

Confidentiality Requested:

Yes No

**KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION**

Form ACO-1

January 2018

Form must be Typed

Form must be Signed

All blanks must be Filled

**WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE**

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

New Well Re-Entry Workover

Oil WSW SWD

Gas DH EOR

OG GSW

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 EOR Conv. to SWD

Plug Back Liner Conv. to GSW Conv. to Producer

Commingled Permit #: _____

Dual Completion Permit #: _____

SWD Permit #: _____

EOR Permit #: _____

GSW Permit #: _____

Spud Date or _____ Date Reached TD _____ Completion Date or
Recompletion Date _____ Recompletion Date _____

API No.: _____

Spot Description: _____

_____ - _____ - _____ Sec. _____ Twp. _____ S. R. _____ East West

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE NW SE SW

GPS Location: Lat: _____, Long: _____
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite:

Operator Name: _____

Lease Name: _____ License #: _____

Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West

County: _____ Permit #: _____

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

Confidentiality Requested

Date: _____

Confidential Release Date: _____

Wireline Log Received Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT I II III Approved by: _____ Date: _____

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

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

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

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

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

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:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____				
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5) (Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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Scale 1:240 Imperial

Well Name: GREG UNIT #1
Surface Location: NE NW NW SE Sec. 21 - 6S - 20W
Bottom Location:
API: 15-163-24324
License Number: 34903
Spud Date: 10/21/2016 Time: 4:45 PM
Region: ROOKS COUNTY KANSAS
Drilling Completed: 10/27/2016 Time: 4:54 AM
Surface Coordinates: 2500' FSL & 2260' FEL
Bottom Hole Coordinates:
Ground Elevation: 2185.00ft
K.B. Elevation: 2193.00ft
Logged Interval: 3050.00ft To: 3673.00ft
Total Depth: 3673.00ft
Formation: LANSING - KANSAS CITY; ARBUCKLE
Drilling Fluid Type: FRESH WATER / CHEMICAL GEL

OPERATOR

Company: JASPAR CO.
Address: 1681 LIMESTONE ROAD SOUTH
P.O. BOX 1120
HAYS, KS 67601
Contact Geologist: SHANE VEHIGE
Contact Phone Nbr: (785) 623-6982
Well Name: GREG UNIT #1
Location: NE NW NW SE Sec. 21 - 6S - 20W
API: 15-163-24324
Pool:
State: KANSAS
Field: UNKNOWN
Country: USA

SURFACE CO-ORDINATES

Well Type: Vertical
Longitude: -99.5543014
Latitude: 39.5168831
N/S Co-ord: 2500' FSL
E/W Co-ord: 2260' FEL

LOGGED BY



Company: BIG CREEK CONSULTING, INC.
Address: 1909 MAPLE
ELLIS, KS 67637

Phone Nbr: (785) 259-3737
 Logged By: GEOLOGIST

Name: JEFF LAWLER

CONTRACTOR

Contractor: WW DRILLING, LLC
 Rig #: 12
 Rig Type: MUD ROTARY
 Spud Date: 10/21/2016
 TD Date: 10/27/2016
 Rig Release: 10/28/2016
 Time: 4:45 PM
 Time: 4:54 AM
 Time: 10:00 AM

ELEVATIONS

K.B. Elevation: 2193.00ft
 K.B. to Ground: 8.00ft
 Ground Elevation: 2185.00ft

NOTES


DUE TO ECONOMICAL RECOVERY ON DST #5 DECISION WAS MADE TO RUN 5 1/2" PRODUCTION CASING AND FURTHER EVALUATE ZONES OF INTEREST.

RESPECTFULLY SUBMITTED,
 JEFF LAWLER

WELL COMPARISON SHEET

FORMATION	GREG UNIT #1				SE SW SE NE 21-6-20				NENW SE 21-6-20				NWNW SW SE 6-21-20				NWNW NE 21-6-20			
	LOG TOPS		SAMPLE TOPS		LOG		LOG CORR.		LOG		LOG CORR.		LOGS		LOG CORR.		LOGS		LOG CORR.	
	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	CORR.	CORR.	DEPTH	DATUM	CORR.	CORR.	DEPTH	DATUM	CORR.	CORR.	DEPTH	DATUM	CORR.	CORR.
	1801	392	1793	400	1770	402	- 10	- 2	1794	397	- 5	+ 3	1840	390	+ 2	+ 10	1809	392	+ 0	+ 8
ANHYDRITE TOP	1801	392	1793	400	1770	402	- 10	- 2	1794	397	- 5	+ 3	1840	390	+ 2	+ 10	1809	392	+ 0	+ 8
BASE	1832	361	1833	360	1803	369	- 8	- 9	1819	372	- 11	- 12	1854	376	- 15	- 16				
TOPEKA	3196	-1003	3194	-1001	3164	-992	- 11	- 9	3185	-994	- 9	- 7	3224	-994	- 9	- 7	3221	-1020	+ 17	+ 19
HEEBNER SHALE	3396	-1203	3394	-1201	3363	-1191	- 12	- 10	3385	-1194	- 9	- 7	3423	-1193	- 10	- 8	3423	-1222	+ 19	+ 21
TORONTO	3422	-1229	3415	-1222	3386	-1214	- 15	- 8	3410	-1219	- 10	- 3	3448	-1218	- 11	- 4	3446	-1245	+ 16	+ 23
LKC	3435	-1242	3431	-1238	3401	-1229	- 13	- 9	3425	-1234	- 8	- 4	3461	-1231	- 11	- 7	3460	-1259	+ 17	+ 21
BKC	3639	-1446	3639	-1446	3599	-1427	- 19	- 19	3620	-1429	- 17	- 17	3661	-1431	- 15	- 15	3656	-1455	+ 9	+ 9
GORHAM SAND					3630	-1458			3664	-1473										
ARBuckle					3638	-1466			3683	-1492			3697	-1467			3686	-1485		
TOTAL DEPTH	3672	-1479	3673	-1480	3698	-1526	+ 47	+ 46	3691	-1500	+ 21	+ 20	3696	-1466	- 13	- 14	3750	-1549	+ 70	+ 69

DST #1 LKC E-F 3497' - 3520' (PLUGGED TOOL, SLID TO BOTTOM)



TRILOBITE TESTING, INC.

Jaspar Co
 PO Box 1120
 Hays, KS 67601
 ATTN: Jeff Lawler

DRILL STEM TEST REPORT

21-6S-20W Rooks

Greg Unit 1

Job Ticket: 57960 **DST#: 1**

Test Start: 2016.10.25 @ 02:55:15

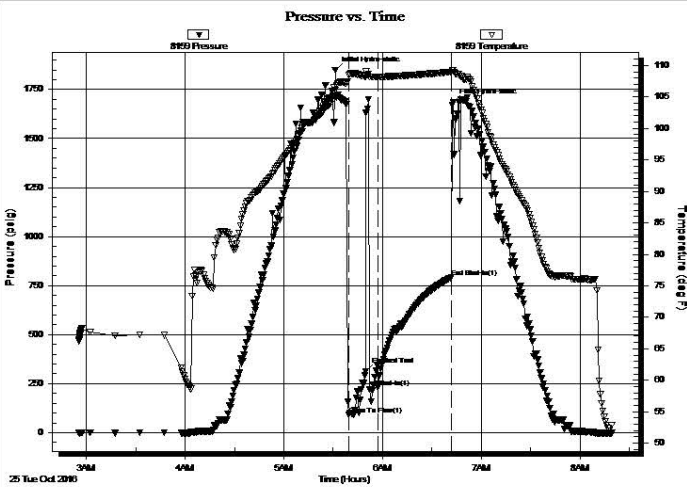
GENERAL INFORMATION:

Formation: **IKC E-F**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 05:39:30
 Time Test Ended: 08:19:30
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Leal Cason
 Unit No: 74
 Interval: **3497.00 ft (KB) To 3520.00 ft (KB) (TVD)**
 Total Depth: 3520.00 ft (KB) (TVD)
 Reference Elevations: 2193.00 ft (KB)
 2185.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good
 KB to GR/CF: 8.00 ft

Serial #: 8159 **Inside**
 Press@RunDepth: 231.23 psig @ 3498.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2016.10.25 End Date: 2016.10.25 Last Calib.: 2016.10.25
 Start Time: 02:55:16 End Time: 08:19:30 Time On Btm: 2016.10.25 @ 05:31:15
 Time Off Btm: 2016.10.25 @ 06:43:00

TEST COMMENT: IE: Weak Surface Blow, Flushed Tool, Weak Surface Blow

TEST COMMENT: IF: Weak Surface Blow , Flushed Tool, Weak Surface Blow
 ISL: No Blow Back
 Pulled Test



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1848.87	106.08	Initial Hydro-static
9	90.33	108.42	Open To Flow (1)
19	311.13	108.24	Flushed Tool
26	231.23	108.11	Shut-In(1)
71	793.22	108.95	End Shut-In(1)
72	1684.73	109.18	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
127.00	Mud	0.69

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

Trilobite Testing, Inc

Ref. No: 57960

Printed: 2016.10.25 @ 08:37:31

DST #2 LKC E-F 3497' - 3520'



DRILL STEM TEST REPORT

Jaspar Co **21-6S-20W Rooks**

PO Box 1120 **Greg Unit 1**
 Hays, KS 67601
 Job Ticket: 57961 **DST#: 2**

ATTN: Jeff Lawler
 Test Start: 2016.10.25 @ 12:55:15

GENERAL INFORMATION:

Formation: **LKC E-F**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:39:15

Time Test Ended: 17:35:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Leal Cason

Unit No: 74

Interval: **3497.00 ft (KB) To 3520.00 ft (KB) (TVD)**

Reference Elevations: 2193.00 ft (KB)

Total Depth: 3520.00 ft (KB) (TVD)

2185.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

Serial #: 8159 **Inside**

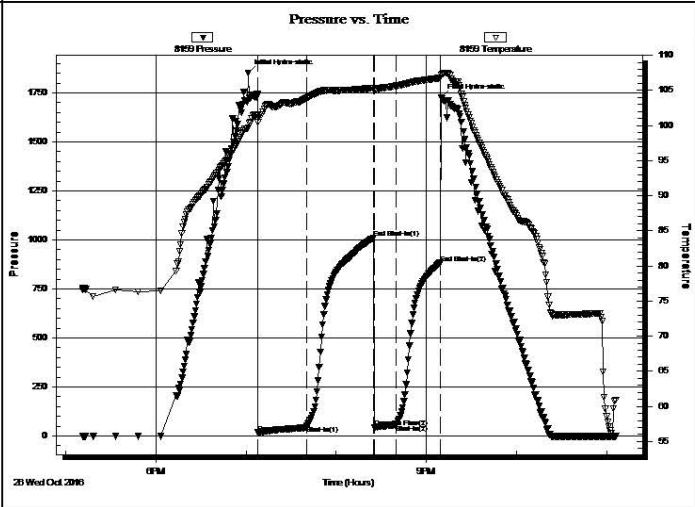
Press@RunDepth: 17.72 psig @ 3498.00 ft (KB) Capacity: 8000.00 psig

Start Date: 2016.10.25 End Date: 2016.10.25 Last Calib.: 2016.10.25

Start Time: 12:55:16 End Time: 17:35:30 Time On Btm: 2016.10.25 @ 14:38:45

Time Off Btm: 2016.10.25 @ 15:41:45

TEST COMMENT: IF: Weak Surface Blow , Dead @ 4 minutes, Flushed Tool, Weak Surface Blow , Dead @ 5 minutes
 FS: No Blow



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1851.90	99.65	Initial Hydro-static
7	16.73	100.50	Open To Flow (1)
39	51.85	103.90	Shut-In(1)
84	1009.65	105.34	End Shut-In(1)
84	45.44	105.08	Open To Flow (2)
99	57.04	105.63	Shut-In(2)
128	882.42	106.75	End Shut-In(2)
129	1725.71	107.12	Final Hydro-static

Length (ft)	Description	Volume (bbl)
65.00	MCO 50%M 50%O	0.32

* Recovery from multiple tests

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

Trilobite Testing, Inc Ref. No: 57963 Printed: 2016.10.27 @ 06:49:55

ROCK TYPES

Dolprim	shale, gry	shale, red	Ss
Lmst fw7>	Carbon Sh	Shcol	
shale, grn	Shblk	Arg/Shale	

ACCESSORIES

STRINGER	TEXTURE
Sandstone	Chalky

OTHER SYMBOLS

MISC	DST
Daily Report	DST Int
Digital Photo	DST alt
Document	
Folder	
Link	
Vertical Log File	
Horizontal Log File	
Core Log File	
Drill Cuttings Rpt	

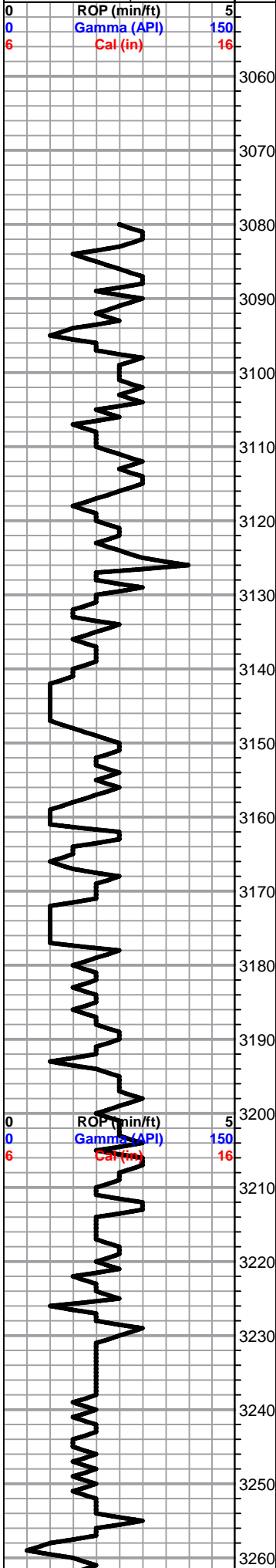
Printed by GEOstrip VC Striplog version 4.0.8.15 (www.grsi.ca)

Curve Track #1 ROP (min/ft) Gamma (API) Cal (in)	Depth Intervals interval interval	DST	Lithology	Oil Show	Geological Descriptions	Curve Track #3
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1:240 Imperial

Cored Int
DST Int

1:240 Imperial



1' DRILL TIME THROUGH ANHYDRITE FROM 1780' - 1840'
1' DRILL TIME FROM 3080' - RTD
10' WET/DRY SAMPLES FROM 3120' - RTD

GEOLOGICAL SUPERVISION BY JEFF LAWLER FROM 3080' - RTD

8 5/8" SURFACE PIPE SET @ 220' SURVEY 1/2 DEGREES

ANHYDRITE TOP 1793' (+400) E-LOG 1801' (+392)
ANHYDRITE BASE 1833' (+360) E-LOG 1832' (+361)

Sh- Gray Maroon, silty & calcareous, gritty & earthy, some arenaceous, gummy argillaceous wash

Lm- Cream Buff, FXLN, fsl, well cemented, sctrd XLN porosity

Sh- Gray, silty & calcareous, argillaceous wash

Lm- Gray, VFXLN, dense, well cemented, fsl & trashy w/ poor vis. porosity

Sh- Gray, argillaceous clumps

Lm- Cream Gray, FXLN, fsl mix, sctrd XLN porosity, some trashy high-energy bioclastics

Sh/Ss- Gray Maroon, gritty & earthy, gummy wash Ss- Yellow Mint Green, well cemented, well sorted & consolidated, sub-angular, sl shaley, barren

TOPEKA 3194' (-1001) E-LOG 3196' (-1003) Lm- Cream, VFXLN, dense, well cemented, tight w/ min. vis. porosity, vry clean & barren

Sh- Gray Black, silty & calcareous

Lm- Buff Tan, VFXLN, dense, well cemented, tight w/ poor vis. porosity

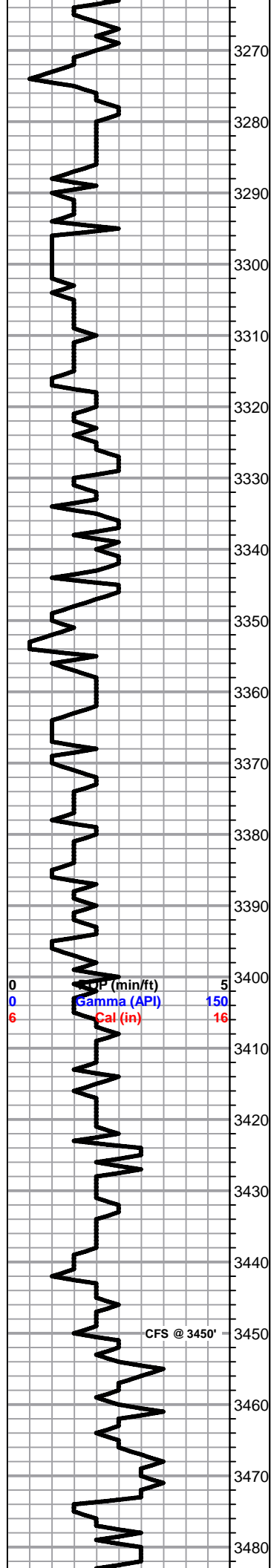
Lm- A/A

Ss- Frosted, Med Grn, consolidated & well sorted, micaceous, sl friable, barren

Lm- Cream, FXLN, fsl w/ crinoids, sctrd XLN porosity, poorly developed

Lm- Cream Off White, FXLN, fsl & oolitic, some mod. developed w/ sctrd to dense XLN porosity, some soft white chalk and a few chalky in part, vry clean

Lm- Cream Off White, Fn Grn, chalky in part, soft white chalk, several pcs of porcelain like cherty Ls w/o vis. porosity



Lm- Buff Gray, VF-FXLN, dense, well cemented, fsl w/ sctrd XLN porosity

Lm- Buff Cream, FXLN, dense, well cemented, mottled, poorly dev. w/ sctrd XLN porosity

Sh- Black Gray Maroon, fissile & carbonaceous, argillaceous clumps, gritty & earthy

Sh- Gray, gummy argillaceous sandy wash & clumps

Sh- Maroon, argillaceous wash

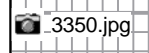
Lm- Cream Tan, mix of tight VFXLN w/o vis. porosity & fsl & oolitic FXLN, loosely cemented & semi-crumbly, sctrd XLN porosity, barren

Lm- Cream Buff, FXLN, sl fsl, chalky in part, sctrd XLN porosity, barren

Sh- Maroon Green, argillaceous clumps & wash

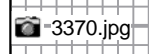
Sh- Black Gray Maroon, fissile & carbonaceous, gummy various colored wash

● Lm- Off White, FXLN, fsl, sctrd mod. dev. w/ dense XLN & fn ppt porosity, DRK SCTRDR STN, TR FO, FR ODR, much soft white chalk



Lm- Cream, VFXLN, dense, well cemented & tight w/ no vis. porosity, vry clean, much soft white chalk

● Lm- White Off White, FXLN, loosely cemented well dev. w/ dense fn ppt & XLN porosity, some w/ clear replacement cementation, clear reXLN, SCTRDR LT STN, TR FO, WK-FR ODR

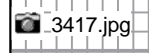


Lm- Cream Off White, FXLN, loosely cemented, chalky in part, sctrd XLN porosity, much soft white chalk, barren

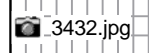
HEEBNER 3394' (-1201) E-LOG 3396' (-1203) Sh- Black, fissile & carbonaceous

Sh- Gray Maroon, abundant argillaceous wash

● **TORONTO 3415' (-1222) E-LOG 3422' (-1229)** Lm- Off White, F-MEDXLN, mod. well dev. w/ sctrd XLN & ppt porosity, SCTRDR DRK STN, TR FO ON A FEW PCS, NO ODR



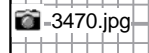
● **LKC 3431' (-1238) E-LOG 3435' (-1242)** Lm- Cream Off White, F-MEDXLN, well dev. oolitic Ls w/ sctrd to consistent XLN & ppt interoolite porosity, SCTRDR LT STN, TR FRO, FR ODR, SOME GSY BUBBLES & OILY SHEEN



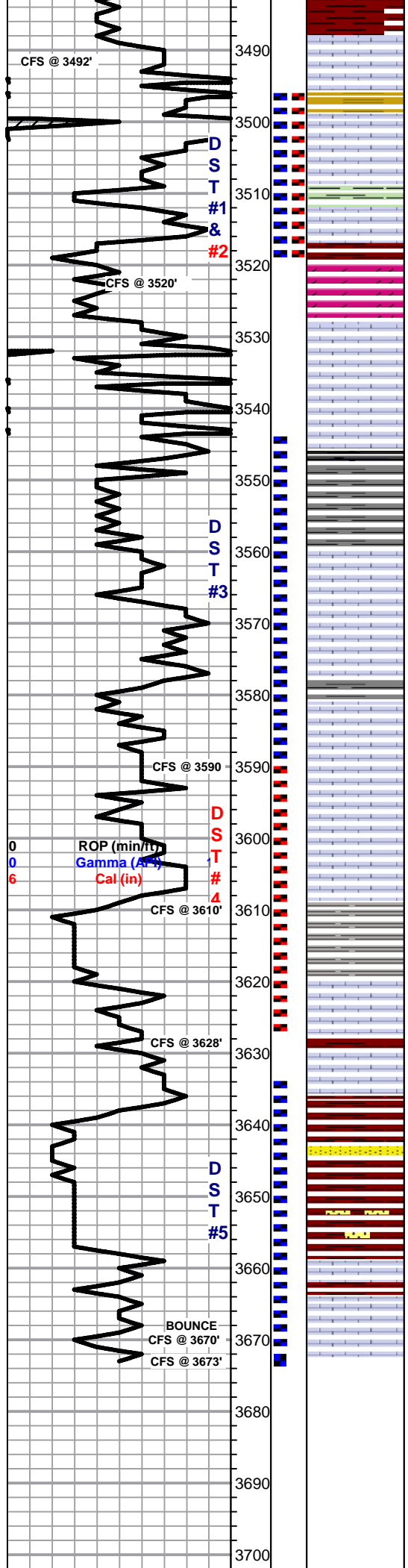
Lm- Cream Off White, VF-FXLN, dense, well cemented, mostly tight w/ sctrd XLN & poor vis. porosity, clean & barren

Sh- Gray Maroon, gummy argillaceous clumps

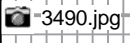
● Lm- Off White, F-MEDXLN, assort. of oolitic Ls from oolite clusters w/ consistent ppt interoolite porosity to bioclastic oolitic Ls w/ sctrd XLN & ppt interoolite porosity, SCTRDR LT STN, NSFO, WK-FR ODR, much soft white chalk



C C C C



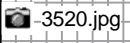
Lm- Cream Off White, FXLN, oolitic w/ fusulinds, sctrd dev. w/ vry fn ppt & sctrd XLN porosity, LT SCTRDR STN, TR OF DEAD OIL STN, NSFO, ODR (HAVE HAD CONTINUAL CARRYOVER ODR SINCE CFS @ 3450')



Lm- Buff Cream, VF-FXLN, dense, well cemented, tight w/ sctrd XLN porosity, some w/ poor vis. porosity, barren

Sh- Gray Green Maroon, argillaceous wash, gritty & earthy

Lm- Cream, FXLN, oolitic, mod. well dev. w/ dense XLN & sctrd vry fn ppt interoolite porosity, LT SCTRDR STN, TR FO, GD ODR



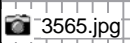
Dolomite-Tan, VF-FXLN, dense, well cemented w/ dense consistent XLN porosity, barren, some soft white chalk

Lm- Off White Buff, FXLN, dense, well cemented, some sl chalky in part, poor vis. porosity, barren

Sh- Black Maroon Gray, fissile & carbonaceous, gritty & earthy, argillaceous wash

Sh- Gray, argillaceous clumps

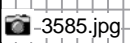
Lm- White Cream, FXLN, sl fsl, mod. devel. w/ sctrd fn ppt & XLN porosity, SCTRDR LT STN, NSFO, FR ODR



Lm- Cream Buff, VF-FXLN, dense, well cemented, mostly tight w/ poor vis. porosity, some sl chalky in part, few pcs of dense cherty Ls w/o vis. porosity

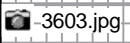
Sh- Gray Maroon, semi-waxy, gritty & earthy

Lm- Cream Tan, mix of sl fsl w/ sctrd vry fn ppt & XLN porosity w/ LT SCTRDR STN, TR FO, MUCH FREE OIL FLOATING IN WET CUP, WK ODR, & VFXLN, tight Ls w/ vry poor vis. porosity



Sh- Gray Maroon, semi-waxy, gritty & earthy

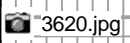
Lm- Cream Tan, FXLN, fsl & sl oolitic, sctrd dev. w/ fn ppt & XLN porosity, LT STN, NSFO, WK ODR



Lm- Buff, VF-FXLN, dense, well cemented, sctrd micro XLN porosity, some chalky in part and soft white chalk, barren

Sh- Black Gray Maroon, soft & carbonaceous, gritty & earthy, argillaceous clumps & wash

Lm- Off White, F-MED XLN, well dev. oolitic w/ sctrd ppt interoolite porosity, SCTRDR TO SUB SAT STN, TR-FR SFO, FR ODR

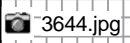


Lm- Cream Buff, FXLN, sl fsl, some well cemented w/ sctrd XLN porosity, some loosely cemented & chalky w/ poor vis. porosity

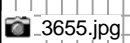
Lm- Cream, FXLN, fsl bioclastic, dense XLN porosity, loosely cemented, barren

BKC 3639' (-1446) E-LOG 3639' (-1449) Sh- Maroon Gray, gritty & earthy, semi-waxy

Ss- Frosted, Fn Grn, mod. well cemented, consolidated & well sorted, sl chalky/shaley, DRK SCTRDR STN, TR FO, WK ODR



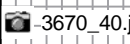
Sh- A/A, Ss- Frosted, Fn Grn, loosely cemented & vry friable, sl chalky/shaley, DRK SAT STN, GD SFO, HVY OILY SHEEN IN WET CUP, FEW FREE FLOATING GLOBULES IN WET CUP, WK-FR ODR



3670' 20"- Sh- A/A w/ influx of soft white chalk

40"- Lm- Cream, MED XLN, massive oolite clusters w/ angular crs grn qtz inclusions, consistent ppt sub-vugular oomoldic porosity, SAT DRK STN, GD SFO, GD ODR

60"- A/A w/ abundant med grn, rounded clear qtz grains loose in bottom of sample tray



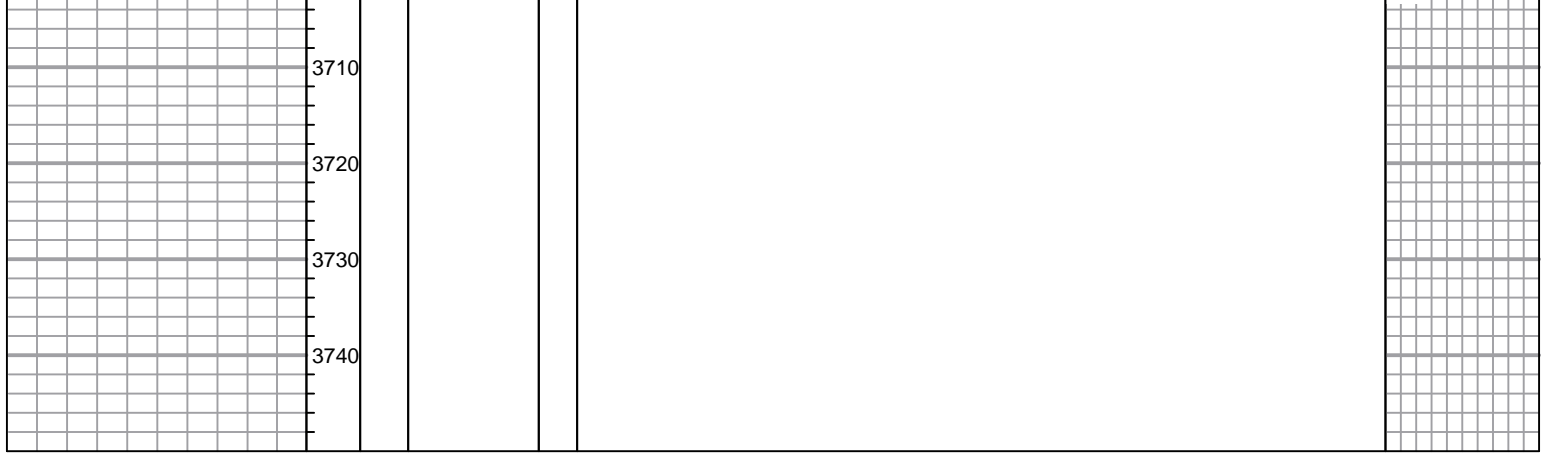
3673' 40"-A/A oomoldic Ls w/ large influx of argillaceous white clay

RTD 3673' (-1480) LTD 3672' (-1479) @ 04:54 10/27/2016

DST #5
CONGLOM. SND
3635' - 3673'
30-45-30-45

90' GIP
92' MCO
(75% O, 25% M)
190' GMCO
(10% G, 65% O,
25% M)
IFP: 35-91#
FFP: 97-125#
SIP: 985-926#





3350.jpg

A001 1280x1024 2016/10/24 11:46:49 Unit: mm Magnification: 77.5 x 1



3350' x 20



0.2 mm

3370' x 30







0.5 mm

3470' x 25





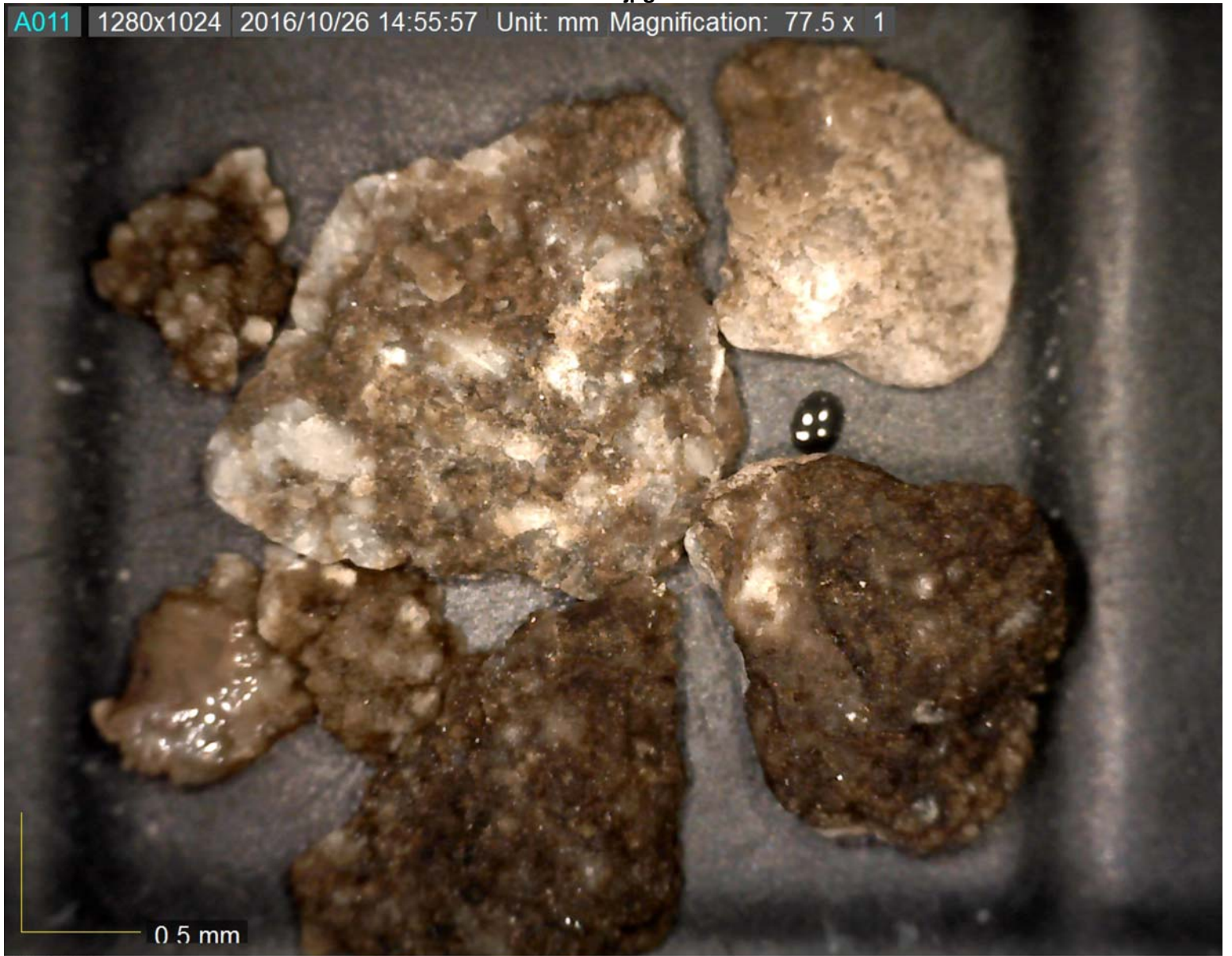






0.5 mm

3603' x 25





3655.jpg

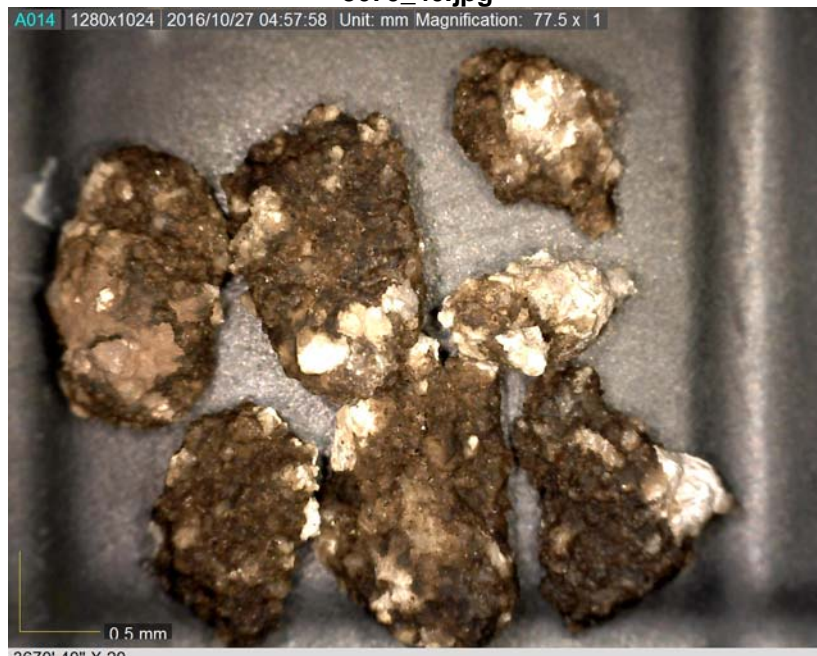
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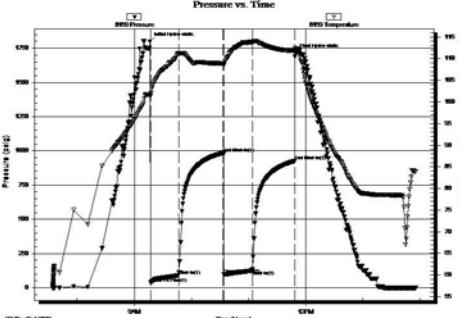
3655' X 30

3670_40.jpg

A014 1280x1024 2016/10/27 04:57:58 Unit: mm Magnification: 77.5 x 1



3670' 40" X 20

 <p>TRILOBITE TESTING, INC.</p>	<p>DRILL STEM TEST REPORT</p>																																						
	<p>Jaspar Co</p> <p>PO Box 1120 Hays, KS 67601</p> <p>ATTN: Jeff Lawler</p>	<p>21-6S-20W Rooks</p> <p>Greg Unit 1</p> <p>Job Ticket: 57964 DST#: 5</p> <p>Test Start: 2016.10.27 @ 07:34:15</p>																																					
<p>GENERAL INFORMATION:</p> <p>Formation: Conglomerate Sand</p> <p>Deviated: No Whipstock: ft (KB)</p> <p>Time Tool Opened: 09:17:00</p> <p>Time Test Ended: 13:55:15</p> <p>Interval: 3635.00 ft (KB) To 3673.00 ft (KB) (TVD)</p> <p>Total Depth: 3673.00 ft (KB) (TVD)</p> <p>Hole Diameter: 7.88 inches Hole Condition: Good</p> <p>Test Type: Conventional Bottom Hole (Reset)</p> <p>Tester: Leal Cason</p> <p>Unit No: 74</p> <p>Reference Elevations: 2193.00 ft (KB) 2185.00 ft (CF)</p> <p>KB to GR/CF: 8.00 ft</p>																																							
<p>Serial #: 8159 Inside</p> <p>Press@RunDepth: 125.29 psig @ 3636.00 ft (KB)</p> <p>Start Date: 2016.10.27 End Date: 2016.10.27</p> <p>Start Time: 07:34:16 End Time: 13:55:15</p> <p>Capacity: 8000.00 psig</p> <p>Last Calib.: 2016.10.27</p> <p>Time On Btm: 2016.10.27 @ 09:16:15</p> <p>Time Off Btm: 2016.10.27 @ 11:49:15</p>																																							
<p>TEST COMMENT: IF: Fair Blow , BOB in 28 minutes</p> <p>IST: 1/2 inch Blow Back</p> <p>FF: Fair Blow , Built to 7 1/2 inches</p> <p>FSt: 3/4 inch Blow Back</p>																																							
		<p>PRESSURE SUMMARY</p> <table border="1"> <thead> <tr> <th>Time (Min.)</th> <th>Pressure (psig)</th> <th>Temp (deg F)</th> <th>Annotation</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>1798.53</td> <td>101.73</td> <td>Initial Hydro-static</td> </tr> <tr> <td>1</td> <td>34.89</td> <td>101.30</td> <td>Open To Flow (1)</td> </tr> <tr> <td>31</td> <td>91.00</td> <td>111.25</td> <td>Shut-In(1)</td> </tr> <tr> <td>77</td> <td>984.76</td> <td>108.90</td> <td>End Shut-In(1)</td> </tr> <tr> <td>78</td> <td>96.92</td> <td>108.53</td> <td>Open To Flow (2)</td> </tr> <tr> <td>108</td> <td>125.29</td> <td>113.77</td> <td>Shut-In(2)</td> </tr> <tr> <td>152</td> <td>926.34</td> <td>111.89</td> <td>End Shut-In(2)</td> </tr> <tr> <td>153</td> <td>1712.41</td> <td>111.93</td> <td>Final Hydro-static</td> </tr> </tbody> </table>		Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation	0	1798.53	101.73	Initial Hydro-static	1	34.89	101.30	Open To Flow (1)	31	91.00	111.25	Shut-In(1)	77	984.76	108.90	End Shut-In(1)	78	96.92	108.53	Open To Flow (2)	108	125.29	113.77	Shut-In(2)	152	926.34	111.89	End Shut-In(2)	153	1712.41	111.93	Final Hydro-static
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<p>Recovery</p> <table border="1"> <thead> <tr> <th>Length (ft)</th> <th>Description</th> <th>Volume (bbl)</th> </tr> </thead> <tbody> <tr> <td>0.00</td> <td>90 GIP</td> <td>0.00</td> </tr> <tr> <td>190.00</td> <td>GMCO 10%G 25%M 65%O</td> <td>1.57</td> </tr> <tr> <td>92.00</td> <td>MCO 25%M 75%O</td> <td>1.29</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p><small>* Recovery from multiple tests</small></p>		Length (ft)	Description	Volume (bbl)	0.00	90 GIP	0.00	190.00	GMCO 10%G 25%M 65%O	1.57	92.00	MCO 25%M 75%O	1.29							<p>Gas Rates</p> <table border="1"> <thead> <tr> <th></th> <th>Choke (inches)</th> <th>Pressure (psig)</th> <th>Gas Rate (Mcf/d)</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)														
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DRILL STEM TEST REPORT

Prepared For: **Jaspar Co**

PO Box 1120
Hays, KS 67601

ATTN: Jeff Lawler

Greg Unit #1

21-6S-20W Rooks,KS

Start Date: 2016.10.25 @ 02:55:15

End Date: 2016.10.25 @ 08:19:30

Job Ticket #: 57960 DST #: 1

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

Printed: 2016.10.28 @ 10:00:38

Jaspar Co
21-6S-20W Rooks,KS
Greg Unit #1
DST # 1
IKC E-F
2016.10.25



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Jaspar Co
PO Box 1120
Hays, KS 67601
ATTN: Jeff Lawler

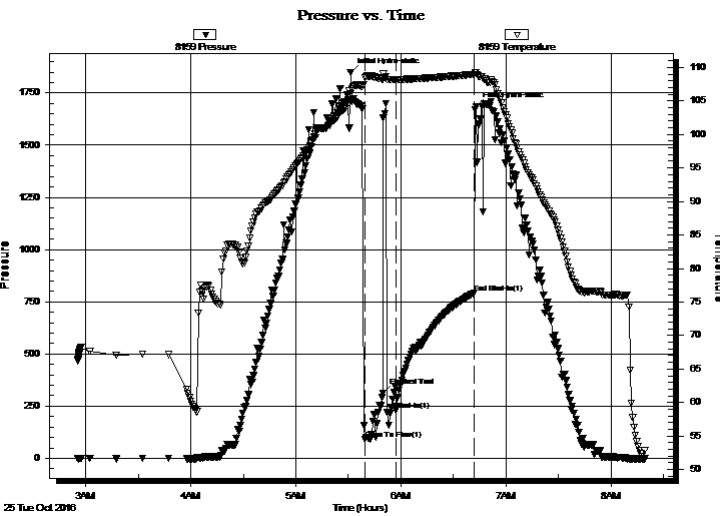
21-6S-20W Rooks,KS
Greg Unit #1
Job Ticket: 57960 **DST#: 1**
Test Start: 2016.10.25 @ 02:55:15

GENERAL INFORMATION:

Formation: **IKC E-F**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 05:39:30
Time Test Ended: 08:19:30
Interval: **3497.00 ft (KB) To 3520.00 ft (KB) (TVD)**
Total Depth: 3520.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Initial)
Tester: Leal Cason
Unit No: 74
Reference Elevations: 2193.00 ft (KB)
2185.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8159 **Inside**
Press@RunDepth: 231.23 psig @ 3498.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2016.10.25 End Date: 2016.10.25 Last Calib.: 2016.10.25
Start Time: 02:55:16 End Time: 08:19:30 Time On Btm: 2016.10.25 @ 05:31:15
Time Off Btm: 2016.10.25 @ 06:43:00

TEST COMMENT: IF: Weak Surface Blow , Flushed Tool, Weak Surface Blow
IS: No Blow Back
Pulled Test



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1848.87	106.08	Initial Hydro-static
9	90.33	108.42	Open To Flow (1)
19	311.13	108.24	Flushed Tool
26	231.23	108.11	Shut-In(1)
71	793.22	108.95	End Shut-In(1)
72	1684.73	109.18	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
127.00	Mud	0.69

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Jaspar Co
PO Box 1120
Hays, KS 67601
ATTN: Jeff Lawler

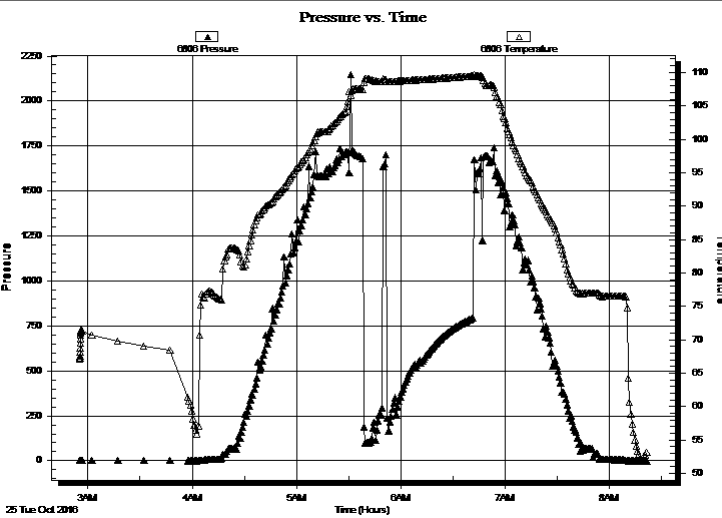
21-6S-20W Rooks, KS
Greg Unit #1
Job Ticket: 57960 **DST#: 1**
Test Start: 2016.10.25 @ 02:55:15

GENERAL INFORMATION:

Formation: **IKC E-F**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 05:39:30
Time Test Ended: 08:19:30
Interval: **3497.00 ft (KB) To 3520.00 ft (KB) (TVD)**
Total Depth: 3520.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Initial)
Tester: Leal Cason
Unit No: 74
Reference Elevations: 2193.00 ft (KB)
2185.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 6806 Outside
Press@RunDepth: psig @ 3498.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2016.10.25 End Date: 2016.10.25 Last Calib.: 2016.10.25
Start Time: 02:55:16 End Time: 08:22:00 Time On Btm:
Time Off Btm:

TEST COMMENT: IF: Weak Surface Blow , Flushed Tool, Weak Surface Blow
IS: No Blow Back
Pulled Test



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
127.00	Mud	0.69

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Jaspar Co
PO Box 1120
Hays, KS 67601
ATTN: Jeff Lawler

21-6S-20W Rooks,KS
Greg Unit #1
Job Ticket: 57960 **DST#: 1**
Test Start: 2016.10.25 @ 02:55:15

Tool Information

Drill Pipe:	Length: 3382.00 ft	Diameter: 3.80 inches	Volume: 47.44 bbl	Tool Weight:	2100.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose:	80000.00 lb
			<u>Total Volume: 48.03 bbl</u>	Tool Chased	15.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial	58000.00 lb
Depth to Top Packer:	3497.00 ft			Final	58000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	23.00 ft				
Tool Length:	42.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments: Tool Slid 15 feet

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
-------------------------	--------------------	-------------------	-----------------	-------------------	-----------------------

Shut In Tool	5.00			3483.00	
Hydraulic tool	5.00			3488.00	
Packer	5.00			3493.00	19.00 Bottom Of Top Packer
Packer	4.00			3497.00	
Stubb	1.00			3498.00	
Recorder	0.00	8159	Inside	3498.00	
Recorder	0.00	6806	Outside	3498.00	
Perforations	19.00			3517.00	
Bullnose	3.00			3520.00	23.00 Bottom Packers & Anchor
Total Tool Length:	42.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Jaspar Co
PO Box 1120
Hays, KS 67601
ATTN: Jeff Lawler

21-6S-20W Rooks,KS
Greg Unit #1
Job Ticket: 57960 **DST#: 1**
Test Start: 2016.10.25 @ 02:55:15

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: 55.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.18 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 750.00 ppm			
Filter Cake: 0.02 inches			

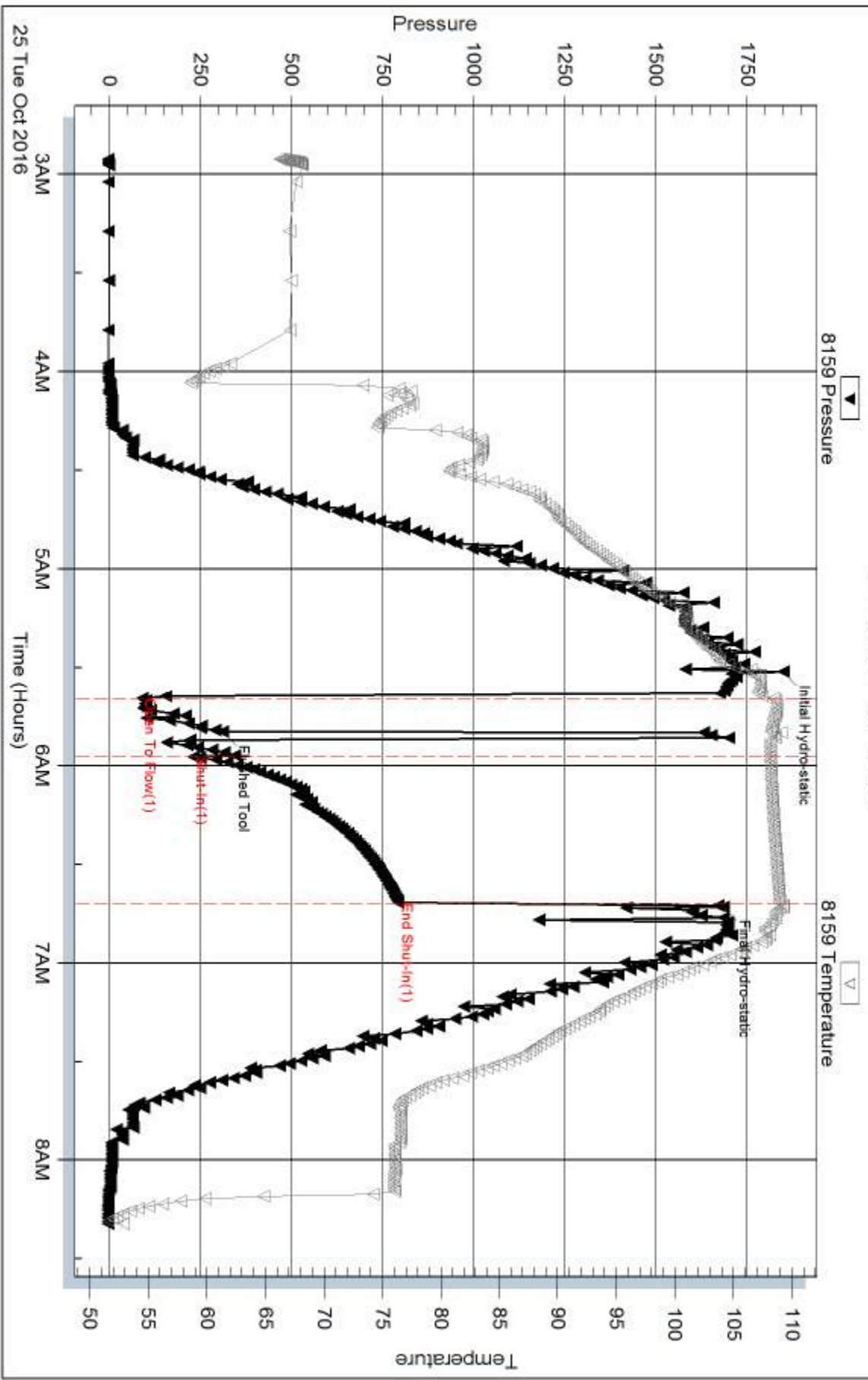
Recovery Information

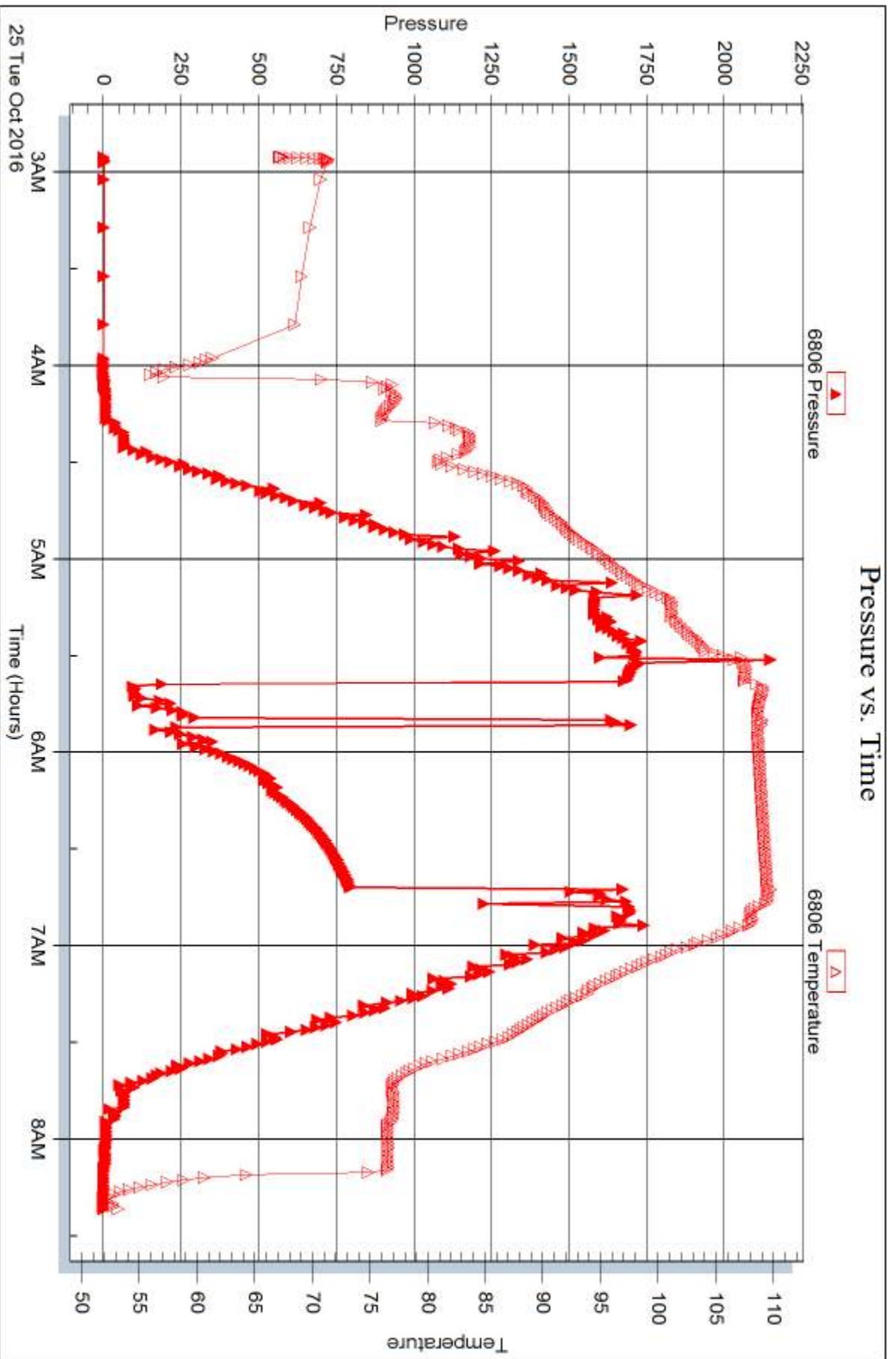
Recovery Table

Length ft	Description	Volume bbl
127.00	Mud	0.688

Total Length: 127.00 ft Total Volume: 0.688 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

Pressure vs. Time







DRILL STEM TEST REPORT

Prepared For: **Jaspar Co**

PO Box 1120
Hays, KS 67601

ATTN: Jeff Lawler

Greg Unit #1

21-6S-20W Rooks,KS

Start Date: 2016.10.25 @ 12:55:15

End Date: 2016.10.25 @ 17:35:30

Job Ticket #: 57961 DST #: 2

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

Printed: 2016.10.28 @ 10:00:17



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Jaspar Co
 PO Box 1120
 Hays, KS 67601
 ATTN: Jeff Lawler

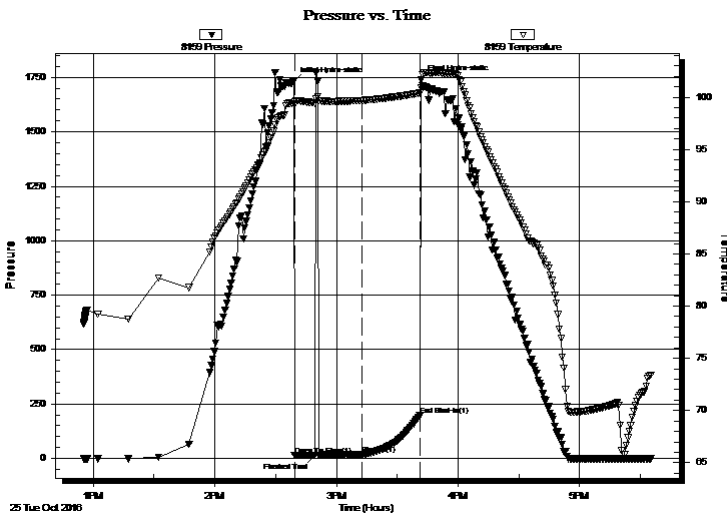
21-6S-20W Rooks,KS
Greg Unit #1
 Job Ticket: 57961 **DST#: 2**
 Test Start: 2016.10.25 @ 12:55:15

GENERAL INFORMATION:

Formation: **LKC E-F**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 14:39:15
 Time Test Ended: 17:35:30
Interval: 3497.00 ft (KB) To 3520.00 ft (KB) (TVD)
 Total Depth: 3520.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Leal Cason
 Unit No: 74
 Reference Elevations: 2193.00 ft (KB)
 2185.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8159 Inside
 Press@RunDepth: 17.72 psig @ 3498.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2016.10.25 End Date: 2016.10.25 Last Calib.: 2016.10.25
 Start Time: 12:55:16 End Time: 17:35:30 Time On Btm: 2016.10.25 @ 14:38:45
 Time Off Btm: 2016.10.25 @ 15:41:45

TEST COMMENT: IF: Weak Surface Blow , Dead @ 4 minutes, Flushed Tool, Weak Surface Blow , Dead @ 5 minutes
 FSI: No Blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1729.31	99.42	Initial Hydro-static
1	13.88	99.34	Open To Flow (1)
11	13.84	99.44	Flushed Tool
34	17.72	99.69	Shut-In(1)
63	199.66	100.40	End Shut-In(1)
63	1738.59	100.89	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
2.00	Mud	0.01

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Jaspar Co
PO Box 1120
Hays, KS 67601
ATTN: Jeff Lawler

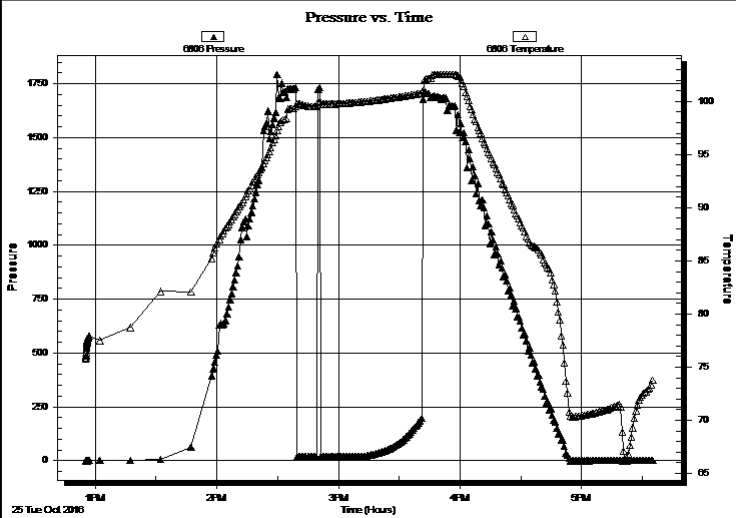
21-6S-20W Rooks, KS
Greg Unit #1
Job Ticket: 57961 **DST#: 2**
Test Start: 2016.10.25 @ 12:55:15

GENERAL INFORMATION:

Formation:	LKC E-F		Test Type:	Conventional Bottom Hole (Reset)
Deviated:	No Whipstock:	ft (KB)	Tester:	Leal Cason
Time Tool Opened:	14:39:15		Unit No:	74
Time Test Ended:	17:35:30		Reference Elevations:	2193.00 ft (KB) 2185.00 ft (CF)
Interval:	3497.00 ft (KB) To 3520.00 ft (KB) (TVD)		KB to GR/CF:	8.00 ft
Total Depth:	3520.00 ft (KB) (TVD)			
Hole Diameter:	7.88 inches	Hole Condition: Good		

Serial #: 6806	Outside				
Press@RunDepth:	psig @	3498.00 ft (KB)	Capacity:	8000.00 psig	
Start Date:	2016.10.25	End Date:	2016.10.25	Last Calib.:	2016.10.25
Start Time:	12:55:16	End Time:	17:35:15	Time On Btm:	
				Time Off Btm:	

TEST COMMENT: IF: Weak Surface Blow, Dead @ 4 minutes, Flushed Tool, Weak Surface Blow, Dead @ 5 minutes
FSI: No Blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
2.00	Mud	0.01

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Jaspar Co
PO Box 1120
Hays, KS 67601
ATTN: Jeff Lawler

21-6S-20W Rooks,KS
Greg Unit #1
Job Ticket: 57961 **DST#: 2**
Test Start: 2016.10.25 @ 12:55:15

Tool Information

Drill Pipe:	Length: 3382.00 ft	Diameter: 3.80 inches	Volume: 47.44 bbl	Tool Weight:	2100.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose:	80000.00 lb
			<u>Total Volume: 48.03 bbl</u>	Tool Chased	10.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial	50000.00 lb
Depth to Top Packer:	3497.00 ft			Final	50000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	23.00 ft				
Tool Length:	42.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments: Tool Slid 10 Feet

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
-------------------------	--------------------	-------------------	-----------------	-------------------	-----------------------

Shut In Tool	5.00			3483.00	
Hydraulic tool	5.00			3488.00	
Packer	5.00			3493.00	19.00 Bottom Of Top Packer
Packer	4.00			3497.00	
Stubb	1.00			3498.00	
Recorder	0.00	8159	Inside	3498.00	
Recorder	0.00	6806	Outside	3498.00	
Perforations	19.00			3517.00	
Bullnose	3.00			3520.00	23.00 Bottom Packers & Anchor
Total Tool Length:	42.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Jaspar Co
PO Box 1120
Hays, KS 67601
ATTN: Jeff Lawler

21-6S-20W Rooks,KS
Greg Unit #1
Job Ticket: 57961 **DST#: 2**
Test Start: 2016.10.25 @ 12:55:15

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: 55.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.17 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 750.00 ppm			
Filter Cake: 0.02 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
2.00	Mud	0.010

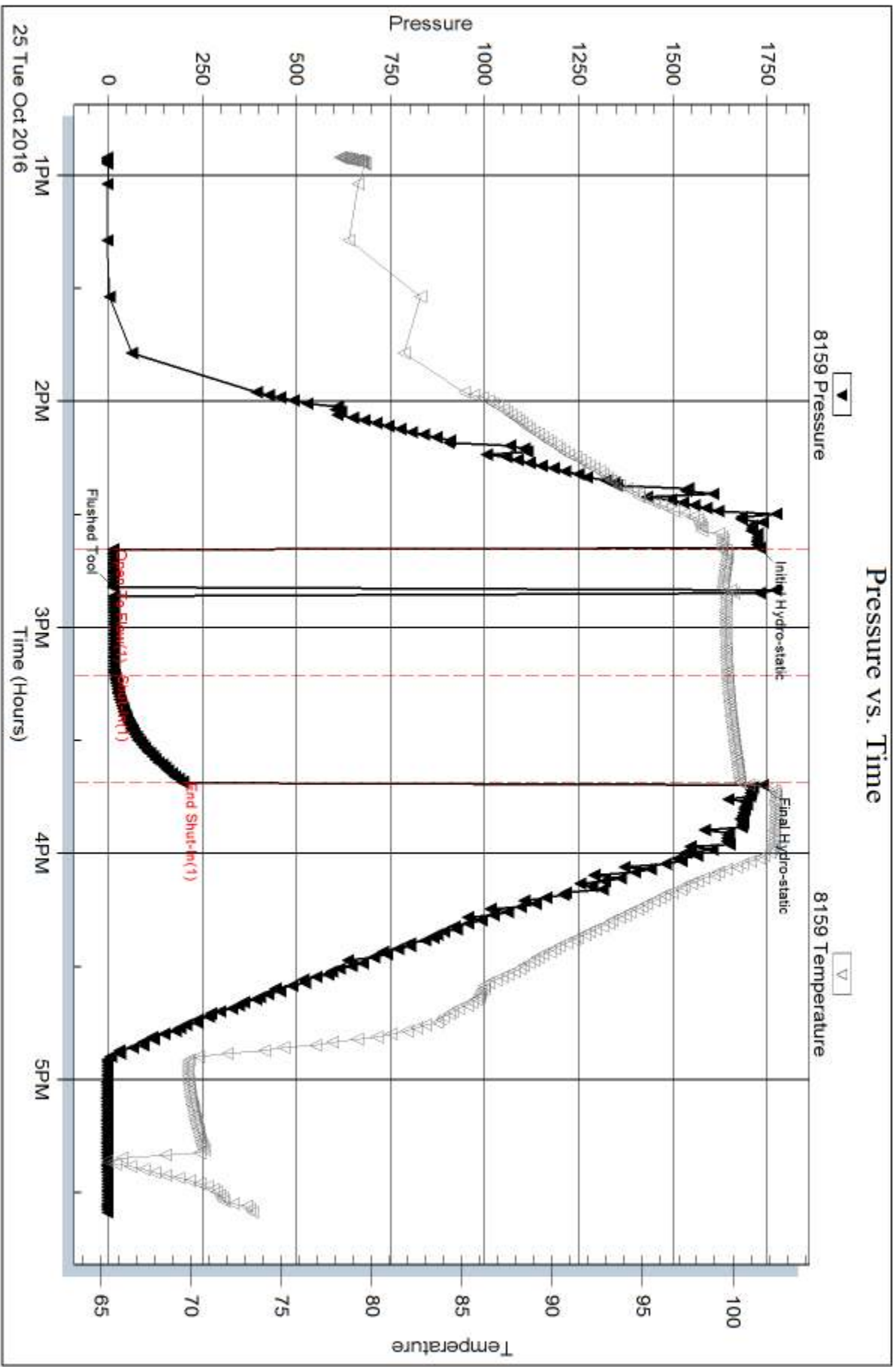
Total Length: 2.00 ft Total Volume: 0.010 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

Serial #: 8159

Inside Jasper Co

Greg Unit #1

DST Test Number: 2

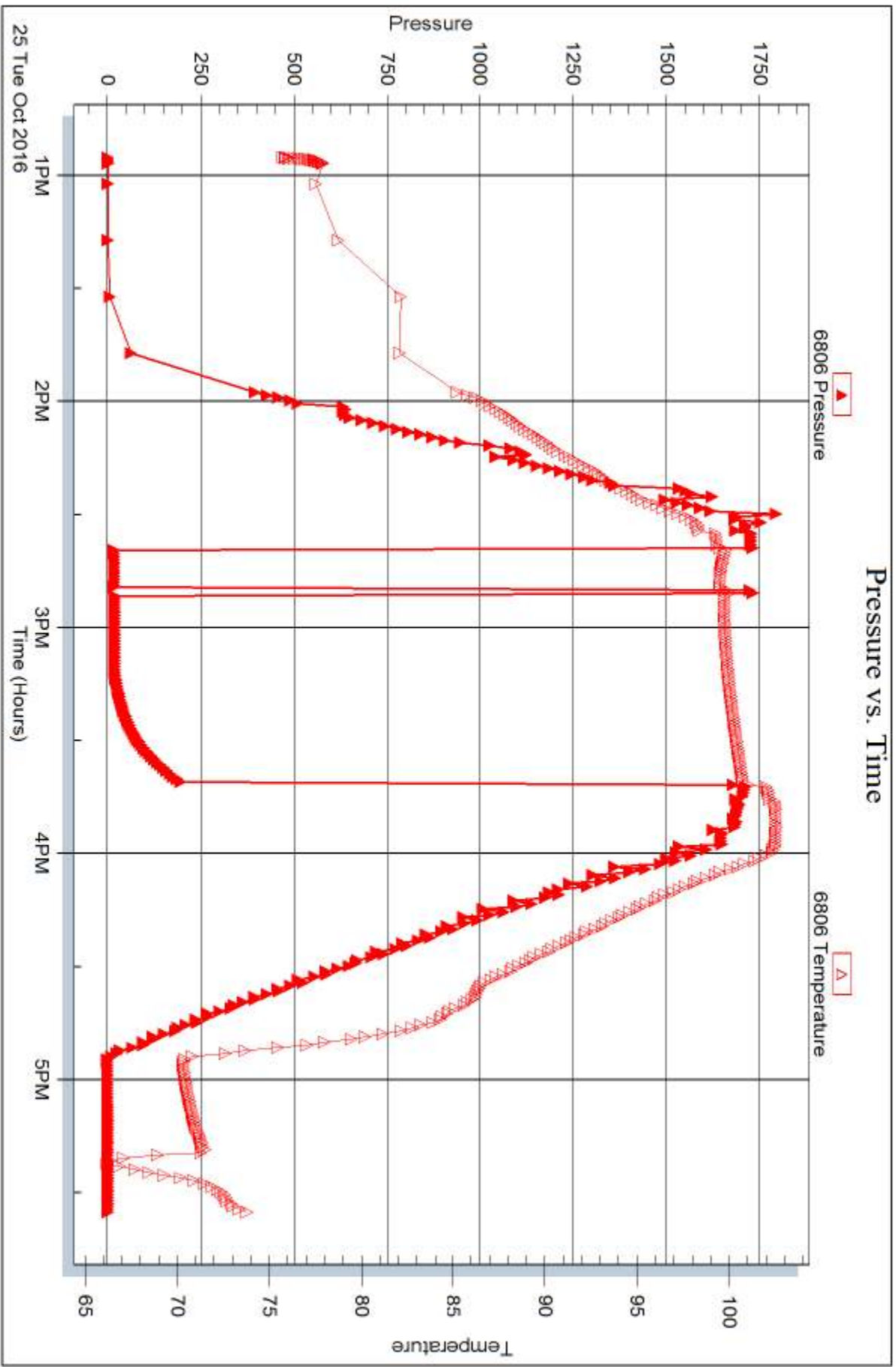


Serial #: 6806

Outside Jasper Co

Greg Unit #1

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **Jaspar Co**

PO Box 1120
Hays, KS 67601

ATTN: Jeff Lawler

Greg Unit #1

21-6S-20W Rooks,KS

Start Date: 2016.10.26 @ 03:30:15

End Date: 2016.10.26 @ 09:11:45

Job Ticket #: 57962 DST #: 3

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

Printed: 2016.10.28 @ 09:59:53



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Jaspar Co
PO Box 1120
Hays, KS 67601
ATTN: Jeff Lawler

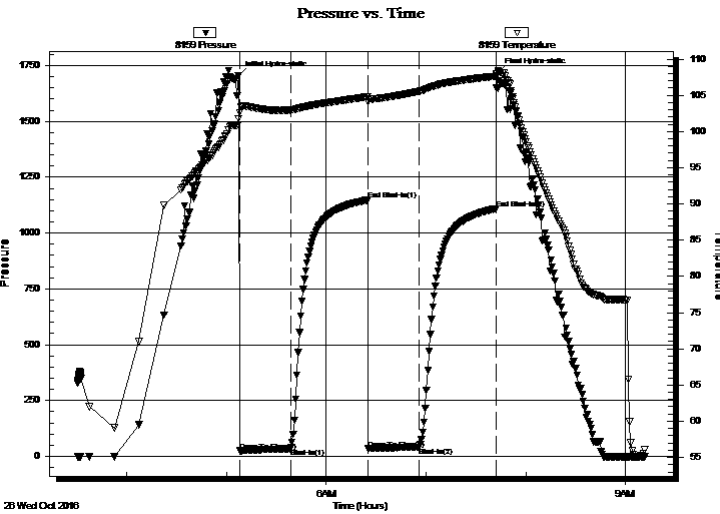
21-6S-20W Rooks,KS
Greg Unit #1
Job Ticket: 57962 **DST#: 3**
Test Start: 2016.10.26 @ 03:30:15

GENERAL INFORMATION:

Formation: **LKC H-1**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 05:07:45
Time Test Ended: 09:11:45
Interval: **3545.00 ft (KB) To 3590.00 ft (KB) (TVD)**
Total Depth: 3590.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Reset)
Tester: Leal Cason
Unit No: 74
Reference Elevations: 2193.00 ft (KB)
2185.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8159 Inside
Press@RunDepth: 41.14 psig @ 3546.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2016.10.26 End Date: 2016.10.26 Last Calib.: 2016.10.26
Start Time: 03:30:16 End Time: 09:11:45 Time On Btm: 2016.10.26 @ 05:07:00
Time Off Btm: 2016.10.26 @ 07:43:30

TEST COMMENT: IF: Weak 1" Blow
IS: No Blow Back
FF: No Blow
FS: No Blow Back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1705.21	101.78	Initial Hydro-static
1	24.63	102.62	Open To Flow (1)
32	34.91	102.96	Shut-In(1)
78	1148.11	104.80	End Shut-In(1)
79	33.65	104.11	Open To Flow (2)
109	41.14	105.55	Shut-In(2)
155	1109.54	107.64	End Shut-In(2)
157	1719.76	108.44	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
55.00	Mud	0.27

* Recovery from multiple tests

Gas Rates

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



DRILL STEM TEST REPORT

Jaspar Co
PO Box 1120
Hays, KS 67601

ATTN: Jeff Lawler

21-6S-20W Rooks, KS
Greg Unit #1
Job Ticket: 57962 **DST#: 3**
Test Start: 2016.10.26 @ 03:30:15

GENERAL INFORMATION:

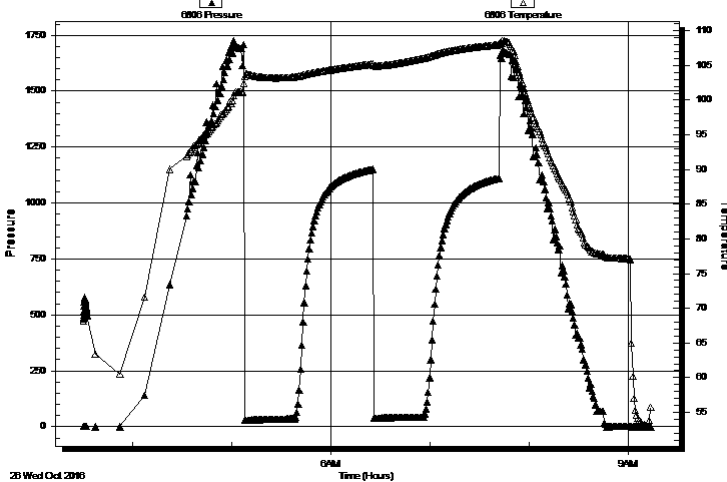
Formation: **LKC H-1**
Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)
Time Tool Opened: 05:07:45 Tester: Leal Cason
Time Test Ended: 09:11:45 Unit No: 74

Interval: 3545.00 ft (KB) To 3590.00 ft (KB) (TVD) Reference Elevations: 2193.00 ft (KB)
Total Depth: 3590.00 ft (KB) (TVD) 2185.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 8.00 ft

Serial #: 6806 Outside
Press@RunDepth: psig @ 3546.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2016.10.26 End Date: 2016.10.26 Last Calib.: 2016.10.26
Start Time: 03:30:16 End Time: 09:13:45 Time On Btm:
Time Off Btm:

TEST COMMENT: IF: Weak 1" Blow
IS: No Blow Back
FF: No Blow
FS: No Blow Back

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
55.00	Mud	0.27

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Jaspar Co
PO Box 1120
Hays, KS 67601
ATTN: Jeff Lawler

21-6S-20W Rooks,KS
Greg Unit #1
Job Ticket: 57962 **DST#: 3**
Test Start: 2016.10.26 @ 03:30:15

Tool Information

Drill Pipe:	Length: 3414.00 ft	Diameter: 3.80 inches	Volume: 47.89 bbl	Tool Weight: 2100.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 60000.00 lb
		Total Volume: 48.48 bbl		Tool Chased ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3545.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	45.00 ft			
Tool Length:	64.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
-------------------------	--------------------	-------------------	-----------------	-------------------	-----------------------

Shut In Tool	5.00			3531.00	
Hydraulic tool	5.00			3536.00	
Packer	5.00			3541.00	19.00 Bottom Of Top Packer
Packer	4.00			3545.00	
Stubb	1.00			3546.00	
Recorder	0.00	8159	Inside	3546.00	
Recorder	0.00	6806	Outside	3546.00	
Perforations	8.00			3554.00	
Change Over Sub	1.00			3555.00	
Drill Pipe	31.00			3586.00	
Change Over Sub	1.00			3587.00	
Bullnose	3.00			3590.00	45.00 Bottom Packers & Anchor

Total Tool Length: 64.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Jaspar Co
PO Box 1120
Hays, KS 67601
ATTN: Jeff Lawler

21-6S-20W Rooks,KS
Greg Unit #1
Job Ticket: 57962 **DST#: 3**
Test Start: 2016.10.26 @ 03:30:15

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: 55.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.17 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 750.00 ppm			
Filter Cake: 0.02 inches			

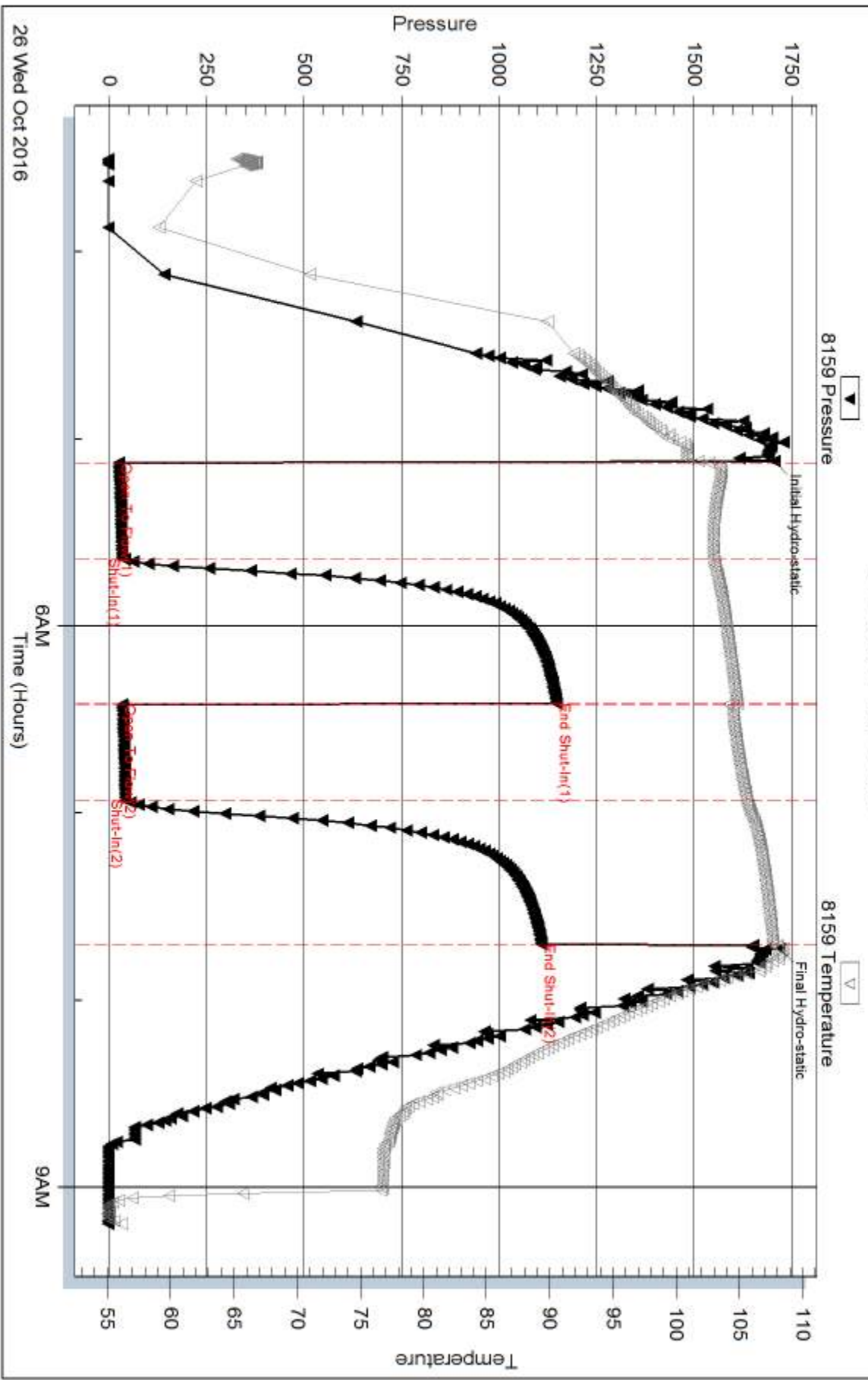
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
55.00	Mud	0.270

Total Length: 55.00 ft Total Volume: 0.270 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:

Pressure vs. Time



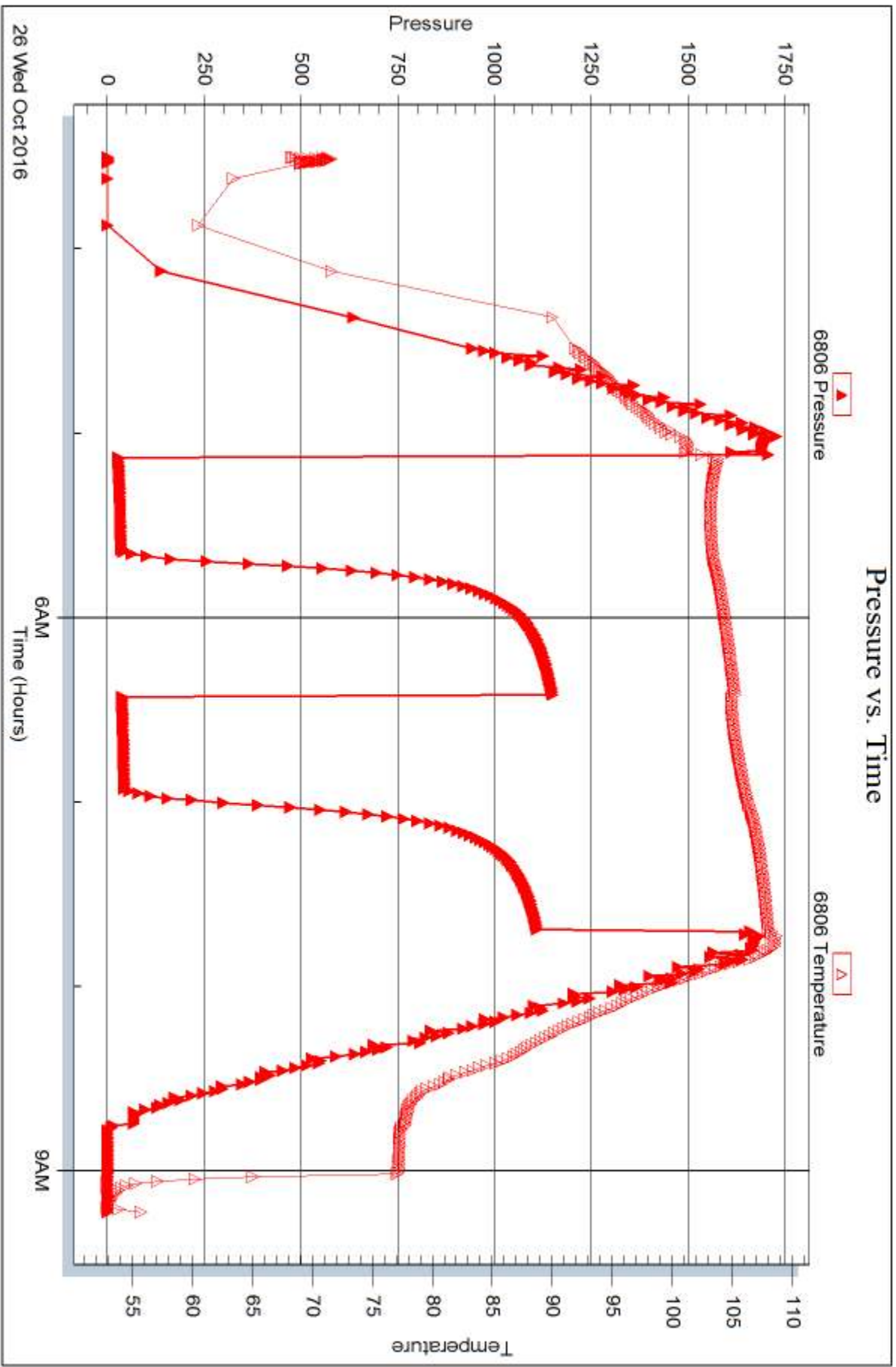
26 Wed Oct 2016

Serial #: 6806

Outside Jasper Co

Greg Unit #1

DST Test Number: 3



26 Wed Oct 2016

Trilobite Testing, Inc

Ref. No: 57962

Printed: 2016.10.28 @ 09:59:54



DRILL STEM TEST REPORT

Prepared For: **Jaspar Co**

PO Box 1120
Hays, KS 67601

ATTN: Jeff Lawler

Greg Unit #1

21-6S-20W Rooks,KS

Start Date: 2016.10.26 @ 17:11:15

End Date: 2016.10.26 @ 23:06:30

Job Ticket #: 57963 DST #: 4

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

Printed: 2016.10.28 @ 09:59:24



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Jaspar Co
PO Box 1120
Hays, KS 67601
ATTN: Jeff Lawler

21-6S-20W Rooks,KS
Greg Unit #1
Job Ticket: 57963 **DST#: 4**
Test Start: 2016.10.26 @ 17:11:15

GENERAL INFORMATION:

Formation: **LKC J - K**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 19:08:00
Time Test Ended: 23:06:30
Test Type: Conventional Bottom Hole (Reset)
Tester: Leal Cason
Unit No: 74
Interval: **3590.00 ft (KB) To 3628.00 ft (KB) (TVD)**
Reference Elevations: 2193.00 ft (KB)
Total Depth: 3628.00 ft (KB) (TVD) 2185.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 8.00 ft

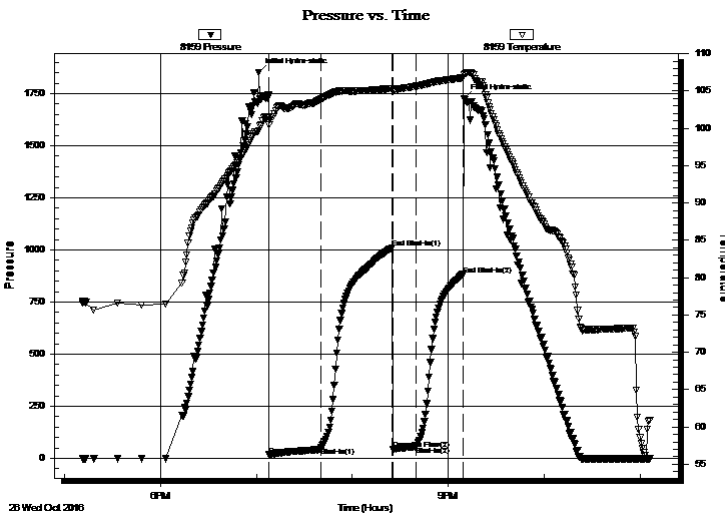
Serial #: 8159

Inside

Press@RunDepth: 57.04 psig @ 3591.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2016.10.26 End Date: 2016.10.26 Last Calib.: 2016.10.26
Start Time: 17:11:16 End Time: 23:06:30 Time On Btm: 2016.10.26 @ 19:01:30
Time Off Btm: 2016.10.26 @ 21:09:45

TEST COMMENT: IF: Weak Blow, 1/2", Died Off to 1/16"
IS: No Blow Back
FF: Weak 1" Blow
FS: No Blow Back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1851.90	99.65	Initial Hydro-static
7	16.73	100.50	Open To Flow (1)
39	51.85	103.90	Shut-In(1)
84	1009.65	105.34	End Shut-In(1)
84	45.44	105.08	Open To Flow (2)
99	57.04	105.63	Shut-In(2)
128	882.42	106.75	End Shut-In(2)
129	1725.71	107.12	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
65.00	MCO 50%M 50%O	0.32

* Recovery from multiple tests

Gas Rates

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



DRILL STEM TEST REPORT

Jaspar Co
PO Box 1120
Hays, KS 67601

ATTN: Jeff Lawler

21-6S-20W Rooks, KS
Greg Unit #1
Job Ticket: 57963 **DST#: 4**
Test Start: 2016.10.26 @ 17:11:15

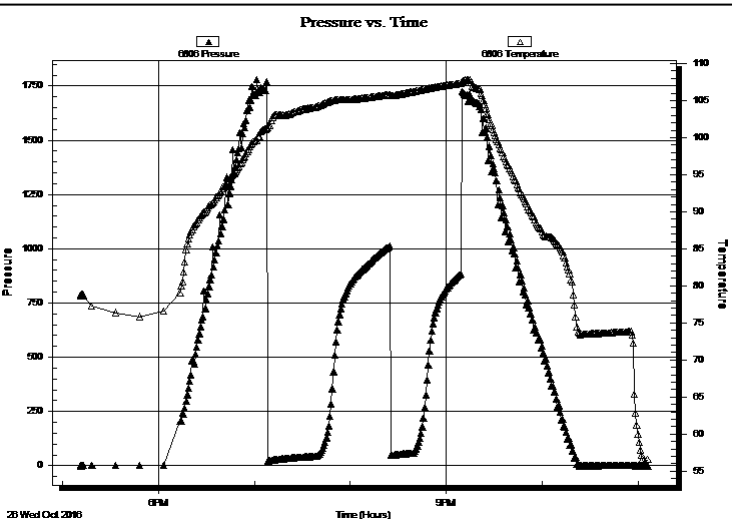
GENERAL INFORMATION:

Formation: LKC J - K	Test Type: Conventional Bottom Hole (Reset)
Deviated: No Whipstock: ft (KB)	Tester: Leal Cason
Time Tool Opened: 19:08:00	Unit No: 74
Time Test Ended: 23:06:30	
Interval: 3590.00 ft (KB) To 3628.00 ft (KB) (TVD)	Reference Elevations: 2193.00 ft (KB)
Total Depth: 3628.00 ft (KB) (TVD)	2185.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Good	KB to GR/CF: 8.00 ft

Serial #: 6806 Outside

Press@RunDepth: psig @ 3591.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2016.10.26 End Date: 2016.10.26	Last Calib.: 2016.10.26
Start Time: 17:11:16 End Time: 23:06:30	Time On Btm:
	Time Off Btm:

TEST COMMENT: IF: Weak Blow , 1/2", Died Off to 1/16"
 IS: No Blow Back
 FF: Weak 1" Blow
 FS: No Blow Back



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
65.00	MCO 50%M 50%O	0.32

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Jaspar Co
PO Box 1120
Hays, KS 67601
ATTN: Jeff Lawler

21-6S-20W Rooks,KS
Greg Unit #1
Job Ticket: 57963 **DST#: 4**
Test Start: 2016.10.26 @ 17:11:15

Tool Information

Drill Pipe:	Length: 3476.00 ft	Diameter: 3.80 inches	Volume: 48.76 bbl	Tool Weight: 2100.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 49.35 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3590.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	38.00 ft			
Tool Length:	57.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
-------------------------	--------------------	-------------------	-----------------	-------------------	-----------------------

Shut In Tool	5.00			3576.00	
Hydraulic tool	5.00			3581.00	
Packer	5.00			3586.00	19.00 Bottom Of Top Packer
Packer	4.00			3590.00	
Stubb	1.00			3591.00	
Recorder	0.00	8159	Inside	3591.00	
Recorder	0.00	6806	Outside	3591.00	
Perforations	34.00			3625.00	
Bullnose	3.00			3628.00	38.00 Bottom Packers & Anchor
Total Tool Length:	57.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Jaspar Co
PO Box 1120
Hays, KS 67601
ATTN: Jeff Lawler

21-6S-20W Rooks,KS
Greg Unit #1
Job Ticket: 57963 **DST#: 4**
Test Start: 2016.10.26 @ 17:11:15

Mud and Cushion Information

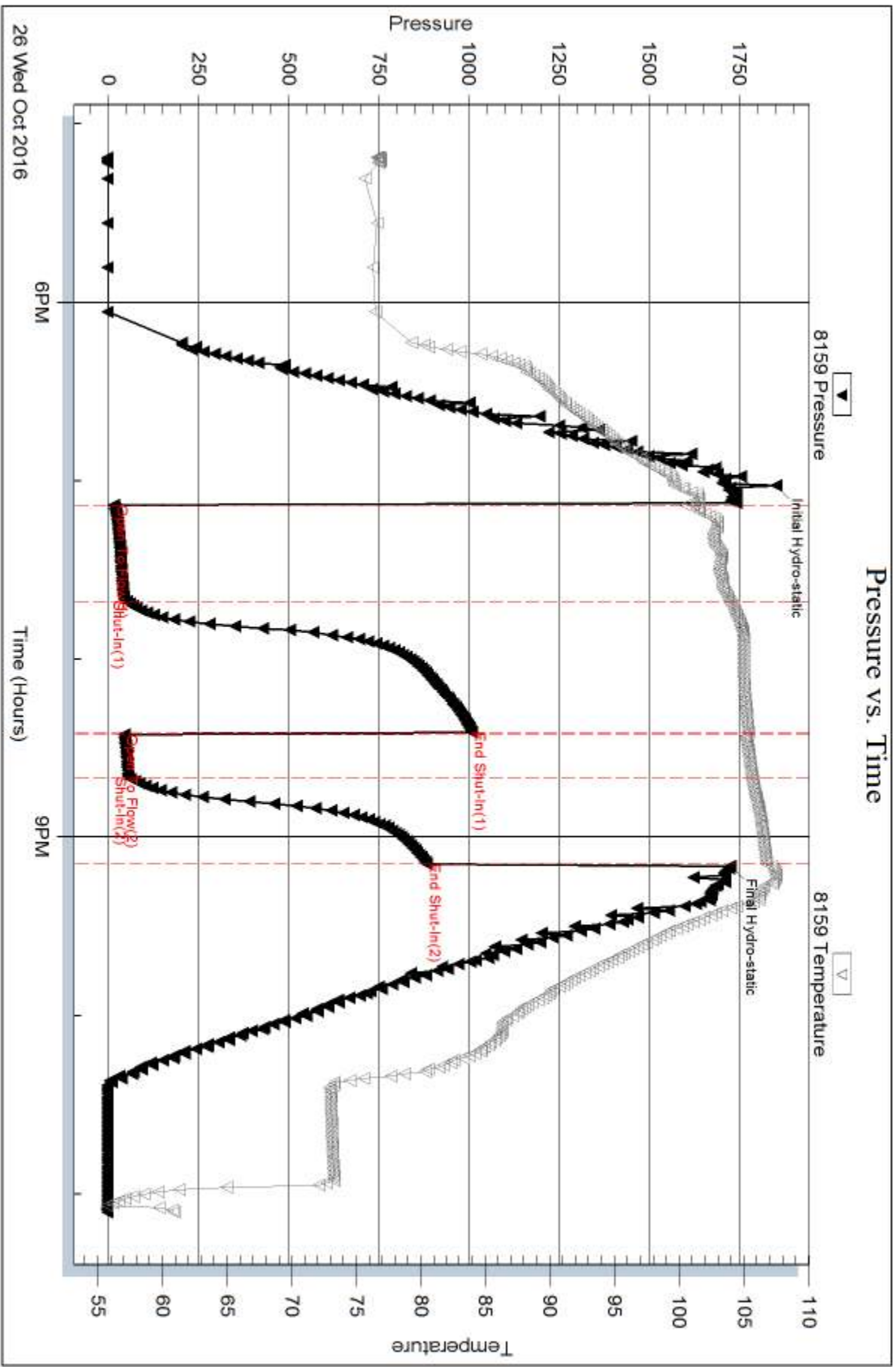
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 55.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.18 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 750.00 ppm			
Filter Cake: 0.02 inches			

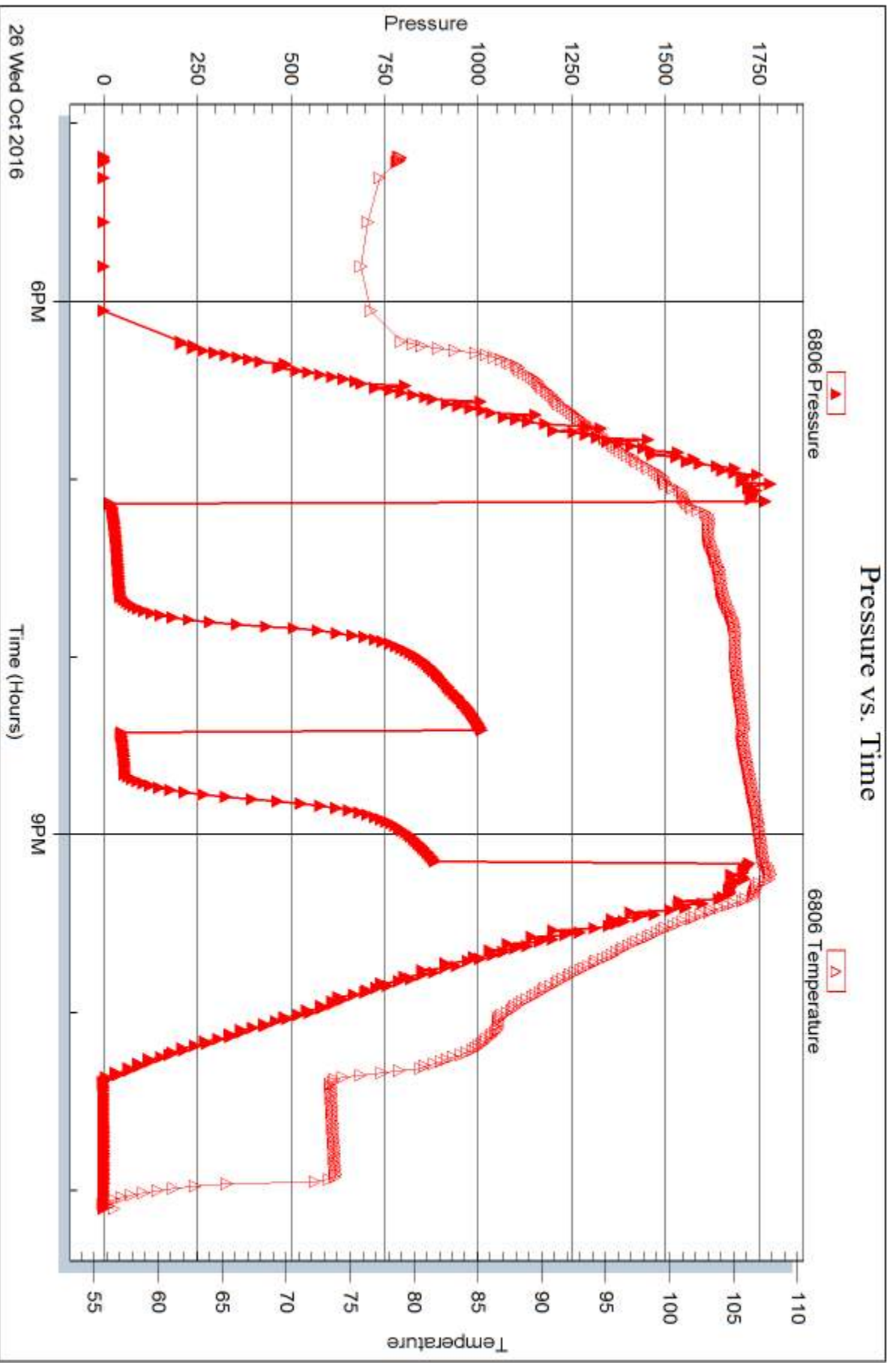
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
65.00	MCO 50%M 50%O	0.320

Total Length: 65.00 ft Total Volume: 0.320 bbl
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **Jaspar Co**

PO Box 1120
Hays, KS 67601

ATTN: Jeff Lawler

Greg Unit #1

21-6S-20W Rooks,KS

Start Date: 2016.10.27 @ 07:34:15

End Date: 2016.10.27 @ 13:55:15

Job Ticket #: 57964 DST #: 5

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

Printed: 2016.10.28 @ 09:56:22

Jaspar Co
21-6S-20W Rooks,KS
Greg Unit #1
DST # 5
Conglomerate Sand
2016.10.27



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Jaspar Co
PO Box 1120
Hays, KS 67601
ATTN: Jeff Lawler

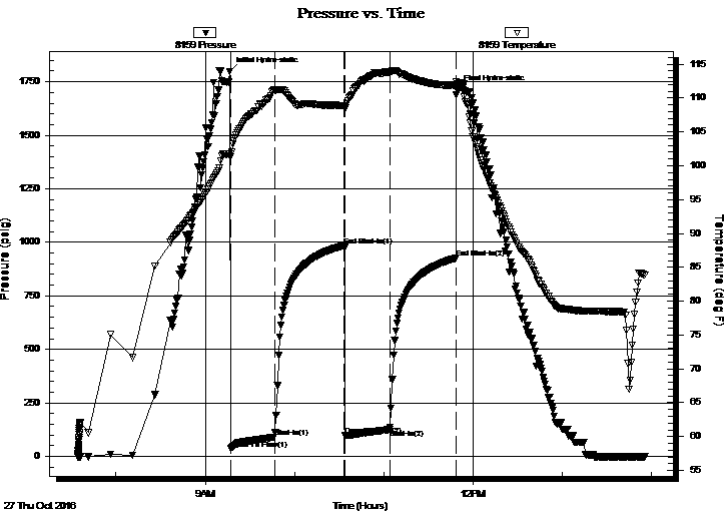
21-6S-20W Rooks,KS
Greg Unit #1
Job Ticket: 57964 **DST#: 5**
Test Start: 2016.10.27 @ 07:34:15

GENERAL INFORMATION:

Formation: **Conglomerate Sand**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 09:17:00
Time Test Ended: 13:55:15
Interval: **3635.00 ft (KB) To 3673.00 ft (KB) (TVD)**
Total Depth: 3673.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Reset)
Tester: Leal Cason
Unit No: 74
Reference Elevations: 2193.00 ft (KB)
2185.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8159 Inside
Press@RunDepth: 125.29 psig @ 3636.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2016.10.27 End Date: 2016.10.27 Last Calib.: 2016.10.27
Start Time: 07:34:16 End Time: 13:55:15 Time On Btm: 2016.10.27 @ 09:16:15
Time Off Btm: 2016.10.27 @ 11:49:15

TEST COMMENT: IF: Fair Blow , BOB in 28 minutes
IS: 1/2" Blow Back
FF: Fair Blow , Built to 7 1/2"
FS: 3/4" Blow Back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1798.53	101.73	Initial Hydro-static
1	34.89	101.30	Open To Flow (1)
31	91.00	111.25	Shut-In(1)
77	984.76	108.90	End Shut-In(1)
78	96.92	108.53	Open To Flow (2)
108	125.29	113.77	Shut-In(2)
152	926.34	111.89	End Shut-In(2)
153	1712.41	111.93	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	90 GIP	0.00
190.00	GMCO 10%G 25%M 65%O	1.57
92.00	MCO 25%M 75%O	1.29

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Jaspar Co
PO Box 1120
Hays, KS 67601
ATTN: Jeff Lawler

21-6S-20W Rooks, KS
Greg Unit #1
Job Ticket: 57964 **DST#: 5**
Test Start: 2016.10.27 @ 07:34:15

GENERAL INFORMATION:

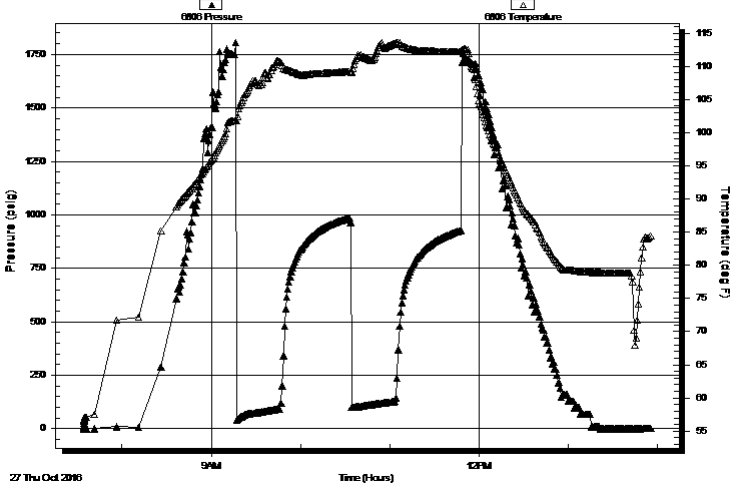
Formation: **Conglomerate Sand**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 09:17:00
Time Test Ended: 13:55:15
Interval: **3635.00 ft (KB) To 3673.00 ft (KB) (TVD)**
Total Depth: 3673.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Reference Elevations: 2193.00 ft (KB)
2185.00 ft (CF)
KB to GR/CF: 8.00 ft
Test Type: Conventional Bottom Hole (Reset)
Tester: Leal Cason
Unit No: 74

Serial #: 6806 Outside

Press@RunDepth: psig @ 3636.00 ft (KB)
Start Date: 2016.10.27 End Date: 2016.10.27
Start Time: 07:34:16 End Time: 13:55:15
Capacity: 8000.00 psig
Last Calib.: 2016.10.27
Time On Btm:
Time Off Btm:

TEST COMMENT: IF: Fair Blow , BOB in 28 minutes
IS: 1/2" Blow Back
FF: Fair Blow , Built to 7 1/2"
FS: 3/4" Blow Back

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
0.00	90 GIP	0.00
190.00	GMCO 10%G 25%M 65%O	1.57
92.00	MCO 25%M 75%O	1.29

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Jaspar Co
PO Box 1120
Hays, KS 67601
ATTN: Jeff Lawler

21-6S-20W Rooks,KS
Greg Unit #1
Job Ticket: 57964 **DST#: 5**
Test Start: 2016.10.27 @ 07:34:15

Tool Information

Drill Pipe:	Length: 3508.00 ft	Diameter: 3.80 inches	Volume: 49.21 bbl	Tool Weight: 2100.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 49.80 bbl</u>	Tool Chased ft
Drill Pipe Above KB:	12.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	3635.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	38.00 ft			
Tool Length:	57.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3621.00	
Hydraulic tool	5.00			3626.00	
Packer	5.00			3631.00	19.00 Bottom Of Top Packer
Packer	4.00			3635.00	
Stubb	1.00			3636.00	
Recorder	0.00	8159	Inside	3636.00	
Recorder	0.00	6806	Outside	3636.00	
Perforations	34.00			3670.00	
Bullnose	3.00			3673.00	38.00 Bottom Packers & Anchor
Total Tool Length:	57.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Jaspar Co
PO Box 1120
Hays, KS 67601
ATTN: Jeff Lawler

21-6S-20W Rooks,KS
Greg Unit #1
Job Ticket: 57964 **DST#: 5**
Test Start: 2016.10.27 @ 07:34:15

Mud and Cushion Information

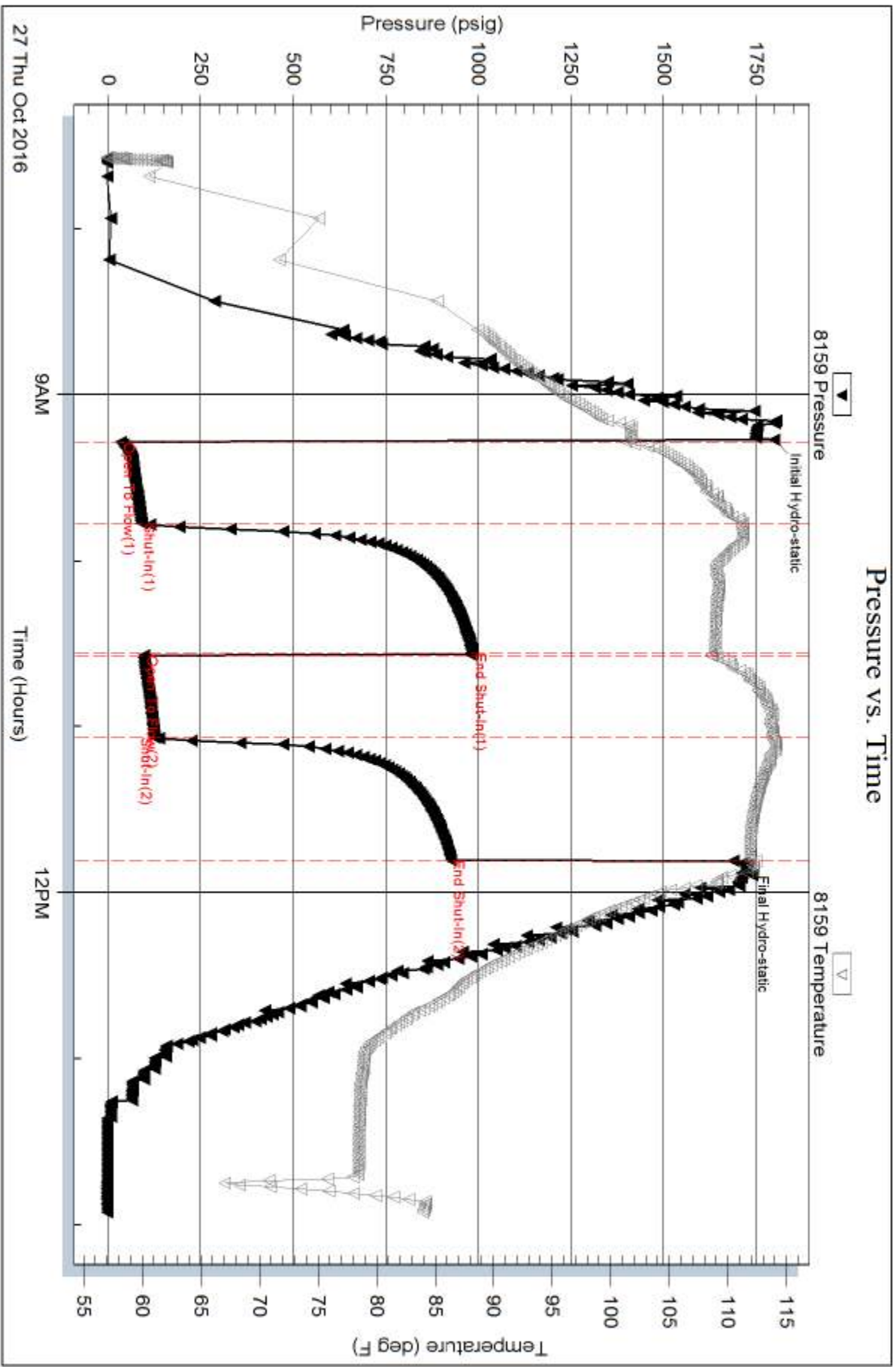
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 55.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.17 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 750.00 ppm			
Filter Cake: 0.02 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	90 GIP	0.000
190.00	GMCO 10%G 25%M 65%O	1.572
92.00	MCO 25%M 75%O	1.291

Total Length: 282.00 ft Total Volume: 2.863 bbl
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

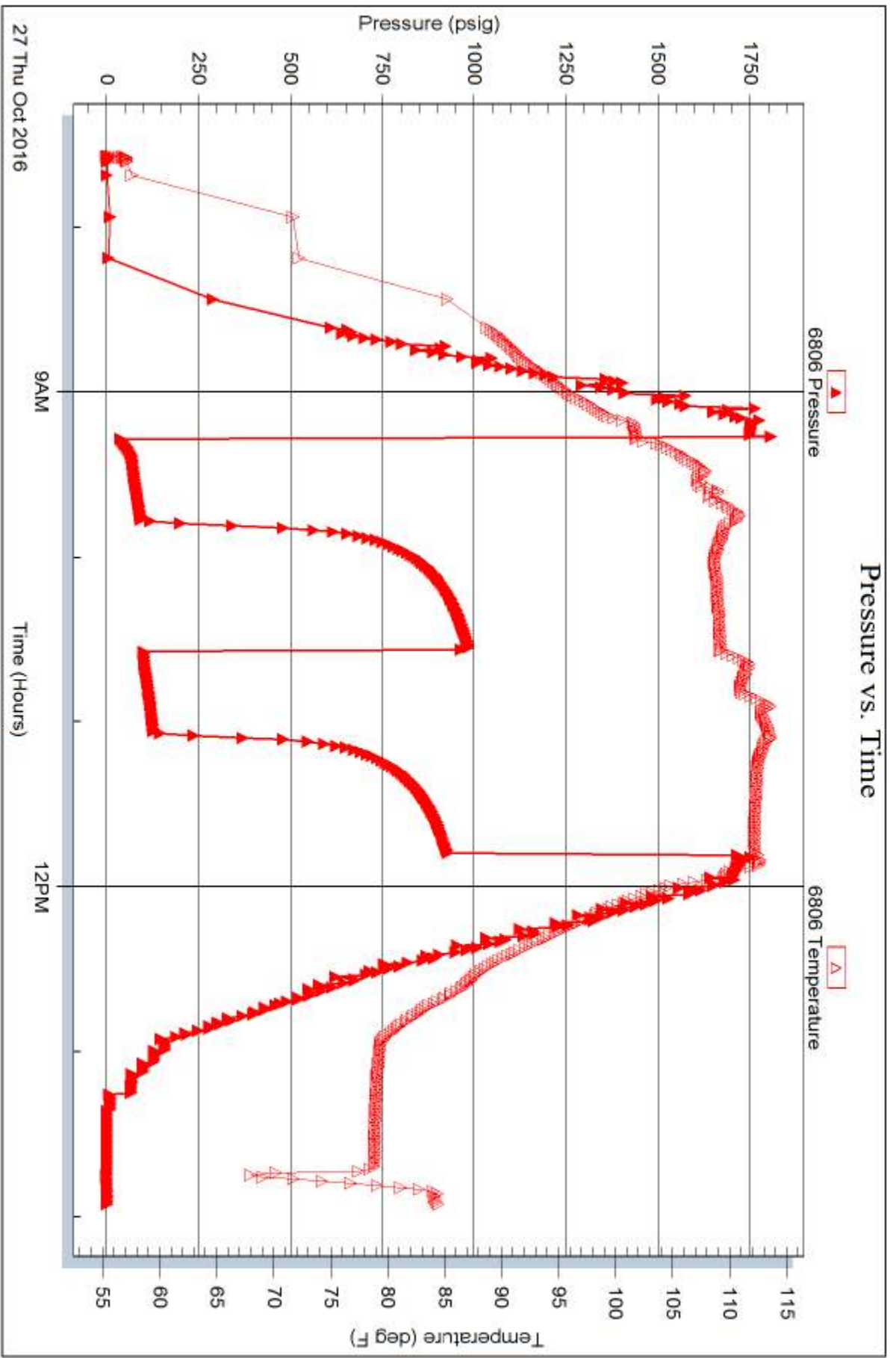


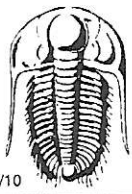
Serial #: 6806

Outside Jasper Co

Greg Unit #1

DST Test Number: 5





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57960

Well Name & No. ~~Greg~~ ^{Greg} Unit 1 Test No. 1 Date 10/25/16
 Company Jasper Co Elevation 2193 KB 2185 GL
 Address PO Box 1120 Hays, KS 67601
 Co. Rep / Geo. Jeff Lawler Rig WW 14
 Location: Sec. 21 Twp. ~~6S~~ 6S Rge. 20W Co. ROOKS State KS

Interval Tested 3497 - 3520 Zone Tested LKC "E-F"
 Anchor Length 23 Drill Pipe Run 3382 Mud Wt. 9.0
 Top Packer Depth 3492 Drill Collars Run 120 Vis 55
 Bottom Packer Depth 3497 Wt. Pipe Run 0 WL 7.2
 Total Depth 3520 Chlorides 750 ppm System LCM 1 1/2

Blow Description IF: weak surface blow, Flushed TOO!, weak surface blow
 ISI: NO Blow Back
 Pulled Test

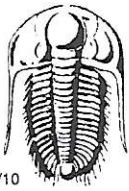
Rec	Feet of	%gas	%oil	%water	%mud
127	Mud				

Rec Total 127 BHT 109 Gravity N/C API RW N/C @ N/C °F Chlorides N/C ppm

(A) Initial Hydrostatic 1349	<input checked="" type="checkbox"/> Test 850	T-On Location 01:00
(B) First Initial Flow 90	<input checked="" type="checkbox"/> Jars NO JARS	T-Started 02:55
(C) First Final Flow 231 301	<input type="checkbox"/> Safety Joint	T-Open 05:39
(D) Initial Shut-In 793	<input type="checkbox"/> Circ Sub	T-Pulled 06:42
(E) Second Initial Flow N/A	<input type="checkbox"/> Hourly Standby	T-Out 08:19
(F) Second Final Flow N/A	<input checked="" type="checkbox"/> Mileage 1209 90	Comments Tool slid 15'
(G) Final Shut-In N/A	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic 1685 1685	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open 30	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In 30	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow N/A	<input type="checkbox"/> Extra Recorder	Sub Total 0
Final Shut-In N/A	<input type="checkbox"/> Day Standby	Total 940
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total 940	

Approved By Our Representative

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57961

Well Name & No. Greg Unit 1 Test No. 2 Date 10/25/16
 Company Jasper CO Elevation 2193 KB 2185 GL
 Address PO Box 1120 Hays, KS 67601
 Co. Rep / Geo. Jeff Lawler Rig WW14
 Location: Sec. 21 Twp. 6S Rge. 20W Co. Rooks State KS

Interval Tested 3497 - 3520 Zone Tested LKC E-F
 Anchor Length 23 Drill Pipe Run 338 Mud Wt. 9.0
 Top Packer Depth 3492 Drill Collars Run 120 Vis 55
 Bottom Packer Depth 3497 Wt. Pipe Run 0 WL 7.2
 Total Depth 3520 Chlorides 750 ppm System LCM 1 1/2
 Blow Description IF: weak surface Blow, Dead @ 4 minutes, Flushed tool, weak surface Blow
Dead @ 5 minutes
ISI: NO Blow

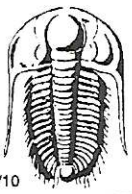
Rec	Feet of	%gas	%oil	%water	%mud
<u>2</u>	<u>mud</u>				

Rec Total 2 BHT 100 Gravity NIC API RW NIC @ NIC °F Chlorides NIC ppm

(A) Initial Hydrostatic <u>1729</u>	<input checked="" type="checkbox"/> Test <u>1050</u>	T-On Location <u>12:45</u>
(B) First Initial Flow <u>14</u>	<input type="checkbox"/> Jars	T-Started <u>12:55</u>
(C) First Final Flow <u>18</u>	<input type="checkbox"/> Safety Joint	T-Open <u>14:39</u>
(D) Initial Shut-In <u>200</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>15:41</u>
(E) Second Initial Flow <u>N/A</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>17:35</u>
(F) Second Final Flow <u>N/A</u>	<input checked="" type="checkbox"/> Mileage <u>120</u> <u>90</u>	Comments <u>Tool Slid 10'</u>
(G) Final Shut-In <u>N/A</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1739</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Open <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Flow <u>N/A</u>	<input type="checkbox"/> Day Standby	Total <u>1140</u>
Final Shut-In <u>N/A</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1140</u>	

Approved By [Signature] Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57962

Well Name & No. Greg Unit 1 Test No. 3 Date 10/26/16
 Company Jaspar Co Elevation 2193 KB 2185 GL
 Address PO Box 1120 Hays, KS 67601
 Co. Rep / Geo. Jeff Lawler Rig WW 14
 Location: Sec. 21 Twp. 6S Rge. 20W Co. Books State KS

Interval Tested 3545 - 3590 Zone Tested LKC "H+I"
 Anchor Length 45 Drill Pipe Run 3414 Mud Wt. 9.3
 Top Packer Depth 3540 Drill Collars Run 120 Vis 53
 Bottom Packer Depth 3545 Wt. Pipe Run 0 WL 7.6
 Total Depth 3590 Chlorides 750 ppm System LCM 2

Blow Description IF: weak 1 inch Blow
FSI: NO Blow Back
FF: NO Blow
FSD: NO Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>55</u>	<u>Mud</u>				

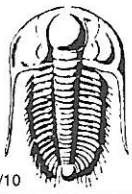
Rec Total 55 BHT 108 Gravity NIC API RW NIC @ NIC °F Chlorides NIC ppm

(A) Initial Hydrostatic 1705 Test 1150 T-On Location 02:30
 (B) First Initial Flow 25 Jars _____ T-Started 03:30
 (C) First Final Flow 35 Safety Joint _____ T-Open 05:07
 (D) Initial Shut-In 1148 Circ Sub _____ T-Pulled 07:42
 (E) Second Initial Flow 34 Hourly Standby _____ T-Out 09:11
 (F) Second Final Flow 41 Mileage (120) 90 Comments _____
 (G) Final Shut-In 1109 Sampler _____
 (H) Final Hydrostatic 1720 Straddle _____ Ruined Shale Packer _____

Initial Open 30 Shale Packer _____ Ruined Packer _____
 Initial Shut-In 45 Extra Packer _____ Extra Copies _____
 Final Flow 30 Extra Recorder _____ Sub Total 0
 Final Shut-In 45 Day Standby _____ Total 1140
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1140

Approved By [Signature] Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57963

Well Name & No. Greg Unit 1 Test No. 4 Date 10/26/16
 Company Jasper CO Elevation 2193 KB 2185 GL
 Address PO Box 1120 Hays, KS 67601
 Co. Rep / Geo. Jeff Lawler Rig WV 14
 Location: Sec. 21 Twp. 65 Rge. 20w Co. ROOKS State KS

Interval Tested 3590 - 3628 Zone Tested LKC " J+K
 Anchor Length 38 Drill Pipe Run 3476 Mud Wt. 9.1
 Top Packer Depth 3585 Drill Collars Run 120 Vis 46
 Bottom Packer Depth 3590 Wt. Pipe Run 0 WL 8.8
 Total Depth 3628 Chlorides 750 ppm System LCM 2

Blow Description IF: weak Blow, 1/2 inch, Died off to 1/16 inch
IST: NO Blow BACK
FF: weak 1 inch Blow
FSI: NO Blow BACK

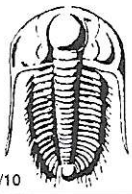
Rec	Feet of	%gas	%oil	%water	%mud
<u>65</u>	<u>MCO</u>		<u>50</u>	<u>50</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 65 BHT 107 Gravity N/C API RW N/C @ N/C °F Chlorides N/C ppm

(A) Initial Hydrostatic	<u>1852</u>	<input checked="" type="checkbox"/> Test	<u>1050</u>	T-On Location	<u>16:30</u>
(B) First Initial Flow	<u>17</u>	<input type="checkbox"/> Jars		T-Started	<u>17:11</u>
(C) First Final Flow	<u>52</u>	<input type="checkbox"/> Safety Joint		T-Open	<u>19:08</u>
(D) Initial Shut-In	<u>1010</u>	<input type="checkbox"/> Circ Sub		T-Pulled	<u>21:09</u>
(E) Second Initial Flow	<u>45</u>	<input type="checkbox"/> Hourly Standby		T-Out	<u>23:06</u>
(F) Second Final Flow	<u>57</u>	<input checked="" type="checkbox"/> Mileage	<u>120</u> 90	Comments	
(G) Final Shut-In	<u>882</u>	<input type="checkbox"/> Sampler			
(H) Final Hydrostatic	<u>1726</u>	<input type="checkbox"/> Straddle		<input type="checkbox"/> Ruined Shale Packer	
Initial Open	<u>30</u>	<input type="checkbox"/> Shale Packer		<input type="checkbox"/> Ruined Packer	
Initial Shut-In	<u>45</u>	<input type="checkbox"/> Extra Packer		<input type="checkbox"/> Extra Copies	
Final Flow	<u>15</u>	<input type="checkbox"/> Extra Recorder		Sub Total	<u>0</u>
Final Shut-In	<u>30</u>	<input type="checkbox"/> Day Standby		Total	<u>1140</u>
		<input type="checkbox"/> Accessibility		MP/DST Disc't	
		Sub Total	<u>1140</u>		

Approved By [Signature] Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 57964

Well Name & No. Greg Unit 1 Test No. 5 Date 10/27/16
 Company Jasper Co Elevation 2193 KB 2185 GL
 Address PO Box 1120 Hays, KS 67601
 Co. Rep / Geo. Jeff Lawler Rig WW14
 Location: Sec. 21 Twp. 6S Rge. 20W Co. Rooks State KS

Interval Tested 3635 - 3673 Zone Tested Conglomerate Sand
 Anchor Length 38 Drill Pipe Run 3508 Mud Wt. 9.1
 Top Packer Depth 3630 Drill Collars Run 120 Vis 58
 Bottom Packer Depth 3635 Wt. Pipe Run 0 WL 8.8
 Total Depth 3673 Chlorides 750 ppm System LCM 2

Blow Description IF: ~~FF~~ Fair Blow, BOB in 28 minutes
ISI: 1/2 inch Blow Back

FF: Fair Blow, Built to 7 1/2 inches

FST: 3/4 inch Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>90</u>	<u>GIP</u>				
<u>92</u>	<u>MCO</u>		<u>75</u>		<u>25</u>
<u>190</u>	<u>GMCO</u>	<u>10</u>	<u>65</u>		<u>25</u>

Rec Total 282 BHT 112 Gravity NIC API RW NIC @ NIC °F Chlorides NIC ppm

(A) Initial Hydrostatic 1799 Test 1050 T-On Location 07:30
 (B) First Initial Flow 35 Jars _____ T-Started 07:34
 (C) First Final Flow 91 Safety Joint _____ T-Open 09:17
 (D) Initial Shut-In 985 Circ Sub _____ T-Pulled 11:48
 (E) Second Initial Flow 97 Hourly Standby _____ T-Out 13:55
 (F) Second Final Flow 125 Mileage 120 90 Comments _____
 (G) Final Shut-In 926 Sampler _____
 (H) Final Hydrostatic 1712 Straddle _____

Ruined Shale Packer _____
 Shale Packer _____
 Ruined Packer _____
 Extra Packer _____
 Extra Copies _____
 Extra Recorder _____
 Sub Total 0
 Day Standby _____
 Total 1140
 Accessibility _____
 Sub Total 1140
 MP/DST Disc't _____

Approved By Jeff Paul Our Representative [Signature]

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QUALITY OILWELL CEMENTING, INC.

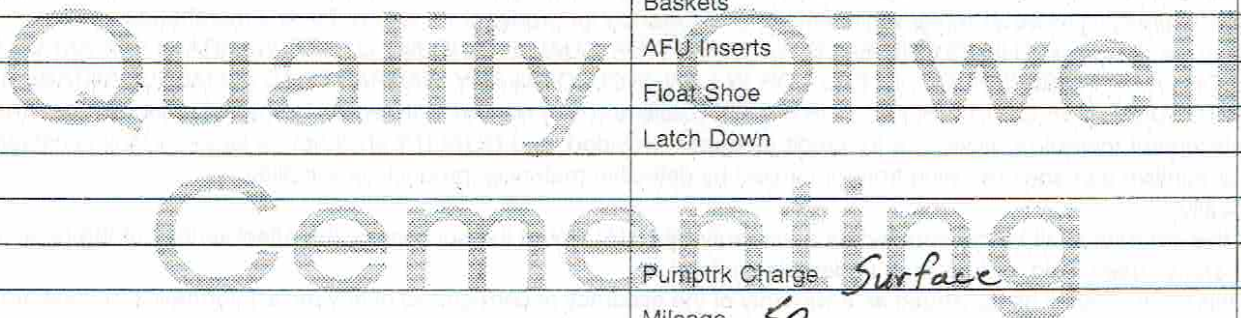
Federal Tax I.D.# 20-2886107

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

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

No. 3055

Date	Sec.	Twp.	Range	County	State	On Location	Finish
10-21-16	21	6	20	ROOKS	KS		8:15 p.m.
Lease <i>Carey unit</i>				Well No. 1		Owner	
Contractor <i>WOW #12</i>				To Quality Oilwell Cementing, Inc.			
Type Job <i>Surface</i>				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 <i>12 1/4</i>		T.D. <i>221</i>		Charge To <i>Jasper oil</i>			
Csg. <i>8 5/8</i>		Depth <i>220</i>		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. <i>15'</i>		Shoe Joint		Cement Amount Ordered <i>150 @ 20 3 1/2 2 1/2 4 1/2</i>			
Meas Line		Displace <i>13 BCL</i>					
EQUIPMENT				Common <i>120</i>			
Pumptrk <i>16</i>	No.	Cementer <i>Craig</i>		Poz. Mix <i>30</i>			
		Helper <i>Hick</i>		Gel. <i>3</i>			
Bulktrk	No.	Driver		Calcium <i>6</i>			
Bulktrk	No.	Driver <i>Bill</i>					
JOB SERVICES & REMARKS				Hulls			
Remarks:				Salt			
Rat Hole				Flowseal			
Mouse Hole				Kol-Seal			
Centralizers				Mud CLR 48			
Baskets				CFL-117 or CD110 CAF 38			
D/V or Port Collar				Sand			
<i>8 5/8 on bottom - 12 1/2" Circulation.</i>				Handling <i>159</i>			
<i>Mix 150 SK 9 Displace.</i>				Mileage			
<i>Cement Circulated!</i>				FLOAT EQUIPMENT			
				Guide Shoe			
				Centralizer			
				Baskets			
				AFU Inserts			
				Float Shoe			
				Latch Down			
				Pumptrk Charge <i>Surface</i>			
				Mileage <i>50</i>			
X Signature <i>Calvin [Signature]</i>				Tax			
				Discount			
				Total Charge			



QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

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

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

No. 3101

Date	10/28/11	Sec.	21	Twp.	6	Range	20	County	Rooks	State	Ks	On Location		Finish	8:45 AM
Lease								Location							
Greg Unit								Damar N to 24 3N 1E Logan Rd							
Contractor				Well No.				Owner				To Quality Oilwell Cementing, Inc.			
Ww Drilling				Ry # 12				IE 5N 1E 1/2 N				You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.			
Type Job				T.D.				Charge To							
Production				3673				Jasper Co.							
Hole Size				Depth				Street							
7 7/8				3670											
Csg.				Depth				City				State			
5 1/2 15.5				3670											
Tbg. Size				Depth				The above was done to satisfaction and supervision of owner agent or contractor.							
Tool				Shoe Joint				Cement Amount Ordered							
				43.46											
Cement Left in Csg.				Displace				Cement							
				88,495				425 4% QMOC 1/4 # Fl. 150 Gal 10% Salt							
Meas Line				EQUIPMENT				Common				5 # Gelborte			
				Pumptrk				150							
				No. Cementer				Poz. Mix				425 80% QMOC			
				16				Shane							
				Helper				Nick							
				Bulktrk				Gel.							
				21				Billy							
				No. Driver				Calcium							
				Bulktrk											
				15				Tim							
				JOB SERVICES & REMARKS				Hulls							
				Remarks:				Salt				13			
				Rat Hole				Flowseal				100 #			
				40 stks.				Kol-Seal				750 #			
				Mouse Hole				Mud CLR 48				500 Gal			
				Centralizers				CFL-117 or CD110 CAF 38							
				9 Centralizer				Sand							
				Baskets				Handling							
				6 Baskets				Mileage							
				D/V or Port Collar				FLOAT EQUIPMENT							
				Rat Hole 40 stks				Guide Shoe				FS			
				Tied on early mixed				Centralizer				9			
				500 Gal mud clean				Baskets				6			
				Mixed 395 stks + Tailed				AFU Inserts				1 Hatch Down			
				in with 150 stks Co				Float Shoe							
				Shut down wash truck				Latch Down				3626.54			
				+ lines Displaced 88661											
				Landed 9ly @ 1800psi				Pumptrk Charge				prod string			
				Float Held!				Mileage				50			
				Cement Circulated				Tax							
				Thanks!				Discount							
				Signature				Total Charge							
				Shane											