



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1224786
OIL & GAS CONSERVATION DIVISION

Form ACO-1

August 2013

Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

- New Well Re-Entry Workover
- Oil WSW SWD SIOW
- Gas D&A ENHR SIGW
- OG GSW Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic Other (Core, Expl., etc.): _____

If Workover/Re-entry: Old Well Info as follows:

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

- Deepening Re-perf. Conv. to ENHR Conv. to SWD
- Plug Back Conv. to GSW Conv. to Producer
- Commingled Permit #: _____
- Dual Completion Permit #: _____
- SWD Permit #: _____
- ENHR Permit #: _____
- GSW Permit #: _____

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No. 15 - _____

Spot Description: _____

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

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE NW SE SW

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

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite:

Operator Name: _____

Lease Name: _____ License #: _____

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

County: _____ Permit #: _____

AFFIDAVIT

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

Submitted Electronically

KCC Office Use ONLY

- Confidentiality Requested
Date: _____
- Confidential Release Date: _____
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT I II III Approved by: _____ Date: _____

1224786

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 <i>(Attach Additional Sheets)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Log	Formation (Top), Depth and Datum	<input type="checkbox"/> Sample
Samples Sent to Geological Survey	<input type="checkbox"/> Yes <input type="checkbox"/> No	Name	Top	Datum
Cores Taken	<input type="checkbox"/> Yes <input type="checkbox"/> No			
Electric Log Run	<input type="checkbox"/> Yes <input type="checkbox"/> No			
List All E. Logs Run:				

CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

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

Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? Yes No *(If No, fill out Page Three of the ACO-1)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD: Size: _____ Set At: _____ Packer At: _____ Liner Run: Yes No

Date of First, Resumed Production, SWD or ENHR: _____ Producing Method: Flowing Pumping Gas Lift Other *(Explain)* _____

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Vonfeldt, Alan J
Well Name	Michaelis 2
Doc ID	1224786

Perforations

Shots Per Foot	Perforation Record	Material Record	Depth
4	3146-49	250G 7 1/2% NE	
4	2958-60	250G 15% NE	
4	2909-13	250G 15% NE	
4	2890-94	250G 15% NE	
4	2870-74	250G 15% NE	
4	2820-22	250G 15% NE	

ALLIED OIL & GAS SERVICES, LLC 055313

Federal Tax I.D.# 20-5975804

REMIT TO P.O. BOX 31
RUSSELL, KANSAS 67665

SERVICE POINT:
Russell KS

DATE <u>9-5-14</u>	SEC. <u>33</u>	TWP. <u>14</u>	RANGE <u>13</u>	CALLED OUT	ON LOCATION	JOB START <u>730 PM</u>	JOB FINISH <u>800 PM</u>
Michaelis LEASE	WELL # <u>2</u>	LOCATION <u>Russell KS 3E 4S 1/2 E</u>			COUNTY <u>Russell</u>	STATE <u>KS</u>	
OLD OR NEW (Circle one)		<u>new</u>					

CONTRACTOR Royal Drilling #2

TYPE OF JOB surface

HOLE SIZE 12 1/4 T.D. 680

CASING SIZE 8 5/8 24" DEPTH 680

TUBING SIZE _____ DEPTH _____

DRILL PIPE _____ DEPTH _____

TOOL _____ DEPTH _____

PRES. MAX _____ MINIMUM _____

MEAS. LINE _____ SHOE JOINT 40

CEMENT LEFT IN CSG. 40

PERFS. _____

DISPLACEMENT 40.75

EQUIPMENT

PUMP TRUCK CEMENTER Robert V

409 HELPER Nathan D

BULK TRUCK

473 DRIVER Jon P

BULK TRUCK

_____ DRIVER _____

REMARKS:

see log

cement did circulate

CHARGE TO: Alan J VanFeldt

STREET _____

CITY _____ STATE _____ ZIP _____

OWNER _____

CEMENT

AMOUNT ORDERED 300 com 370 cc 27 cc

COMMON _____ @ _____

POZMIX _____ @ _____

GEL _____ @ _____

CHLORIDE _____ @ _____

ASC _____ @ _____

_____ @ _____

_____ @ _____

_____ @ _____

_____ @ _____

_____ @ _____

_____ @ _____

_____ @ _____

HANDLING _____ @ _____

MILEAGE _____

TOTAL _____

SERVICE

DEPTH OF JOB _____

PUMP TRUCK CHARGE _____

EXTRA FOOTAGE _____ @ _____

MILEAGE _____ @ _____

MANIFOLD _____ @ _____

_____ @ _____

_____ @ _____

TOTAL _____

PLUG & FLOAT EQUIPMENT

_____ @ _____

_____ @ _____

_____ @ _____

_____ @ _____

To: Allied Oil & Gas Services, LLC.
You are hereby requested to rent cementing equipment

ALLIED OIL & GAS SERVICES, LLC 055319

Federal Tax I.D.# 20-5975804

REMIT TO P.O. BOX 31
RUSSELL, KANSAS 67665

SERVICE POINT:
Russell KS

DATE <u>9-11-14</u>	SEC. <u>33</u>	TWP. <u>14</u>	RANGE <u>13</u>	CALLED OUT	ON LOCATION	JOB START <u>800 AM</u>	JOB FINISH <u>830 PM</u>
LEASE	WELL # <u>2</u>	LOCATION <u>Russell KS SE 75 1/4 NE 1/4</u>			COUNTY <u>Russell</u>	STATE <u>KS</u>	
OLD OR NEW (Circle one)							

CONTRACTOR Royal Drilling "2"
 TYPE OF JOB long string
 HOLE SIZE 7 7/8 T.D. 3208
 CASING SIZE 5 1/2 14" DEPTH 3208
 TUBING SIZE DEPTH
 DRILL PIPE DEPTH
 TOOL DEPTH
 PRES. MAX MINIMUM
 MEAS. LINE SHOE JOINT 14
 CEMENT LEFT IN CSG. 14
 PERFS.
 DISPLACEMENT 77.75

EQUIPMENT

PUMP TRUCK CEMENTER Robert Y
 # 409 HELPER Nathan D
 BULK TRUCK
 # 473 DRIVER Kevin R
 BULK TRUCK
 # DRIVER

REMARKS:
See log
can used pipe

CHARGE TO: Alan J. Von...
 STREET _____
 CITY _____ STATE _____ ZIP _____

OWNER

CEMENT
 AMOUNT ORDERED 200 ASC @ 5'6" section
per st 1 1/2 5/8 section 1 1/2 5/8 section
4 1/2 Gas Block 1 1/2 5/8 section
50 lbs A.C.

COMMON	@		
POZMIX	@		
GEL	@		
CHLORIDE	@		
ASC	<u>250 lbs</u>	@ <u>23.50</u>	<u>5875.00</u>
<u>Shovel 47"</u>	@	<u>2.97</u>	<u>139.59</u>
<u>Diamond 47"</u>	@	<u>9.80</u>	<u>460.60</u>
<u>CO 31 47"</u>	@	<u>10.30</u>	<u>481.10</u>
<u>C44 Gas Block 47"</u>	@	<u>23.50</u>	<u>1104.50</u>
	@		
	@		
	@		
	@		
HANDLING <u>250 lbs</u>	@	<u>2.48</u>	<u>620.00</u>
MILEAGE <u>118 miles</u>	@	<u>2.75</u>	<u>323.18</u>
TOTAL			<u>9522.92</u>

SERVICE

DEPTH OF JOB	<u>3208</u>	
PUMP TRUCK CHARGE	<u>2558.75</u>	
EXTRA FOOTAGE	@	
MILEAGE <u>10 LVMJ</u>	@ <u>440</u> <u>4400</u>	
MANIFOLD	@ <u>275.00</u> <u>275.00</u>	
<u>10 LVMJ</u>	@ <u>77.00</u> <u>770.00</u>	
	@	
TOTAL		<u>2754.75</u>

PLUG & FLOAT EQUIPMENT

<u>TRACU Float shoe</u>	@ <u>515.00</u>	<u>515.00</u>
<u>TR Hatch down</u>	@ <u>660.00</u>	<u>660.00</u>
<u>WE Turbators (4)</u>	@ <u>95.00</u>	<u>380.00</u>
<u>WE Baskets (1)</u>	@ <u>395.00</u>	<u>395.00</u>

To: Allied Oil & Gas Services, LLC.
 You are hereby requested to rent cementing equipment

OPERATOR

Company: ALAN VONFELDT OIL
 Address: P.O. BOX 611
 RUSSELL, KS 67665-2808

Contact Geologist: ALAN VONFELDT
 Contact Phone Nbr: 785-483-0252
 Well Name: MICHAELIS #2
 Location: NW SE NE SW S33 T14S R13W
 API: 15-167-23999-00-00
 Pool:
 State: KANSAS

Field: HALL-GURNEY
 Country: USA

Scale 1:240 Imperial

Well Name: MICHAELIS #2
 Surface Location: NW SE NE SW S33 T14S R13W
 Bottom Location:
 API: 15-167-23999-00-00
 License Number: 7281
 Spud Date: 9/4/2014 Time: 2:28 PM
 Region: RUSSELL COUNTY
 Drilling Completed: 9/11/2014 Time: 2:36 AM
 Surface Coordinates: 1700 FSL & 2284 FWL
 Bottom Hole Coordinates:
 Ground Elevation: 1718.00ft
 K.B. Elevation: 1725.00ft
 Logged Interval: 2150.00ft To: 3213.00ft
 Total Depth: 3213.00ft
 Formation: LANSING-KANSAS CITY
 Drilling Fluid Type: CHEMICAL/ FRESH WATER GEL

SURFACE CO-ORDINATES

Well Type: Vertical
 Longitude: -98.7724387
 Latitude: 38.7885638
 N/S Co-ord: 1700 FSL
 E/W Co-ord: 2284 FWL

LOGGED BY

Company: SOLUTIONS CONSULTING, INC.
 Address: 108 W 35TH
 HAYS, KS 67601

Phone Nbr: (785) 639-1337
 Logged By: GEOLOGIST

Name: STEVE REED

CONTRACTOR

Contractor: ROYAL DRILLING
 Rig #: 2
 Rig Type: MUD ROTARY
 Spud Date: 9/4/2014 Time: 2:28 PM
 TD Date: 9/11/2014 Time: 2:36 AM
 Rig Release: 9/12/2014 Time: 12:00 PM

ELEVATIONS

K.B. Elevation: 1725.00ft Ground Elevation: 1718.00ft
 K.B. to Ground: 7.00ft

NOTES

BASED ON MODERATE RESULTS OF DRILL STEM TESTS ONE AND THREE AND THE POSITIVE STRUCTURAL POSITION TO SURROUNDING WELLS, THE DECISION WAS MADE TO SET 4.5" PRODUCTION CASING TO

FURTHER TEST THE PRODUCTIVITY OF THE WELL.

OPEN HOLE LOGGING PROVIDED BY: PIONEER ENERGY SERVICES
DUAL INDUCTION LOG, DUAL COMPENSATED POROSITY LOG, AND MICRORESISTIVITY LOGS
WERE COMPLETED

DRILL STEM TESTING PROVIDED BY: TRILOBITE TESTING
THREE (3) CONVENTIONAL TESTS WERE PERFORMED

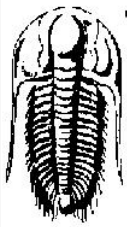
FORMATION TOPS COMPARISON AND DAILY ACTIVITY SUMMARY

	WELL NAME		COMPARISON WELL	COMPARISON WELL
	MICHAELIS #2		MICHAELIS #1	CARTER #15
	API: 15-167-23999		API: 15-167-23967	API: 15-167-22101
FORMATION	SAMPLE TOPS	LOG TOPS	LOG TOPS (DATUM)	LOG TOPS (DATUM)
GRAND HAVEN	2226' (-501')	2223' (-498')	-501'	-496'
STOTLER/TARKIO LM	2295' (-570')	2294' (-569')	-572'	-566'
TOPEKA	2571' (-846')	2571' (-846')	-852'	-842'
HEEBNER	2800' (-1075')	2799' (-1074')	-1084'	-1074'
LKC	2867' (-1142')	2867' (-1142')	-1143'	-1140'
BKC	3129' (-1404')	3127' (-1402')	-1409'	-1402'
ARBUCKLE	3150' (-1425')	3150' (-1425')	-1433'	NA
RTD	3213' (-1488')	3213' (-1488')	-1485'	-1415'

SUMMARY OF DAILY ACTIVITY

- 9-4-14** R.U., spud @ 3:00pm, drilling 153', hit very hard section, slow drilling
- 9-5-14** 153'', 8 5/8" surface casing set at 680' w/300 sxs common, 2% gel, 3%cc, plug down @ 7:30pm, WOC
- 9-6-14** 918', drilling
- 9-7-14** 1979', drilling, displaced 2172-2195
- 9-8-14** 2690', drilling, CFS @ 2917, short trip, CTCH, TOWB, survey 1 1/4°, strap 1.66 short to board, DST #1 2795' to 2917'
- 9-9-14** 2917', drilling, CFS @ 2965', TOWB for DST #2 2917' to 2965', CFS @ 3025, CFS @ 3070
- 9-10-14** 3070', drilling, CFS @ 3146, CFS @ 3156, TOWB for DST #3 3124 to 3156, TD of 3213 reached @ 2:35am. CTCH, prepare for logging
- 9-11-14** 3213', logging, prepare to set 4.5" production casing
- 9-12-14** release rig

DST # 1 SUMMARY

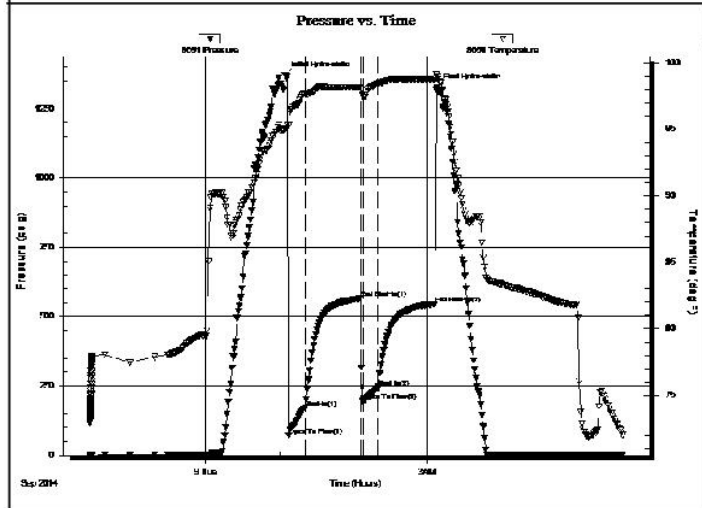
 TRILOBITE TESTING, INC.	DRILL STEM TEST REPORT	
	Alan Vonfeldt PO Box 611 Russell, KS 67665 ATTN: Steve Reed/Herb Dein	33-14S-13W Russell, KS Michaelis #2 Job Ticket: 60901 DST#:1 Test Start: 2014.09.08 @ 22:25:52

GENERAL INFORMATION:

Formation: Toronto- LKC"C"	Test Type: Conventional Bottom Hole (Initial)
Deviated: No Whipstock: ft (KB)	Tester: Brannan Lonsdale
Time Tool Opened: 01:07:22	Unit No: 62
Time Test Ended: 05:38:52	Reference Elevations: 1725.00 ft (KB)
Interval: 2795.00 ft (KB) To 2917.00 ft (KB) (TVD)	1718.00 ft (CF)
Total Depth: 2917.00 ft (KB) (TVD)	KB to GR/CF: 7.00 ft
Hole Diameter: 7.88 inches Hole Condition: Fair	

Serial #: 8651	Inside				
Press@RunDepth: 242.64 psig @ 2796.00 ft (KB)	Capacity: 8000.00 psig				
Start Date: 2014.09.08	End Date: 2014.09.09	Last Calib.: 2014.09.09			
Start Time: 22:25:53	End Time: 05:38:52	Time On Btm: 2014.09.09 @ 01:04:22			
		Time Off Btm: 2014.09.09 @ 03:07:52			

TEST COMMENT: 15- IF- BOB 2mins
 45- IS- Weak surface blow died after 20mins
 15- FF- BOB 1min
 45- FS- BOB 8mins Gas to surface while bleeding off

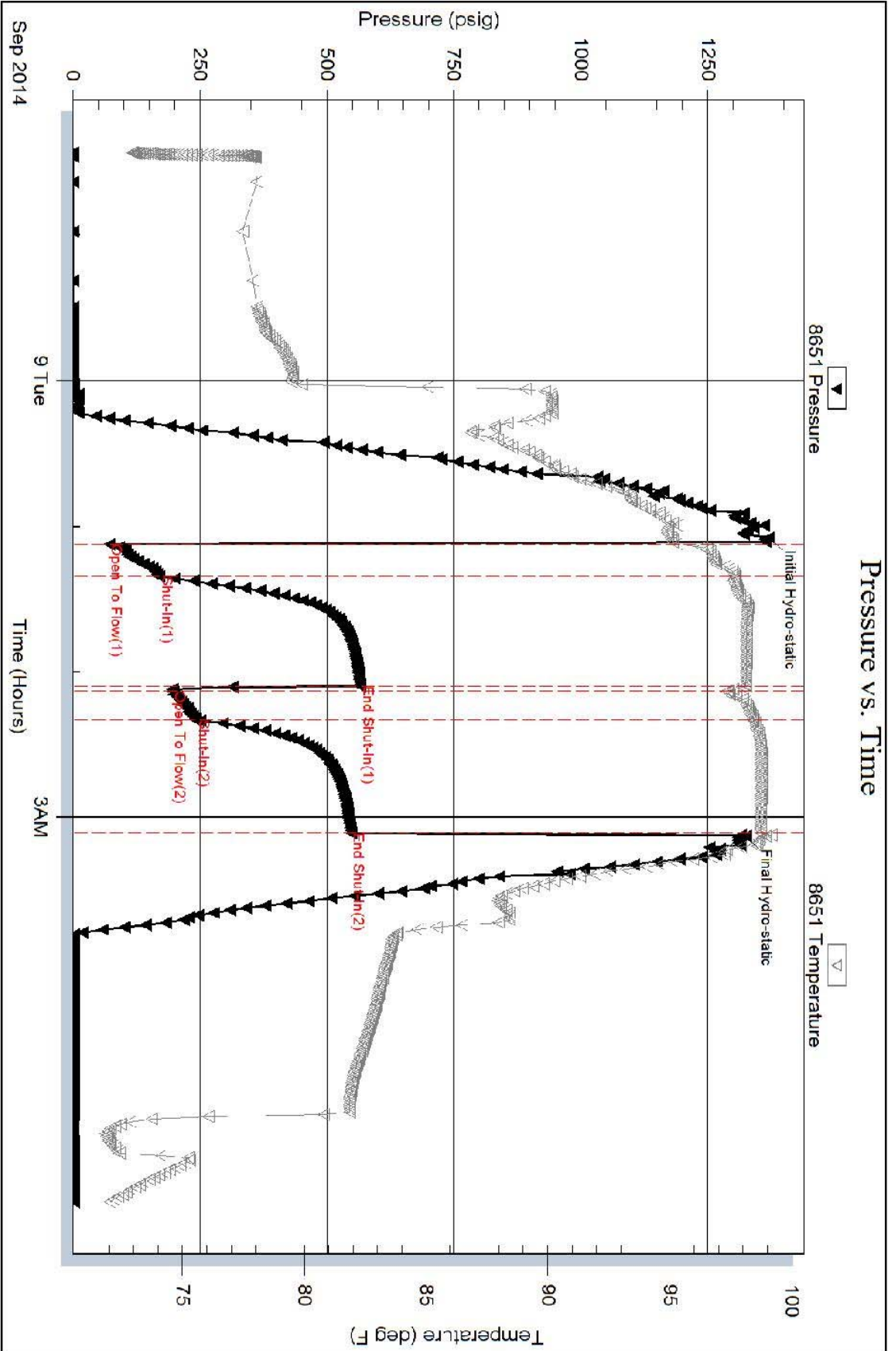


PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1371.42	95.04	Initial Hydro-static
3	70.81	95.29	Open To Flow (1)
16	170.47	97.65	Shut-In(1)
62	565.27	98.13	End Shut-In(1)
64	195.08	97.38	Open To Flow (2)
76	242.64	98.42	Shut-In(2)
122	547.02	98.73	End Shut-In(2)
124	1324.91	98.92	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
64.00	M	0.87
322.00	V GSWOCM, 45%G 35%O 5%W 15%M	4.40
0.00	2411' GIP	0.00

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

DST # 1 PRESSURE VS TIME CHART



Serial #: 8651

Inside

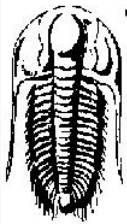
Alan Vorfeldt

Michaels #2

DST Test Number: 1

Pressure vs. Time

DST #2 SUMMARY

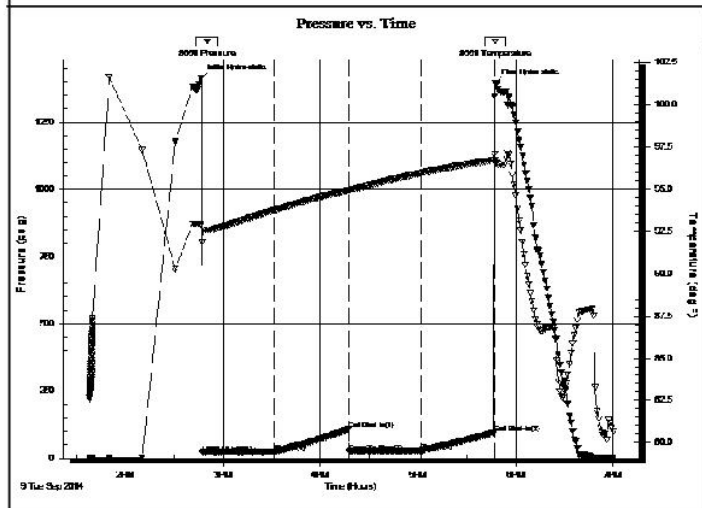
 TRILOBITE TESTING, INC.	DRILL STEM TEST REPORT		
	Alan Vonfeldt PO Box 611 Russell, KS 67665 ATTN: Steve Reed	33-14S-13W Russell, KS Michaelis #2 Job Ticket: 60902 DST#:2 Test Start: 2014.09.09 @ 13:37:42	

GENERAL INFORMATION:

Formation: LKC "D-F"	Test Type: Conventional Bottom Hole (Reset)
Deviated: No Whipstock: ft (KB)	Tester: Brannan Lonsdale
Time Tool Opened: 14:47:12	Unit No: 62
Time Test Ended: 19:00:12	Reference Elevations: 1725.00 ft (KB)
Interval: 2917.00 ft (KB) To 2965.00 ft (KB) (TVD)	1718.00 ft (CF)
Total Depth: 2965.00 ft (KB) (TVD)	KB to GR/CF: 7.00 ft
Hole Diameter: 7.88 inches Hole Condition: Fair	

Serial #: 8651	Inside		
Press@RunDepth: 27.31 psig @ 2918.00 ft (KB)	Capacity: 8000.00 psig		
Start Date: 2014.09.09	End Date: 2014.09.09	Last Calib.: 2014.09.09	
Start Time: 13:37:43	End Time: 19:00:12	Time On Btm: 2014.09.09 @ 14:46:42	
		Time Off Btm: 2014.09.09 @ 17:47:42	

TEST COMMENT: 45- IF- Slowly built to 1.75"
 45- IS- No blow
 45- FF- Surface blow
 45- FS- No blow




PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1414.53	92.87	Initial Hydro-static
1	21.28	91.84	Open To Flow (1)
45	23.66	93.74	Shut-In(1)
91	106.64	94.92	End Shut-In(1)
91	22.82	94.93	Open To Flow (2)
135	27.31	95.94	Shut-In(2)
180	94.06	96.71	End Shut-In(2)
181	1396.83	96.70	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
20.00	SOCM, 5%O 95%M	0.27

* Recovery from multiple tests

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

DST #3 SUMMARY

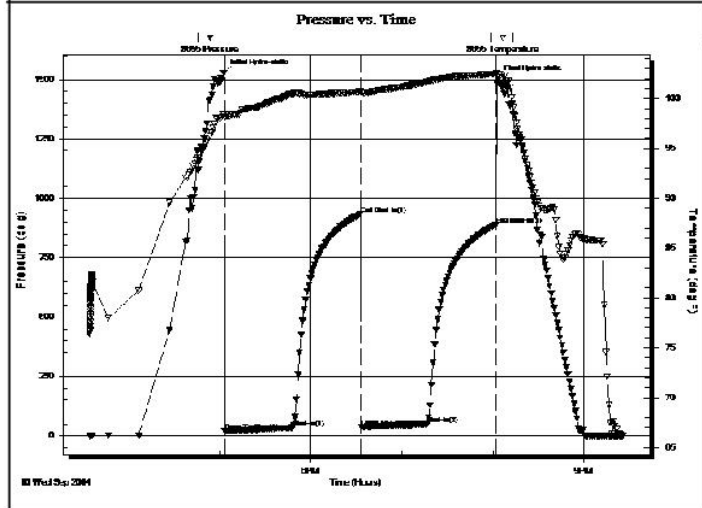
	DRILL STEM TEST REPORT	
	Alan Vonfeldt PO Box 611 Russell, KS 67665 ATTN: Steve Reed	33-14S-13W Russell, KS Michaelis #2 Job Ticket: 60903 DST#: 3 Test Start: 2014.09.10 @ 15:34:00

GENERAL INFORMATION:

Formation: Arbuckle	Test Type: Conventional Bottom Hole (Reset)
Deviated: No Whipstock: ft (KB)	Tester: Brannan Lonsdale
Time Tool Opened: 17:03:00	Unit No: 62
Time Test Ended: 21:25:30	Reference Elevations: 1725.00 ft (KB)
Interval: 3124.00 ft (KB) To 3156.00 ft (KB) (TVD)	1718.00 ft (CF)
Total Depth: 3156.00 ft (KB) (TVD)	KB to GR/CF: 7.00 ft
Hole Diameter: 7.88 inches Hole Condition: Fair	

Serial #: 8655	Outside		
Press@RunDepth: 49.89 psig @ 3125.00 ft (KB)	Capacity: 8000.00 psig		
Start Date: 2014.09.10	End Date: 2014.09.10	Last Calib.: 2014.09.10	
Start Time: 15:34:01	End Time: 21:25:30	Time On Btm: 2014.09.10 @ 17:02:30	
		Time Off Btm: 2014.09.10 @ 20:03:30	

TEST COMMENT: 45- IF- Slowly built to 4"
 45- IS- No blow
 45- FF- Slowly built to 2"
 45- FS- No blow



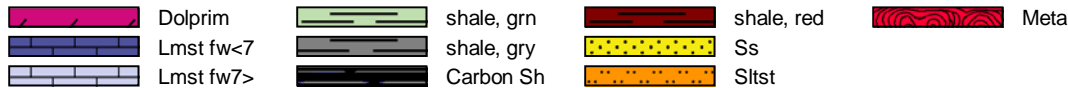
PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1527.75	98.39	Initial Hydro-static
1	19.50	98.15	Open To Flow (1)
46	35.13	100.49	Shut-In(1)
90	932.37	100.69	End Shut-In(1)
91	37.73	100.54	Open To Flow (2)
134	49.89	101.65	Shut-In(2)
180	889.27	102.46	End Shut-In(2)
181	1502.03	102.43	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
15.00	CO	0.20
80.00	MW, 15%M 85%W	1.09

* Recovery from multiple tests

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

ROCK TYPES



ACCESSORIES

MINERAL

- ▲ Chert, dark
- ∩ Glauconite
- P Pyrite
- Mc Mica

FOSSIL

- ◇ Brachiopod
- F Fossils < 20%
- Oolite
- ⊕ Oomoldic
- ⊕ Fossilinid

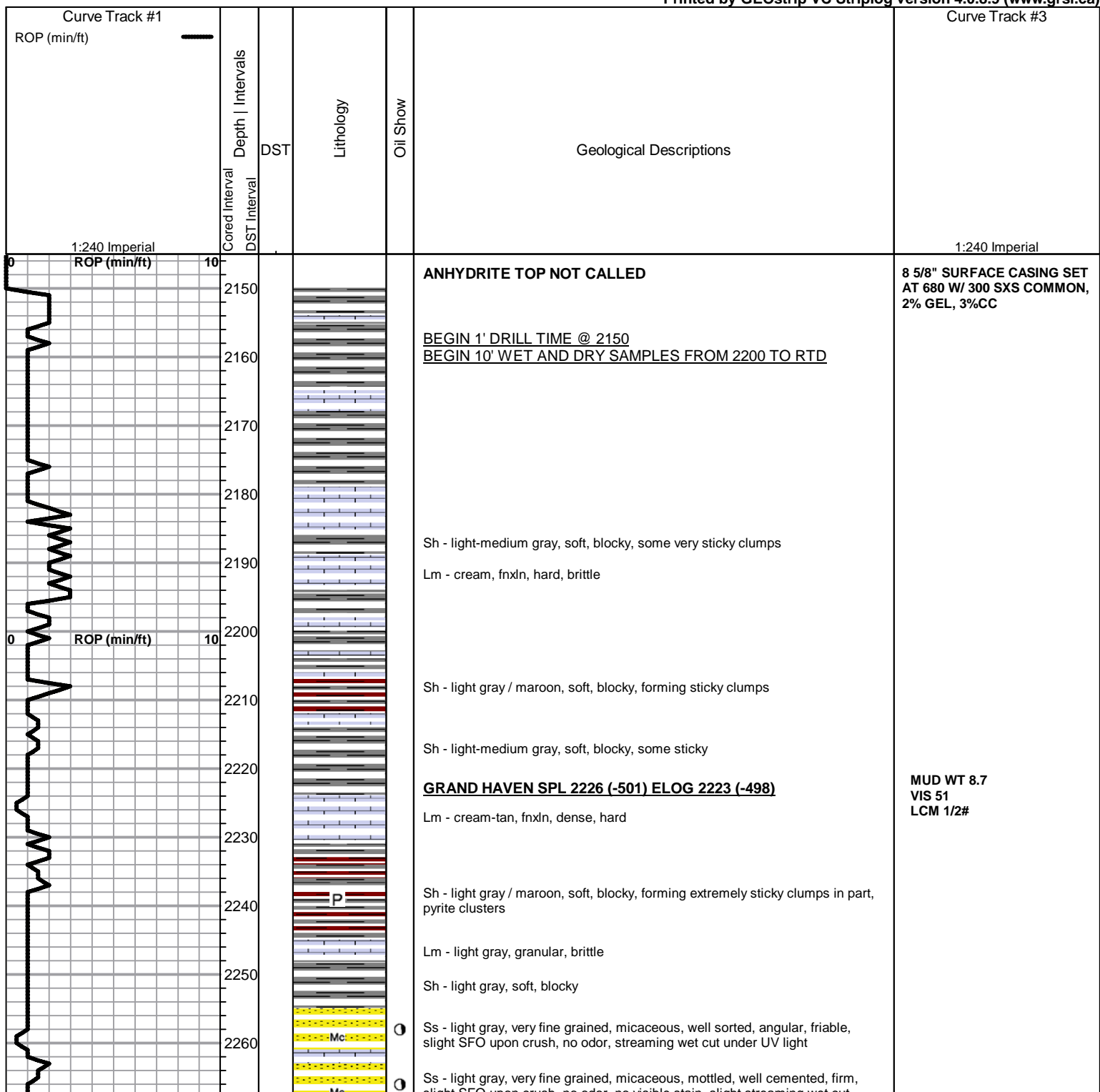
STRINGER

- ~~~~ Chert

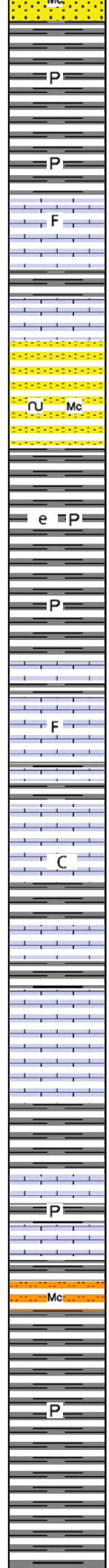
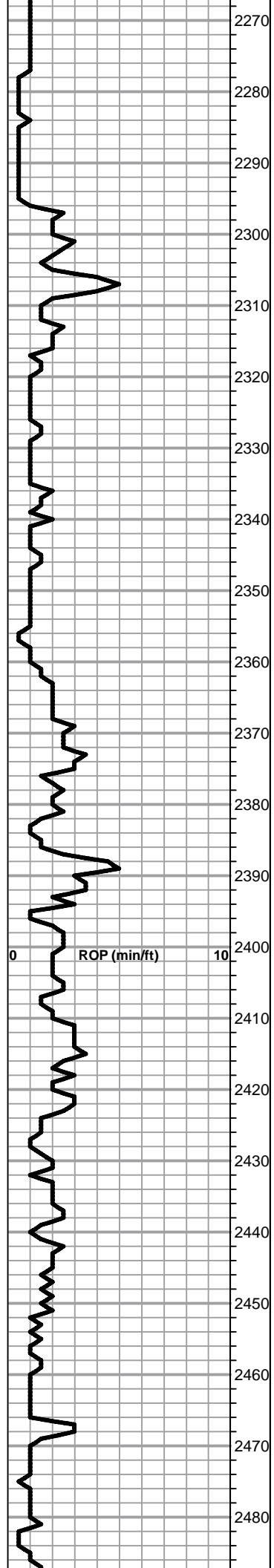
TEXTURE

- C Chalky
- e Earthy
- L Lithogr

Printed by GEOstrip VC Striplog version 4.0.8.9 (www.grsi.ca)



Slight SFO upon crush, no odor, no visible stain, slight streaming wet cut



Sh - light gray, soft, blocky, silty, pyrite clusters

Sh - light-medium gray, soft, blocky, pyrite

STOTLER / TARKIO LM SPL 2295 (-570) ELOG 2294 (-569)

Lm - cream, slightly fossiliferous, fnxln, hard, brittle

Sh - medium gray, soft, blocky

Lm - tan-medium brown, fnxln, brittle

Ss - light gray, micaceous, glauconitic, very fine grained, well sorted, angular, friable, slight scattered stain, faint odor, Streaming wet cut under UV light, free oil specks upon crush

Sh - light gray, soft, blocky, gritty, silty, earthy, pyrite inclusions

Sh - dark gray, soft, blocky, silty, sticky clumps, pyrite

Lm - light gray-tan, slightly fossiliferous, fnxln, dense, hard

Sh - light-medium gray, soft, blocky

Lm - tan, fn-medxln, brittle, chalky

Lm - medium brown, fnxln, dense, hard

Lm - light gray, fnxln, slightly fossiliferous, brittle

Lm - cream-light gray, fnxln, mottled, dark fossil clasts, hard, brittle

Sh - medium gray, soft, blocky, some sticky

Sh - light-medium gray, soft, blocky, pyrite

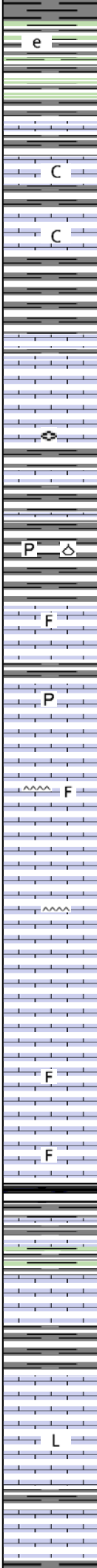
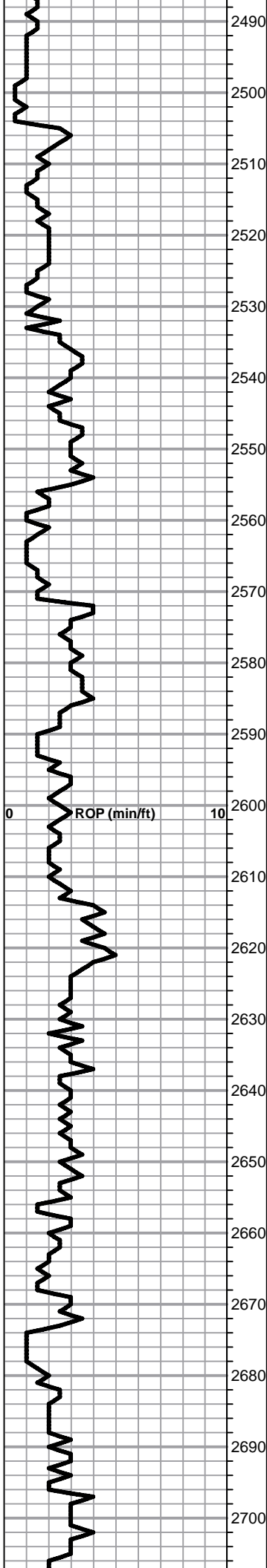
Siltstone - light gray, micaceous, fine grained, well cemented, firm

Sh - dark gray, soft, blocky

Sh - medium gray, soft, blocky, gritty, pyrite

Sh - light gray, silty, black specks, soft, blocky, forming sticky clumps in part

Tarkio Sands should be perforated and tested prior to abandonment of well



Sh - light-greenish-gray, earthy, soft, blocky, sticky clumps in part, gritty

C Lm - cream-medium brown, medxn, firm, chalky in part

C Lm - cream-tan, slightly fossiliferous, chalky in part, brittle

Sh - medium gray, blocky and firm

Lm - cream-light brown, fnxln, dense, hard

Lm - cream-light gray, fnxln, dense, very hard, brittle, fusilinids

P Sh - medium gray, soft, blocky, pyrite, brachiopod

TOPEKA SPL 2571 (-846) ELOG 2571 (-846)

F Lm - cream, fnxln, fossiliferous, dense, hard

Sh - dark gray, soft, blocky

P Lm - cream-light gray, fnxln, hard, brittle, bedded chalk in part, pyrite

F Lm - tan-medium brown, fnxln, slightly fossiliferous, brittle, bedded chalk in part, slightly cherty

Lm - light-medium brown, vfxln, dense, hard, cherty, brittle

Lm - cream-light gray, fnxln, hard, brittle, slightly fossiliferous, slight bedded chalk

F Lm - tan-cream-light gray, slightly fossiliferous, fnxln, dense, hard, bedded chalk

F Lm - cream-gray, fnxln, slightly fossiliferous, bedded chalk

Sh - black, carbonaceous, waxy, soft

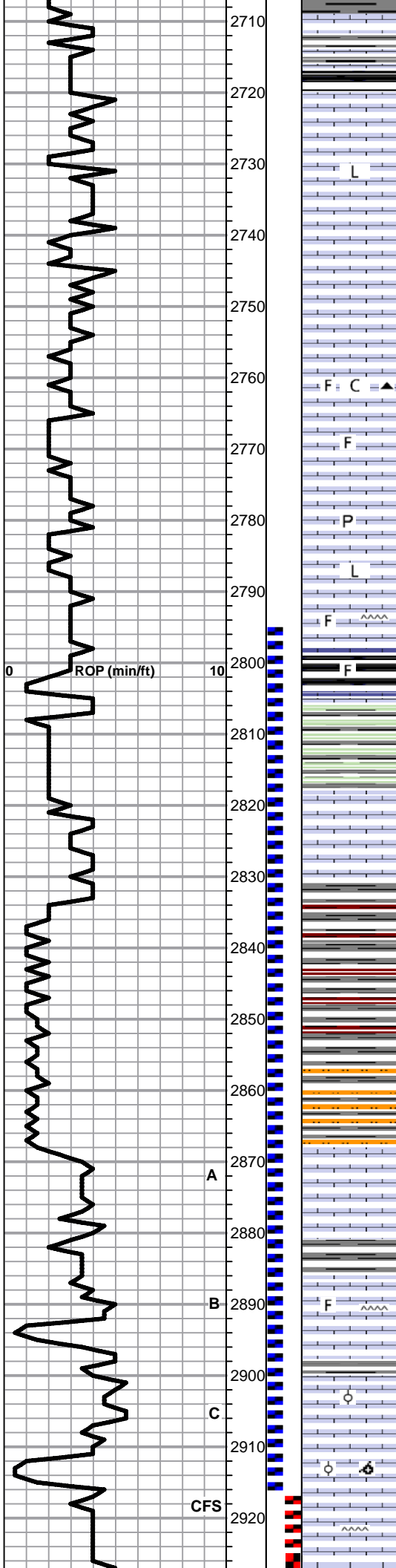
Sh - greenish gray, soft, blocky

Lm - tan-light brown, fnxln to lithographic in part, brittle

Sh - light gray, firm, blocky

L Lm - cream-tan, fnxln to lithographic, dense, brittle, bedded chalk in part

Sh - medium gray, black specks, gritty, soft, blocky



Sh - light gray, firm, blocky, pyrite

Sh - black, carbonaceous, waxy

Lm - cream-light brown, lithographic, dense, very hard

Lm - cream-tan, fnxn, slightly fossiliferous, dense, hard

Lm - tan-light gray, fossil fragments, medxn, brittle

Lm - cream-tan, granular with secondary recrystallization, brittle, slightly chalky, slightly fossiliferous, black chert, no shows

Lm - cream-light gray/brown, fossil porosity, firm, slight gilsonitic stain, NSFO, no odor

Lm - tan-cream, fnxn, dense, brittle, pyrite

Lm - cream-light brown, fnxn to lithographic in part, dense, very hard

Lm - tan-light brown, fossiliferous, secondary recrystallization, dense, very hard, cherty

HEEBNER SPL 2800 (-1075) ELOG 2799 (-1074)

Sh - black, carbonaceous, waxy

Sh - greenish gray, soft, blocky, some sticky clumps

TORONTO SPL 2819 (-1094) ELOG 2817 (-1092)

Lm - offwhite, scattered fine pinpoint porosity, light golden brown scattered stain, no odor, NSFO, streaming wet cut under UV light

DOUGLAS SH ELOG 2831 (-1106)

Sh - light-medium gray, soft, blocky, maroon soft sticky clumps throughout

Sh - medium gray, soft, blocky, silty, gritty

LKC SPL 2867 (-1142) ELOG 2867 (-1142)

Lm - cream, granular in part, mostly fnxn, dense, hard, scattered pinpoint porosity in some, good streaming wet cut, NSFO, no odor

Lm - cream, fnxn to granular, hard, brittle

Lm - cream-tan, slightly fossiliferous, brittle, bedded chalk in part, slightly cherty

Lm - cream, oolitic, poorly developed, dense, hard, bedded chalk in some

Lm - cream, oolitic / oomoldic, faint odor, slight scattered stain, SFO upon crush, light streaming wet cut

Lm - cream, fnxn, dense, very hard, slightly cherty

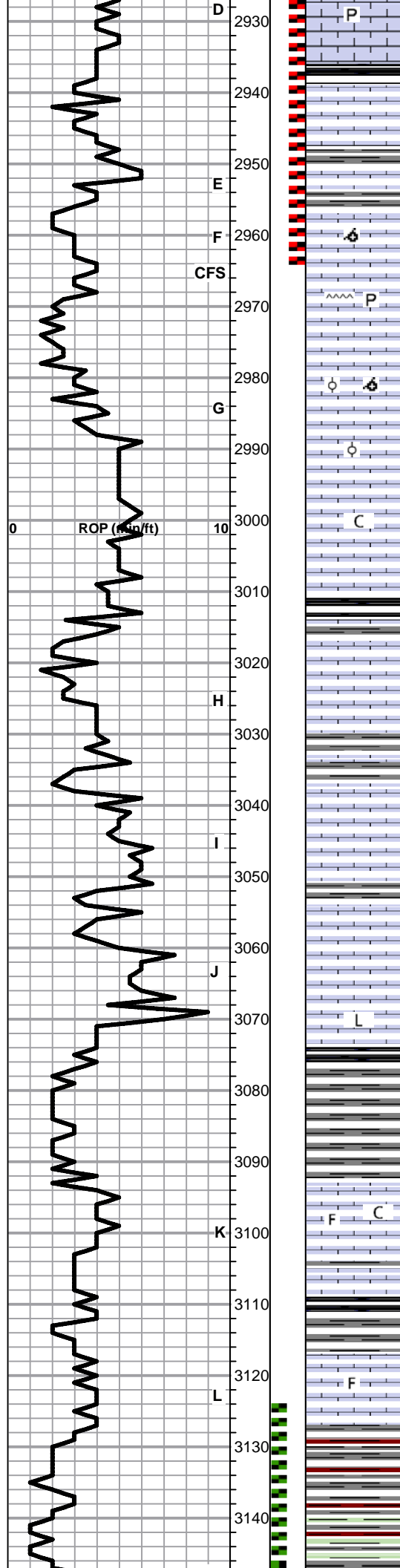
MUD WT 8.7
VIS 52
LCM 1#

DST #1 2795 TO 2917 SEE
HEADER FOR TEST
SUMMARY

2820-2822 should be perforate
and teste prior to
abandonment of well

2887-2894 should be
perforated and tested prior to
abandonment of well

2908-2914 should be
perforated and tested prior to
abandonment of well



Lm - cream-light brown, fnxn, dense, hard, bedded chalk, pyrite

Sh, black, carbonaceous, waxy

Lm - cream-light brown, fine interxn porosity, dense, very hard

Lm - cream, fnxn, dense, hard

Lm - tan, oomoldic, light golden brown stain, scattered vugs, SFO upon crush, good odor

Lm - cream-tan, slightly fossiliferous, fnxn, brittle, NSFO, no odor, cherty, pyrite

Lm - cream, oolitic / oomoldic, good porosity, no visible staining, NSFO, no odor, slightly chalky

Lm - cream-tan, oolitic, poorly developed, fnxn, dense, hard, no shows

Lm - cream, oolitic, fnxn, dense, hard, brittle, slightly chalky

Sh - black, carbonaceous, waxy

Lm - light brown-gray, fine interxn porosity, NSFO, couple chips with light scattered stain, no odor

Lm - cream-tan, slightly oolitic with fine interxn porosity, rare scattered stain, NSFO, no odor

Lm - tan, fossiliferous, limited porosity, dense, hard, no shows

Lm - tan-cream, fnxn to lithographic in part, dense, very hard, no shows

Sh - medium-dark gray, soft, blocky, some sticky

Sh - medium gray, soft, blocky

Lm - tan-light brown, fossiliferous, granular, well cemented matrix, dense, hard, slightly chalky

Sh - dark gray-black, carbonaceous, waxy, firm, fissile

Lm - cream-tan, fnxn, fossiliferous, brittle, bedded chalk in part

DST #2 2917 TO 2965 SEE
HEADER FOR TEST
SUMMARY

MUD WT 8.9
VIS 48
LCM 1/2#

2958-2961 should be
perforated and tested prior to
abandonment of well

2968-2976 should be
perforated and tested prior to
abandonment of well

3018-3020 should be
perforated and tested prior to
abandonment of well

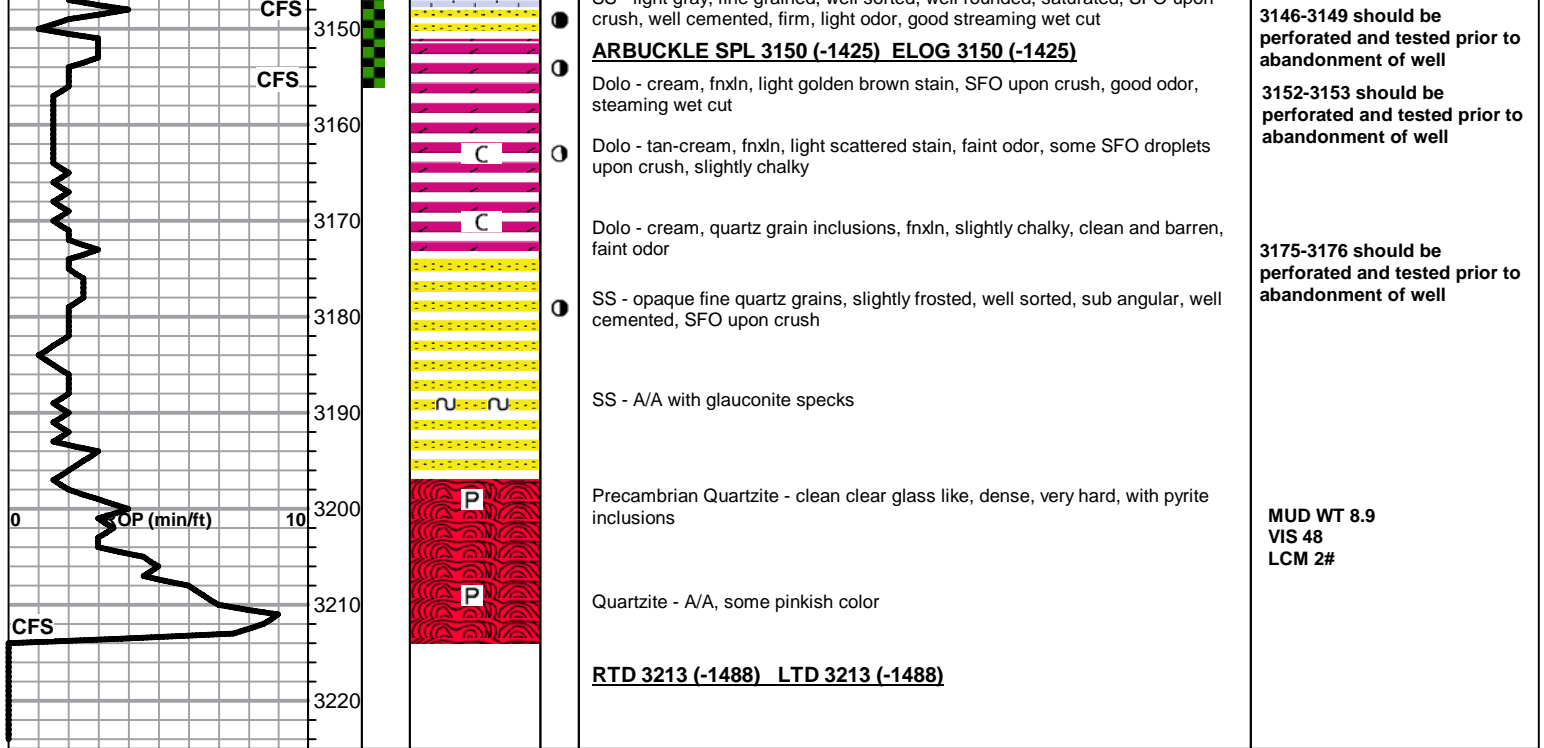
DST #3 3124 TO 3156 SEE
HEADER FOR TEST SUMMARY

BKC SPL 3129 (-1404) ELOG 3127 (-1402)

Sh - medium gray some maroon, soft, blocky

Sh - greenish gray / maroon, soft, blocky, some sticky

SS - light gray, fine grained, well sorted, well rounded, saturated, SFO upon



ARBUCKLE SPL 3150 (-1425) ELOG 3150 (-1425)

Dolo - cream, fnxln, light golden brown stain, SFO upon crush, good odor, steaming wet cut

Dolo - tan-cream, fnxln, light scattered stain, faint odor, some SFO droplets upon crush, slightly chalky

Dolo - cream, quartz grain inclusions, fnxln, slightly chalky, clean and barren, faint odor

SS - opaque fine quartz grains, slightly frosted, well sorted, sub angular, well cemented, SFO upon crush

SS - A/A with glauconite specks

Precambrian Quartzite - clean clear glass like, dense, very hard, with pyrite inclusions

Quartzite - A/A, some pinkish color

RTD 3213 (-1488) LTD 3213 (-1488)

3146-3149 should be perforated and tested prior to abandonment of well

3152-3153 should be perforated and tested prior to abandonment of well

3175-3176 should be perforated and tested prior to abandonment of well

MUD WT 8.9
VIS 48
LCM 2#



DRILL STEM TEST REPORT

Prepared For: **Alan Vonfeldt**

PO Box 611
Russell, KS 67665

ATTN: Steve Reed

Michaelis #2

33-14S-13W Russell,KS

Start Date: 2014.09.09 @ 13:37:42

End Date: 2014.09.09 @ 19:00:12

Job Ticket #: 60902 DST #: 2

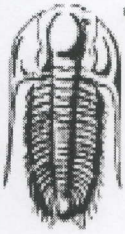
Trilobite Testing, Inc

1515 Commerce Parkway Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.09.12 @ 14:29:30

Alan Vonfeldt 33-14S-13W Russell,KS Michaelis #2 DST # 2 LKC "D-F" 2014.09.09



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Alan Vonfeldt

33-14S-13W Russell,KS

PO Box 611
Russell, KS 67665

Michaelis #2

Job Ticket: 60902

DST#: 2

ATTN: Steve Reed

Test Start: 2014.09.09 @ 13:37:42

GENERAL INFORMATION:

Formation: **LKC "D-F"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:47:12

Time Test Ended: 19:00:12

Test Type: Conventional Bottom Hole (Reset)

Tester: Brannan Lonsdale

Unit No: 62

Interval: **2917.00 ft (KB) To 2965.00 ft (KB) (TVD)**

Reference Elevations: 1725.00 ft (KB)

Total Depth: 2965.00 ft (KB) (TVD)

1718.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

Serial #: 8651

Inside

Press@RunDepth: 27.31 psig @ 2918.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.09.09 End Date: 2014.09.09

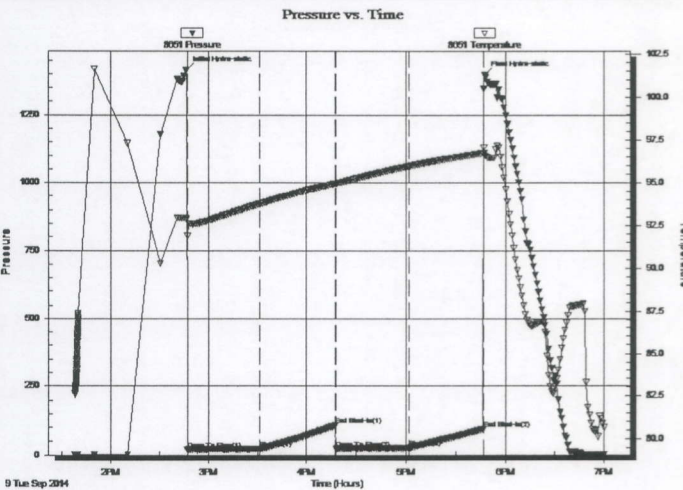
Last Calib.: 2014.09.09

Start Time: 13:37:43 End Time: 19:00:12

Time On Btm: 2014.09.09 @ 14:46:42

Time Off Btm: 2014.09.09 @ 17:47:42

TEST COMMENT: 45- IF- Slowly built to 1 3/4"
45- IS- No blow
45- FF- Surface blow
45- FS- No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1414.53	92.87	Initial Hydro-static
1	21.28	91.84	Open To Flow (1)
45	23.66	93.74	Shut-In(1)
91	106.64	94.92	End Shut-In(1)
91	22.82	94.93	Open To Flow (2)
135	27.31	95.94	Shut-In(2)
180	94.06	96.71	End Shut-In(2)
181	1396.83	96.70	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	SOCM, 5%O 95%M	0.27

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Alan Vonfeldt

33-14S-13W Russell,KS

PO Box 611
Russell, KS 67665

Michaelis #2

Job Ticket: 60902

DST#: 2

ATTN: Steve Reed

Test Start: 2014.09.09 @ 13:37:42

GENERAL INFORMATION:

Formation: **LKC "D-F"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 14:47:12
 Time Test Ended: 19:00:12

Test Type: Conventional Bottom Hole (Reset)
 Tester: Brannan Lonsdale
 Unit No: 62

Interval: **2917.00 ft (KB) To 2965.00 ft (KB) (TVD)**
 Total Depth: 2965.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair

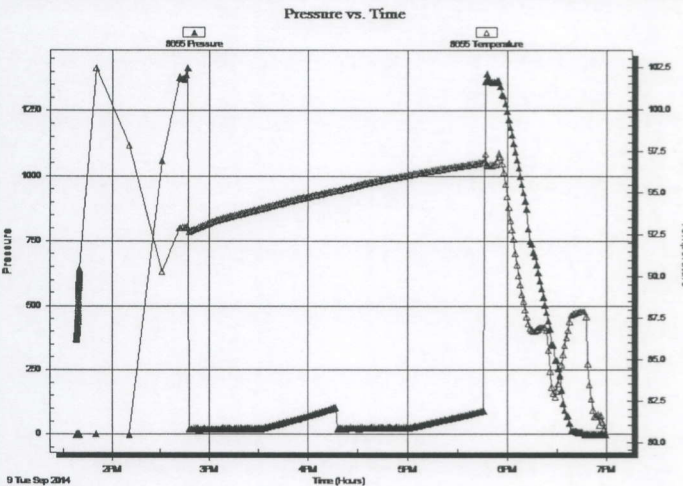
Reference Elevations: 1725.00 ft (KB)
 1718.00 ft (CF)
 KB to GR/CF: 7.00 ft

Serial #: **8655** Outside

Press@RunDepth: psig @ 2918.00 ft (KB)
 Start Date: 2014.09.09 End Date: 2014.09.09
 Start Time: 13:38:11 End Time: 18:59:40

Capacity: 8000.00 psig
 Last Calib.: 2014.09.09
 Time On Btm:
 Time Off Btm:

TEST COMMENT: 45- IF- Slowly built to 1 3/4"
 45- IS- No blow
 45- FF- Surface blow
 45- FS- No blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
20.00	SOCM, 5%O 95%M	0.27

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Alan Vonfeldt

33-14S-13W Russell,KS

PO Box 611
Russell, KS 67665

Michaelis #2

Job Ticket: 60902

DST#: 2

ATTN: Steve Reed

Test Start: 2014.09.09 @ 13:37:42

Tool Information

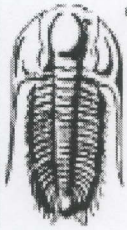
Drill Pipe:	Length: 2926.00 ft	Diameter: 3.75 inches	Volume: 39.97 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.75 inches	Volume: - bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 50000.00 lb
		Total Volume:	- bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	29.00 ft			String Weight: Initial 48000.00 lb
Depth to Top Packer:	2917.00 ft			Final 48000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	48.00 ft			
Tool Length:	68.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			2898.00	
Shut In Tool	5.00			2903.00	
Hydraulic tool	5.00			2908.00	
Packer	5.00			2913.00	20.00 Bottom Of Top Packer
Packer	4.00			2917.00	
Stubb	1.00			2918.00	
Recorder	0.00	8651	Inside	2918.00	
Recorder	0.00	8655	Outside	2918.00	
Perforations	10.00			2928.00	
Change Over Sub	1.00			2929.00	
Drill Pipe	32.00			2961.00	
Change Over Sub	1.00			2962.00	
Bullnose	3.00			2965.00	48.00 Bottom Packers & Anchor

Total Tool Length: 68.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Alan Vonfeldt

33-14S-13W Russell,KS

PO Box 611
Russell, KS 67665

Michaelis #2

Job Ticket: 60902

DST#: 2

ATTN: Steve Reed

Test Start: 2014.09.09 @ 13:37:42

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: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.77 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2250.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	SOCM, 5%O 95%M	0.273

Total Length: 20.00 ft Total Volume: 0.273 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8651

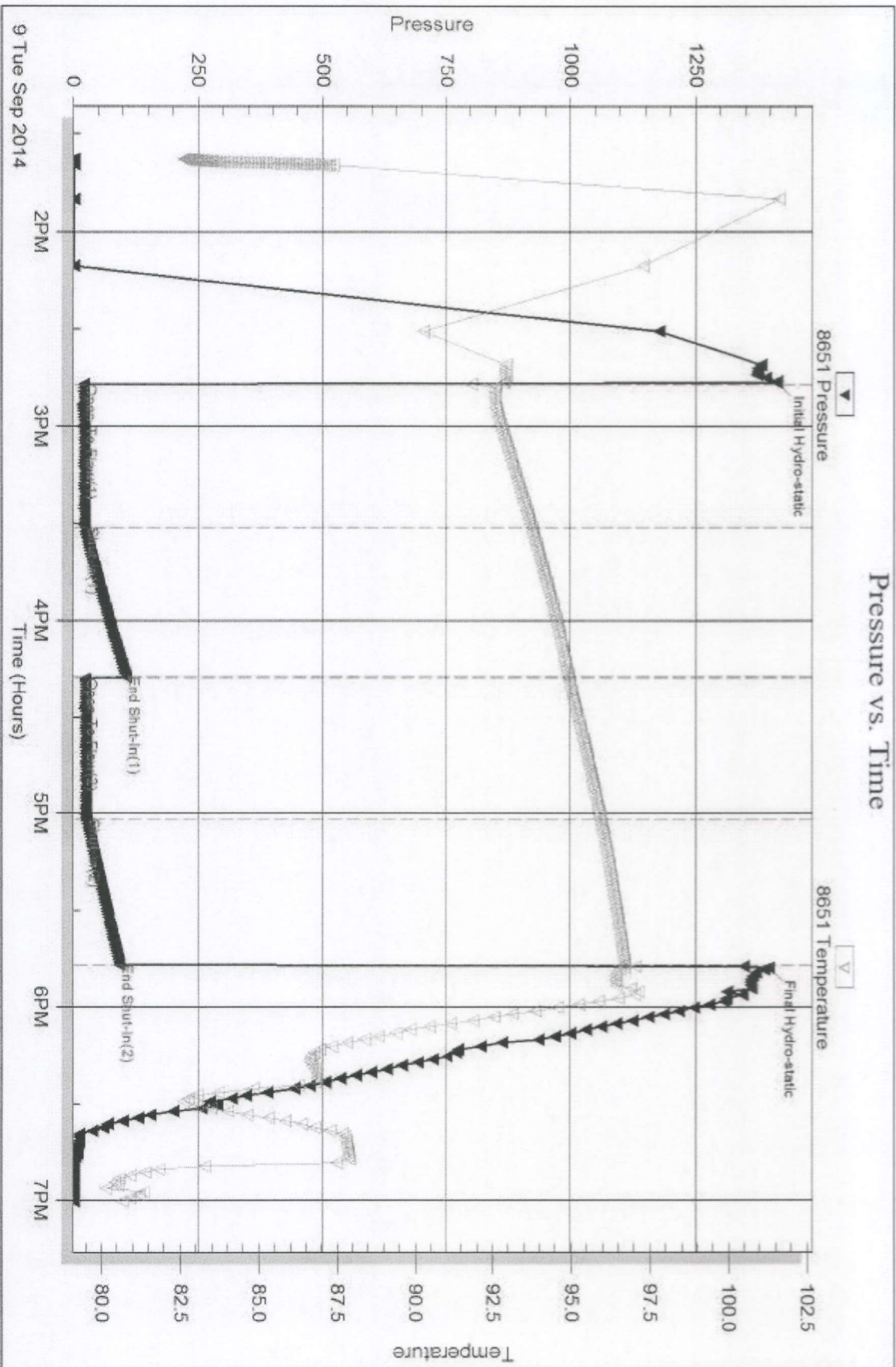
Inside

Alan Vorfeldt

Machine #2

DST Test Number: 2

Pressure vs. Time



Tribble Testing, Inc

Ref. No: 60902

Printed: 2014.09.12 @ 14:29:31

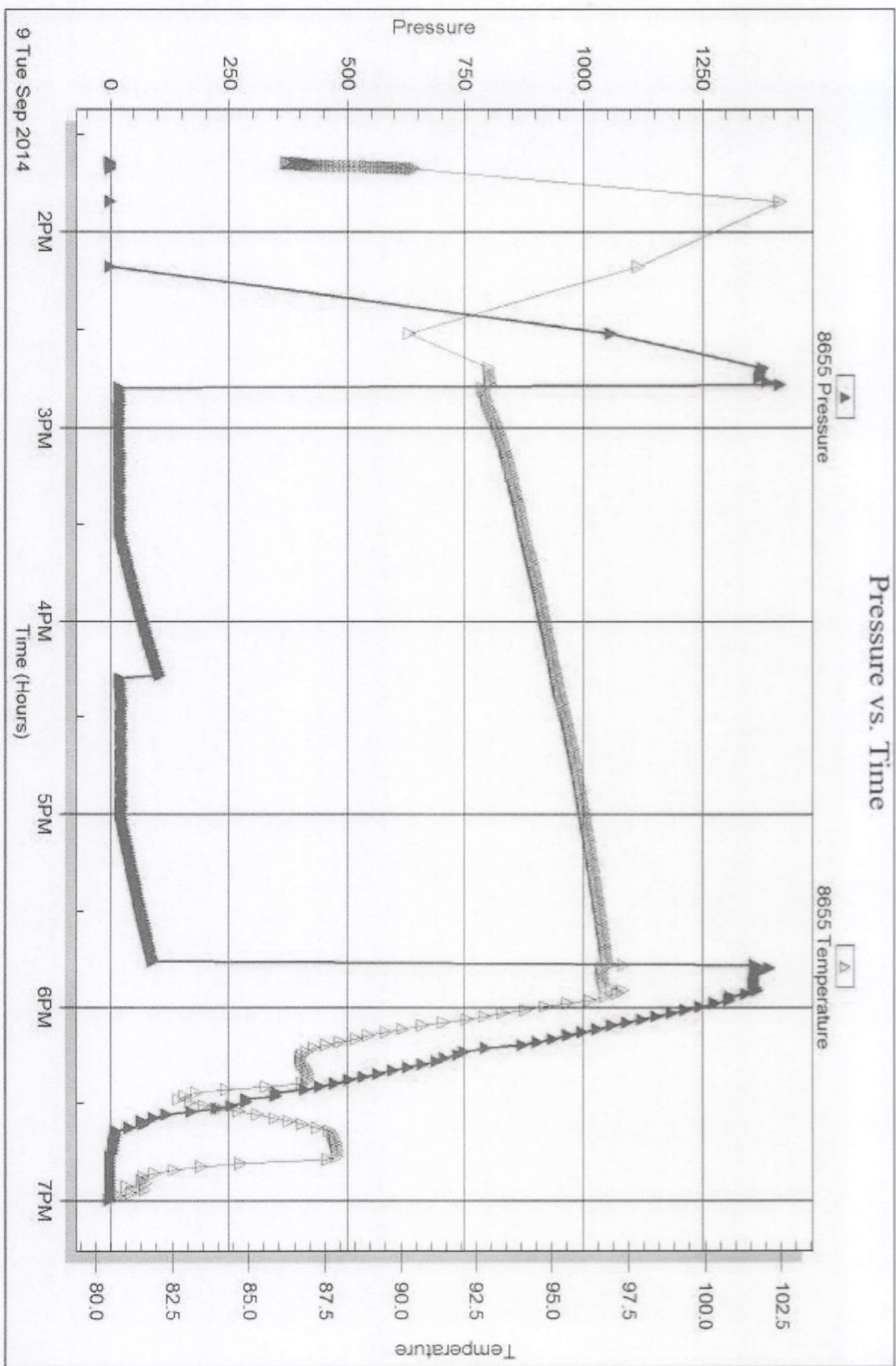
Serial #: 8655

Outside Alan Vonfeldt

Michaelis #2

DST Test Number: 2

Pressure vs. Time



Tribble Testing, Inc

Ref. No: 60902

Printed: 2014.09.12 @ 14:29:31



DRILL STEM TEST REPORT

Prepared For: **Alan Vonfeldt**

PO Box 611
Russell, KS 67665

ATTN: Steve Reed

Michaelis #2

33-14S-13W Russell,KS

Start Date: 2014.09.10 @ 15:34:00

End Date: 2014.09.10 @ 21:25:30

Job Ticket #: 60903 DST #: 3

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.09.12 @ 14:28:59

Alan Vonfeldt
33-14S-13W Russell,KS
Michaelis #2
DST # 3
Arbuckle
2014.09.10



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Alan Vonfeldt

33-14S-13W Russell, KS

PO Box 611
Russell, KS 67665

Michaelis #2

Job Ticket: 60903

DST#: 3

ATTN: Steve Reed

Test Start: 2014.09.10 @ 15:34:00

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:03:00

Time Test Ended: 21:25:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Brannan Lonsdale

Unit No: 62

Interval: **3124.00 ft (KB) To 3156.00 ft (KB) (TVD)**

Reference Elevations: 1725.00 ft (KB)

Total Depth: 3156.00 ft (KB) (TVD)

1718.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

Serial #: **8655** Outside

Press@RunDepth: 49.89 psig @ 3125.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.09.10

End Date: 2014.09.10

Last Calib.: 2014.09.10

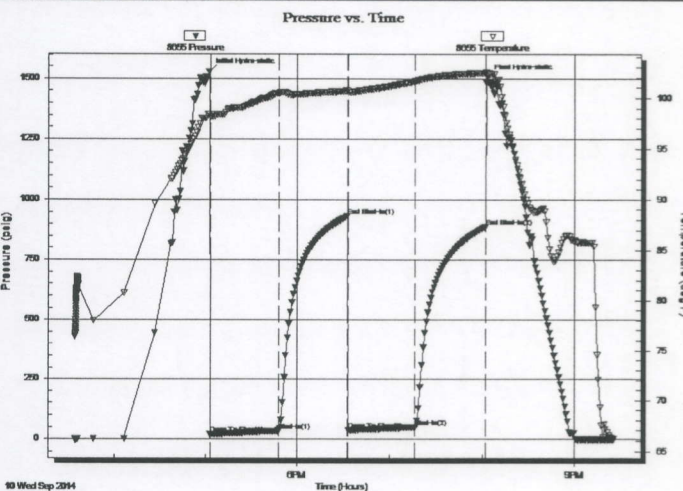
Start Time: 15:34:01

End Time: 21:25:30

Time On Btm: 2014.09.10 @ 17:02:30

Time Off Btm: 2014.09.10 @ 20:03:30

TEST COMMENT: 45- IF- Slowly built to 4"
45- IS- No blow
45- FF- Slowly built to 2"
45- FS- No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1527.75	98.39	Initial Hydro-static
1	19.50	98.15	Open To Flow (1)
46	35.13	100.49	Shut-In(1)
90	932.37	100.69	End Shut-In(1)
91	37.73	100.54	Open To Flow (2)
134	49.89	101.65	Shut-In(2)
180	889.27	102.46	End Shut-In(2)
181	1502.03	102.43	Final Hydro-static

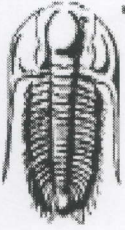
Recovery

Length (ft)	Description	Volume (bbl)
15.00	CO	0.20
80.00	MW, 15%M 85%W	1.09

* Recovery from multiple tests

Gas Rates

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



TRILLOBITE
TESTING, INC

DRILL STEM TEST REPORT

Alan Vonfeldt
PO Box 611
Russell, KS 67665

ATTN: Steve Reed

33-14S-13W Russell,KS
Michaelis #2
Job Ticket: 60903 **DST#: 3**
Test Start: 2014.09.10 @ 15:34:00

GENERAL INFORMATION:

Formation: **Arbuckle**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 17:03:00
Time Test Ended: 21:25:30

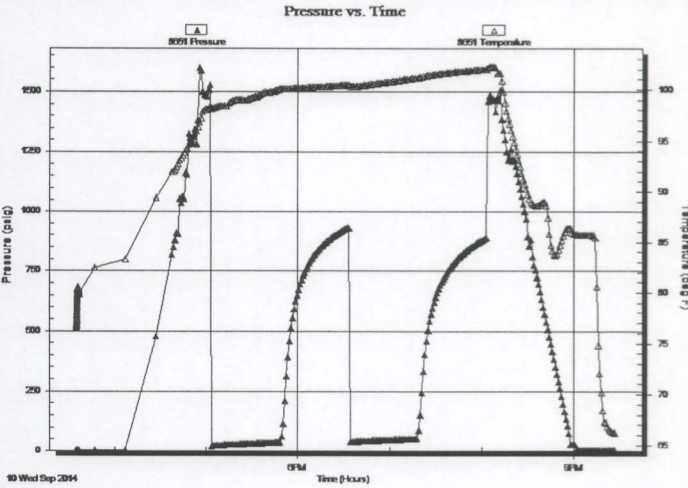
Interval: **3124.00 ft (KB) To 3156.00 ft (KB) (TVD)**
Total Depth: 3156.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Test Type: Conventional Bottom Hole (Reset)
Tester: Brannan Lonsdale
Unit No: 62

Reference Elevations: 1725.00 ft (KB)
1718.00 ft (CF)
KB to GR/CF: 7.00 ft

Serial #: 8651 **Inside**
Press@RunDepth: psig @ 3125.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.09.10 End Date: 2014.09.10 Last Calib.: 2014.09.10
Start Time: 15:34:16 End Time: 21:26:45 Time On Btm:
Time Off Btm:

TEST COMMENT: 45- IF- Slowly built to 4"
45- IS- No blow
45- FF- Slowly built to 2"
45- FS- No blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
15.00	CO	0.20
80.00	MW, 15%M 85%W	1.09

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Alan Vonfeldt

33-14S-13W Russell,KS

PO Box 611
Russell, KS 67665

Michaelis #2

Job Ticket: 60903

DST#: 3

ATTN: Steve Reed

Test Start: 2014.09.10 @ 15:34:00

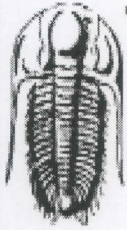
Tool Information

Drill Pipe:	Length: 3119.00 ft	Diameter: 3.75 inches	Volume: 42.61 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.75 inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	54000.00 lb
			<u>Total Volume:</u>	Tool Chased	0.00 ft
				String Weight: Initial	50000.00 lb
				Final	52000.00 lb
Drill Pipe Above KB:	15.00 ft				
Depth to Top Packer:	3124.00 ft				
Depth to Bottom Packer:	ft				
Interval between Packers:	32.00 ft				
Tool Length:	52.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3105.00	
Shut In Tool	5.00			3110.00	
Hydraulic tool	5.00			3115.00	
Packer	5.00			3120.00	20.00 Bottom Of Top Packer
Packer	4.00			3124.00	
Stubb	1.00			3125.00	
Recorder	0.00	8651	Inside	3125.00	
Recorder	0.00	8655	Outside	3125.00	
Perforations	28.00			3153.00	
Bullnose	3.00			3156.00	32.00 Bottom Packers & Anchor
Total Tool Length:	52.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Alan Vonfeldt

33-14S-13W Russell,KS

PO Box 611
Russell, KS 67665

Michaelis #2

Job Ticket: 60903

DST#: 3

ATTN: Steve Reed

Test Start: 2014.09.10 @ 15:34:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

35 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.39 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	CO	0.205
80.00	MW, 15%M 85%W	1.093

Total Length: 95.00 ft

Total Volume: 1.298 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

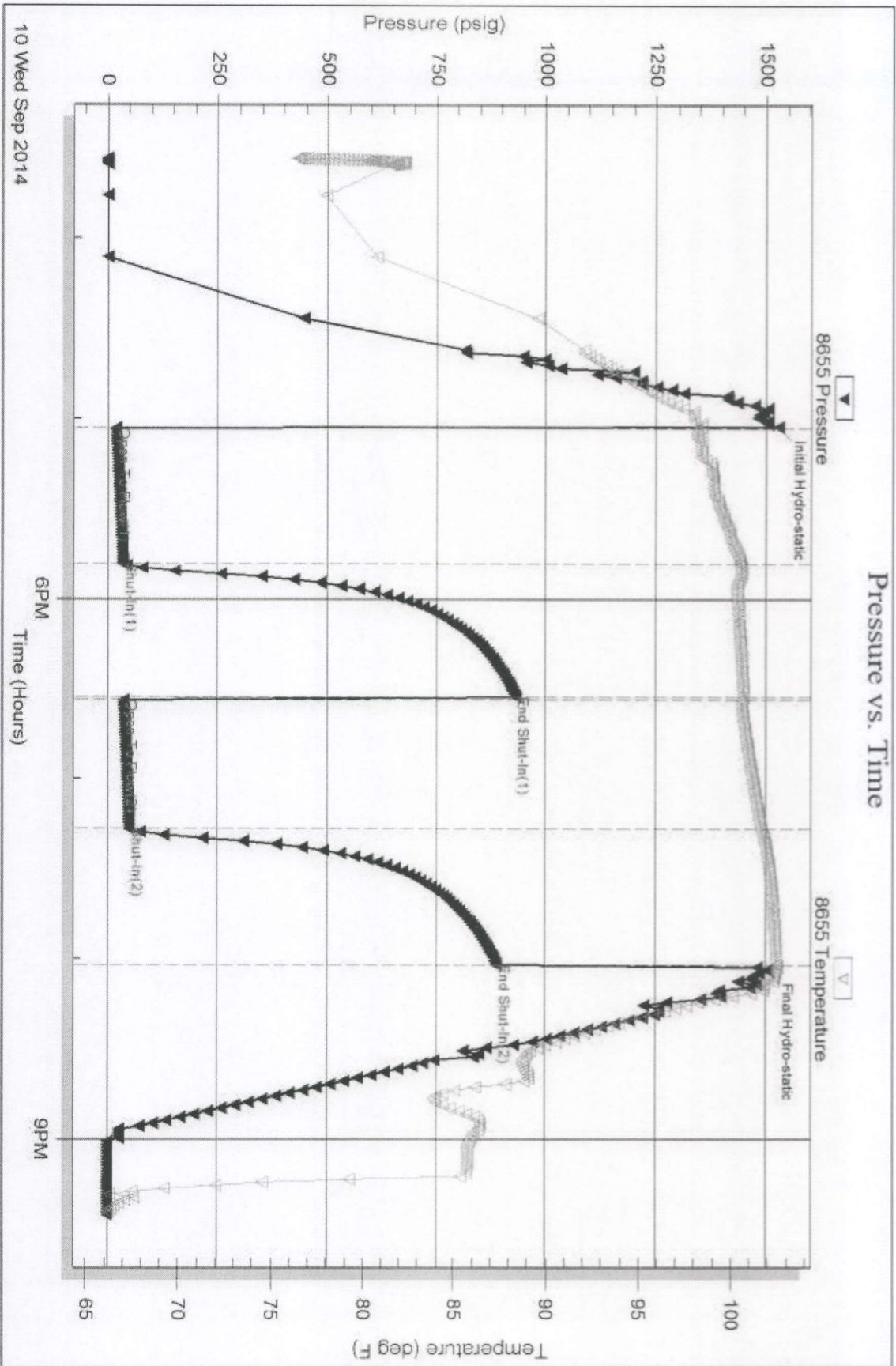
Recovery Comments:

Serial #: 8655

Outside Alan Vorfeldt

Michael #2

DST Test Number: 3



Tribble Testing, Inc

Ref. No: 60903

Printed: 2014.09.12 @ 14:29:00

Serial #: 8651

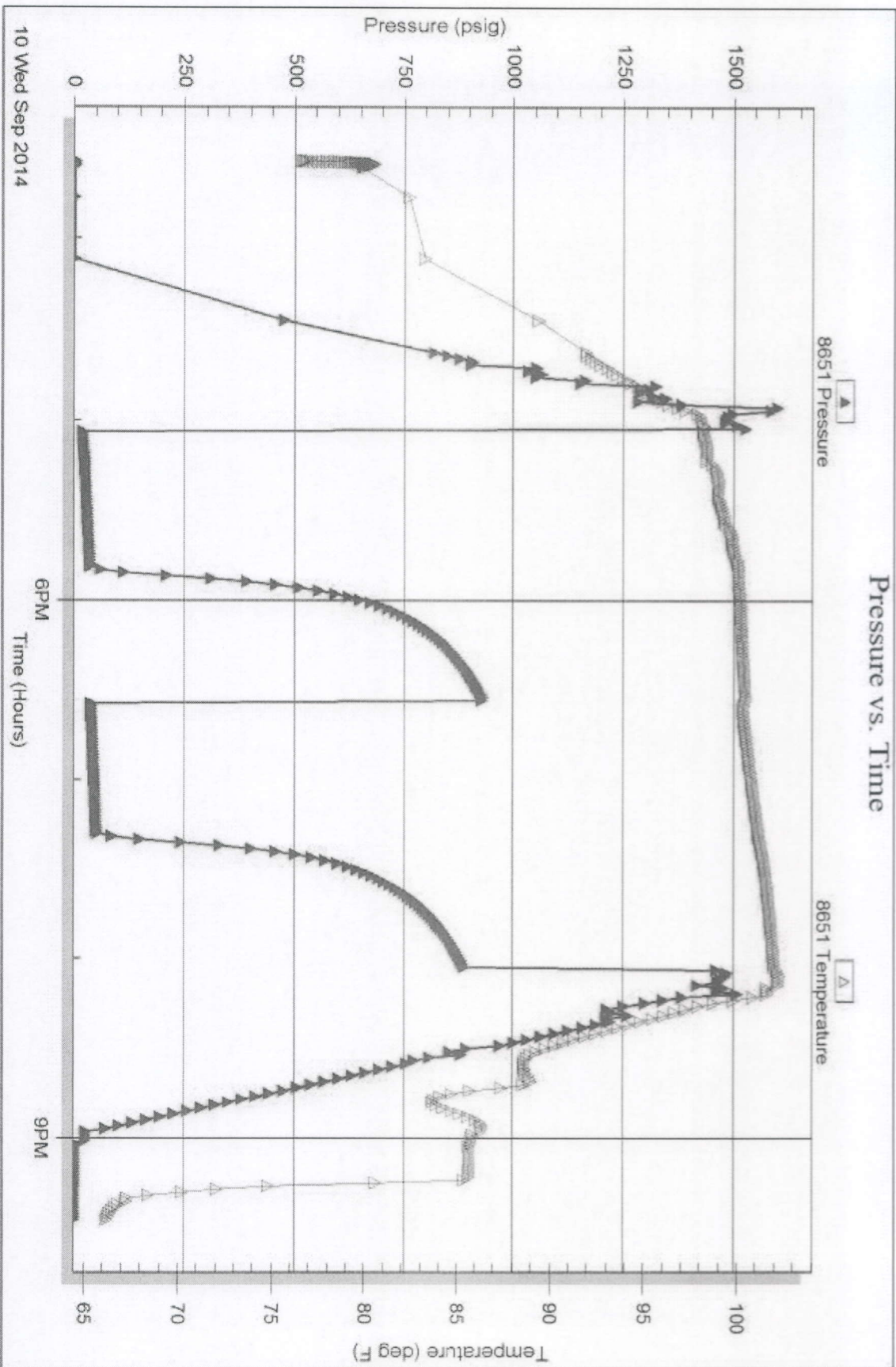
Inside

Alan Vonfeldt

Michaelis #2

DST Test Number: 3

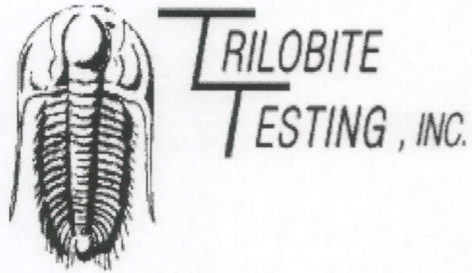
Pressure vs. Time



Tribble Testing, Inc

Ref. No: 60903

Printed: 2014.09.12 @ 14:29:00



DRILL STEM TEST REPORT

Prepared For: **Alan Vonfeldt**

PO Box 611
Russell, KS 67665

ATTN: Steve Reed

Michaelis #2

33-14S-13W Russell,KS

Start Date: 2014.09.08 @ 22:25:52

End Date: 2014.09.09 @ 05:38:52

Job Ticket #: 60901 DST #: 1

Trilobite Testing, Inc

1515 Commerce Parkway Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.09.12 @ 14:29:55

Alan Vonfeldt

33-14S-13W Russell,KS

Michaelis #2

DST # 1

Toronto- LKC"C"

2014.09.08



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Alan Vonfeldt

33-14S-13W Russell,KS

PO Box 611
Russell, KS 67665

Michaelis #2

Job Ticket: 60901

DST#: 1

ATTN: Steve Reed

Test Start: 2014.09.08 @ 22:25:52

GENERAL INFORMATION:

Formation: **Toronto- LKC"C"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:07:22

Time Test Ended: 05:38:52

Test Type: Conventional Bottom Hole (Initial)

Tester: Brannan Lonsdale

Unit No: 62

Interval: **2795.00 ft (KB) To 2917.00 ft (KB) (TVD)**

Reference Elevations: 1725.00 ft (KB)

Total Depth: 2917.00 ft (KB) (TVD)

1718.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

Serial #: 8651

Inside

Press@RunDepth: 242.64 psig @ 2796.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.09.08

End Date:

2014.09.09

Last Calib.: 2014.09.09

Start Time: 22:25:53

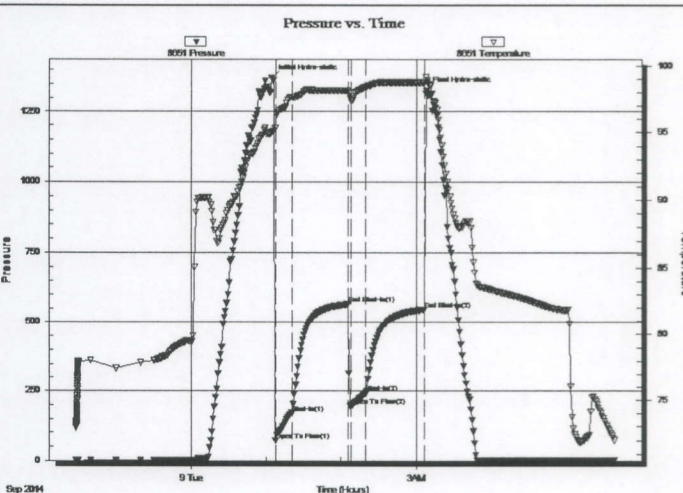
End Time:

05:38:52

Time On Btm: 2014.09.09 @ 01:04:22

Time Off Btm: 2014.09.09 @ 03:07:52

TEST COMMENT: 15- IF- BOB 2 mins
45- IS- Weak surface blow died after 20 mins
15- FF- BOB 1 min
45- FS- BOB 8 mins GTS w while bleeding off



PRESSURE SUMMARY

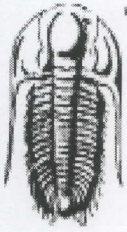
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1371.42	95.04	Initial Hydro-static
3	70.81	95.29	Open To Flow (1)
16	170.47	97.65	Shut-In(1)
62	565.27	98.13	End Shut-In(1)
64	195.08	97.38	Open To Flow (2)
76	242.64	98.42	Shut-In(2)
122	547.02	98.73	End Shut-In(2)
124	1324.91	98.92	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
64.00	M	0.87
322.00	VGSWOCM, 45%G 35%O 5%W 15%M	4.40
0.00	2411' GIP	0.00

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Alan Vonfeldt
 PO Box 611
 Russell, KS 67665
 ATTN: Steve Reed

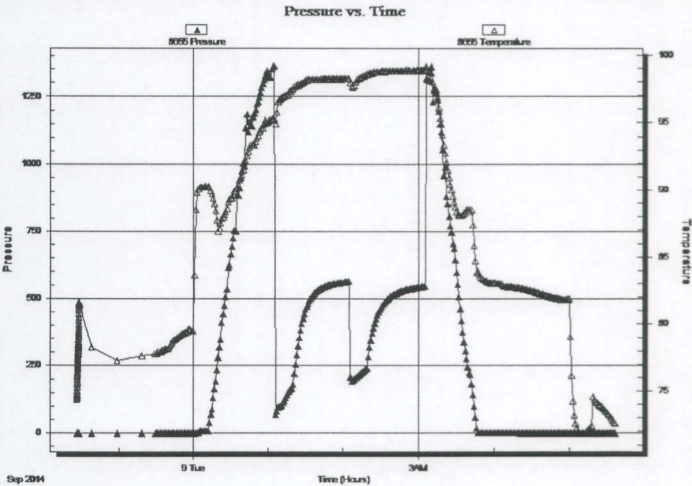
33-14S-13W Russell, KS
Michaelis #2
 Job Ticket: 60901 **DST#: 1**
 Test Start: 2014.09.08 @ 22:25:52

GENERAL INFORMATION:

Formation: **Toronto- LKC"C"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 01:07:22
 Time Test Ended: 05:38:52
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Brannan Lonsdale
 Unit No: 62
 Interval: **2795.00 ft (KB) To 2917.00 ft (KB) (TVD)**
 Total Depth: 2917.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Reference Elevations: 1725.00 ft (KB)
 1718.00 ft (CF)
 KB to GR/CF: 7.00 ft

Serial #: 8655 **Outside**
 Press@RunDepth: psig @ 2796.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.09.08 End Date: 2014.09.09 Last Calib.: 2014.09.09
 Start Time: 22:25:41 End Time: 05:37:10 Time On Btm:
 Time Off Btm:

TEST COMMENT: 15- IF- BOB 2 mins
 45- IS- Weak surface blow died after 20 mins
 15- FF- BOB 1 min
 45- FSI- BOB 8 mins GTS w hile bleeding off



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
64.00	M	0.87
322.00	VGSWOCM, 45%G 35%O 5%W 15%M	4.40
0.00	2411' GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Alan Vonfeldt

33-14S-13W Russell,KS

PO Box 611
Russell, KS 67665

Michaelis #2

Job Ticket: 60901

DST#: 1

ATTN: Steve Reed

Test Start: 2014.09.08 @ 22:25:52

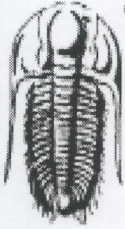
Tool Information

Drill Pipe:	Length: 2797.00 ft	Diameter: 3.75 inches	Volume: 38.21 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.75 inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose:	54000.00 lb
			<u>Total Volume:</u>	Tool Chased	0.00 ft
				String Weight: Initial	50000.00 lb
Drill Pipe Above KB:	22.00 ft			Final	52000.00 lb
Depth to Top Packer:	2795.00 ft				
Depth to Bottom Packer:	ft				
Interval between Packers:	122.00 ft				
Tool Length:	142.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			2776.00	
Shut In Tool	5.00			2781.00	
Hydraulic tool	5.00			2786.00	
Packer	5.00			2791.00	20.00 Bottom Of Top Packer
Packer	4.00			2795.00	
Stubb	1.00			2796.00	
Recorder	0.00	8651	Inside	2796.00	
Recorder	0.00	8655	Outside	2796.00	
Perforations	19.00			2815.00	
Change Over Sub	1.00			2816.00	
Drill Pipe	97.00			2913.00	
Change Over Sub	1.00			2914.00	
Bullnose	3.00			2917.00	122.00 Bottom Packers & Anchor

Total Tool Length: 142.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Alan Vonfeldt

33-14S-13W Russell,KS

PO Box 611
Russell, KS 67665

Michaelis #2

Job Ticket: 60901

DST#: 1

ATTN: Steve Reed

Test Start: 2014.09.08 @ 22:25:52

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: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.78 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2250.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
64.00	M	0.874
322.00	VGSWOCM, 45%G 35%O 5%W 15%M	4.399
0.00	2411' GIP	0.000

Total Length: 386.00 ft

Total Volume: 5.273 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8651

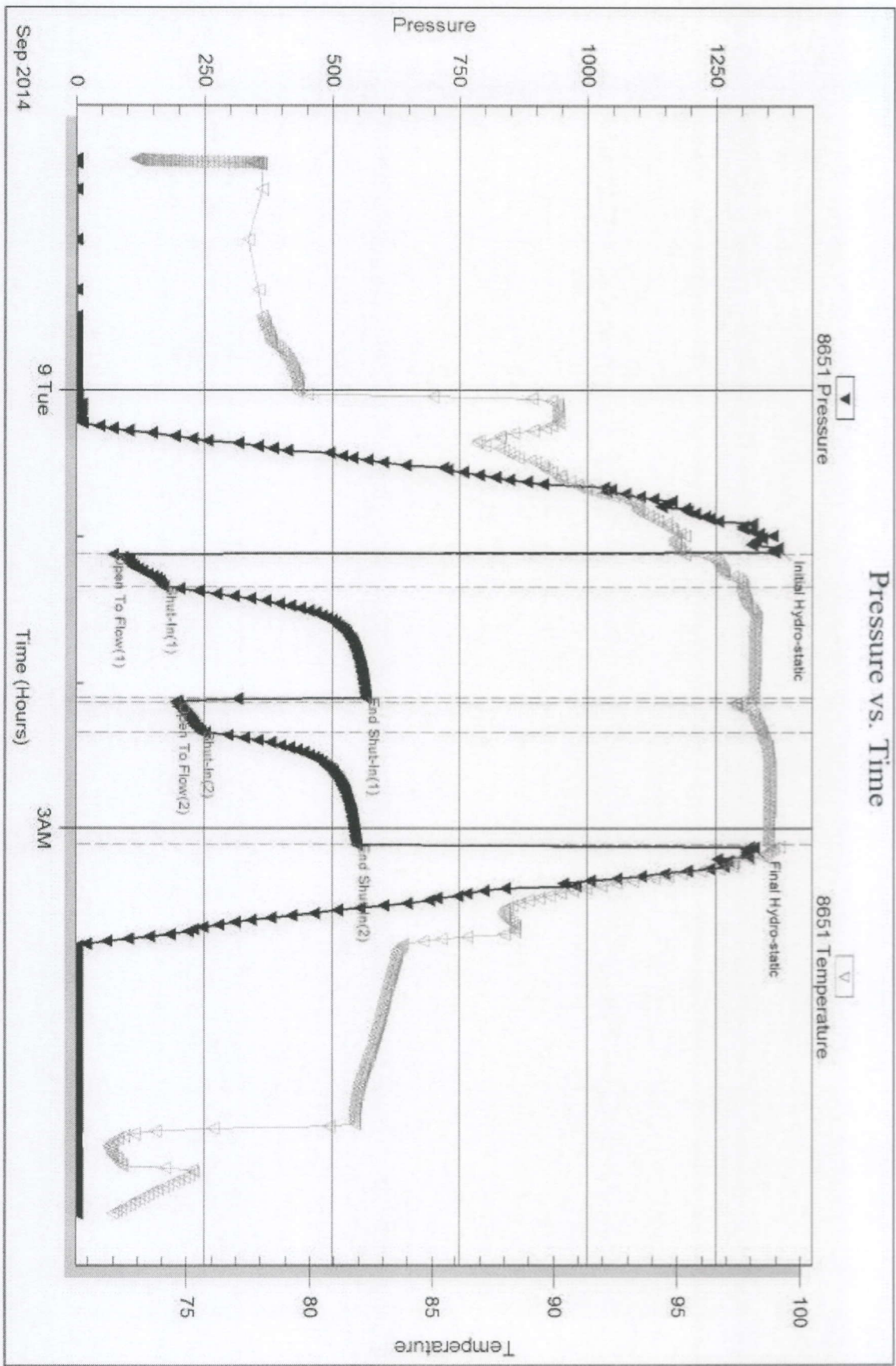
Inside

Alan Vorfeldt

Michaelis #2

DST Test Number: 1

Pressure vs. Time



Tribble Testing, Inc

Ref. No: 60901

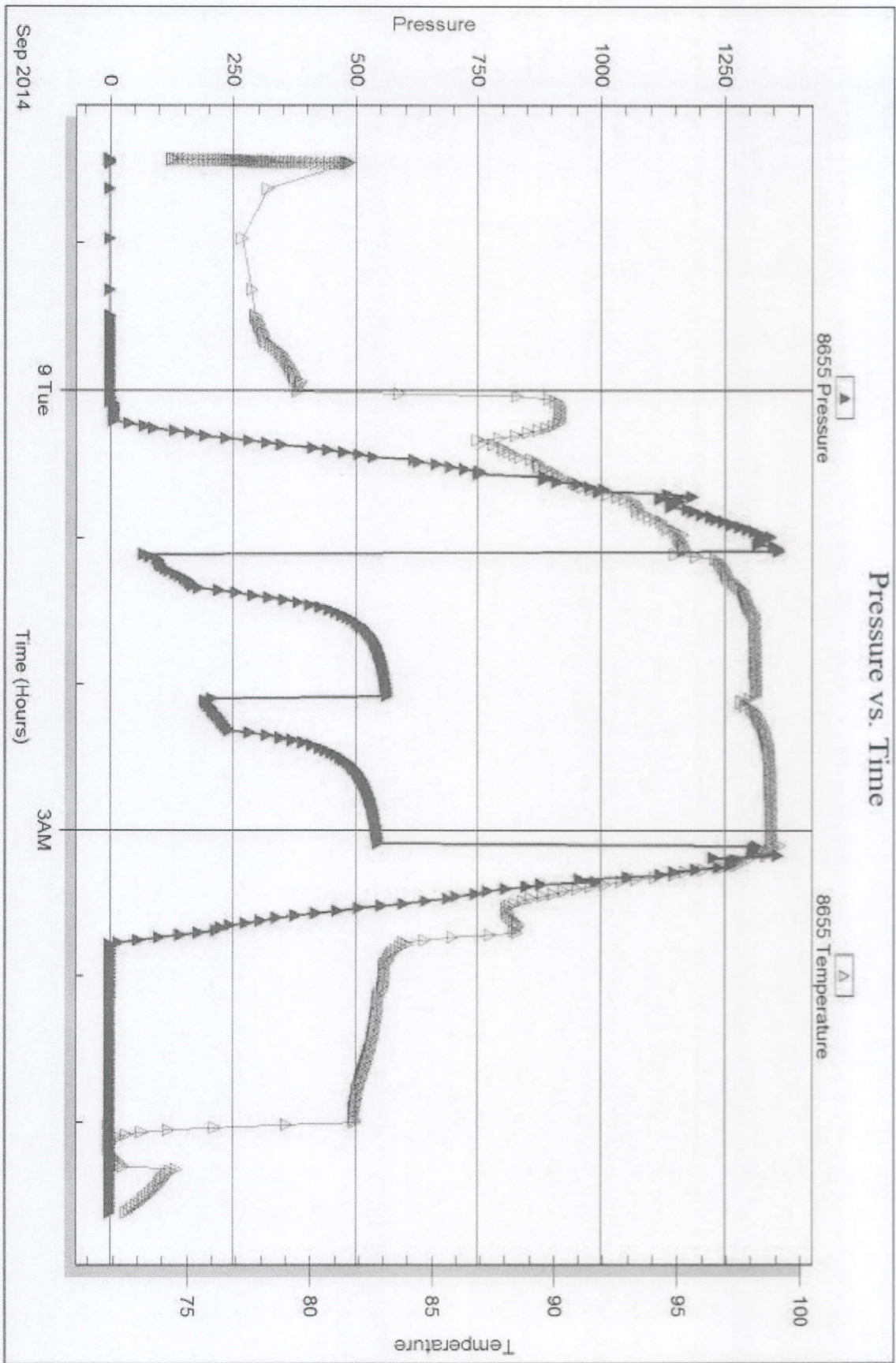
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Serial #: 8655

Outside Alan Vorfeldt

Michaelis #2

DST Test Number: 1



Tribble Testing, Inc

Ref. No: 60901

Printed: 2014.09.12 @ 14:29:56