



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1212372
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: _____

1212372

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> <i>(Submit ACO-4)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Langston, D. S.
Well Name	Reif A&B 31-3
Doc ID	1212372

Tops

Name	Top	Datum
Plattmouth	2800	-1035
Heebner	2856	-1091
Toronto	2874	-1109
Douglas	2888	-1123
Iatan	2974	-1209
Langsing	2992	-1227
Stark Shale	3206	-1441
Hushpuckney	3230	-1465
Base Kansas City	3262	-1497
Arbuckle	3314	-1549



DRILL STEM TEST REPORT

Prepared For: **DS Langston**

310 W Central STE 202
Wichita KS 67202

ATTN: Dave Williams

Reif A&B #31-3

31-18s-10w Rice,KS

Start Date: 2014.05.17 @ 17:16:00

End Date: 2014.05.17 @ 23:37:00

Job Ticket #: 58958 DST #: 1

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

Printed: 2014.05.22 @ 09:39:41

DS Langston
31-18s-10w Rice,KS
Reif A&B #31-3
DST # 1
LKC "A"
2014.05.17



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

DS Langston
310 W Central STE 202
Wichita KS 67202
ATTN: Dave Williams

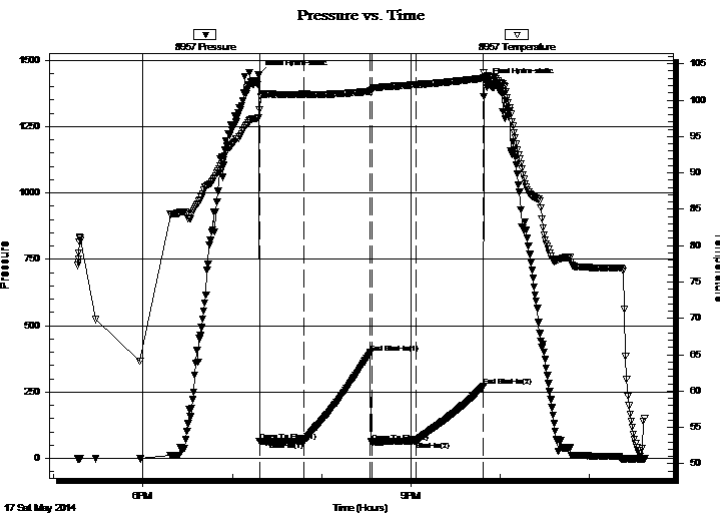
31-18s-10w Rice, KS
Reif A&B #31-3
Job Ticket: 58958 **DST#: 1**
Test Start: 2014.05.17 @ 17:16:00

GENERAL INFORMATION:

Formation: **LKC "A"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 19:18:15
Time Test Ended: 23:37:00
Interval: **2983.00 ft (KB) To 3010.00 ft (KB) (TVD)**
Total Depth: 3010.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition:
Test Type: Conventional Bottom Hole (Initial)
Tester: Brett Dickinson
Unit No: 59
Reference Elevations: 1765.00 ft (KB)
1757.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8957 Outside
Press@RunDepth: 63.94 psig @ 3007.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.05.17 End Date: 2014.05.17 Last Calib.: 2014.05.18
Start Time: 17:16:05 End Time: 23:36:59 Time On Btm: 2014.05.17 @ 19:17:30
Time Off Btm: 2014.05.17 @ 21:50:15

TEST COMMENT: IF-1/2" blow
IS-No blow
FF-1/4" blow
FS-No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1443.88	97.55	Initial Hydro-static
1	64.75	98.65	Open To Flow (1)
31	64.16	100.84	Shut-In(1)
76	398.49	101.23	End Shut-In(1)
77	61.86	101.37	Open To Flow (2)
106	63.94	102.16	Shut-In(2)
152	271.69	103.02	End Shut-In(2)
153	1414.48	103.23	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
90.00	Mud	0.72

Gas Rates

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



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

DS Langston
 310 W Central STE 202
 Wichita KS 67202
 ATTN: Dave Williams

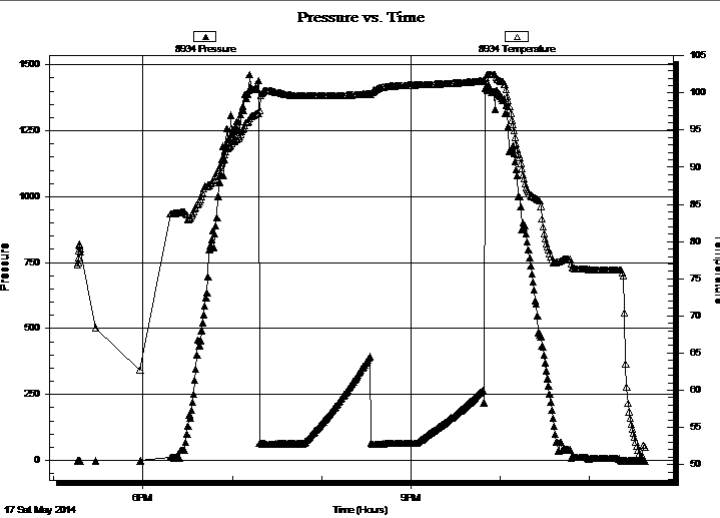
31-18s-10w Rice, KS
Reif A&B #31-3
 Job Ticket: 58958 **DST#: 1**
 Test Start: 2014.05.17 @ 17:16:00

GENERAL INFORMATION:

Formation: **LKC "A"**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 19:18:15 Tester: Brett Dickinson
 Time Test Ended: 23:37:00 Unit No: 59
Interval: 2983.00 ft (KB) To 3010.00 ft (KB) (TVD)
 Reference Elevations: 1765.00 ft (KB)
 Total Depth: 3010.00 ft (KB) (TVD) 1757.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: KB to GR/CF: 8.00 ft

Serial #: 8934 Inside
 Press@RunDepth: psig @ 3007.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.05.17 End Date: 2014.05.17 Last Calib.: 2014.05.18
 Start Time: 17:16:05 End Time: 23:36:59 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF-1/2" blow
 IS-No blow
 FF-1/4" blow
 FS-No blow



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

Recovery		
Length (ft)	Description	Volume (bbl)
90.00	Mud	0.72

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

DS Langston
310 W Central STE 202
Wichita KS 67202
ATTN: Dave Williams

31-18s-10w Rice,KS
Reif A&B #31-3
Job Ticket: 58958 **DST#: 1**
Test Start: 2014.05.17 @ 17:16:00

Tool Information

Drill Pipe:	Length: 2905.00 ft	Diameter: 3.80 inches	Volume: 40.75 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.70 inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 60.00 ft	Diameter: 2.25 inches	Volume: 0.30 bbl	Weight to Pull Loose:	60000.00 lb
			<u>Total Volume:</u> - bbl	Tool Chased	20.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial	40000.00 lb
Depth to Top Packer:	2983.00 ft			Final	40000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	27.00 ft				
Tool Length:	55.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			2960.00	
Hydraulic tool	5.00			2965.00	
Safety Joint	3.00		Fluid	2968.00	
Jars	5.00			2973.00	
Packer	5.00			2978.00	28.00 Bottom Of Top Packer
Packer	5.00			2983.00	
Stubb	1.00		Inside	2984.00	
Perforations	23.00			3007.00	
Recorder	0.00	8934	Inside	3007.00	
Recorder	0.00	8957	Outside	3007.00	
Bullnose	3.00			3010.00	27.00 Bottom Packers & Anchor

Total Tool Length: 55.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

DS Langston
310 W Central STE 202
Wichita KS 67202
ATTN: Dave Williams

31-18s-10w Rice,KS
Reif A&B #31-3
Job Ticket: 58958 **DST#: 1**
Test Start: 2014.05.17 @ 17:16:00

Mud and Cushion Information

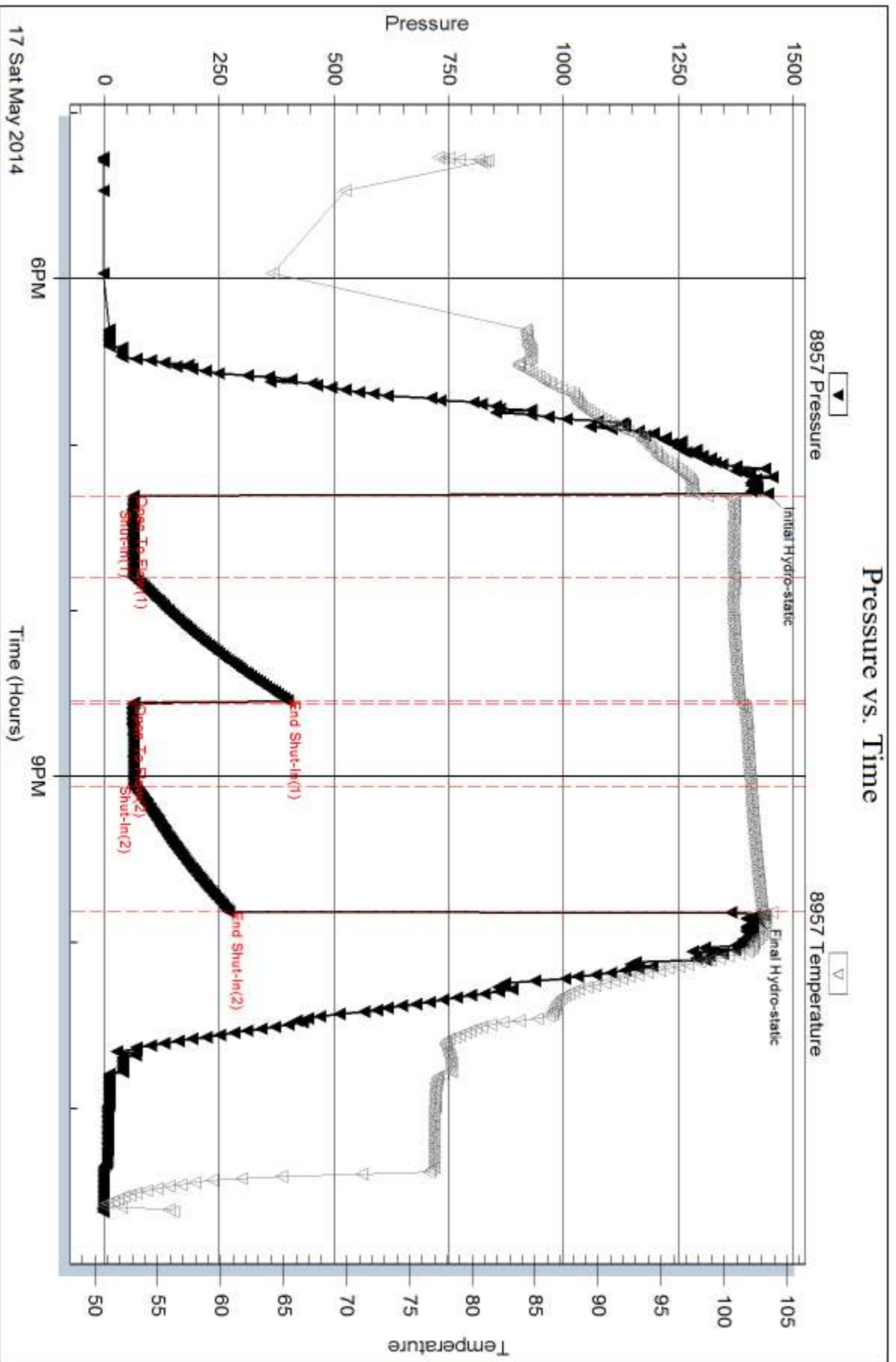
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 52.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.19 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4300.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
90.00	Mud	0.716

Total Length: 90.00 ft Total Volume: 0.716 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:



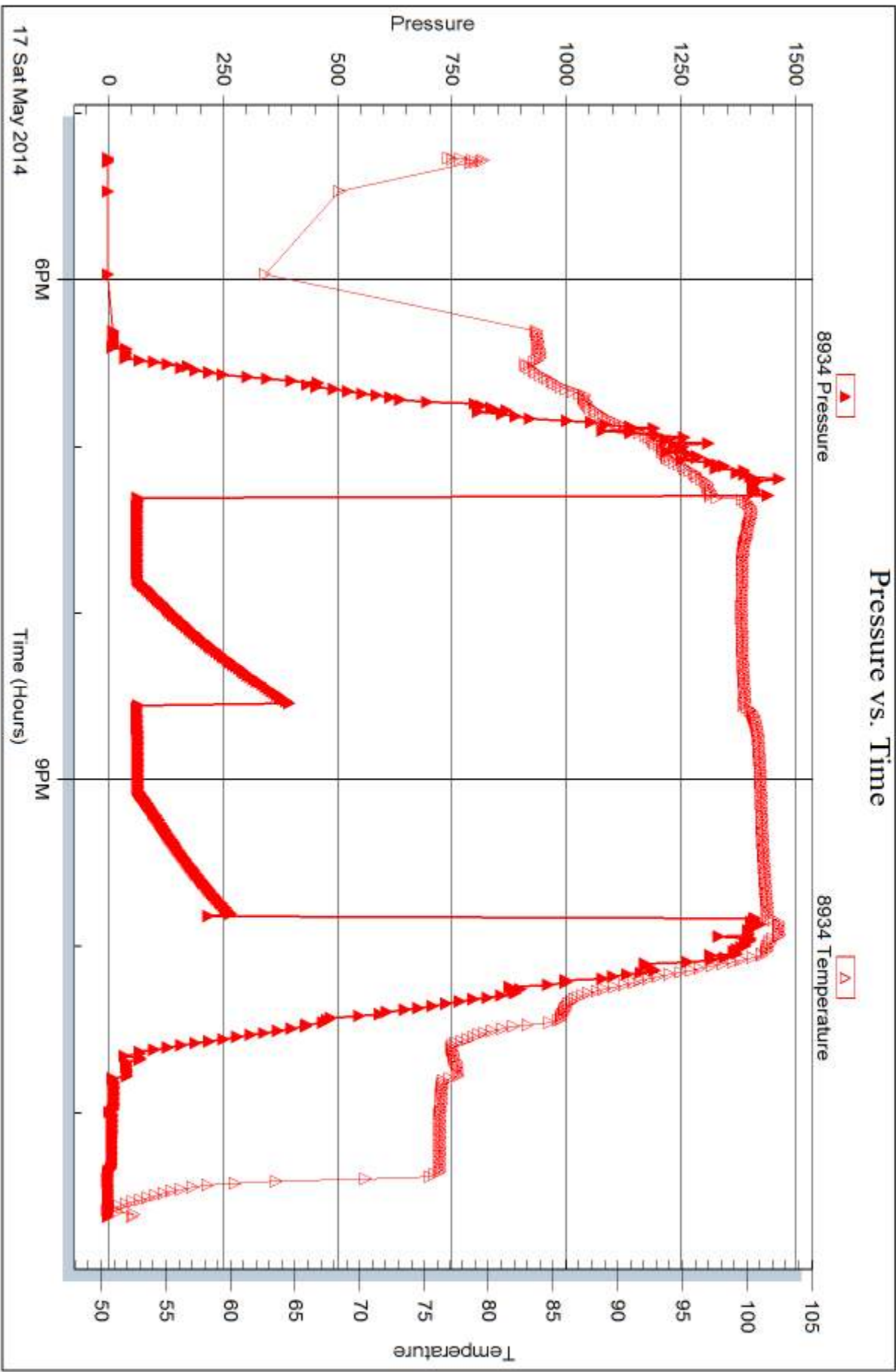
Serial #: 8934

Inside

DS Langston

Ref: A8B #31-3

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 58958

Printed: 2014.05.22 @ 09:39:42



DRILL STEM TEST REPORT

Prepared For: **DS Langston**

310 W Central STE 202
Wichita KS 67202

ATTN: Dave Williams

Reif A&B #31-3

31-18s-10w Rice,KS

Start Date: 2014.05.18 @ 06:40:00

End Date: 2014.05.18 @ 16:48:30

Job Ticket #: 58959 DST #: 2

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

Printed: 2014.05.22 @ 09:39:11

DS Langston
31-18s-10w Rice,KS
Reif A&B #31-3
DST # 2
LKC "B"
2014.05.18



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

DS Langston
 310 W Central STE 202
 Wichita KS 67202
 ATTN: Dave Williams

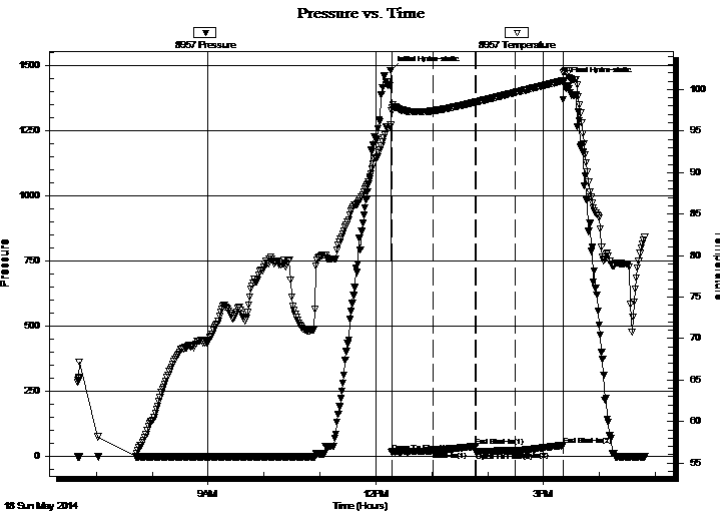
31-18s-10w Rice, KS
Reif A&B #31-3
 Job Ticket: 58959 **DST#: 2**
 Test Start: 2014.05.18 @ 06:40:00

GENERAL INFORMATION:

Formation: **LKC "B"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 12:17:00
 Time Test Ended: 16:48:30
 Interval: **3014.00 ft (KB) To 3030.00 ft (KB) (TVD)**
 Total Depth: 3030.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Brett Dickinson
 Unit No: 59
 Reference Elevations: 1765.00 ft (KB)
 1757.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8957 Outside
 Press@RunDepth: 19.65 psig @ 3027.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.05.18 End Date: 2014.05.18 Last Calib.: 2014.05.18
 Start Time: 06:40:05 End Time: 16:48:30 Time On Btm: 2014.05.18 @ 12:16:00
 Time Off Btm: 2014.05.18 @ 15:22:15

TEST COMMENT: IF-2 1/4" blow
 IS-No blow
 FF-1 1/4" blow
 FS-No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1482.23	95.72	Initial Hydro-static
1	15.49	97.40	Open To Flow (1)
46	19.33	97.44	Shut-In(1)
91	39.37	98.48	End Shut-In(1)
92	16.30	98.48	Open To Flow (2)
134	19.65	99.65	Shut-In(2)
185	42.81	101.04	End Shut-In(2)
187	1440.10	102.15	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	mud	0.02

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

DS Langston
310 W Central STE 202
Wichita KS 67202
ATTN: Dave Williams

31-18s-10w Rice,KS
Reif A&B #31-3
Job Ticket: 58959 **DST#: 2**
Test Start: 2014.05.18 @ 06:40:00

Tool Information

Drill Pipe:	Length: 2941.00 ft	Diameter: 3.80 inches	Volume: 41.25 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.70 inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 60.00 ft	Diameter: 2.25 inches	Volume: 0.30 bbl	Weight to Pull Loose:	60000.00 lb
			<u>Total Volume:</u> - bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial	40000.00 lb
Depth to Top Packer:	3014.00 ft			Final	40000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	16.00 ft				
Tool Length:	44.00 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			2991.00	
Hydraulic tool	5.00			2996.00	
Jars	5.00			3001.00	
Safety Joint	3.00			3004.00	
Packer	5.00			3009.00	28.00 Bottom Of Top Packer
Packer	5.00			3014.00	
Stubb	1.00		Inside	3015.00	
Perforations	12.00			3027.00	
Recorder	0.00	8934	Inside	3027.00	
Recorder	0.00	8957	Outside	3027.00	
Bullnose	3.00			3030.00	16.00 Bottom Packers & Anchor

Total Tool Length: 44.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

DS Langston
310 W Central STE 202
Wichita KS 67202
ATTN: Dave Williams

31-18s-10w Rice,KS
Reif A&B #31-3
Job Ticket: 58959 **DST#: 2**
Test Start: 2014.05.18 @ 06:40:00

Mud and Cushion Information

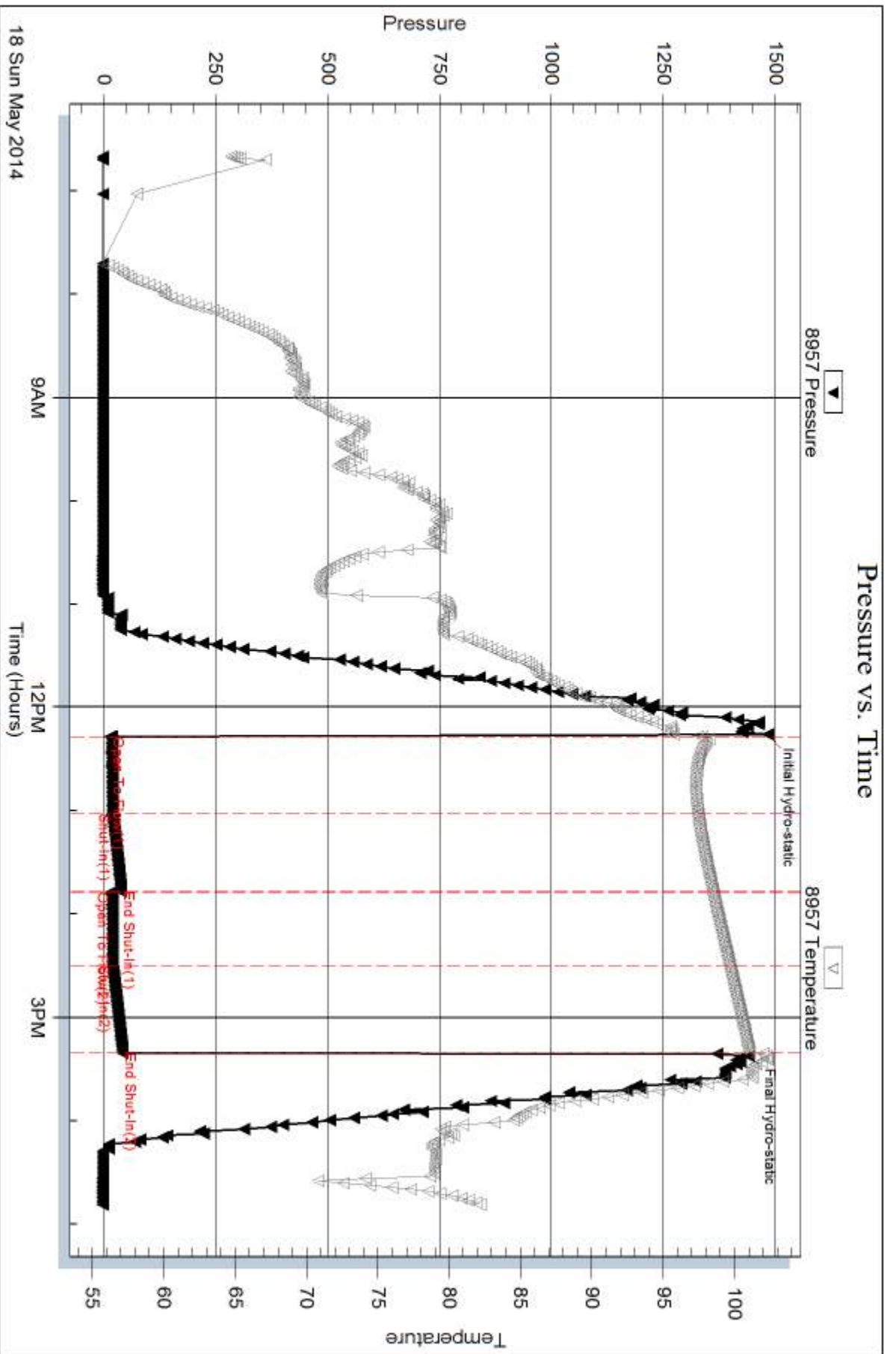
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 52.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.18 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4300.00 ppm			
Filter Cake: inches			

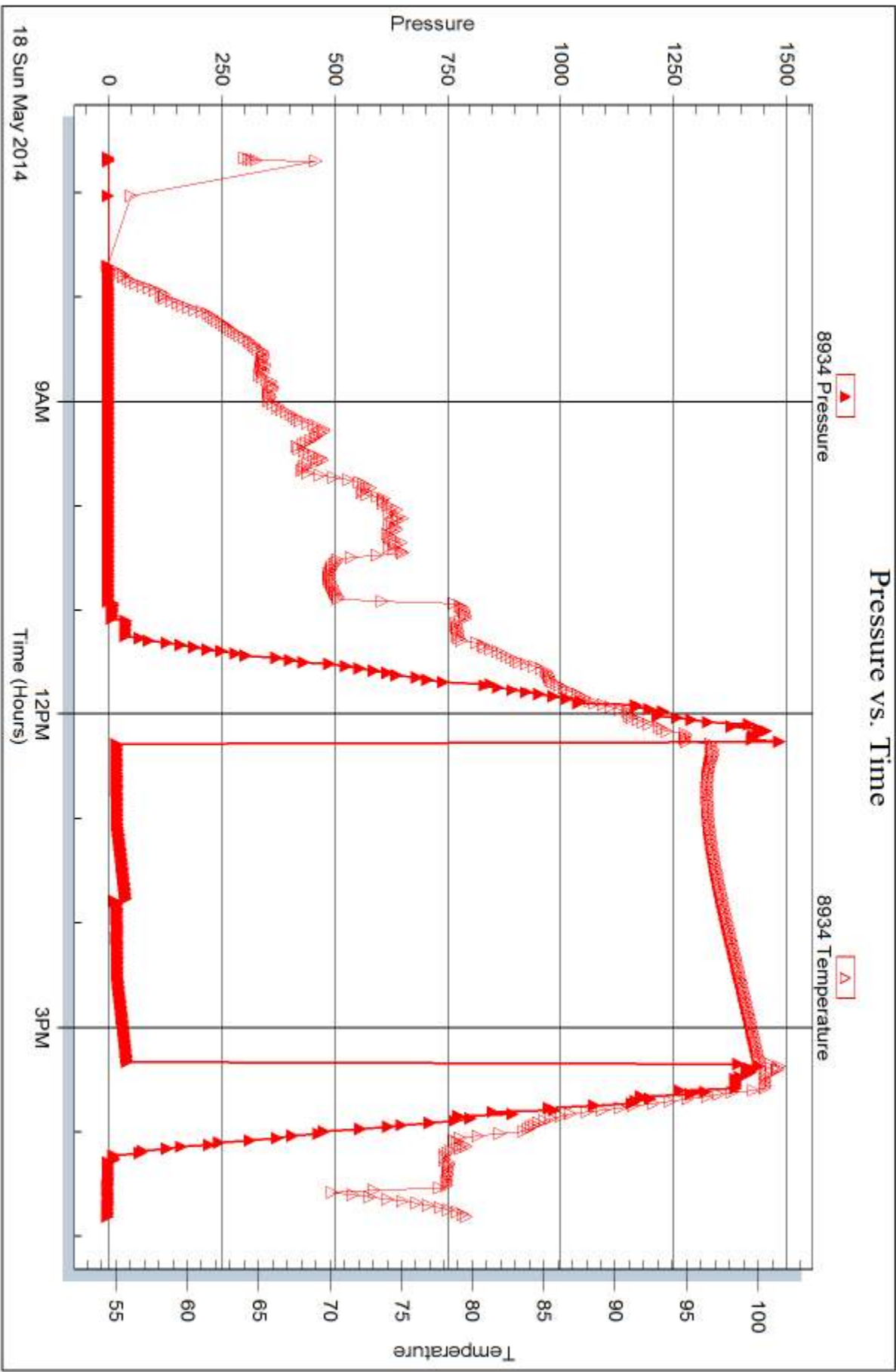
Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	mud	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:







DRILL STEM TEST REPORT

Prepared For: **DS Langston**

310 W Central STE 202
Wichita KS 67202

ATTN: Dave Williams

Reif A&B #31-3

31-18s-10w Rice,KS

Start Date: 2014.05.19 @ 19:30:00

End Date: 2014.05.20 @ 00:14:30

Job Ticket #: 58960 DST #: 3

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

Printed: 2014.05.22 @ 09:38:33

DS Langston
31-18s-10w Rice,KS
Reif A&B #31-3
DST # 3
Arb.
2014.05.19



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

DS Langston
310 W Central STE 202
Wichita KS 67202
ATTN: Dave Williams

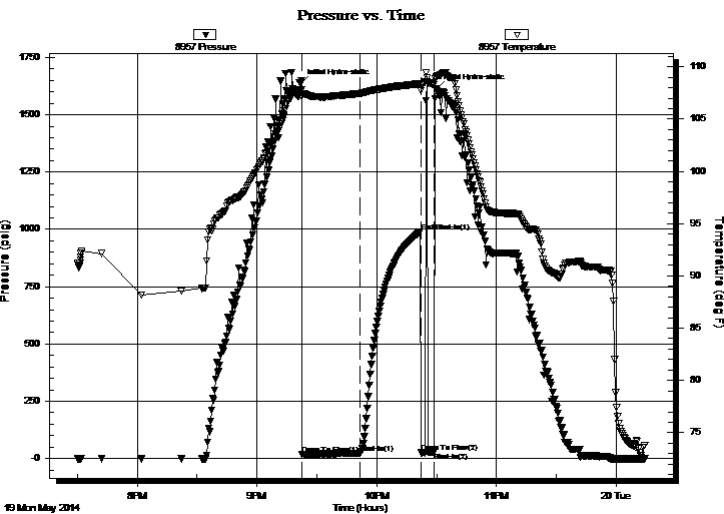
31-18s-10w Rice, KS
Reif A&B #31-3
Job Ticket: 58960 **DST#: 3**
Test Start: 2014.05.19 @ 19:30:00

GENERAL INFORMATION:

Formation: **Arb.**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 21:22:30
Time Test Ended: 00:14:30
Interval: **3295.00 ft (KB) To 3329.00 ft (KB) (TVD)**
Total Depth: 3329.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Reference Elevations: 1765.00 ft (KB)
1757.00 ft (CF)
KB to GR/CF: 8.00 ft
Test Type: Conventional Bottom Hole (Reset)
Tester: Brett Dickinson
Unit No: 59

Serial #: 8957 Outside
Press@RunDepth: 23.22 psig @ 3326.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.05.19 End Date: 2014.05.20 Last Calib.: 2014.05.20
Start Time: 19:30:05 End Time: 00:14:29 Time On Btm: 2014.05.19 @ 21:21:45
Time Off Btm: 2014.05.19 @ 22:30:00

TEST COMMENT: IF-very weak surface blow died in 28 min
IS-No blow
FF-No blow flush tool surge no blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1636.41	107.85	Initial Hydro-static
1	17.86	107.17	Open To Flow (1)
30	23.22	107.45	Shut-In(1)
61	989.44	108.41	End Shut-In(1)
61	25.09	107.74	Open To Flow (2)
67	28.35	108.28	Shut-In(2)
69	1614.33	109.08	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
5.00	OS mud	0.02

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

DS Langston
310 W Central STE 202
Wichita KS 67202
ATTN: Dave Williams

31-18s-10w Rice,KS
Reif A&B #31-3
Job Ticket: 58960 **DST#: 3**
Test Start: 2014.05.19 @ 19:30:00

Tool Information

Drill Pipe:	Length: 3228.00 ft	Diameter: 3.80 inches	Volume: 45.28 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 2.70 inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 60.00 ft	Diameter: 2.25 inches	Volume: 0.30 bbl	Weight to Pull Loose:	45000.00 lb
		Total Volume: - bbl		Tool Chased	0.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial	42000.00 lb
Depth to Top Packer:	3295.00 ft			Final	42000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	34.00 ft				
Tool Length:	62.00 ft				
Number of Packers:	2	Diameter:	6.75 inches		
Tool Comments:					

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			3272.00	
Hydraulic tool	5.00			3277.00	
Safety Joint	3.00		Fluid	3280.00	
Jars	5.00			3285.00	
Packer	5.00			3290.00	28.00 Bottom Of Top Packer
Packer	5.00			3295.00	
Stubb	1.00		Inside	3296.00	
Perforations	30.00			3326.00	
Recorder	0.00	8934	Inside	3326.00	
Recorder	0.00	8957	Outside	3326.00	
Bullnose	3.00			3329.00	34.00 Bottom Packers & Anchor

Total Tool Length: 62.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

DS Langston
310 W Central STE 202
Wichita KS 67202
ATTN: Dave Williams

31-18s-10w Rice,KS
Reif A&B #31-3
Job Ticket: 58960 **DST#: 3**
Test Start: 2014.05.19 @ 19:30:00

Mud and Cushion Information

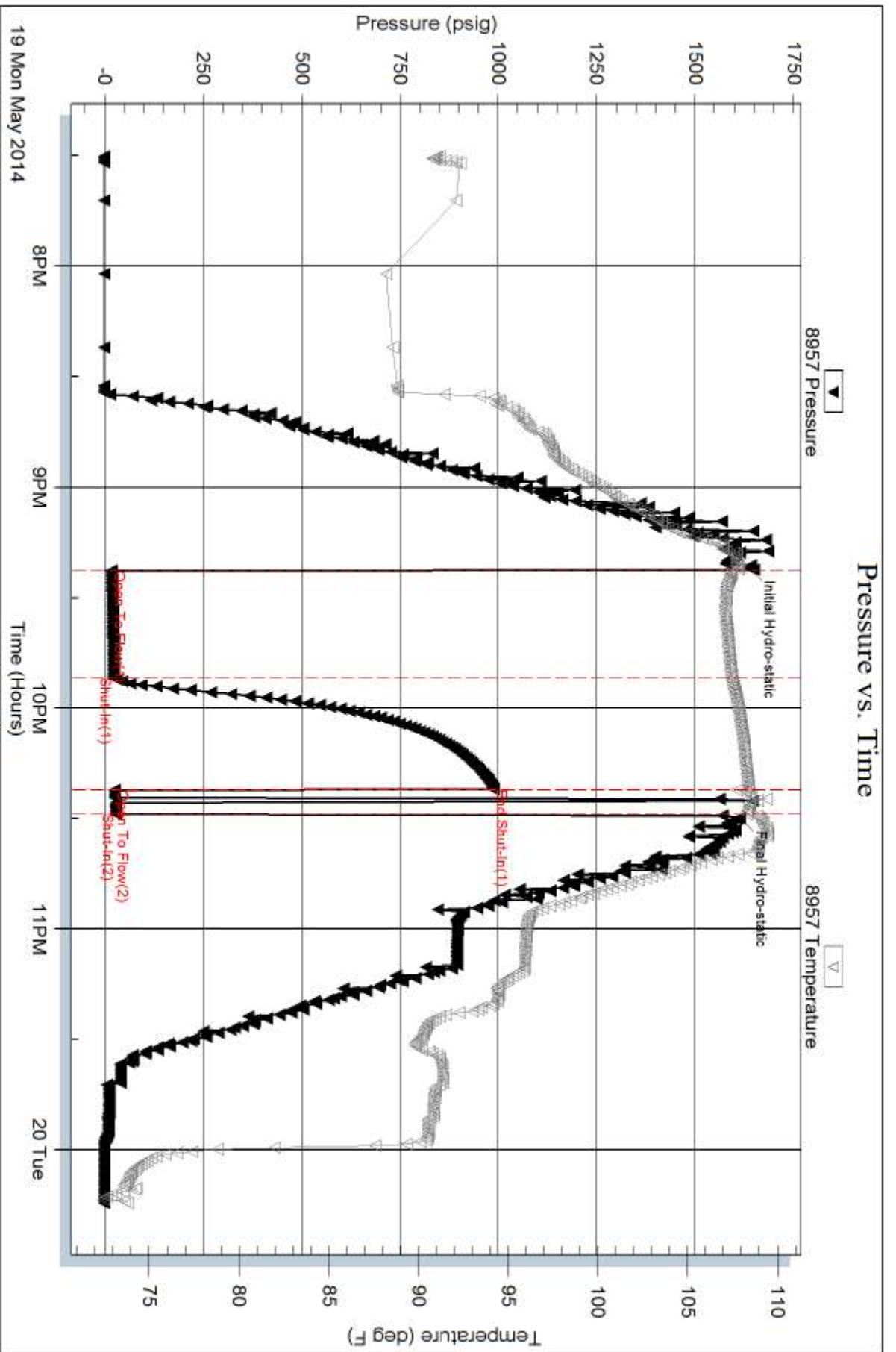
Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 52.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.18 in ³	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 4300.00 ppm			
Filter Cake: inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	OS mud	0.025

Total Length: 5.00 ft Total Volume: 0.025 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:



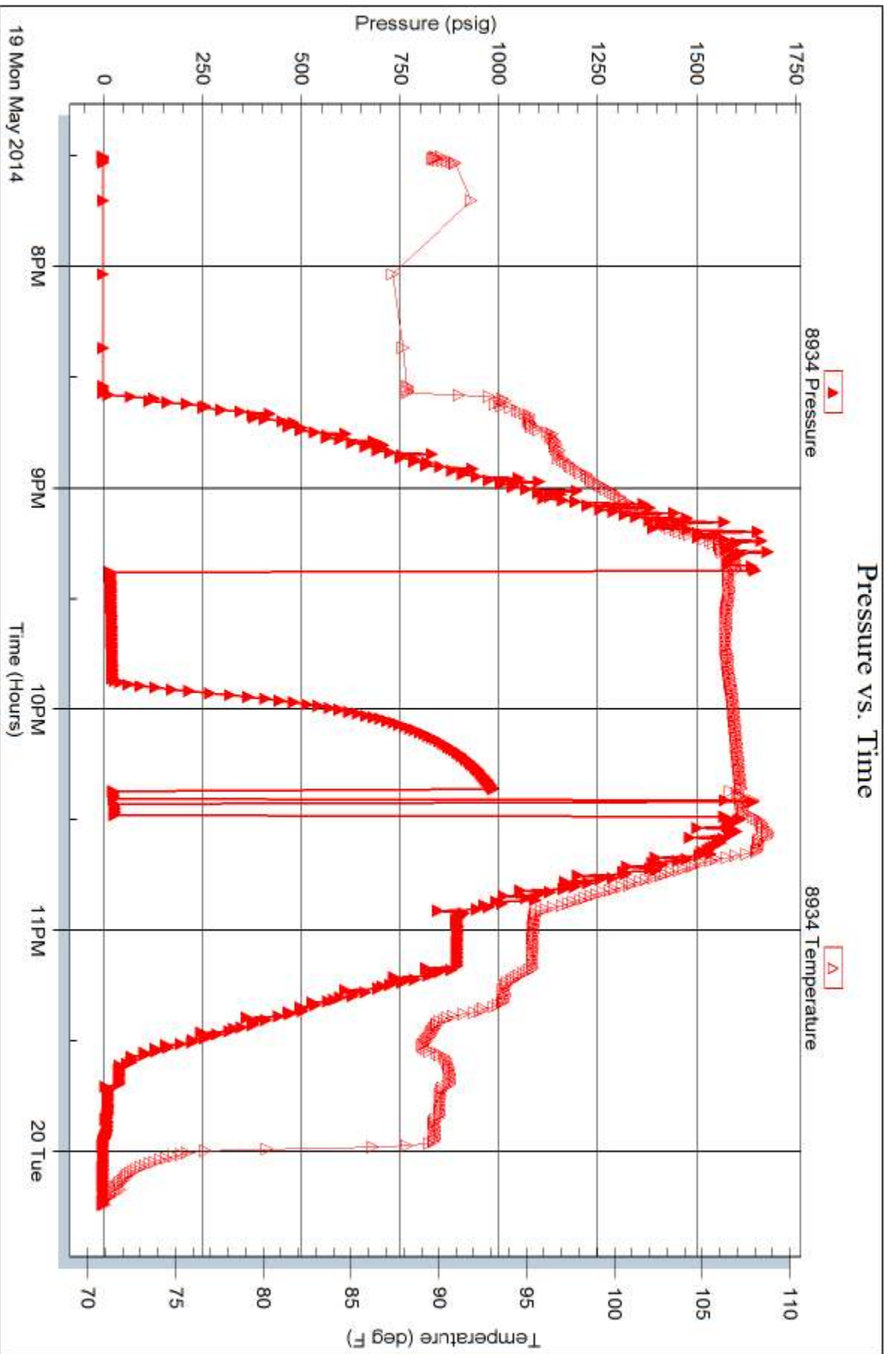
Serial #: 8934

Inside

DS Langston

Ref A&B #31-3

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 58960

Printed: 2014.05.22 @ 09:38:34



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 58958

4/10

Well Name & No. Reit CAB #31-3 Test No. 1 Date 5/17/14
 Company Langston, D.S. Elevation 1765 KB 1757 GL
 Address 310 W Central ST-202 Wichita KS 67202
 Co. Rep / Geo. Pave Williams Rig Southwind #8
 Location: Sec. 31 Twp. 18 Rge. 10 Co. Rice State KS

Interval Tested 2983-3010 Zone Tested KC "A"
 Anchor Length 27 Drill Pipe Run 2905 Mud Wt. 8.8
 Top Packer Depth ~~3010~~ 2978 Drill Collars Run ~~30~~ 60 Vis 52
 Bottom Packer Depth 2983 Wt. Pipe Run --- WL 7.2
 Total Depth 3010 Chlorides 4,300 ppm System LCM ---
 Blow Description IF - 1/2 in blow
FST - No blow
CF - 1/4 in blow
FST - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>90</u>	<u>Mud</u>				

Rec Total 90 BHT --- Gravity --- API RW --- @ --- °F Chlorides --- ppm

(A) Initial Hydrostatic <u>1,444</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>12:00</u>
(B) First Initial Flow <u>65</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>17:22 17:16</u>
(C) First Final Flow <u>64</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>19:32 19:32</u>
(D) Initial Shut-In <u>398</u>	<input type="checkbox"/> Circ Sub <u>---</u>	T-Pulled <u>22:52</u>
(E) Second Initial Flow <u>62</u>	<input type="checkbox"/> Hourly Standby <u>---</u>	T-Out <u>00:45</u>
(F) Second Final Flow <u>64</u>	<input checked="" type="checkbox"/> Mileage <u>145 RT 130 RT 201.50</u>	Comments <u>---</u>
(G) Final Shut-In <u>272</u>	<input type="checkbox"/> Sampler <u>---</u>	
(H) Final Hydrostatic <u>1,414</u>	<input type="checkbox"/> Straddle <u>---</u>	<input type="checkbox"/> Ruined Shale Packer <u>---</u>
	<input type="checkbox"/> Shale Packer <u>---</u>	<input type="checkbox"/> Ruined Packer <u>---</u>
Initial Open <u>30</u>	<input type="checkbox"/> Extra Packer <u>---</u>	<input type="checkbox"/> Extra Copies <u>---</u>
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Recorder <u>---</u>	Sub Total <u>0</u>
Final Flow <u>30</u>	<input type="checkbox"/> Day Standby <u>---</u>	Total <u>1676.50</u>
Final Shut-In <u>45</u>	<input type="checkbox"/> Accessibility <u>---</u>	MP/DST Disc't <u>---</u>
	Sub Total <u>1676.50</u>	

Approved By _____ Our Representative Beth Dickinson

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 58959

4/10

Well Name & No. Reif AB #31-3 Test No. 2 Date 5/18/14
 Company Langston, D.S. Elevation 1765 KB 1757 GL
 Address 310 w central STB 202 Wichita KS 67202
 Co. Rep / Geo. Dave Williams Rig Southwind #8
 Location: Sec. 31 Twp. 18 Rge. 10 Co. Rice State KS

Interval Tested 3014 - 3030 Zone Tested KB
 Anchor Length 16 Drill Pipe Run 2941 Mud Wt. 8.8
 Top Packer Depth 3009 Drill Collars Run 60 Vis 52
 Bottom Packer Depth 3014 Wt. Pipe Run - WL 7.2
 Total Depth 3030 Chlorides 4,300 ppm System LCM -
 Blow Description FF - 2 1/4 in blow
ISI - No blow
FF - 1 1/4 in blow
ESI - No blow

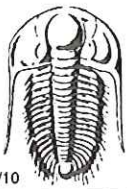
Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>Mud</u>				

Rec Total 5 BHT 101 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1,482 Test 1150 T-On Location 6:00
 (B) First Initial Flow 15 Jars 250 T-Started 6:40
 (C) First Final Flow 19 Safety Joint 75 T-Open 12:12
 (D) Initial Shut-In 39 Circ Sub _____ T-Pulled 15:12
 (E) Second Initial Flow 16 Hourly Standby _____ T-Out 16:45
 (F) Second Final Flow 20 Mileage 145 rT 201.50 Comments _____
 (G) Final Shut-In 43 Sampler _____
 (H) Final Hydrostatic 1,440 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open 45 Extra Recorder _____ Sub Total 0
 Initial Shut-In 45 Day Standby _____ Total 1676.50
 Final Flow 45 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 45 Sub Total 1676.50

Approved By _____ Our Representative Butt D...

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 58960

4/10

Well Name & No. Reit AB #31-3 Test No. 3 Date 5/19/14
 Company Langston, D.S. Elevation 1765 KB 1757 GL
 Address _____
 Co. Rep / Geo. Dave Williams Rig Southwind #8
 Location: Sec. 31 Twp. 18 Rge. 10 Co. Rice State KS

Interval Tested 3295-3329 Zone Tested Arbuckle
 Anchor Length 34 Drill Pipe Run _____ Mud Wt. _____
 Top Packer Depth 3290 Drill Collars Run 60 Vis _____
 Bottom Packer Depth 3295 Wt. Pipe Run _____ WL _____
 Total Depth 3329 Chlorides _____ ppm System LCM _____
 Blow Description IF - very weak surface blow died in 28 min
ISI - No blow
FP - No blow flush tool surge No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>25 Mud</u>			<u>100</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 5 BHT 108 Gravity _____ API RW _____ @ _____ ° F Chlorides _____ ppm

(A) Initial Hydrostatic <u>1,636</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>18:45</u>
(B) First Initial Flow <u>18</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>19:30</u>
(C) First Final Flow <u>23</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>21:20</u>
(D) Initial Shut-In <u>989</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>22:25</u>
(E) Second Initial Flow <u>25</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>00:15</u>
(F) Second Final Flow _____	<input checked="" type="checkbox"/> Mileage <u>145 RT x 2</u> 403	Comments _____
(G) Final Shut-In _____	<input type="checkbox"/> Sampler _____	<u>loaded</u>
(H) Final Hydrostatic <u>1,614</u>	<input type="checkbox"/> Straddle _____	<u>Tools 49:00 2014</u>
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Ruined Packer _____
Final Flow <u>5</u>	<input type="checkbox"/> Extra Recorder _____	<input type="checkbox"/> Extra Copies _____
Final Shut-In _____	<input type="checkbox"/> Day Standby _____	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility _____	Total <u>1878</u>
	Sub Total <u>1878</u>	MP/DST Disc't _____

Approved By _____ Our Representative Butt Durr

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PELAND

Acid & Cement

BURRTON, KS (620) 463-5161
 FAX (620) 463-2104

GREAT BEND, KS (620) 793-3366
 FAX (620) 793-3536

POST OFFICE BOX 438
 HAYSVILLE, KS 67060
 (316) 524-1225
 (316) 524-1027 FAX

Invoice

Page: 1

INVOICE NUMBER:
C40270-IN

BILL TO:

D.S. LANGSTON
310 W. CENTRAL, STE. 202
WICHITA, KS 67202-1004

LEASE: REIF AB 31-3

DATE	ORDER	SALESMAN	ORDER DATE	PURCHASE ORDER	SPECIAL INSTRUCTIONS	
05/20/2014	C40270		05/15/2014		NET 30	
QUANTITY	U/M	ITEM NO./DESCRIPTION		D/C	PRICE	EXTENSION
20.00	MI	CEMENT MILEAGE PUMP TRUCK		0.00	4.00	80.00
20.00	MI	CEMENT MILEAGE PU TRUCK		0.00	2.00	40.00
1.00	EA	CEMENT PUMP CHARGE		0.00	1,100.00	1,100.00
350.00	SAX	60-40 POZ MIX 2% GEL		0.00	10.00	3,500.00
19.00	SAX	CALCIUM CHLORIDE - SAX		0.00	30.00	570.00
1.00	EA	8 5/8 WOODEN PLUG		0.00	65.00	65.00
369.00	EA	BULK CHARGE		0.00	1.25	461.25
324.72	MI	BULK TRUCK - TON MILES		0.00	1.10	357.19
REMIT TO:		COP		Net Invoice:		6,173.44
P.O. BOX 438 HAYSVILLE, KS 67060		FUEL SURCHARGE IS NOT TAXABLE AND IS ADDED TO MILEAGE, PUMP AND OR DELIVERY CHARGES ONLY.		RICCO Sales Tax:		83.30
RECEIVED BY		NET 30 DAYS		Invoice Total:		<u>6,256.74</u>

*paid 5/28
check #8854*

There will be a charge of 1.5% "per month" (18% annual rate) on all accounts over 30 days past due.

Copeland Acid & Cement is a subsidiary of Gressel Oil Field Service

Gressel Oil Field Service reserves a security interest in the goods sold until the same are paid for in full and reserve all the rights of a secured party under the Uniform Commercial Code.



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

Well Name: REIF A & B # 31-3
Well Id:
Location: AP-S/2-NE-NE-SE-SW 1/4 of Sec. 31 - Tsp. 18 S. Rge. 10 W.
License Number: A.P.I. # 15-159-22,781-00-00 **Region:** RICE CO., KS.
Spud Date: 05/14/2014 **Drilling Completed:** 05/20/2014
Surface Coordinates: SPOT: 825' FSL & 2970' FEL

**Bottom Hole
Coordinates:**
Ground Elevation (ft): 1756' **K.B. Elevation (ft):** 1765'
Logged Interval (ft): 486' **To:** 3470' **Total Depth (ft):** 3470'
Formation: ARBUCKLE
Type of Drilling Fluid: CHEMICAL/POLYMER/GEL WITH MUD DISPLACEMENT @ 2611'
Printed by MUD.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: D. S. LANGSTON KCC LIC. # 30525
Address: 310 W. CENTRAL, STE. # 202
WICHITA, KANSAS 67202-1004

GEOLOGIST

Name: DAVID P. WILLIAMS, P.G.
Company: DW ENERGY, LLC.
Address: 312 NORTH BROADVIEW STREET
WICHITA, KANSAS 67208

CASING & DEVIATION

SURFACE CASING: Ran 12 joints of new 28#, 8 5/8" casing, Tally @ 476.64', Set @ 486', used 350 sacks of 60/40, 2% gel, 3% cc, cement circulated, by Copeland (Ticket #40270), plug down @ 4:45 AM on 05/15/14.

DEVIATION SURVEY'S TAKEN: @ 486' = 1/2 degree; @ 3010' = 3/4 degree; @ 3329' = 1 degree; @ 3470' = 3/4 degree.

DSTs

~~DST # 1~~ Interval: 2983'-3010'. Times: 30"-45"-30"- 45".

IF Blow = Weak Surface Blow 1/2"; ISIP: No Blow Back. FF= Weak Surface Blow 1/4".

Recovery: 90' Mud (100% M).

Pressures: IH =1444#; FH =1414#; IF=69-64#; FF=62-64#; ISIP= 398#; FSIP=272#. Temp=103 degrees F..

~~ DST # 2~~ Interval: 3014'-3030' Times: 45"-45"-45"-45".

IF Blow = Weak Surface Blow/2.5". ISIP: No Blow Back. FF= Weak Surface Blow/1.25".

Recovery: 5' Mud (100% M).

Pressures: IH=1482#; FH=1440#; IF=15-19#; FF=16-20#; ISIP = 39#; FSIP=43#. Temp.= 101 degrees F..

~~DST #3~~ Interval: 3295'-3329' Times: 30""- 30"-5"

IF Blow = Very Weak Surface Blow Died @ 28"; ISIP: No Blow Back. FF=5"/No Blow/Flushed Tool-No Help.

Recovery: 5' OSM.

Pressures: IH=1636#; FF=1614#; IF=18-23#; FF=25#; ISIP= 989#; FSIP = NA. Temp.=108 degrees F..


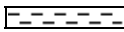

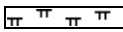
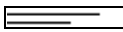
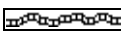




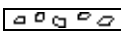


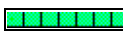




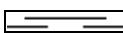




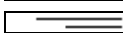
Comments

After review of all geologic samples as examined, structural correlation to offsetting prior drilled wells, combined with the fluid and pressures results from the drill stem test taken, it was determined by all parties that this well appears to be non-commercial and should be plugged and abandoned.






























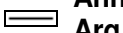












































Respectfully submitted,

David P. Williams, P.G. Kansas #88

ROCK TYPES

 Anhy	 Clyst	 Gry shale	 Mrlst	 Shgy
 Bent	 Coal	 Gyp	 Red shale	 Sltst
 Brec	 Congl	 Igne	 Salt	 Ss
 Carb sh	 Dol	 Lmst	 Shale	 Till
 Cht	 Grn sh	 Meta	 Shcol	

ACCESSORIES

MINERAL			
 Anhy	 Hvymin	 Belm	 Pellet
 Arggrn	 Kaol	 Bioclst	 Pisolite
 Arg	 Marl	 Brach	 Plant
 Bent	 Minxl	 Bryozoa	 Strom
 Bit	 Nodule	 Cephal	
 Brecfrag	 Phos	 Coral	STRINGER
 Calc	 Pyr	 Crin	 Anhy
 Carb	 Salt	 Echin	 Arg
 Chtdk	 Sandy	 Fish	 Bent
 Chtlt	 Silt	 Foram	 Coal
 Dol	 Sil	 Fossil	 Dol
 Feldspar	 Sulphur	 Fuss	 Grysh
 Ferrpel	 Tuff	 Gastro	 Gyp
 Ferr	FOSSIL	 Oolite	 Ls
 Glau	 Algae	 Oomold	 Mrst
 Gyp	 Amph	 Ostra	 Sltstrg
		 Pelec	 Ssstrg
			TEXTURE
			 Boundst
			 Chalky
			 Cryxln
			 Earthy
			 Finexln
			 Grainst
			 Lithogr
			 Microxln
			 Mudst
			 Packst
			 Wackest

OTHER SYMBOLS

- POROSITY**
 [E] Earthy
 [B] Fenest
 [F] Fracture
 [X] Inter
 [M] Moldic
 [O] Organic
 [P] Pinpoint

- [V] Vuggy
SORTING
 [W] Well
 [M] Moderate
 [P] Poor

- ROUNDING**
 [R] Rounded
 [r] Subrnd
 [a] Subang
 [A] Angular

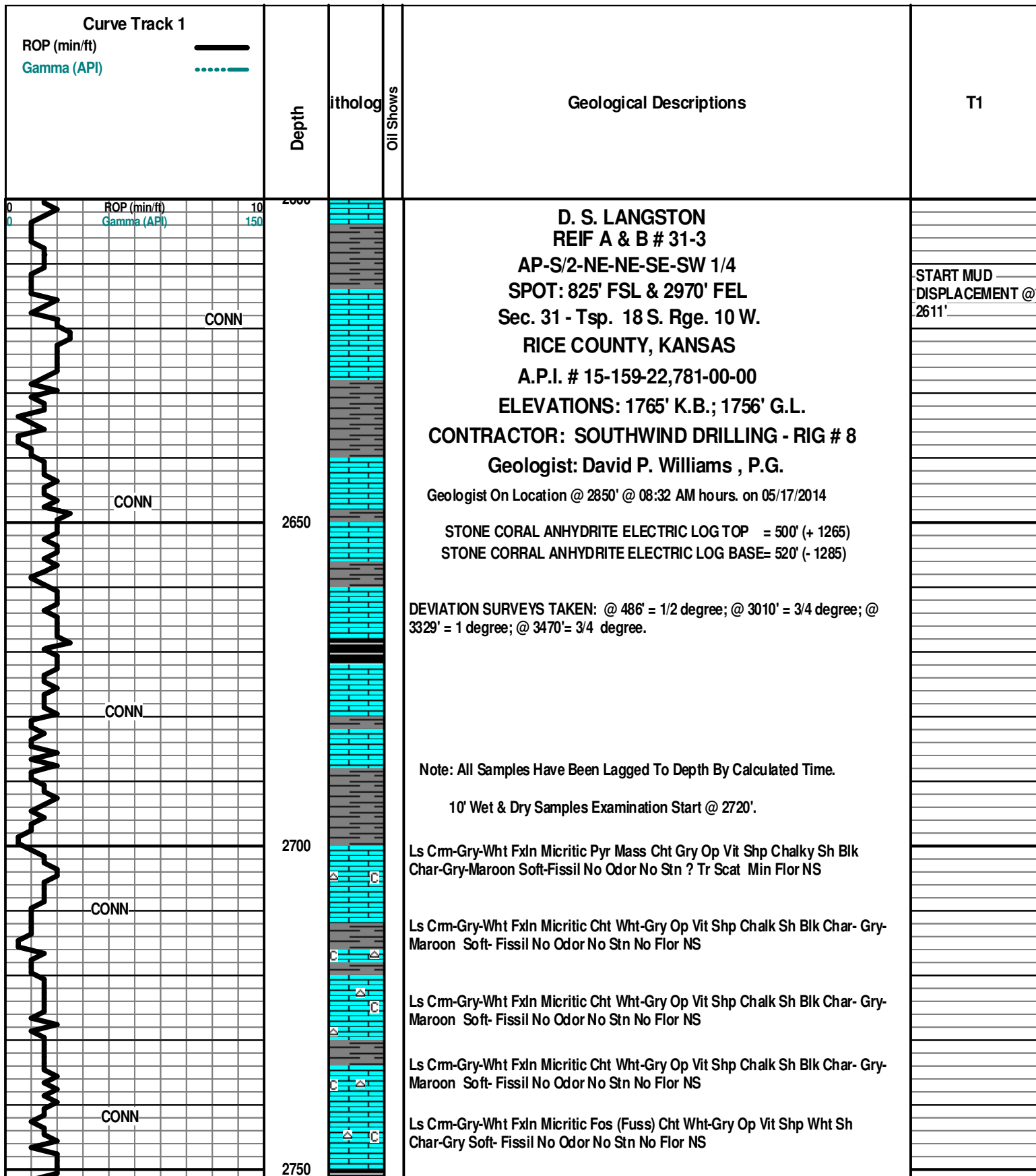
- [●] Even
 [◉] Spotted
 [◌] Ques
 [◻] Dead

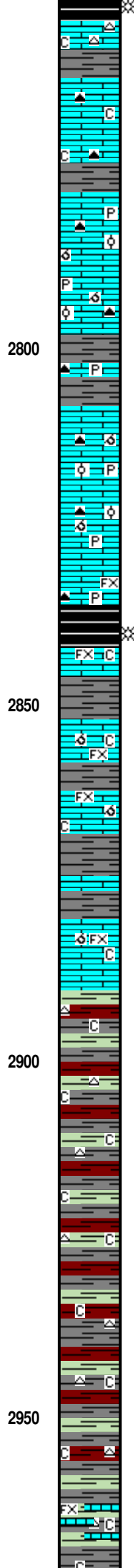
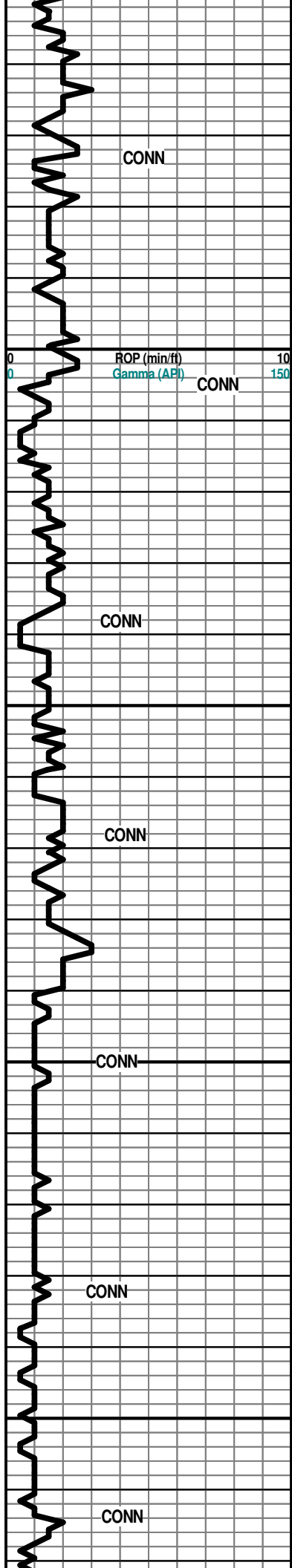
[■] Core

- EVENT**
 [◻] Rft
 [▶] Sidewall

- OIL SHOW**
 [X] Gas show

- INTERVAL**
 [■] Dst
 [■] Dst_alt





Sh Blk Carb Char-Gry-Maroon Soft-Fissil Ls Crm-Gry-Wht Fxln Micritic (w/Pyr Inclus) Cht Wht-Gry Op Vit Shp Chalk No Odor No Stn No Flor NS

Ls Crm-Gry-Wht Fxln Micritic Cht Drk Gry-Gry Op Vit Shp Chalk Sh Char- Gry Fissil No Odor No Stn ? Scat Min Flor NS

Ls Crm-Gry-Wht Fxln Micritic Cht Drk Gry Op Vit Shp Chalk Sh Char- Gry Fissil No Odor No Stn ? Scat Min Flor NS

PLATTMOUTH 2778' (- 1013)

Ls Wht-Crm-Gry Fxln Fair-Med OOL/OOM Por (w/ OOL in pl) Poor-Fair Leaching ("Salt & Pepper") Poor-Fair Dissolu Barren Cht Blk -Smoky Gry Op Shp Vit Pyr Mass Sh Blk Carb-Char Fissil No Odor No Flor NS

Ls Wht-Crm-Gry Fxln Grad Dns Micrite w/Tr Fair-Med OOL/OOM Por (w/ OOL in pl) Poor-Fair Vug Leaching ("Salt & Pepper") Fair-Med Dissolu Barren Cht Blk-Smoky Gry Op Shp Vit Pyr Mass Sh Blk Carb-Char Fissil No Odor No Flor NS

Ls Wht-Crm-Gry Fxln Grad Dns Micrite w/Tr Fair-Med OOL/OOM Por (w/ OOL in pl) Poor-Fair Vug Leaching ("Salt & Pepper") Fair-Med Dissolu Barren Cht Blk-Smoky Gry Op Shp Vit Pyr Mass Sh Blk Carb-Char Fissil No Odor No Flor NS

Ls Wht-Crm-Gry Fxln Grad Dns Micrite w/Tr Fair-Med OOL/OOM Por (w/ OOL in pl) Poor-Fair Vug Leaching ("Salt & Pepper") Fair-Med Dissolu Barren Cht Blk-Smoky Gry Op Shp Vit Pyr Mass Sh Blk Carb-Char Fissil No Odor No Flor NS

Ls Wht-Crm-Gry Fxln Grad Dns Micrite w/Tr Fair-Med OOL/OOM Por (w/ OOL in pl) Poor-Fair Vug Leaching ("Salt & Pepper") Fair-Med Dissolu Barren Cht Blk-Smoky Gry Op Shp Vit Pyr Mass Sh Blk Carb-Char Fissil No Odor No Flor NS

Ls Wht-Crm-Gry Fxln Grad Dns Micrite Barren Pyr Mass Sh Char Fissil No Odor No Flor NS

HEEBNER 2837' (-1072)

Sh Blk Carb Char-Gry Soft-Fissil Ls Crm-Gry-Wht-Tan Fxln Micritic Grad Poor OOM Por Poor Dissolu Poor Develop Cht Gry (w/ Pyr Inclus) Op Vit Shp Chalk No Odor No Stn No Flor NS

TORONTO 2853' (- 1088)

Ls Wht-Crm-Tan Fxln Dns Micritic Grad Fair OOM Por Fair Leaching Fair Dissolu Barren Chalky Sh Char-Gry-Blk Carb Fissil No Odor No Stn No Flor NS

Ls Wht-Crm-Tan Fxln Dns Micritic Grad Poor OOM Por Poor Leaching Poor Dissolu Barren Chalky Sh Char-Gry-Blk Carb Fissil No Odor No Stn No Flor NS

DOUGLAS 2868' (- 1103)

Ls Wht-Crm-Gry Fxln Dns Micritic Grad Barren Chalky Sh Char-Gry-Blk Carb Fissil No Odor No Stn No Flor NS

Ls Wht-Crm-Gry Fxln Dns Micritic Grad Poor OOM Por Poor Leaching Poor Dissolu Barren Chalky Sh Char-Gry-Blk Carb Fissil No Odor No Stn No Flor NS

Sh Char-Gry Laminated Mica/Carb-Grn-Red Fissil Ls Crm-Wht Fxln Dns Micritic Barren Cht Tan Op-Translu-Shp Vit Chalk No Odor No Stn No Flor NS

Sh Char-Gry Laminated Mica/Carb-Grn-Red-Abd Fissil Ls Crm-Wht Dec Fxln Dns Micritic Barren Cht Tan Op-Translu-Shp Vit Chalk No Odor No Stn No Flor NS

Sh Char-Gry Laminated Mica/Carb-Grn-Red-Abd Fissil Ls Crm-Wht Dec Fxln Dns Micritic Barren Cht Tan Op-Translu-Shp Vit Chalk No Odor No Stn No Flor NS

Sh Char-Gry Laminated Mica/Carb-Grn-Red-Abd Fissil Ls Crm-Wht Dec Fxln Dns Micritic Barren Cht Tan Op-Translu-Shp Vit Chalk No Odor No Stn No Flor NS

Sh Char-Gry Laminated (w/ Carb & Micaceous Includ) Abd- Grn- Red- Abd Fissil Ls Crm-Wht Dec Fxln Dns Micritic Barren Cht Tan Op -Translu -Shp Vit Chalk No Odor No Stn No Flor NS

Sh Char-Gry Laminated (w/ Carb & Micaceous Includ) Abd- Grn- Red- Abd Fissil Ls Crm-Wht Dec Fxln Dns Micritic Barren Cht Tan Op-Translu-Shp Vit Chalk No Odor No Stn No Flor NS

Sh Char-Gry Laminated (w/ Carb & Micaceous Includ) Abd- Grn- Red- Abd Fissil Ls Crm-Wht Fxln Dns Micritic Barren Cht Tan Op - Translu- Shp Vit Chalk No Odor No Stn No Flor NS

Sh Char-Gry Laminated (w/ Carb & Micaceous Includ) Abd- Grn- Red- Abd Fissil Ls Crm-Wht Fxln Dns Micritic Barren Cht Tan Op - Translu- Shp Vit Chalk No Odor No Stn No Flor NS

Sh Char-Gry Laminated (w/ Carb & Micaceous Includ) Abd- Grn- Red- Abd Fissil Ls Crm-Wht Fxln Dns Micritic Barren Cht Tan Op - Translu- Shp Vit Chalk No Odor No Stn No Flor NS

Mud co Ck @
 3010' @ 1:30 PM
 5/17/14
 Vis= 52;
 WT= 8.8#;
 PV = 16;
 YP = 12;
 WL = 7.2; Cake= 1;
 Chl= 4300;
 Cal= 20;
 Sol=3.4%.
 LCM= Tr. #;
 DMC=\$2,998.20
 CMC=\$4,760.65

~ DST # 1 ~

Interval: 2983'-3010'
 Times:
 30"-45"-30"-45"
 IF Blow = Weak Surface
 Blow 1/2";
 ISIP: No Blow Back.
 FF= Weak Surface

IATAN (BROWN LIME) 2976' (- 1211)

Ls Crm-Gry FxIn Mostly Micrite Cht Tan Op-Translu-Shp Vit Chalk Wht Sh (w/ Carb & Micaceous Includ) V Abd No Odor No Stn No Flor NS

Ls Wht-Crm MicroIn-FxIn Mostly Micrite Sh Char-Gry Soft-Fissil (w/ Carb & Micaceous Includ) Abd No Odor No Stn No Flor NS

LANSING 2994' (- 1229)

40" CFS @ 3010' Ls Wht-Crm-Tan FxIn Dns Micrite Grad Fair IxIn Pin-Pt Por Fos (Brach, Crin) Sh Gry Soft Fair SG & ? SO Sli ? Lt Brn Stn Fair-Med Odor Good (Clear-Lt Grn) Sat Flor GSG & ? SO

60" CFS @ 3010' Ls Wht-Crm-Tan FxIn Dns Micrite Grad Fair-Med IxIn Pin-Pt Por (w/Fos (Spicule) Includ) Fair-Med IxIn (w/Tr. Vug Leaching Fair-Med Dissolu Fos (Brach, Crin) Sh Gry Soft Good SG & Sli SO Scat Gillsonitic Stn Med-Odor Good (Clear-Lt Grn) Sat Flor (Both Gas & Oil Do Flor) GSG/FSO

40" CFS @ 3030' Ls Wht-Crm-Tan FxIn Dns Micrite Grad Fair-Med OOM Por (w/OOL in pl) Good Pin-Pt Med IxIn Vug Leaching Fair-Med Dissolu Med SG/SO Poor Sat Stn Med-Good Odor Good (Clear-Lt Grn) Sat Flor GSG/SSO

60" CFS @ 3030' Ls Wht-Crm-Tan FxIn Dns Micrite Grad Fair-Med OOM Por (w/OOL in pl) Good Pin-Pt Med IxIn Vug Leaching Fair-Med Dissolu Med SG/SO Poor Sat Stn Med-Good Odor Good (Clear-Lt Grn) Sat Flor GSG/SSO

Trip Debris Sh Char-Gry Soft-Fissil V Abd Ls Wht-Crm FxIn Dns Micrite Grad Fair-Med OOM Por (w/OOL in pl) Good Pin-Pt Med IxIn Por Med Odor Good No Flor SSG/SSO AA

Ls Crm-Tan FxIn Dns Micrite Cht Wht (w/Fos (Fuss) Includ) Sh AA Faint Dec Odor No Flor No Stn NS

Ls Wht-Crm-Gry FxIn Dns Micrite Grad Fair OOM Por (w/OOL in pl) Poor-Fair Pin-Pt Poor IxIn Por Fos (Fuss) Faint ? Odor No Stn No Flor NS

Ls Wht-Crm-Gry FxIn Dns Micrite Grad Fair OOM Por (w/OOL in pl) Poor-Fair Pin-Pt Poor IxIn Por Fos (Fuss) Faint ? Odor No Stn No Flor NS

Ls Wht-Crm-Tan FxIn Dns Micrite Barren Chalky Sh Char-Gry Soft No Stn ? Faint Odor No Flor NS

Ls Wht-Crm FxIn Med-Good OOM Por (w/ OOL in pl) Med Leaching Med Dissolu ? Faint Odor ? Tr Flor (Lt Grn) NS

Ls Wht-Crm FxIn Med-Good OOM Por (w/ OOL in pl) Med Leaching Med Dissolu ? Faint Odor ? Tr Flor (Lt Grn) NS

Ls Wht-Crm-Gry FxIn Fair OOM Por (w/ OOL in pl) Fair Vug Leaching Fair Dissolu ? Faint Odor No Stn No Flor NS

Ls Wht-Crm-Gry FxIn Fair OOM Por (w/ OOL in pl) Fair Vug Leaching Fair Dissolu Grad Dns Micrite Barren ? Faint Odor No Stn No Flor NS

Ls Wht-Crm-Gry FxIn Fair OOM Por (w/ OOL in pl) Fair Vug Leaching Fair Dissolu Grad Dns Micrite Barren Fos (Crin) Sh Char-Gry Fissil Fair-Med Odor No Stn Fair Flor (Lt Grn) ? NS

Ls Wht-Crm-GryFxlN Dns Micrite Grad Fair OOM Por (w/ OOL in p) Fair Vug Leaching Fair Dissolu Barren Chalky Sh Char-Gry-Aqua/Grn Fissil Fair Odor Fair (Lt Grn) Scat Flor ? NS

Ls Wht-Crm-GryFxlN Dns Micrite Grad Fair OOM Por (w/ OOL in p) Fair Vug Leaching Fair Dissolu Fos (Crin) Chalky Sh Char-Gry-Aqua/Grn Fissil Fair Odor Fair (Lt Grn) Scat Flor ? NS

Ls Wht-Crm-Tan FxIn Dns Micrite Grad Fair OOM Por (w/ OOL in p) Fair Vug Leaching Fair Dissolu Fos (Crin) Chalky Sh Char-Gry-Aqua/Grn-Blk Carb Fissil Fair Odor Fair (Lt Grn) Scat Flor ? NS

Ls Wht-Crm-Gry FxIn Dns Micrite Grad Fair OOM Por (w/ OOL in p) Fair Vug Leaching Fair Dissolu Cht Wht Op Shp Vit Fos (Crin) Chalky Sh Char-Gry Fissil Sli ? Odor Fair (Lt Grn) Scat Flor ? NS

Ls Wht-Crm-Gry FxIn Dns Micrite Barren Grad Poor OOM Por Poor-Fair Leaching Poor Dissolu Barren Chalky Sh Char-Gry Fissil ? Faint Odor Sli Flor (Lt Grn) No Stn NS

Ls Wht-Crm-Gry FxIn Dns Micrite Barren Grad Poor OOM Por Poor-Fair Leaching Poor Dissolu Barren Chalky Sh Char-Gry Fissil ? Faint Odor Sli Flor (Lt Grn) No Stn NS

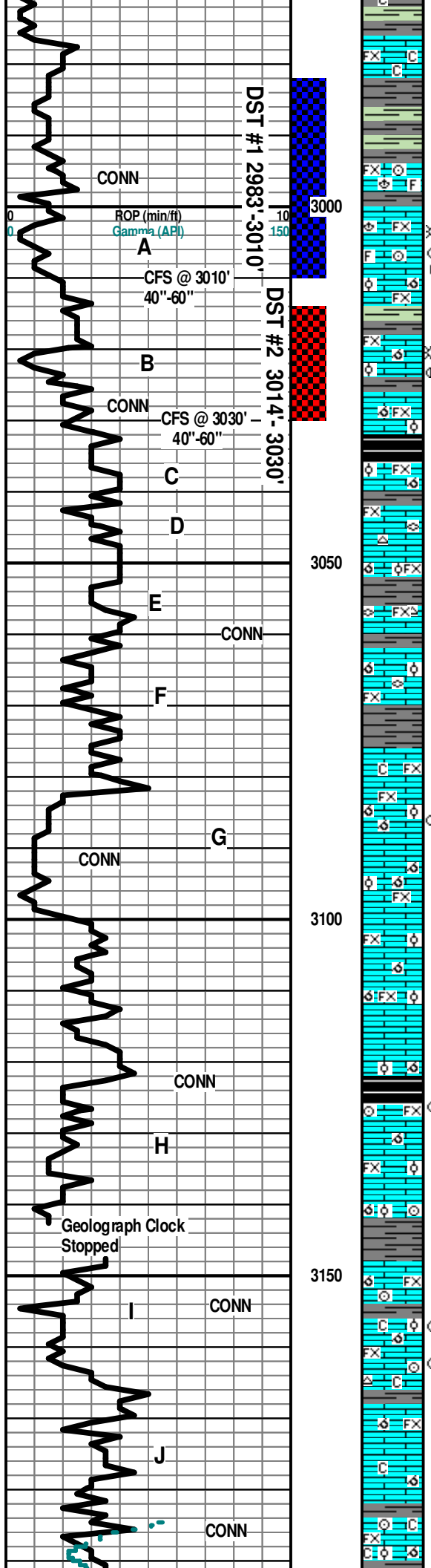
Blow 1/4"
Recovery: 90' Mud (100% M)
Pressures:
IH = 1444#;
FH = 1414#;
IF = 69-64#;
FF = 62-64#;
ISIP = 398#;
FSIP = 272#
Temp. = 103 degrees F.

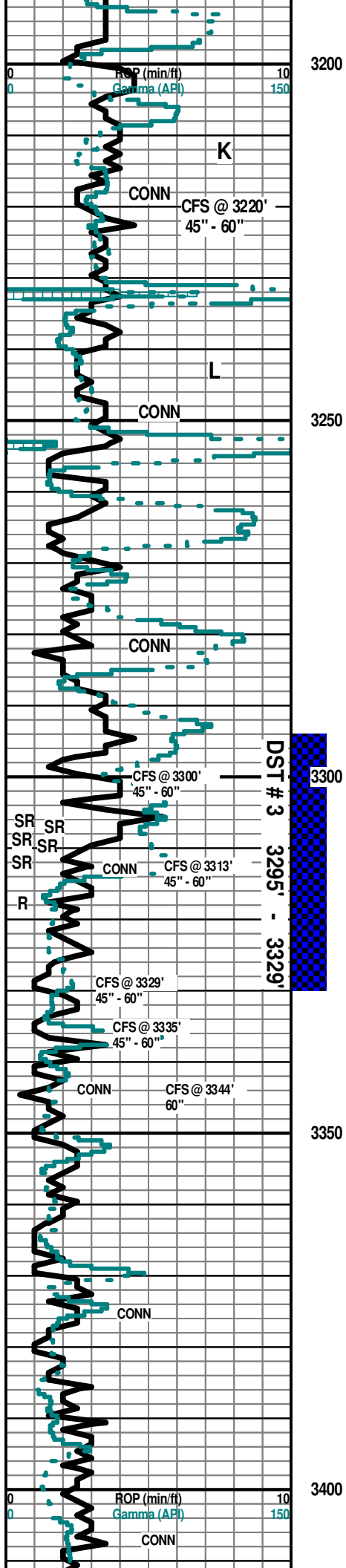
PIPE STRAP = <0.93'>
SHORT TO BOARD. NO COR. MADE.

~ DST # 2 ~

Interval: 3014'-3030'
Times:
45"-45"-45"
IF Blow = Weak Surface-Blow/2.5";
ISIP: No Blow Back.
FF = Weak Surface
Blow/1.25";
Recovery: 5' Mud (100% M).
Pressures:
IH = 1482#;
FH = 1440#;
IF = 15-19#;
FF = 16-20#;
ISIP = 39#;
FSIP = 43#
Temp. = 101 degrees F.

Mudco Ck @
3030' @ 2:10 PM
5/18/14
Vis = 47;
WT = 9.1#;
PV = 14;
YP = 13;
WL = 8.4; Cake = 1;
Chl = 6000;
Ca = 20;
Sol = 5.4%. LCM = 1#;
DMC = \$140.95
CMC = \$4,901.60





Sh Char-Aqua Fissil Ls Wht-Crm-Tan FxIn Med OOM Por (w/ OOL in pl) Med Vug Leaching Med Dissolu Chalky Dec Faint Odor ? Scat Flor Fos (Crim) Sh Char-Gry-Grn Fissil NS

STARK SHALE 3206' (-1457)

45" CFS @ 3220' Ls Wht-Crm-Gry FxIn Dns Micrite Fos (Crim) Chalky Sh Char-Gry Fissil Sli ? Odor Fair (Lt Grn) Scat Flor ? NS
 60" CFS @ 3220' Ls Crm-Tan-Gry FxIn Poor-Fair OOM Por Poor-Fair Leaching Poor-Fair Dissolu Fos (Crim) Chalky Sh Char Gry Grn Fissil Faint Odor ? Flor (Lt Grn-5 Pcs) Flor NS
 Ls Wht-Crm-Tan FxIn Dns Micrite Sh Char Gry Grn Fissil ? Faint Odor Fair ? (Lt Grn) Flor NS

HUSHPUCKNEY 3230' (- 1465)

Sh Blk Carb-Char Gry Grn Fissil Ls Wht-Crm-Tan FxIn Poor-Fair OOM Por (w/ OOL in pl) Poor- Fair Vug Leaching Poor-Fair Dissolu Faint Odor ? (Lt Grn) Sat Flor NS

Ls Wht-Crm-Tan FxIn Micritic Sh Char Gry Grn-Blk Carb Fissil No Odor ? Sat Min Flor NS

Ls Wht-Crm-Tan FxIn Micritic Sh Char Gry Grn-Blk Carb Fissil No Odor ? Sat Min Flor NS

BASE KANSAS CITY 3262' (- 1489)

Sh Char-Gry-Blk Carb-Aqua/Grn Abd Fissil Ls FxIn Dns Micrite? Faint Odor ? Min Flor No Stn NS

Sh Blk Carb-Char-Gry-Aqua-Grn Fissil Ls Wht-Crm-Tan FxIn Dns Micrite Poor IxIn Por Grad No Vis Por Chalky Sh Char-Gry-Aqua-Grn Fissil No Odor No Stn No Flor NS

Sh Varicolored Red-Gry-Aqua/Grn Fissil (Wash Red) Ls AA Dns Micrite No Vis Por Cht Wht No Odor No Stn No Flor NS

45" CFS @ 3300' Sh Varicolored Red-Gry-Aqua/Grn-Purple Fissil (Wash Red) Ls AA Dns Micrite No Vis Por Cht Wht Op Shp Vit Ls/Dolo Gry Dns Micrite No Odor No Stn No Flor NS

60" CFS @ 3300' Sh Varicolored Red-Gry-Aqua/Grn-Purple Fissil (Wash Red) Ls AA Dns Micrite No Vis Por Cht Wht Op Shp Vit Ls/Dolo Gry Dns Micrite No Odor No Stn No Flor NS

Sh Varicolored AA Ls/Dolo Tan-Crm-Gry MicroxIn Poor IxIn Pin-Pt Por Grad Poor OOM Por (tTr Only-2 Pcs) Fair Leaching Fair Dissolu Cht Yell-Ord-Drk Gry Translu-Op Shp Vit ? Faint Inc Odor Inc ? Sli Tr Flor (Lt Grn- 2 pcs) No Stn NS

45" CFS @ 3313' Sh Varicolored AA Ls/Dolo Tan-Crm-Gry MicroxIn Poor IxIn Pin-Pt Por Cht Wht-Yell-Org-Drk Gry Translu-Op Shp Vit No Odor ? Sli Tr Flor No Stn NS

60" CFS @ 3313' Sh Varicolored AA Ls/Dolo Tan-Crm-Gry MicroxIn Poor IxIn Pin-Pt Por Cht Wht-Yell-Org-Drk Gry Translu-Op Shp Vit No Odor ? Sli Tr Flor No Stn NS

ARBUCKLE 3314' (-1539)

45" CFS @ 3329' Dolo Tan-Crm MicroxIn Poor IxIn Pin-Pt Por (w/Sg & SO) ? "Tite" Good Flor (Lt Grn & Both Gas & Oil Do Flor) Med Odor Inc Cht Wht-Tan Op Shp Vit Grad Fair-Med IxIn Por FSG-FSO Inc.

60" CFS @ 3288' 3288' Dolo Tan-Crm FxIn Med IxIn Pin-Pt Grad Med Rhombic IxIn Por Med Vug IxIn Por Fair-Med Leaching Por (w/Sg & SFO in Wtr Under Heat) Good Flor AA Good Odor Cht Wht-Tan Op No Dissolu Shp Vit SG & SO

45" CFS @ 3335' Dolo Crm-Tan MicroxIn Dns Micrite Cht Wht-Yell-Red-Drk Gry Translu-Op Shp Vit Sh Varicolored Good Odor Good Flor No Stn NSG & NSFO

60" CFS @ 3335' Dolo Crm-Tan MicroxIn Dns Micrite Cht Wht-Yell-Red-Drk Gry Inc Translu-Op Shp Vit Fos (Brach) Sh Varicolored AA Inc Odor Dec Good Flor No Stn NSG & NSFO

60" CFS @ 3344' Dolo Crm-Tan FxIn Poor-Fair Sucrosic Granular Por Barren (w Tr. Pyr Inklus) Cht Wht-Org Translu-Op Shp Vit Chalky Sh Char-Gry-Aqua Fissil Faint Odor Good ? Min Flor (Dull Lt Grn) NS

Dolo Crm-Tan FxIn Poor-Fair Sucrosic Granular Por Barren Cht Wht Translu-Op Shp Vit Chalky Sh Char-Gry-Aqua Fissil No Odor Good ? Min Flor (Dull Lt Grn) NS

Dolo Tan-Crm FxIn Poor-Fair Sucrosic Granular Por Barren Cht Wht Op Shp Vit Chalky Sh Char-Gry-Aqua Fissil Faint Odor Good ? Min Flor (Dull Lt Grn) NS

Dolo Tan-Crm FxIn Poor-Fair Sucrosic Granular Por Barren Grad Poor- Fair OOM Vug Por Baren Cht Wht Op Shp Vit Chalky Sh Char-Gry-Aqua Fissil No Odor Med-Good ? Min Flor (Dull Lt Grn) NS

Dolo Tan-Crm FxIn Dns Micritic Por Barren Grad Poor Sucrosic Por Baren Cht Wht Translu-Op Shp Vit Chalky Sh Char-Gry-Aqua Fissil No Odor Med-Good ? Min Flor (Dull Lt Grn) NS

Dolo Crm-Tan FxIn Dns Micritic Por Barren Grad Poor Sucrosic Por Baren Cht Wht Translu-Op Shp Vit Chalky Sh Char-Gry-Aqua Fissil No Odor Med-Good ? Min Flor (Dull Lt Grn) NS

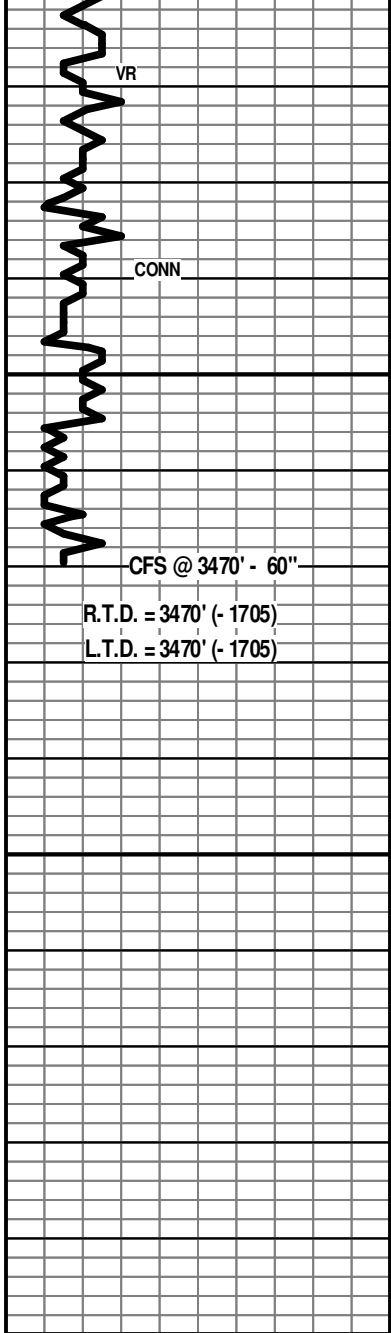
Dolo Crm-Tan FxIn Poor-Fair Sucrosic Granular Por Barren Grad Poor- Fair OOM Vug Por Baren Cht Wht (w/Tr. Leaching Vug Por) Op Shp Vit Chalky Sh Char-Gry-Aqua Fissil No Odor Med-Good ? Min Flor (Dull Lt Grn) NS

Dolo Crm-Tan FxIn Dns Micritic Por Barren Grad Poor Sucrosic Por Baren Cht Wht-Tan-Org Translu-Op Shp Vit Chalky Sh Char-Gry-Aqua Fissil No Odor Med-Good ? Min Flor (Dull Lt Grn) NS

Mudco Ck @ 3318' @ 1:45 PM 5/19/14
 Vis= 54;
 WT= 9.3#;
 PV= 16;
 YP= 14;
 WL= 8.4;
 Cake= 1;
 Chl= 7900;
 Ca= 10;
 Sol= 6.7%.
 LCM= Tr. #;
 DMC=\$ 920.80
 CMC=\$5,822.40

~DST #3~
 Interval : 3295'-3329'
 Times: 30" - 30"-5"
 IF Blow = Very Weak
 Surface Blow Died @ 28";
 ISIP: No Blow Back.
 FF= @5"/No
 Blow/Flushed Tool-No Help.
 Recovery: 5' OSM
 Pressures:
 IH = 1636#;
 FF = 1614#;
 IF = 18-23#;
 FF = 25#;
 ISIP = 989#;
 FSIP = NA.
 Temp.=108 degrees F.

Mudco Ck @ 3399' @ 7:40 AM 5/20/14
 Vis= 58;
 WT= 9.3#;
 PV= 15;
 YP= 19;



Dolo Crm-Tan FxIn-microIn Poor-Fair Sucrosic Granular Por Barren Grad
 Poor-Fair OOM Vug Por Baren Cht Wht Op Shp Vit Chalky Sh Char-Gry-Aqua
 Fissil No Odor Med-Good ? Min Flor (Dull Lt Grn) NS

Dolo Crm-Tan MicroIn-FxIn Dns Micrite Grad Poor-Fair IxIn Sucrosic Por Barren
 Cht Wht Op Shp Vit Sh Char-Gry-Lt Grn Fissil No Odor Good ? Min Flor AA No
 Stn NS

Dolo Crm-Tan MicroIn-FxIn Dns Micrite Grad Poor-Fair IxIn Sucrosic Por Barren
 Cht Wht Op Shp Vit Sh Char-Gry-Lt Grn Fissil No Odor Good ? Min Flor AA No
 Stn NS

Dolo Crm-Tan MicroIn Dns Micrite Grad Poor-Fair IxIn Sucrosic Por Barren Cht
 Wht Op Shp Vit Sh Char-Gry-Lt Grn Fissil ? Faint Odor Good ? Min Flor AA No
 Stn NS

Dolo Crm-Tan FxIn Dns Micrite Grad Poor-Fair IxIn Sucrosic Grad Poor-Fair
 Granular Por Barren Cht Wht Op Shp Vit Sh Char-Gry-Lt Grn Fissil ? Faint Odor
 Good ? Min Flor AA No Stn NS

60" CFS @ 3470' Dolo Crm-Tan FxIn Dns Micrite Grad Fair IxIn Sucrosic Grad
 Fair-Med (M-Lg Rhombic Vug) IxIn Por Barren Cht Wht Op Shp Vit Sh Char-Gry-Lt
 Grn Fissil No Odor Good ? Min Flor AA No Stn NS

Electric Logs Run By: Tucker Wireline Logging: Dual Induction; Compensated
 Density-Neutron; Sonic & Microreisitivity Logs.

Geologist left Location at 7:30 P.M. 05/20/2014

WL = 8.8;
 Cake= 2;
 Chl= 8800;
 Cal= 30;
 Sol= 6.6%
 LCM= 1#;
 DMC=\$ 413.30
 CMC=\$6,235.70