

Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1261187
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: _____

1261187

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: <input type="checkbox"/> Yes <input type="checkbox"/> No
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Date of First, Resumed Production, SWD or ENHR.	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____				
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <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> _____	PRODUCTION INTERVAL: _____ _____
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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. 1237

Date	Sec.	Twp.	Range	County	State	On Location	Finish
4-23-15	18	10	27	Shenandoah	KS		7:15pm

Location *Pack 4/20 1w 4/20 Winto*

Lease	Well No.	Owner	
<i>Dale</i>	<i>1-18</i>	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	
<i>Discom #7</i>		<i>Sam Gray Jr + Associates</i>	
Type Job	T.D.	Street	
<i>Surface</i>	<i>305</i>		
Hole Size	Depth	City	
<i>12 1/4</i>	<i>304</i>	State	
Csg.	Depth	The above was done to satisfaction and supervision of owner agent or contractor.	
<i>8 5/8</i>			
Tbg. Size	Shoe Joint	Cement Amount Ordered	
		<i>225 com 3/4 CC 2/4 CEL 1/2 #10</i>	
Cement Left in Csg.	Displace	<i>200 com 4/1 CC 1/2 #10</i>	
<i>20</i>	<i>18 BCL</i>		

EQUIPMENT

Pumptrk	No.	Cement Helper	Common
<i>5</i>		<i>Craig</i>	<i>250</i>
Bulktrk	No.	Driver	Poz. Mix
<i>19</i>		<i>Trevi S</i>	
Bulktrk	No.	Driver	Gel.
<i>21</i>		<i>Brett</i>	<i>5</i>
			Calcium
			<i>11</i>

JOB SERVICES & REMARKS

Remarks:	Hulls
Rat Hole	Salt
Mouse Hole	Flowseal <i>125 #</i>
Centralizers	Kol-Seal
Baskets	Mud CLR 48
D/V or Port Collar	CFL-117 or CD110 CAF 38
<i>8 5/8 on bottom Est. Circulation</i>	Sand
<i>mixed 200 SK common 4/1 CC 1/2 #10</i>	Handling <i>275</i>
<i>9 50 SK 3/4 CC 2/4 CEL 1/2 #10</i>	Mileage

FLOAT EQUIPMENT

<i>400 # Halls in 1st 200 SK</i>	Guide Shoe
	<i>8 5/8</i>
	Centralizer
	<i>1</i>
	Baskets
	AFU Inserts
	Float Shoe
	Latch Down

USED 200 com 4/1 CC 1/2 #10
50 SK 3/4 CC 2/4 CEL 1/2 #10

Pumptrk Charge	Mileage
<i>Surface</i>	<i>33</i>

X Signature	Tax
	Discount
	Total Charge

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. 937

Date	Sec.	Twp.	Range	County	State	On Location	Finish
5-1-15	14	10	27	Sheridan	KS		4:30 AM
Location Park + Old 40 3 1/2 N 1/2 W 1/2 N Wind							

Lease	Date	Well No.	Owner
		1-18	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	Discovery #4		
Type Job	Plug		
Hole Size	7 7/8	T.D. 4450	Charge To Sam Gasy Jr + Associates
Csg.		Depth	Street
Tbg. Size		Depth	City State
Tool		Depth	The above was done to satisfaction and supervision of owner agent or contractor.
Cement Left in Csg.		Shoe Joint	Cement Amount Ordered 255 60/40 4% Gel 1/4 lb

Meas Line	Displace	
EQUIPMENT		
Pumptrk 14 No.	Cementer	Common 153
	Helper	Poz. Mix 102
Bulktrk 4 No.	Driver	Gel. 9
	Driver	Calcium
Bulktrk PU No.	Driver	
	Driver	

JOB SERVICES & REMARKS		Hulls
Remarks:		Salt
Rat Hole 30 sks		Flowseal 56 #
Mouse Hole 15 sks		Kol-Seal
Centralizers		Mud CLR 48
Baskets		CFL-117 or CD110 CAF 38
D/V or Port Collar		Sand
		Handling 264
1st Plug @ 2300 w/ 50 sks		Mileage 45/9
		FLOAT EQUIPMENT
2nd Plug @ 1360 w/ 100 sks		Guide Shoe
		Centralizer
3rd Plug @ 355 w/ 50 sks		Baskets
		AFU Inserts
4th Plug @ 40 w/ 10 sks		Float Shoe
		Latch Down
		Wood Plug 1
		Pumptrk Charge plug
		Mileage 33

X Signature <i>[Signature]</i>	Tax
	Discount
	Total Charge



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Samuel Gary Jr. & Associates, Inc.

18-10S-27W Sheridan, KS

1515 Wynkoop, Stw 700
Denver, CO 80202

Dale #1-18

Job Ticket: 61168

DST#: 1

ATTN: Clayton Camozzi

Test Start: 2015.04.27 @ 13:41:06

GENERAL INFORMATION:

Formation: **LKC "C&D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:32:36

Time Test Ended: 19:31:06

Test Type: Conventional Bottom Hole (Initial)

Tester: Brannan Lonsdale

Unit No: 62

Interval: 3850.00 ft (KB) To 3904.00 ft (KB) (TVD)

Reference Elevations: 2690.00 ft (KB)

Total Depth: 3904.00 ft (KB) (TVD)

2682.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 8.00 ft

Serial #: 8655 Outside

Press@RunDepth: 39.00 psig @ 3869.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2015.04.27

End Date:

2015.04.27

Last Calib.:

2015.04.27

Start Time:

13:41:07

End Time:

19:31:06

Time On Btm:

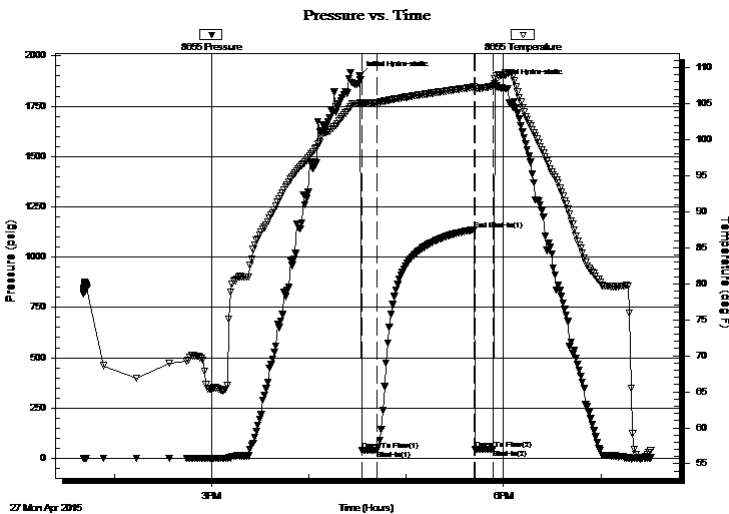
2015.04.27 @ 16:31:06

Time Off Btm:

2015.04.27 @ 17:54:36

TEST COMMENT: 10- IF- Surface blow
60- IS- No blow
10- Very weak surface blow Pulled tool

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1900.18	105.02	Initial Hydro-static
2	38.02	104.86	Open To Flow (1)
11	39.00	105.14	Shut-In(1)
71	1136.26	107.30	End Shut-In(1)
72	42.87	107.11	Open To Flow (2)
83	46.46	107.45	Shut-In(2)
84	1862.24	108.49	Final Hydro-static

Recovery

Gas Rates

Length (ft)	Description	Volume (bbl)
15.00	M w / oil spots	0.07

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Samuel Gary Jr. & Associates, Inc.

18-10S-27W Sheridan, KS

1515 Wynkoop, Stw 700
Denver, CO 80202

Dale #1-18

Job Ticket: 61168

DST#: 1

ATTN: Clayton Camozzi

Test Start: 2015.04.27 @ 13:41:06

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: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.20 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 750.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
15.00	Mw / oil spots	0.074

Total Length: 15.00 ft Total Volume: 0.074 bbl

Num Fluid Samples: 0

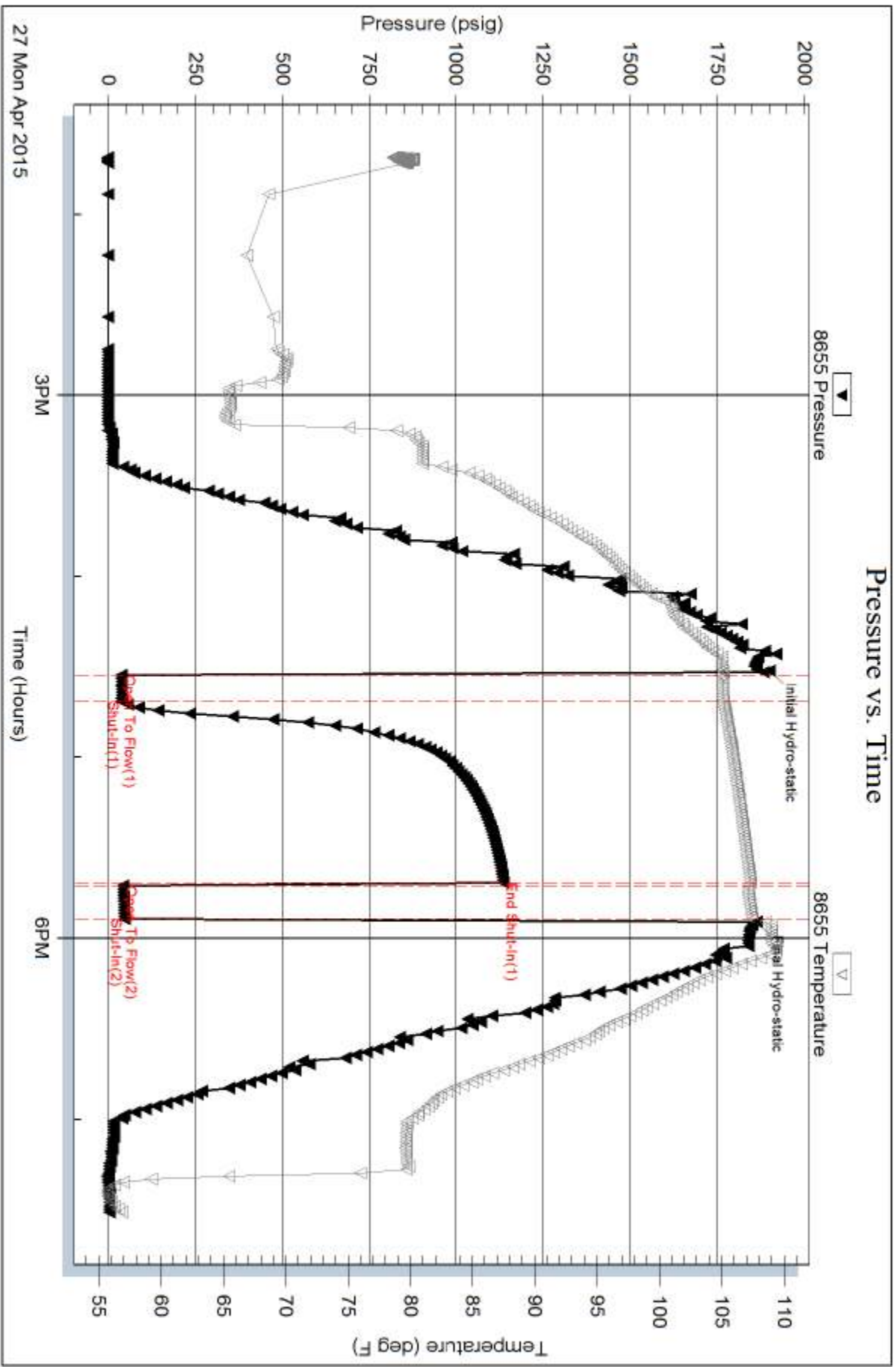
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



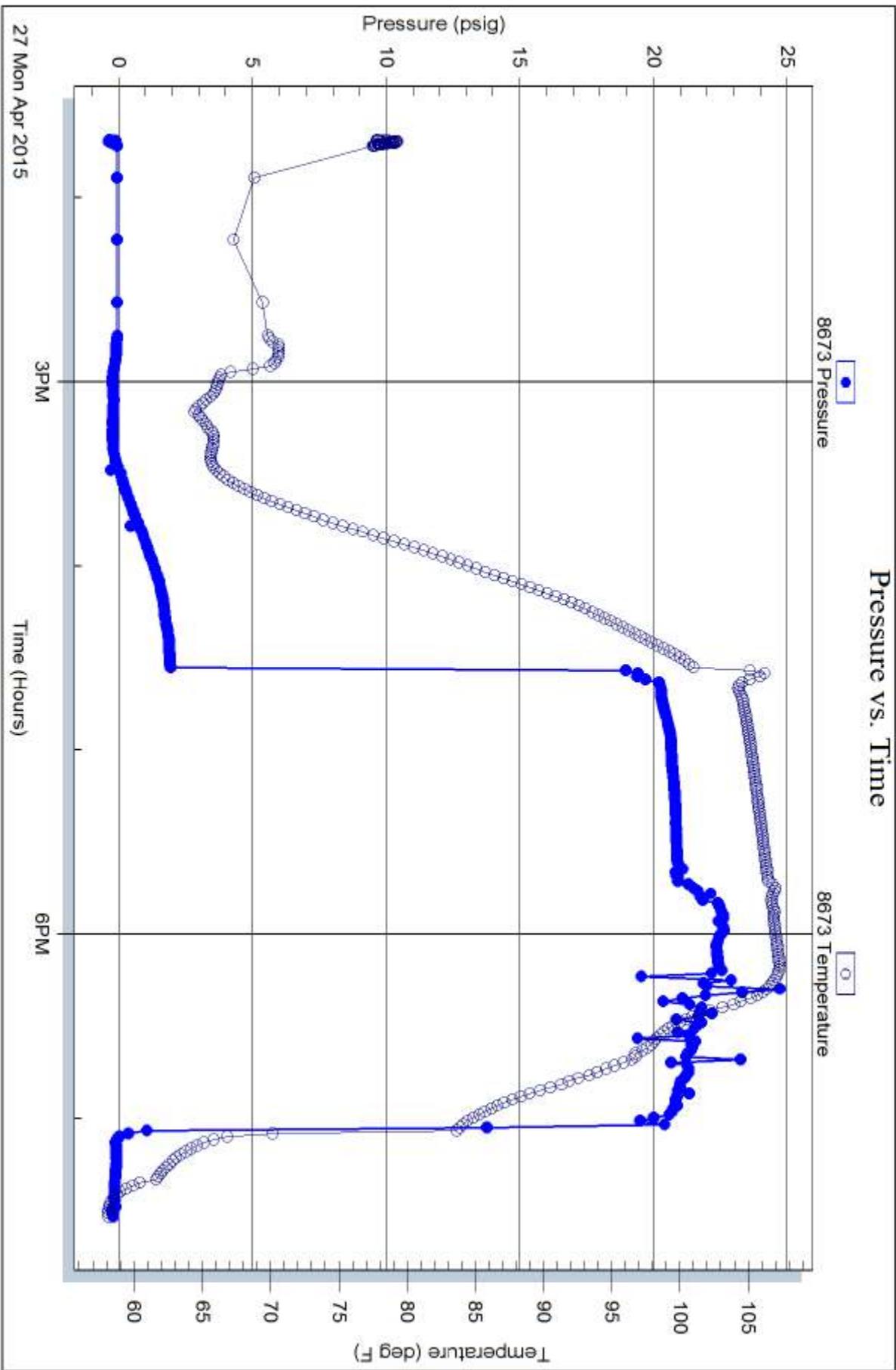
Serial #: 8673

Fluid

Samuel Gary Jr. & Associates, Inc.

Date #1-18

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 61168

Printed: 2015.04.28 @ 08:32:13



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Samuel Gary Jr. & Associates, Inc.

18-10S-27W Sheridan, KS

1515 Wynkoop, Stw 700
Denver, CO 80202

Dale #1-18

ATTN: Clayton Camozzi

Job Ticket: 61169

DST#: 2

Test Start: 2015.04.28 @ 02:17:23

GENERAL INFORMATION:

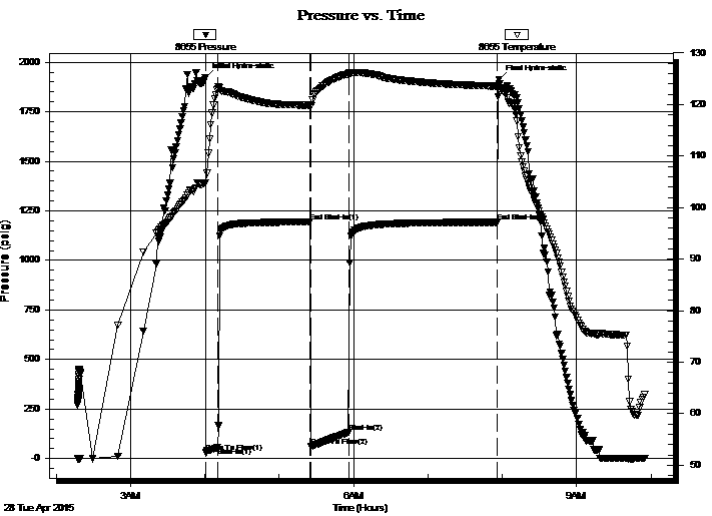
Formation: **LKC "F"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 04:00:53
 Time Test Ended: 09:55:23
 Interval: **3902.00 ft (KB) To 3926.00 ft (KB) (TVD)**
 Total Depth: 3926.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Brannan Lonsdale
 Unit No: 62
 Reference Elevations: 2690.00 ft (KB)
 2682.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8655

Outside

Press@RunDepth: 132.24 psig @ 3923.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.04.28 End Date: 2015.04.28 Last Calib.: 2015.04.28
 Start Time: 02:17:24 End Time: 09:55:23 Time On Btm: 2015.04.28 @ 04:00:23
 Time Off Btm: 2015.04.28 @ 07:57:23

TEST COMMENT: 010- IF- Slow ly built to 5"
 075- IS- No blow
 030- FF- BOB 30 mins
 120- FS- No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1920.84	104.84	Initial Hydro-static
1	30.16	104.86	Open To Flow (1)
10	56.59	123.13	Shut-In(1)
85	1193.15	119.87	End Shut-In(1)
85	60.56	119.55	Open To Flow (2)
116	132.24	125.93	Shut-In(2)
236	1192.45	123.56	End Shut-In(2)
237	1911.61	122.89	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
250.00	MW, 15%M 85%W	3.25

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Samuel Gary Jr. & Associates, Inc.

18-10S-27W Sheridan, KS

1515 Wynkoop, Stw 700
Denver, CO 80202

Dale #1-18

Job Ticket: 61169

DST#: 2

ATTN: Clayton Camozzi

Test Start: 2015.04.28 @ 02:17:23

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:

40000 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 750.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
250.00	MW, 15%M 85%W	3.248

Total Length: 250.00 ft Total Volume: 3.248 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

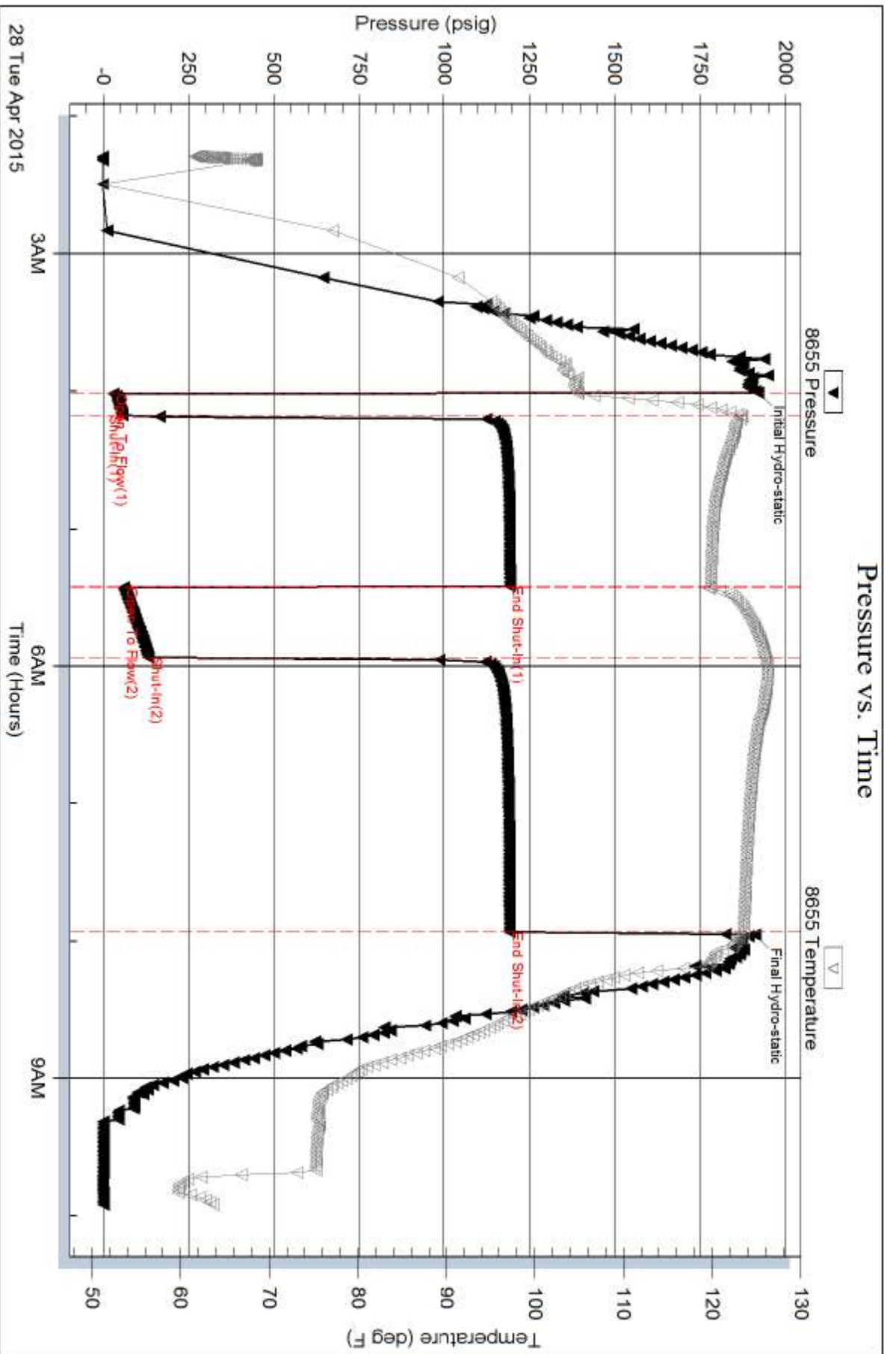
Recovery Comments:

Serial #: 8655

Outside Samuel Gary Jr. & Associates, Inc.

Date #1-18

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 61169

Printed: 2015.04.28 @ 10:42:19

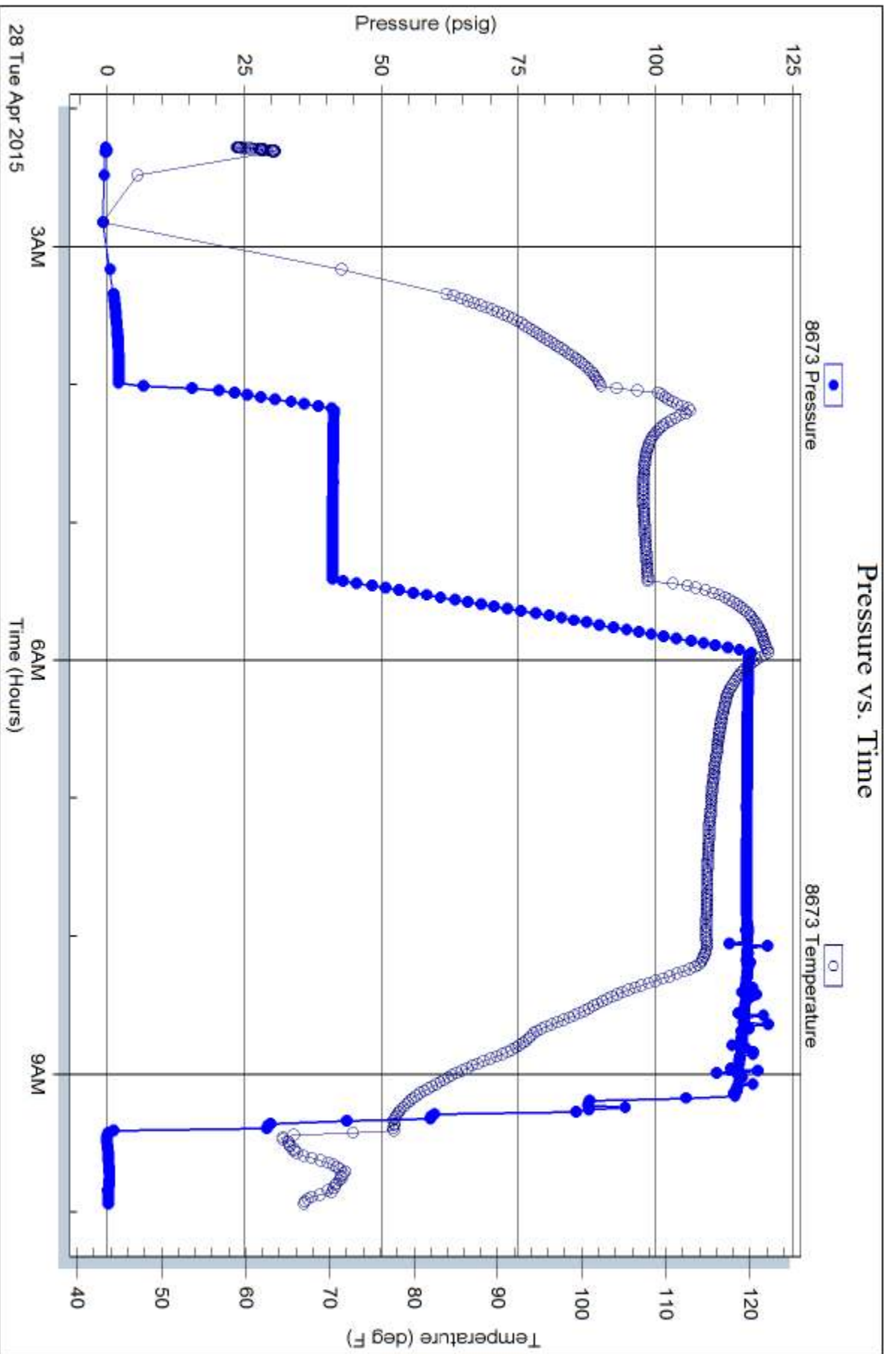
Serial #: 8673

Fluid

Samuel Gary Jr. & Associates, Inc.

Date #1-18

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 61169

Printed: 2015.04.28 @ 10:42:19



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Samuel Gary Jr. & Associates, Inc.

18-10S-27W Sheridan, KS

1515 Wynkoop, Stw 700
Denver, CO 80202

Dale #1-18

Job Ticket: 61170

DST#: 3

ATTN: Clayton Camozzi

Test Start: 2015.04.29 @ 01:24:00

GENERAL INFORMATION:

Formation: **LKC "K"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 03:32:30
 Time Test Ended: 06:45:30
 Interval: **4022.00 ft (KB) To 4051.00 ft (KB) (TVD)**
 Total Depth: 4051.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Brannan Lonsdale
 Unit No: 62
 Reference Elevations: 2690.00 ft (KB)
 2682.00 ft (CF)
 KB to GR/CF: 8.00 ft

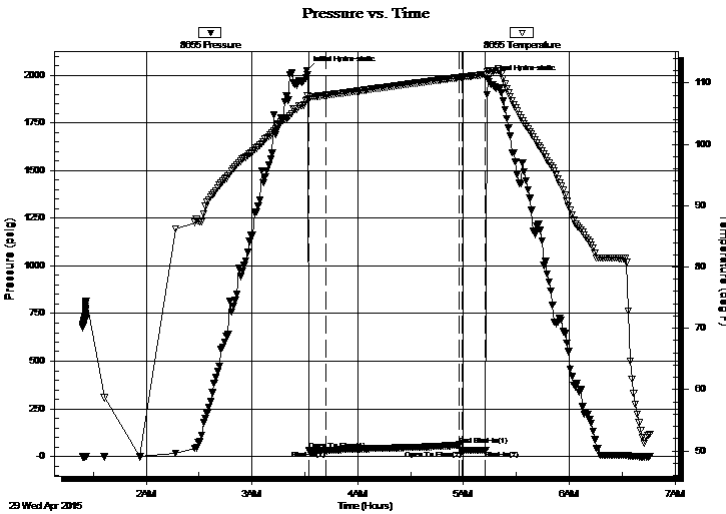
Serial #: 8655

Outside

Press@RunDepth: 31.54 psig @ 4048.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.04.29 End Date: 2015.04.29 Last Calib.: 2015.04.29
 Start Time: 01:24:01 End Time: 06:45:30 Time On Btm: 2015.04.29 @ 03:31:00
 Time Off Btm: 2015.04.29 @ 05:14:00

TEST COMMENT: 10- IF- Slowly built to .25"
 75- IS- No blow
 10- FF- No blow Pulled tool

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2025.02	107.34	Initial Hydro-static
2	32.62	107.48	Open To Flow (1)
11	31.54	108.01	Shut-In(1)
87	60.63	110.90	End Shut-In(1)
88	30.87	110.94	Open To Flow (2)
102	32.51	111.41	Shut-In(2)
103	1978.08	112.00	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
3.00	M	0.01

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Samuel Gary Jr. & Associates, Inc.

18-10S-27W Sheridan, KS

1515 Wynkoop, Stw 700
Denver, CO 80202

Dale #1-18

Job Ticket: 61170

DST#: 3

ATTN: Clayton Camozzi

Test Start: 2015.04.29 @ 01:24:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 750.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
3.00	M	0.015

Total Length: 3.00 ft Total Volume: 0.015 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

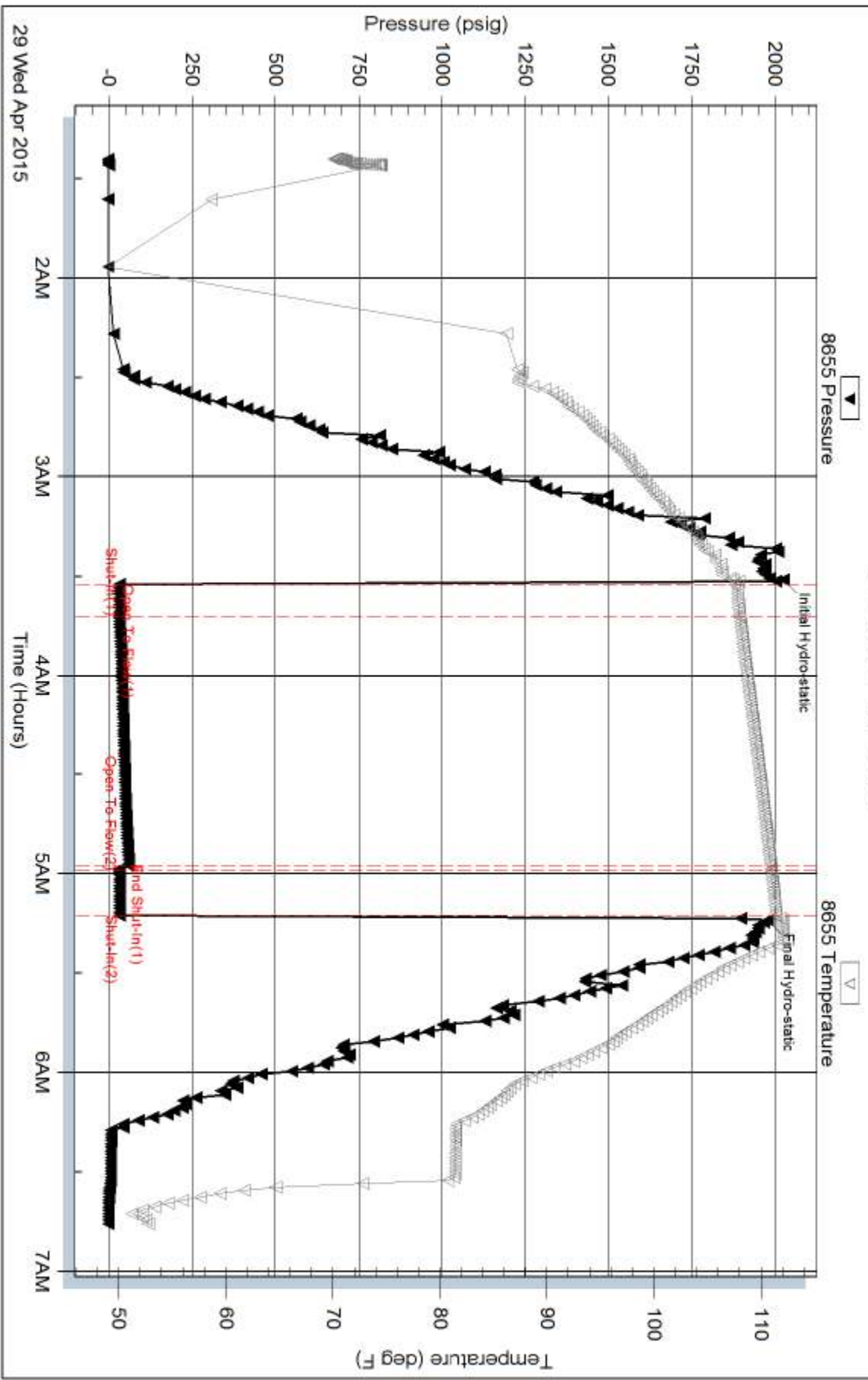
Serial #: 8655

Outside Samuel Gary Jr. & Associates, Inc.

Date #1-18

DST Test Number: 3

Pressure vs. Time



Trilobite Testing, Inc

Ref. No: 61170

Printed: 2015.04.29 @ 08:06:54

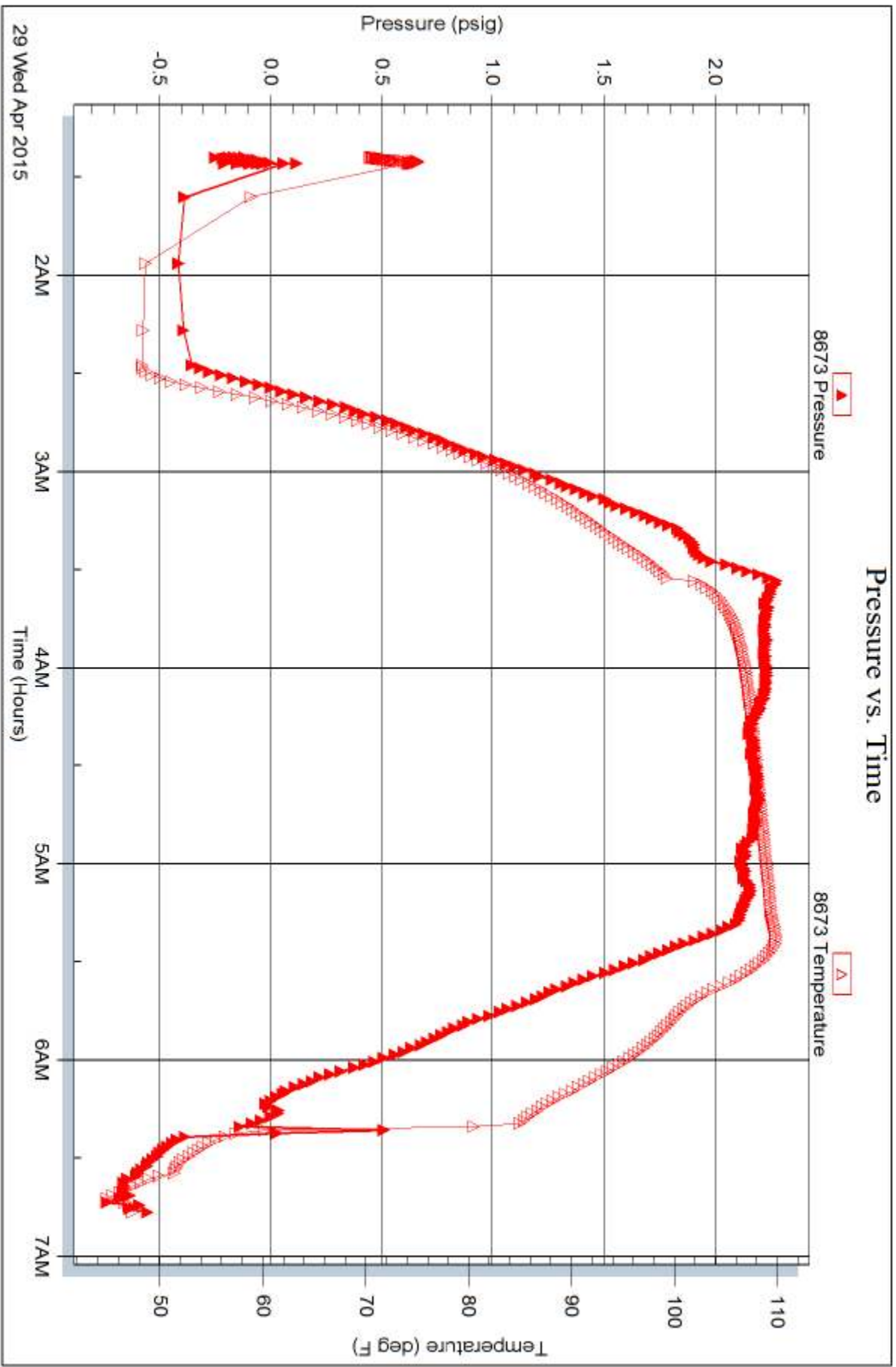
Serial #: 8673

Fluid

Samuel Gary Jr. & Associates, Inc.

Date #1-18

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 61170

Printed: 2015.04.29 @ 08:06:54



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

Well Name: Dale 1-18
Well Id:
Location: Sec. 18-10S-27W Sheridan County, Kansas
License Number: 15-179-21402-0000 Region: WILDCAT
Spud Date: APR. 23, 2015 Drilling Completed: APR. 30, 2015
Surface Coordinates: 1830 FNL/ 1280 FEL

Bottom Hole
Coordinates:
Ground Elevation (ft): 2682' K.B. Elevation (ft): 2690'
Logged Interval (ft): 3700' To: 4450' Total Depth (ft): 4450'
Formation: Lansing, Kansas City, Pawnee, Cherokee
Type of Drilling Fluid: Natural Chemical

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

OPERATOR

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

GEOLOGIST

Name: Ian Bosmeijer
Company: Earth Tech OGL, Inc.
Address: PO Box 683
Hooker, Okla . 73945
Off. 888-543-8378 Cell: 580-754-0221



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Samuel Gary Jr. & Associates, Inc.

18-10S-27W Sheridan, KS

1515 Wyrkoop, Stw 700
Denver, CO 80202

Dale #1-18

Job Ticket: 61168

DST#: 1

ATTN: Clayton Camozzi

Test Start: 2015.04.27 @ 13:41:06

GENERAL INFORMATION:

Formation: **LKC "C&D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:32:36

Time Test Ended: 19:31:06

Test Type: Conventional Bottom Hole (Initial)

Tester: Brannan Lonsdale

Unit No: 62

Interval: **3850.00 ft (KB) To 3904.00 ft (KB) (TVD)**

Total Depth: 3904.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 2690.00 ft (KB)

2682.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 8655

Outside

Press@RunDepth: 39.00 psig @ 3869.00 ft (KB)

Start Date: 2015.04.27

Start Time: 13:41:07

End Date:

End Time:

2015.04.27

19:31:06

Capacity: 8000.00 psig

Last Calib.: 2015.04.27

Time On Btm: 2015.04.27 @ 16:31:06

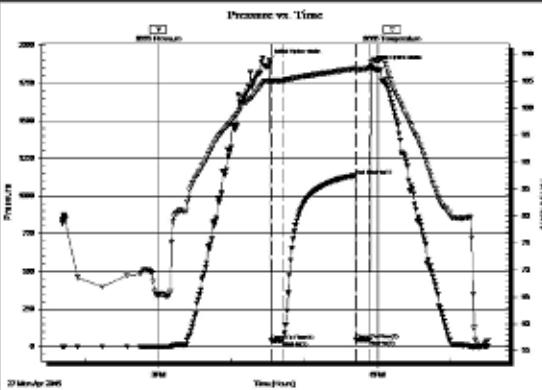
Time Off Btm: 2015.04.27 @ 17:54:36

TEST COMMENT:

10- IF- Surface blow

60- ISI- No blow

10- Very weak surface blow Pulled tool



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1900.18	105.02	Initial Hydro-static
2	38.02	104.86	Open To Flow (1)
11	39.00	105.14	Shut-in(1)
71	1136.26	107.30	End Shut-in(1)
72	42.87	107.11	Open To Flow (2)
83	46.46	107.45	Shut-in(2)
84	1862.24	108.49	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbt)
15.00	Mw / oil spots	0.07

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Samuel Gary Jr. & Associates, Inc.

18-10S-27W Sheridan, KS

1515 Wyrkoop, Stw 700
Denver, CO 80202

Dale #1-18

Job Ticket: 61169

DST#:2

ATTN: Clayton Camozzi

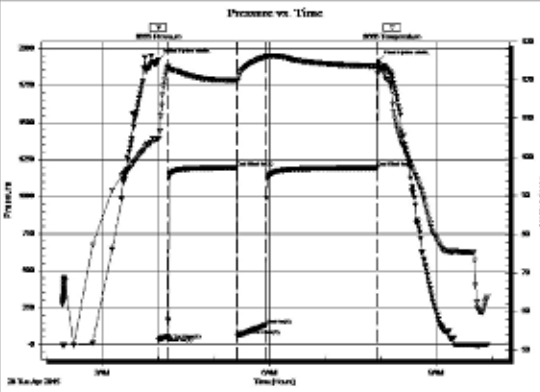
Test Start: 2015.04.28 @ 02:17:23

GENERAL INFORMATION:

Formation: **LKC "F"**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 04:00:53 Tester: Brannan Lonsdale
 Time Test Ended: 09:55:23 Unit No: 62
 Interval: **3902.00 ft (KB) To 3926.00 ft (KB) (TVD)** Reference Elevations: 2690.00 ft (KB)
 Total Depth: 3926.00 ft (KB) (TVD) 2682.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 8.00 ft

Serial #: 8655 Outside
 Press@RunDepth: 132.24 psig @ 3923.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.04.28 End Date: 2015.04.28 Last Calb.: 2015.04.28
 Start Time: 02:17:24 End Time: 09:55:23 Time On Btm: 2015.04.28 @ 04:00:23
 Time Off Btm: 2015.04.28 @ 07:57:23

TEST COMMENT: 010- F- Slowly built to 5"
 075- IS- No blow
 030- FF- BCB 30 mins
 120- FS- No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1920.84	104.84	Initial Hydro-static
1	30.16	104.86	Open To Flow (1)
10	56.59	123.13	Shut-In(1)
85	1193.15	119.87	End Shut-In(1)
85	60.56	119.55	Open To Flow (2)
116	132.24	125.93	Shut-In(2)
236	1192.45	123.56	End Shut-In(2)
237	1911.61	122.89	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
250.00	MW, 15%M85%W	3.25

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Samuel Gary Jr. & Associates, Inc.

18-10S-27W Sheridan, KS

1515 Wyrkoop, Stw 700
Denver, CO 80202

Date #1-18

Job Ticket: 61170

DST#: 3

ATTN: Clayton Camozzi

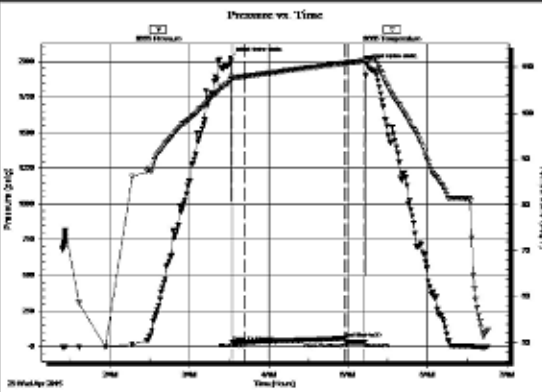
Test Start: 2015.04.29 @ 01:24:00

GENERAL INFORMATION:

Formation: **LKC "K"**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 03:32:30 Tester: Brannan Lonsdale
 Time Test Ended: 06:45:30 Unit No: 62
 Interval: **4022.00 ft (KB) To 4051.00 ft (KB) (TVD)** Reference Elevations: 2690.00 ft (KB)
 Total Depth: 4051.00 ft (KB) (TVD) 2682.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 8.00 ft

Serial #: 8655 Outside
 Press@RunDepth: 31.54 psig @ 4048.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.04.29 End Date: 2015.04.29 Last Calib.: 2015.04.29
 Start Time: 01:24:01 End Time: 06:45:30 Time On Btm: 2015.04.29 @ 03:31:00
 Time Off Btm: 2015.04.29 @ 05:14:00

TEST COMMENT: 10- IF- Slowly built to .25"
 75- IS- No blow
 10- FF- No blow Pulled tool



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2025.02	107.34	Initial Hydro-static
2	32.62	107.48	Open To Flow (1)
11	31.54	108.01	Shut-in(1)
87	60.63	110.90	End Shut-in(1)
89	30.87	110.94	Open To Flow (2)
102	32.51	111.41	Shut-in(2)
103	1978.08	112.00	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
3.00	M	0.01

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcfd)

ROCK TYPES

- Anhy
- Bent
- Brec
- Cht
- Clyst
- Coal
- Congl
- Dol

- Gyp
- Igne
- Lmst
- Meta
- Mrlst
- Salt
- Shale
- Shcol

- Shgy
- Slstt
- Ss
- Till
- Carb sh
- Dol
- Dtd
- Gry sh

- Sandylms
- Shale
- Slststn
- Shlyslts
- Sltysh
- Lms

ACCESSORIES

MINERAL

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

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

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

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

FOSSIL

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

STRINGER

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

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

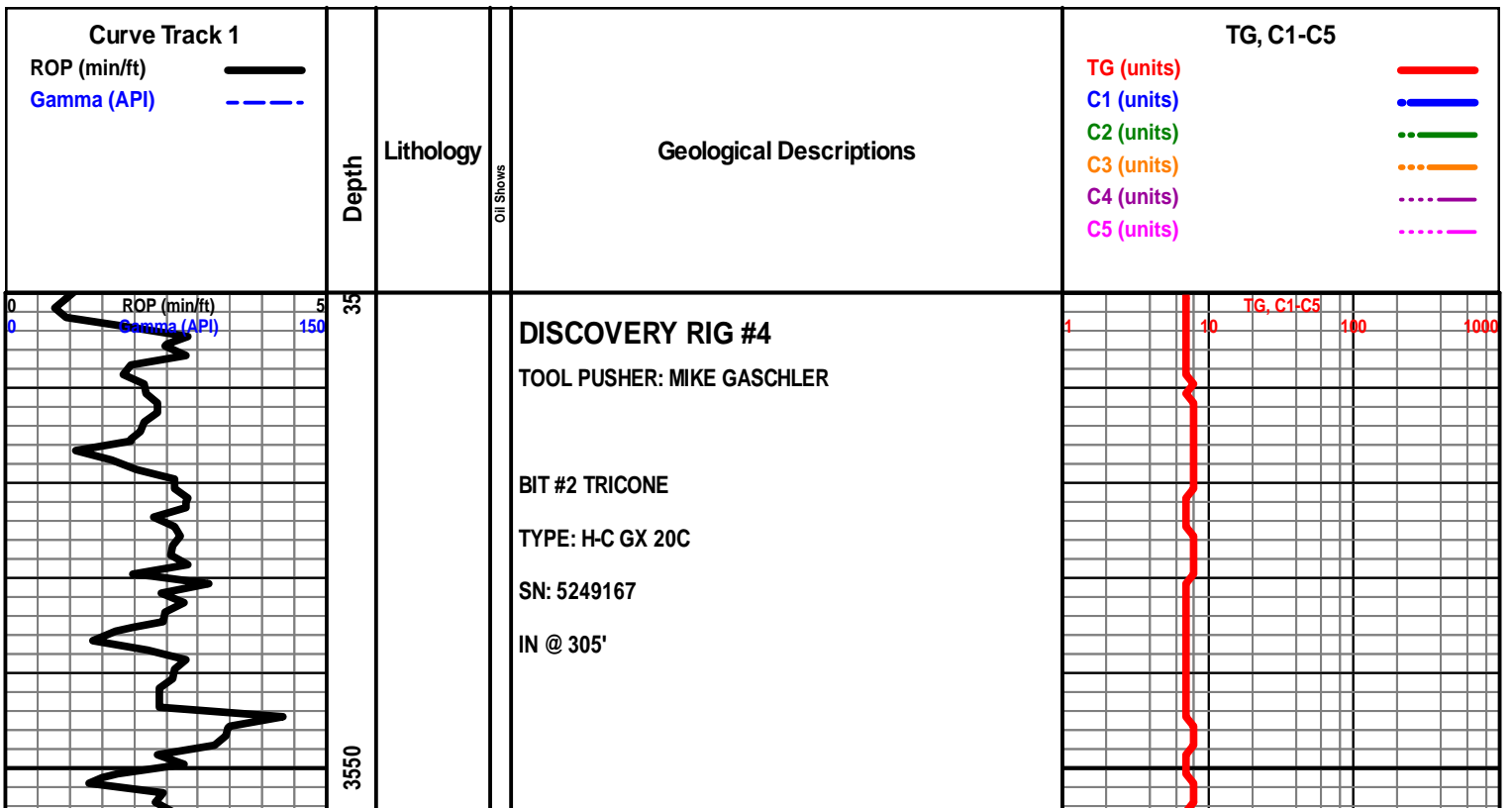
- Even
- Spotted
- Ques
- Dead
- Gas show

INTERVALS

- Core
- Dst
- Dst

EVENTS

- Rft
- Sidewall



DEPTH CORRECTION

WOB 35
RPM 70
PP 800#
WT 8.6
VIS 54
LCM 4#

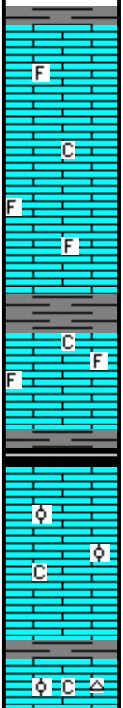
RO (min/ft)
Gamma (API)

5
150

WOB 35
RPM 70
PP 800#
WT 8.9
VIS 50
LCM 3#

3700

3750



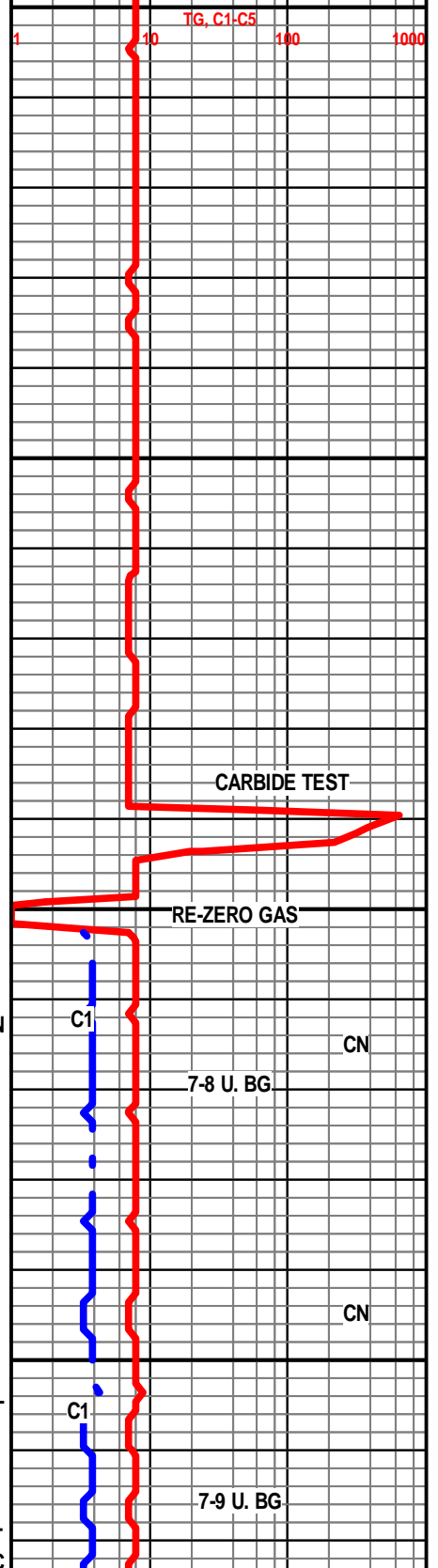
START 24 HR. MANNED UNIT 4/26/2015

LS- OFF WHT CRM TO GY, HD TO BRITT, FN-MD XLN, SUB-SUCRO MTRX IP, ABDT IMBD MICRO FOSS IP, FRM TO SFT CHLK IP, DLL YEL MIN FLO IN 20%, PR INTER-XLN POR IP, NO VIS CUT OR SHOW

LS- OFF WHT WHT TO LT GY, HD TO BRITT, FN-MD XLN, RE-XLN TO SUB-SUCRO MTRX IP, ABDT IMBD FOSS FRAG, FRM TO SFT CHLK, DLL YEL MIN FLO IN 20%, TR PR INTER-XLN POR, TR PR-INTER-FOSS POR, NO VIS CUT OR SHOW

LS- CRM TO OFF WHT, BRITT TO HD IP, F-XLN, RE-XLN IP, ABDT IMBD MICRO-OIDS, FRM TO SFT CHLK IP, DLL YEL MIN FLO IN 40%, GOOD OOLICASTIC POR IN 5%, NO VIS CUT OR SHOW

LS- OFF WHT TO CRM, HD TO BRITT, FN-MD XLN, RE-XLN IP, ABDT IMBD MICRO-OIDS, FRM TO SFT CHLK IP, SCAT WHT CHRT, DLL YEL MIN FLO IN 10%, FR-GD OOLICASTIC



TG, C1-C5
1 10 100 1000

CARBIDE TEST

RE-ZERO GAS

C1

CN

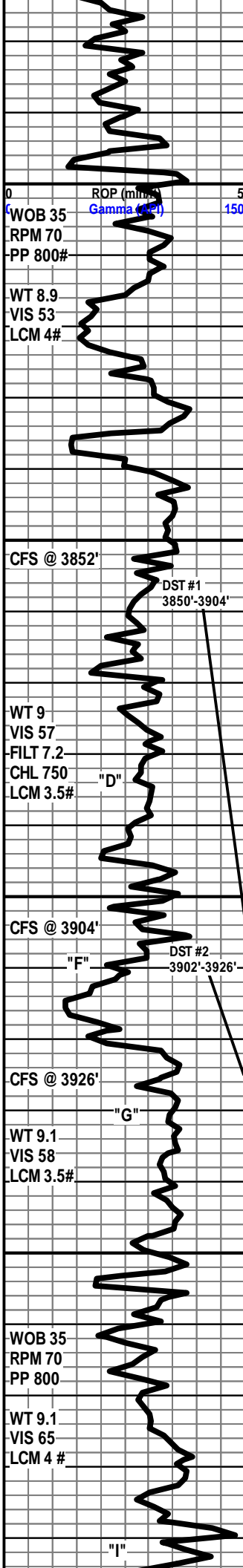
7-8 U. BG

CN

C1

7-9 U. BG

CN



POR IN 2%, NO VIS CUT OR SHOW

HEEBNER 3795' (-1105')
SH- BLK SFT CARB

SH- LT TO MD GY, FRM BLKY, V/ CALC IP, SMTH TXT

LS- OFF WHT TO WHT, BRITT TO HD, FN-MD XLN, RE-XLN TO SUB-CHLKY MTRX, FRM TO SFT CHLK, IMBD PYR CLSTR IP, ABDT IMBD MICRO-OIDS, DLL YEL MIN FLO IN 20%, FR-GD OOLICSTIC POR IP, NO VIS CUT OR SHOW

LANSING 3838' (-1148')
LS- WHT TO OFF WHT, HD DNS, CRYPTO-FN XLN, TR SLI SUB-CHLKY, SCAT WHT CHRT IN TRAY, TR FRM TO SFT CHLK, TR ABDT IMBD OOL, DLL YEL MIN FLO IN 40%, NO VIS POR, NO SHOW

SH- LT TO MD GY, LT GRN, FRM BLKY, ABDT F-GRN WLL SRT GLAUC SND

LANSING "C" 3864' (-1174')

LS- CRM OFF WHT (SPTTD DK TN OIL STN IN 30%), BRITT, HD IP, FN-XLN, RE-XLN MTRX, ABDT IMBD OIDS, IMBD FOSS FRAG IP, SPTTD YEL GLD FLO IN 40%, FR INTER-OOL POR IN 2%, FR-GD INTER-XLN POR IN 2%, GD MICRO-VUG POR IN 1%, GD FLSH CUT, GD SLW STRM CUT 15%, TN LCH ON DISH, LIVE OIL & BLEEDING GAS BUBBLES, LT ODOR

LS-CRM (SPTTD LT TN OIL SN IN 15%), HD DNS, F-XLN, TT SUCRO IP, TR RE-XLN TO SUB-CHLKY, WHT CHRT IP, TR IMBD FOSS FRAG, SPTTD DLL YEL GLD FLO IN 40%, PR PP POR IN 5%, TR FR-GD MICRO VUG POR, FR-GD FLSH CUT, FR SLW STRM CUT IN 5%

LS- CRM TO OFF WHT (TN OIL STN 30%), FN-MD XLN, V/ RE-XLN IP, IMBD CRS CALC XLS IP, TR IMBD FOSS FRAG, YEL GLD FLO IN 30%, GD VIS& MICRO VUG POR IN 3%, GD INTER-XLN POR IN 3%, GD-EXCEL FLSH CUT, GD SLOW STRM CUT IN 15%, LT TN LCH ON DISH, LIVE OIL, LT ODOR

3908'-3916' LS- OFF WHT TO CRM (SPTTD TO EVEN TN OIL STN IN 60%), HD TO BRITT, FN-MD XLN, SUCRO TO RE-XLN MTRX, TR FRM CHLK, SPTTD BRIT YEL GLD FLO IN 50%, GD INTER-XLN POR IN 5%, GD MICRO VUG POR IN 1%, GD-EXCEL FLSH CUT, GD SLW STRM CUT IN 30%, TN LCH ON DISH, LIVE OIL, STRONG ODOR

3920'-3926' LS- WHT TO CRM, HD DNS, F-XLN, SLI RE-XLN IP, TR IMBD PYR CLSTR, DLL YEL MIN FLO IN 20%, NO VIS POR, NO SHOW

LS- WHT TO OFF WHT, HD DNS, CRYPTO - FN XLN, SLI SUB-CHLKY IP, TR IMBD FOSS FRAG, TR WHT CHRT, TR FRM TO SFT CHLK, DLL YEL MIN FLO IN 30%, NO VIS POR, NO SHOW

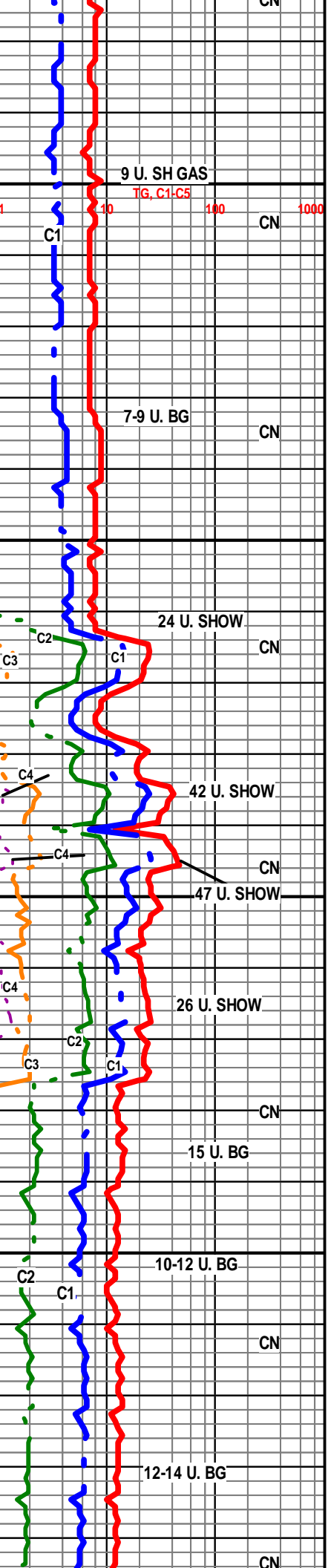
SH- BLK SFT CARB

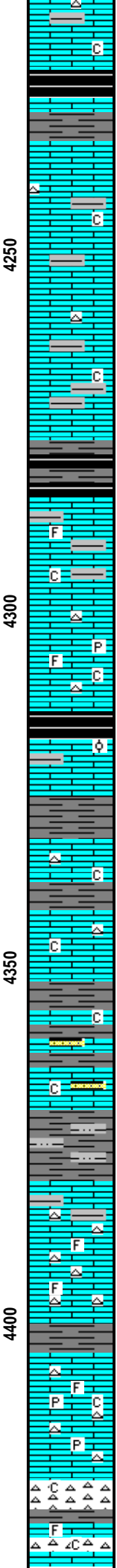
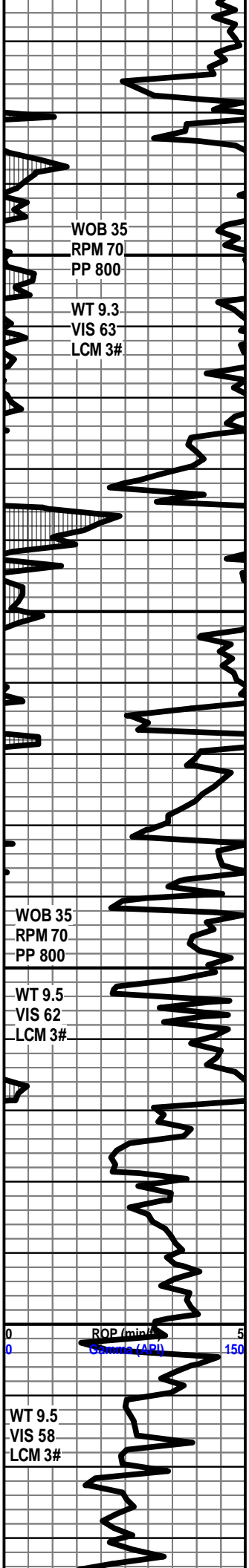
LANSING "H" 3956' (-1266')
LS- OFF WHT TO CRM, HD DNS, F-XLN, SLI SUB-CHLKY IP, IMBD & FREE SILICIOUS FOSS, TR IMBD SH, DLL YEL MIN FLO IN 10%, NO VIS POR, NO SHOW

LS- TN CRM OFF WHT, HD DNS, F-XLN, ARG TO SHLY IP, TR IMBD FOSS FRAG, FRM CHLK IP, DLL YEL MIN FLO IN 10%, NO VIS POR, NO SHOW

LS- CRM TO OFF WHT, HD DNS, FN-MD XLN, SLI RE-XLN IP, IMBD OIDS IP, IMBD FOSS FRAG IP, DLL YEL MIN FLO IN 40%, TR V/ PR INTER-XLN POR, NO VIS CUT OR SHOW

LS- OFF WHT TO TN (TR ASPH/DOS), HD DNS, CRYPTO-FN XLN, ABDT IMBD OOL IP, TR IMBD FOSS FRAG, TR WHT CHRT, DLL YEL MIN FLO IN 25%, TR PR INTER-OOL POR, NO VIS CUT OR SHOW





LS- LT GY TO OFF WHT, HD DNS, CRYPTO-FN XLN, SLI SHLY IP, TR FRM CHLK, TR GY CHRT, NO FLO, NO VIS POR, NO SHOW

LABETTE SHALE 4225' (-1535')
SH- GY TO BLK, FRM TO SFT, BLKY, CARB IP, SMTH TXT

LS- LT TO MD GY, OFF WHT IP, HD DNS, CRYPTO-FN XLN, TR SLI SUB-CHLKY, SLI SHLY IP, TR TN CHRT, NO FLO, NO VIS POR, NO SHOW

LS- LT TO MD GY, HD DNS, CRYPTO- FN XLN, SLI SHLY TO SHLY IP, GY TO TN CHRT IN TRAY, TR FRM CHLK, NO FLO, NO VIS POR, NO SHOW

SH- GY TO BLK, FRM BLKY TO SFT, CARB IP, SMTH TXT

FT SCOTT 4285' (-1595')
LS- GY TN TO OFF WHT, HD DNS, TR BRITT, CRYPTO-FN XLN, SUB-CHLKY MTRX IP, ABDT IMBD GY TO BLK SH, TR FOSS FRAG, TR FRM TO SFT CHLK, DLL YEL MIN FLO IN 10%, NO VIS POR, NO SHOW

LS- WHT TO OFF WHT, TN IP, HD DNS, F-XLN, SUB-SUCRO MTRX, TR RE-XLN, TR DISS PYR, TR IMBD FOSS FRAG, TR WHT TO TN CHRT, DLL YEL MIN FLO IN 20%, TR PR PP POR, NO VIS CUT OR SHOW

SH- BLK SFT CARB

CHEROKEE 4316' (-1626')
LS- TN TO CRM OFF WHT, HD DNS, CRYPTO-FN XLN, MOTT, IMBD GY TO BLK SH, TR IMBD OOL, NO FLO, NO VIS POR, NO SHOW

LS- OFF WHT TO LT GY, TN, HD DNS, CRYPTO-FN XLN, TR SLI RE-XLN, WHT TO TN CHRT, TR FRM CHLK, GY SH IN TRAY, DLL YEL MIN FLO IN 10%, NO VIS POR, NO SHOW

LS- OFF WHT TO LD GY, HD DNS, TR BRITT, CRYPTO-FN XLN, FRM TO SFT CHLK IP, IMBD F-GRN QRTZ IP, DLL YEL MIN FLO IN 20%, NO VIS POR, NO SHOW

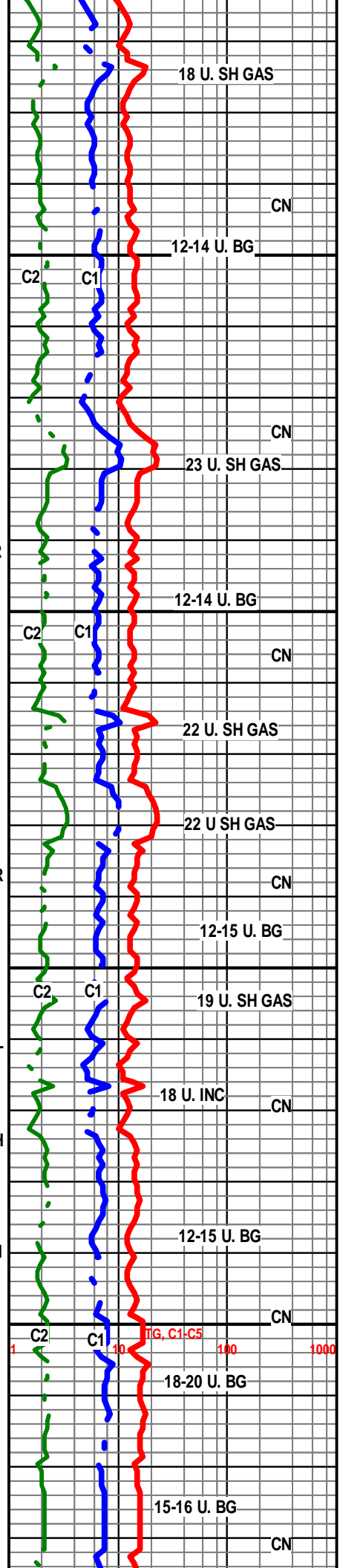
SH- LT GY, LT GRN, TO BRN, FRM TO SFT, GMMY IP, SMTH TO SLI SLTY TXT

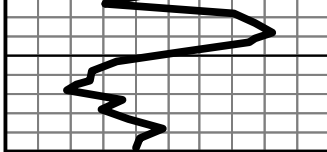
MISSISSIPPIAN 4380' (-1690')
LS- OFF WHT CRM, TR PNK, HD DNS, FN-MD XLN, SCAT WHT ORNG TO CLR CHRT, IMBD SIL FOSS IP, DISS RD SH IP, DLL YEL MIN FLO IN 20%, NO VIS POR, NO SHOW

SH- LT TO MD GY, RD, FRM TO SFT, GMMY IP, SMTH TXT

LS- CRM TO OFF WHT, HD TO BRITT, SFT IP, F-XLN, SUB-CHLKY IP, DISS PYR IP, TR IMBD FOSS FRAG, SCAT WHT TO ORNG CHRT, DLL YEL MIN FLO IN 20%, NO VIS POR, NO SHOW

CHRT- WHT ORNG TO TN, HD TO BRITT, CRYPTO-XLN, F-XLN WHT LS IP, FRM TO SFT CHLK, TR IMBD SIL FOSS, TR DLL YEL MIN FLO, NO VIS POR, NO SHOW





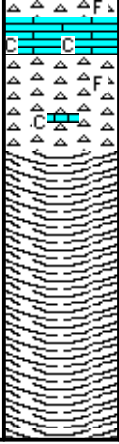
R.T.D. @4450-

SHORT TRIP 10 STNDS

CTCH 1.5 HR

T.O.F.L

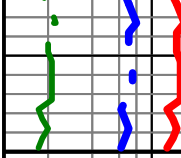
4450



TR DLE YEL MIN FLO, NO VIS POR, NO SHOW
CHRT- OFF WHT TO LT GY, CRYPTO-XLN, TR IMBD FOSS
FRAG, TR WHT CHLKY LS, NO FLO, NO VIS POR, NO
SHOW

R.T.D. 4450' @ 12:40PM 4/30/2015

LOGGING SERVICES COMPLETED BY: WEATHERFORD



R.T.D. @ 4450'

SAMPLES WILL BE DELIVERED TO KGS

THANK YOU FOR CHOOSING EARTH TECH

LOG COMPLETED BY : Ian Bosmeijer