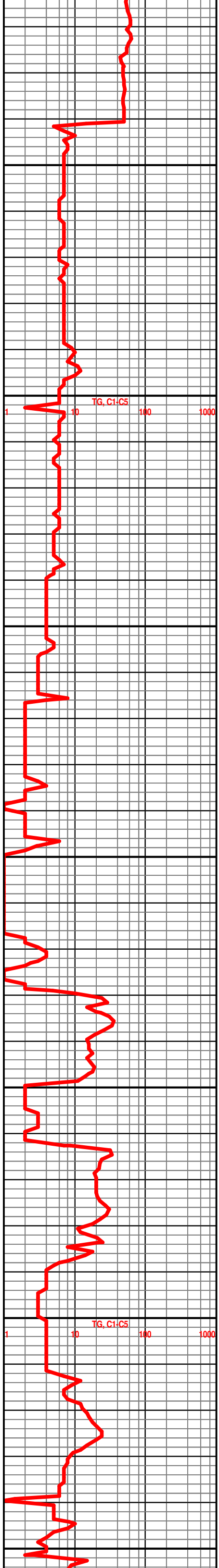
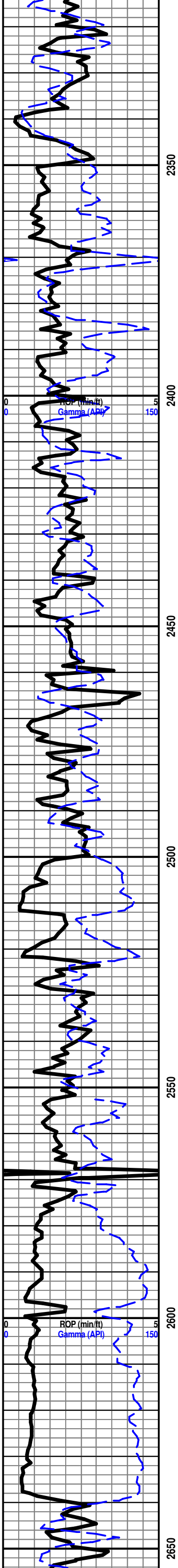
**EVENTS**

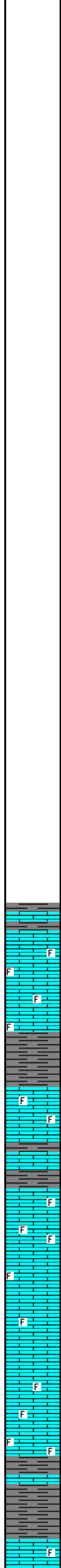
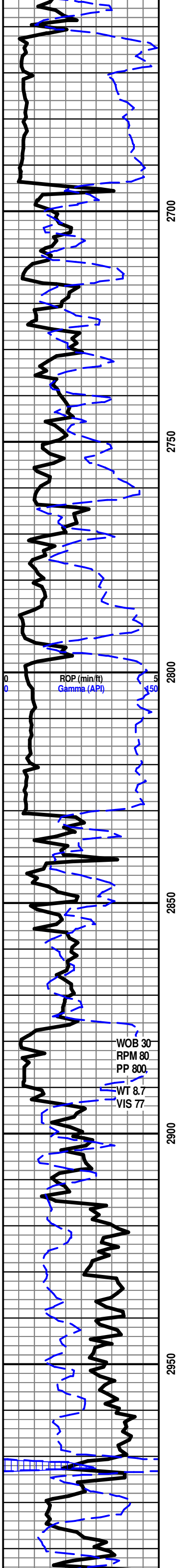
- Rft
- Sidewall











**HOWARD 2831' -910'**

**START 24 HOUR MANNED UNIT 2/28/13**  
 SH- LT GY TO GY, SFT GMY, SMTH TXT

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

**SEVERY 2877' -956'**

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

**TOPEKA 2890' -969'**

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

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

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

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

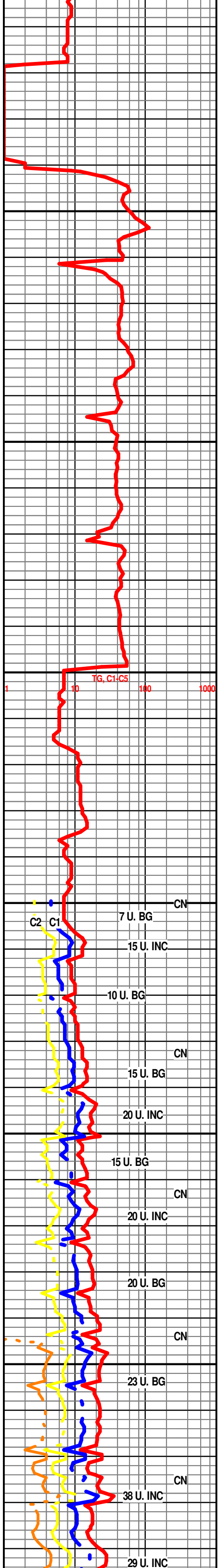
LS- CRM TO TN, HD DNS TO BRIT IP, V/F TO F XLN SUCRO MTRX, RE-XLN IP, ABDT IMBD FOSS FRG THRU, NO VIS FLO, NO VIS POR, NO VIS SHOW

LS- LT TN TO DK 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 GY TO DK GY, FRM BLKY TO SFT GMMY, SMTH TO SLTY TXT

**LE COMPTON 2988' -1067'**

LS- LT TN TO TN, HD DNS TO BRIT, V/F TO F XLN SUCRO MTRX, S-CHLKY, SCAT IMBD FOSS FRG IP, SFT WHT



WOB 30  
 RPM 80  
 PP 800  
 WT 8.7  
 VIS 77

ROP (min/ft)  
 Gamma (API)

7 U. BG CN

15 U. INC

10 U. BG

15 U. BG CN

20 U. INC

15 U. BG

20 U. INC CN

20 U. BG

20 U. INC CN

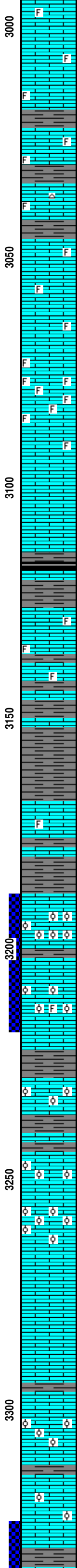
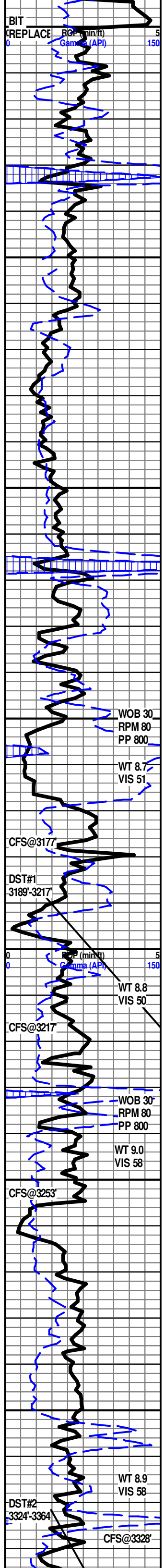
23 U. BG

38 U. INC CN

29 U. INC

TG, C1-C5  
 10 100 1000

C2-C1



CHLK IN TRAY, NO VIS FLO, NO VIS POR, NO VIS SHOW

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

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

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

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

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

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

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

**HEEBNER 3115' -1194'**  
SH- BLCK, SFT, CARB  
SH- GRN BRWN TO GY, FRM BLKY, SMTH TO SLTY TXT

3131'-3134' LS- LT TN TO TN W/ TN OIL STN IN 20%, HD DNS TO BRIT, V/F TO F XLN SUCRO MTRX, S-CHLKY, IMBD FOSS FRG THRU, DUL YEL GLD FLO IN 20%, PR MICRO VUG POR IN 2%, GD FLSH CUT IN 25%, GD SLW STRM IN 25%, NO LCH ON DISH

**DOUGLAS 3152' -1231'**  
SH- GRN BRW TO GY, FRM BLKY TO SFT GMMY, SMTH TO SLTY TXT

**LANSING 3167' -1246'**  
3173'-3175' LS- OFF WHT TO LT GY W/ TN OIL STN IN 20%, DOS IN 25%, HD DNS TO BRIT, TR IMBD FOSS FRG IP, SFT WHT CHLK IN TRAY, DUL YEL GLD FLO IN 30%, BRT YEL GLD FLO IN 5%, FR TO GD VUG POR IN 4%, PR PP POR IN 2%, PR TO FR FLSH CUT IN 40%, FR SLW STRM IN 40%, LT TN LCH ON DISH

**LANSING "C" 3187' -1266'**  
3194'-3197' LS- CRM TO LT TN W/ TN OIL STN IN 80%, HD DNS TO BRIT, V/F TO F XLN SUCRO MTRX, S-CHLKY, ABDT IMBD OOL THRU, IMBD CALC XLS IP, DUL YEL GLD FLO IN 75%, BRT YEL GLD FLO IN 5%, GD TO V/GD INTR OOL POR IN 7%, FR TO GD VUG POR IN 3%, GD FLSH CUT IN 80%, GD MLKY BLU SLW STRM IN 80%, DK TN LCH ON DISH, WK TO FR OIL ODOR

3212'-3214' LS- CRM TO LT TN W/ LT TN OIL STN IN 70%, HD DNS TO BRIT IP, F XLN SUCRO MTRX, ABDT IMBD OOL THRU, SLI TR IMBD FOSS FRG IP, DUL YEL GLD FLO IN 70%, FR TO GD INTR XLN POR IN 5%, FR TO GD VUG POR IN 2%, GD FLSH CUT IN 70%, GD SLW STRM IN 70%, TN LCH ON DISH, WK OIL ODOR

**LANSING "F" 3227' -1306'**  
3231'-3234' LS- CRM TO LT TN W/ LT TN TO TN OIL STN IN 90%, HD DNS TO BRIT IP, V/F TO F XLN SUCRO MTRX, IMBD OOL THRU, TR IMBD CALC XLS IP, DUL YEL GLD FLO IN 90% FR TO GD INTR OOL POR IN 4% PR TO FR PP POR IN 3%, FR FLSH CUT IN 90%, FR TO GD SLW STRM IN 90%, TN LCH ON DISH, WK OIL ODOR

3248'-3249' LS- CRM TO TN W/ LT TN TO DK TN OIL STN IN 50%, LOS IN 5%, HD DNS TO BRIT IP, V/F TO F XLN SUCRO MTRX, IMBD OOL THRU, CALC XLS IN TRAY, DUL YEL GLD FLO IN 50%, BRT YEL GLD FLO IN 5%, GD INTR OOL POR IN 3%, PR TO FR INTR OOL POR IN 2%, GD FLSH CUT IN 50%, GD SLW STRM IN 50%, TN LCH ON DISH, FLTING OIL ODOR

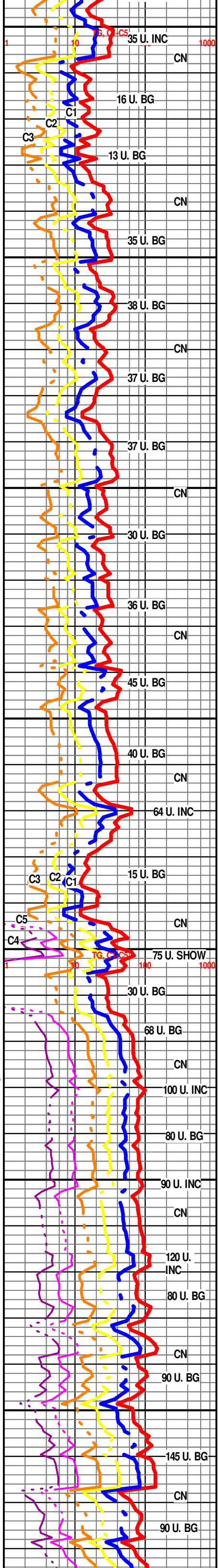
3258'-3262' LS- LT TN TO TN W/ TN OIL STN IN 90%, HD DNS TO BRIT IP, F XLN SUCRO MTRX, S-CHLKY IP, ABDT IMBD OOL THRU, SFT WHT CHLK IN TRAY, DUL YEL GLD FLO IN 80%, BRT YEL GLD FLO IN 10%, GD INTR OOL POR IN 2%, PR TO FR INTR OOP POR IN 5%, FR TO GD FLSH CUT IN 90%, FR TO GD SLW STRM IN 90%, TN LCH ON DISH, FLTING OIL ODOR

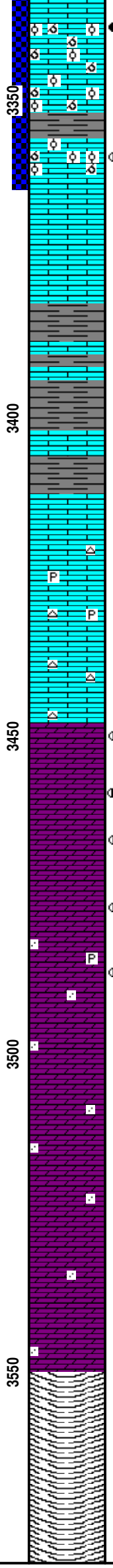
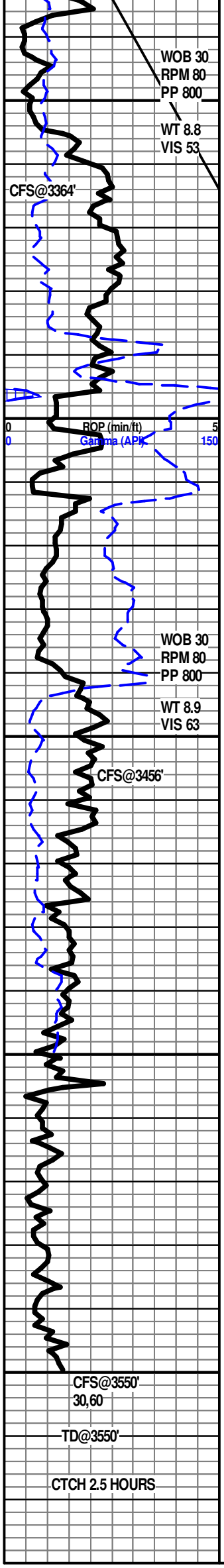
LS- CRM TO LT TN, HD DNS TO BRIT IP, V/F TO F XLN SUCRO MTRX, S-CHLKY IP, TR OOLMLD POR IP, NO VIS FLO, PR TO FR OOLMLD POR IN 2%, NO VIS SHOW, SULFER ODOR

**LANSING "H" 3297' -1376'**  
3303'-3304' LS- CRM TO LT TN W/ LT TN OIL STN IN 60%, HD DNS TO BRIT IP, V/F TO F XLN SUCRO MTRX, ABDT IMBD OOL THRU, ABDT OOLMLD THRU, DUL YEL GLD FLO IN 60%, FR OOLMLD POR IN 5%, PR TO FR INTR OOL POR IN 2%, V/WK FLSH CUT IN 60%, WK SLW STRM IN 60%, NO LCH ON DISH

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

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





3338'-3343' LS- OFF WHT TO TN W/ LT TN TO TN OIL STN IN 90%, HD DNS TO BRIT IP, F XLN SUCRO MTRX, ABDT IMBD OOL THRU, ABDT IMBD OOLMLD THRU, SFT WHT CHLK IN TRAY, DUL YEL GLD FLO IN 90%, GD TO V/GD OOLMLD POR IN 15%, FR TO GD INTR OOL PRO IN 4%, V/ WK FLSH CUT IN 90%, V/WK TO WK SLW STRM IN 90%, NO LCH ON DISH, FR OIL ODOR, TR OIL DROPLETS IN TRAY

3357'-3359' LS- OFF WHT TO CRM W/ TN OIL STN IN 65%, HD DNS TO BRIT IP, F XLN SUCRO MTRX, ABDT IMBD OOL THRU, OOLMLD IP, DUL YEL GLD FLO IN 60%, BRT YEL GLD FLO IN 5%, PR TO FR INTR OOL POR IN 5%, FR OOLMLD POR IN 5%, GD FLSH CUT IN 60%, GD SLW STRM IN 60%, TN LCH ON DISH, OIL ODOR

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

**BKC 3396' -1475'**

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

LS- LT TN TO TN, HD DNS TO BRIT IP, V/F TO F XLN SUCRO MTRX, S-CHLKY IP, IMDB OOLIP, TR OOLMLD POR, NO VIS FLO, PR OOLMLD POR IN 3%, NO VIS SHOW

LS- LT TN TO TN, HD DNS TO BRIT IP, V/F TO F XLN SUCRO MTRX, S-CHLKY IP, IMDB OOLIP, TR OOLMLD, SLI TR PYR IN TRAY, SLI TR WHT CHRT IN TRAY, NO VIS FLO, PR OOLMLD POR IN 3%, NO VIS SHOW, SULFUR ODOR

**ARBUCKLE 3449' -1528'**

3449'-3451' DOLO- TN TO DK TN W/ TN OIL STN IN 15%, HD DNS TO BRIT IP, V/F TO DF XLN SUCRO MTRX, ABDT IMBD SM TO MD S-ANG TO S-RND DOLO GRNS THRU, DUL YEL GLD FLO IN 15%, PR INTR GRN POR IN 10%, V/WK FLSH CUT IN 15%, WK TO PR SLW STRM IN 15%, NO LCH ON DISH, SULFUR ODOR

3458'-3459' DOLO- LT TN TO TN W/ TN OIL STN IN 20%, HD DNS TO BRIT IP, V/F TO F XLN SUCRO MTRX, ABDT IMBD SM TO MD S-ANG TO S-RND DOLO GRNS THRU, DUL YEL GLD FLO IN 20%, PR TO FR INTR GRN POR IN 10%, FR FLSH CUT IN 20%, FR SLW STRM IN 20%, LT TN LCH ON DISH

3465'-3467' DOLO- LT TN TO TN W/ TN OIL STN IN 20%, HD DNS TO BRIT IP, F XLN SUCRO MTRX, ABDT IMBD SM TO MD S-ANG TO S-RND DOLO GRNS THRU, BRT YEL GLD FLO IN 20%, FR INTR GRN POR IN 10%, FR FLSH CUT IN 20%, FR SLW STRM IN 20%, LT TN LCH ON DISH

3476'-3477' DOLO- LT TN TO TN W/ TN OIL STN IN 15%, HD DNS TO BRIT, F XLN SUCRO MTRX, ABDT IMBD V/SM TO MD S-ANG TO ANG DOLO GRNS THRU, BRT YEL GLD FLO IN 10%, PR INTR GRN POR IN 15%, WK FLSH CUT IN 15%, PR TO FR SLW STRM IN 15%, NO LCH ON DISH

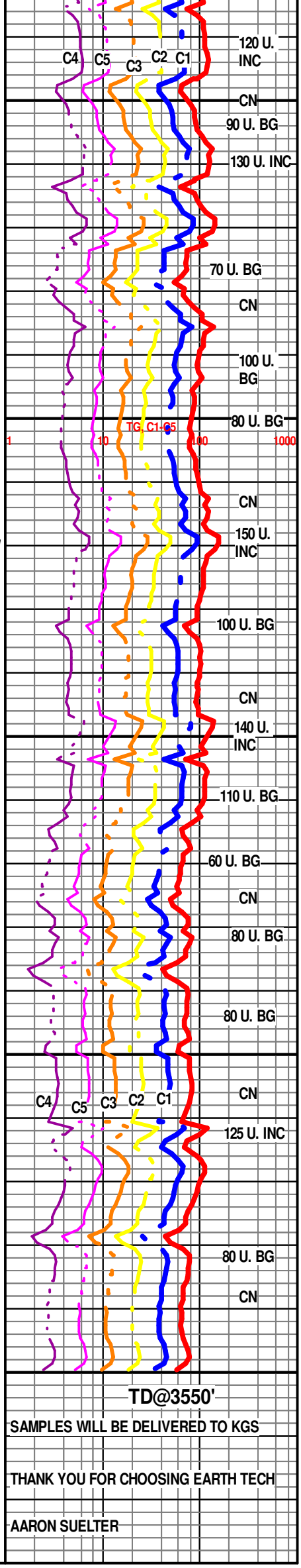
3486'-3487' DOLO- LT TN TO TN W/ TN OIL STN IN 25%, HD DNS TO BRIT IP, V/F TO F XLN SUCRO MTRX, ABDT IMBD SM TO MD S-ANG TO ANG DOLO GRNS THRU, TR IMBD MD S-RND QRTZ GRNS IP, TR IMBD PYR IP, DUL YEL GLD FLO IN 25%, PR TO FR INTR GRN POR IN 15%, PR TO FR FLSH CUT IN 25%, FR SLW STRM IN 25%, LT TN LCH ON DISH

R.T.D. @ 6:30 AM 3/3/13

DROP SURVEY

TOFL

WEATHERFORD / LIBERAL



**TD@3550'**

SAMPLES WILL BE DELIVERED TO KGS

THANK YOU FOR CHOOSING EARTH TECH

AARON SUELTER