



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1098752  
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: \_\_\_\_\_



1098752

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**INSTRUCTIONS:** Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No  List All E. Logs Run: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Yes  No *(If No, fill out Page Three of the ACO-1)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD:      Size: \_\_\_\_\_ Set At: \_\_\_\_\_ Packer At: \_\_\_\_\_ Liner Run:  Yes  No

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

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

<b>DISPOSITION OF GAS:</b> <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	<b>METHOD OF COMPLETION:</b> <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____ <i>(Submit ACO-4)</i>	<b>PRODUCTION INTERVAL:</b> _____ _____
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THE DANE G. HANSEN TRUST  
LOGAN, KANSAS 67646  
785-689-4816

November 7, 2012

Kansas Corporation Commission  
130 S. Market – Room 2078  
Wichita, Kansas 67202

Dear Sirs;

We are requesting that all information about the Eichman #17 be held in confidentiality.

Sincerely,

DANE G. HANSEN TRUST

By   
Ronald R. VanRoekel

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 07, 2012

Richard L. Wallgren Sr  
Hansen, Dane G. - Trust  
PO BOX 187  
LOGAN, KS 67646-0187

Re: ACO1  
API 15-065-23837-00-00  
Eichman 17  
NW/4 Sec.13-09S-21W  
Graham 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,  
Richard L. Wallgren Sr



## DRILL STEM TEST REPORT

Prepared For: **Dane G Hansen Trust**

PO Box 187  
Logan, KS 67646

ATTN: Jeff Lawler

### **Eichman #17**

#### **13-9s-21w Graham, KS**

Start Date: 2012.09.01 @ 04:38:59

End Date: 2012.09.01 @ 09:32:29

Job Ticket #: 49428                      DST #: 1

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

Printed: 2012.09.07 @ 15:55:27



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Dane G Hansen Trust

**13-9s-21w Graham, KS**

PO Box 187  
Logan, KS 67646

**Eichman #17**

Job Ticket: 49428

**DST#: 1**

ATTN: Jeff Lawler

Test Start: 2012.09.01 @ 04:38:59

## GENERAL INFORMATION:

Formation: **LKC "H-I"**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 06:30:29  
 Tester: Brian Fairbank  
 Time Test Ended: 09:32:29  
 Unit No: 41  
 Interval: **3541.00 ft (KB) To 3573.00 ft (KB) (TVD)**  
 Reference Elevations: 2173.00 ft (KB)  
 Total Depth: 3573.00 ft (KB) (TVD)  
 2165.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Good  
 KB to GR/CF: 8.00 ft

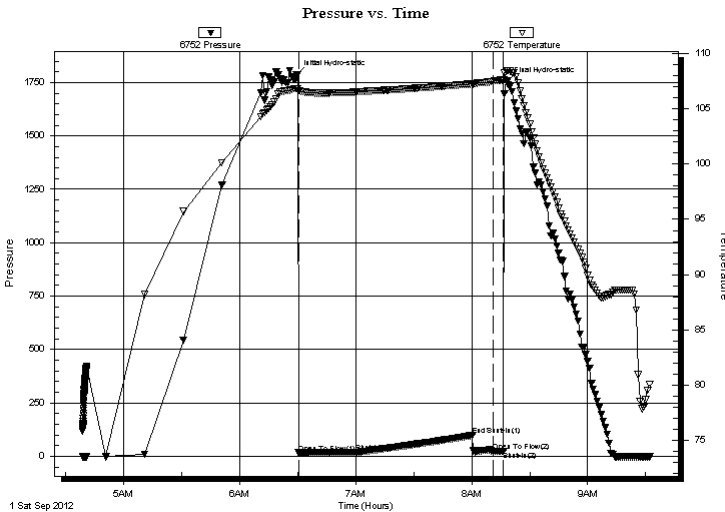
## Serial #: 6752

Inside

Press @ Run Depth: 18.80 psig @ 3545.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.09.01 End Date: 2012.09.01 Last Calib.: 2012.09.01  
 Start Time: 04:39:00 End Time: 09:32:29 Time On Btm: 2012.09.01 @ 06:29:29  
 Time Off Btm: 2012.09.01 @ 08:18:29

TEST COMMENT: IFP - sur blow - died 11 min  
 ISI - no blow back  
 FFP - no blow - flush - no blow  
 TIME - 30-60-10-flush-pull

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1787.55	106.83	Initial Hydro-static
1	16.12	106.62	Open To Flow (1)
31	18.80	106.50	Shut-In(1)
91	98.93	107.24	End Shut-In(1)
102	21.79	107.45	Open To Flow (2)
107	22.60	107.60	Shut-In(2)
109	1752.44	108.46	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	drl mud 100%	0.02

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Dane G Hansen Trust

**13-9s-21w Graham, KS**

PO Box 187  
Logan, KS 67646

**Eichman #17**

Job Ticket: 49428

**DST#: 1**

ATTN: Jeff Lawler

Test Start: 2012.09.01 @ 04:38:59

## Tool Information

Drill Pipe:	Length: 3505.00 ft	Diameter: 3.80 inches	Volume: 49.17 bbl	Tool Weight: 2500.00 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: 52000.00 lb
			<u>Total Volume: 49.32 bbl</u>	Tool Chased 5.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial 40000.00 lb
Depth to Top Packer:	3541.00 ft			Final 40000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	32.00 ft			
Tool Length:	59.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			3519.00	
Hydraulic tool	5.00			3524.00	
Jars	5.00			3529.00	
Safety Joint	2.00			3531.00	
Packer	5.00			3536.00	27.00 Bottom Of Top Packer
Packer	5.00			3541.00	
Stubb	1.00			3542.00	
Perforations	3.00			3545.00	
Recorder	0.00	6752	Inside	3545.00	
Recorder	0.00	6741	Outside	3545.00	
Perforations	25.00			3570.00	
Bullnose	3.00			3573.00	32.00 Bottom Packers & Anchor

**Total Tool Length: 59.00**





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Dane G Hansen Trust

**13-9s-21w Graham, KS**

PO Box 187  
Logan, KS 67646

**Eichman #17**

Job Ticket: 49428

**DST#: 1**

ATTN: Jeff Lawler

Test Start: 2012.09.01 @ 04:38:59

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.58 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
5.00	drl mud 100%	0.025

Total Length: 5.00 ft      Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

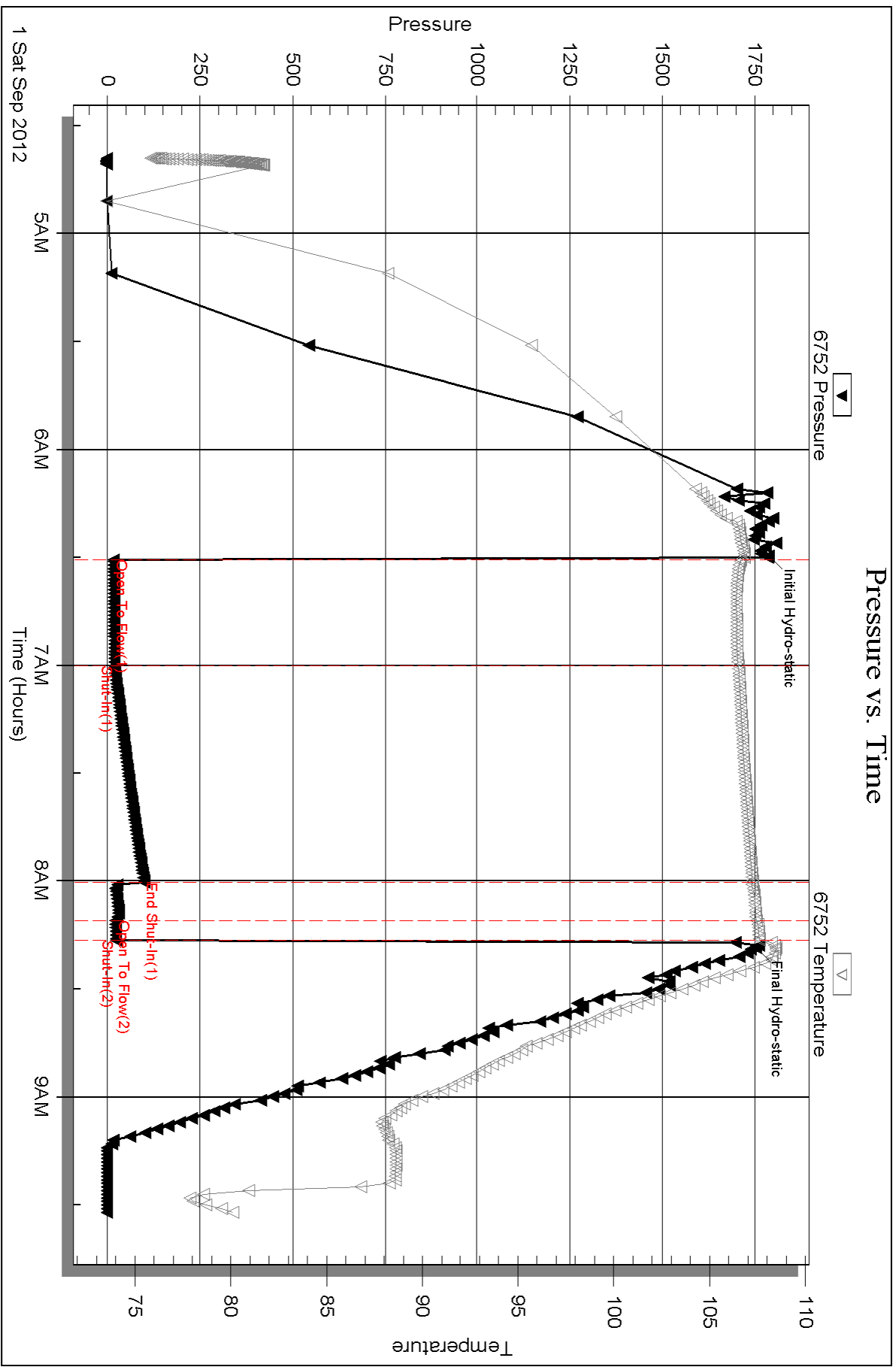
Serial #: 6752

Inside

Dane G Hansen Trust

Eichman #17

DST Test Number: 1



Serial #: 6741

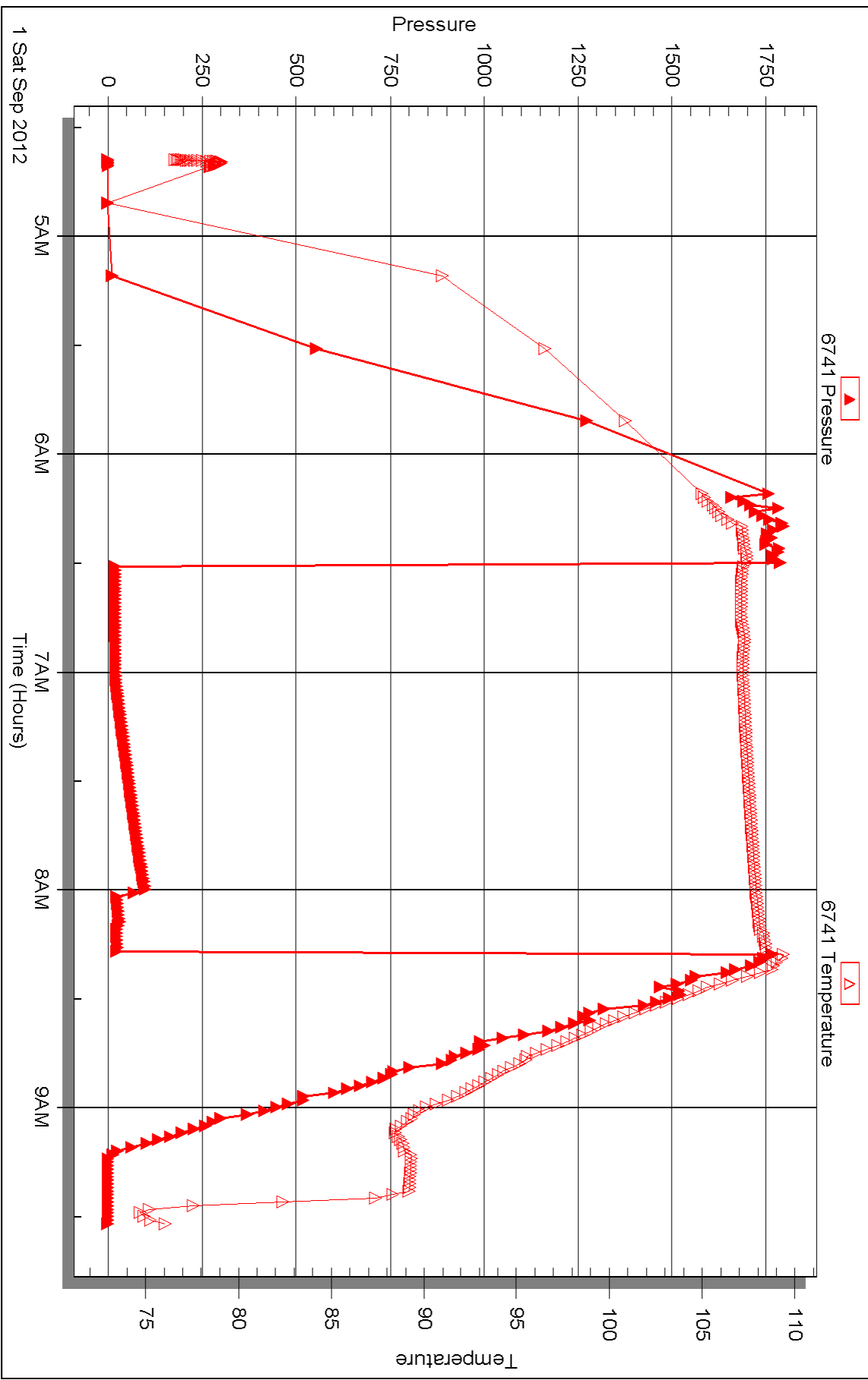
Outside

Dane G Hansen Trust

Eichman #17

DST Test Number: 1

### Pressure vs. Time





## DRILL STEM TEST REPORT

Prepared For: **Dane G Hansen Trust**

PO Box 187  
Logan, KS 67646

ATTN: Jeff Lawler

### **Eichman #17**

#### **13-9s-21w Graham, KS**

Start Date: 2012.09.02 @ 00:11:03

End Date: 2012.09.02 @ 06:27:03

Job Ticket #: 49429                      DST #: 2

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

Printed: 2012.09.07 @ 15:54:39

Dane G Hansen Trust

13-9s-21w Graham, KS

Eichman #17

DST # 2

Simpson Sand - Arbuc

2012.09.02



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Dane G Hansen Trust

**13-9s-21w Graham, KS**

PO Box 187  
Logan, KS 67646

**Eichman #17**

Job Ticket: 49429

**DST#: 2**

ATTN: Jeff Lawler

Test Start: 2012.09.02 @ 00:11:03

## GENERAL INFORMATION:

Formation: **Simpson Sand - Arbuc**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:44:33

Time Test Ended: 06:27:03

Test Type: Conventional Bottom Hole (Reset)

Tester: Brian Fairbank

Unit No: 41

**Interval: 3666.00 ft (KB) To 3708.00 ft (KB) (TVD)**

Reference Elevations: 2173.00 ft (KB)

Total Depth: 3708.00 ft (KB) (TVD)

2165.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

**Serial #: 6752**

**Inside**

Press @ Run Depth: 274.25 psig @ 3669.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.09.02

End Date:

2012.09.02

Last Calib.:

2012.09.02

Start Time: 00:11:04

End Time:

06:27:03

Time On Btm:

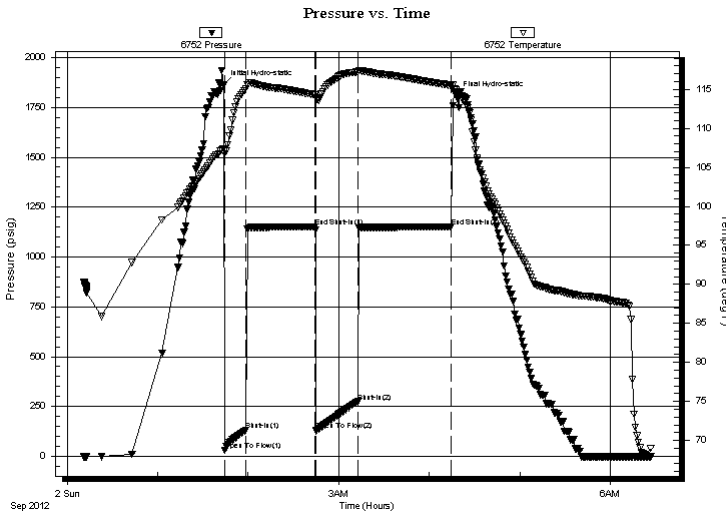
2012.09.02 @ 01:43:33

Time Off Btm:

2012.09.02 @ 04:17:33

**TEST COMMENT:** IFP - BOB 4 min  
ISI - 2 1/4" blow back  
FFP - BOB 5 1/2 min  
FSI - 1/2" blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1862.04	107.39	Initial Hydro-static
1	29.42	106.70	Open To Flow (1)
15	132.46	115.04	Shut-In(1)
61	1149.79	114.28	End Shut-In(1)
62	128.54	113.93	Open To Flow (2)
89	274.25	117.19	Shut-In(2)
151	1149.82	115.51	End Shut-In(2)
154	1811.66	114.87	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
60.00	GMCO 10%G, 60%O, 30%M	0.57
630.00	G FREE OIL 10%G, 85%O, 5%M	8.84
0.00	185' 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**

Dane G Hansen Trust

**13-9s-21w Graham, KS**

PO Box 187  
Logan, KS 67646

**Eichman #17**

Job Ticket: 49429

**DST#: 2**

ATTN: Jeff Lawler

Test Start: 2012.09.02 @ 00:11:03

## Tool Information

Drill Pipe:	Length: 3621.00 ft	Diameter: 3.80 inches	Volume: 50.79 bbl	Tool Weight: 2500.00 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: 52000.00 lb
			<u>Total Volume: 50.94 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial 40000.00 lb
Depth to Top Packer:	3666.00 ft			Final 45000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	42.00 ft			
Tool Length:	62.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			3651.00	
Hydraulic tool	5.00			3656.00	
Packer	5.00			3661.00	20.00 Bottom Of Top Packer
Packer	5.00			3666.00	
Stubb	1.00			3667.00	
Perforations	1.00			3668.00	
Change Over Sub	1.00			3669.00	
Recorder	0.00	6752	Inside	3669.00	
Recorder	0.00	6741	Outside	3669.00	
Blank Spacing	31.00			3700.00	
Change Over Sub	1.00			3701.00	
Perforations	4.00			3705.00	
Bullnose	3.00			3708.00	42.00 Bottom Packers & Anchor

**Total Tool Length: 62.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Dane G Hansen Trust

**13-9s-21w Graham, KS**

PO Box 187  
Logan, KS 67646

**Eichman #17**

Job Ticket: 49429

**DST#: 2**

ATTN: Jeff Lawler

Test Start: 2012.09.02 @ 00:11:03

## Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

23 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 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 bbbl
60.00	GMCO 10%G, 60%O, 30%M	0.568
630.00	G FREE OIL 10%G, 85%O, 5%M	8.837
0.00	185' GIP	0.000

Total Length: 690.00 ft

Total Volume: 9.405 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

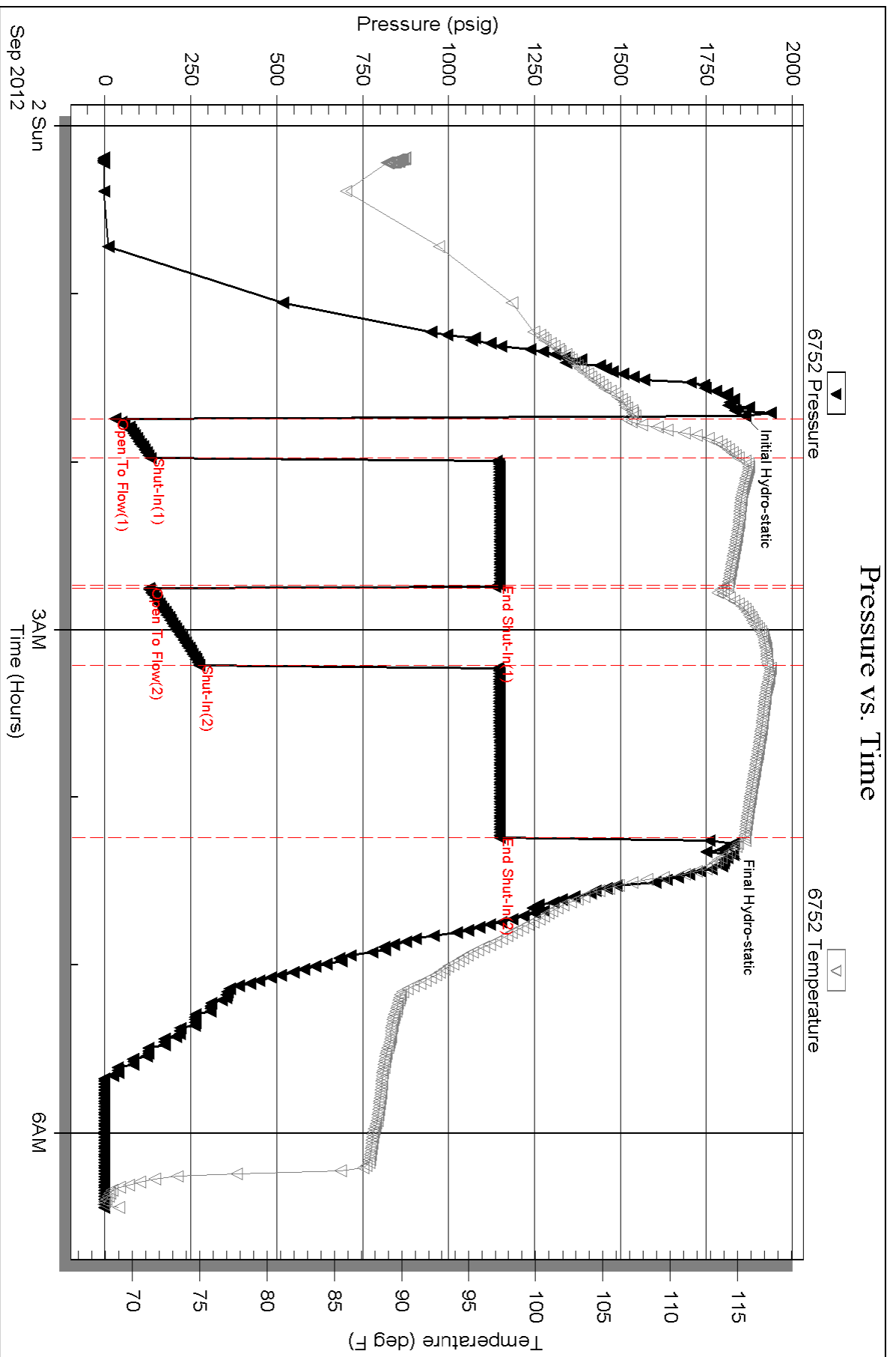
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



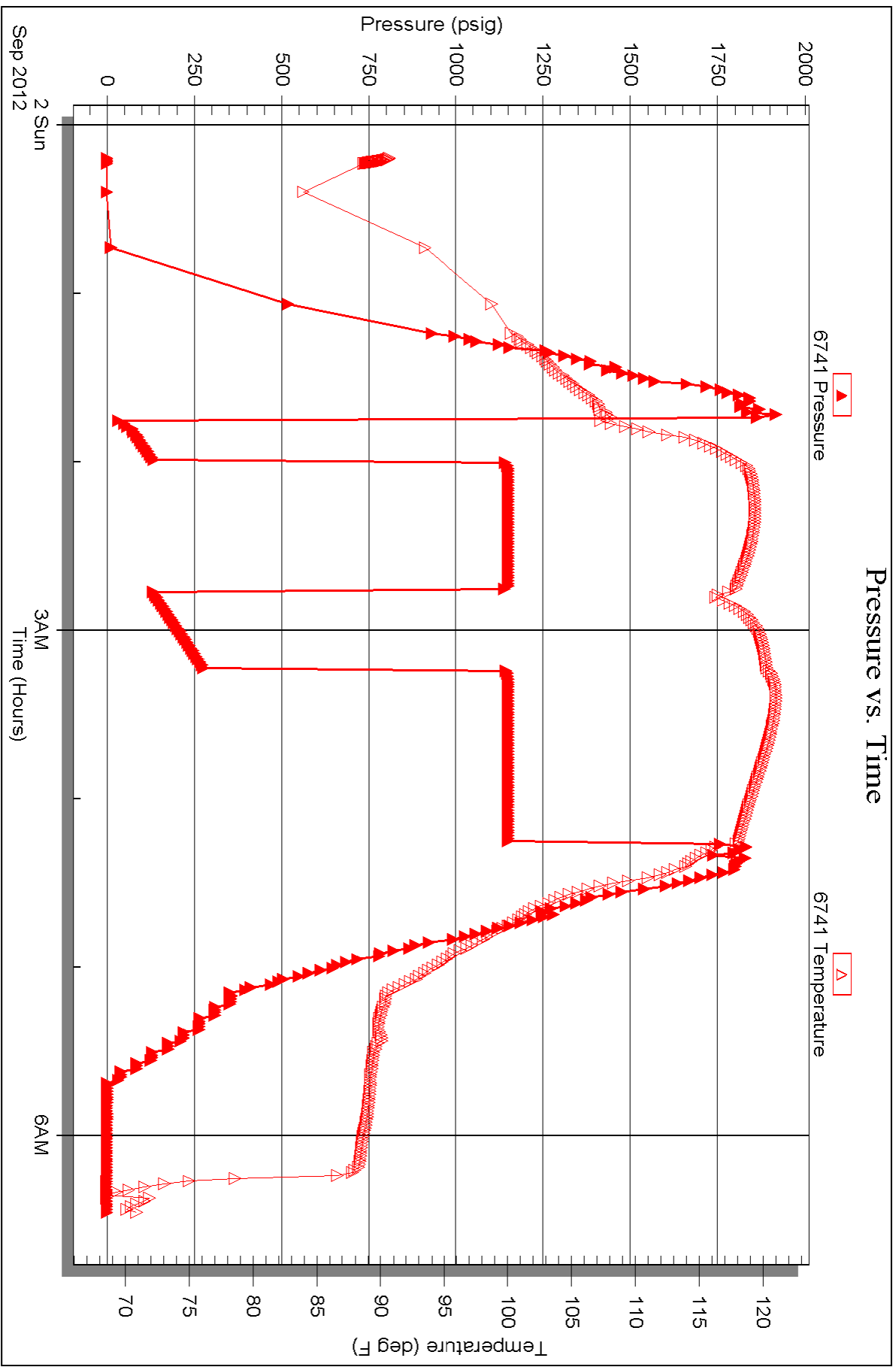


Serial #: 6741

Outside Dane G Hansen Trust

Eichman #17

DST Test Number: 2





# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

## Test Ticket

NO. 49428

4/10

Well Name & No. Eichman #17 Test No. 1 Date 9-1-12  
 Company Hansen, Dane G- Trust Elevation 2170 KB 2162 GL  
 Address PO Box 187 Logan, ks 67646  
 Co. Rep / Geo. Jeff Lawler Rig Discovery 1  
 Location: Sec. 13 Twp. 9 Rge. 21 Co. Graham State ks

Interval Tested 35462-3573 Zone Tested LKC "H-I"  
 Anchor Length 32 Drill Pipe Run 3505 Mud Wt. 8.7  
 Top Packer Depth 3457 Drill Collars Run 30 Vis 60  
 Bottom Packer Depth 3462 Wt. Pipe Run — WL 7.6  
 Total Depth 3573 Chlorides 2000 ppm System LCM  
 Blow Description IFP - sur blow - died 11 min  
ISI - no blow back  
FFP - no blow - flush - no blow  
FSI -

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>drl mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5 BHT \_\_\_\_\_ Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic <u>1788</u>	<input checked="" type="checkbox"/> Test 1150	T-On Location <u>0155</u>
(B) First Initial Flow <u>16</u>	<input checked="" type="checkbox"/> Jars 250	T-Started <u>0438</u>
(C) First Final Flow <u>19</u>	<input checked="" type="checkbox"/> Safety Joint 75	T-Open <u>0630</u>
(D) Initial Shut-In <u>99</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>0710</u>
(E) Second Initial Flow <u>22</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>0932</u>
(F) Second Final Flow <u>23</u>	<input checked="" type="checkbox"/> Mileage <u>105 RT</u> 162.75	Comments <u>5' fill on bottom</u>
(G) Final Shut-In <u>—</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1752</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Open <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Flow <u>10-Flush-pull</u>	<input type="checkbox"/> Day Standby	Total <u>1637.75</u>
Final Shut-In <u>—</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't _____
	Sub Total <u>1637.75</u>	

Approved By \_\_\_\_\_ Our Representative Brian Farbank  
 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 1733 • Hays, Kansas 67601

## Test Ticket

NO. 49429

4/10

Well Name & No. Eichman #17 Test No. 2 Date 9-1-12  
 Company Hansen, Done G Elevation 2170 KB 2162 GL  
 Address \_\_\_\_\_  
 Co. Rep / Geo. Jeff Lawler Rig Discovery 1  
 Location: Sec. 13 Twp. 9 Rge. 21 Co. Graham State K

Interval Tested 3666-3708 Zone Tested Simpson Sand - AnSack66  
 Anchor Length 42 Drill Pipe Run 3621 Mud Wt. 8.9  
 Top Packer Depth 3661 Drill Collars Run 30 Vis 60  
 Bottom Packer Depth 3666 Wt. Pipe Run — WL 8.0  
 Total Depth 3708 Chlorides 2000 ppm System LCM \_\_\_\_\_  
 Blow Description IIP- BOB 4 min  
ISI- 2 1/4" blow back  
FFP- BOB 5 1/2 min  
FSI- 1/2" blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>185</u>	<u>GIP</u>				
<u>630</u>	<u>G Free oil</u>	<u>10</u>	<u>85</u>		<u>5</u>
<u>60</u>	<u>G MCO</u>	<u>10</u>	<u>60</u>		<u>30</u>
Rec _____	Feet of _____	%gas _____	%oil _____	%water _____	%mud _____
Rec _____	Feet of _____	%gas _____	%oil _____	%water _____	%mud _____

Rec Total 690 BHT 116 Gravity 23 API RW @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1862  Test 1150 T-On Location 2350  
 (B) First Initial Flow 29  Jars \_\_\_\_\_ T-Started 0011  
 (C) First Final Flow 132  Safety Joint \_\_\_\_\_ T-Open 0145  
 (D) Initial Shut-In 1150  Circ Sub \_\_\_\_\_ T-Pulled 0415  
 (E) Second Initial Flow 129  Hourly Standby \_\_\_\_\_ T-Out 0627  
 (F) Second Final Flow 274  Mileage 162.75 Comments \_\_\_\_\_  
 (G) Final Shut-In 1150  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1812  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1312.75  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1312.75

Approved By \_\_\_\_\_ Our Representative Brian Fairbank

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JOB LOG

SWIFT Services, Inc.

DATE 9-3-12 PAGE NO.

CUSTOMER D.G. HANSEN TRUST WELL NO. # 17 LEASE FZKMAN TRUST JOB TYPE 5/2 2-STAGE LOWSTRESS TICKET NO. 21943

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL)(GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	0300							ON LOCATION
								START 5/2" CASING IN WELL
	0350							TD - 3790 SEC = 3787 TP - 3787 5/2" # 15.5 SJ - 18.45 CENTRALIZERS - 1, 3, 5, 7, 9, 11, 53 CMT BKTS - 54 DV TOOL = 1664.17 TOP JT # 54
	0315							DROP BALL - CIRCULATE ROTATE
	0745	6	12		✓		450	PUMP 500 GAL MUD FLUSH "
	0747	6	20		✓		450	PUMP 20 BBS KCL-FLUSH "
	0800	4	36		✓		250	MIX 150 SKS EA-2 = 15.4 PPG "
	0810							WASH OUT PUMP - LEWIS
	0810							RELEASE LATCH DOWN PLUG - 1ST STAGE
	0810	6.5	0		✓			DISPLACE PLUG "
	0830	5	89.6				1500	PLUG DOWN - PSE UP LATCH IN PLUG
	0832							OK RELEASE PSE - HELD
	0835							DROP DV OPENING PLUG
	0845				✓		1100	OPEN DV TOOL - CIRCULATE
	0850	6	20		✓		300	PUMP 20 BBS KCL-FLUSH
	0855		7.5					PLUG RH (30 SKS) MH (20 SKS)
	0905	5	97		✓		250	MIX 175 SKS SMD = 11.2 PPG
	0940							WASH OUT PUMP - LEWIS
	0940							RELEASE DV CLOSING PLUG
	0940		0		✓			DISPLACE PLUG
	0945		39.6				1500	PLUG DOWN - PSE UP CLOSE DV TOOL
	0947							OK RELEASE PSE - HELD
								CIRCULATED 30 SKS CEMENT TO PT
								WASH TOOL Job Done
	1030							JOB COMPLETE THANK YOU WAYNE, JOSH, BRIAN, Jeremy

JOB LOG

SWIFT Services, Inc.

DATE 8-28-12 PAGE NO. 1

CUSTOMER D.G. Houston Trust

WELL NO. #17

LEASE Eichman

JOB TYPE Cement Surface

TICKET NO. 21869

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	1130							To 263'
	1140							On loc - / 150 SKS Std cent, 2 1/2 gal 3 1/2 cc.
	1230							Ris start 3 5/8" casing to 262'
	1230							Leave 20' in pipe = 242 = (15 1/2 BBL Displ.)
	1240							Fin run casing
	1300							Start cir casing - chain down
		5						Fin cir
		4	40					200 Start 165 SKS Standard cent 2 1/2 gal 3 1/2 cc
		5	15 1/2					100 Fin cent - Displ 15 1/2 BBL
	1315							200 Fin Displ - close in @ scribe
								Wash up & Reelup
	1345							Job Complete
								Thanks Alan, Brian & Jeremy
								30 SKS cent cir to 164'

RECORD MAINTENANCE  
1003 3 1 2012

**OPERATOR**

Company: DANE G. HANSEN TRUST  
 Address: P.O. BOX 187  
 LOGAN, KS 67646

Contact Geologist: RICHARD WALLGREN, Sr.  
 Contact Phone Nbr: (785) 689-8400  
 Well Name: EICHMAN #17  
 Location: NW NW NW 13 - 9S - 21W  
 Pool:  
 State: KANSAS

API: 15-065-23837-0000  
 Field: MOREL  
 Country: USA

**Scale 1:240 Imperial**

Well Name: EICHMAN #17  
 Surface Location: NW NW NW 13 - 9S - 21W  
 Bottom Location:  
 API: 15-065-23837-0000  
 License Number: 5285  
 Spud Date: 8/27/2012 Time: 7:30 AM  
 Region: GRAHAM  
 Drilling Completed: 9/2/2012 Time: 1:54 PM  
 Surface Coordinates: 330' FNL & 330' FWL  
 Bottom Hole Coordinates:  
 Ground Elevation: 2165.00ft  
 K.B. Elevation: 2173.00ft  
 Logged Interval: 0.00ft To: 3790.00ft  
 Total Depth: 3790.00ft  
 Formation: ARBUCKLE  
 Drilling Fluid Type: Chemical/Fresh Water Gel

**SURFACE CO-ORDINATES**

Well Type: Vertical  
 Longitude: -99.6225970 Latitude: 39.2772889  
 N/S Co-ord: 330' FNL  
 E/W Co-ord: 330' FWL

**LOGGED BY**

Company: SOLUTIONS CONSULTING  
 Address: 108 W 35TH  
 HAYS, KS 67601

Phone Nbr: (785)259-3737  
 Logged By: Geologist Name: JEFF LAWLER

**CONTRACTOR**

Contractor: DISCOVERY DRILLING  
 Rig #: 1  
 Rig Type: MUD ROTARY  
 Spud Date: 8/27/2012 Time: 7:30 AM  
 TD Date: 9/2/2012 Time: 1:54 PM  
 Rig Release: Time:

**ELEVATIONS**

K.B. Elevation: 2173.00ft Ground Elevation: 2165.00ft  
 K.B. to Ground: 8.00ft

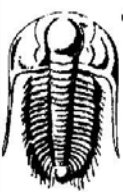
**NOTES**

DUE TO STRUCTURAL POSITION, DRILLSTEM RECOVERY, & FAVORABLE LOG ANALYSIS 5 1/2" x 15.5#  
 PRODUCTION CASING WAS RUN TO FURTHER EXAMINE ZONES OF INTEREST.

WELL COMPARISON SHEET

FORMATION	EICHMAN #17				E2 SW NW 13-9-21				EICHMAN #14				NW NE NW 13-9-21				DANE G. HANSEN TRUST				DANE G. HANSEN TRUST				DANE G. HANSEN TRUST				DANE G. HANSEN TRUST			
	2173				2164				2151				2207				2173				2160											
	LOG TOPS		SAMPLE TOPS		COMP. CARD		LOG CORR.		SMPL. CORR.		COMP. CARD		LOG CORR.		SMPL. CORR.		COMP. CARD		LOG CORR.		SMPL. CORR.		COMP. CARD		LOG CORR.		SMPL. CORR.					
	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM				
ANHYDRITE TOP	1669	504	1670	503	1642	522	-	18	-	19	1652	499	+ 5	+ 4	1710	497	+ 7	+ 6	1675	498	+ 6	+ 5	1678	498	+ 6	+ 5						
BASE	1709	464	1712	461								1689	462	+ 2	- 1	1746	461	+ 3	+ 0					1709	451	+ 13	+ 10					
TOPEKA	3163	-990	3164	-991								3143	-992	+ 2	+ 1	3198	-991	+ 1	+ 0					3150	-990	+ 0	- 1					
HEEBNER SHALE	3369	-1196	3372	-1199	3343	-1179	- 17	- 20	3352	-1201	+ 5	+ 2	3406	-1199	+ 3	+ 0	3409	-1236	+ 40	+ 37	3355	-1195	- 1	- 4								
TORONTO	3391	-1218	3397	-1224	3365	-1201	- 17	- 23	3374	-1223	+ 5	- 1	3427	-1220	+ 2	- 4	3428	-1255	+ 37	+ 31	3376	-1216	- 2	- 8								
LKC	3407	-1234	3414	-1241	3393	-1229	- 5	- 12	3392	-1241	+ 7	+ 0	3443	-1236	+ 2	- 5	3450	-1277	+ 43	+ 36	3393	-1233	- 1	- 8								
BKC	3624	-1451	3626	-1453	3596	-1432	- 19	- 21	3610	-1459	+ 8	+ 6	3660	-1453	+ 2	+ 0	3661	-1488	+ 37	+ 35	3611	-1451	+ 0	- 2								
CONGLOMERATE																																
SIMPSON SHALE	3685	-1512	3686	-1513	3640	-1476	- 36	- 37																								
ARBuckle	3703	-1530	3704	-1531	3662	-1498	- 32	- 33	3706	-1555	+ 25	+ 24	3737	-1530	+ 0	- 1																
RTD																																
LTD	3790	-1617			3668	-1504		- 113	3710	-1559		- 58	3744	-1537		- 80	3791	-1618		+ 1												

DST #1 LKC H-I 3541' - 3573'



**TRILOBITE TESTING, INC.**

**DRILL STEM TEST REPORT**

Hansen, Dane G - Trust  
13-9-21 Graham, Ks

Eichman #17  
Job Ticket: 49428      **DST#: 1**

ATTN: Jeff Lawler  
Test Start: 2012.09.01 @ 04:38:59

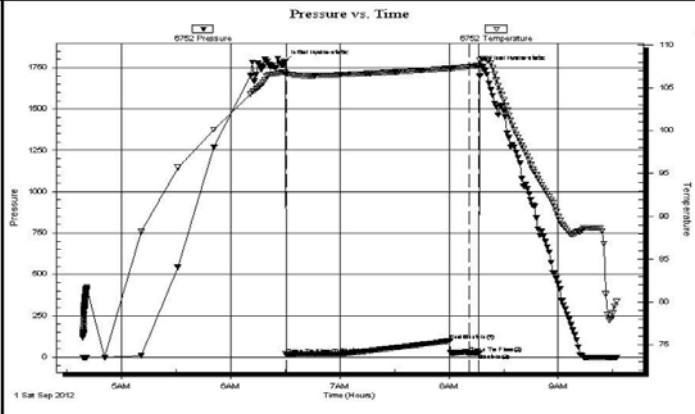
**GENERAL INFORMATION:**

Formation: **LKC "H-I"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 06:30:29  
 Time Test Ended: 09:32:29  
 Interval: **3541.00 ft (KB) To 3573.00 ft (KB) (TVD)**  
 Total Depth: 3573.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Reference Elevations: 2173.00 ft (KB)  
 2165.00 ft (CF)  
 KB to GR/CF: 8.00 ft

**Serial #: 6752      Inside**

Press@RunDepth: 18.80 psig @ 3545.00 ft (KB)  
 Start Date: 2012.09.01      End Date: 2012.09.01  
 Start Time: 04:39:00      End Time: 09:32:29  
 Capacity: 8000.00 psig  
 Last Calib.: 2012.09.01  
 Time On Btm: 2012.09.01 @ 06:29:29  
 Time Off Btm: 2012.09.01 @ 08:18:29

**TEST COMMENT:** IFP - sur blow - died 11 min  
 ISI - no blow back  
 FFP - no blow - flush - no blow  
 TIME - 30-60-10-flush-pull



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1787.55	106.83	Initial Hydro-static
1	16.12	106.62	Open To Flow (1)
31	18.80	106.50	Shut-In(1)
91	98.93	107.24	End Shut-In(1)
102	21.79	107.45	Open To Flow (2)
107	22.60	107.60	Shut-In(2)
109	1752.44	108.46	Final Hydro-static

Length (ft)	Description	Volume (bbl)
5.00	drl mud 100%	0.02

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



**DST #2 ARBUCKLE 3666' - 3708'**



**TRILOBITE TESTING, INC.**

**DRILL STEM TEST REPORT**

Hansen, Dane G - Trust

**13-9-21 Graham, Ks**

PO Box 187  
Logan, Ks 67646

**Eichman #17**

ATTN: Jeff Lawler

Job Ticket: 49429

**DST#: 2**

Test Start: 2012.09.02 @ 00:11:03

**GENERAL INFORMATION:**

Formation: **Simpson Sand - Arbuc**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:44:33

Time Test Ended: 06:27:03

Test Type: Conventional Bottom Hole (Reset)

Tester: Brian Fairbank

Unit No: 41

**Interval: 3666.00 ft (KB) To 3708.00 ft (KB) (TVD)**

Total Depth: 3708.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2173.00 ft (KB)

2165.00 ft (CF)

KB to GR/CF: 8.00 ft

**Serial #: 6752**

**Inside**

Press@RunDepth: 274.25 psig @ 3669.00 ft (KB)

Start Date: 2012.09.02

End Date:

2012.09.02

Start Time: 00:11:04

End Time:

06:27:03

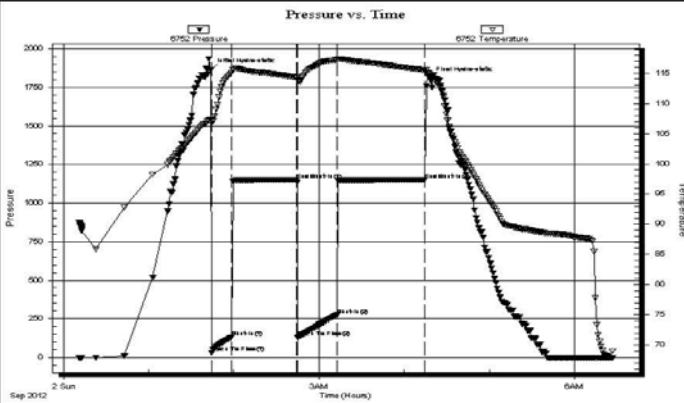
Capacity: 8000.00 psig

Last Calib.: 2012.09.02

Time On Btm: 2012.09.02 @ 01:43:33

Time Off Btm: 2012.09.02 @ 04:17:33

**TEST COMMENT:** IFF - BOB 4 min  
ISI - 2 1/4" blow back  
FFP - BOB 5 1/2 min  
FSI - 1/2" blow back



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1862.04	107.39	Initial Hydro-static
1	29.42	106.70	Open To Flow (1)
15	132.46	115.04	Shut-In(1)
61	1149.79	114.28	End Shut-In(1)
62	128.54	113.93	Open To Flow (2)
89	274.25	117.19	Shut-In(2)
151	1149.82	115.51	End Shut-In(2)
154	1811.66	114.87	Final Hydro-static

**Recovery**

Length (ft)	Description	Volume (bbl)
60.00	GMCO 10%G, 60%O, 30%M	0.57
630.00	G FREE OIL 10%G, 85%O, 5%M	8.84
0.00	185' GIP	0.00

\* Recovery from multiple tests

**Gas Rates**

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

Trilobite Testing, Inc

Ref. No: 49429

Printed: 2012.09.04 @ 16:33:16

**ROCK TYPES**

Cht	shale, grn	shale, red	Lscongl
Dolprim	shale, gry	Shcol	
Lmst fw7>	Carbon Sh	Ss	

## ACCESSORIES

### MINERAL

- Sandy
- ▧ Euhed rhombs of dol or c

### FOSSIL

- ◊ Oomoldic

### STRINGER

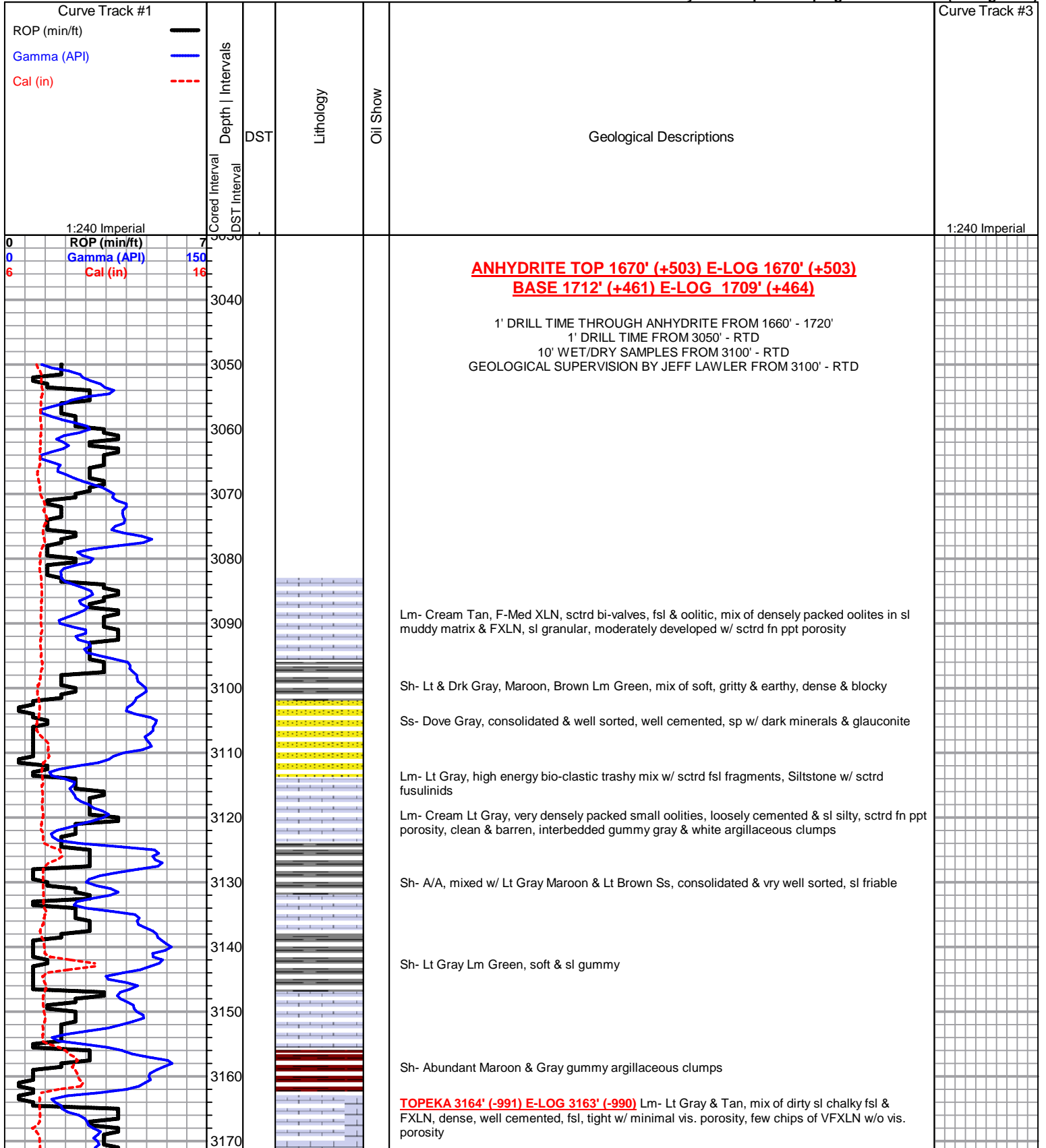
- ~ Chert
- green shale
- red shale

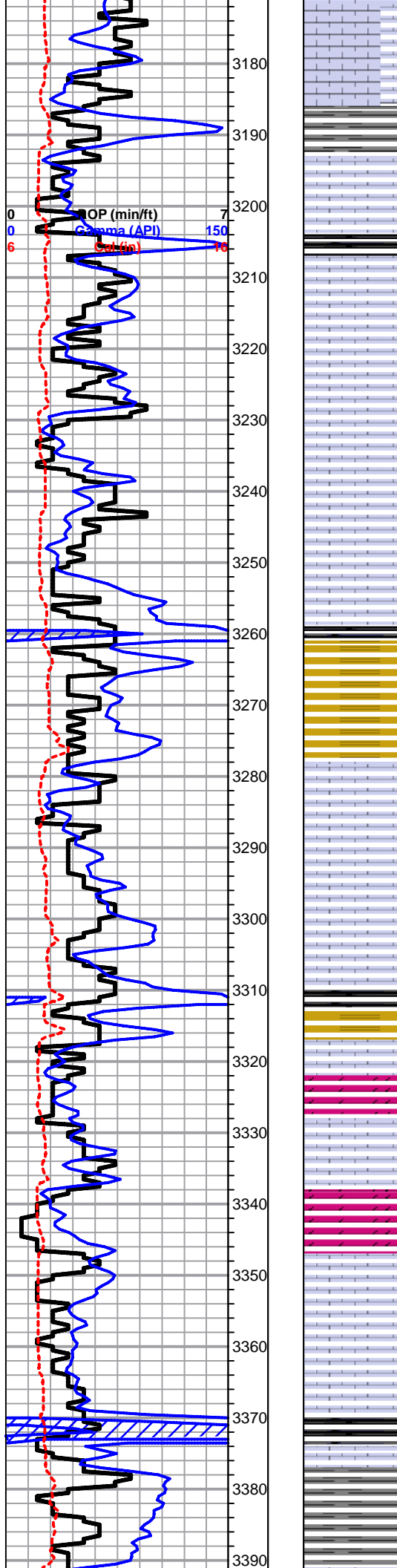
## OTHER SYMBOLS

### DST

- DST Int
- DST alt

Printed by GEOstrip VC Striplog version 4.0.7.0 (www.grsi.ca)





Lm- Lt Gray Tan Cream, VF-FXLN, mix of tan crypto XLN w/o vis. grains, FXLN, sl fsl, poorly developed w/ minimal vis. porosity, & FXLN, sl cherty Ls, tight w/ minimal vis. porosity

Lm- Tan, VFXLN, gritty, sl dolomitic Ls, vry minimal vis. porosity, tight & clean, interbedded gummy gray & lm green clumps

Sh- Drk Gray Black, dense, smooth, long thin fissile carbonaceous slivers

Lm- Lt Gray, high energy fsl mix, gritty sl dolomitic chert & fsl chert, trashy w/ sctrd fsl fragments

Lm- Cream, FXLN, dense, well cemented, mix of sl granular oolitic dolomitic Ls & lime mud matrix, sl granular w/ few sctrd crystal inclusions, all clean & barren, tight w/ sctrd vry fn ppt porosity to no vis. porosity, interbedded gummy shale

Lm- Cream, FXLN, dense, loosely cemented, sl chalky matrix, fsl w/ few sctrd fusulinids

Lm- Cream Tan, Med XLN, gritty & granular, moderately developed, mostly w/ lime mud matrix, loosely cemented, sctrd crystal inclusions, sl fsl. sctr fn ppt porosity, clean & barren, few chips of FXLN sl sucrosic dolomite, very well cemented w/ consistant micro porosity, abundant soft white chalk

Lm- A/A, sl mottled, sctrd fusulinids & crinoids, off white fsl sharp angular bedded chert

Lm- Lt Gray Buff, Med XLN, trashy bio-clastic, high energy w/ fsl fragments embedded in siliceous cementation

Sh- Black Gray, soft, fissile carbonaceous, smooth gray chips

Sh/Ss- Abundant white gray & tan wash, gummy, sctrd soft white chalk, lm green sandy lime & Ss

Lm- Cream, VFXLN, dense, brittle & tight, cherty Ls & cherty dolomite w/ micro porosity, some sub-crypto XLN w/ vry few vis. grains

Lm/Chert- Cream Lt Gray, mix of VFXLN brittle Ls, tight w/ minimal vis. porosity & fsl bedded chert, golden brown & off white

Sh/Ss- Black Gray Brown Lm Green, fissile, soft & carbonaceous, abundant clumps of various colors of gummy & argillaceous, Lm Grn soft sandy lime & Ss

Lm- Cream Buff, VFXLN, dense, very well cemented, consistant micro porosity, gritty sl dolomitic Ls, clean & barren, chalky in part

Dolomite- Cream, VFXLN, sl sucrosic, very well cemented, consistant vry fn ppt porosity, clean & barren

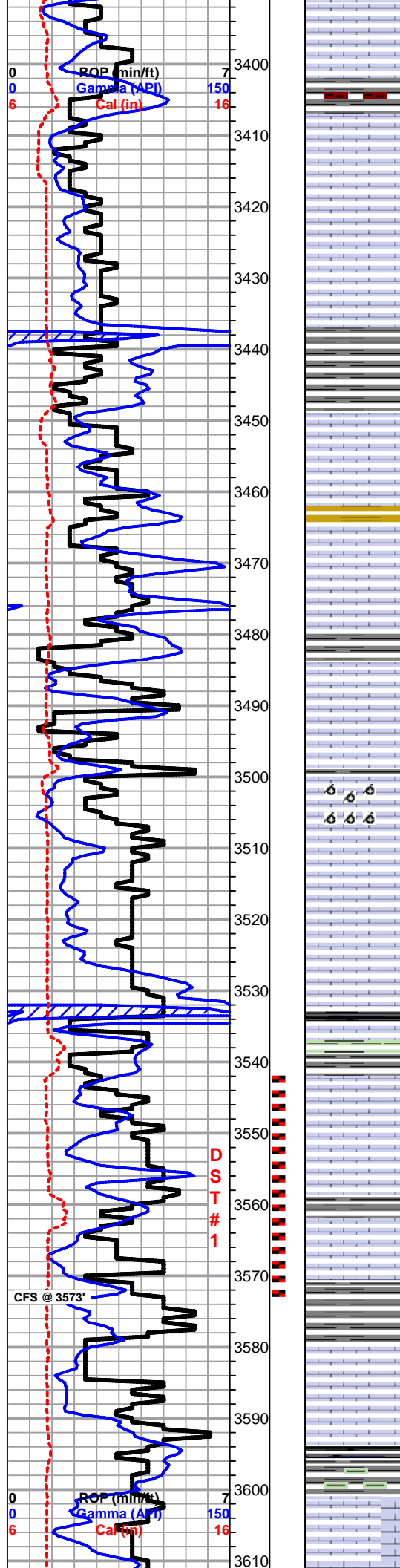
Dolomite- Cream, FXLN, massive, granular, tight & very well cemented, sl fsl, sctrd crystal inclusions, sctrd ppt porosity, moderately developed, clean & barren, interbedded argillaceous gray & white stick clumps

Lm- Cream Tan, FXLN, dense & very well cemented, massive, sl granular, mostly w/ lithofied mud matrix, sl fsl, poorly developed w/ minimal effective porosity, some sctrd vry fn ppt porosity

**HEEBNER 3372' (-1199) E-LOG 3369' (-1196)** Sh- Black Gray Lm Green Maroon, abundant fissile, slaty carbonaceous chips, soft gritty & earthy

Sh- Gray Lm Green Brown Maroon, sticky argillaceous clumps, gritty & earthy

**TORONTO 3397' (-1224) E-LOG 3391' (-1218)** Lm- Cream Tan, Med-Coarse XLN, mix of fsl &



sl oolitic dolomitic Ls, dense & well cemented, poorly developed w/ sctrd XLN & vry fn ppt porosity & fsl and oolitic bedded chert

Sh- Gray Lm Green Maroon, soft, some sticky argillaceous clumps

**LKC 3414' (-1241) E-LOG 3407' (-1234)** Lm- Cream Off White, VF-FXLN, dense, semi-brittle, well cemented, tight w/ minimal vis. porosity, some sub-crypto XLN, few sctrd fusulinids, very clean

Lm- Cream Off White, F-Med XLN, sl fsl, poorly developed w/ sctrd XLN porosity, tight & clean

Sh- Gray Maroon, soft, sl unconsolidated & pebbly

Lm- Cream Off White, Med XLN, oolitic, moderately well developed w/ sctrd FR intraoolite porosity, loosely cemented, fn ppt w/ few sctrd porosity w/ few small vugs, FR SCTRD GSY STN, SL SGSYFO, GD ODR, INSTANT DULL FLOR. & VRY SLW STRM WET CUT

Sh- Brown Gray, dense & blocky, well compacted, soft, gritty & earthy

Lm- Cream Off White Buff, poorly developed sl fsl Ls, minimal vis. to fn ppt porosity, SCTRD FLAKEY DO STN, NO SFO, FNT GSY ODR, mixed w/ buff VFXLN dense & vry well cemented dolomitic Ls, 1 CHIP W/ VERY SCTRD PPT POROSITY, RARE GSY STN, SL SGSY FO, chalky CARRYING STN A/A, some sl fsl bedded chert

Sh- Gray Lm Green Purple, sl unconsolidated & pebbly, sl waxy, dense & well compacted, some gummy purple clumps

Lm- Cream Off White, sl fsl, sctrd development w/ fn ppt porosity, loosely cemented, FEW CHIPS W/ WK SCTD STN, NSFO, FNT ODR

Lm- Cream Lt Tan, F-Med XLN, oolitic & sl oolitic, some sctrd skeletal dissolution, poor intercastic connectivity, densely packed oolitic biomicrite, tight w/ no vis. porosity, clean & barren

Lm- Off White, sl oolitic, loosely cemented, sctrd ppt porosity, clean & barren

Lm- Off White, VF-FXLN, mix of crypto XLN to FXLN, dense, brittle & tight, well cemented, very clean, barren

Lm/Chert- Lt Gray Brown Black, mix of dense, sl chalky algal Ls & sharp angular bedded chert

Sh- Black Lm Green Gray, fissile, slaty, carbonaceous, sl unconsolidated & pebbly

Lm- Cream Tan, Fn Grn & FXLN, mix of well developed w/ good consistant interparticle porosity, SAT LT BRWN GSY STN, SL SGSYFO, FNT ODR, & FXLN, dense, sctrd ppt to sub-vugular porosity, SCTRD LT GSY STN, SL SGSYFO UPON CRUSH, FNT ODR, SL GSY SHEEN, DULL FLOR. W/ SL STRM WET CUT

Sh- Gray Maroon Lm Green, soft, gummy argillaceous clumps & maroon wash

Lm- Cream Off White, FXLN, sl fsl, sctrd development, XLN w/ sctrd ppt porosity, SCTRD LT GSY STN, SL SGSYFO, FR ODR

Sh- Gray Maroon Brown, soft, gritty & earthy

Lm- Cream Off White, Med XLN, oolitic, sctrd development w/ XLN to GD ppt intraoolitic porosity, LT GSY STN, GSY SHEEN, SFO, FR ODR

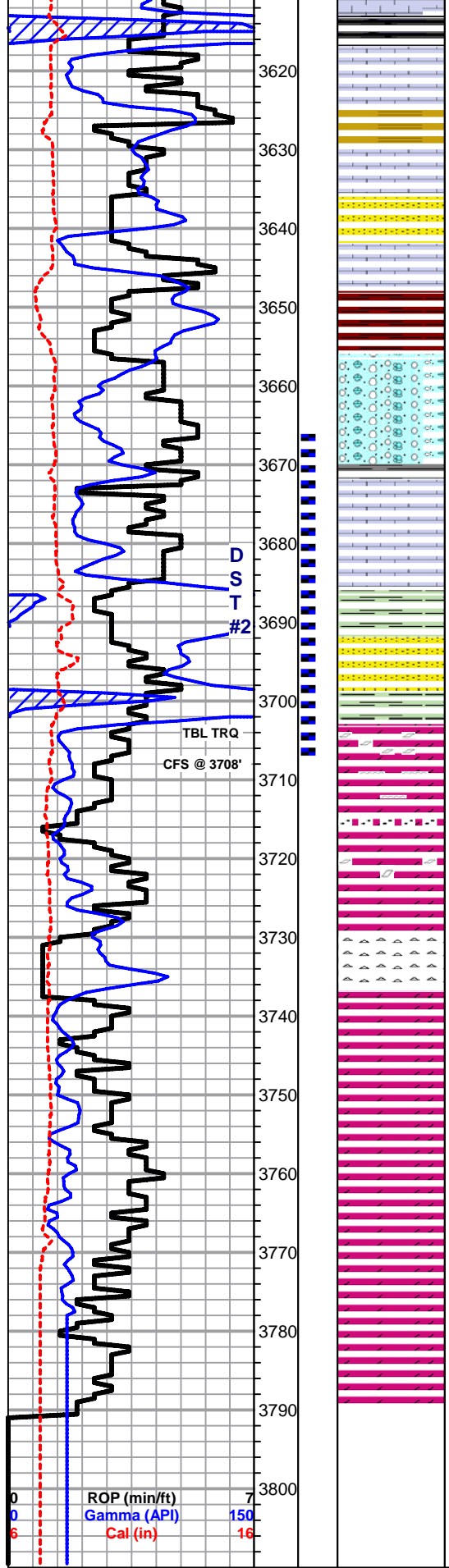
Sh- Black Gray Maroon Lm Green, soft, smooth, carbonaceous, massive, rounded & soft

Lm- White Off White, VF grn & FXLN, mix of sl chalky matrix, soft, consistant vry fn ppt porosity, SAT DRK STN, SL SFO, BRIGHT FLOR., mixed w/ FXLN, poorly developed w/ sctrd

**SHORT TRIP  
SLOPE 1 1/4  
dgr.  
STRAP +1.70'**

**DST #1  
LKC H-I  
3541 - 3573**

ppt porosity, SCTR D WK FLAKEY STN, NSFO, DULL TO NO FLOR.



Lm- Cream Tan, VF-FXLN, dense, brittle, minimal vis. porosity, tight

**BKC 3626' (-1453) E-LOG 3624'(-1451)** Sh- Brown Gray, gritty & earthy, gummy argillaceous gray clumps

Lm- Cream Yellow tint, densely packed med oolites in sparry cemented, loosely cemented & chalky in part, dense secondary porosity

Ss- Red, soft sandy lime & shaley sand & red wash shale

Lm- Cream, VFXLN, dense, brittle, tight, sl oolitic, minimal vis. porosity, some cherty & oolitic chert

Sh- Red Brown, abundant gummy argillaceous clumps & soft white chalk

Conglomerate- various mottled Ls w/ dark shale, dense, well cemented, tight, chalky & shaley matrix

Lm- A/A, purple mottled Ls, Med XLN, loosely cemented, interbedded sandy shales & white chalk

Lm- Cream Off White, FXLN, tight, dense, well cemented, sl sl, sctrd XLN porosity, clean & barren

**SIMPSON SHALE 3686' (-1513) E-LOG 3686' (-1513)** Sh- Lm Green Mustard Yellow Maroon, soft, sl waxy

Sand- Clear to Semi-Frosted, F-Med Grn, consolidated & moderately sorted, rounded to sub-rounded, most very friable, some well cemented & sl cherty, most w/ SAT DRK BLK STN, FR SFO, GD ODR, INSTANT BRIGHT FLOR. & STRM WET CUT, sl. Ca cementation

Sh- Abundant gummy argillaceous green clumps, waxy chips, & sandy green shale

**ARBUCKLE 3704' (-1531) E-LOG 3703' (-1530)** Dolomite- Cream Tan Buff Peach, VF-Coarse XLN, mix of tight VFXLN, some sl. sucrosic, vry fn ppt porosity, Med XLN w/ sctrd vis. euhedral rhombs, some sl cherty cementation, w/ ppt - vuggy porosity, & Coarse XLN w/ GD vis. euhedral rhombs, vuggy to sub-cavernous porosity, sl recrystallization w/in vugs, all w/ GD DRK SCTR D TO SAT STN, SCTR D SGSYFO, VRY STRNG SULPHURIC ODR IN 40" smpl.

**3716'** - Dolomite- Clear Sl. Frosted sandy dolomite, very friable, angular, consolidated & well sorted, DRK SATURATION, SAT & BLDNG FO, STRNG ODR, few w/ sctrd sl white siliceous cementation

**3720'** - Dolomite- Tan Buff, Med-Crs XLN, vry well cemented, vry well developed, vuggy to cavernous porosity, sctrd large anhedral rhombs, DRK SAT, MUCH FLOATING FO IN TRAY

**3735'** - Chert/Sh- White Translucent Golden Brown Smokey Gray, abundant fresh bedded chert, some gritty dolomitic chert, Sh- Lm Green, waxy, dense & well compacted, sp. w/ glauconite

Dolomite- Cream Tan Buff, F-Crs XLN, mix of tight FXLN w/ sl glazed texture w/ barren porosity, Med XLN, sl sucrosic w/ ppt porosity, & Crs XLN, sucrosic w/ sub-vuggy porosity, GD STN, SFO, GD ODR

Dolomite- Cream Tan, Med XLN, moderately developed, consistant ppt porosity, well cemented, SCTR D LT STN, SL SFO, GD ODR

Dolomite- Med XLN, massive, consistant fn ppt porosity, SCTR D STN, SL SFO, GD ODR

Dolomite- Cream Tan Salmon Off White, Med - Crs XLN, sctrd oolitic chert & cherty Dol., Crs XLN, sucrosic w/ large euhedral rhombs, vuggy porosity, Med XLN, consistant ppt porosity, all w/ SCTR D DRK STN, SFO, GD ODR

**RTD 3790' (-1617) LTD 3790' (-1617) @ 13:54 9/2/2012**

**DST #2  
SIMPSON  
SAND  
& ARBUCKLE  
3666 - 3708**

0  
0  
6

ROP (min/ft) 7  
Gamma (API) 150  
Cal (in) 16