[redacted]

Confidentiality Requested:
☑ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1245518

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 # 3882
Name: Samuel Gary Jr. & Associates, Inc.
Address 1: 1515 WYNKOOP, STE 700
Address 2:
City: DENVER State: CO Zip: 80202 + _ _ _ _
Contact Person: DAN PRITCHARD
Phone: (303) 831-4673
CONTRACTOR: License # 31548
Name: Discovery Drilling
Wellsite Geologist: JEFF KAMPS
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 #:

11/20/2014	11/28/2014	11/29/2014
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-137-20724-00-00
Spot Description:
W2 - SE - SE - SE Sec. 35 Twp. 4 S. R. 24 ☐ East ☑ West
330 Feet from ☐ North / ☑ South Line of Section
500 Feet from ☑ East / ☐ West Line of Section
Footages Calculated from Nearest Outside Section Corner:
☐ NE ☐ NW ☑ SE ☐ SW
GPS Location: Lat: *(e.g. xx.xxxxx)*, Long: *(e.g. -xxx.xxxxx)*
Datum: ☐ NAD27 ☐ NAD83 ☐ WGS84
County: Norton
Lease Name: STEVEN Well #: 1-35
Field Name:
Producing Formation: N/A
Elevation: Ground: 2374 Kelly Bushing: 2382
Total Vertical Depth: 3934 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 600 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: 21000 ppm Fluid volume: 480 bbls
Dewatering method used: Hauled to Disposal
Location of fluid disposal if hauled offsite:
Operator Name: SAMUEL GARY JR. & ASSOCIATES, INC.
Lease Name: MARIAN ET AL 1-1 License #: 3882
Quarter SW Sec. 1 Twp. 5 S. R. 24 ☐ East ☑ West
County: NORTON Permit #: D33016

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: 03/12/2015
☑ **Confidential Release Date:** 03/11/2017
☑ **Wireline Log Received**
☑ **Geologist Report Received**
☐ **UIC Distribution**
ALT ☐ I ☑ II ☐ III **Approved by:** NAOMI JAMES **Date:** 03/12/2015

[redacted]

1245518

Operator Name: Samuel Gary Jr. & Associates, Inc. Lease Name: STEVEN Well #: 1-35

Sec. 35 Twp. 4 S. R. 24 ☐ East ☑ West County: Norton

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 ☑ Yes ☐ No
(Attach Additional Sheets)

Samples Sent to Geological Survey ☑ Yes ☐ No

Cores Taken ☐ Yes ☑ No

Electric Log Run ☑ Yes ☐ No

List All E. Logs Run:

DEN-NEUT
INDUCTION
MICRO

☑ Log Formation (Top), Depth and Datum ☐ Sample

Name	Top	Datum
TOPEKA	3270	-888
HEEBNER	3469	-1087
LANSING	3510	-1128
ARBUCKLE	3833	-1451

CASING RECORD ☑ New ☐ 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
Surface	12.25	8.625	23	600	COMMON CLASS A	350	2% GEL, 3% CC

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
____ Perforate ____ Protect Casing ____ Plug Back TD ____ 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 *(Amount and Kind of Material Used)*	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

DISPOSITION OF GAS:
☐ Vented ☐ Sold ☐ Used on Lease
(If vented, Submit ACO-18.)

METHOD OF COMPLETION:
☐ Open Hole ☐ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)*
☐ Other *(Specify)* _____

PRODUCTION INTERVAL:
_____
_____

Form	ACO1 - Well Completion
Operator	Samuel Gary Jr. & Associates, Inc.
Well Name	STEVEN 1-35
Doc ID	1245518

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
Surface	12.25	8.625	23	600	COMMON CLASS A	350	2% GEL, 3% CC

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. 6306

Date	Sec.	Twp.	Range	County	State	On Location	Finish
11-21-14	35	4	24	Norton	KS		0230

Location Lenora 2W 6Rd 3N to 1Rd 3/4E N into

Lease Steven | Well No. 1-35

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 Discovery 4

Type Job Surface

Hole Size 12 1/4 | T.D. 600

Csg. 8 5/8 | Depth 600

Tbg. Size | Depth

Tool | Depth

Cement Left in Csg. | Shoe Joint 42.19

Meas Line | Displace 35 1/2 bls

Charge To Sam gary Jr & Associates

Street

City State

The above was done to satisfaction and supervision of owner agent or contractor.

Cement Amount Ordered 350 com 3% cc 2% gel 1/2# flowseal

EQUIPMENT

Pumptrk 20	No.	Cementer	Billy
		Helper	
Bulktrk 19	No.	Driver	Nick
		Driver	
~~Bulktrk~~ P4	No.	Driver	Tyler
		Driver	

JOB SERVICES & REMARKS

Remarks: Cement Did circulate

Rat Hole

Mouse Hole

Centralizers 1

Baskets

D/V or Port Collar

Common	350
Poz. Mix	
Gel.	7
Calcium	13
Hulls	
Salt	
Flowseal	175#
Kol-Seal	
Mud CLR 48	
CFL-117 or CD110 CAF 38	
Sand	
Handling	370
Mileage	

FLOAT EQUIPMENT

Guide Shoe	
Centralizer	1
Baskets	
AFU Inserts	
Float Shoe	
Latch Down	

Baffel plate Rubber plug

Pumptrk Charge	Long Surface
Mileage	56
Tax	
Discount	
Total Charge	

X Signature Mike Goodson

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. 1354

Date	Sec.	Twp.	Range	County	State	On Location	Finish
11-28-14	35	4	24	Norton	KS		10:00AM

Location Lenora, 3N on W6 Rd to Y Rd, 3/4E, Nn2

Lease Steven — Well No. 1-35

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 Discovery #4

Type Job Plug

Hole Size 7 7/8 — T.D.

Charge To Sam Gary 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 305 sx 60/40, 4% gel, 1/4# Flo

Meas Line — Displace

EQUIPMENT

Pumptrk 17	No.	Cementer	
		Helper Lonnie W.	
Bulktrk 21	No.	Driver	
		Driver Tylor	
Bulktrk 24	No.	Driver	
		Driver Travis	

JOB SERVICES & REMARKS

Remarks:

Rat Hole 30sx

Mouse Hole 15sx

Centralizers

Baskets

D/V or Port Collar

50sx at 3813

50sx at 2015

100sx at 1176

50sx at 650

10sx at 40 with plug

Common	183
Poz. Mix	122
Gel.	11
Calcium	
Hulls	
Salt	
Flowseal	76#
Kol-Seal	
Mud CLR 48	
CFL-117 or CD110 CAF 38	
Sand	
Handling	316
Mileage	

FLOAT EQUIPMENT

Guide Shoe	
Centralizer	
Baskets	
AFU Inserts	
Float Shoe	
Latch Down	
1 wood plug	
Pumptrk Charge plug	
Mileage 56	
Tax	
Discount	
Total Charge	

X Signature Mike Loschen

Quality Oilwell Cementing

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Samuel Gary Jr

1515 Wynkoop
STE 700
Denver, C0 80202
ATTN: Chris Mitchell

Sec. 35-4s-24w Norton, KS

Steven #1-35

Job Ticket: 60982 **DST#: 1**

Test Start: 2014.11.24 @ 15:58:00

GENERAL INFORMATION:

Formation: **Toronto- LCK "A"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened:
Time Test Ended: 20:37:20

Test Type: Conventional Bottom Hole (Initial)
Tester: Phillip Gage
Unit No: 77

Interval: 3476.00 ft (KB) To 3520.00 ft (KB) (TVD)
Total Depth: 3520.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

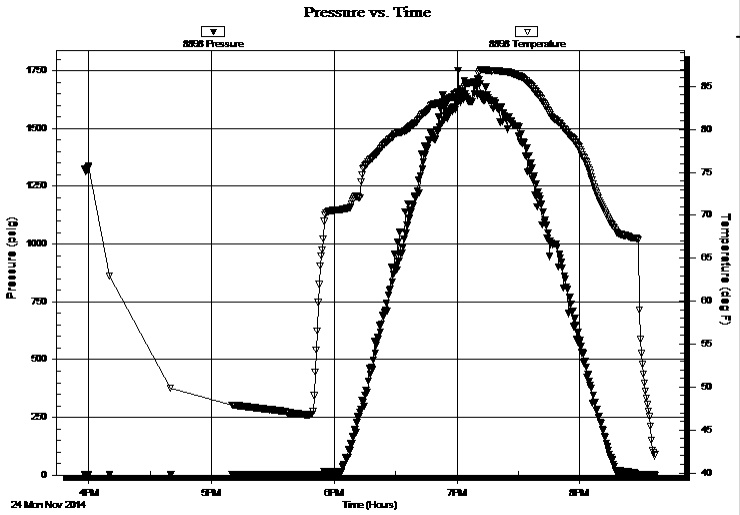
Reference Elevations: 2382.00 ft (KB)
2374.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8898 **Outside**

Press@RunDepth: psig @ 3477.00 ft (KB)
Start Date: 2014.11.24 End Date: 2014.11.24
Start Time: 15:58:01 End Time: 20:37:20

Capacity: 8000.00 psig
Last Calib.: 2014.11.24
Time On Btm:
Time Off Btm:

TEST COMMENT: IF-Mis Run, Hit bridge at 3420'
ISI-
FF-
FSI-



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)

Gas Rates

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

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Samuel Gary Jr

1515 Wynkoop
STE 700
Denver, C0 80202
ATTN: Chris Mitchell

Sec. 35-4s-24w Norton, KS

Steven #1-35

Job Ticket: 60982 **DST#: 1**

Test Start: 2014.11.24 @ 15:58:00

GENERAL INFORMATION:

Formation: **Toronto- LCK "A"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened:
Time Test Ended: 20:37:20

Test Type: Conventional Bottom Hole (Initial)
Tester: Phillip Gage
Unit No: 77

Interval: 3476.00 ft (KB) To 3520.00 ft (KB) (TVD)
Total Depth: 3520.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

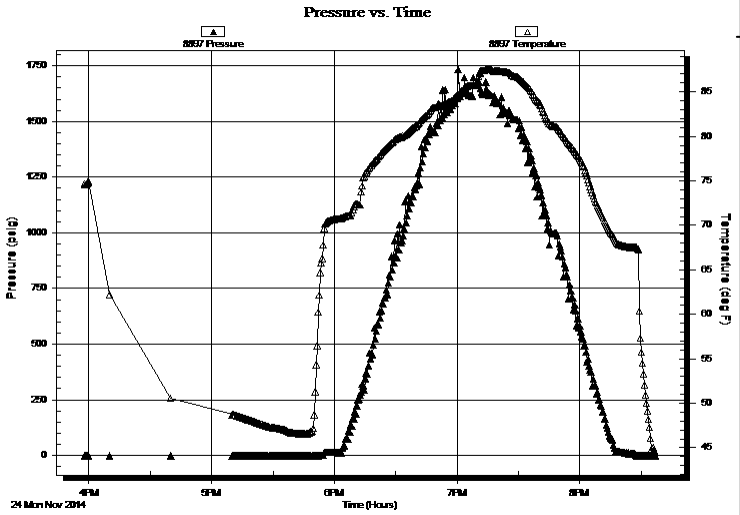
Reference Elevations: 2382.00 ft (KB)
2374.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8897 **Inside**

Press@RunDepth: psig @ 3477.00 ft (KB)
Start Date: 2014.11.24 End Date: 2014.11.24
Start Time: 15:58:01 End Time: 20:37:20

Capacity: 8000.00 psig
Last Calib.: 2014.11.24
Time On Btm:
Time Off Btm:

TEST COMMENT: IF-Mis Run, Hit bridge at 3420'
ISI-
FF-
FSI-



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)

Gas Rates

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

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Samuel Gary Jr

1515 Wynkoop
STE 700
Denver, C0 80202
ATTN: Chris Mitchell

Sec. 35-4s-24w Norton, KS

Steven #1-35

Job Ticket: 60982 **DST#: 1**

Test Start: 2014.11.24 @ 15:58:00

GENERAL INFORMATION:

Formation: **Toronto- LCK "A"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened:
Time Test Ended: 20:37:20

Test Type: Conventional Bottom Hole (Initial)
Tester: Phillip Gage
Unit No: 77

Interval: 3476.00 ft (KB) To 3520.00 ft (KB) (TVD)
Total Depth: 3520.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

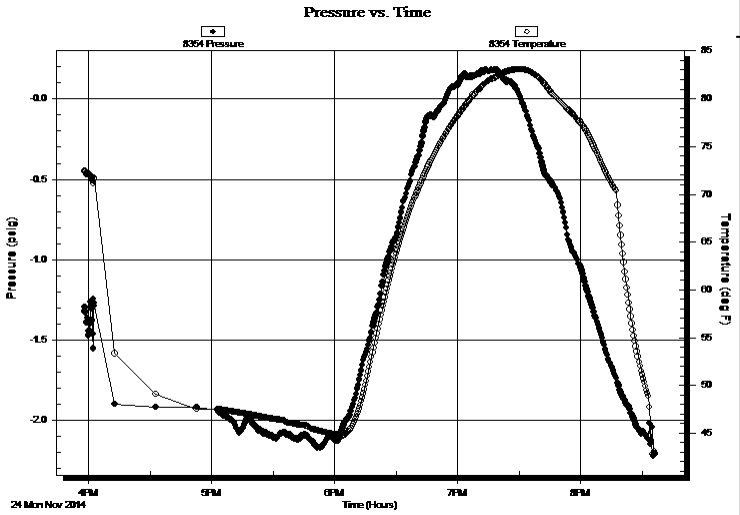
Reference Elevations: 2382.00 ft (KB)
2374.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8354

Press@RunDepth: psig @ ft (KB)
Start Date: 2014.11.24 End Date: 2014.11.24
Start Time: 15:58:05 End Time: 20:36:29

Capacity: 8000.00 psig
Last Calib.: 2014.11.24
Time On Btm:
Time Off Btm:

TEST COMMENT: IF-Mis Run, Hit bridge at 3420'
ISI-
FF-
FSI-



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Samuel Gary Jr

1515 Wynkoop
STE 700
Denver, C0 80202
ATTN: Chris Mitchell

Sec. 35-4s-24w Norton, KS

Steven #1-35

Job Ticket: 60982 **DST#: 1**

Test Start: 2014.11.24 @ 15:58:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	60.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	8.78 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	700.00 ppm				
Filter Cake:	2.00 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl

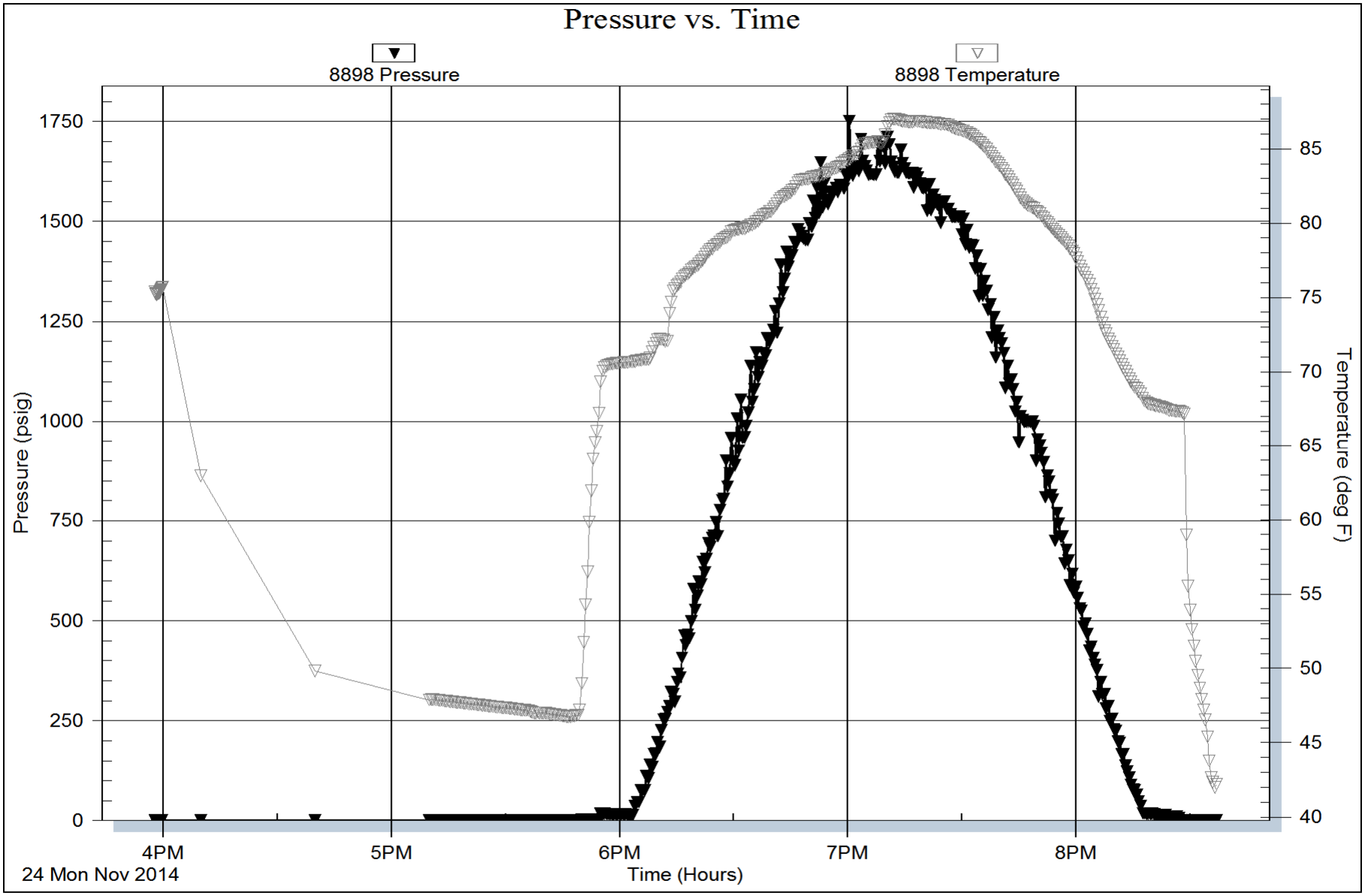
Total Length: ft Total Volume: bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

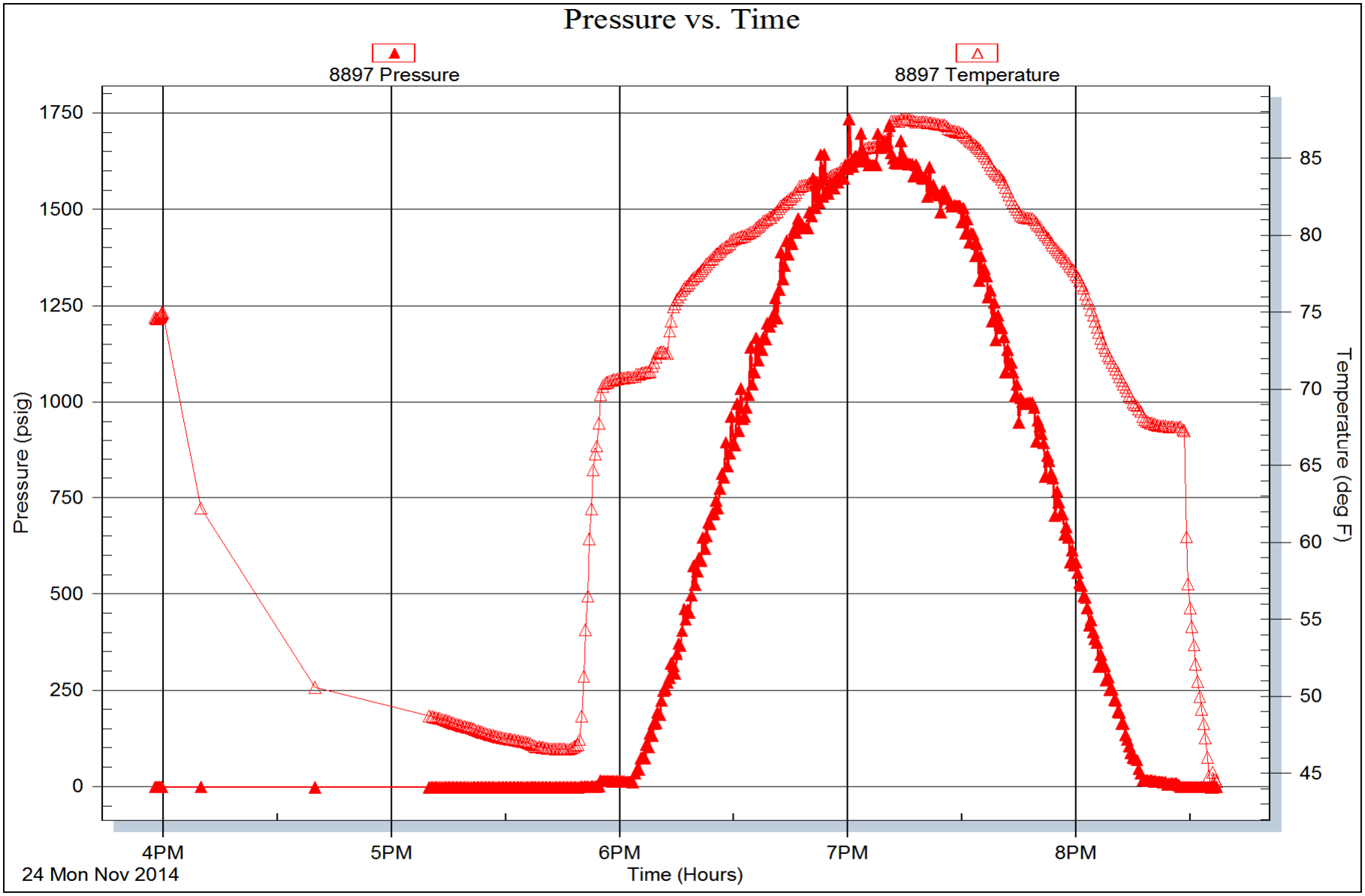
Recovery Comments: Mis Run, Hit bridge at 3420

Serial #: 8898 **Outside** Samuel Gary Jr Steven #1-35 DST Test Number: 1



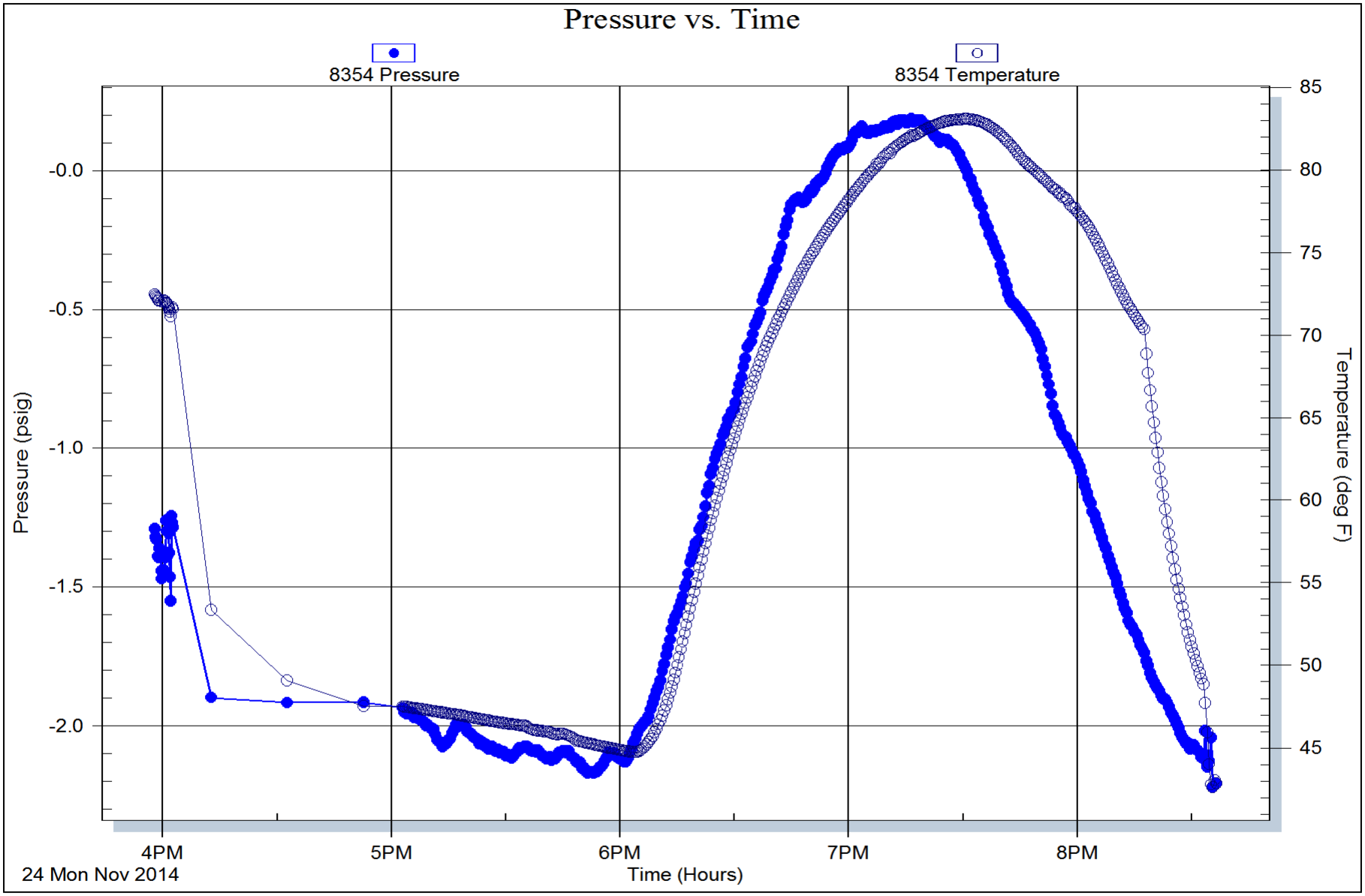
Trilobite Testing, Inc Ref. No: 60982 Printed: 2014.11.24 @ 22:42:25

Serial #: 8897 **Inside** Samuel Gary Jr Steven #1-35 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 60982 Printed: 2014.11.24 @ 22:42:25

Serial #: 8354 Samuel Gary Jr Steven #1-35 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 60982 Printed: 2014.11.24 @ 22:42:25

DRILL STEM TEST REPORT

Samuel Gary Jr

1515 Wynkoop
STE 700
Denver, C0 80202
ATTN: Chris Mitchell

Sec. 35-4s-24w Norton, KS

Steven #1-35

Job Ticket: 60983 **DST#: 2**

Test Start: 2014.11.25 @ 00:01:00

GENERAL INFORMATION:

Formation: **Toronto- LKC "A"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 02:43:20
Time Test Ended: 08:24:39

Test Type: Conventional Bottom Hole (Reset)
Tester: Phillip Gage
Unit No: 77

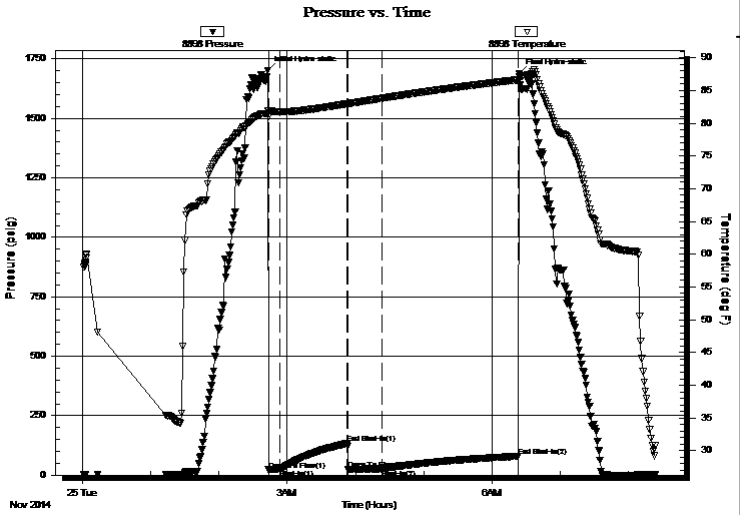
Interval: 3476.00 ft (KB) To 3520.00 ft (KB) (TVD)
Total Depth: 3520.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2382.00 ft (KB)
2374.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8898 **Outside**

Press@RunDepth:	25.88 psig @	3477.00 ft (KB)		Capacity:	8000.00 psig
Start Date:	2014.11.25	End Date:	2014.11.25	Last Calib.:	2014.11.25
Start Time:	00:01:01	End Time:	08:24:40	Time On Btm:	2014.11.25 @ 02:43:10
				Time Off Btm:	2014.11.25 @ 06:23:50

TEST COMMENT:
10-IF-Built to 3/4"
60-ISI-1/4" Return
30-FF-Surface Blow
120-FSI-Weak Surface Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1702.19	81.95	Initial Hydro-static
1	21.90	81.02	Open To Flow (1)
10	23.46	81.74	Shut-In(1)
70	133.55	82.96	End Shut-In(1)
70	24.53	82.91	Open To Flow (2)
100	25.88	83.79	Shut-In(2)
220	78.87	86.62	End Shut-In(2)
221	1686.92	87.13	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	M, w ith oil spots, 100%m	0.02

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

Samuel Gary Jr

1515 Wynkoop
STE 700
Denver, C0 80202
ATTN: Chris Mitchell

Sec. 35-4s-24w Norton, KS

Steven #1-35

Job Ticket: 60983 **DST#: 2**

Test Start: 2014.11.25 @ 00:01:00

GENERAL INFORMATION:

Formation: **Toronto- LKC "A"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 02:43:20
Time Test Ended: 08:24:39

Test Type: Conventional Bottom Hole (Reset)
Tester: Phillip Gage
Unit No: 77

Interval: 3476.00 ft (KB) To 3520.00 ft (KB) (TVD)
Total Depth: 3520.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

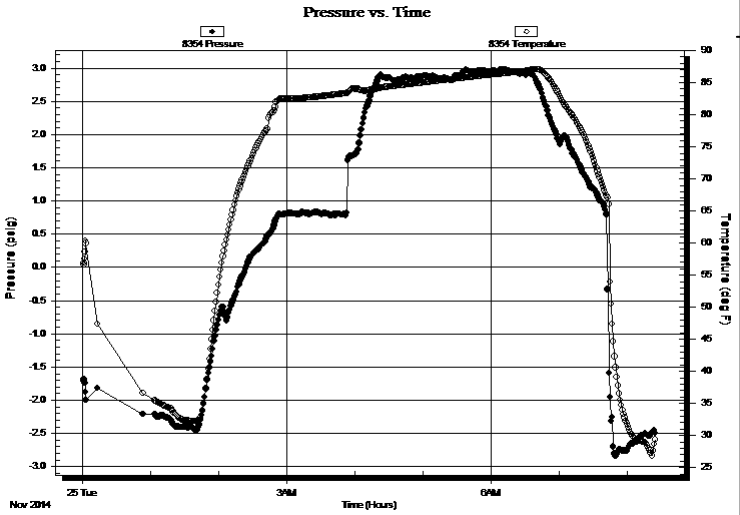
Reference Elevations: 2382.00 ft (KB)
2374.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8354 **Fluid**

Press@RunDepth: psig @ 3444.00 ft (KB)
Start Date: 2014.11.25 End Date: 2014.11.25
Start Time: 00:01:05 End Time: 08:24:44

Capacity: 8000.00 psig
Last Calib.: 2014.11.25
Time On Btm:
Time Off Btm:

TEST COMMENT:
10-IF-Built to 3/4"
60-ISI-1/4" Return
30-FF-Surface Blow
120-FSI-Weak Surface Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	M, w ith oil spots, 100%m	0.02

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Samuel Gary Jr

1515 Wynkoop
STE 700
Denver, C0 80202
ATTN: Chris Mitchell

Sec. 35-4s-24w Norton, KS

Steven #1-35

Job Ticket: 60983 **DST#: 2**

Test Start: 2014.11.25 @ 00:01:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	60.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	8.79 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	700.00 ppm				
Filter Cake:	2.00 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	M, with oil spots, 100%m	0.025

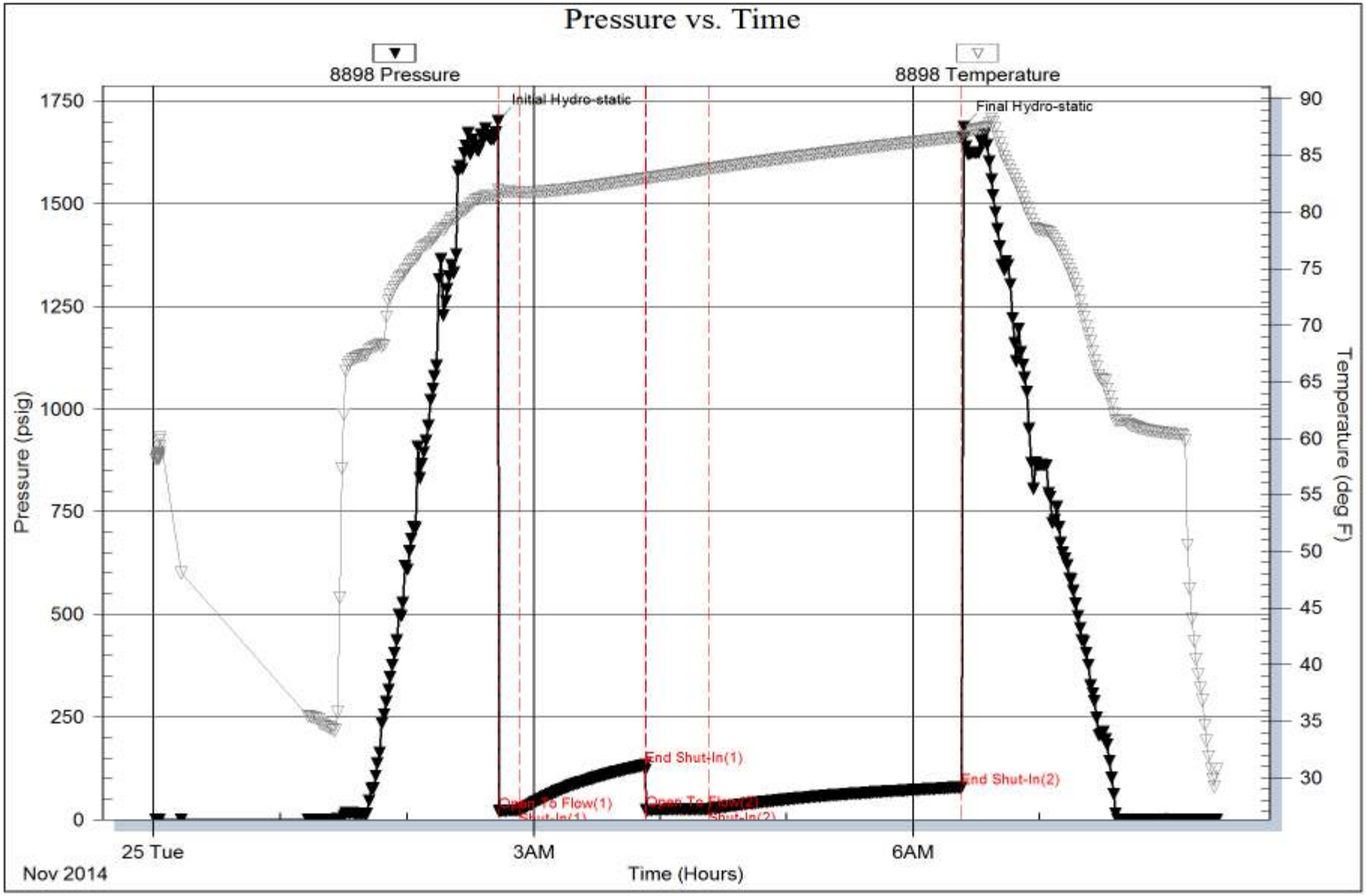
Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

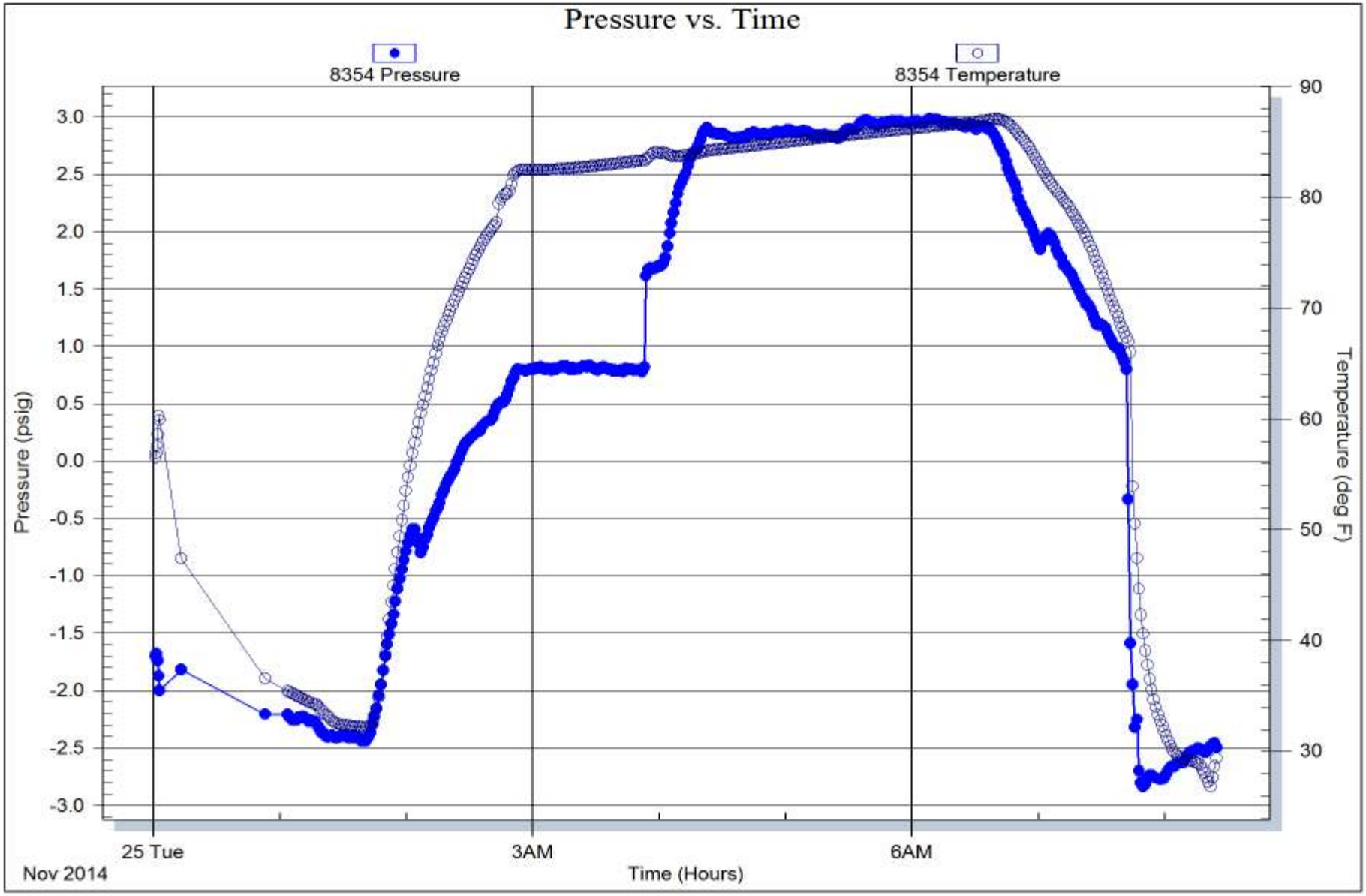
Recovery Comments:

Serial #: 8898 **Outside** Samuel Gary Jr Steven #1-35 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 60983 Printed: 2014.11.25 @ 09:05:59

Serial #: 8354 **Fluid** Samuel Gary Jr Steven #1-35 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 60983 Printed: 2014.11.25 @ 09:06:00

DRILL STEM TEST REPORT

Samuel Gary Jr

1515 Wynkoop
STE 700
Denver, C0 80202
ATTN: Chris Mitchell

Sec. 35-4s-24w Norton, KS

Steven #1-35

Job Ticket: 60984 **DST#: 3**

Test Start: 2014.11.25 @ 16:43:00

GENERAL INFORMATION:

Formation: **LKC "B-C"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 20:54:23
Time Test Ended: 02:21:32

Test Type: Conventional Bottom Hole (Reset)
Tester: Phillip Gage
Unit No: 77

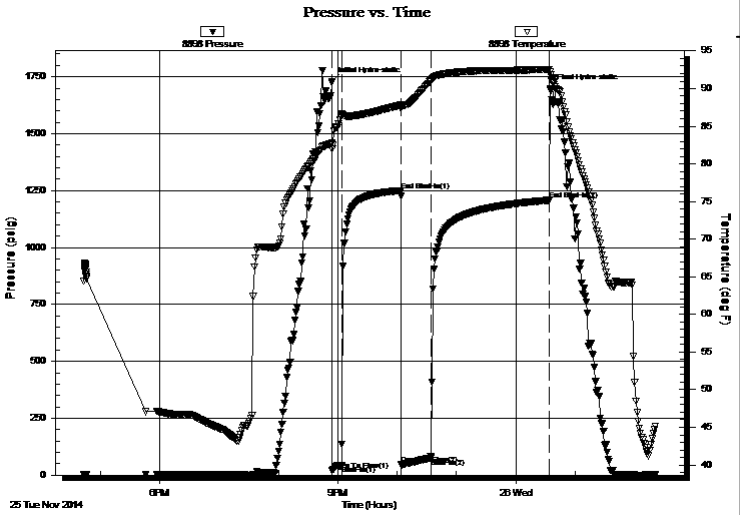
Interval: 3517.00 ft (KB) To 3567.00 ft (KB) (TVD)
Total Depth: 3567.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2382.00 ft (KB)
2374.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8898 **Outside**

Press@RunDepth:	75.05 psig @	3518.00 ft (KB)		Capacity:	8000.00 psig
Start Date:	2014.11.25	End Date:	2014.11.26	Last Calib.:	2014.11.26
Start Time:	16:43:01	End Time:	02:21:33	Time On Btm:	2014.11.25 @ 20:54:13
				Time Off Btm:	2014.11.26 @ 00:35:13

TEST COMMENT:
10-IF-Built to 3 3/4"
60-ISI-Weak Surface Return in 5 mins, died 8 mins later.
30-FF-Built to 8"
120-FSI-No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1728.18	82.74	Initial Hydro-static
1	21.11	82.04	Open To Flow (1)
10	41.07	86.51	Shut-In(1)
70	1250.49	87.80	End Shut-In(1)
70	46.14	87.33	Open To Flow (2)
100	75.05	90.99	Shut-In(2)
220	1208.28	92.55	End Shut-In(2)
222	1699.88	92.18	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	VSGMCW, 5%g, 40%m, 55%w	1.40

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

Samuel Gary Jr

1515 Wynkoop
STE 700
Denver, C0 80202
ATTN: Chris Mitchell

Sec. 35-4s-24w Norton, KS

Steven #1-35

Job Ticket: 60984 **DST#: 3**

Test Start: 2014.11.25 @ 16:43:00

GENERAL INFORMATION:

Formation: **LKC "B-C"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 20:54:23
Time Test Ended: 02:21:32

Test Type: Conventional Bottom Hole (Reset)
Tester: Phillip Gage
Unit No: 77

Interval: 3517.00 ft (KB) To 3567.00 ft (KB) (TVD)
Total Depth: 3567.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

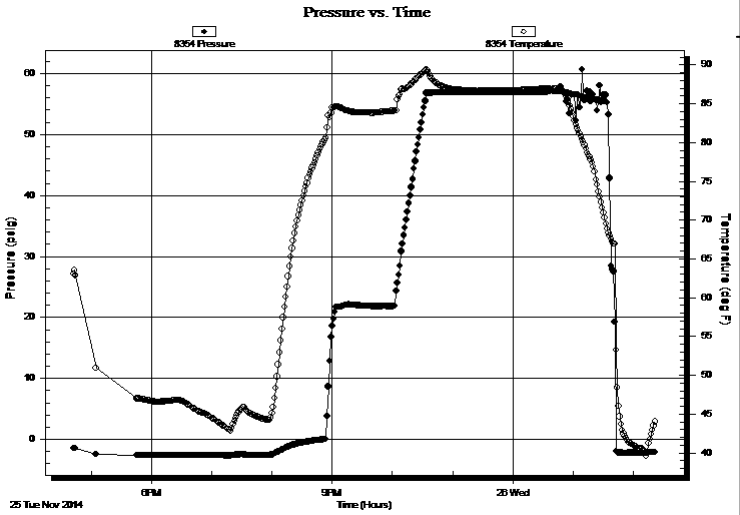
Reference Elevations: 2382.00 ft (KB)
2374.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8354 **Fluid**

Press@RunDepth: psig @ 3485.00 ft (KB)
Start Date: 2014.11.25 End Date: 2014.11.26
Start Time: 16:43:05 End Time: 02:21:30

Capacity: 8000.00 psig
Last Calib.: 2014.11.26
Time On Btm:
Time Off Btm:

TEST COMMENT:
10-IF-Built to 3 3/4"
60-ISI-Weak Surface Return in 5 mins, died 8 mins later.
30-FF-Built to 8"
120-FSI-No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
120.00	VSGMCW, 5%g, 40%m, 55%w	1.40

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Samuel Gary Jr

1515 Wynkoop
STE 700
Denver, C0 80202
ATTN: Chris Mitchell

Sec. 35-4s-24w Norton, KS

Steven #1-35

Job Ticket: 60984 **DST#: 3**

Test Start: 2014.11.25 @ 16:43:00

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:	36000 ppm
Viscosity:	62.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.60 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	700.00 ppm				
Filter Cake:	2.00 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	VSGMCW, 5%g, 40%m, 55%w	1.401

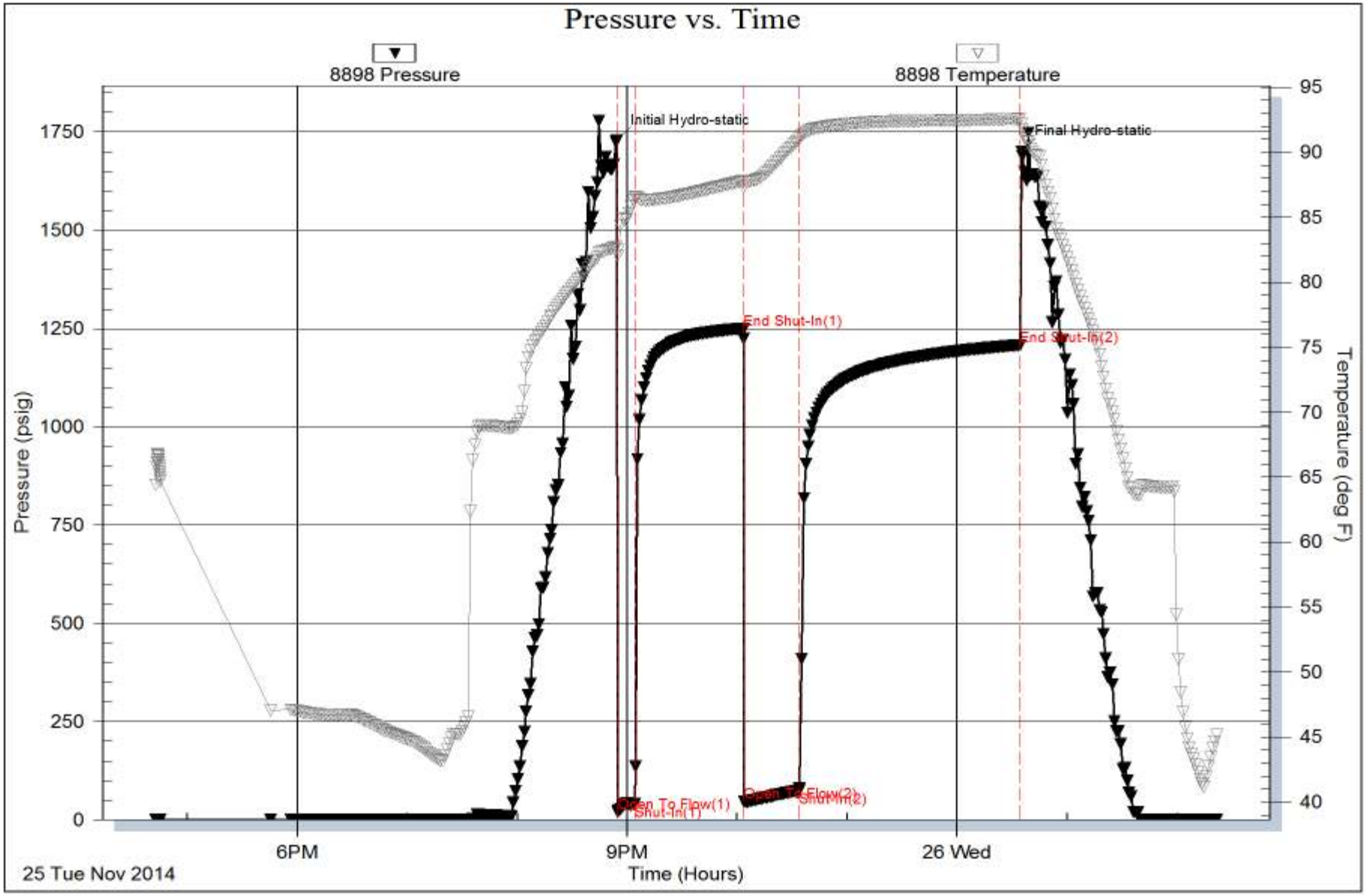
Total Length: 120.00 ft Total Volume: 1.401 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

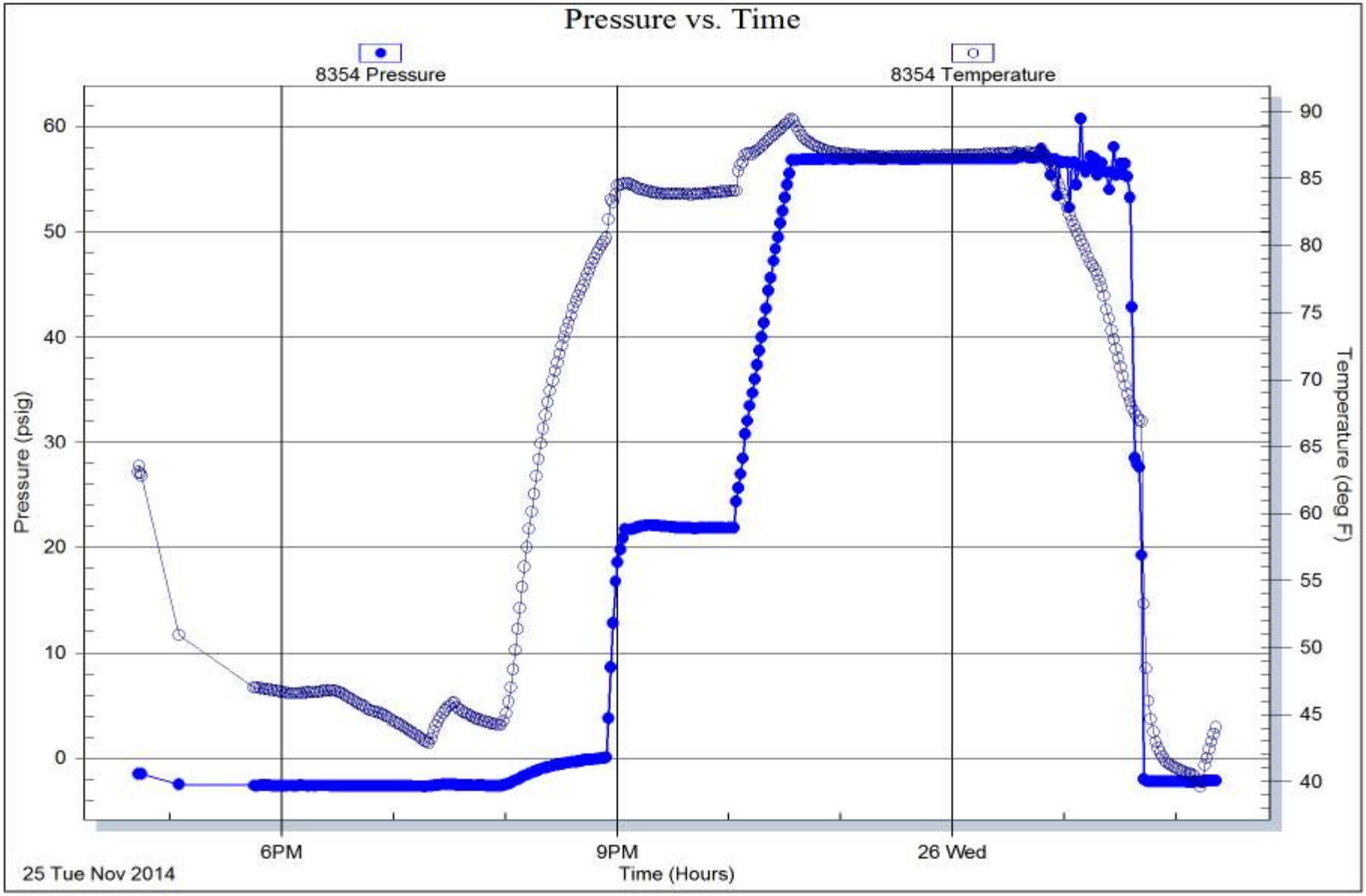
Recovery Comments: .4 @ 35 degrees = 36,000 Salinity

Serial #: 8898 **Outside** Samuel Gary Jr Steven #1-35 DST Test Number: 3



Trilobite Testing, Inc Ref. No: 60984 Printed: 2014.11.26 @ 08:48:14

Serial #: 8354 **Fluid** Samuel Gary Jr Steven #1-35 DST Test Number: 3



Trilobite Testing, Inc Ref. No: 60984 Printed: 2014.11.26 @ 08:48:15

DRILL STEM TEST REPORT

Samuel Gary Jr

1515 Wynkoop
STE 700
Denver, C0 80202
ATTN: Chris Mitchell

Sec. 35-4s-24w Norton, KS

Steven #1-35

Job Ticket: 60692 **DST#: 4**

Test Start: 2014.11.26 @ 13:17:29

GENERAL INFORMATION:

Formation: **LKC D,E,F**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 15:33:19
Time Test Ended: 20:55:59

Test Type: Conventional Bottom Hole (Reset)
Tester: Tate Lang
Unit No: 77

Interval: 3560.00 ft (KB) To 3633.00 ft (KB) (TVD)
Total Depth: 3633.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

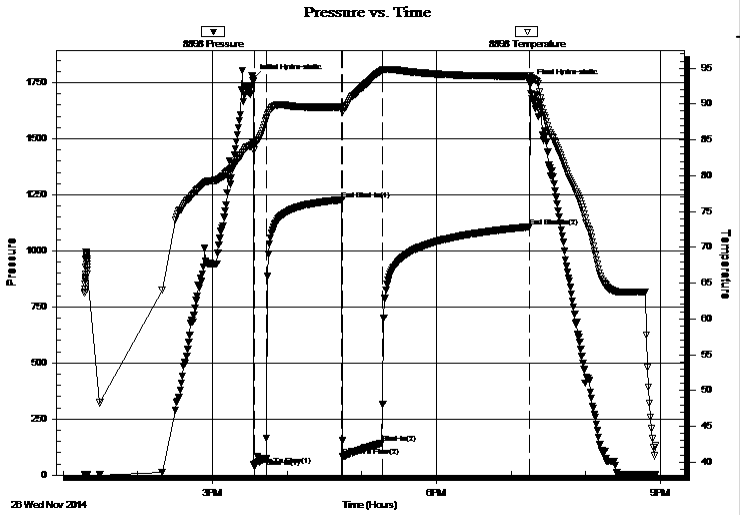
Reference Elevations: 2382.00 ft (KB)
2374.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8898 **Outside**

Press@RunDepth: 143.21 psig @ 3561.00 ft (KB)
Start Date: 2014.11.26 End Date: 2014.11.26
Start Time: 13:17:30 End Time: 20:55:59

Capacity: 8000.00 psig
Last Calib.: 2014.11.26
Time On Btm: 2014.11.26 @ 15:33:09
Time Off Btm: 2014.11.26 @ 19:15:08

TEST COMMENT: 10-Strong blow built to 10 in
60-Dead no blow back
30-B.O.B. in 20 mins
120-Dead no blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1769.83	84.61	Initial Hydro-static
1	42.13	83.53	Open To Flow (1)
11	73.30	87.97	Shut-In(1)
71	1228.46	89.61	End Shut-In(1)
72	83.54	89.40	Open To Flow (2)
103	143.21	94.64	Shut-In(2)
222	1106.97	93.89	End Shut-In(2)
222	1743.95	93.93	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
180.00	MCW 30%M 70%W with oil spots	2.24
60.00	100%M	0.84
0.00	60 GIP	0.00

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Samuel Gary Jr

1515 Wynkoop
STE 700
Denver, C0 80202
ATTN: Chris Mitchell

Sec. 35-4s-24w Norton, KS

Steven #1-35

Job Ticket: 60692 **DST#: 4**

Test Start: 2014.11.26 @ 13:17:29

GENERAL INFORMATION:

Formation: **LKC D,E,F**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 15:33:19
Time Test Ended: 20:55:59

Test Type: Conventional Bottom Hole (Reset)
Tester: Tate Lang
Unit No: 77

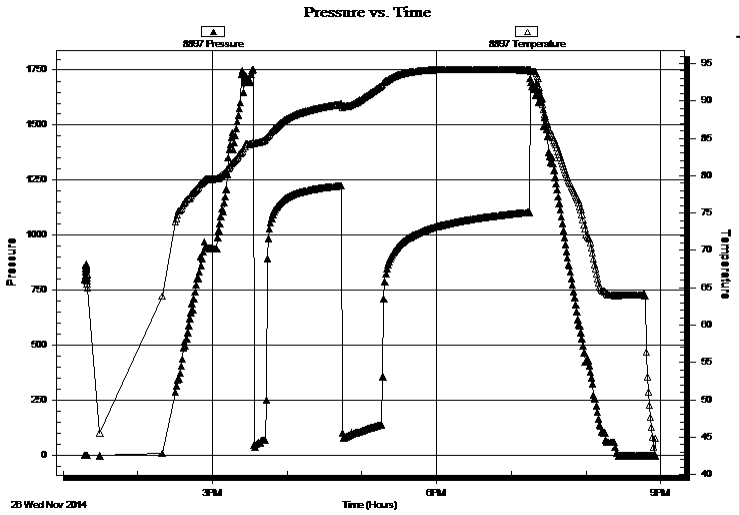
Interval: 3560.00 ft (KB) To 3633.00 ft (KB) (TVD)
Total Depth: 3633.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2382.00 ft (KB)
2374.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8897 **Inside**

Press@RunDepth:	psig @	3561.00 ft (KB)		Capacity:	8000.00 psig
Start Date:	2014.11.26	End Date:	2014.11.26	Last Calib.:	2014.11.26
Start Time:	13:17:28	End Time:	20:55:57	Time On Btm:	
				Time Off Btm:	

TEST COMMENT:
10-Strong blow built to 10 in
60-Dead no blow back
30-B.O.B. in 20 mins
120-Dead no blow back



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
180.00	MCW 30%M 70%W with oil spots	2.24
60.00	100%M	0.84
0.00	60 GIP	0.00

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Samuel Gary Jr

1515 Wynkoop
STE 700
Denver, C0 80202
ATTN: Chris Mitchell

Sec. 35-4s-24w Norton, KS

Steven #1-35

Job Ticket: 60692 **DST#: 4**

Test Start: 2014.11.26 @ 13:17:29

GENERAL INFORMATION:

Formation: **LKC D,E,F**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 15:33:19
Time Test Ended: 20:55:59

Test Type: Conventional Bottom Hole (Reset)
Tester: Tate Lang
Unit No: 77

Interval: 3560.00 ft (KB) To 3633.00 ft (KB) (TVD)
Total Depth: 3633.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

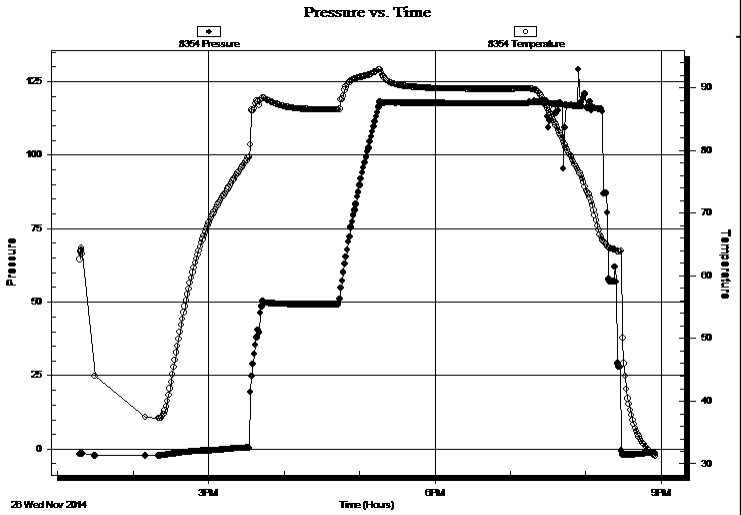
Reference Elevations: 2382.00 ft (KB)
2374.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8354

Press@RunDepth: psig @ ft (KB)
Start Date: 2014.11.26 End Date: 2014.11.26
Start Time: 13:17:38 End Time: 20:55:47

Capacity: 8000.00 psig
Last Calib.: 2014.11.26
Time On Btm:
Time Off Btm:

TEST COMMENT:
10-Strong blow built to 10 in
60-Dead no blow back
30-B.O.B. in 20 mins
120-Dead no blow back



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
180.00	MCW 30%M 70%W with oil spots	2.24
60.00	100%M	0.84
0.00	60 GIP	0.00

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Samuel Gary Jr

1515 Wynkoop
STE 700
Denver, C0 80202
ATTN: Chris Mitchell

Sec. 35-4s-24w Norton, KS

Steven #1-35

Job Ticket: 60692 **DST#: 4**

Test Start: 2014.11.26 @ 13:17:29

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:	32000 ppm
Viscosity:	51.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.99 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	700.00 ppm				
Filter Cake:	2.00 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
180.00	MCW 30%M 70%W w ith oil spots	2.243
60.00	100%M	0.842
0.00	60 GIP	0.000

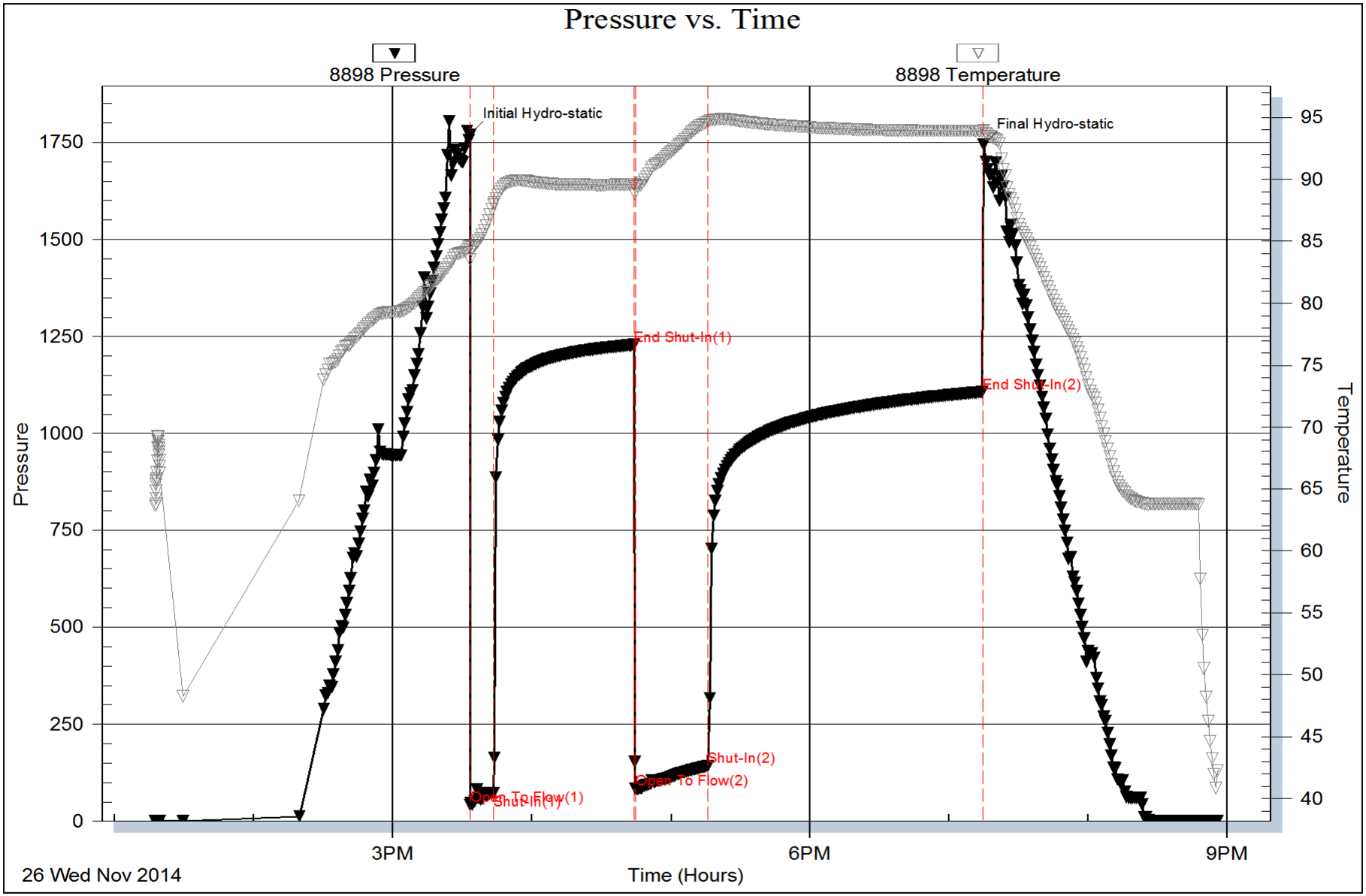
Total Length: 240.00 ft Total Volume: 3.085 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

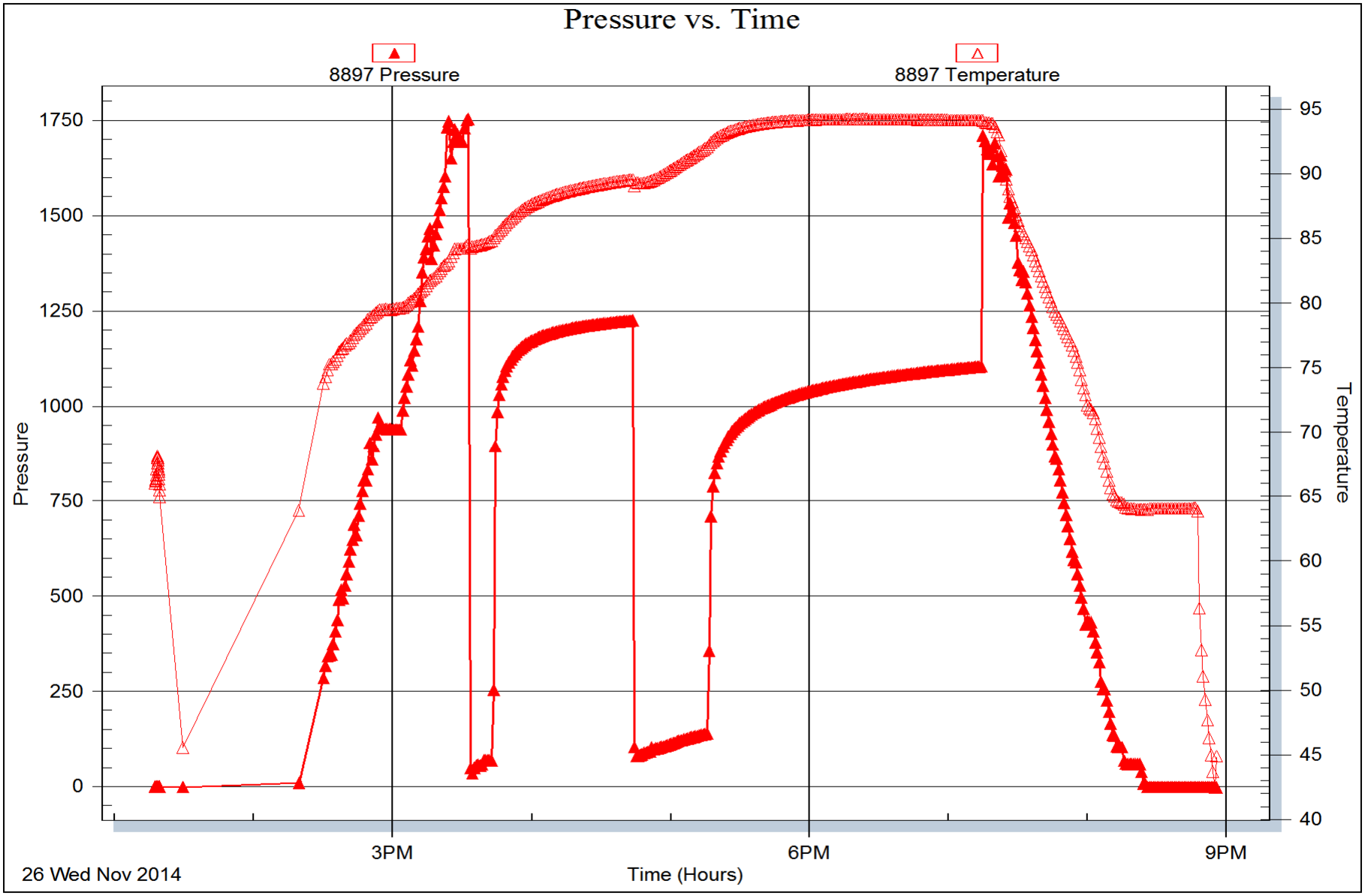
Recovery Comments: .418 @ 36F = 32000

Serial #: 8898 **Outside** Samuel Gary Jr Steven #1-35 DST Test Number: 4



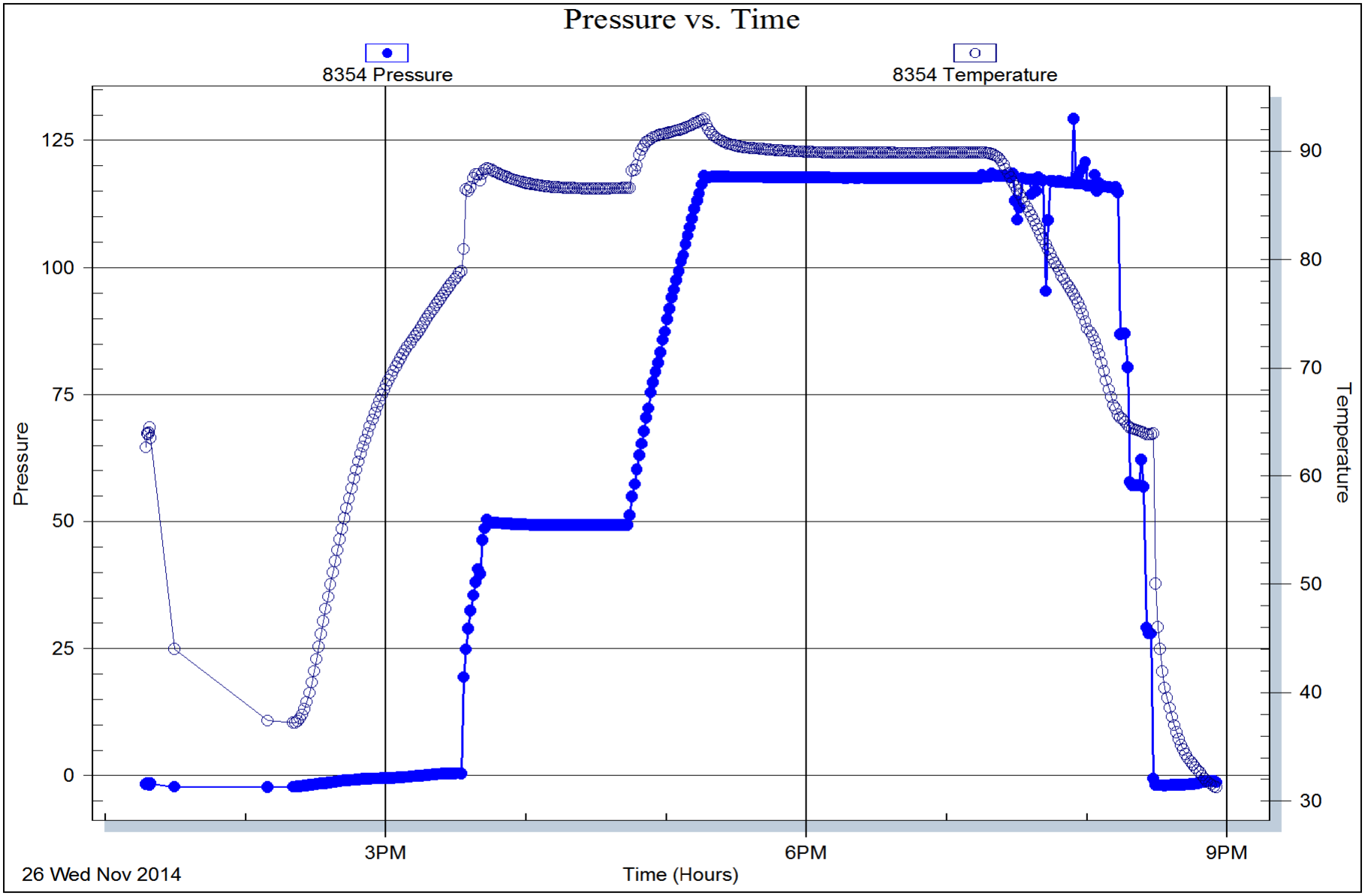
Trilobite Testing, Inc Ref. No: 60692 Printed: 2014.11.27 @ 09:52:22

Serial #: 8897 **Inside** Samuel Gary Jr Steven #1-35 DST Test Number: 4



Trilobite Testing, Inc Ref. No: 60692 Printed: 2014.11.27 @ 09:52:22

Serial #: 8354 Samuel Gary Jr Steven #1-35 DST Test Number: 4



Trilobite Testing, Inc Ref. No: 60692 Printed: 2014.11.27 @ 09:52:23

Weatherford Laboratories

www.weatherfordlabs.com

Well Name:	Hub Stream 1-32		
Field:			
Location:	Sec 32, T6S, R7W		
County:	Grady County, Oklahoma	Region:	Mineral
Total Depth:	16,000 ft. (MD)	Drilling Completed:	December 27, 2014
Surface Coordinates:	Lat: 34.9 Long: -97.7		
Bottom Hole Coordinates:			
Ground Elevation:	1122	K.B. Elevation (ft):	1162
Logged Interval:	7,000 ft. To 16,000 ft.	Total Depth (ft):	16,000
Type of Logging Service:	Gas Only		

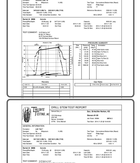
Formerly NOV Lost Hills Geological Services, 1-800-427-1134 www.lhdlogs.com

OPERATOR

Company:	Marathon Oil Company
Address:	5555 San Felipe St., Ste 1700
	Houston, TX 77056
Contact:	Mr. Ryan Rhodes
Cell:	(281) 772-6018

GEOLOGIST

Name:	Jeff Kamps		
Company:	Weatherford Labs (HL)		
Address:	11000 Richmond Ave.	Unit 490	Houston, TX 77042
Cell:	(713) 828-7389	Office:	(713) 828-7389
Email:	jeff.kamps@weatherford.com		


TOTAL GAS
TOTAL GAS
Hub Stream Drilling Co.
Hub Stream 1-32
Grady Co., OK
Mineral Prospect
Gas Only
Weatherford Labs (HL)
Houston, Texas
Jeff Kamps
Ryan Rhodes
Gas Only
Gas Only
Gas Only