

Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1241474
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: _____

1241474

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> _____
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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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Form	ACO1 - Well Completion
Operator	Samuel Gary Jr. & Associates, Inc.
Well Name	NUERNBERGER 3-1
Doc ID	1241474

All Electric Logs Run

DEN-NEUT
INDUCTION
MICRO
SONIC
SPECTRAL

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

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

No. 856

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

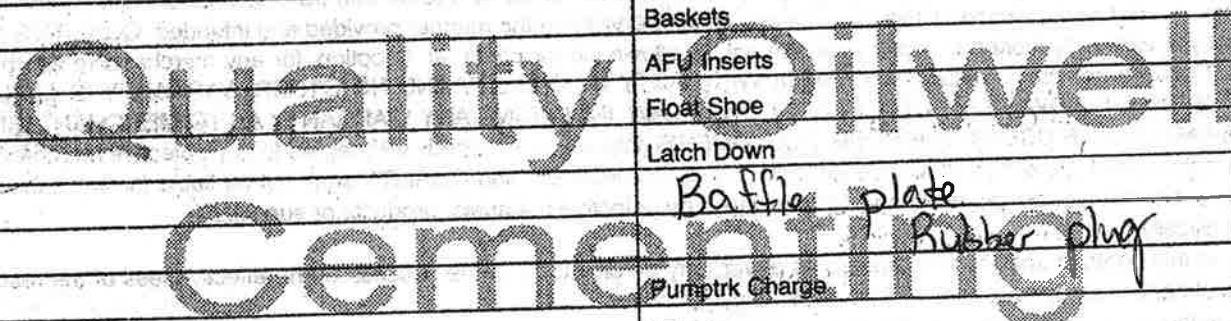
Date	10-15-14	Sec.	1	Twp.	5	Range	24	County	Nocton	State	Ks	On Location		Finish	9:00PM
Location													Lenora Ks - E to W4 Rd, 1/4 N, W 1/2		

Lease	Neurnberges		Well No.	3-1		Owner	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	Discover			4		Charge To	Samuel Gary Jr. + Associates								
Type Job	Surface					Street									
Hole Size	12 1/4"		T.D.	516'		City	State								
Csg.	8 5/8"		Depth	516'		The above was done to satisfaction and supervision of owner agent or contractor.									
Tbg. Size			Depth			Cement Amount Ordered 275 Com 3+2 1/2 B Flow Seal									
Tool			Depth												
Cement Left in Csg.	42.21'		Shoe Joint	42.21'											
Meas Line			Displace	30 BLS											

EQUIPMENT						Common
Pumptrk	5	No.	Cementer	Brett	Helper	Poz. Mix
Bulktrk	19	No.	Driver	Tyler	Driver	Gel.
Bulktrk	p.u.	No.	Driver	Rick	Driver	Calcium

JOB SERVICES & REMARKS						Hulls
Remarks:	Cement did		Circulate			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

FLOAT EQUIPMENT					
Guide Shoe					
Centralizer 1					
Baskets					
AFU Inserts					
Float Shoe					
Latch Down					
Baffle plate					
Rubber plug					
Pumptrk Charge					



Mileage		Tax	
		Discount	
		Total Charge	

X Signature: [Signature]

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. 859

Date	10-22-14	Sec.	1	Twp.	5	Range	24	County	Norton	State	Ks	On Location		Finish	1130
Lease								Well No.		Location					
Nuern Berger								3-1		Lendra 2E to W4 1/4 Winto					

Contractor	Discovery 4	Owner	To Quality Oilwell Cementing, Inc.
Type Job	Production	You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.	
Hole Size	7 7/8	Charge To	Sam Gary Jr & Associates
Csg. 5 1/2	15.5# New	Street	
Tbg. Size		City	State

T.D.	3910	The above was done to satisfaction and supervision of owner agent or contractor.	
Depth	3910	Cement Amount Ordered	435 QMDC 1/4 lb flow seal
Cement Left in Csg.	39.47	200 PROC 10% salt 5% gibsonite 1/4 lb flow seal	
Meas Line		2% CD-110 .8% CH-117 .25% CF38 200	
Displace	92 bbl	Common	

EQUIPMENT

Pumptrk	16	No.	Cementer	Billy	Poz mix	435 QMDC
Bulktrk	21	No.	Helper	Chad	2 gal CD 110	100 ft
Bulktrk	9	No.	Driver	Ryan	Calcium	
			Driver	Rick	Hairs	KCL 2 gal

P.U. JOB SERVICES & REMARKS

Remarks:		Salt	17
Rat Hole	30 sx	Flowseal	158
Mouse Hole	15 sx	Kol-Seal	1000 ft
Centralizers	1, 5, 7, 9, 11, 13, 3	Mud CLR 48	500 gal
Baskets	3, 65, 60, 49	CFL-117 or CD110 (CAF 38)	50 ft
D/V or Port Collar	Pipe on bottom broke		20 BL KCL
Circulation. Pumped 500 gal mud CLR 48. Plugged Rod hole 30 sx. Plugged mouse hole 15 sx. Hooked to 5 1/2 and mixed 390 QMDC 1/4 lb flow seal and 200 Q Proc 1/4 lb flow seal. Shut down washed pump and lines. Released plug and displaced with 20 bbl KCL water and 72 bbl water. Plug landed and held.		Handling	
		Mileage	CFL-117 168 ft

FLOAT EQUIPMENT

Lift PSI	1400	Guide Shoe	
Landed PSI	2200	Centralizer	7 turbos
Cir approx	158 sx to pit	Baskets	3 Red
		AFU Inserts	
		Float Shoe	
		Latch Down	
		Pumptrk Charge	prod string
		Mileage	56
		Tax	
		Discount	
		Total Charge	

X Signature

[Handwritten Signature]



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Samuel Gary Jr. & Associates

1-5S-24W - Norton, KS

Nuernberger #3-1

Job Ticket: 55923

DST#: 1

ATTN: Dan Pritchard

Test Start: 2014.10.19 @ 05:53:00

GENERAL INFORMATION:

Formation: **LKC "A-B"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:08:30

Time Test Ended: 13:51:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Mack

Unit No: 66

Interval: 3450.00 ft (KB) To 3494.00 ft (KB) (TVD)

Reference Elevations: 2316.00 ft (KB)

Total Depth: 3494.00 ft (KB) (TVD)

2308.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

Serial #: 8874 Inside

Press@RunDepth: 75.64 psig @ 3451.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.10.19

End Date:

2014.10.19

Last Calib.:

2014.10.19

Start Time: 05:54:00

End Time:

13:51:30

Time On Btm:

2014.10.19 @ 08:08:00

Time Off Btm:

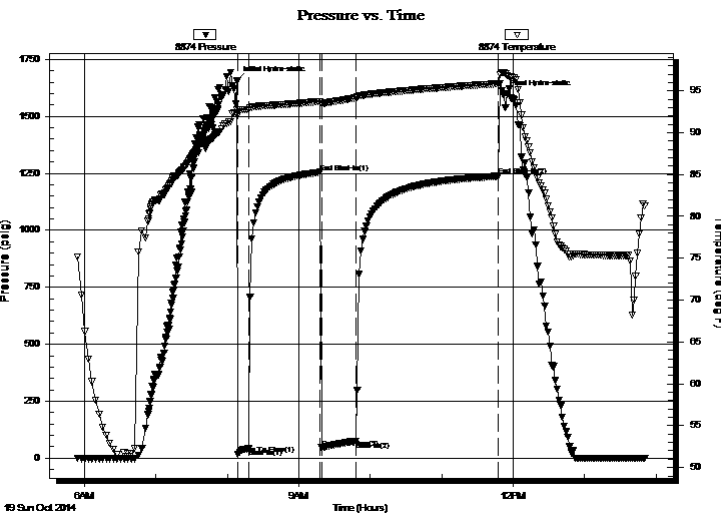
2014.10.19 @ 11:51:30

TEST COMMENT: 10 - IF- 1/4" Blow built to 3 1/2"

60 - IS- No Return

30 - FF- Surface Blow built to 8"

120 - FS- No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1654.73	92.69	Initial Hydro-static
1	17.20	92.04	Open To Flow (1)
10	41.92	92.77	Shut-In(1)
70	1253.87	93.73	End Shut-In(1)
71	45.35	93.45	Open To Flow (2)
100	75.64	94.15	Shut-In(2)
220	1237.25	95.85	End Shut-In(2)
224	1596.21	97.20	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	MW 90W 10M	0.56
50.00	OSMW 15M 85W (oil spots)	0.70

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Samuel Gary Jr. & Associates

1-5S-24W - Norton, KS

Nuernberger #3-1

Job Ticket: 55923

DST#: 1

ATTN: Dan Pritchard

Test Start: 2014.10.19 @ 05:53:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 8.00 lb/gal

Cushion Length:

ft

Water Salinity:

55000 ppm

Viscosity: 47.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.79 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	MW 90W 10M	0.559
50.00	OSMW 15M 85W (oil spots)	0.701

Total Length: 110.00 ft Total Volume: 1.260 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .13 @ 80 = 55,000ppm

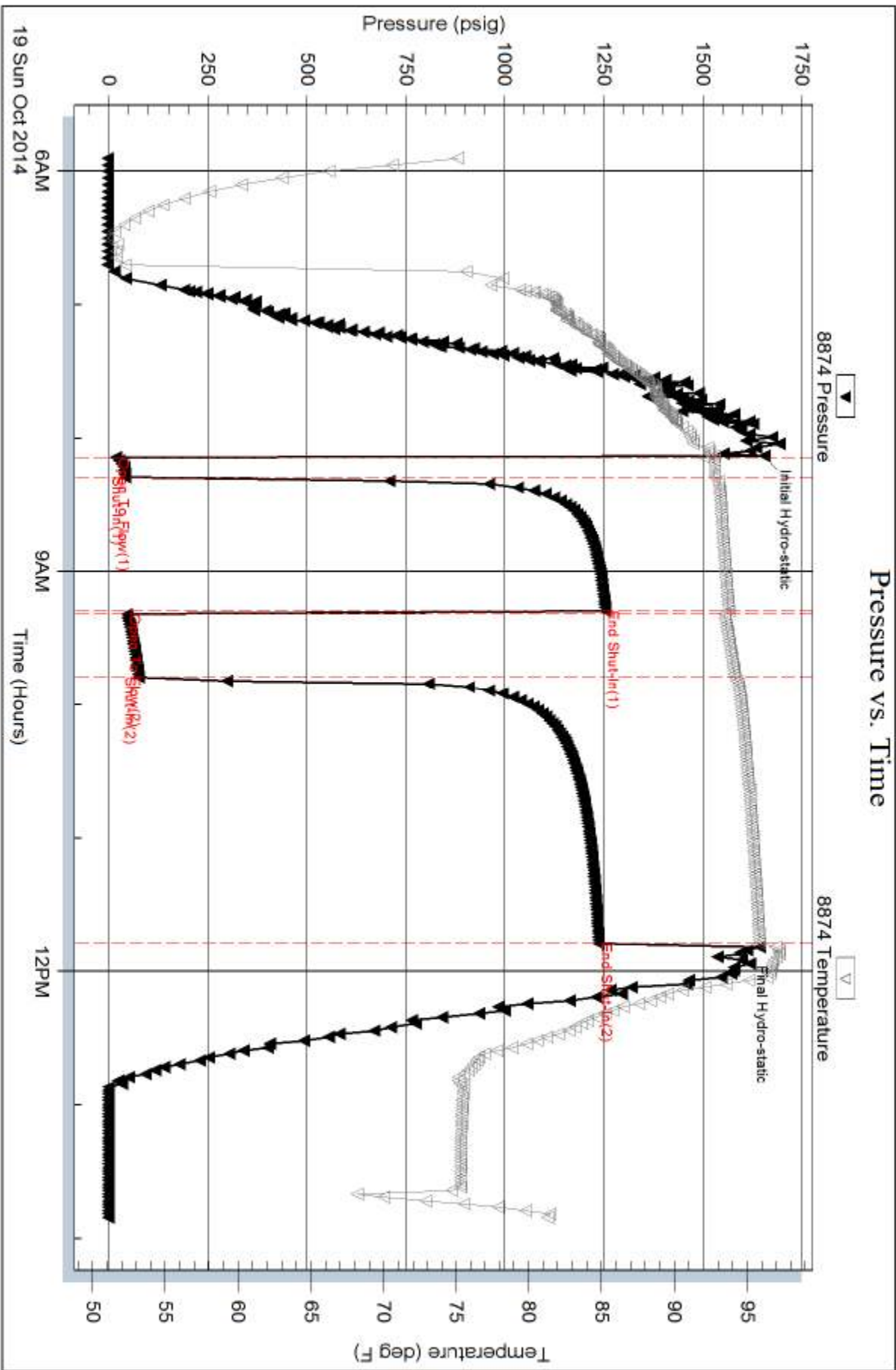
Serial #: 8874

Inside

Samuel Gary Jr. & Associates

Numberger #3-1

DST Test Number: 1



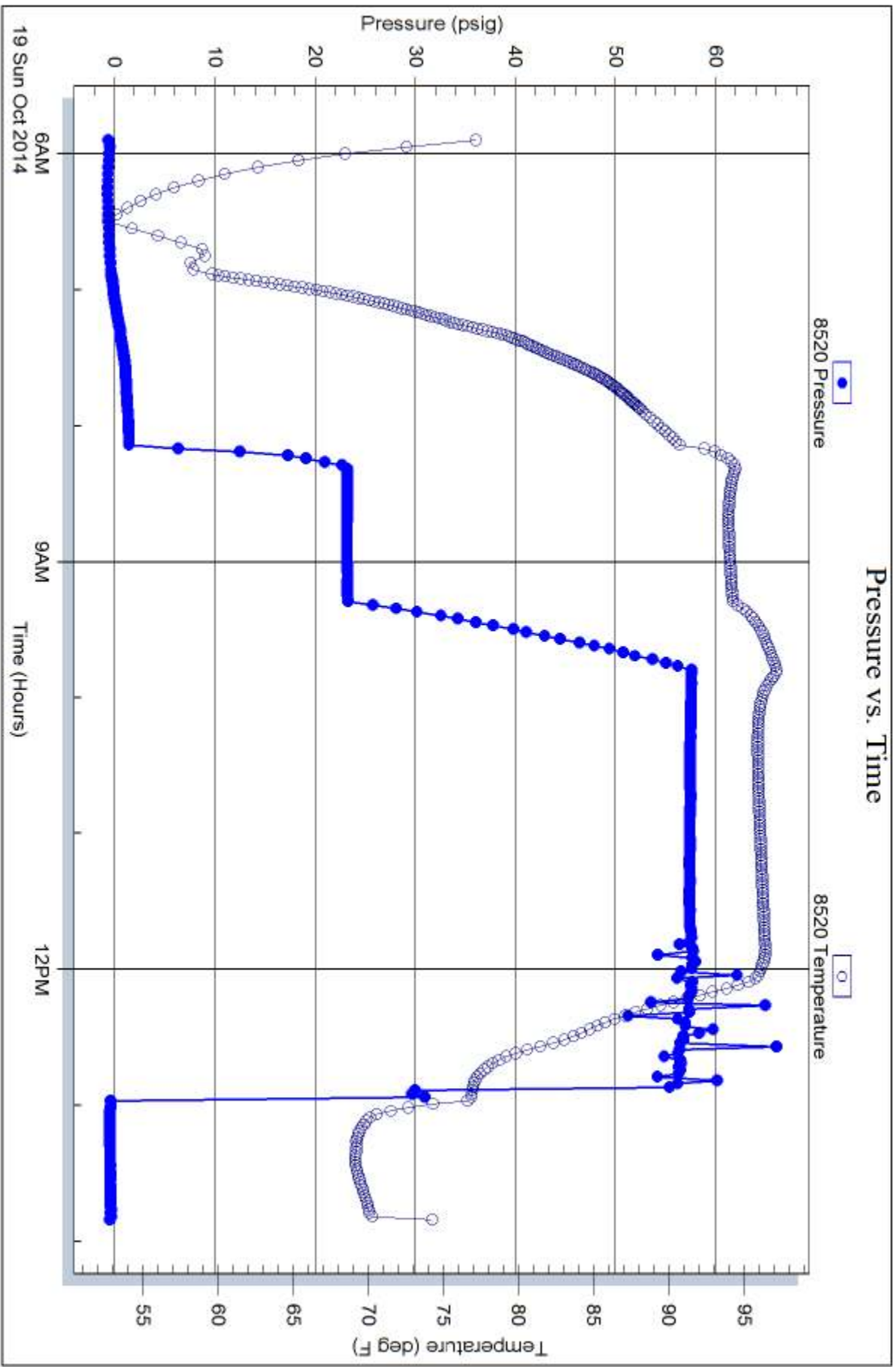
Serial #: 8520

Fluid

Samuel Gary Jr. & Associates

Nuumberger #3-1

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 55923

Printed: 2014.10.19 @ 15:02:49



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Samuel Gary Jr. & Associates

1-5S-24W - Norton, KS

Nuernberger #3-1

Job Ticket: 55924

DST#: 2

ATTN: Dan Pritchard

Test Start: 2014.10.21 @ 07:47:00

GENERAL INFORMATION:

Formation: **LKC "H & I"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:58:00

Time Test Ended: 13:58:00

Test Type: Conventional Straddle (Initial)

Tester: Donovan Baumann

Unit No: 66

Interval: 3589.00 ft (KB) To 3622.00 ft (KB) (TVD)

Total Depth: 3622.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2316.00 ft (KB)

2308.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 8874

Inside

Press@RunDepth: 29.61 psig @ 3590.00 ft (KB)

Start Date: 2014.10.21

End Date: 2014.10.21

Start Time: 07:48:00

End Time: 13:58:00

Capacity: 8000.00 psig

Last Calib.: 2014.10.21

Time On Btm: 2014.10.21 @ 09:57:00

Time Off Btm: 2014.10.21 @ 11:15:00

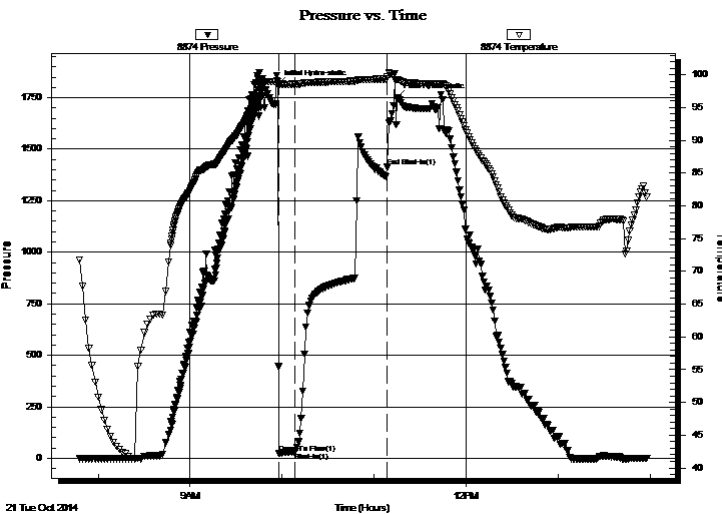
TEST COMMENT: 10 - IF - Weak surface blow built to 2 1/2 in. in 10 min.

60 - ISI - No return

FF - PACKER FAILULER

FSI -

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1813.22	99.00	Initial Hydro-static
1	25.07	98.58	Open To Flow (1)
11	29.61	98.55	Shut-In(1)
72	1413.04	99.64	End Shut-In(1)
78	1752.00	99.30	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
716.00	OSM - 100M - Oil spots	9.76

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Samuel Gary Jr. & Associates

1-5S-24W - Norton, KS

Nuernberger #3-1

Job Ticket: 55924

DST#: 2

ATTN: Dan Pritchard

Test Start: 2014.10.21 @ 07:47:00

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: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.59 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
716.00	OSM - 100M - Oil spots	9.761

Total Length: 716.00 ft Total Volume: 9.761 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8874

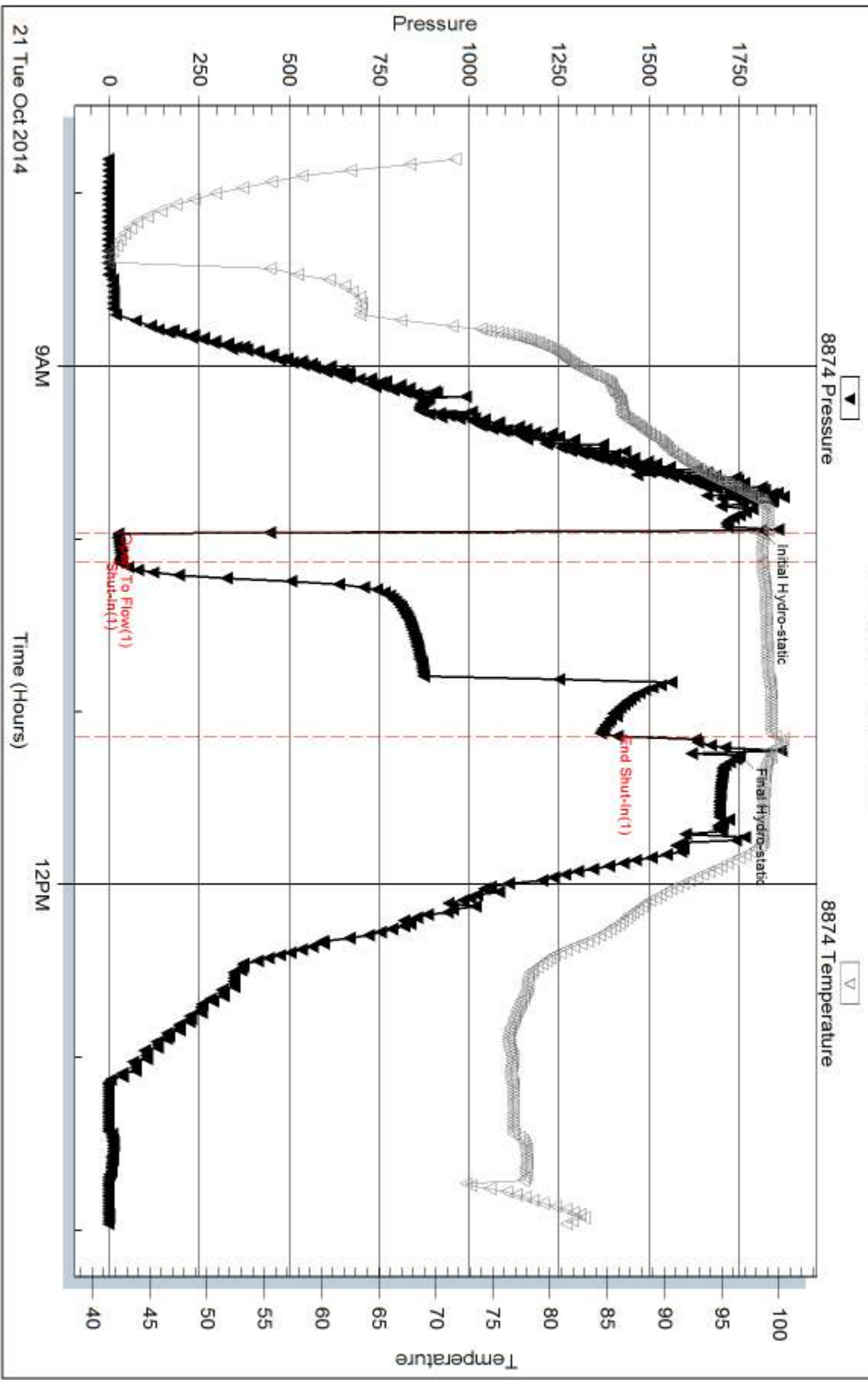
Inside

Samuel Gary Jr. & Associates

Nuumberger #3-1

DST Test Number: 2

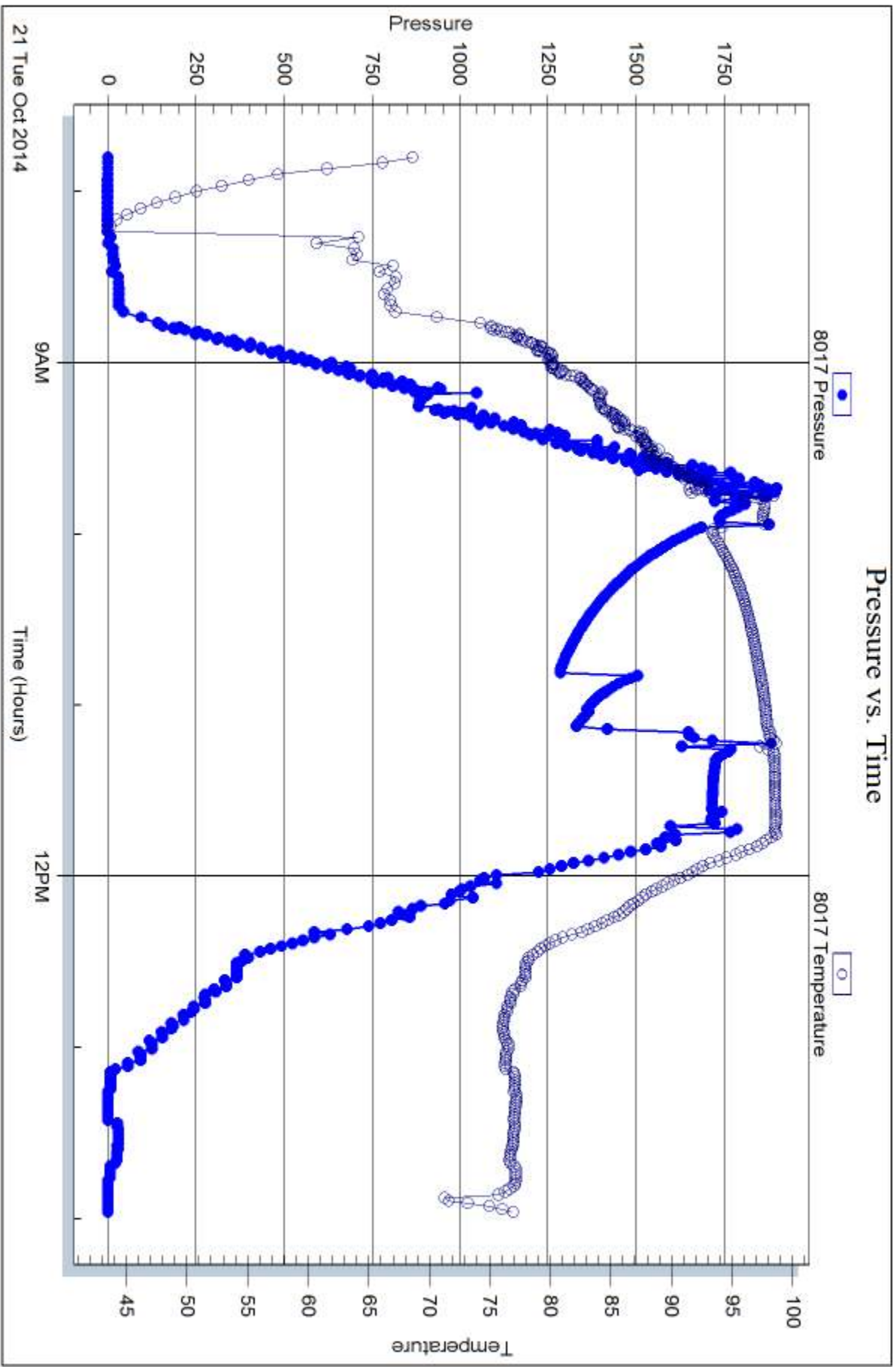
Pressure vs. Time



Triobite Testing, Inc

Ref. No: 55924

Printed: 2014, 10, 21 @ 15:39:06



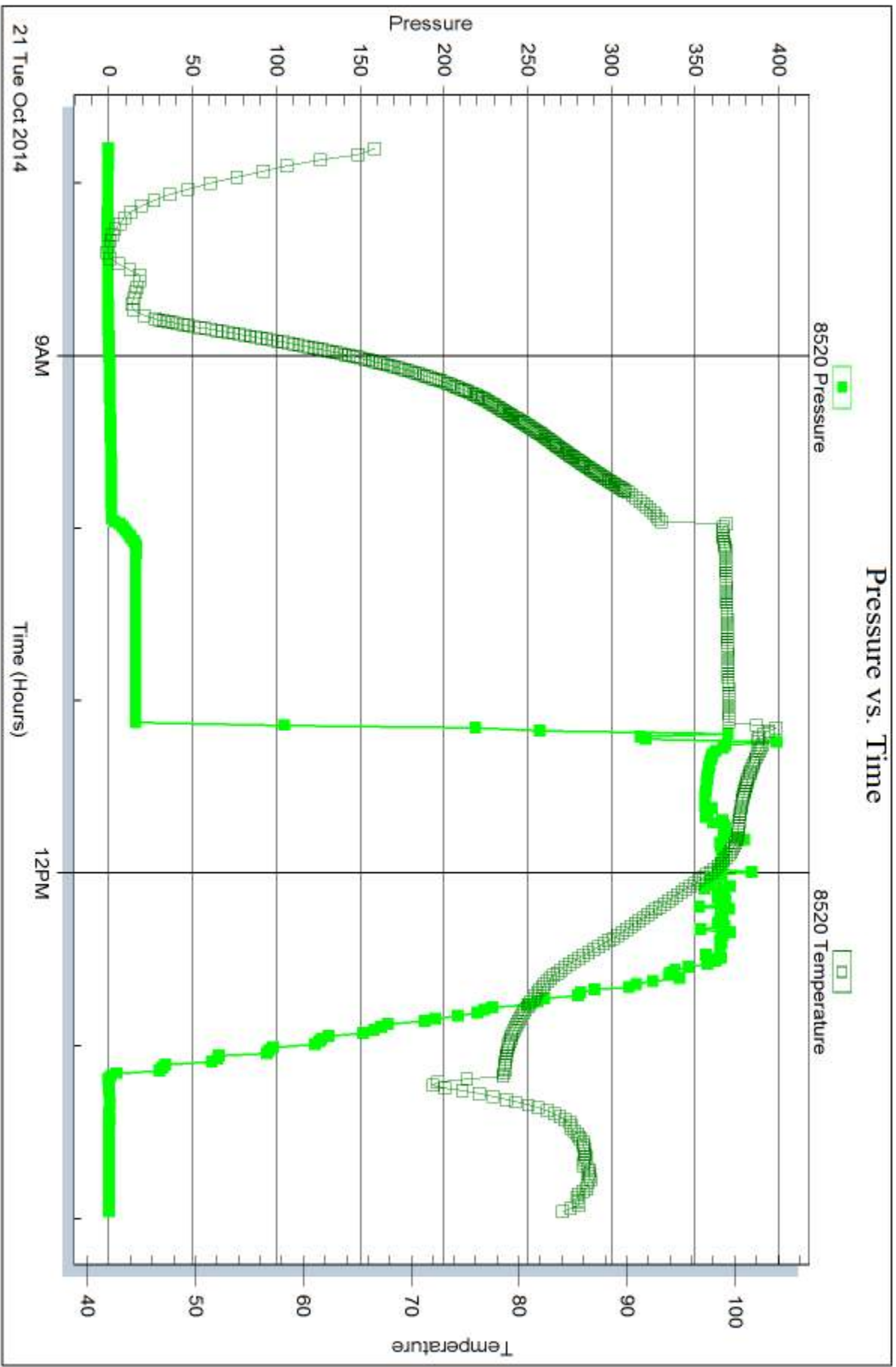
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Fluid

Samuel Gary Jr. & Associates

Nuumberger #3-1

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 55924

Printed: 2014, 10, 21 @ 15:39:07



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Samuel Gary Jr. & Associates

1-5S-24W - Norton, KS

Nuernberger #3-1

Job Ticket: 60854

DST#: 3

ATTN: Dan Pritchard

Test Start: 2014.10.21 @ 15:33:00

GENERAL INFORMATION:

Formation: **LKC "H & I"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:31:30

Time Test Ended: 00:48:00

Test Type: Conventional Straddle (Initial)

Tester: Donovan Baumann

Unit No: 66

Interval: 3564.00 ft (KB) To 3624.00 ft (KB) (TVD)

Total Depth: 3624.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2316.00 ft (KB)

2308.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 8874

Inside

Press@RunDepth: 47.44 psig @ 3565.00 ft (KB)

Start Date: 2014.10.21

End Date:

2014.10.22

Start Time: 15:34:00

End Time:

00:48:00

Capacity: 8000.00 psig

Last Calib.: 2014.10.22

Time On Btm: 2014.10.21 @ 17:31:20

Time Off Btm: 2014.10.21 @ 22:27:30

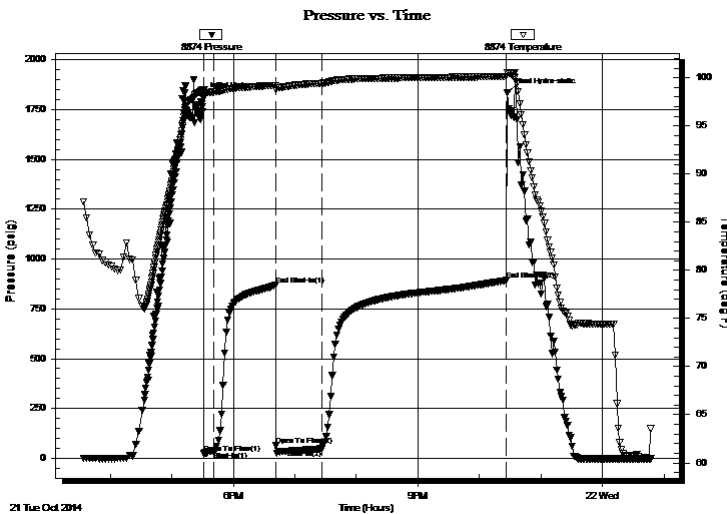
TEST COMMENT: 10 - IF - Weak surface blow built to 2 in. in 10 min.

60 - ISI - No return

45 - FF - Strong surface blow built to

180 - FSI - No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1816.32	98.78	Initial Hydro-static
1	22.94	97.99	Open To Flow (1)
10	37.56	98.53	Shut-In(1)
70	869.41	99.21	End Shut-In(1)
71	63.53	98.73	Open To Flow (2)
115	47.44	99.44	Shut-In(2)
295	893.02	100.14	End Shut-In(2)
297	1836.54	100.57	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
40.00	MCO - 30M - 70o	0.28
45.00	Oil - 100o	0.63

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Samuel Gary Jr. & Associates

1-5S-24W - Norton, KS

Nuernberger #3-1

Job Ticket: 60854

DST#: 3

ATTN: Dan Pritchard

Test Start: 2014.10.21 @ 15:33:00

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 57.00 sec/qt

Water Loss: 9.59 in³

Resistivity: 0.00 ohm.m

Salinity: 500.00 ppm

Filter Cake: 1.00 inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

Water Salinity: deg API

ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
40.00	MCO - 30M - 70o	0.279
45.00	Oil - 100o	0.631

Total Length: 85.00 ft Total Volume: 0.910 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8874

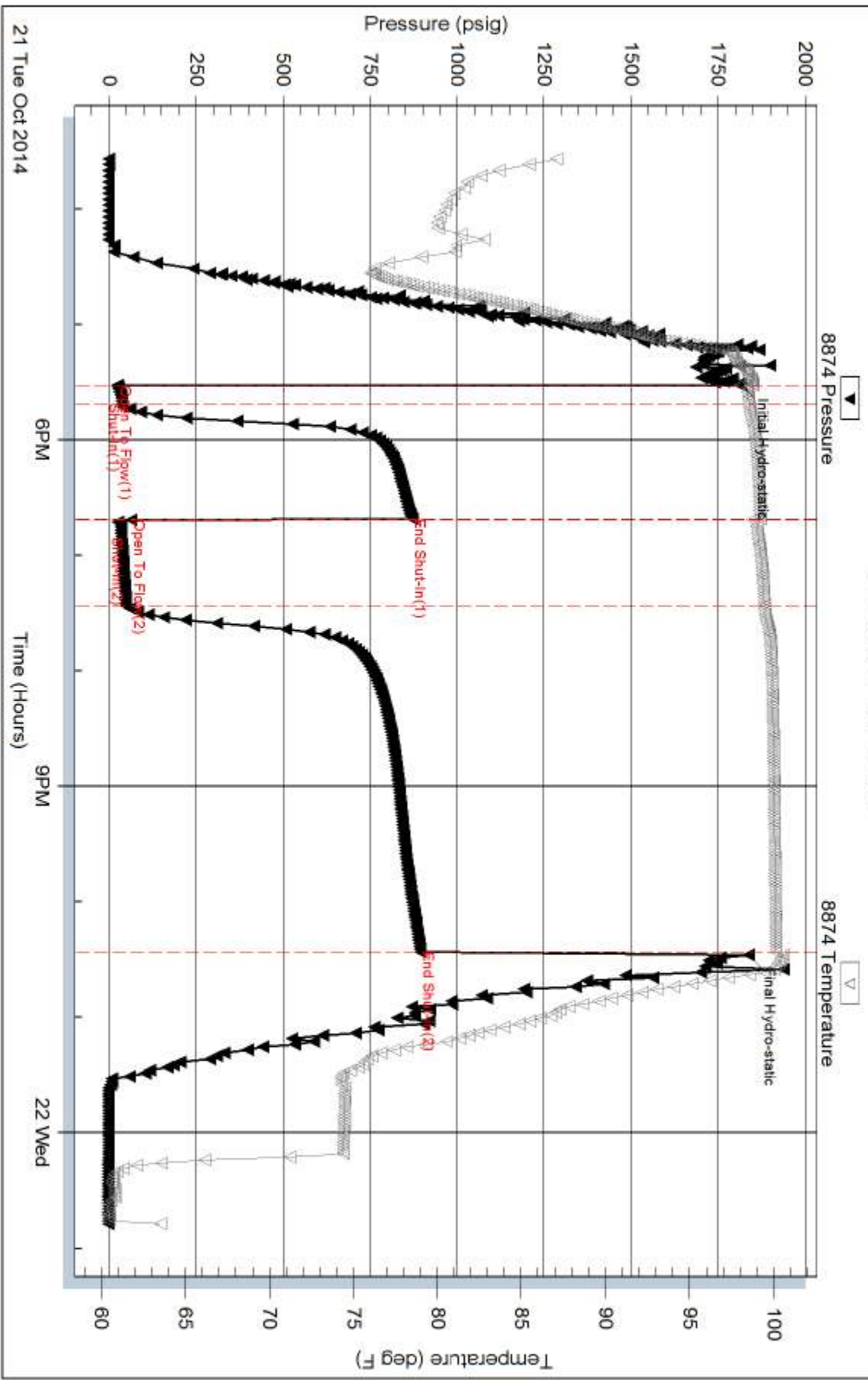
Inside

Samuel Gary Jr. & Associates

Nuumberger #3-1

DST Test Number: 3

Pressure vs. Time



Trilobite Testing, Inc

Ref. No: 60854

Printed: 2014, 10, 22 @ 08:18:02

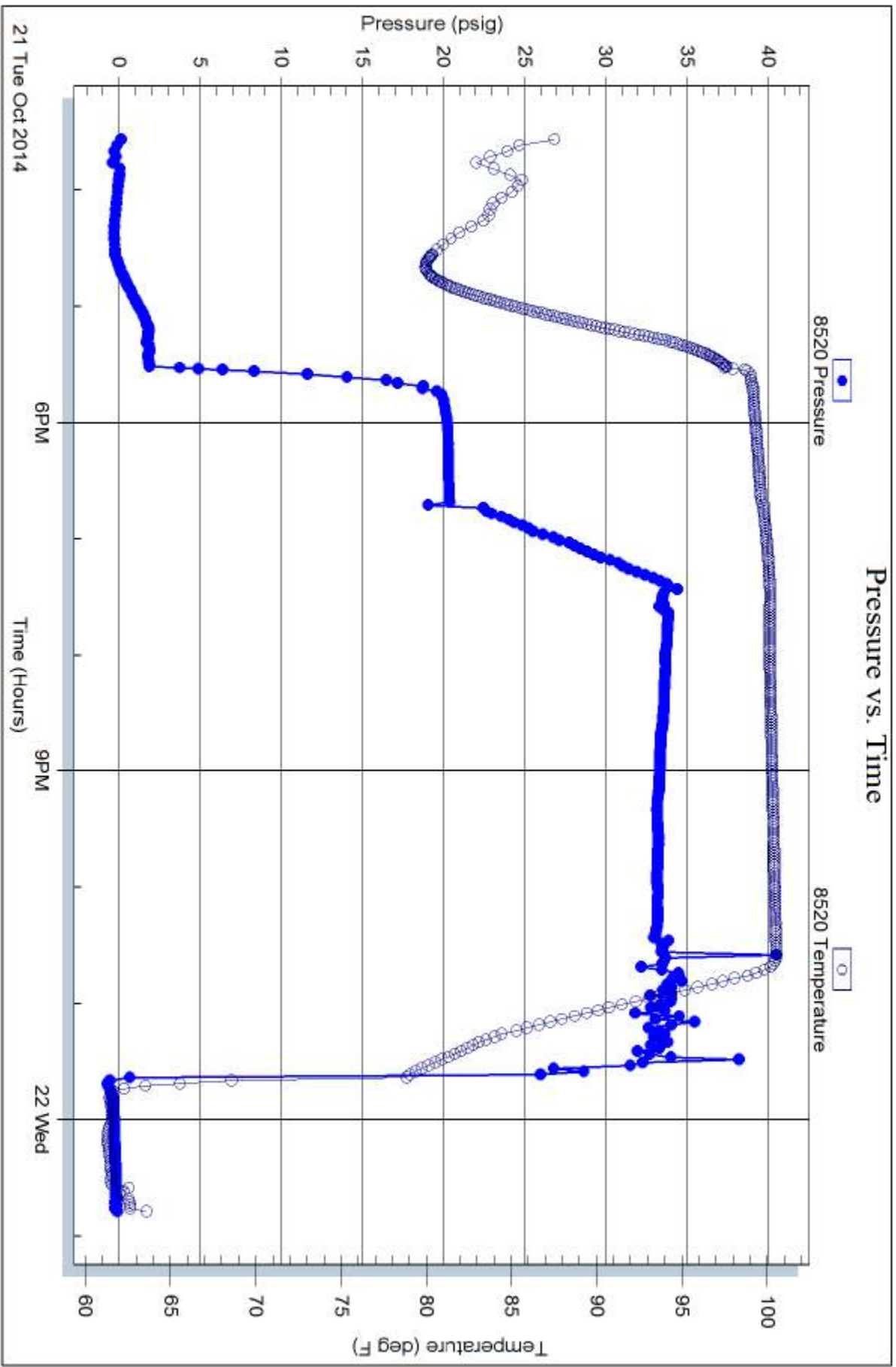
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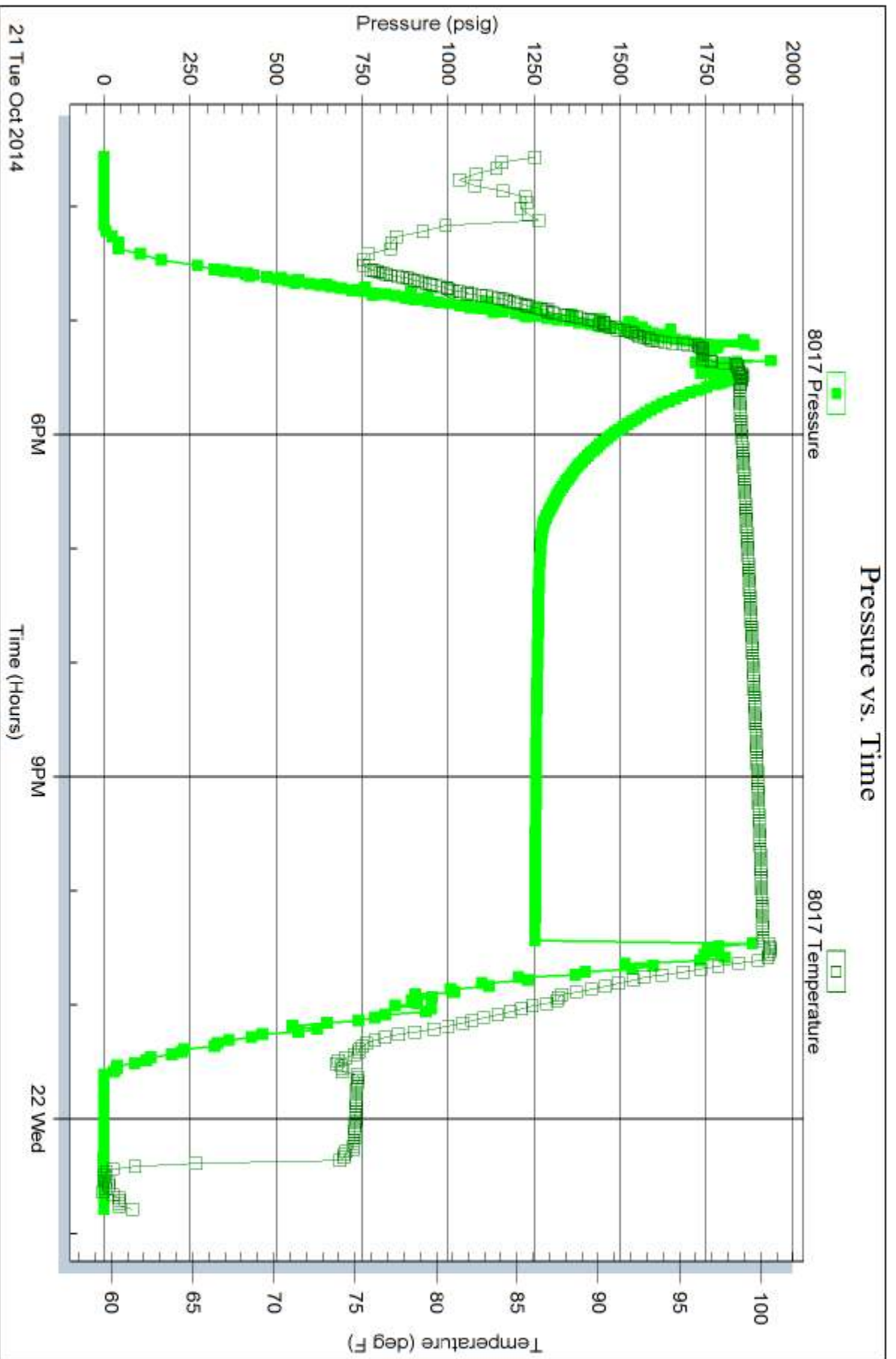
Fluid

Samuel Gary Jr. & Associates

Numberger #3-1

DST Test Number: 3







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

Well Name: Neurenberger 3-1
Well Id:
Location: Sec. 1 5S 24W Norton County, Kansas
License Number: 15-137-20719-0000
Spud Date: Oct. 15, 2014
Surface Coordinates: 715' FSL & 2075' FWL
Region: Wildcat
Drilling Completed: Oct. 20, 2014

Bottom Hole Coordinates:
Ground Elevation (ft): 2308' K.B. Elevation (ft): 2316'
Logged Interval (ft): 3150' To: 3910' Total Depth (ft): 3910'
Formation:
Type of Drilling Fluid: Natural Chemical

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

OPERATOR

Company: Samuel Gary Jr & Associates, inc
Address: 1515 Wynkoop Street, Suite 700
Denver, Colorado 80202
Geo: Dan Pritchard

GEOLOGIST

Name: Aaron Suelter
Company: EARTH TECH OGL, Inc.
Address: PO Box 683
Hooker, Okla 73945
1-580-652-3924
8918 5Th St
Great Bend, Ks. 67530
1-888-543-8378

	DRILL STEM TEST REPORT		
	Samuel Gary Jr. & Associates	1-5S-24W - Norton, KS	
	Nuernerberger #3-1		
	Job Ticket: 55923	DST#: 1	
ATTN: Dan Pritchard	Test Start: 2014.10.19 @ 05:53:00		
GENERAL INFORMATION:			
Formation: LKC "A-B"	Deviated: No Whipstock: ft (KB)		Test Type: Conventional Bottom Hole (Initial)
Time Tool Opened: 08:08:30	Time Test Ended: 13:51:30		Tester: Kevin Mack
Interval: 3450.00 ft (KB) To 3494.00 ft (KB) (TVD)	Total Depth: 3494.00 ft (KB) (TVD)		Reference Elevations: 2316.00 ft (KB)
Hole Diameter: 7.88 inches	Hole Condition: Good		2308.00 ft (CF)
			KB to GRVCF: 8.00 ft
Serial #: 8874	Inside		
Press@RunDepth: 75.64 psig @ 3451.00 ft (KB)	Capacity: 8000.00 psig		
Start Date: 2014.10.19	End Date: 2014.10.19	Last Calib.: 2014.10.19	
Start Time: 05:54:00	End Time: 13:51:30	Time On Btm: 2014.10.19 @ 08:08:00	
		Time Off Btm: 2014.10.19 @ 11:51:30	
TEST COMMENT: 10 - IF- 1/4" Blow built to 3 1/2"			
60 - IS- No Return			
30 - FF- Surface Blow built to 8"			
120 - FSI- No Return			
		PRESSURE SUMMARY	
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1654.73	92.69	Initial Hydro-static
1	17.20	92.04	Open To Flow (1)
10	41.92	92.77	Shut-in(1)
70	1253.87	93.73	End Shut-in(1)
71	45.35	93.45	Open To Flow (2)
100	75.64	94.15	Shut-in(2)
220	1237.25	95.85	End Shut-in(2)
224	1596.21	97.20	Final Hydro-static
Recovery		Gas Rates	
Length (ft)	Description	Volume (bbl)	Choke (inches) Pressure (psig) Gas Rate (Mcf/d)
60.00	MW 90W 10M	0.56	
50.00	OSMW 15M 85W (oil spots)	0.70	



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Samuel Gary Jr. & Associates

1-5S-24W - Norton, KS

ATTN: Dan Pritchard

Nuemberger #3-1

Job Ticket: 55924

DST#: 2

Test Start: 2014.10.21 @ 07:47:00

GENERAL INFORMATION:

Formation: **LKC "H & I"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:58:00

Time Test Ended: 13:58:00

Test Type: Conventional Straddle (Initial)

Tester: Donovan Baumann

Unit No: 66

Interval: **3589.00 ft (KB) To 3622.00 ft (KB) (TVD)**

Total Depth: 3622.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2316.00 ft (KB)

2308.00 ft (CF)

KB to GRVCF: 8.00 ft

Serial #: 8874

Inside

Press@RunDepth: 29.61 psig @ 3590.00 ft (KB)

Start Date: 2014.10.21

Start Time: 07:48:00

End Date: 2014.10.21

End Time: 13:58:00

Capacity: 8000.00 psig

Last Calib.: 2014.10.21

Time On Btm: 2014.10.21 @ 09:57:00

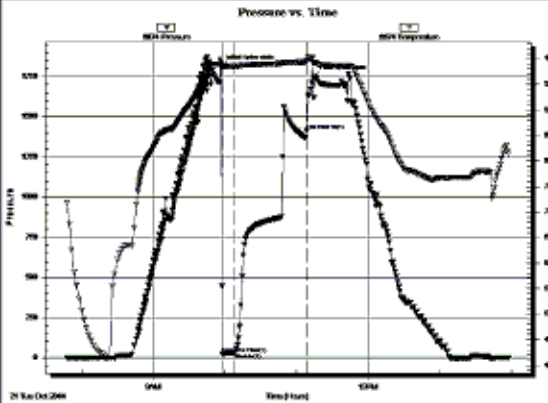
Time Off Btm: 2014.10.21 @ 11:15:00

TEST COMMENT: 10 - IF - Weak surface blow built to 2 1/2 in. in 10 min.

60 - ISI - No return

FF - PACKER FAILLUR

FSI -



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1813.22	99.00	Initial Hydro-static
1	25.07	98.58	Open To Flow (1)
11	29.61	98.55	Shut-in(1)
72	1413.04	99.64	End Shut-in(1)
78	1752.00	99.30	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
716.00	OSM - 100M - Oil spots	9.76

Gas Rates

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

TriLOBITE Testing, Inc

Ref. No: 55924

Printed: 2014.10.22 @ 01:18:10



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Samuel Gary Jr. & Associates

1-5S-24W - Norton, KS

ATTN: Dan Pritchard

Nuemberger #3-1

Job Ticket: 60854

DST#: 3

Test Start: 2014.10.21 @ 15:33:00

GENERAL INFORMATION:

Formation: **LKC "H & I"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:31:30

Time Test Ended: 00:48:00

Test Type: Conventional Straddle (Initial)

Tester: Donovan Baumann

Unit No: 66

Interval: **3564.00 ft (KB) To 3624.00 ft (KB) (TVD)**

Total Depth: 3624.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2316.00 ft (KB)

2308.00 ft (CF)

KB to GRVCF: 8.00 ft

Serial #: 8874

Inside

Press@RunDepth: 47.44 psig @ 3565.00 ft (KB)

Start Date: 2014.10.21

Start Time: 15:34:00

End Date: 2014.10.22

End Time: 00:48:00

Capacity: 8000.00 psig

Last Calib.: 2014.10.22

Time On Btm: 2014.10.21 @ 17:31:20

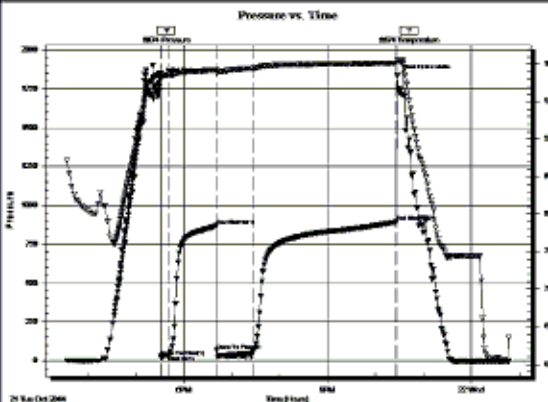
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TEST COMMENT: 10 - IF - Weak surface blow built to 2 in. in 10 min.

60 - ISI - No return

45 - FF - Strong surface blow built to

180 - FSI - No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1816.32	98.78	Initial Hydro-static
1	22.94	97.99	Open To Flow (1)
10	37.56	98.53	Shut-in(1)
70	869.41	99.21	End Shut-in(1)
71	63.53	98.73	Open To Flow (2)
115	47.44	99.44	Shut-in(2)
295	893.02	100.14	End Shut-in(2)
297	1836.54	100.57	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
40.00	MCO - 30M - 70o	0.28
45.00	Oil - 100o	0.63

Gas Rates

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

TriLOBITE Testing, Inc

Ref. No: 60854

Printed: 2014.10.22 @ 01:18:49

ROCK TYPES

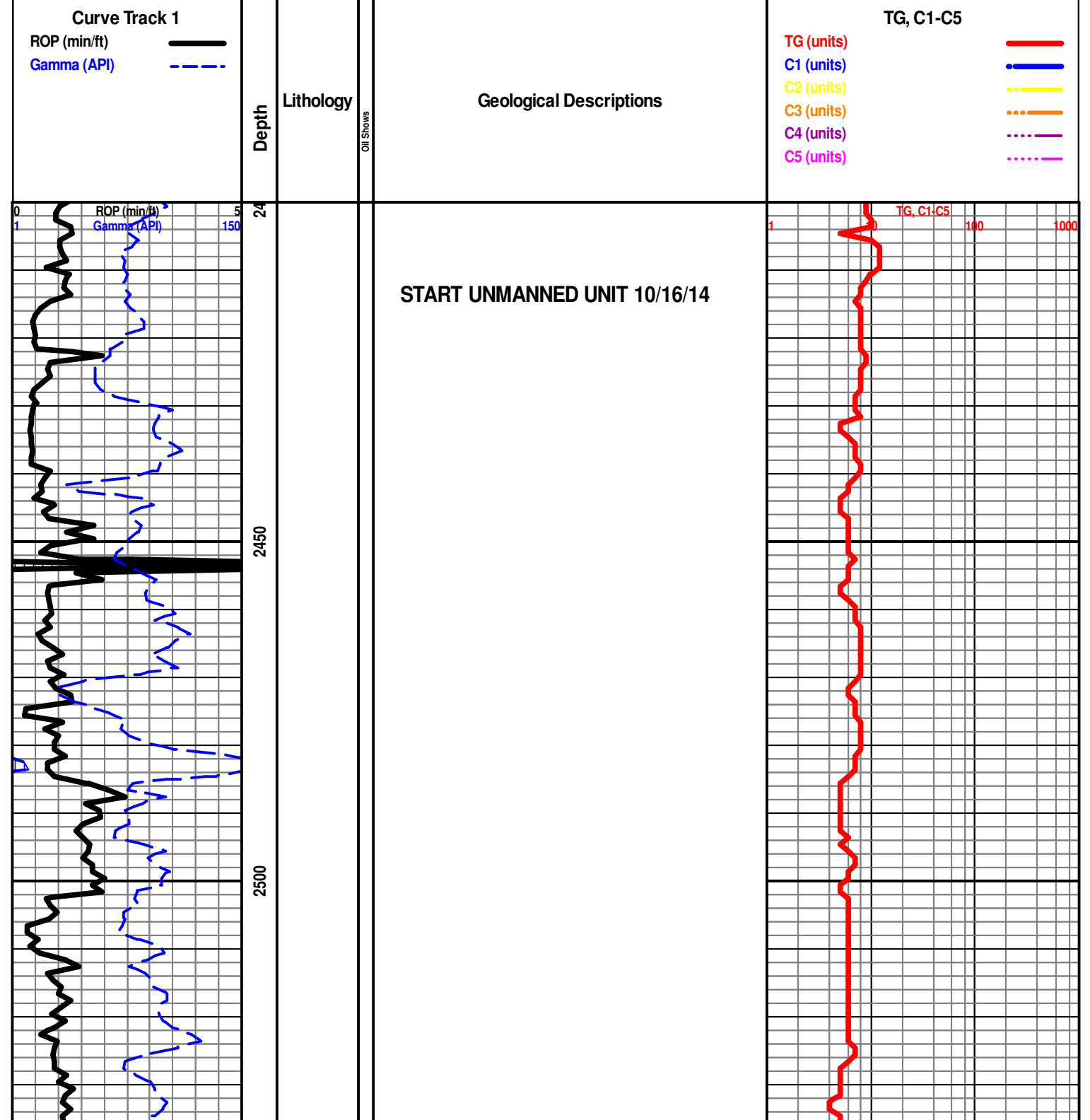
<ul style="list-style-type: none"> Anhy Bent Brec Cht Clyst Coal Congl Dol 	<ul style="list-style-type: none"> Gyp Igne Lmst Meta Mrlst Salt Shale Shcol 	<ul style="list-style-type: none"> Shgy Sltst Ss Till Carb sh Dol Dtd Gry sh 	<ul style="list-style-type: none"> Sandylms Shale Sltstn Shlyslts Sitysh Lms
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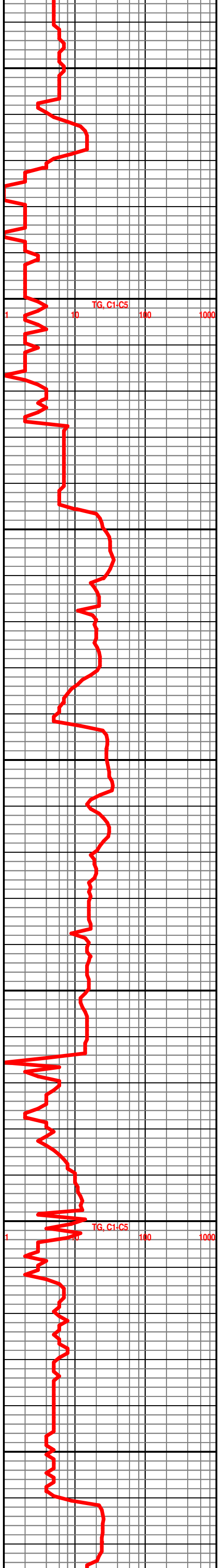
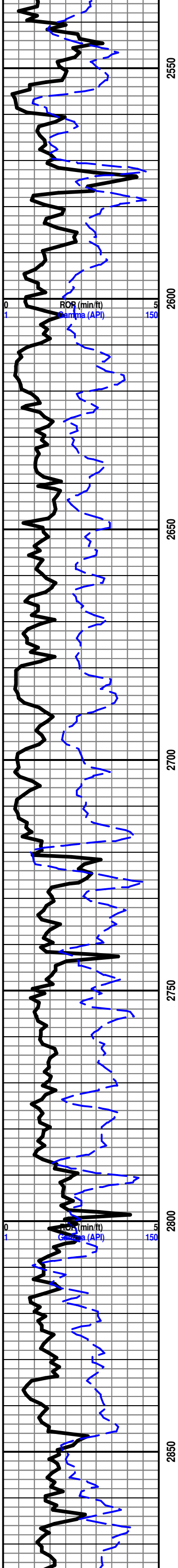
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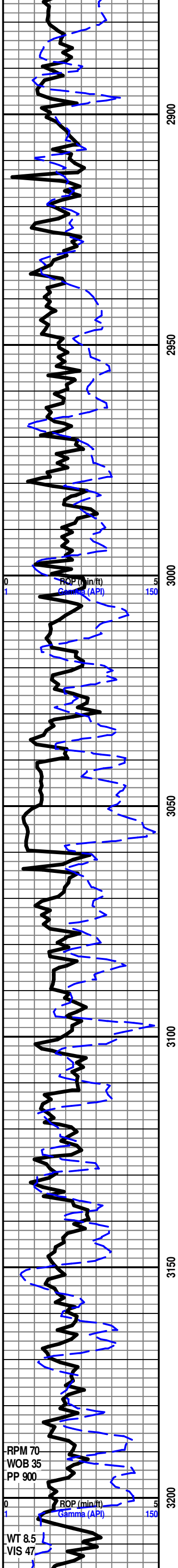
<h4>MINERAL</h4> <ul style="list-style-type: none"> Anhy Arggrn Arg Bent Bit Brecfrag Calc Carb Chtdk Chtlt Dol Feldspar Ferrpel Ferr Glau Gyp Hvymin Kaol Marl Minxl Nodule Phos Pyr 	<ul style="list-style-type: none"> Salt Sandy Silt Sil Sulphur Tuff Chlorite Dol Sand Sltly <h4>FOSSIL</h4> <ul style="list-style-type: none"> Algae Amph Belm Bioclst Brach Bryozoa Cephal Coral Crin Echin Fish Foram 	<ul style="list-style-type: none"> Fossil Gastro Oolite Ostra Pelec Pellet Pisolite Plant Strom Fuss Oomold <h4>STRINGER</h4> <ul style="list-style-type: none"> Anhy Arg Bent Coal Dol Gyp Ls Mrst Sltstrg Ssstrg Carbsh 	<ul style="list-style-type: none"> Clystn Dol Grysh Gryslt Lms Sandylms Sh Sltstn <h4>TEXTURE</h4> <ul style="list-style-type: none"> Boundst Chalky Cryxln Earthy Finexln Grainst Lithogr Microxln Mudst Packst Wackst
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OTHER SYMBOLS

<h4>POROSITY TYPE</h4> <ul style="list-style-type: none"> Earthy Fenest Fracture Inter Moldic Organic Pinpoint Vuggy 	<h4>SORTING</h4> <ul style="list-style-type: none"> Well Moderate Poor <h4>ROUNDING</h4> <ul style="list-style-type: none"> Rounded Subrnd Subang 	<ul style="list-style-type: none"> Angular <h4>OIL SHOWS</h4> <ul style="list-style-type: none"> Even Spotted Ques Dead Gas show 	<h4>INTERVALS</h4> <ul style="list-style-type: none"> Core Dst Dst <h4>EVENTS</h4> <ul style="list-style-type: none"> Rft Sidewall
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2900
2950
3000
3050
3100
3150
3200

ROP (min/ft)
Gamma (API)

RPM 70
WOB 35
PP 900

ROP (min/ft)
Gamma (API)

WT 8.5
VIS 47

JANESVILLE SHALE 2937' -621'

**START 24 HOUR MANNED UNIT
10/17/14**

LS- OFF WHT TO CRM, HD DNS TO BRIT, V/F TO T F XLN MTRX, S-CHLKY, ABDT IMBD FOSS FRG THRU, TR CALC XLS IN TRAY, NO VIS FLO, NO VIS POR, NO VIS SHOW

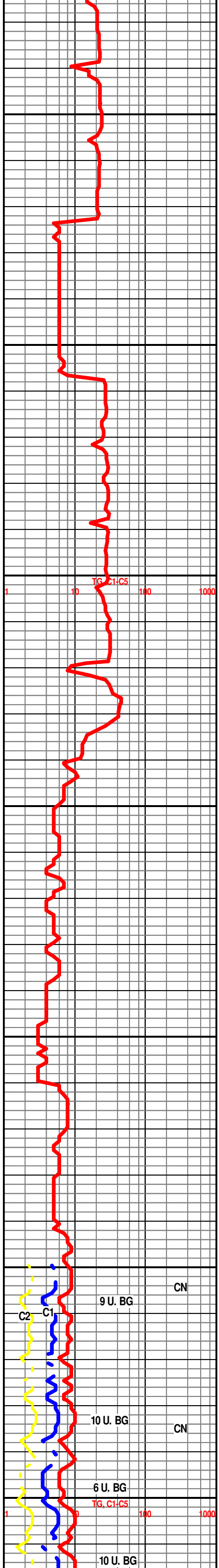
SH- GRN BRWN TO GY, FRM BLKY, SMTH TXT

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

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

TOPEKA 3202' -886'

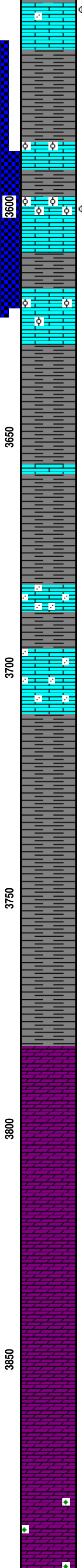
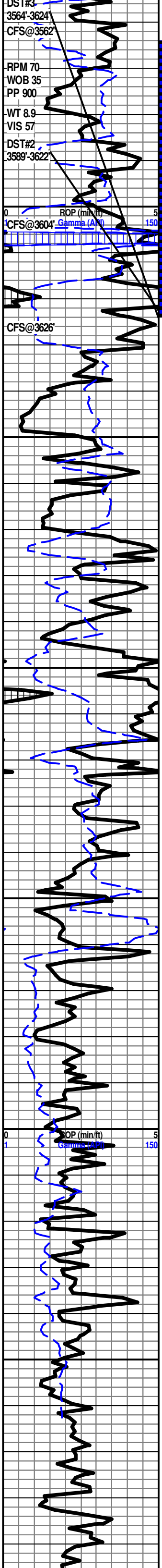
LS- LT GY TO LT TN, HD DNS TO BRIT, V/F TO F XLN MTRX, S-CHLKY, SLI TR IMBD FOSS FRG IP, NO VIS FLO, NO VIS POR, NO VIS SHOW



TG, C1-C5

C2 C1
9 U. BG
10 U. BG
6 U. BG
10 U. BG

CN
CN



3550-3557' LS- LT TN TO TN W/ TN OIL STN IN 20%, LOS IN 1% HD DNS, V/F TO F XLN MTRX, TR IMBD QRTZ XLS IP, SFT WHT CHLK IN TRAY, DUL YEL GLD FLO IN 30%, FR TO GD VUG POR IN 3%, GUD FLSH CUT IN 25%, GD SLW STRM IN 25%, TN LCH ON DISH, NO OIL ODOR

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

LANSING "G" 3586' -1270'

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

3599'-3601' LS- CRM LT TN TO TN W/ TN OIL STN IN 70%, HD DNS TO BRIT, V/F TO F XLN MTRX, ABTD IMBD OOL THRU, DUL YEL GLD FLO IN 70%, PR TO FR INTR OOL POR IN 4%, FR TO GD VUG POR IN 2%, FR FLSH CUT IN 70%, FR TO GD SLW STRM IN 70%, TN LCH ON DISH, NO OIL ODOR

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

BKC 3631' -1315'

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

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

LS- WHT OFF WHT TO CRM, HD DNS, V/F TO F XLN MTRX, ABTD IMBD SM RND QRTZ XLS THRU, NO VIS FLO, NO VIS POR, NO VIS SHOW

LS- LT GY OFF WHT TO CRM, HD DNS TO BRIT, V/F TO F XLN MTRX, RE-XLN IP, ABTD IMBD SM RND QRTZ XLS THRU, NO VIS FLO, NO VIS POR, NO VIS SHOW

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

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

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

ARBUCKLE 3783' -1467'

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

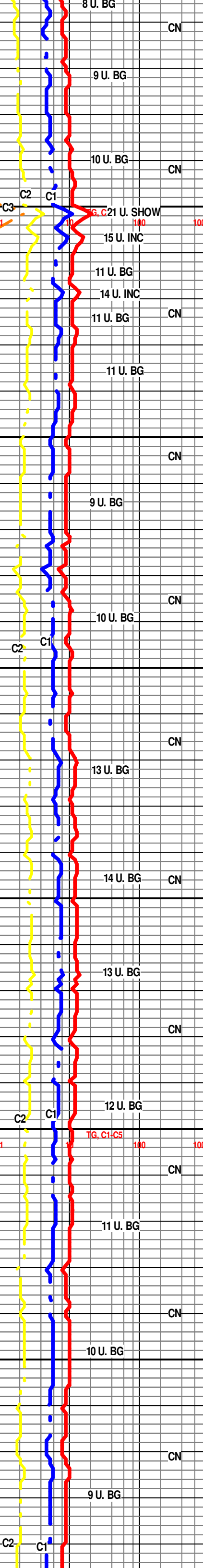
DOLO- LT TN TO TN, HD DNS TO BRIT IP, V/F TO F XLN SUCRO MTRX, ABTD IMBD SM TO MD S-ANG TO S-RND DOLO GRNS THRU, NO VIS FLO, PR TO FR INTR GRN POR IN 7%, NO VIS SHOW

DOLO- LT TN DK TN TO BRWN, HD DNS TO BRIT, V/F TO F XLN SUCRO MTRX, ABTD IMBD SM TO MD S-ANG TO RND DOLO GRNS THRU, NO VIS FLO, PR INTR GRN POR IN 7%, NO VIS SHOW

DOLO- TN DK TN TO BRWN, HD DNS TO BRIT, V/F TO F XLN SUCRO MTRX, ABTD IMBD F TO SM S-ANG TO S-RND DOLO GRNS THRU, NO VIS FLO, PR INTR GRN POR IN 7%, NO VIS SHOW

DOLO- LT TN DK TN TO BRWN, HD DNS TO BRIT, V/F TO F XLNS SUCRO MTRX, ABTD IMBD SM TO MD S-ANG TO S-RND DOLO GRNS THRU, NO VIS FLO, PR INTR GRN POR IN 7%, NO VIS SHOW

DOLO- LT TN TN TO BRWN, HD DNS TO BRIT IP, V/F TO F XLN SUCRO MTRX, ABTD IMBD F TO SM S-RND TO RND DOLO GRNS THRU, SCAT IMBD CHLORTE THRU, NO VIS FLO, PR INTR GRN POR IN 5%, NO VIS SHOW



8 U. BG

9 U. BG

10 U. BG

6. C21 U. SHOW

15 U. INC

11 U. BG

14 U. INC

11 U. BG

11 U. BG

9 U. BG

10 U. BG

13 U. BG

14 U. BG

13 U. BG

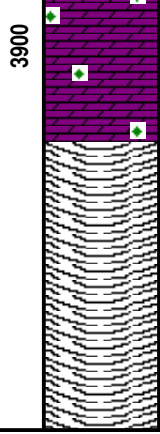
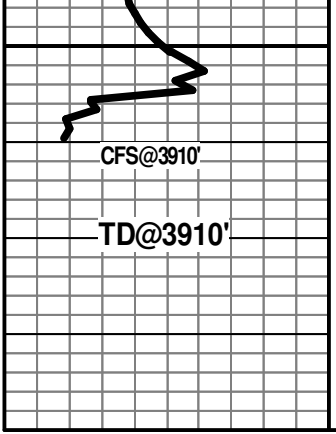
12 U. BG

TG, C1-C5

11 U. BG

10 U. BG

9 U. BG



TEC, 1 INCH PRINT ON 11.5%, NO VIS SHOW

R.T.D. @ 7:15 PM 10/20/14
 CFS 1 HOUR
 SHORT TRIP
 CTCH 1.5 HOUR
 DROP SURVEY
 TOFL
 WEATHERFORD/ LIBERAL

