CORRECTION #2 [redacted]

Confidentiality Requested:
☑ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1313090

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: CLAYTON CAMOZZI
Phone: (303) 831-4673
CONTRACTOR: License # 30606
Name: Murfin Drilling Co., Inc.
Wellsite Geologist: SCHUYLER HEDRICK
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 #:

2/3/2015	2/12/2015	06/18/2015
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-153-21097-00-00
Spot Description:
SE - NE - NW - SE Sec. 15 Twp. 2 S. R. 36 ☐ East ☑ West
2050 Feet from ☐ North / ☑ South Line of Section
1440 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: Rawlins
Lease Name: FRISBIE Well #: 1-15
Field Name:
Producing Formation: N/A
Elevation: Ground: 3325 Kelly Bushing: 3330
Total Vertical Depth: 4855 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 385 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: 4400 ppm Fluid volume: 0 bbls
Dewatering method used: Evaporated
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: 05/26/2015
☑ **Confidential Release Date:** 05/25/2017
☑ **Wireline Log Received**
☑ **Geologist Report Received**
☐ **UIC Distribution**
ALT ☑ **I** ☐ **II** ☐ **III** **Approved by:** Karen Ritter **Date:** 07/29/2016

CORRECTION #2 [redacted]

Page Two

1313090

Operator Name: Samuel Gary Jr. & Associates, Inc. Lease Name: FRISBIE Well #: 1-15

Sec. 15 Twp. 2 S. R. 36 ☐ East ☑ West County: Rawlins

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:

Attached

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

Name	Top	Datum
TOPEKA	4049	-724
HEEBNER	4212	-887
LANSING	4264	-939

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	385	COMMON CLASS A	325	2% GEL, 3% CC
Production	7.875	5.5	15.5	4713	QMDC	450	1/2#/SK FLO SEAL
Production	7.875	5.5	15.5	4713	Q-PRO-C	205	5% GILSONITE, 10% SALT, 1/4#/SK FLI

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
4	4171-4182	1000 GAL 15% NE W/ 3% MAS	4171-4182
4	4334-4339	250 GAL 20% MCA W/ 3% MAS	4334-4339
4	4469-4475	250 GAL 20% MCA W/ 3% MAS	4469-4475
	CIBP		4450

TUBING RECORD: Size: 2.875 Set At: 4401 Packer At:

Liner Run: ☐ Yes ☑ No

Date of First, Resumed Production, SWD or ENHR. 6/18/2015

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:
4171-4475 OA

Form	ACO1 - Well Completion
Operator	Samuel Gary Jr. & Associates, Inc.
Well Name	FRISBIE 1-15
Doc ID	1313090

All Electric Logs Run

DEN-NEUT
INDUCTION
MICRO
SONIC

Form	ACO1 - Well Completion
Operator	Samuel Gary Jr. & Associates, Inc.
Well Name	FRISBIE 1-15
Doc ID	1313090

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	385	COMMON CLASS A	325	2% GEL, 3% CC
Production	7.875	5.5	15.5	4713	QMDC	450	1/2#/SK FLO SEAL
Production	7.875	5.5	15.5	4713	Q-PRO-C	205	5% GILSONITE, 10% SALT, 1/4#/SK FLO SEAL

Summary of Changes

Lease Name and Number: FRISBIE 1-15

API/Permit #: 15-153-21097-00-00

Doc ID: 1313090

Correction Number: 2

Approved By: Karen Ritter

Field Name	Previous Value	New Value
Completion Or Recompletion Date	2/14/2015	06/18/2015
Completion Type - Other Text	NOT FINISHED COMPLETING YET	
Save Link	../../kcc/detail/operatorEditDetail.cfm?docID=1313071	../../kcc/detail/operatorEditDetail.cfm?docID=1313090
Temporarily Abandoned	Yes	No
Well Type	OTHER	OIL

CORRECTION #1

1313071

Confidentiality Requested:
☑ Yes ☐ No

CONFIDENTIAL

KANSAS CORPORATION COMMISSION
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 # 3882
Name: Samuel Gary Jr. & Associates, Inc.
Address 1: 1515 WYNKOOP, STE 700
Address 2:
City: DENVER State: CO Zip: 80202 + _ _ _ _
Contact Person: CLAYTON CAMOZZI
Phone: (303) 831-4673
CONTRACTOR: License # 30606
Name: Murfin Drilling Co., Inc.
Wellsite Geologist: SCHUYLER HEDRICK
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.)*: NOT FINISHED COMPLETING YET

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 #:

2/3/2015	2/12/2015	2/14/2015
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-153-21097-00-00
Spot Description:
SE - NE - NW - SE Sec. 15 Twp. 2 S. R. 36 ☐ East ☑ West
2050 Feet from ☐ North / ☑ South Line of Section
1440 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: Rawlins
Lease Name: FRISBIE Well #: 1-15
Field Name:
Producing Formation: N/A
Elevation: Ground: 3325 Kelly Bushing: 3330
Total Vertical Depth: 4855 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 385 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: 4400 ppm Fluid volume: 0 bbls
Dewatering method used: Evaporated

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: 05/26/2015
☐ **Confidential Release Date:**
☑ **Wireline Log Received**
☑ **Geologist Report Received**
☐ **UIC Distribution**
ALT ☑ **I** ☐ **II** ☐ **III** **Approved by:** Karen Ritter **Date:** 07/29/2016

Confidentiality Requested:
☑ Yes ☐ No

CONFIDENTIAL

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1253208

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
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Address 2:
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Phone: (303) 831-4673
CONTRACTOR: License # 30606
Name: Murfin Drilling Co., Inc.
Wellsite Geologist: SCHUYLER HEDRICK
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.)*: NOT FINISHED COMPLETING YET

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 #:

2/3/2015	2/12/2015	2/14/2015
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-153-21097-00-00
Spot Description:
SE - NE - NW - SE Sec. 15 Twp. 2 S. R. 36 ☐ East ☑ West
2050 Feet from ☐ North / ☑ South Line of Section
1440 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: Rawlins
Lease Name: FRISBIE Well #: 1-15
Field Name:
Producing Formation: N/A
Elevation: Ground: 3325 Kelly Bushing: 3330
Total Vertical Depth: 4855 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 385 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: 4400 ppm Fluid volume: 0 bbls
Dewatering method used: Evaporated

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: 05/26/2015
☐ **Confidential Release Date:**
☑ **Wireline Log Received**
☑ **Geologist Report Received**
☐ **UIC Distribution**
ALT ☑ **I** ☐ **II** ☐ **III** **Approved by:** NAOMI JAMES **Date:** 05/28/2015

Page Two

Operator Name: Samuel Gary Jr. & Associates, Inc. Lease Name: FRISBIE Well #: 1-15

Sec. 15 Twp. 2 S. R. 36 ☐ East ☑ West County: Rawlins

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

Geologist Report / Mud Logs ☐ Yes ☐ No

List All E. Logs Run:
Attached

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

Name	Top	Datum
TOPEKA	4049	-724
HEEBNER	4212	-887
LANSING	4264	-939

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	385	COMMON CLASS A	325	2% GEL, 3% CC
Production	7.875	5.5	15.5	4713	QMDC	450	1/2#/SK FLO SEAL
Production	7.875	5.5	15.5	4713	Q-PRO-C	205	5% GILSONITE, 10% SALT, 1/4#/SK FL

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	-			
	-			

1. Did you perform a hydraulic fracturing treatment on this well? ☐ Yes ☑ No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? ☐ Yes ☐ No *(If No, skip question 3)*
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)*

Date of first Production/Injection or Resumed Production/Injection: 6/18/2015

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)*

PRODUCTION INTERVAL:

Top	Bottom

Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record *(Amount and Kind of Material Used)*
4					1000 GAL 15% NE W/ 3% MAS
4					250 GAL 20% MCA W/ 3% MAS
4					250 GAL 20% MCA W/ 3% MAS

TUBING RECORD: Size: 2.875 Set At: 4401 Packer At:

Mail to: KCC - Conservation Division, 266 N. Main, Suite 220, Wichita, Kansas 67202

Form	ACO1 - Well Completion
Operator	Samuel Gary Jr. & Associates, Inc.
Well Name	FRISBIE 1-15
Doc ID	1253208

All Electric Logs Run

DEN-NEUT
INDUCTION
MICRO
SONIC

Form	ACO1 - Well Completion
Operator	Samuel Gary Jr. & Associates, Inc.
Well Name	FRISBIE 1-15
Doc ID	1253208

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	385	COMMON CLASS A	325	2% GEL, 3% CC
Production	7.875	5.5	15.5	4713	QMDC	450	1/2#/SK FLO SEAL
Production	7.875	5.5	15.5	4713	Q-PRO-C	205	5% GILSONITE, 10% SALT, 1/4#/SK FLO SEAL

ALLIED OIL & GAS SERVICES, LLC 063829

Federal Tax I.D. # 20-8651475

REMIT TO P.O. BOX 93999
SOUTHLAKE, TEXAS 76092

SERVICE POINT: Oakley KS

DATE 2/3/15	SEC. 15	TWP. 2	RANGE 36	CALLED OUT	ON LOCATION	JOB START	JOB FINISH
							10:30 A
LEASE Frisbie	WELL # 1-15		LOCATION McDonald ETD Rd 5 N to Rd 74 N W into			COUNTY Rush	STATE KS
OLD OR NEW (Circle one)							

CONTRACTOR Murfin 8
TYPE OF JOB Surface
HOLE SIZE 12¼ T.D. 385'
CASING SIZE 8 5/8 DEPTH 385
TUBING SIZE DEPTH
DRILL PIPE DEPTH
TOOL DEPTH
PRES. MAX MINIMUM
MEAS. LINE SHOE JOINT
CEMENT LEFT IN CSG. 15'
PERFS.
DISPLACEMENT 22.93

OWNER Same

CEMENT
AMOUNT ORDERED 325 Com 3% CC

COMMON	325 SK	@ 17.80	5817.50
POZMIX		@	
GEL		@	
CHLORIDE	9 sk 16	@ 1.50	1008.00
ASC		@	
		@	
Materials total		@	GRAND
(3071.79/45%)		@	
		@	
		@	
		@	
HANDLING	341 26	@ 2.10	846.33
MILEAGE 25 sk/mile	15.734		2163.45

TOTAL

EQUIPMENT

PUMP TRUCK #495-281 CEMENTER Alex Ryan
HELPER Kevin Ryan
BULK TRUCK # 818 DRIVER George Grant
BULK TRUCK # DRIVER

REMARKS:
Run Csg, Circulate, Mix Cement, Displace Cement
Shut in
Cement did circulate
Ticket to A.T.
Thank You
Hey, Kevin, George

SERVICE

DEPTH OF JOB	385'		
PUMP TRUCK CHARGE			1512.25
EXTRA FOOTAGE		@	
MILEAGE	50	@ 7.70	385.00
MANIFOLD		@	
	50	@ 4.00	225.00
		@	
(2430.90/45%)		TOTAL	5,402.00

CHARGE TO: Sam Gary & Associates
STREET
CITY STATE ZIP

PLUG & FLOAT EQUIPMENT

8 5/8 Centralizer	@	75.00
	@	
	@	
	@	
	@	
	TOTAL	75.00

To: Allied Oil & Gas Services, LLC.
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

SALES TAX (If Any)
TOTAL CHARGES 12,303.20
DISCOUNT 5,502.69 (45%) IF PAID IN 30 DAYS
6800.51 Net.

PRINTED NAME Travis Martin
SIGNATURE Travis Martin

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025 Home Office P.O. Box 32 Russell, KS 67665 No. 1132

Cell 785-324-1041

Date	Sec.	Twp.	Range	County	State	On Location	Finish
2-14-15	15	2	36	Rawlins	KS		02:30AM

Location Atwood, Ks 16 W to #5 Rd, 1/2 N

Lease Frisbie Well No. 1-15 Owner W/Into

Contractor Murfin 8

Type Job Production

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.

Hole Size 7 7/8" T.D. 4855'

Csg. New 15 1/2# 5 1/2" Depth 4718.64'

Charge To Sam Gary Jr + Associates

Tbg. Size Depth

Street

City State

Tool Depth

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

Cement Left in Csg. 42.60' Shoe Joint 42.60'

Cement Amount Ordered 450 QMDC 1/2# Flo-seal 205 QPro C 5% Gilsonite 10% Salt 1/4# 20 BLS KCL

Meas Line Displace 111 1/4 BLS

EQUIPMENT

Pumptrk 16	No.	Cementer / Helper	Billy / Rick
Bulktrk 19	No.	Driver / Driver	Doug
Bulktrk 9	No.	Driver / Driver	Tylor

JOB SERVICES & REMARKS

Remarks:

Rat Hole

Mouse Hole

Centralizers 1,3,5,7,9,11,13,15,36,51,73,97

Baskets 37,52 74,98

D/V or Port Collar pipe on bottom break Circulation plug Rathole w 30sx QMDC Plug mousehole w/15sx QMDC Hook to Casing + Mix 405 sx QMDC + 205 QPro C, Shut down wash pump + lines Released plug + Displaced w/ 111 1/4 BLS of H2O Released + held

CIRCULATED 50 BBLS GOOD CEMENT

Lift pressure 1500 #

Land plug to 2600 #

X Signature

Common 205 QPro C

~~Poz Mix~~ 450 60/40 QMDC

Gel.

Calcium

~~Hulls~~ KCL 2

Salt 18

Flowseal 275#

Kol-Seal 1025#

Mud CLR 48 500 gal

CFL-117 or CD110 CAF 38

Sand

Handling 685

Mileage

FLOAT EQUIPMENT

Guide Shoe

Centralizer 12

Baskets 4

AFU Inserts

Float Shoe 1

Latch Down 1

Rotating head Assy

Pumptrk Charge prod String

Mileage 80

Tax

Discount

Total Charge

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Samuel Gary Jr. & Associates
1515 Wynkoop St. STE 700
Denver, CO 80202

ATTN: Clayton Camozzi

15/2s/36w Rawlins KS

Frisbie #1-15

Job Ticket: 62151 **DST#: 1**

Test Start: 2015.02.08 @ 00:45:00

GENERAL INFORMATION:

Formation: **Oread**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 03:53:00
Time Test Ended: 06:27:45

Test Type: Conventional Bottom Hole (Initial)
Tester: James Winder
Unit No: 83

Interval: 4128.00 ft (KB) To 4196.00 ft (KB) (TVD)
Total Depth: 4196.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

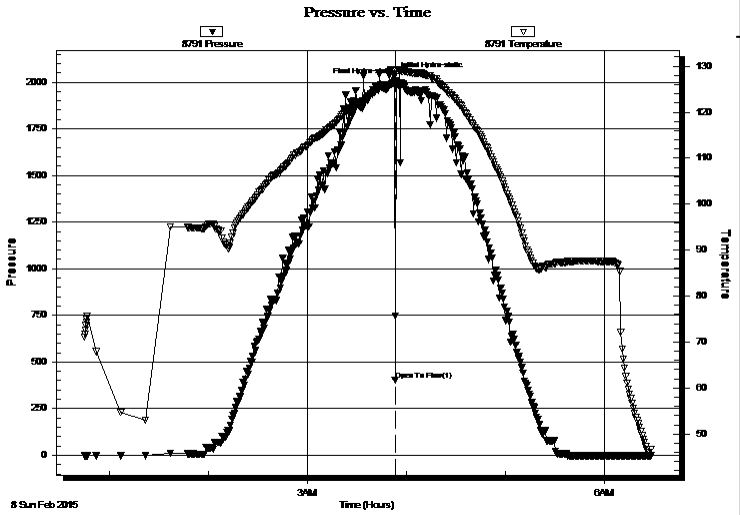
Reference Elevations: 3330.00 ft (KB)
3325.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8791 **Inside**

Press@RunDepth: psig @ 4129.00 ft (KB)
Start Date: 2015.02.08 End Date: 2015.02.08
Start Time: 00:45:05 End Time: 06:27:44

Capacity: 8000.00 psig
Last Calib.: 2015.02.08
Time On Btm: 2015.02.08 @ 03:52:45
Time Off Btm: 2015.02.08 @ 03:56:30

TEST COMMENT:
Packers not holding
Reset tool
Packers failed again
Pulled tool - Mis-run



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2030.76	126.37	Initial Hydro-static
1	403.81	125.58	Open To Flow (1)
4	1996.79	129.12	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
230.00	Mud 100%	1.53
0.00	A few oil specs in top sample	0.00

Gas Rates

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

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Samuel Gary Jr. & Associates
1515 Wynkoop St. STE 700
Denver, CO 80202

ATTN: Clayton Camozzi

15/2s/36w Rawlins KS

Frisbie #1-15

Job Ticket: 62151 **DST#: 1**

Test Start: 2015.02.08 @ 00:45:00

GENERAL INFORMATION:

Formation: **Oread**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 03:53:00
Time Test Ended: 06:27:45

Test Type: Conventional Bottom Hole (Initial)
Tester: James Winder
Unit No: 83

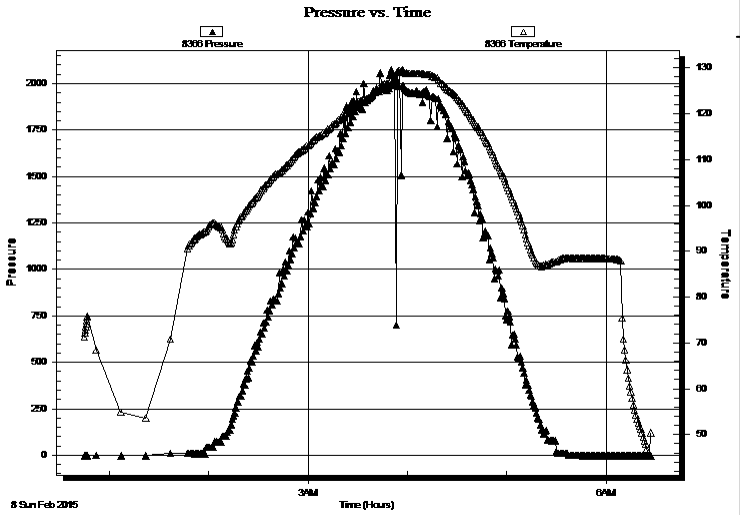
Interval: 4128.00 ft (KB) To 4196.00 ft (KB) (TVD)
Total Depth: 4196.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3330.00 ft (KB)
3325.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8366 **Outside**

Press@RunDepth:	psig @	4129.00 ft (KB)		Capacity:	8000.00 psig
Start Date:	2015.02.08	End Date:	2015.02.08	Last Calib.:	2015.02.08
Start Time:	00:45:05	End Time:	06:27:14	Time On Btm:	
				Time Off Btm:	

TEST COMMENT: Packers not holding
Reset tool
Packers failed again
Pulled tool - Mis-run



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
230.00	Mud 100%	1.53
0.00	A few oil specs in top sample	0.00

Gas Rates

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

DRILL STEM TEST REPORT

Samuel Gary Jr. & Associates
1515 Wynkoop St. STE 700
Denver, CO 80202

ATTN: Clayton Camozzi

15/2s/36w Rawlins KS

Frisbie #1-15

Job Ticket: 62151 **DST#: 1**

Test Start: 2015.02.08 @ 00:45:00

GENERAL INFORMATION:

Formation: **Oread**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 03:53:00
Time Test Ended: 06:27:45

Test Type: Conventional Bottom Hole (Initial)
Tester: James Winder
Unit No: 83

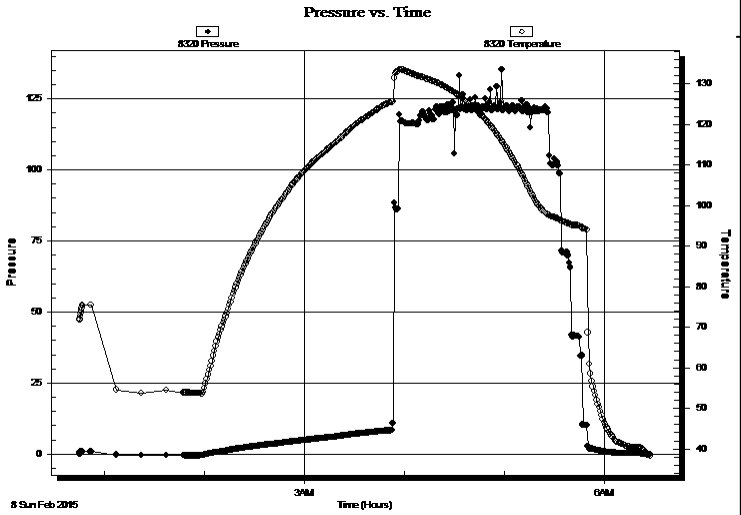
Interval: 4128.00 ft (KB) To 4196.00 ft (KB) (TVD)
Total Depth: 4196.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3330.00 ft (KB)
3325.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8320 **Fluid**

Press@RunDepth:	psig @	4095.00 ft (KB)		Capacity:	8000.00 psig
Start Date:	2015.02.08	End Date:	2015.02.08	Last Calib.:	2015.02.08
Start Time:	00:45:05	End Time:	06:28:14	Time On Btm:	
				Time Off Btm:	

TEST COMMENT:
Packers not holding
Reset tool
Packers failed again
Pulled tool - Mis-run



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
230.00	Mud 100%	1.53
0.00	A few oil specs in top sample	0.00

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Samuel Gary Jr. & Associates

1515 Wynkoop St. STE 700
Denver, CO 80202

ATTN: Clayton Camozzi

15/2s/36w Rawlins KS

Frisbie #1-15

Job Ticket: 62151 **DST#: 1**

Test Start: 2015.02.08 @ 00:45:00

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:	51.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	6.18 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	1500.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
230.00	Mud 100%	1.532
0.00	A few oil specs in top sample	0.000

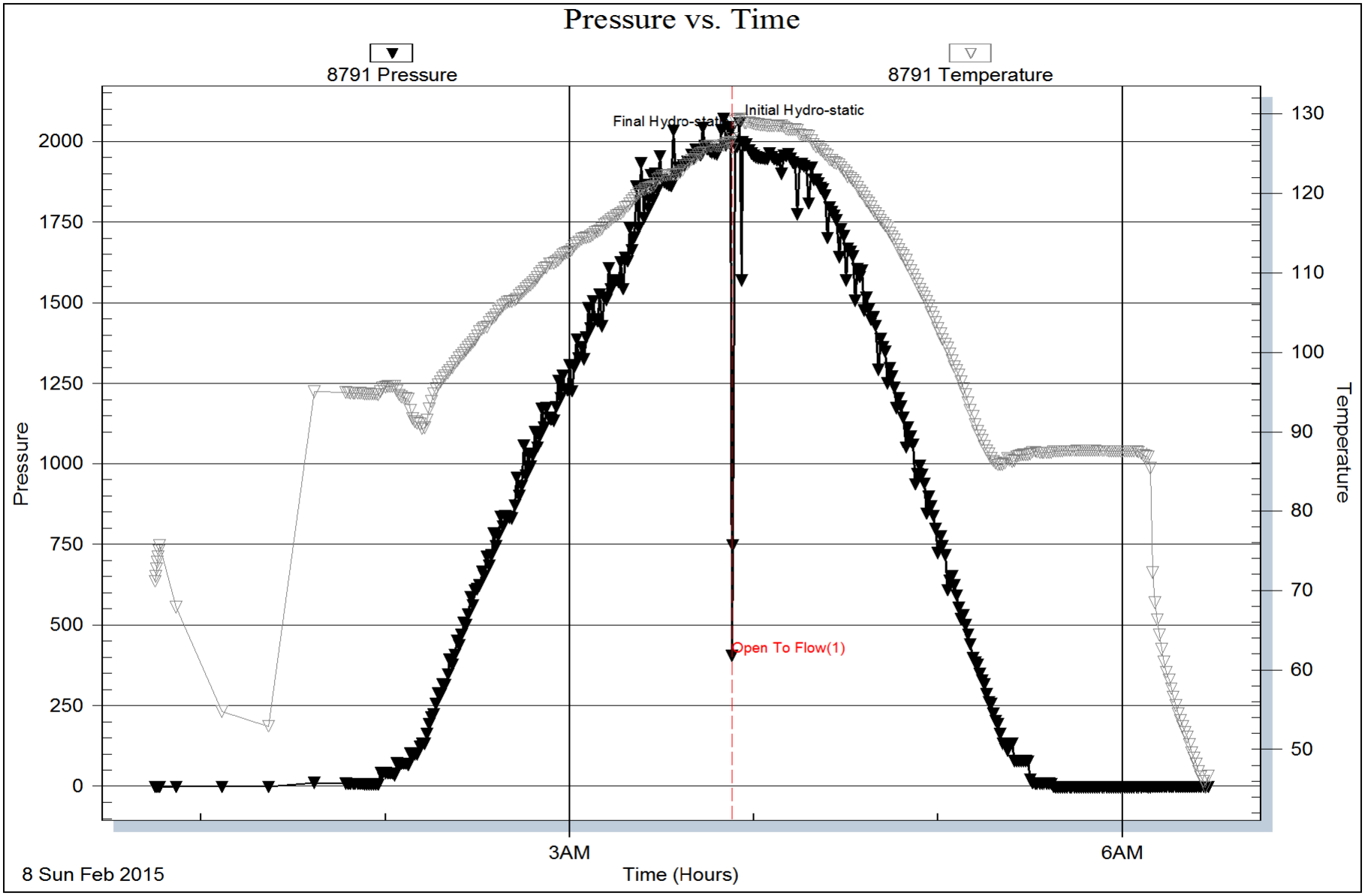
Total Length: 230.00 ft Total Volume: 1.532 bbl

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

Laboratory Name: Laboratory Location:

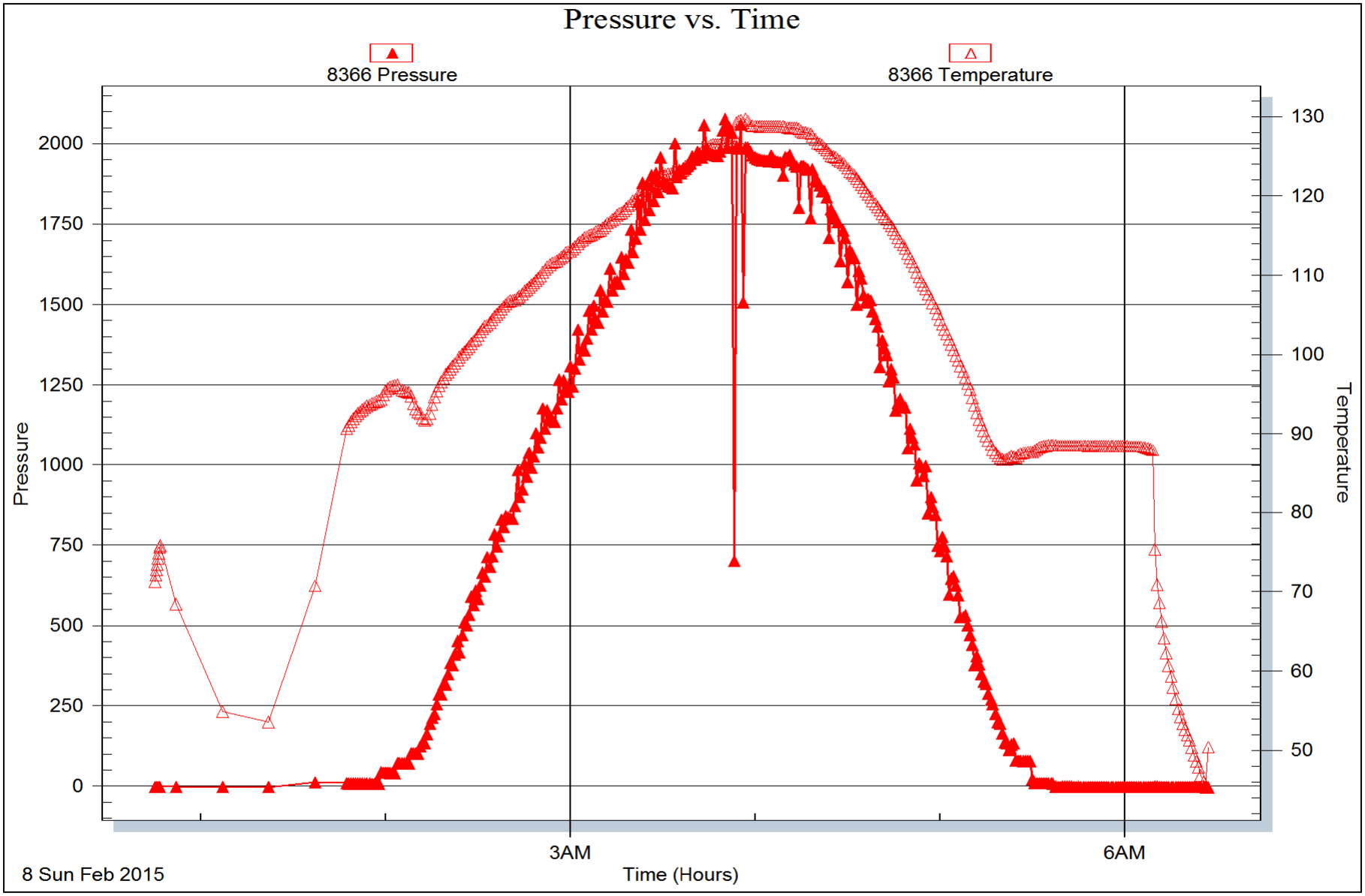
Recovery Comments:

Serial #: 8791 **Inside** Samuel Gary Jr. & Associates Frisbie #1-15 DST Test Number: 1



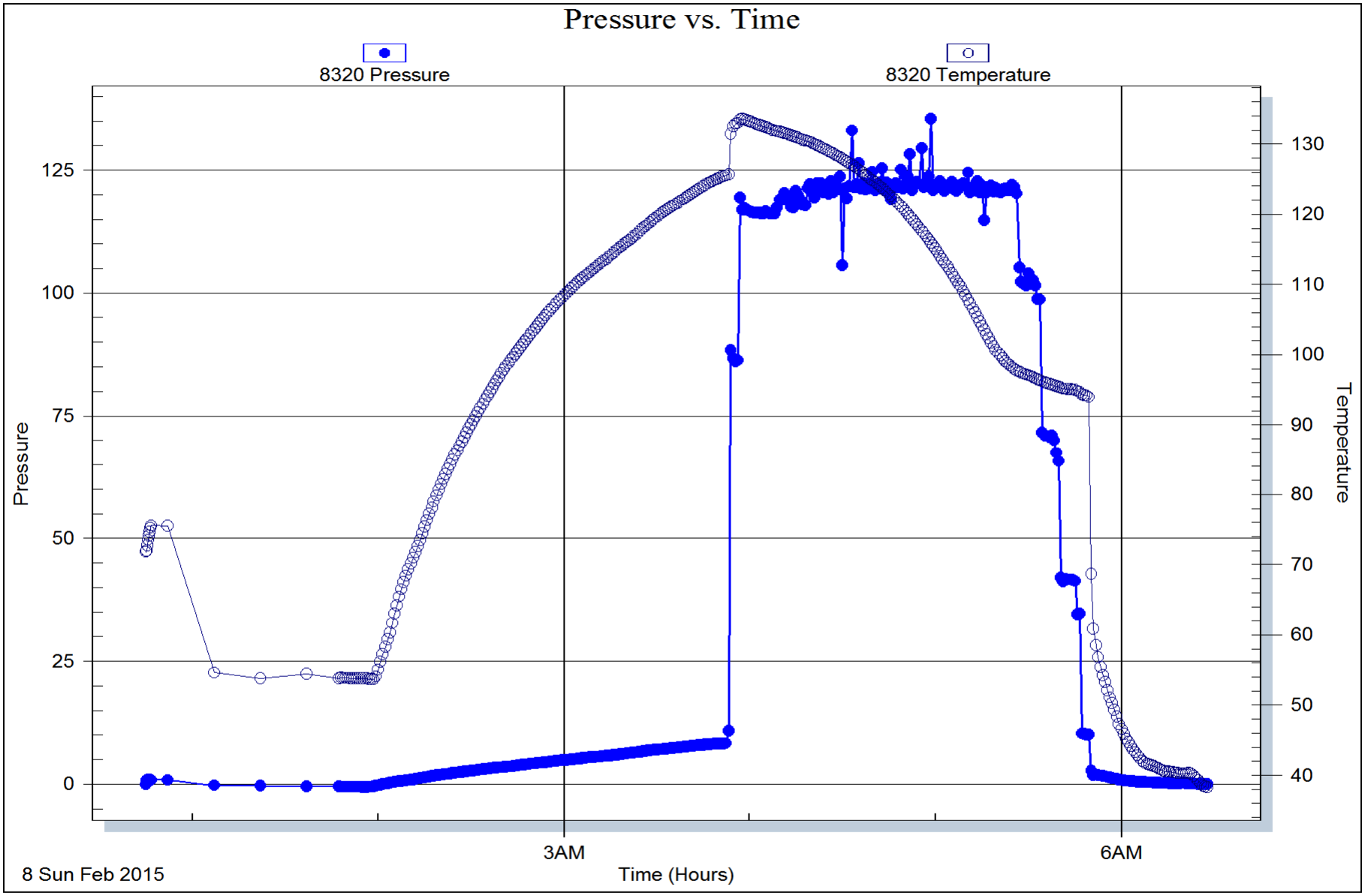
Trilobite Testing, Inc Ref. No: 62151 Printed: 2015.02.09 @ 00:10:31

Serial #: 8366 **Outside** Samuel Gary Jr. & Associates Frisbie #1-15 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 62151 Printed: 2015.02.09 @ 00:10:32

Serial #: 8320 **Fluid** Samuel Gary Jr. & Associates Frisbie #1-15 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 62151 Printed: 2015.02.09 @ 00:10:32

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Samuel Gary Jr. & Associates
1515 Wynkoop St. STE 700
Denver, CO 80202

ATTN: Clayton Camozzi

15/2s/36w Rawlins KS

Frisbie #1-15

Job Ticket: 62152 **DST#: 2**

Test Start: 2015.02.08 @ 07:03:00

GENERAL INFORMATION:

Formation: **Oread**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 09:13:00
Time Test Ended: 15:39:30

Test Type: Conventional Bottom Hole (Reset)
Tester: James Winder
Unit No: 83

Interval: 4135.00 ft (KB) To 4196.00 ft (KB) (TVD)
Total Depth: 4196.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

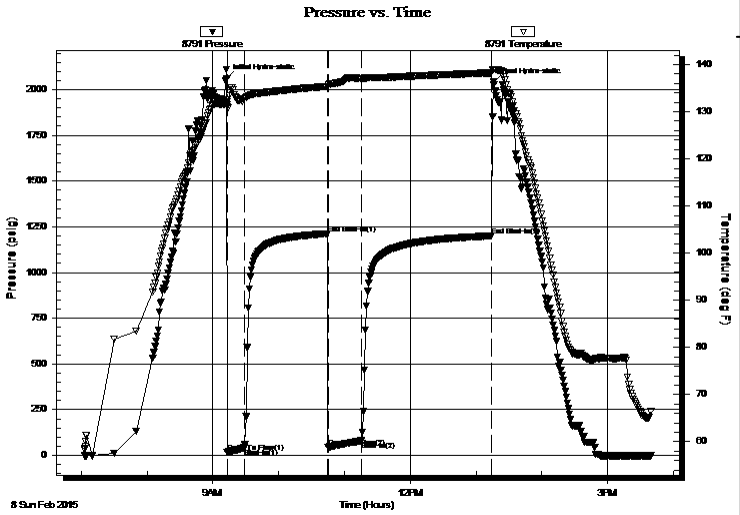
Reference Elevations: 3330.00 ft (KB)
3325.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8791 **Inside**

Press@RunDepth: 79.24 psig @ 4136.00 ft (KB)
Start Date: 2015.02.08 End Date: 2015.02.08
Start Time: 07:03:05 End Time: 15:39:30

Capacity: 8000.00 psig
Last Calib.: 2015.02.08
Time On Btm: 2015.02.08 @ 09:12:45
Time Off Btm: 2015.02.08 @ 13:16:00

TEST COMMENT:
15 - IF: 1/4" Blow at open, built to 2 1/2"
75 - ISI: No blow back
30 - FF: Blow started at 7 min., built to just under 3"
120 - FSI: Weak surface blow back, lasted a few minutes then dead



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2061.37	132.15	Initial Hydro-static
1	15.80	131.05	Open To Flow (1)
16	40.92	132.75	Shut-In(1)
92	1212.36	135.37	End Shut-In(1)
93	44.82	135.37	Open To Flow (2)
123	79.24	136.98	Shut-In(2)
242	1200.64	138.24	End Shut-In(2)
244	2040.73	138.98	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
67.00	SOCM 90%m, 6%o, 4%g	0.33
31.00	OCM 76%m, 22%o, 2%g	0.15
60.00	SMCO 93%o, 4%m, 3%g	0.30

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Samuel Gary Jr. & Associates
1515 Wynkoop St. STE 700
Denver, CO 80202

ATTN: Clayton Camozzi

15/2s/36w Rawlins KS

Frisbie #1-15

Job Ticket: 62152 **DST#: 2**

Test Start: 2015.02.08 @ 07:03:00

GENERAL INFORMATION:

Formation: **Oread**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 09:13:00
Time Test Ended: 15:39:30

Test Type: Conventional Bottom Hole (Reset)
Tester: James Winder
Unit No: 83

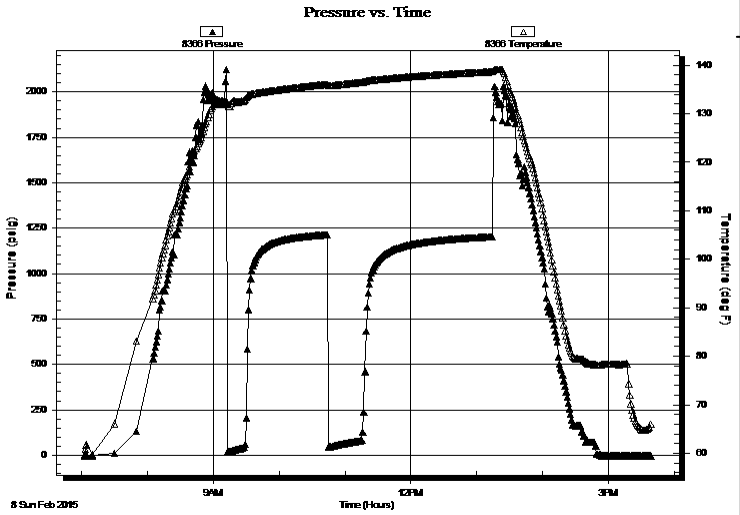
Interval: 4135.00 ft (KB) To 4196.00 ft (KB) (TVD)
Total Depth: 4196.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3330.00 ft (KB)
3325.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8366 **Outside**

Press@RunDepth:	psig @	4136.00 ft (KB)		Capacity:	8000.00 psig
Start Date:	2015.02.08	End Date:	2015.02.08	Last Calib.:	2015.02.08
Start Time:	07:03:05	End Time:	15:38:45	Time On Btm:	
				Time Off Btm:	

TEST COMMENT:
15 - IF: 1/4" Blow at open, built to 2 1/2"
75 - ISI: No blow back
30 - FF: Blow started at 7 min., built to just under 3"
120 - FSI: Weak surface blow back, lasted a few minutes then dead



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
67.00	SOCM 90%m, 6%o, 4%g	0.33
31.00	OCM 76%m, 22%o, 2%g	0.15
60.00	SMCO 93%o, 4%m, 3%g	0.30

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Samuel Gary Jr. & Associates

1515 Wynkoop St. STE 700
Denver, CO 80202

ATTN: Clayton Camozzi

15/2s/36w Rawlins KS

Frisbie #1-15

Job Ticket: 62152 **DST#: 2**

Test Start: 2015.02.08 @ 07:03:00

GENERAL INFORMATION:

Formation: **Oread**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 09:13:00
Time Test Ended: 15:39:30

Test Type: Conventional Bottom Hole (Reset)
Tester: James Winder
Unit No: 83

Interval: 4135.00 ft (KB) To 4196.00 ft (KB) (TVD)
Total Depth: 4196.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

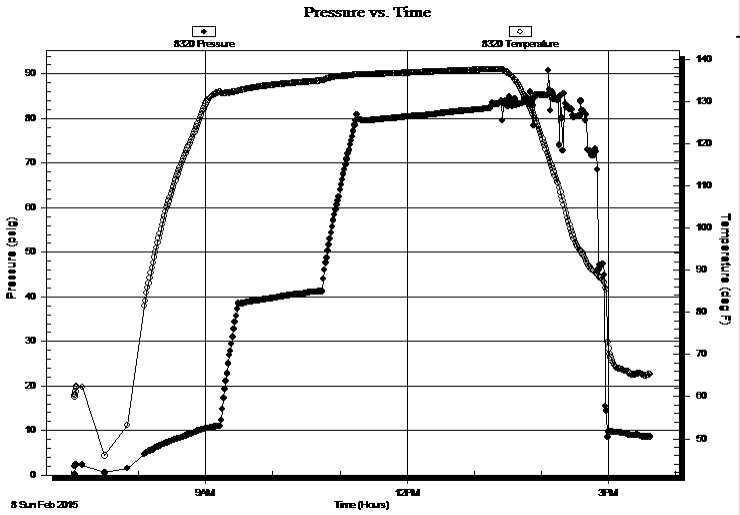
Reference Elevations: 3330.00 ft (KB)
3325.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8320 **Fluid**

Press@RunDepth: psig @ 4102.00 ft (KB)
Start Date: 2015.02.08 End Date: 2015.02.08
Start Time: 07:03:05 End Time: 15:37:45

Capacity: 8000.00 psig
Last Calib.: 2015.02.08
Time On Btm:
Time Off Btm:

TEST COMMENT:
15 - IF: 1/4" Blow at open, built to 2 1/2"
75 - ISI: No blow back
30 - FF: Blow started at 7 min., built to just under 3"
120 - FSI: Weak surface blow back, lasted a few minutes then dead



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
67.00	SOCM 90%m, 6%o, 4%g	0.33
31.00	OCM 76%m, 22%o, 2%g	0.15
60.00	SMCO 93%o, 4%m, 3%g	0.30

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Samuel Gary Jr. & Associates

1515 Wynkoop St. STE 700
Denver, CO 80202

ATTN: Clayton Camozzi

15/2s/36w Rawlins KS

Frisbie #1-15

Job Ticket: 62152 **DST#: 2**

Test Start: 2015.02.08 @ 07:03:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	22 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	51.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	6.19 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	1500.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
67.00	SOCM 90%m, 6%o, 4%g	0.329
31.00	OCM 76%m, 22%o, 2%g	0.152
60.00	SMCO 93%o, 4%m, 3%g	0.295

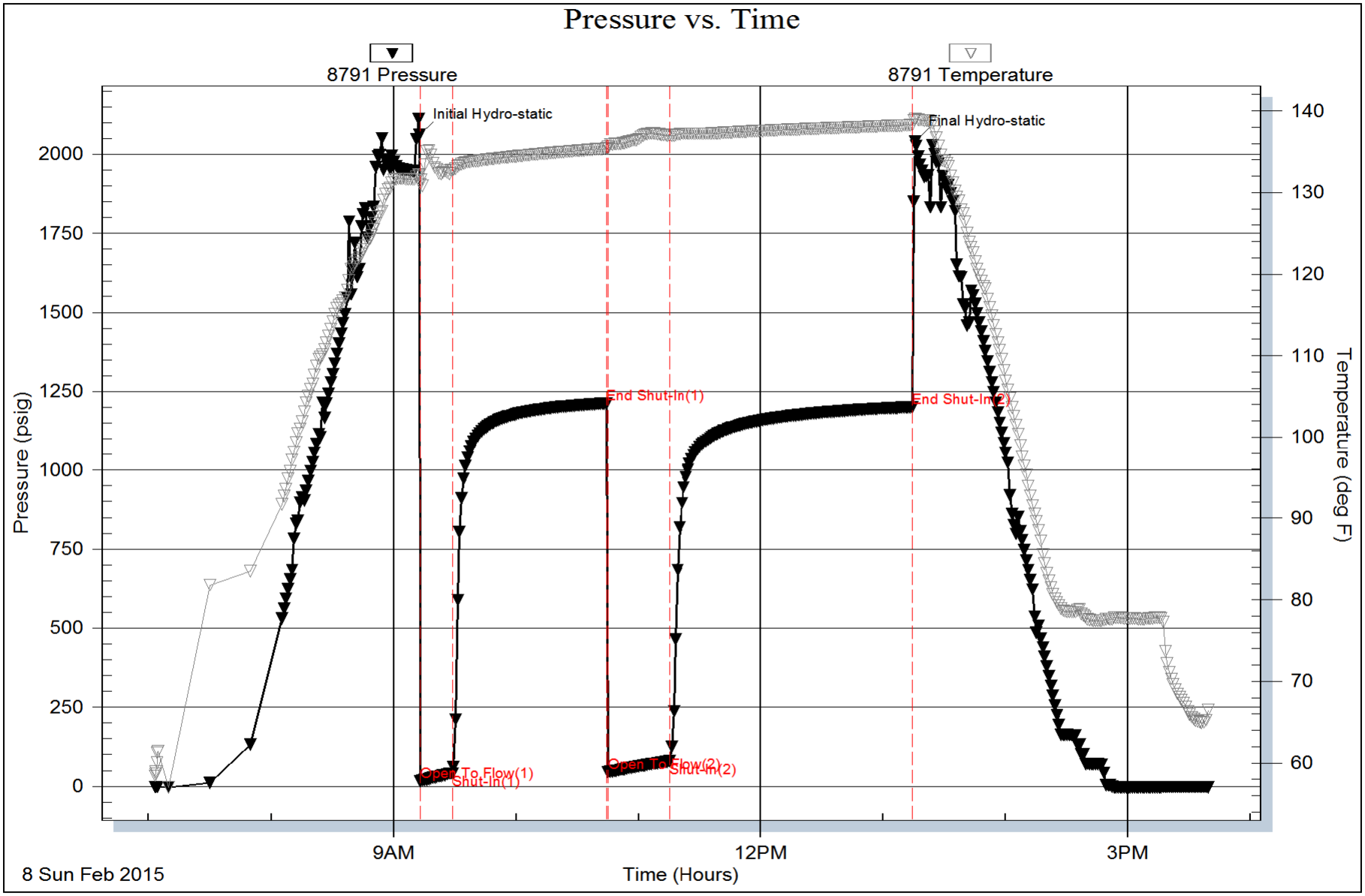
Total Length: 158.00 ft Total Volume: 0.776 bbl

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

Laboratory Name: Laboratory Location:

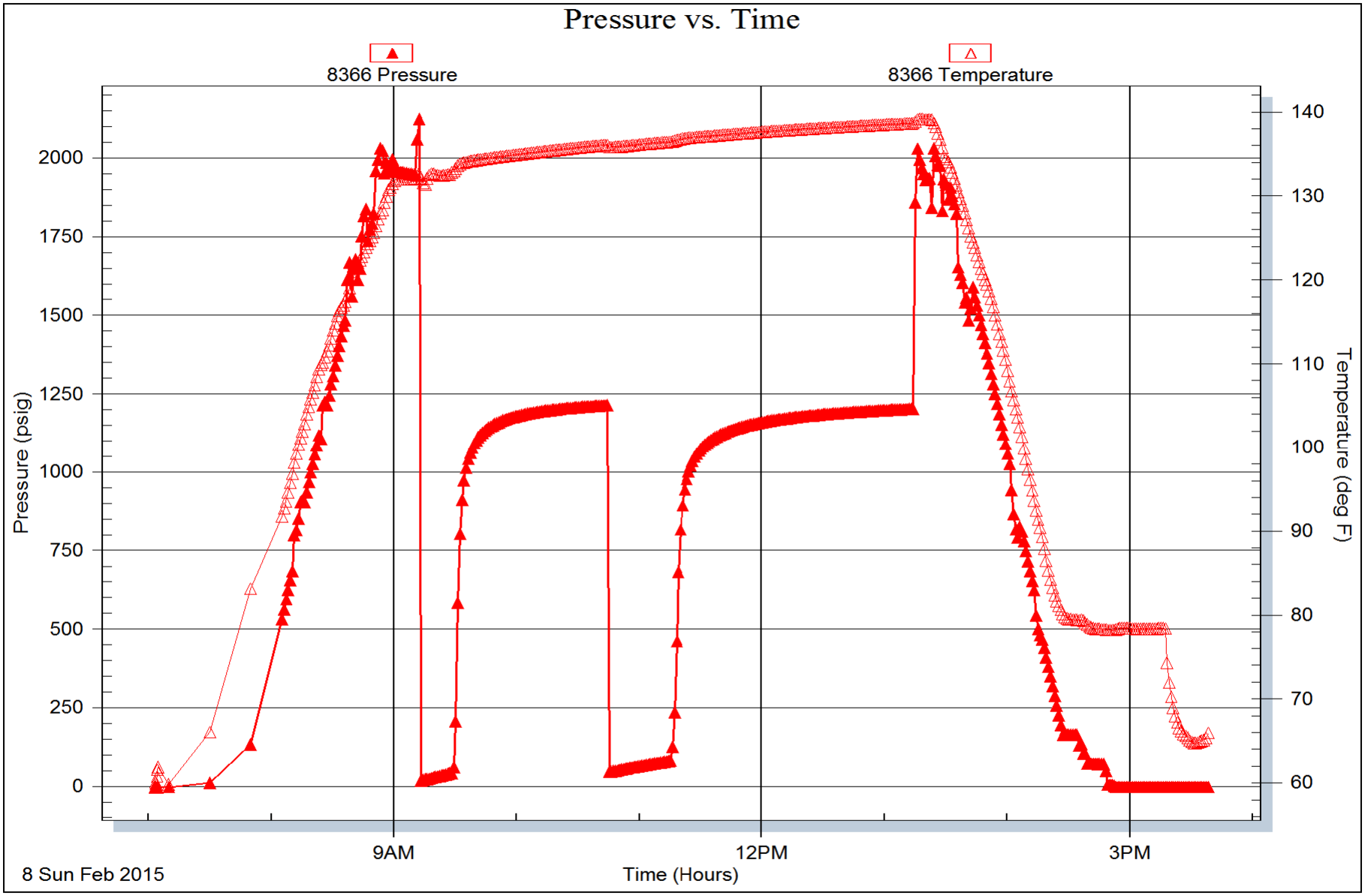
Recovery Comments: Gravity = 23.2 api @ 72 deg F
Corrected Gravity = 22 api

Serial #: 8791 **Inside** Samuel Gary Jr. & Associates Frisbie #1-15 DST Test Number: 2



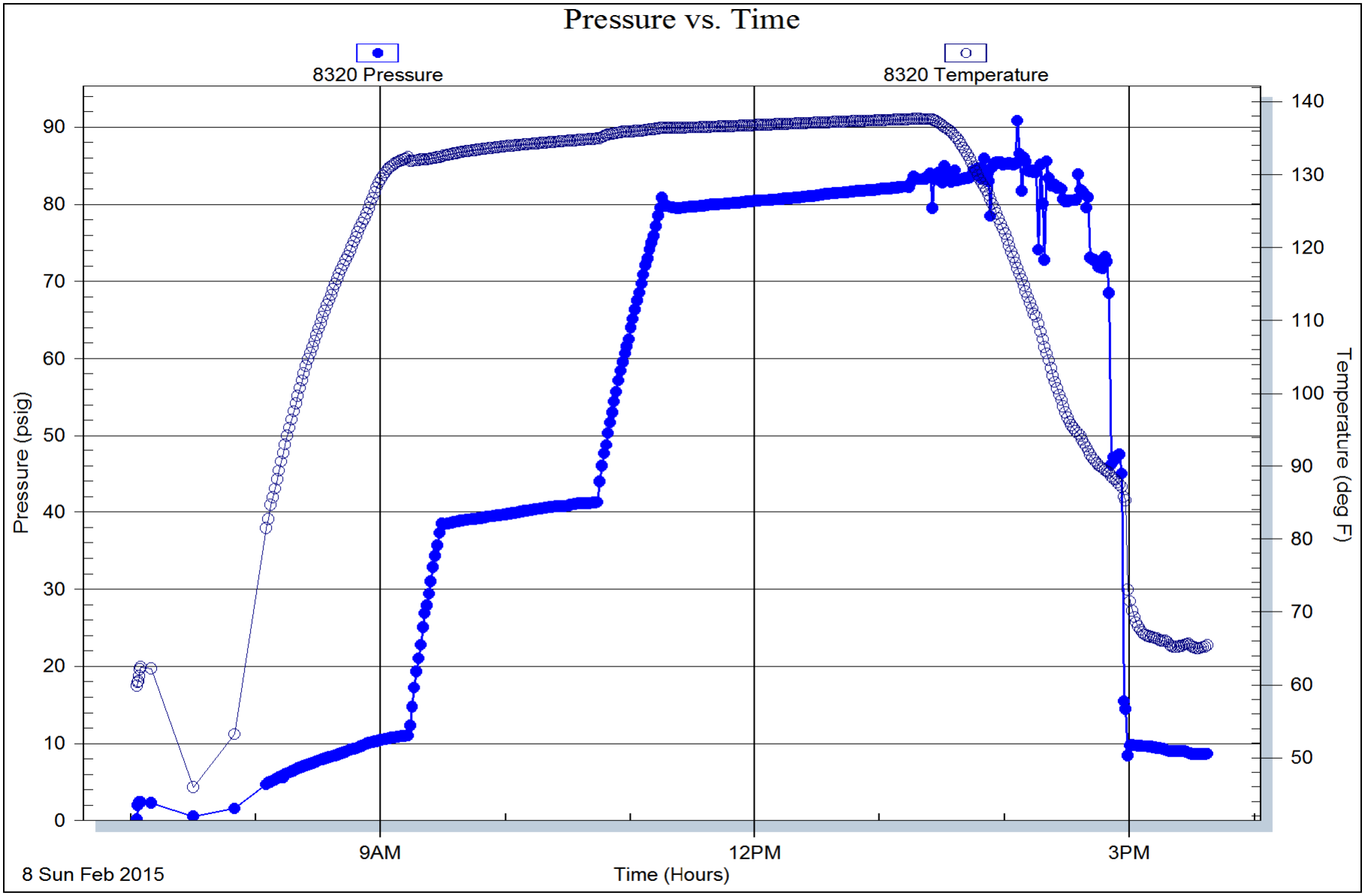
Trilobite Testing, Inc Ref. No: 62152 Printed: 2015.02.09 @ 00:09:52

Serial #: 8366 **Outside** Samuel Gary Jr. & Associates Frisbie #1-15 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 62152 Printed: 2015.02.09 @ 00:09:52

Serial #: 8320 **Fluid** Samuel Gary Jr. & Associates Frisbie #1-15 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 62152 Printed: 2015.02.09 @ 00:09:52

DRILL STEM TEST REPORT

Samuel Gary Jr. & Associates Inc.

1515 Wynkoop St. STE 700
Denver, CO 80202

ATTN: Clayton Camozzi

15/2s/36w Rawlins KS

Frisbie #1-15

Job Ticket: 62153 **DST#: 3**

Test Start: 2015.02.09 @ 04:03:00

GENERAL INFORMATION:

Formation: **Douglas Sand - LKC "**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 06:43:15
Time Test Ended: 11:49:30

Test Type: Conventional Bottom Hole (Reset)
Tester: James Winder
Unit No: 83

Interval: 4204.00 ft (KB) To 4284.00 ft (KB) (TVD)
Total Depth: 4284.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

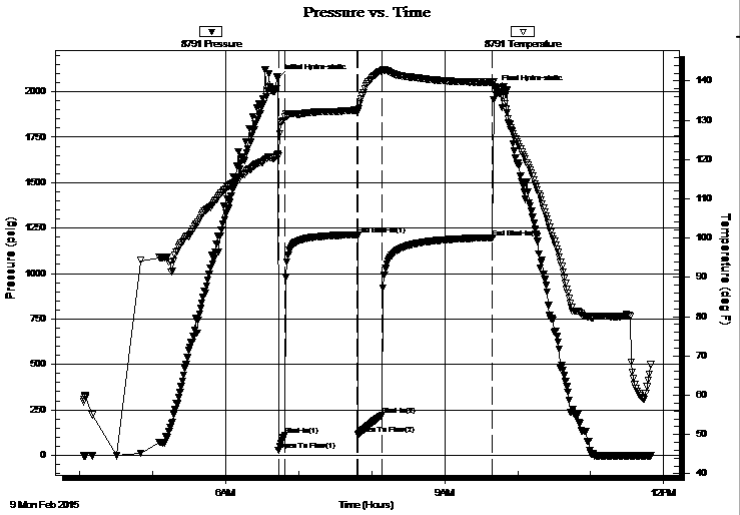
Reference Elevations: 3330.00 ft (KB)
3325.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8791 **Inside**

Press@RunDepth: 220.10 psig @ 4205.00 ft (KB)
Start Date: 2015.02.09 End Date: 2015.02.09
Start Time: 04:03:05 End Time: 11:49:29

Capacity: 8000.00 psig
Last Calib.: 2015.02.09
Time On Btm: 2015.02.09 @ 06:42:45
Time Off Btm: 2015.02.09 @ 09:41:15

TEST COMMENT:
5 - IF: blow built to 7 1/4"
60 - ISI: No blow back
20 - FF: Blow built to BOB (11") at 9 1/2 min.
90 - FSI: No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2073.25	121.41	Initial Hydro-static
1	28.93	120.91	Open To Flow (1)
6	111.38	130.94	Shut-In(1)
66	1213.83	132.57	End Shut-In(1)
66	116.70	132.35	Open To Flow (2)
86	220.10	142.70	Shut-In(2)
177	1198.17	139.66	End Shut-In(2)
179	2014.54	138.55	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
317.00	MCW w /trace oil 66%w , 34%m	2.75
130.00	WM w /trace oil 57%m, 43%w	1.82

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

Samuel Gary Jr. & Associates Inc.

1515 Wynkoop St. STE 700
Denver, CO 80202

ATTN: Clayton Camozzi

15/2s/36w Rawlins KS

Frisbie #1-15

Job Ticket: 62153 **DST#: 3**

Test Start: 2015.02.09 @ 04:03:00

GENERAL INFORMATION:

Formation: **Douglas Sand - LKC "**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 06:43:15
Time Test Ended: 11:49:30

Test Type: Conventional Bottom Hole (Reset)
Tester: James Winder
Unit No: 83

Interval: 4204.00 ft (KB) To 4284.00 ft (KB) (TVD)
Total Depth: 4284.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

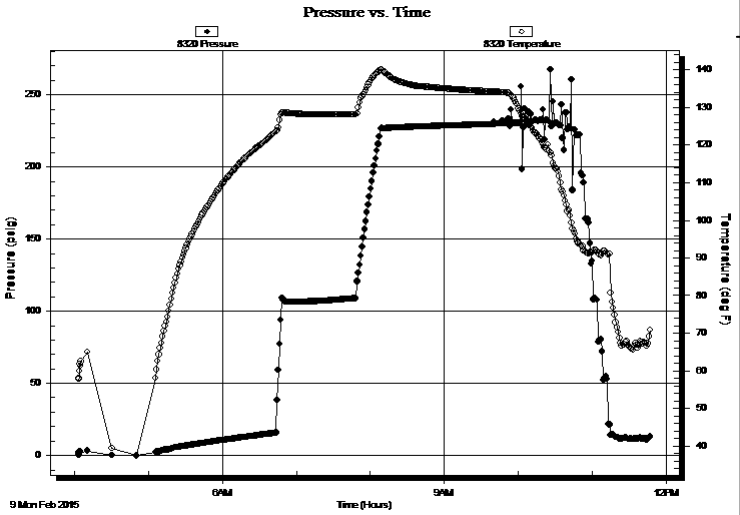
Reference Elevations: 3330.00 ft (KB)
3325.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8320 **Fluid**

Press@RunDepth: psig @ 4171.00 ft (KB)
Start Date: 2015.02.09 End Date: 2015.02.09
Start Time: 04:03:05 End Time: 11:47:59

Capacity: 8000.00 psig
Last Calib.: 2015.02.09
Time On Btm:
Time Off Btm:

TEST COMMENT:
5 - IF: blow built to 7 1/4"
60 - ISI: No blow back
20 - FF: Blow built to BOB (11") at 9 1/2 min.
90 - FSI: No blow back



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
317.00	MCW w /trace oil 66%w , 34%m	2.75
130.00	WM w /trace oil 57%m, 43%w	1.82

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

FLUID SUMMARY

Samuel Gary Jr. & Associates Inc.

1515 Wynkoop St. STE 700
Denver, CO 80202

ATTN: Clayton Camozzi

15/2s/36w Rawlins KS

Frisbie #1-15

Job Ticket: 62153 **DST#: 3**

Test Start: 2015.02.09 @ 04:03:00

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:	27000 ppm
Viscosity:	60.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	6.40 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	2000.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

Recovery Table

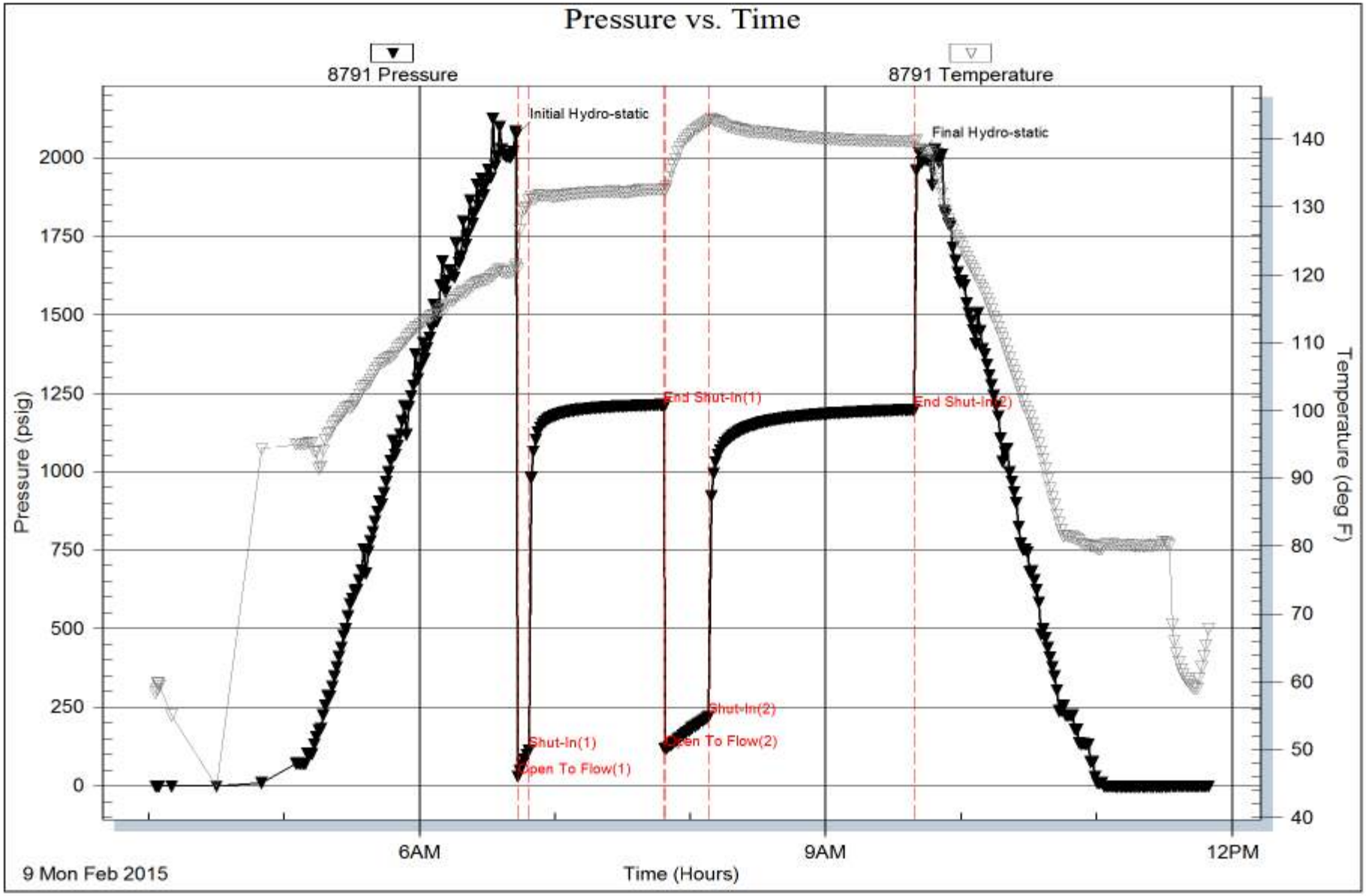
Length ft	Description	Volume bbl
317.00	MCW w /trace oil 66%w , 34%m	2.752
130.00	WM w /trace oil 57%m, 43%w	1.824

Total Length: 447.00 ft Total Volume: 4.576 bbl

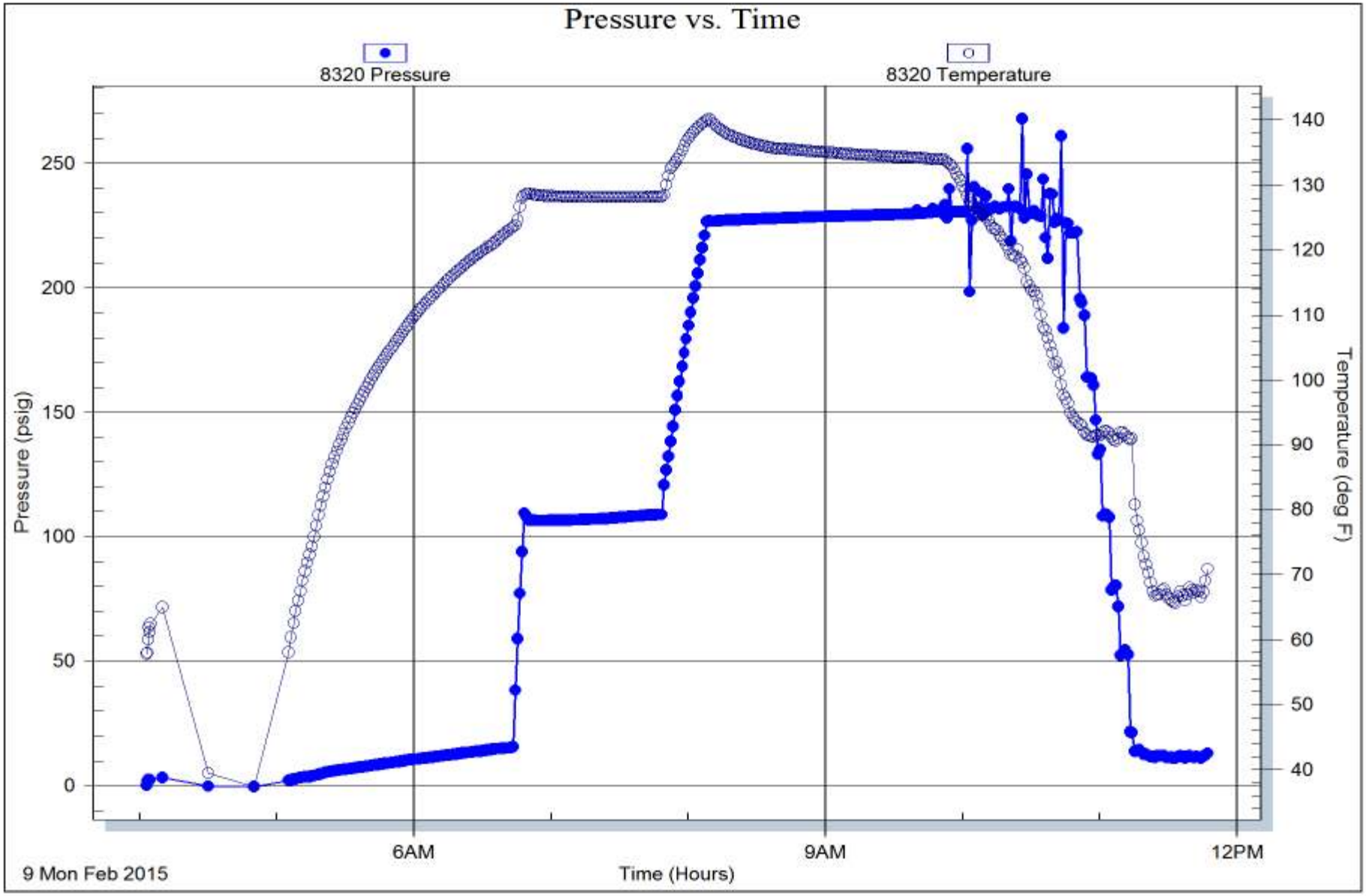
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments: RW = .256 ohms @ 71.8 deg F
Chlorides = 27,000 ppm


Pressure vs. Time
8791 Pressure
8791 Temperature
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
End Shut-In(2)
Shut-In(1)
Open To Flow(1)
Shut-In(2)
Open To Flow(2)
Pressure (psig)
Temperature (deg F)
Time (Hours)
6AM
9AM
12PM
9 Mon Feb 2015

Serial #: 8320 **Fluid** Samuel Gary Jr. & Associates Inc. Frisbie #1-15 DST Test Number: 3



Trilobite Testing, Inc Ref. No: 62153 Printed: 2015.02.09 @ 13:29:15

DRILL STEM TEST REPORT

Samuel Gary Jr. & Associates Inc.

1515 Wynkoop St. STE 700
Denver, CO 80202

ATTN: Clayton Camozzi

15/2s/36w Rawlins KS

Frisbie #1-15

Job Ticket: 62154 **DST#: 4**

Test Start: 2015.02.10 @ 14:05:00

GENERAL INFORMATION:

Formation: **LKC "J"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 16:18:45
Time Test Ended: 22:41:00

Test Type: Conventional Bottom Hole (Reset)
Tester: James Winder
Unit No: 83

Interval: 4437.00 ft (KB) To 4483.00 ft (KB) (TVD)
Total Depth: 4483.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

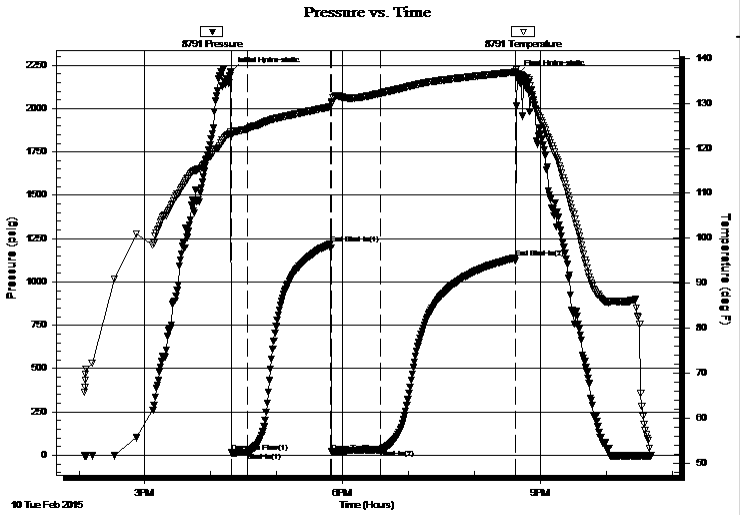
Reference Elevations: 3330.00 ft (KB)
3325.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8791 **Inside**

Press@RunDepth: 32.18 psig @ 4438.00 ft (KB)
Start Date: 2015.02.10 End Date: 2015.02.10
Start Time: 14:05:05 End Time: 22:41:00

Capacity: 8000.00 psig
Last Calib.: 2015.02.10
Time On Btm: 2015.02.10 @ 16:18:30
Time Off Btm: 2015.02.10 @ 20:38:45

TEST COMMENT:
15 - IF: 1/4" Blow at open, built to 1 1/2"
75 - ISI: No blow back
45 - FF: Blow built to just over 2"
120 - FSI: No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2213.99	123.71	Initial Hydro-static
1	14.81	122.77	Open To Flow (1)
15	17.67	124.27	Shut-In(1)
91	1219.51	129.22	End Shut-In(1)
92	20.29	130.15	Open To Flow (2)
136	32.18	132.23	Shut-In(2)
259	1139.17	136.94	End Shut-In(2)
261	2197.76	136.52	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	OCM 56%m, 40%o, 4%g	0.07
30.00	SMCO 94%o, 4%m, 2%g	0.15
0.00	GIP = 80'	0.00

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

Samuel Gary Jr. & Associates Inc.

1515 Wynkoop St. STE 700
Denver, CO 80202

ATTN: Clayton Camozzi

15/2s/36w Rawlins KS

Frisbie #1-15

Job Ticket: 62154 **DST#: 4**

Test Start: 2015.02.10 @ 14:05:00

GENERAL INFORMATION:

Formation: **LKC "J"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 16:18:45
Time Test Ended: 22:41:00

Test Type: Conventional Bottom Hole (Reset)
Tester: James Winder
Unit No: 83

Interval: 4437.00 ft (KB) To 4483.00 ft (KB) (TVD)
Total Depth: 4483.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

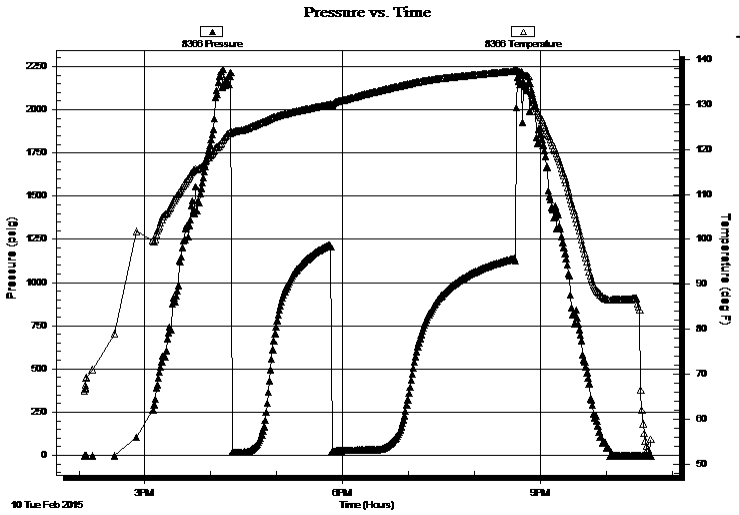
Reference Elevations: 3330.00 ft (KB)
3325.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8366 **Outside**

Press@RunDepth: psig @ 4438.00 ft (KB)
Start Date: 2015.02.10 End Date: 2015.02.10
Start Time: 14:05:05 End Time: 22:40:30

Capacity: 8000.00 psig
Last Calib.: 2015.02.10
Time On Btm:
Time Off Btm:

TEST COMMENT:
15 - IF: 1/4" Blow at open, built to 1 1/2"
75 - ISI: No blow back
45 - FF: Blow built to just over 2"
120 - FSI: No blow back



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
15.00	OCM 56%m, 40%o, 4%g	0.07
30.00	SMCO 94%o, 4%m, 2%g	0.15
0.00	GIP = 80'	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. & Associates Inc.

1515 Wynkoop St. STE 700
Denver, CO 80202

ATTN: Clayton Camozzi

15/2s/36w Rawlins KS

Frisbie #1-15

Job Ticket: 62154 **DST#: 4**

Test Start: 2015.02.10 @ 14:05:00

GENERAL INFORMATION:

Formation: **LKC "J"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 16:18:45
Time Test Ended: 22:41:00

Test Type: Conventional Bottom Hole (Reset)
Tester: James Winder
Unit No: 83

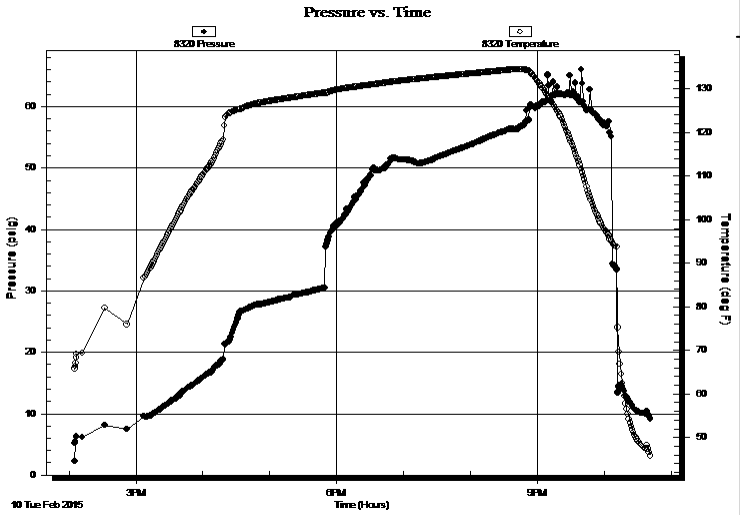
Interval: 4437.00 ft (KB) To 4483.00 ft (KB) (TVD)
Total Depth: 4483.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3330.00 ft (KB)
3325.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8320 **Fluid**

Press@RunDepth:	psig @	4404.00 ft (KB)		Capacity:	8000.00 psig
Start Date:	2015.02.10	End Date:	2015.02.10	Last Calib.:	2015.02.10
Start Time:	14:05:05	End Time:	22:41:45	Time On Btm:	
				Time Off Btm:	

TEST COMMENT:
15 - IF: 1/4" Blow at open, built to 1 1/2"
75 - ISI: No blow back
45 - FF: Blow built to just over 2"
120 - FSI: No blow back



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
15.00	OCM 56%m, 40%o, 4%g	0.07
30.00	SMCO 94%o, 4%m, 2%g	0.15
0.00	GIP = 80'	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. & Associates Inc.

1515 Wynkoop St. STE 700
Denver, CO 80202

ATTN: Clayton Camozzi

15/2s/36w Rawlins KS

Frisbie #1-15

Job Ticket: 62154 **DST#: 4**

Test Start: 2015.02.10 @ 14:05:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	36.8 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	61.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.20 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	2400.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	OCM 56%m, 40%o, 4%g	0.074
30.00	SMCO 94%o, 4%m, 2%g	0.148
0.00	GIP = 80'	0.000

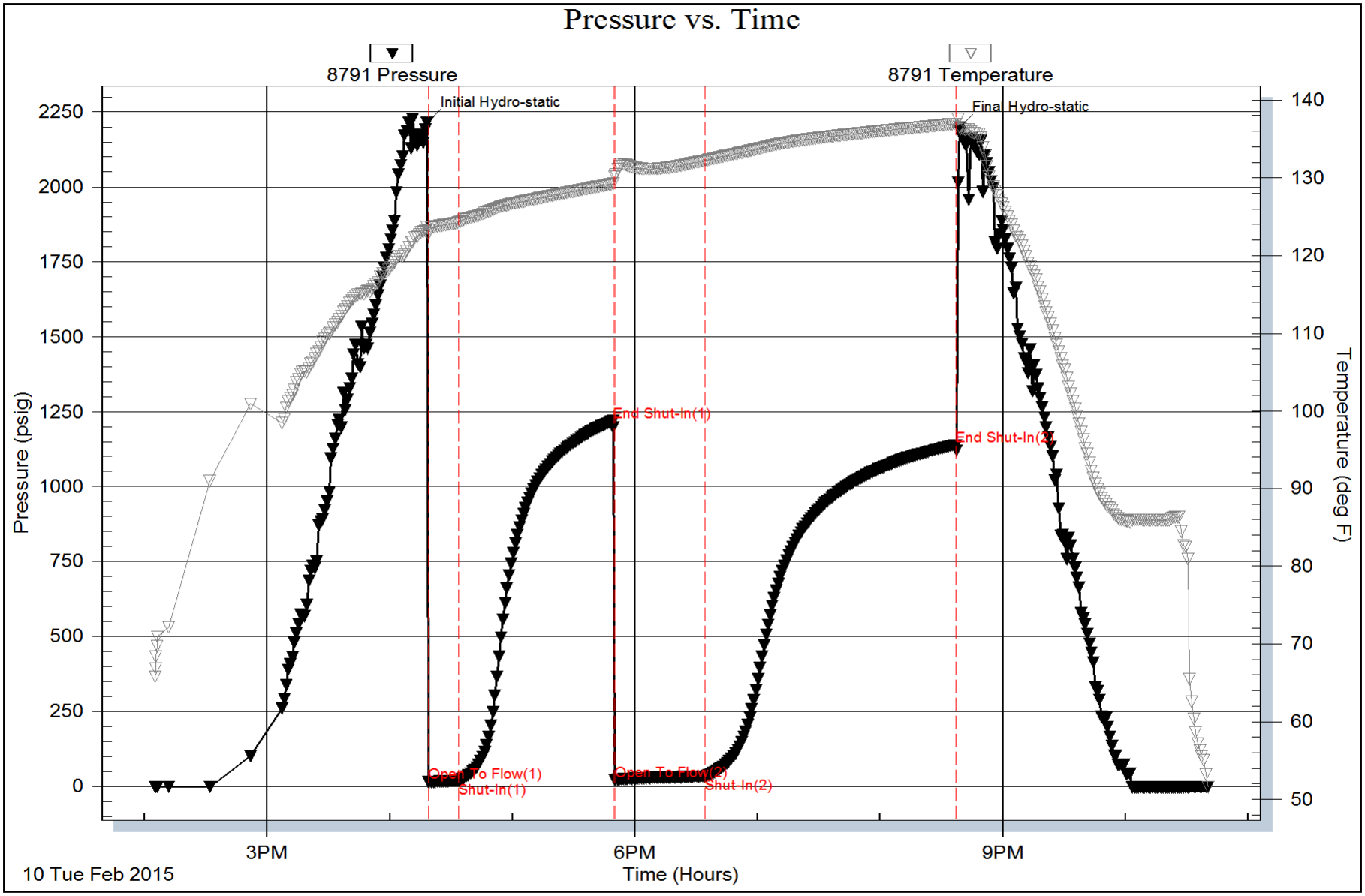
Total Length: 45.00 ft Total Volume: 0.222 bbl

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

Laboratory Name: Laboratory Location:

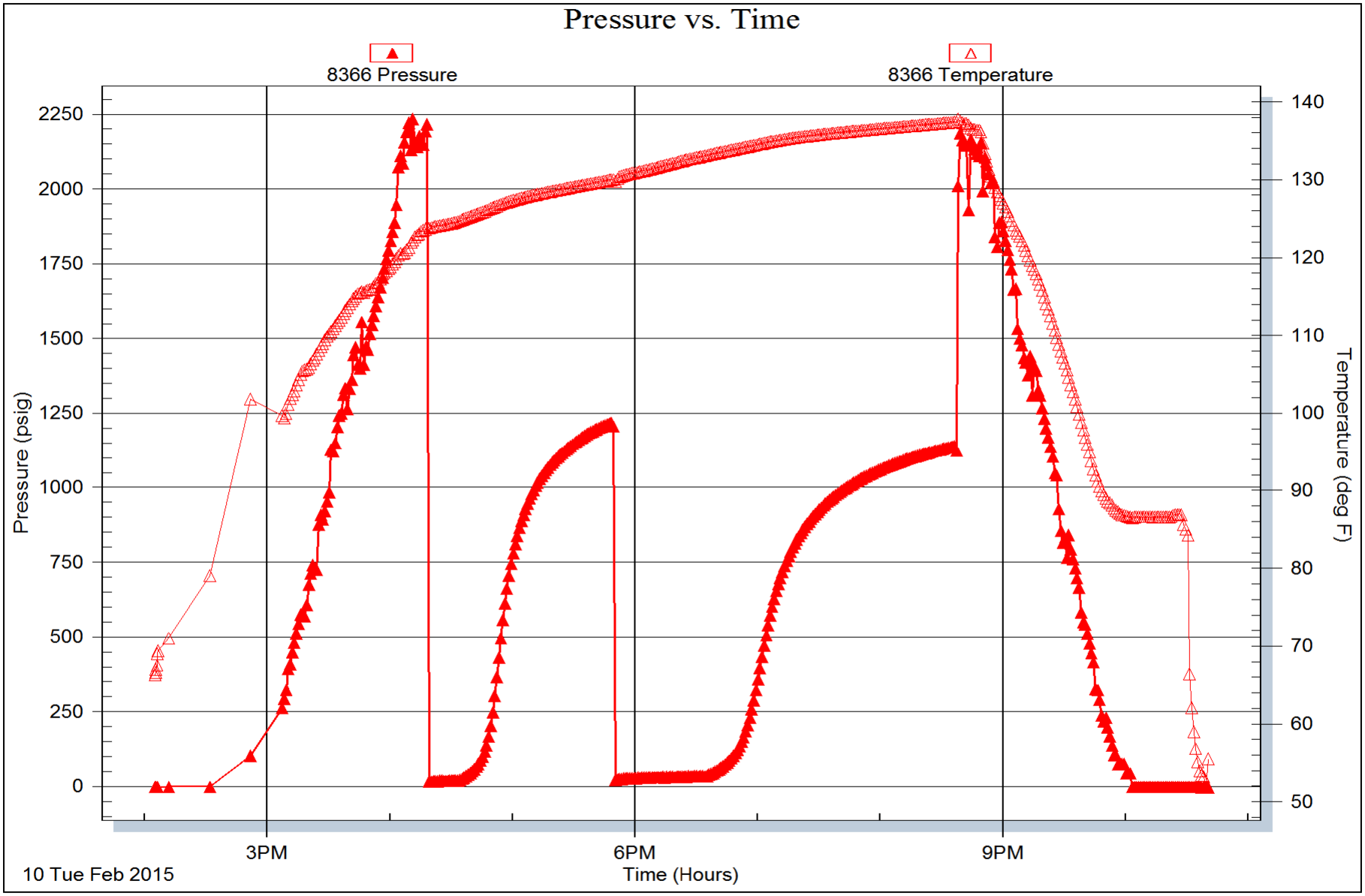
Recovery Comments: Gravity = 35.6 api @ 48 deg F
Corrected Gravity = 36.8 api

Serial #: 8791 **Inside** Samuel Gary Jr. & Associates Inc. Frisbie #1-15 DST Test Number: 4



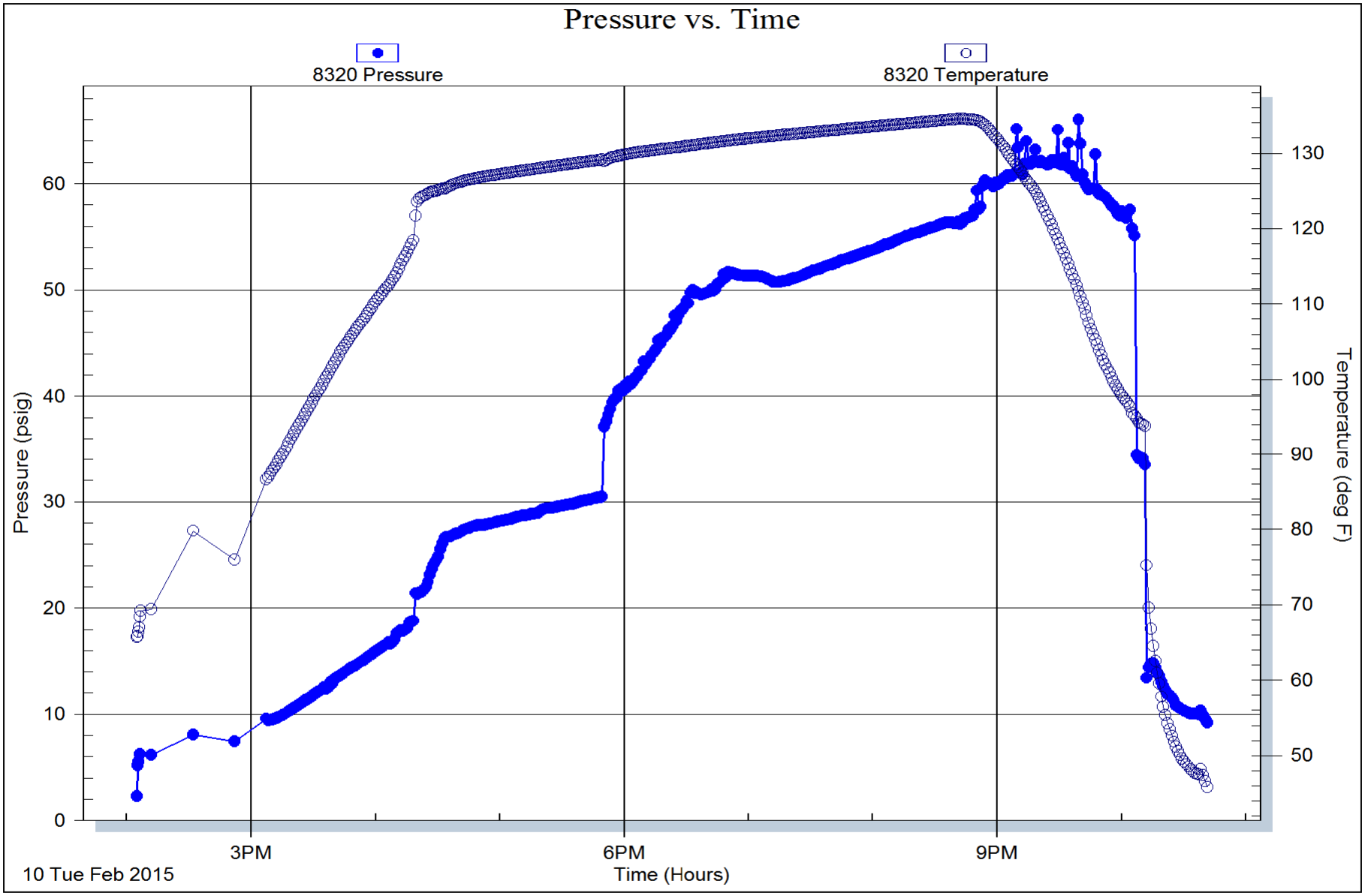
Trilobite Testing, Inc Ref. No: 62154 Printed: 2015.02.10 @ 23:12:23

Serial #: 8366 **Outside** Samuel Gary Jr. & Associates Inc. Frisbie #1-15 DST Test Number: 4



Trilobite Testing, Inc Ref. No: 62154 Printed: 2015.02.10 @ 23:12:23

Serial #: 8320 **Fluid** Samuel Gary Jr. & Associates Inc. Frisbie #1-15 DST Test Number: 4



Trilobite Testing, Inc Ref. No: 62154 Printed: 2015.02.10 @ 23:12:23

DRILL STEM TEST REPORT

Samuel Gary Jr. & Associates Inc.

1515 Wynkoop St. STE 700
Denver, CO 80202

ATTN: Clayton Camozzi

15/2s/36w Rawlins KS

Frisbie #1-15

Job Ticket: 62155 **DST#: 5**

Test Start: 2015.02.12 @ 01:20:00

GENERAL INFORMATION:

Formation: **Upper Pawnee**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 04:04:00
Time Test Ended: 09:11:30

Test Type: Conventional Bottom Hole (Reset)
Tester: James Winder
Unit No: 83

Interval: 4636.00 ft (KB) To 4676.00 ft (KB) (TVD)
Total Depth: 4676.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

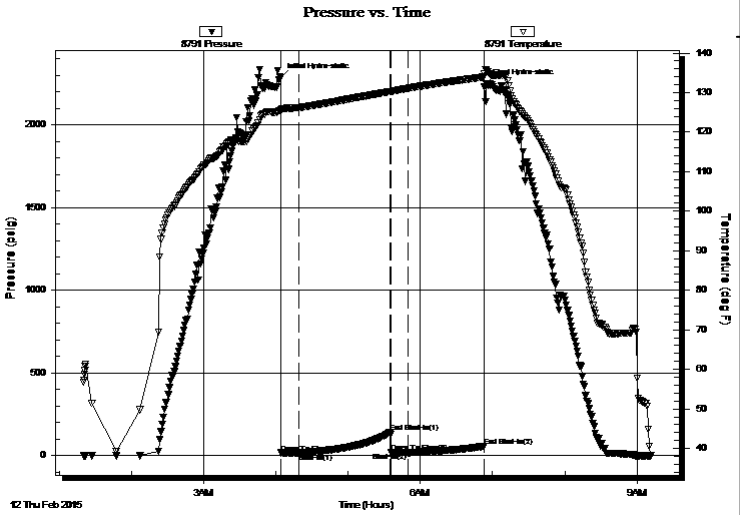
Reference Elevations: 3330.00 ft (KB)
3325.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8791 **Inside**

Press@RunDepth: 16.60 psig @ 4637.00 ft (KB)
Start Date: 2015.02.12 End Date: 2015.02.12
Start Time: 01:20:05 End Time: 09:11:29

Capacity: 8000.00 psig
Last Calib.: 2015.02.12
Time On Btm: 2015.02.12 @ 04:03:45
Time Off Btm: 2015.02.12 @ 06:54:45

TEST COMMENT:
15 - IF: 1/2" Blow at open, built to 1 1/4" (Diesel in bucket)
75 - ISI: No blow back
15 - FF: A few bubbles at open, then No blow
60 - FSI: No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2286.38	125.52	Initial Hydro-static
1	15.16	125.16	Open To Flow (1)
16	15.76	126.22	Shut-In(1)
91	138.50	130.26	End Shut-In(1)
92	16.26	130.26	Open To Flow (2)
106	16.60	131.07	Shut-In(2)
169	55.01	133.97	End Shut-In(2)
171	2252.66	135.53	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	SOCM 97%m, 3%o	0.02

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

Samuel Gary Jr. & Associates Inc.

1515 Wynkoop St. STE 700
Denver, CO 80202

ATTN: Clayton Camozzi

15/2s/36w Rawlins KS

Frisbie #1-15

Job Ticket: 62155 **DST#: 5**

Test Start: 2015.02.12 @ 01:20:00

GENERAL INFORMATION:

Formation: **Upper Pawnee**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 04:04:00
Time Test Ended: 09:11:30

Test Type: Conventional Bottom Hole (Reset)
Tester: James Winder
Unit No: 83

Interval: 4636.00 ft (KB) To 4676.00 ft (KB) (TVD)
Total Depth: 4676.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

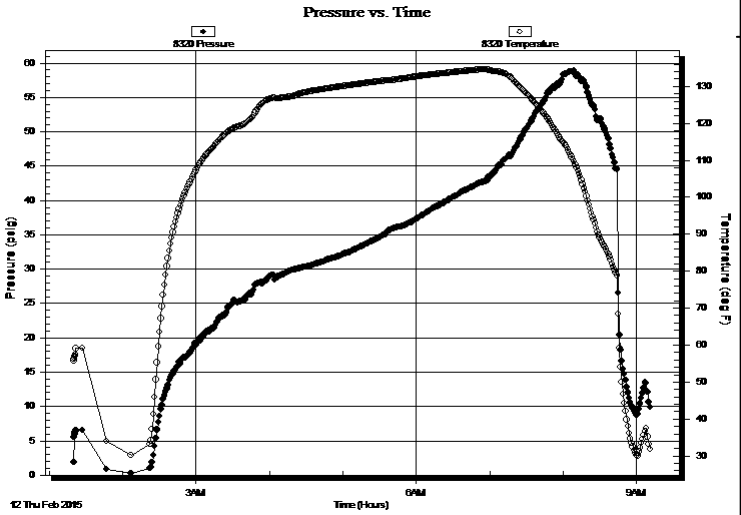
Reference Elevations: 3330.00 ft (KB)
3325.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8320 **Fluid**

Press@RunDepth: psig @ 4603.00 ft (KB)
Start Date: 2015.02.12 End Date: 2015.02.12
Start Time: 01:20:05 End Time: 09:11:44

Capacity: 8000.00 psig
Last Calib.: 2015.02.12
Time On Btm:
Time Off Btm:

TEST COMMENT:
15 - IF: 1/2" Blow at open, built to 1 1/4" (Diesel in bucket)
75 - ISI: No blow back
15 - FF: A few bubbles at open, then No blow
60 - FSI: No blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
5.00	SOCM 97%m, 3%o	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. & Associates Inc.

1515 Wynkoop St. STE 700
Denver, CO 80202

ATTN: Clayton Camozzi

15/2s/36w Rawlins KS

Frisbie #1-15

Job Ticket: 62155 **DST#: 5**

Test Start: 2015.02.12 @ 01:20:00

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:	62.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.20 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	1400.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	SOCM 97%m, 3%o	0.025

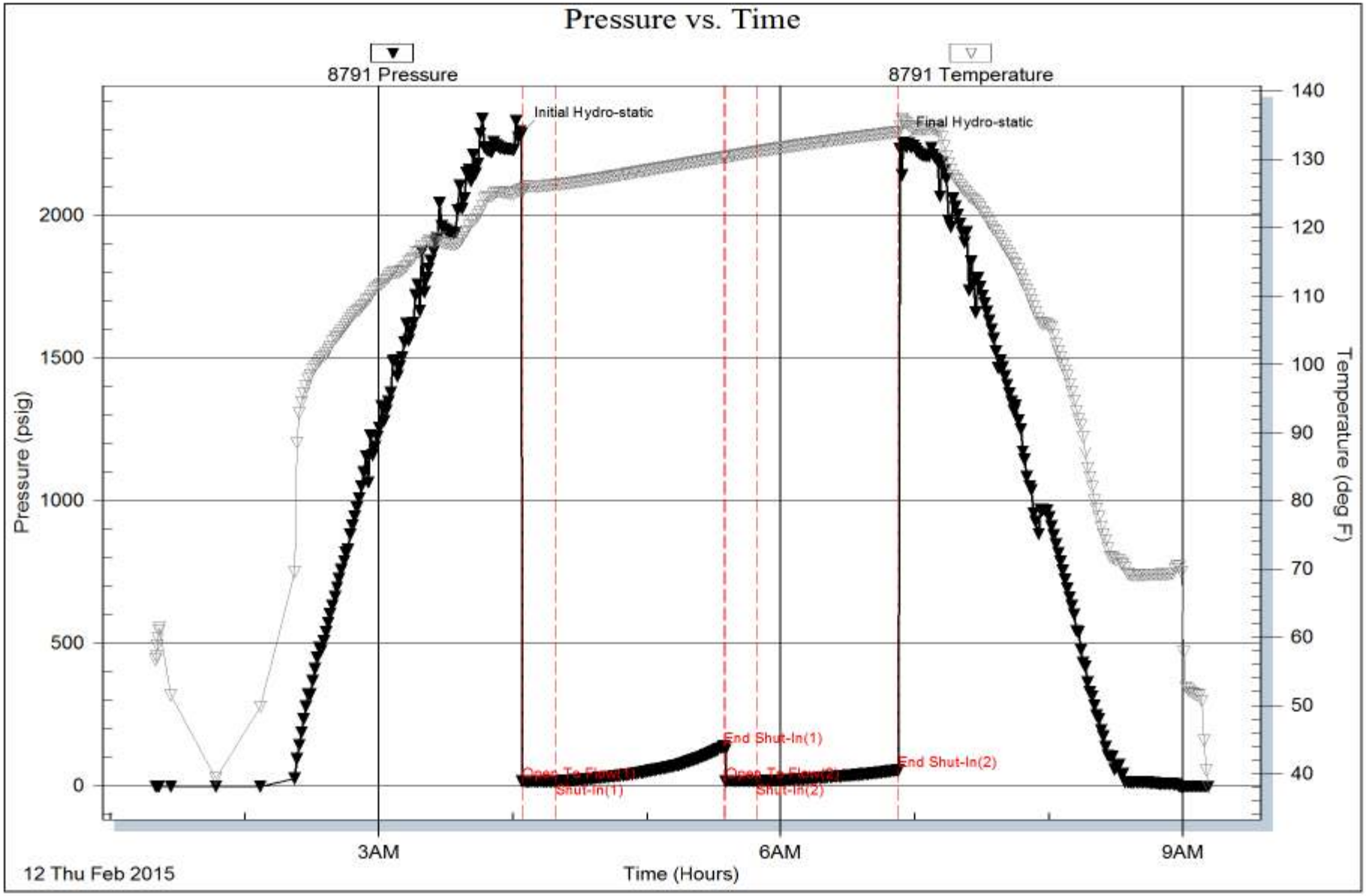
Total Length: 5.00 ft Total Volume: 0.025 bbl

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

Laboratory Name: Laboratory Location:

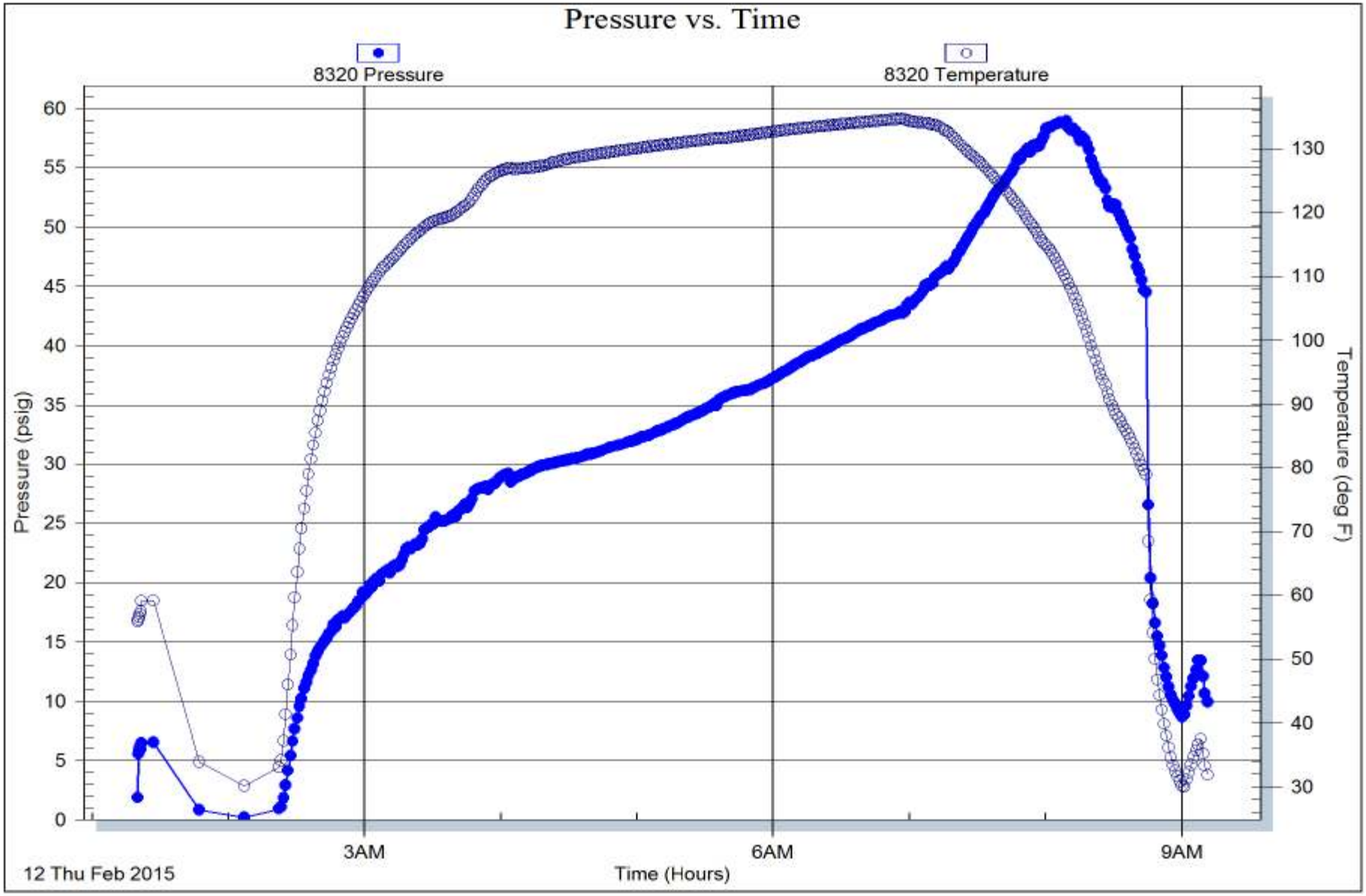
Recovery Comments:

Serial #: 8791 **Inside** Samuel Gary Jr. & Associates Inc. Frisbie #1-15 DST Test Number: 5



Trilobite Testing, Inc Ref. No: 62155 Printed: 2015.02.12 @ 09:37:39

Serial #: 8320 **Fluid** Samuel Gary Jr. & Associates Inc. Frisbie #1-15 DST Test Number: 5



Trilobite Testing, Inc Ref. No: 62155 Printed: 2015.02.12 @ 09:37:40

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

Well Name:	Frisible 1-15		
Well Id:			
Location:	SEC. 15-2S-36W RAWLINS COUNTY, KANSAS		
License Number:	15-153-21097-0000	Region:	WILDCAT
Spud Date:	FEB 3, 2015	Drilling Completed:	FEB 13, 2015
Surface Coordinates:	2050 FSL/ 1440 FEL		
Bottom Hole Coordinates:			
Ground Elevation (ft):	3325'	K.B. Elevation (ft):	3330'
Logged Interval (ft):	4050' To: 4855'	Total Depth (ft):	4855'
Formation:	Lansing, Kansas City		
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: Schuyler Hedrick/Blake Ward
Company: Earth Tech OGL, Inc.
Address: PO Box 683
Hooker, Okla . 73945
Off. 888-543-8378 Cell: 580-754-0231

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC

Samuel Gary Jr. & Associates Inc.
1515 Wynkoop St. STE 700
Denver, CO 80202

ATTN: Clayton Camozzi

15/2s/36w Rawlins KS

Frisbie #1-15

Job Ticket: 62151 **DST#: 1**

Test Start: 2015.02.08 @ 00:45:00

GENERAL INFORMATION:

Formation: **Oread**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 03:53:00
Time Test Ended: 06:27:45

Test Type: Conventional Bottom Hole (Initial)
Tester: James Winder
Unit No: 83

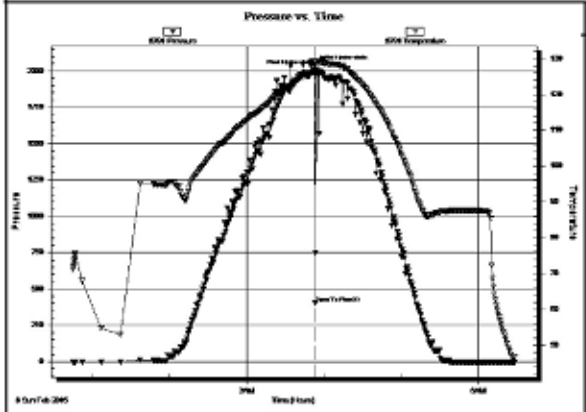
Interval: 4128.00 ft (KB) To 4196.00 ft (KB) (TVD)
Total Depth: 4196.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3330.00 ft (KB)
3325.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8791 **Inside**

Press@RunDepth:	psig @	4129.00 ft (KB)		Capacity:	8000.00 psig
Start Date:	2015.02.08	End Date:	2015.02.08	Last Calib.:	2015.02.08
Start Time:	00:45:05	End Time:	06:27:44	Time On Btm:	2015.02.08 @ 03:52:45
				Time Off Btm:	2015.02.08 @ 03:56:30

TEST COMMENT: Packers not holding
Reset tool
Packers failed again
Pulled tool - Mis-run



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2030.76	126.37	Initial Hydro-static
1	403.81	125.58	Open To Flow (1)
4	1996.79	129.12	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
230.00	Mud 100%	1.53
0.00	A few oil specs in top sample	0.00

Gas Rates

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

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC

Samuel Gary Jr. & Associates Inc.
1515 Wynkoop St. STE 700
Denver, CO 80202

ATTN: Clayton Camozzi

15/2s/36w Rawlins KS

Frisbie #1-15

Job Ticket: 62152 **DST#: 2**

Test Start: 2015.02.08 @ 07:03:00

GENERAL INFORMATION:

Formation: **Oread**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 09:13:00
Time Test Ended: 15:39:30

Test Type: Conventional Bottom Hole (Reset)
Tester: James Winder
Unit No: 83

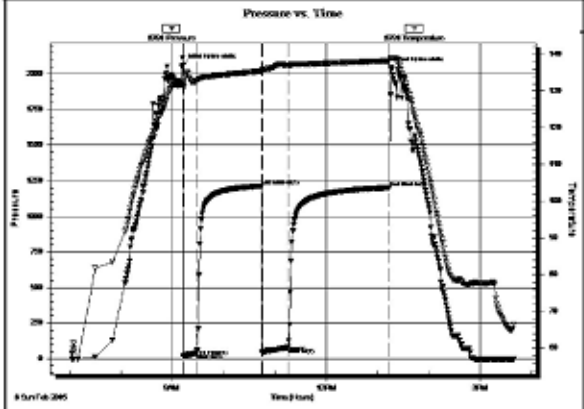
Interval: 4135.00 ft (KB) To 4196.00 ft (KB) (TVD)
Total Depth: 4196.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3330.00 ft (KB)
3325.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8791 **Inside**

Press@RunDepth:	79.24 psig @	4136.00 ft (KB)		Capacity:	8000.00 psig
Start Date:	2015.02.08	End Date:	2015.02.08	Last Calib.:	2015.02.08
Start Time:	07:03:05	End Time:	15:39:30	Time On Btm:	2015.02.08 @ 09:12:45
				Time Off Btm:	2015.02.08 @ 13:16:00

TEST COMMENT:
15 - IF: 1/4" Blow at open, built to 2 1/2"
75 - ISI: No blow back
30 - FF: Blow started at 7 min., built to just under 3"
120 - FSI: Weak surface blow back, lasted a few minutes then dead



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2061.37	132.15	Initial Hydro-static
1	15.80	131.05	Open To Flow (1)
16	40.92	132.75	Shut-In(1)
92	1212.36	135.37	End Shut-In(1)
93	44.82	135.37	Open To Flow (2)
123	79.24	136.98	Shut-In(2)
242	1200.64	138.24	End Shut-In(2)
244	2040.73	138.98	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
67.00	SOCM 90%m, 6%o, 4%g	0.33
31.00	OCM 76%m, 22%o, 2%g	0.15
60.00	SMCO 93%o, 4%m, 3%g	0.30

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC

Samuel Gary Jr. & Associates Inc.
1515 Wynkoop St. STE 700
Denver, CO 80202

ATTN: Clayton Camozzi

15/2s/36w Rawlins KS

Frisbie #1-15

Job Ticket: 62153 **DST#: 3**

Test Start: 2015.02.09 @ 04:03:00

GENERAL INFORMATION:

Formation: **Douglas Sand - LKC "**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 06:43:15
Time Test Ended: 11:49:30

Test Type: Conventional Bottom Hole (Reset)
Tester: James Winder
Unit No: 83

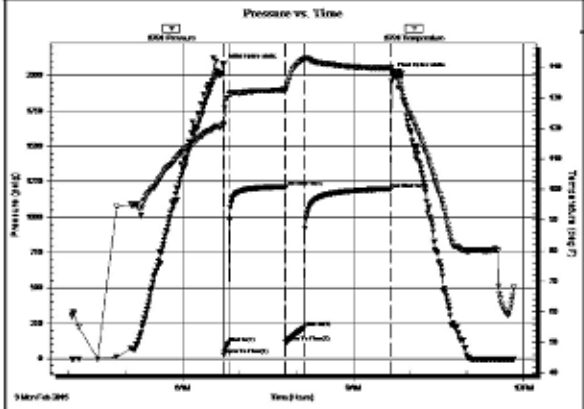
Interval: 4204.00 ft (KB) To 4284.00 ft (KB) (TVD)
Total Depth: 4284.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3330.00 ft (KB)
3325.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8791 **Inside**

Press@RunDepth:	220.10 psig @	4205.00 ft (KB)		Capacity:	8000.00 psig
Start Date:	2015.02.09	End Date:	2015.02.09	Last Calib.:	2015.02.09
Start Time:	04:03:05	End Time:	11:49:29	Time On Btm:	2015.02.09 @ 06:42:45
				Time Off Btm:	2015.02.09 @ 09:41:15

TEST COMMENT:
5 - IF: blow built to 7 1/4"
60 - ISI: No blow back
20 - FF: Blow built to BOB (11") at 9 1/2 min.
90 - FSI: No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2073.25	121.41	Initial Hydro-static
1	28.93	120.91	Open To Flow (1)
6	111.38	130.94	Shut-In(1)
66	1213.83	132.57	End Shut-In(1)
66	116.70	132.35	Open To Flow (2)
86	220.10	142.70	Shut-In(2)
177	1198.17	139.66	End Shut-In(2)
179	2014.54	138.55	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
317.00	MCW w /trace oil 66%w , 34%m	2.75
130.00	WM w /trace oil 57%m, 43%w	1.82

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC

Samuel Gary Jr. & Associates Inc.
1515 Wynkoop St. STE 700
Denver, CO 80202

ATTN: Clayton Camozzi

15/2s/36w Rawlins KS

Frisbie #1-15

Job Ticket: 62154 **DST#: 4**

Test Start: 2015.02.10 @ 14:05:00

GENERAL INFORMATION:

Formation: **LKC "J"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 16:18:45
Time Test Ended: 22:41:00

Test Type: Conventional Bottom Hole (Reset)
Tester: James Winder
Unit No: 83

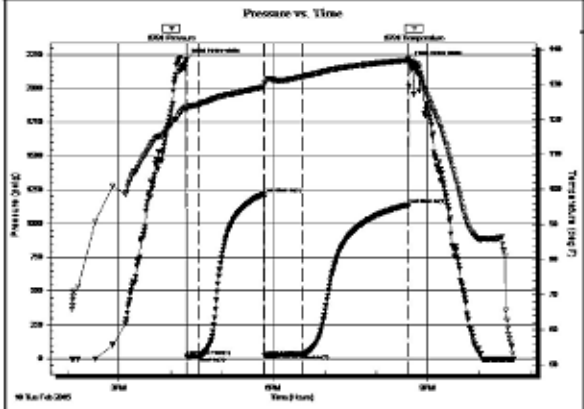
Interval: 4437.00 ft (KB) To 4483.00 ft (KB) (TVD)
Total Depth: 4483.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3330.00 ft (KB)
3325.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8791 **Inside**

Press@RunDepth:	32.18 psig @	4438.00 ft (KB)		Capacity:	8000.00 psig
Start Date:	2015.02.10	End Date:	2015.02.10	Last Calib.:	2015.02.10
Start Time:	14:05:05	End Time:	22:41:00	Time On Btm:	2015.02.10 @ 16:18:30
				Time Off Btm:	2015.02.10 @ 20:38:45

TEST COMMENT:
15 - IF: 1/4" Blow at open, built to 1 1/2"
75 - ISI: No blow back
45 - FF: Blow built to just over 2"
120 - FSI: No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2213.99	123.71	Initial Hydro-static
1	14.81	122.77	Open To Flow (1)
15	17.67	124.27	Shut-In(1)
91	1219.51	129.22	End Shut-In(1)
92	20.29	130.15	Open To Flow (2)
136	32.18	132.23	Shut-In(2)
259	1139.17	136.94	End Shut-In(2)
261	2197.76	136.52	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	OCM 56%m, 40%o, 4%g	0.07
30.00	SMCO 94%o, 4%m, 2%g	0.15
0.00	GIP = 80'	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. & Associates Inc.
1515 Wynkoop St. STE 700
Denver, CO 80202

ATTN: Clayton Camozzi

15/2s/36w Rawlins KS

Frisbie #1-15

Job Ticket: 62155 **DST#: 5**

Test Start: 2015.02.12 @ 01:20:00

GENERAL INFORMATION:

Formation: **Upper Pawnee**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 04:04:00
Time Test Ended: 09:11:30

Test Type: Conventional Bottom Hole (Reset)
Tester: James Winder
Unit No: 83

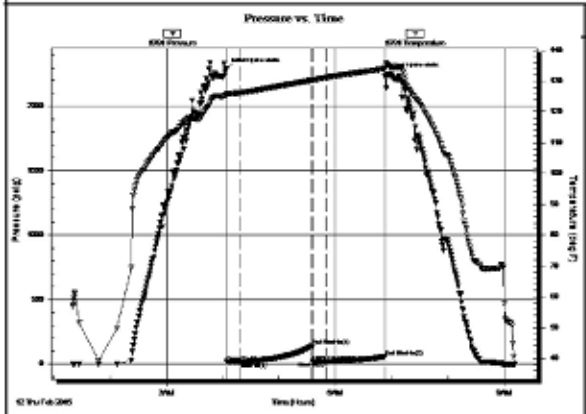
Interval: 4636.00 ft (KB) To 4676.00 ft (KB) (TVD)
Total Depth: 4676.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 3330.00 ft (KB)
3325.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8791 **Inside**

Press@RunDepth:	16.60 psig @	4637.00 ft (KB)		Capacity:	8000.00 psig
Start Date:	2015.02.12	End Date:	2015.02.12	Last Calib.:	2015.02.12
Start Time:	01:20:05	End Time:	09:11:29	Time On Btm:	2015.02.12 @ 04:03:45
				Time Off Btm:	2015.02.12 @ 06:54:45

TEST COMMENT:
15 - IF: 1/2" Blow at open, built to 1 1/4" (Diesel in bucket)
75 - ISI: No blow back
15 - FF: A few bubbles at open, then No blow
60 - FSI: No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2286.38	125.52	Initial Hydro-static
1	15.16	125.16	Open To Flow (1)
16	15.76	126.22	Shut-In(1)
91	138.50	130.26	End Shut-In(1)
92	16.26	130.26	Open To Flow (2)
106	16.60	131.07	Shut-In(2)
169	55.01	133.97	End Shut-In(2)
171	2252.66	135.53	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	SOCM 97%m, 3%o	0.02

* Recovery from multiple tests

Gas Rates

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

ROCK TYPES

Anhy
Bent
Brec
Cht
Clyst
Coal
Congl
Dol
Gyp
Igne
Lmst
Meta
Mrlst
Salt
Shale
Shcol
Shgy
Sltst
Ss
Till
Carb sh
Dol
Dtd
Gry sh
Sandylms
Shale
Sltstn
Shlyslts
Sltysh
Lms

ACCESSORIES

FOSSIL
- Algae
- Amph
- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral
- Crin
- Echin
- Fish
- Foram
- Fossil
- Gastro
- Oolite
- Ostra
- Pelec
- Pellet
- Pisolite
- Plant
- Strom
- Fuss
- Oomold

MINERAL
- Anhy
- Arggrn
- Arg
- Bent
- Bit
- Brecfrag
- Calc
- Carb
- Chtdk
- Chtlt
- Dol
- Feldspar
- Ferrpel
- Ferr
- Glau
- Gyp
- Hvymin
- Kaol
- Marl
- Minxl
- Nodule
- Phos
- Pyr
- Salt
- Sandy
- Silt
- Sil
- Sulphur
- Tuff
- Chlorite
- Dol
- Sand
- Slty

STRINGER
- Anhy
- Arg
- Bent
- Coal
- Dol
- Gyp
- Ls
- Mrst
- Sltstrg
- Ssstrg
- Carbsh
- Clystn
- Dol
- Grysh
- Gryslt
- Lms
- Sandylms
- Sh
- Sltstn

TEXTURE
- Boundst
- Chalky
- Cryxln
- Earthy
- Finexln
- Grainst
- Lithogr
- Microxln
- Mudst
- Packst
- Wackest

OTHER SYMBOLS

INTERVALS
- Core
- Dst
- Dst

EVENTS
- Rft
- Sidewall

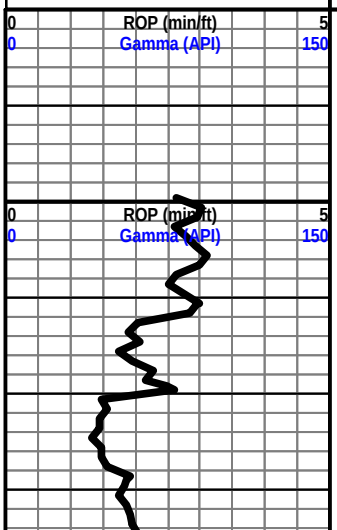
POROSITY TYPE
- Earthy
- Fenest
- Fracture
- Inter
- Moldic
- Organic
- Pinpoint
- Vuggy

SORTING
- Well
- Moderate
- Poor

ROUNDING
- Rounded
- Subrnd
- Subang
- Angular

OIL SHOWS
- Even
- Spotted
- Ques
- Dead
- Gas show

Curve Track 1	Depth	Lithology	Oil Shows	Geological Descriptions	TG, C1-C5
ROP (min/ft) — Gamma (API)					TG (units) — C1 (units) — C2 (units) — C3 (units) — C4 (units) — C5 (units)



4000

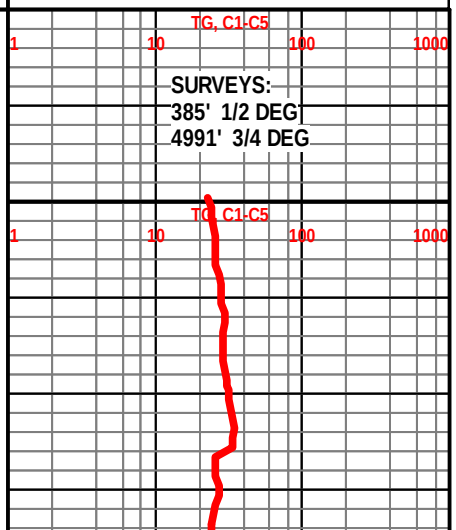
MURFIN RIG #8

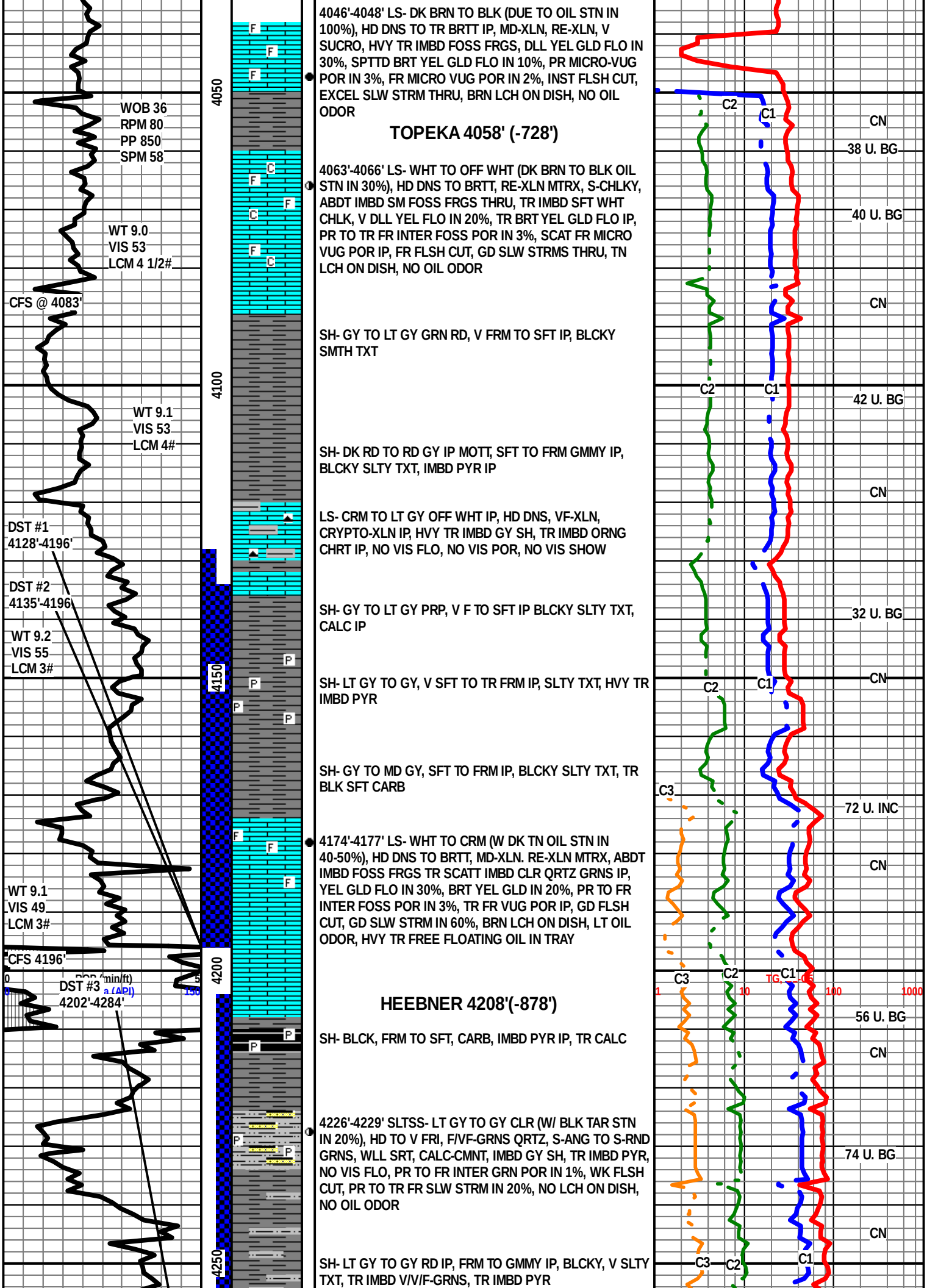
TOOL PUSHER: TRAVIS MARTIN

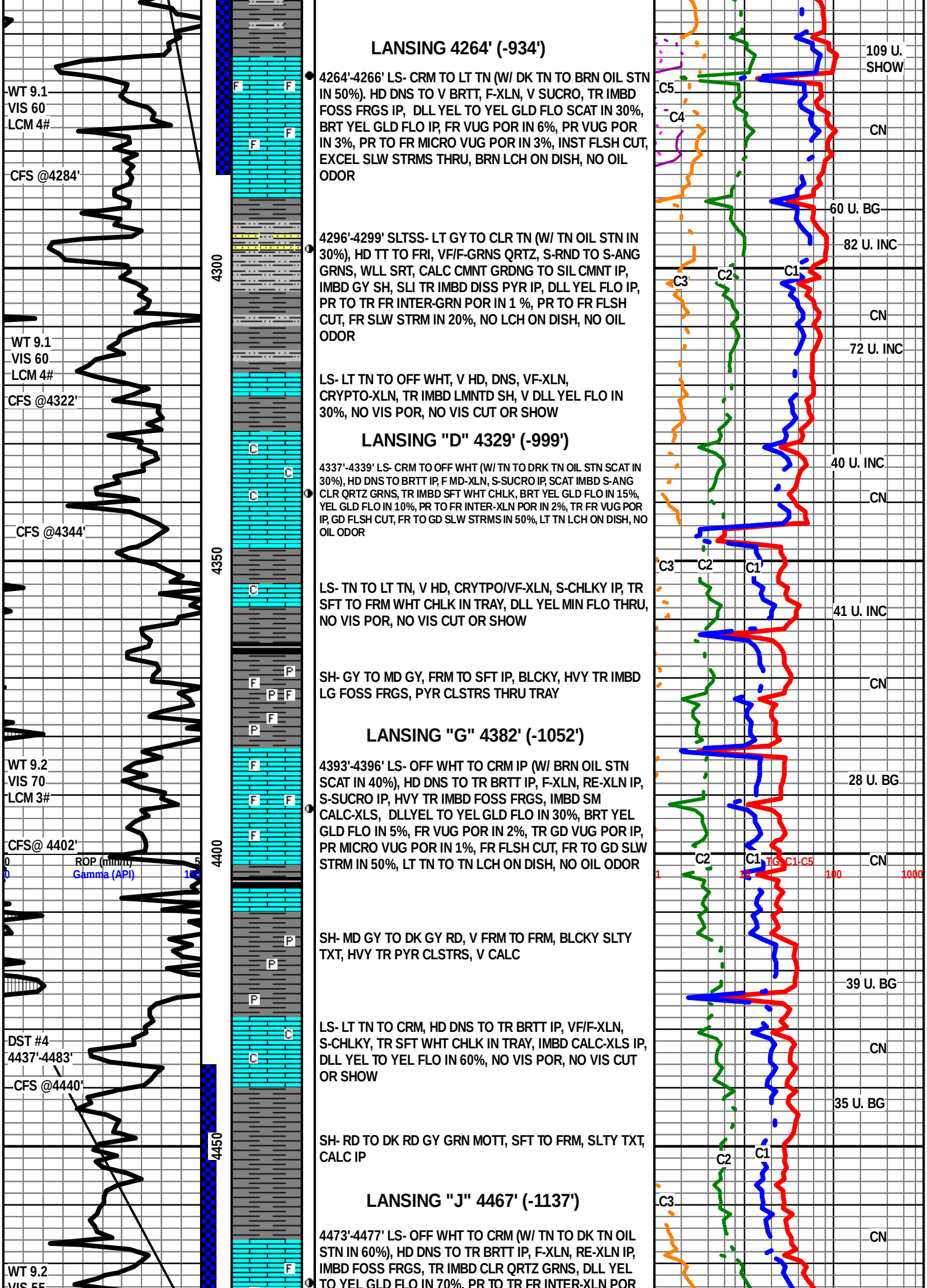
BIT #`1
SIZE 7 7/8
GT509C H-C
SERIAL # 5242305
JETS 3/15S

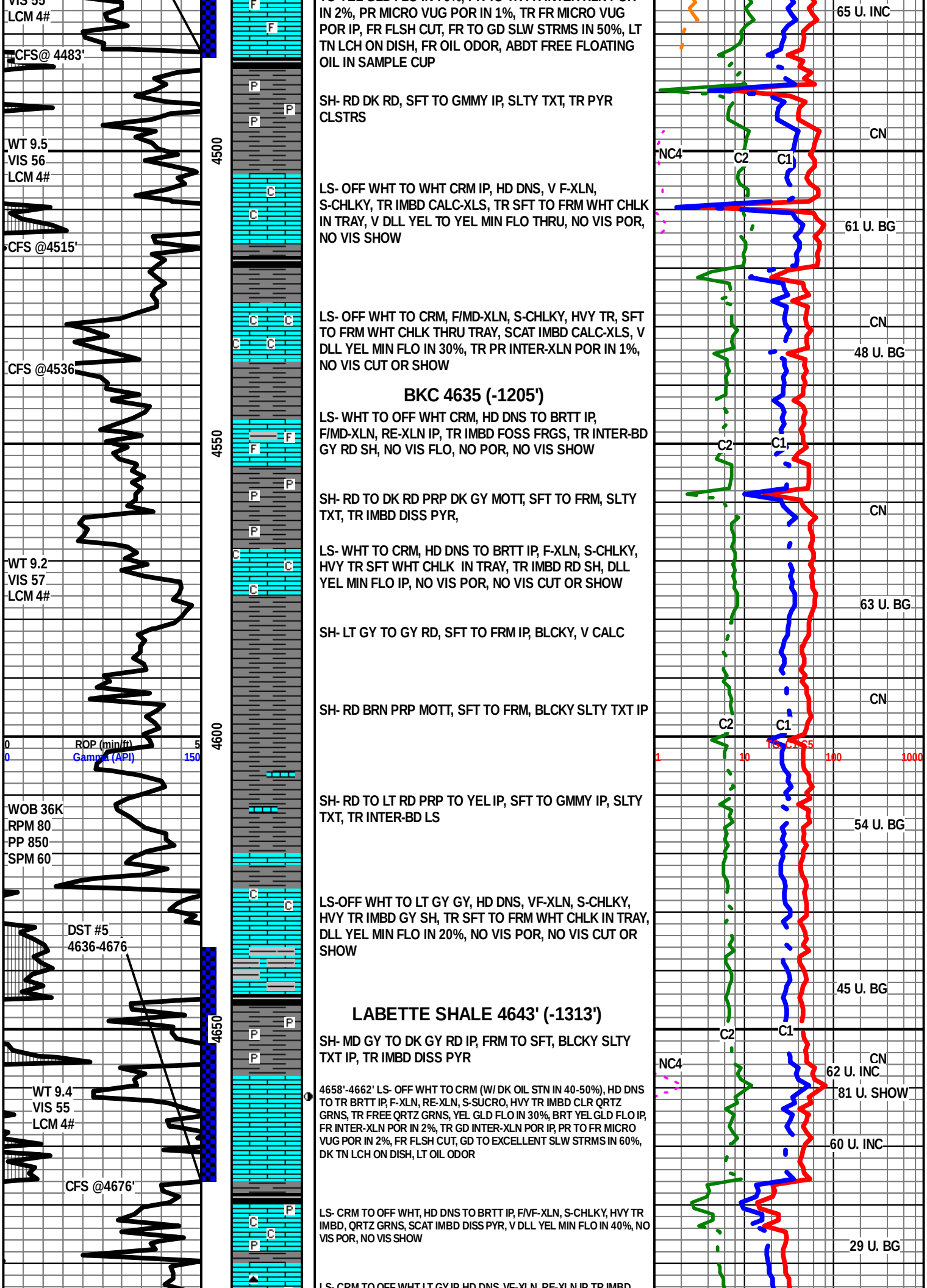
MUD DISPLACMENT @3600'

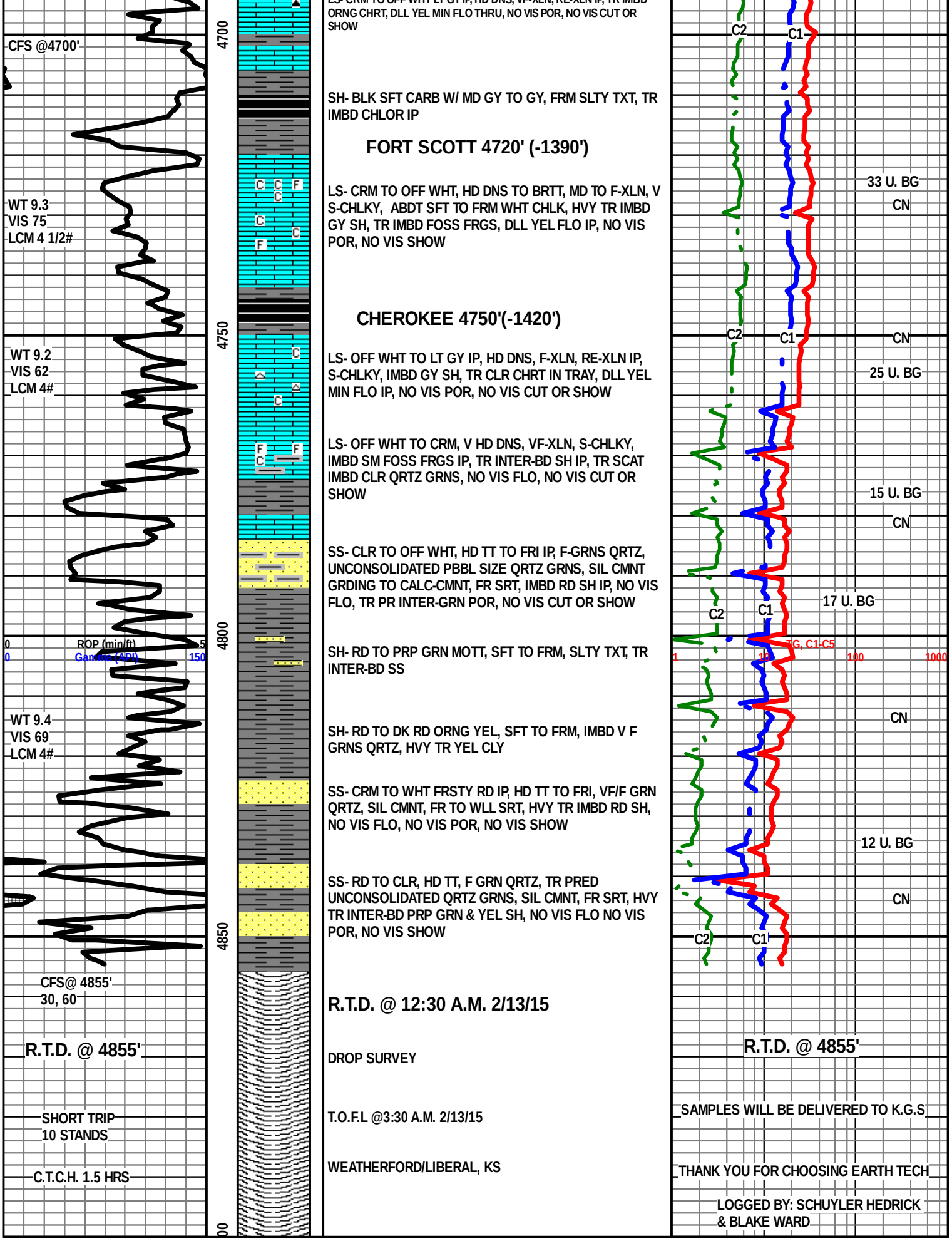
START 24 HR MANNED UNIT STARTED 2/7/2015




WOB 36
RPM 80
PP 850
SPM 58
WT 9.0
VIS 53
LCM 4 1/2#
CFS @ 4083'
WT 9.1
VIS 53
LCM 4#
DST #1
4128'-4196'
DST #2
4135'-4196
WT 9.2
VIS 55
LCM 3#
WT 9.1
VIS 49
LCM 3#
CFS 4196'
DST #3
4202'-4284'
4050
4100
4150
4200
4250
4046'-4048' LS- DK BRN TO BLK (DUE TO OIL STN IN 100%), HD DNS TO TR BRTT IP, MD-XLN, RE-XLN, V SUCRO, HVY TR IMBD FOSS FRGS, DLL YEL GLD FLO IN 30%, SPTTD BRT YEL GLD FLO IN 10%, PR MICRO-VUG POR IN 3%, FR MICRO VUG POR IN 2%, INST FLSH CUT, EXCEL SLW STRM THRU, BRN LCH ON DISH, NO OIL ODOR
TOPEKA 4058' (-728')
4063'-4066' LS- WHT TO OFF WHT (DK BRN TO BLK OIL STN IN 30%), HD DNS TO BRTT, RE-XLN MTRX, S-CHLKY, ABDT IMBD SM FOSS FRGS THRU, TR IMBD SFT WHT CHLK, V DLL YEL FLO IN 20%, TR BRT YEL GLD FLO IP, PR TO TR FR INTER FOSS POR IN 3%, SCAT FR MICRO VUG POR IP, FR FLSH CUT, GD SLW STRMS THRU, TN LCH ON DISH, NO OIL ODOR
SH- GY TO LT GY GRN RD, V FRM TO SFT IP, BLCKY SMTH TXT
SH- DK RD TO RD GY IP MOTT, SFT TO FRM GMMY IP, BLCKY SLTY TXT, IMBD PYR IP
LS- CRM TO LT GY OFF WHT IP, HD DNS, VF-XLN, CRYPTO-XLN IP, HVY TR IMBD GY SH, TR IMBD ORNG CHRT IP, NO VIS FLO, NO VIS POR, NO VIS SHOW
SH- GY TO LT GY PRP, V F TO SFT IP BLCKY SLTY TXT, CALC IP
SH- LT GY TO GY, V SFT TO TR FRM IP, SLTY TXT, HVY TR IMBD PYR
SH- GY TO MD GY, SFT TO FRM IP, BLCKY SLTY TXT, TR BLK SFT CARB
4174'-4177' LS- WHT TO CRM (W DK TN OIL STN IN 40-50%), HD DNS TO BRTT, MD-XLN. RE-XLN MTRX, ABDT IMBD FOSS FRGS TR SCATT IMBD CLR QRTZ GRNS IP, YEL GLD FLO IN 30%, BRT YEL GLD IN 20%, PR TO FR INTER FOSS POR IN 3%, TR FR VUG POR IP, GD FLSH CUT, GD SLW STRM IN 60%, BRN LCH ON DISH, LT OIL ODOR, HVY TR FREE FLOATING OIL IN TRAY
HEEBNER 4208'(-878')
SH- BLCK, FRM TO SFT, CARB, IMBD PYR IP, TR CALC
4226'-4229' SLTSS- LT GY TO GY CLR (W/ BLK TAR STN IN 20%), HD TO V FRI, F/VF-GRNS QRTZ, S-ANG TO S-RND GRNS, WLL SRT, CALC-CMNT, IMBD GY SH, TR IMBD PYR, NO VIS FLO, PR TO FR INTER GRN POR IN 1%, WK FLSH CUT, PR TO TR FR SLW STRM IN 20%, NO LCH ON DISH, NO OIL ODOR
SH- LT GY TO GY RD IP, FRM TO GMMY IP, BLCKY, V SLTY TXT, TR IMBD V/V/F-GRNS, TR IMBD PYR
C1
C2
C3
CN
38 U. BG
40 U. BG
42 U. BG
32 U. BG
72 U. INC
56 U. BG
74 U. BG
TG
1
10
100
1000


WT 9.1
VIS 60
LCM 4#
CFS @4284'
WT 9.1
VIS 60
LCM 4#
CFS @4322'
CFS @4344'
WT 9.2
VIS 70
LCM 3#
CFS@ 4402'
ROP (min/ft)
Gamma (API)
DST #4
4437'-4483'
CFS @4440'
WT 9.2
4300
4350
4400
4450
LANSING 4264' (-934')
4264'-4266' LS- CRM TO LT TN (W/ DK TN TO BRN OIL STN IN 50%). HD DNS TO V BRTT, F-XLN, V SUCRO, TR IMBD FOSS FRGS IP, DLL YEL TO YEL GLD FLO SCAT IN 30%, BRT YEL GLD FLO IP, FR VUG POR IN 6%, PR VUG POR IN 3%, PR TO FR MICRO VUG POR IN 3%, INST FLSH CUT, EXCEL SLW STRMS THRU, BRN LCH ON DISH, NO OIL ODOR
4296'-4299' SLTSS- LT GY TO CLR TN (W/ TN OIL STN IN 30%), HD TT TO FRI, VF/F-GRNS QRTZ, S-RND TO S-ANG GRNS, WLL SRT, CALC CMNT GRDNG TO SIL CMNT IP, IMBD GY SH, SLI TR IMBD DISS PYR IP, DLL YEL FLO IP, PR TO TR FR INTER-GRN POR IN 1 %, PR TO FR FLSH CUT, FR SLW STRM IN 20%, NO LCH ON DISH, NO OIL ODOR
LS- LT TN TO OFF WHT, V HD, DNS, VF-XLN, CRYPTO-XLN, TR IMBD LMNTD SH, V DLL YEL FLO IN 30%, NO VIS POR, NO VIS CUT OR SHOW
LANSING "D" 4329' (-999')
4337'-4339' LS- CRM TO OFF WHT (W/ TN TO DRK TN OIL STN SCAT IN 30%), HD DNS TO BRTT IP, F MD-XLN, S-SUCRO IP, SCAT IMBD S-ANG CLR QRTZ GRNS, TR IMBD SFT WHT CHLK, BRT YEL GLD FLO IN 15%, YEL GLD FLO IN 10%, PR TO FR INTER-XLN POR IN 2%, TR FR VUG POR IP, GD FLSH CUT, FR TO GD SLW STRMS IN 50%, LT TN LCH ON DISH, NO OIL ODOR
LS- TN TO LT TN, V HD, CRYTPO/VF-XLN, S-CHLKY IP, TR SFT TO FRM WHT CHLK IN TRAY, DLL YEL MIN FLO THRU, NO VIS POR, NO VIS CUT OR SHOW
SH- GY TO MD GY, FRM TO SFT IP, BLCKY, HVY TR IMBD LG FOSS FRGS, PYR CLSTRS THRU TRAY
LANSING "G" 4382' (-1052')
4393'-4396' LS- OFF WHT TO CRM IP (W/ BRN OIL STN SCAT IN 40%), HD DNS TO TR BRTT IP, F-XLN, RE-XLN IP, S-SUCRO IP, HVY TR IMBD FOSS FRGS, IMBD SM CALC-XLS, DLLYEL TO YEL GLD FLO IN 30%, BRT YEL GLD FLO IN 5%, FR VUG POR IN 2%, TR GD VUG POR IP, PR MICRO VUG POR IN 1%, FR FLSH CUT, FR TO GD SLW STRM IN 50%, LT TN TO TN LCH ON DISH, NO OIL ODOR
SH- MD GY TO DK GY RD, V FRM TO FRM, BLCKY SLTY TXT, HVY TR PYR CLSTRS, V CALC
LS- LT TN TO CRM, HD DNS TO TR BRTT IP, VF/F-XLN, S-CHLKY, TR SFT WHT CHLK IN TRAY, IMBD CALC-XLS IP, DLL YEL TO YEL FLO IN 60%, NO VIS POR, NO VIS CUT OR SHOW
SH- RD TO DK RD GY GRN MOTT, SFT TO FRM, SLTY TXT, CALC IP
LANSING "J" 4467' (-1137')
4473'-4477' LS- OFF WHT TO CRM (W/ TN TO DK TN OIL STN IN 60%), HD DNS TO TR BRTT IP, F-XLN, RE-XLN IP, IMBD FOSS FRGS, TR IMBD CLR QRTZ GRNS, DLL YEL TO YEL GLD FLO IN 70%, PR TO TR FR INTER-XLN POR
C5
C4
C3
C2
C1
TG, C1-C5
1
10
100
1000
109 U. SHOW
CN
60 U. BG
82 U. INC
CN
72 U. INC
40 U. INC
CN
41 U. INC
CN
28 U. BG
CN
39 U. BG
CN
35 U. BG
CN


LCM 4#
CFS@ 4483'
WT 9.5
VIS 56
LCM 4#
CFS @4515'
CFS @4536
WT 9.2
VIS 57
LCM 4#
ROP (min/ft)
Gamma (API)
WOB 36K
RPM 80
PP 850
SPM 60
DST #5
4636-4676
WT 9.4
VIS 55
LCM 4#
CFS @4676'
4500
4550
4600
4650
IN 2%, PR MICRO VUG POR IN 1%, TR FR MICRO VUG POR IP, FR FLSH CUT, FR TO GD SLW STRMS IN 50%, LT TN LCH ON DISH, FR OIL ODOR, ABDT FREE FLOATING OIL IN SAMPLE CUP
SH- RD DK RD, SFT TO GMMY IP, SLTY TXT, TR PYR CLSTRS
LS- OFF WHT TO WHT CRM IP, HD DNS, V F-XLN, S-CHLKY, TR IMBD CALC-XLS, TR SFT TO FRM WHT CHLK IN TRAY, V DLL YEL TO YEL MIN FLO THRU, NO VIS POR, NO VIS SHOW
LS- OFF WHT TO CRM, F/MD-XLN, S-CHLKY, HVY TR, SFT TO FRM WHT CHLK THRU TRAY, SCAT IMBD CALC-XLS, V DLL YEL MIN FLO IN 30%, TR PR INTER-XLN POR IN 1%, NO VIS CUT OR SHOW
BKC 4635 (-1205')
LS- WHT TO OFF WHT CRM, HD DNS TO BRTT IP, F/MD-XLN, RE-XLN IP, TR IMBD FOSS FRGS, TR INTER-BD GY RD SH, NO VIS FLO, NO POR, NO VIS SHOW
SH- RD TO DK RD PRP DK GY MOTT, SFT TO FRM, SLTY TXT, TR IMBD DISS PYR,
LS- WHT TO CRM, HD DNS TO BRTT IP, F-XLN, S-CHLKY, HVY TR SFT WHT CHLK IN TRAY, TR IMBD RD SH, DLL YEL MIN FLO IP, NO VIS POR, NO VIS CUT OR SHOW
SH- LT GY TO GY RD, SFT TO FRM IP, BLCKY, V CALC
SH- RD BRN PRP MOTT, SFT TO FRM, BLCKY SLTY TXT IP
SH- RD TO LT RD PRP TO YEL IP, SFT TO GMMY IP, SLTY TXT, TR INTER-BD LS
LS-OFF WHT TO LT GY GY, HD DNS, VF-XLN, S-CHLKY, HVY TR IMBD GY SH, TR SFT TO FRM WHT CHLK IN TRAY, DLL YEL MIN FLO IN 20%, NO VIS POR, NO VIS CUT OR SHOW
LABETTE SHALE 4643' (-1313')
SH- MD GY TO DK GY RD IP, FRM TO SFT, BLCKY SLTY TXT IP, TR IMBD DISS PYR
4658'-4662' LS- OFF WHT TO CRM (W/ DK OIL STN IN 40-50%), HD DNS TO TR BRTT IP, F-XLN, RE-XLN, S-SUCRO, HVY TR IMBD CLR QRTZ GRNS, TR FREE QRTZ GRNS, YEL GLD FLO IN 30%, BRT YEL GLD FLO IP, FR INTER-XLN POR IN 2%, TR GD INTER-XLN POR IP, PR TO FR MICRO VUG POR IN 2%, FR FLSH CUT, GD TO EXCELLENT SLW STRMS IN 60%, DK TN LCH ON DISH, LT OIL ODOR
LS- CRM TO OFF WHT, HD DNS TO BRTT IP, F/VF-XLN, S-CHLKY, HVY TR IMBD, QRTZ GRNS, SCAT IMBD DISS PYR, V DLL YEL MIN FLO IN 40%, NO VIS POR, NO VIS SHOW
65 U. INC
CN
NC4
C2
C1
61 U. BG
CN
48 U. BG
C2
C1
CN
63 U. BG
CN
C2
C1
1
10
100
1000
54 U. BG
45 U. BG
C2
C1
CN
NC4
62 U. INC
81 U. SHOW
60 U. INC
29 U. BG


CFS @4700'
WT 9.3
VIS 75
LCM 4 1/2#
WT 9.2
VIS 62
LCM 4#
ROP (min/ft)
Gamma (API)
WT 9.4
VIS 69
LCM 4#
CFS@ 4855'
30, 60
R.T.D. @ 4855'
SHORT TRIP
10 STANDS
C.T.C.H. 1.5 HRS
4700
4750
4800
4850
ORNG CHRT, DLL YEL MIN FLO THRU, NO VIS POR, NO VIS CUT OR SHOW
SH- BLK SFT CARB W/ MD GY TO GY, FRM SLTY TXT, TR IMBD CHLOR IP
FORT SCOTT 4720' (-1390')
LS- CRM TO OFF WHT, HD DNS TO BRTT, MD TO F-XLN, V S-CHLKY, ABDT SFT TO FRM WHT CHLK, HVY TR IMBD GY SH, TR IMBD FOSS FRGS, DLL YEL FLO IP, NO VIS POR, NO VIS SHOW
CHEROKEE 4750'(-1420')
LS- OFF WHT TO LT GY IP, HD DNS, F-XLN, RE-XLN IP, S-CHLKY, IMBD GY SH, TR CLR CHRT IN TRAY, DLL YEL MIN FLO IP, NO VIS POR, NO VIS CUT OR SHOW
LS- OFF WHT TO CRM, V HD DNS, VF-XLN, S-CHLKY, IMBD SM FOSS FRGS IP, TR INTER-BD SH IP, TR SCAT IMBD CLR QRTZ GRNS, NO VIS FLO, NO VIS CUT OR SHOW
SS- CLR TO OFF WHT, HD TT TO FRI IP, F-GRNS QRTZ, UNCONSOLIDATED PBBL SIZE QRTZ GRNS, SIL CMNT GRDING TO CALC-CMNT, FR SRT, IMBD RD SH IP, NO VIS FLO, TR PR INTER-GRN POR, NO VIS CUT OR SHOW
SH- RD TO PRP GRN MOTT, SFT TO FRM, SLTY TXT, TR INTER-BD SS
SH- RD TO DK RD ORNG YEL, SFT TO FRM, IMBD V F GRNS QRTZ, HVY TR YEL CLY
SS- CRM TO WHT FRSTY RD IP, HD TT TO FRI, VF/F GRN QRTZ, SIL CMNT, FR TO WLL SRT, HVY TR IMBD RD SH, NO VIS FLO, NO VIS POR, NO VIS SHOW
SS- RD TO CLR, HD TT, F GRN QRTZ, TR PRED UNCONSOLIDATED QRTZ GRNS, SIL CMNT, FR SRT, HVY TR INTER-BD PRP GRN & YEL SH, NO VIS FLO NO VIS POR, NO VIS SHOW
R.T.D. @ 12:30 A.M. 2/13/15
DROP SURVEY
T.O.F.L @3:30 A.M. 2/13/15
WEATHERFORD/LIBERAL, KS
C2
C1
33 U. BG
CN
25 U. BG
15 U. BG
17 U. BG
12 U. BG
TG, C1-C5
1
10
100
1000
R.T.D. @ 4855'
SAMPLES WILL BE DELIVERED TO K.G.S
THANK YOU FOR CHOOSING EARTH TECH
LOGGED BY: SCHUYLER HEDRICK
& BLAKE WARD