

Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

Form ACO-1

January 2018

Form must be Typed

Form must be Signed

All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

New Well Re-Entry Workover

Oil WSW SWD

Gas DH EOR

OG GSW

CM (Coal Bed Methane)

Cathodic Other (Core, Expl., etc.): _____

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

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

Deepening Re-perf. Conv. to EOR Conv. to SWD

Plug Back Liner Conv. to GSW Conv. to Producer

Commingled Permit #: _____

Dual Completion Permit #: _____

SWD Permit #: _____

EOR Permit #: _____

GSW Permit #: _____

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: _____

Spot Description: _____

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

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE NW SE SW

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

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite:

Operator Name: _____

Lease Name: _____ License #: _____

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

County: _____ Permit #: _____

AFFIDAVIT

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

Submitted Electronically

KCC Office Use ONLY

Confidentiality Requested

Date: _____

Confidential Release Date: _____

Wireline Log Received Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT I II III Approved by: _____ Date: _____

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

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

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

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

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

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

1. Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*
3. Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? Yes No *(If No, fill out Page Three of the ACO-1)*

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

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

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	Coachman Energy Operating Company LLC
Well Name	SEIBEL FARMS 1-21-14-20
Doc ID	1321525

All Electric Logs Run

DIL
MEL
DUCP
BHCS

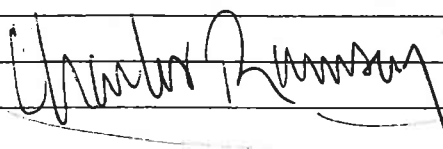
QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

/85-483-2025
35-324-1041

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

No. 3007

Date	9-17-16	Sec.	21	Twp.	14	Range	20	County	Ellis	State	Ks	On Location	Finish	4:15 AM
Lease	Seibel Farms			Location				Antonino, Ks - 8W to 130 Rd, 2 1/2 N						
Well No.	1-21-14-20			Owner W15										
Contractor	Duke #2			To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.										
Type Job	Surface			Charge To Coachman Energy Operating										
Hole Size	12 1/4"		T.D.	221'		Street								
Csg.	8 5/8"		Depth	221'		City								
Tbg. Size			Depth			State								
Tool			Depth			The above was done to satisfaction and supervision of owner agent or contractor.								
Cement Left in Csg.	15'		Shoe Joint	15'		Cement Amount Ordered 150 80/20 3% CC 2% Gel								
Meas Line			Displace	13 BLS										
EQUIPMENT														
Pumptrk	20	No.	Cementer	Nick		Common			170					
			Helper			Poz. Mix			30					
Bulktrk	9	No.	Driver	Rick		Gel.			3					
			Driver			Calcium			6					
JOB SERVICES & REMARKS														
Remarks:	Cement did Circulate											Hulls		
Rat Hole												Salt		
Mouse Hole												Flowseal		
Centralizers	10 BLS to pit											Kol-Seal		
Baskets												Mud CLR 48		
D/V or Port Collar												CFL-117 or CD110 CAF 38		
												Sand		
												Handling		
												159		
												Mileage		
FLOAT EQUIPMENT														
												Guide Shoe		
												Centralizer		
												Baskets		
												AFU Inserts		
												Float Shoe		
												Latch Down		
												Pumptrk Charge		
												Surface		
												Mileage		
												21		
												Tax		
												Discount		
												Total Charge		
X Signature												approval		

Quality Oilwell
Cementing

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

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

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

No. 1785

Date	Sec.	Twp.	Range	County	State	On Location	Finish
9-25-16	21	14	20	Ellis	KS		8:00 p.m.
Lease <u>Sp. del Farms</u>				Well No. <u>1.21</u>		Location <u>Ellis S Antelope Rd 3/12 Winto</u>	
Contractor <u>Duke #2</u>				Owner		To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.	
Type Job <u>Rammy plug</u>				Charge To		<u>Cynasure Energy LLC</u>	
Hole Size <u>7 7/8</u>		T.D. <u>3940</u>		Street			
Csg. <u>4 1/2 X-11</u>		Depth		City		State	
Tbg. Size		Depth		The above was done to satisfaction and supervision of owner agent or contractor.			
Tool		Depth		Cement Amount Ordered <u>240^{60/40} 4.1 Gel 1/4 #10</u>			
Cement Left in Csg.		Shoe Joint					
Meas Line		Displace					
EQUIPMENT				Common <u>144</u>			
Pumptrk	No. <u>20</u>	Cementer	Helper	Poz. Mix <u>96</u>			
Bulktrk	No.	Driver		Gel. <u>9</u>			
Bulktrk	No. <u>14</u>	Driver		Calcium			
JOB SERVICES & REMARKS				Hulls			
Remarks:				Salt			
Rat Hole <u>305K</u>				Flowseal <u>605K</u>			
Mouse Hole				Kol-Seal			
Centralizers				Mud CLR 48			
Baskets				CFL-117 or CD110 CAF 38			
D/V or Port Collar				Sand			
<u>1st 1535 305K</u>				Handling <u>249</u>			
<u>2nd 790 1005K</u>				Mileage			
<u>3rd 270 505K</u>				FLOAT EQUIPMENT			
<u>4th 40' 105K</u>				Guide Shoe <u>8 3/8 Dril Hole Plug</u>			
				Centralizer			
				Baskets			
				AFU Inserts			
				Float Shoe			
				Latch Down			
				Pumptrk Charge <u>plug</u>			
				Mileage <u>21</u>			
				Tax			
				Discount			
				Total Charge			
Signature <u>Dion Vazquez</u>							



DRILL STEM TEST REPORT

Prepared For: **Coachman Energy Operating Company, LLC**

1125 17th St., Suite 410
Denver, CO 80202

ATTN: Charlie Sturdavant

21-14S-20W Ellis,KS

Seibel Farms #1-21-14-20

Start Date: 2016.09.21 @ 19:15:30

End Date: 2016.09.22 @ 02:32:00

Job Ticket #: 61279 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2016.09.26 @ 11:12:15



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Coachman Energy Operating Company, LLC

Seibel Farms #1-21-14-20

1125 17th St., Suite 410
Denver, CO 80202

21-14S-20W Ellis,KS

Job Ticket: 61279

DST#: 1

ATTN: Charlie Sturdavant

Test Start: 2016.09.21 @ 19:15:30

GENERAL INFORMATION:

Formation: **LKC "F"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 21:40:00
 Time Test Ended: 02:32:00
 Interval: **3552.00 ft (KB) To 3614.00 ft (KB) (TVD)**
 Total Depth: 3614.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Poor
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Brannan Lonsdale
 Unit No: 73
 Reference Elevations: 2247.00 ft (KB)
 2239.00 ft (CF)
 KB to GR/CF: 8.00 ft

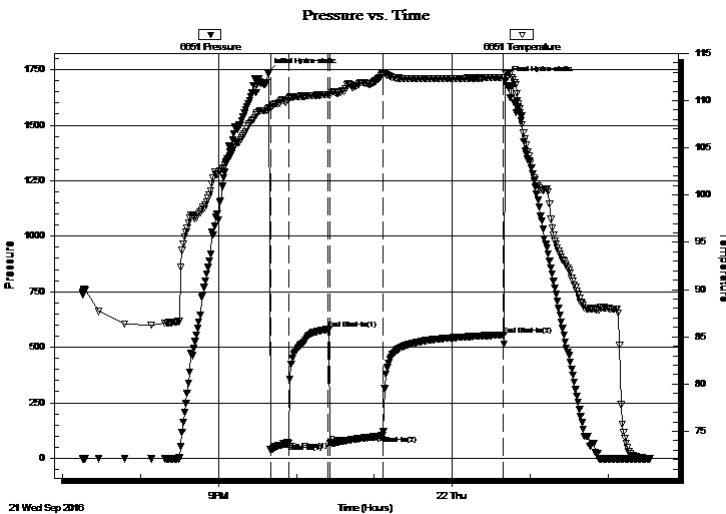
Serial #: 6651

Inside

Press@RunDepth: 102.69 psig @ 3578.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2016.09.21 End Date: 2016.09.22 Last Calib.: 2016.09.22
 Start Time: 19:15:31 End Time: 02:32:00 Time On Btm: 2016.09.21 @ 21:38:00
 Time Off Btm: 2016.09.22 @ 00:41:00

TEST COMMENT: 15- IF- Slow ly built to 3"
 30- IS- No blow
 45- FF- Slow ly built to 6 1/2"
 90- FSI- No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1737.60	109.09	Initial Hydro-static
2	38.26	109.22	Open To Flow (1)
16	67.70	110.23	Shut-In(1)
47	579.93	110.66	End Shut-In(1)
48	65.81	110.57	Open To Flow (2)
89	102.69	112.79	Shut-In(2)
182	555.63	112.46	End Shut-In(2)
183	1699.59	112.98	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
190.00	WM, 20%W 80%M	2.69

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Coachman Energy Operating Company, LLC

Seibel Farms #1-21-14-20

1125 17th St., Suite 410
Denver, CO 80202

21-14S-20W Ellis,KS

Job Ticket: 61279

DST#: 1

ATTN: Charlie Sturdavant

Test Start: 2016.09.21 @ 19:15:30

Tool Information

Drill Pipe:	Length: 3529.00 ft	Diameter: 3.82 inches	Volume: 50.03 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 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: 68000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 10.00 ft
Drill Pipe Above KB:	4.00 ft			String Weight: Initial 51000.00 lb
Depth to Top Packer:	3552.00 ft			Final 51000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	62.00 ft			
Tool Length:	89.00 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			3526.00	
Shut In Tool	5.00			3531.00	
Hydraulic tool	5.00			3536.00	
Jars	5.00			3541.00	
Safety Joint	2.00			3543.00	
Packer	5.00			3548.00	27.00 Bottom Of Top Packer
Packer	4.00			3552.00	
Stubb	1.00			3553.00	
Perforations	24.00			3577.00	
Change Over Sub	1.00			3578.00	
Recorder	0.00	6651	Inside	3578.00	
Recorder	0.00	8959	Outside	3578.00	
Drill Pipe	32.00			3610.00	
Change Over Sub	1.00			3611.00	
Bullnose	3.00			3614.00	62.00 Bottom Packers & Anchor

Total Tool Length: 89.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Coachman Energy Operating Company, LLC

Seibel Farms #1-21-14-20

1125 17th St., Suite 410
Denver, CO 80202

21-14S-20W Ellis,KS

Job Ticket: 61279

DST#: 1

ATTN: Charlie Sturdavant

Test Start: 2016.09.21 @ 19:15:30

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:

28000 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2600.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
190.00	WM, 20%W 80%M	2.693

Total Length: 190.00 ft Total Volume: 2.693 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

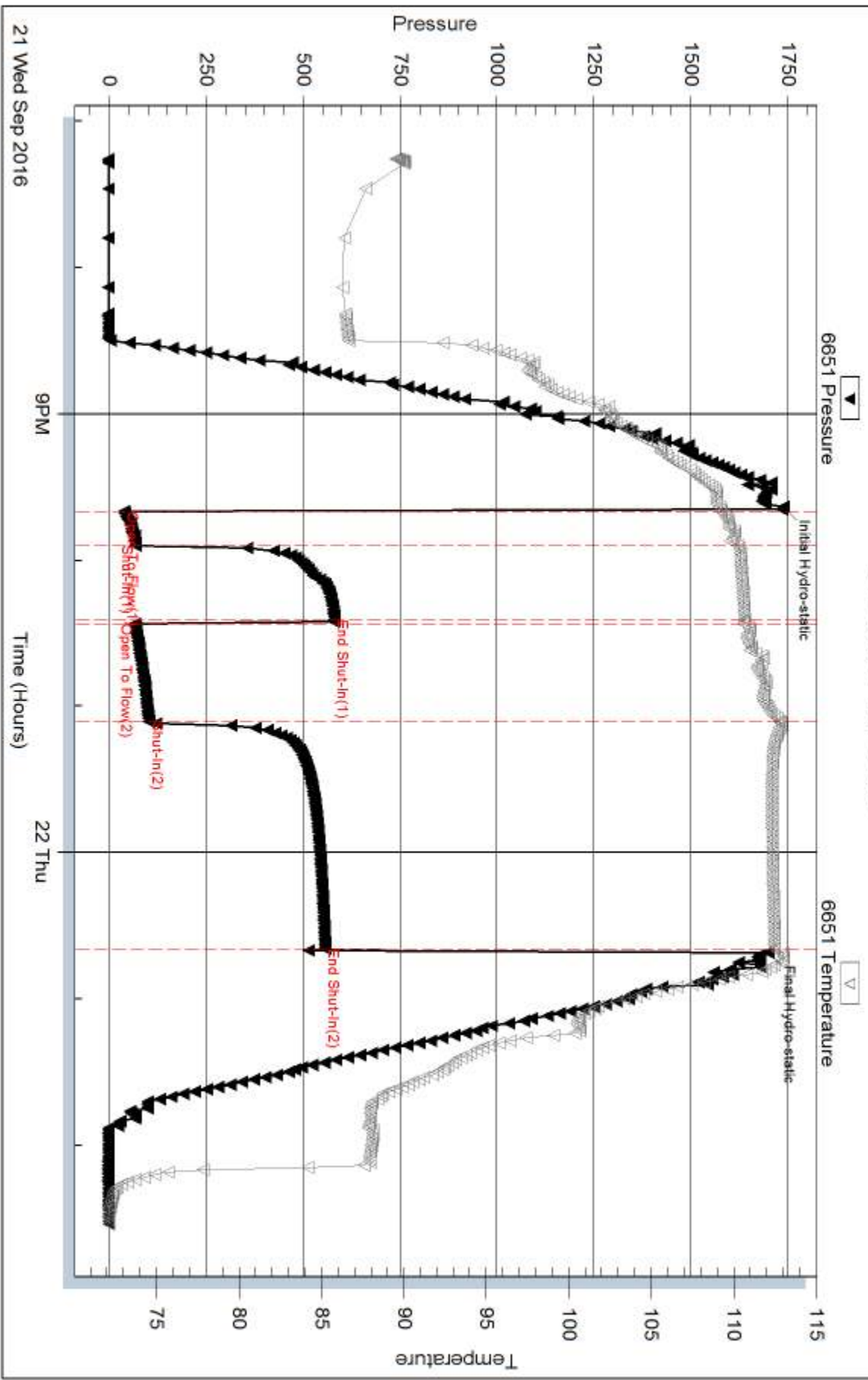
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time



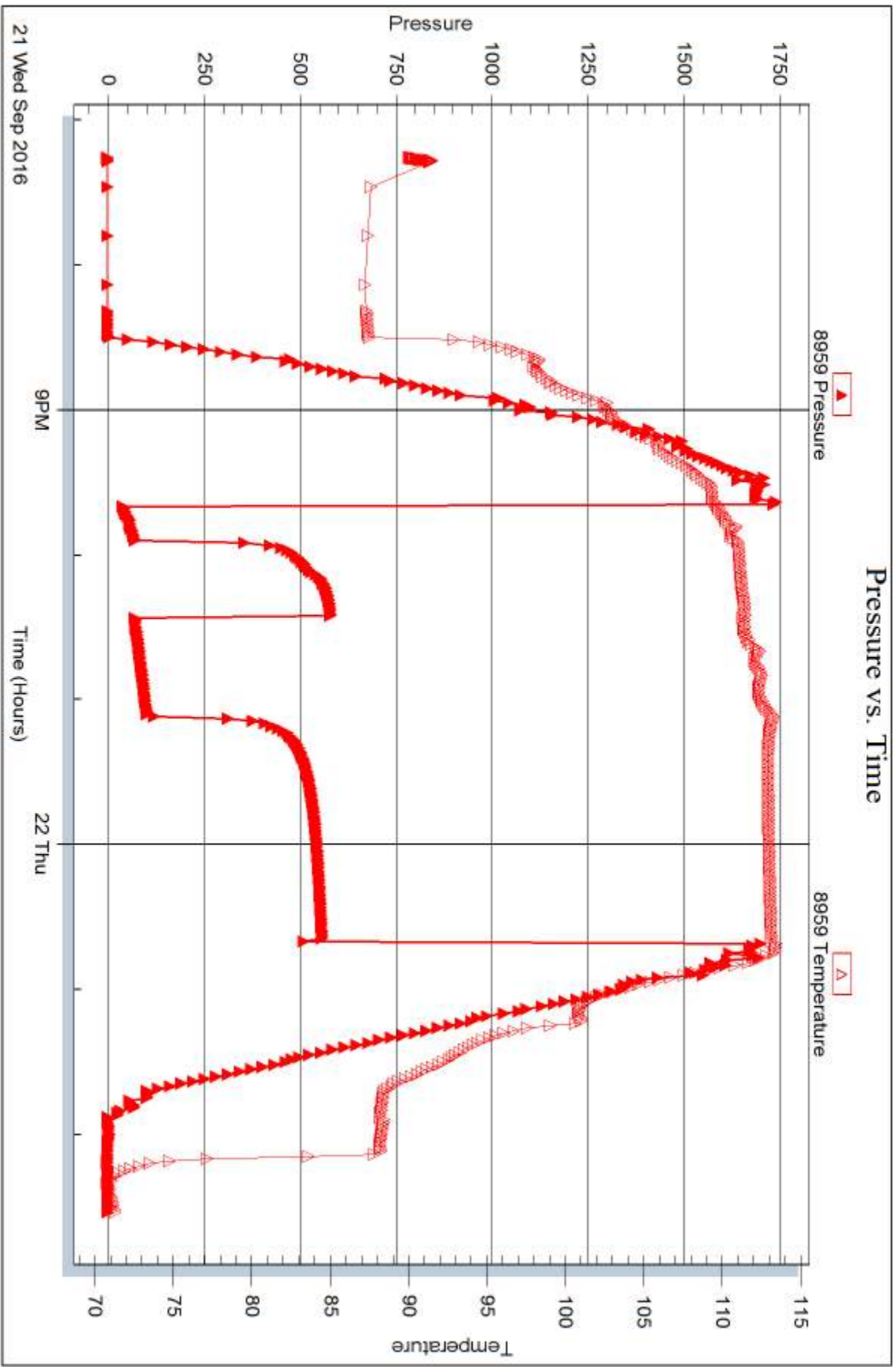
Serial #: 8959

Outside

Coachman Energy Operating Company, LLC

21-14S-20W Ells, KS

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 61279

Printed: 2016.09.26 @ 11:12:16



DRILL STEM TEST REPORT

Prepared For: **Coachman Energy Operating Company, LLC**

1125 17th St., Suite 410
Denver, CO 80202

ATTN: Charlie Sturdavant

21-14S-20W Ellis,KS

Seibel Farms #1-21-14-20

Start Date: 2016.09.23 @ 03:22:23

End Date: 2016.09.23 @ 09:08:53

Job Ticket #: 61280 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2016.09.26 @ 11:11:49



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Coachman Energy Operating Company, LLC

Seibel Farms #1-21-14-20

1125 17th St., Suite 410
Denver, CO 80202

21-14S-20W Ellis,KS

ATTN: Charlie Sturdavant

Job Ticket: 61280

DST#: 2

Test Start: 2016.09.23 @ 03:22:23

GENERAL INFORMATION:

Formation: **LKC "J"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:23:53

Time Test Ended: 09:08:53

Test Type: Conventional Bottom Hole (Reset)

Tester: Brannan Lonsdale

Unit No: 73

Interval: 3671.00 ft (KB) To 3720.00 ft (KB) (TVD)

Reference Elevations: 2247.00 ft (KB)

Total Depth: 3720.00 ft (KB) (TVD)

2239.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 6651

Inside

Press@RunDepth: 27.52 psig @ 3685.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2016.09.23

End Date:

2016.09.23

Last Calib.:

2016.09.23

Start Time: 03:22:24

End Time:

09:08:53

Time On Btm:

2016.09.23 @ 05:23:23

Time Off Btm:

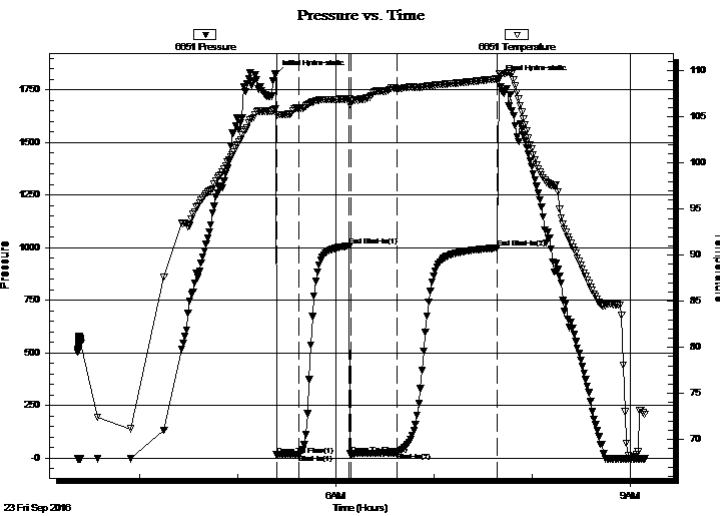
2016.09.23 @ 07:39:53

TEST COMMENT: 15- IF- Weak surface blow built slow ly to 1/4"

30- IS- No blow

30- FF- Surface blow

60- FSI- No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1825.01	105.87	Initial Hydro-static
1	16.68	105.26	Open To Flow (1)
15	20.14	105.89	Shut-In(1)
45	1009.84	106.97	End Shut-In(1)
46	20.25	106.74	Open To Flow (2)
74	27.52	108.05	Shut-In(2)
136	999.68	109.13	End Shut-In(2)
137	1800.48	109.69	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	OSM	0.21

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Coachman Energy Operating Company, LLC

Seibel Farms #1-21-14-20

1125 17th St., Suite 410
Denver, CO 80202

21-14S-20W Ellis,KS

Job Ticket: 61280

DST#: 2

ATTN: Charlie Sturdavant

Test Start: 2016.09.23 @ 03:22:23

Tool Information

Drill Pipe:	Length: 3655.00 ft	Diameter: 3.82 inches	Volume: 51.81 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 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: 52000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3671.00 ft			Final 51000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	49.00 ft			
Tool Length:	76.00 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			3645.00	
Shut In Tool	5.00			3650.00	
Hydraulic tool	5.00			3655.00	
Jars	5.00			3660.00	
Safety Joint	2.00			3662.00	
Packer	5.00			3667.00	27.00 Bottom Of Top Packer
Packer	4.00			3671.00	
Stubb	1.00			3672.00	
Perforations	12.00			3684.00	
Change Over Sub	1.00			3685.00	
Recorder	0.00	6651	Inside	3685.00	
Recorder	0.00	8959	Outside	3685.00	
Drill Pipe	31.00			3716.00	
Change Over Sub	1.00			3717.00	
Bullnose	3.00			3720.00	49.00 Bottom Packers & Anchor

Total Tool Length: 76.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Coachman Energy Operating Company, LLC

Seibel Farms #1-21-14-20

1125 17th St., Suite 410
Denver, CO 80202

21-14S-20W Ellis,KS

Job Ticket: 61280

DST#: 2

ATTN: Charlie Sturdavant

Test Start: 2016.09.23 @ 03:22:23

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: 41.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5700.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
15.00	OSM	0.213

Total Length: 15.00 ft Total Volume: 0.213 bbl

Num Fluid Samples: 0

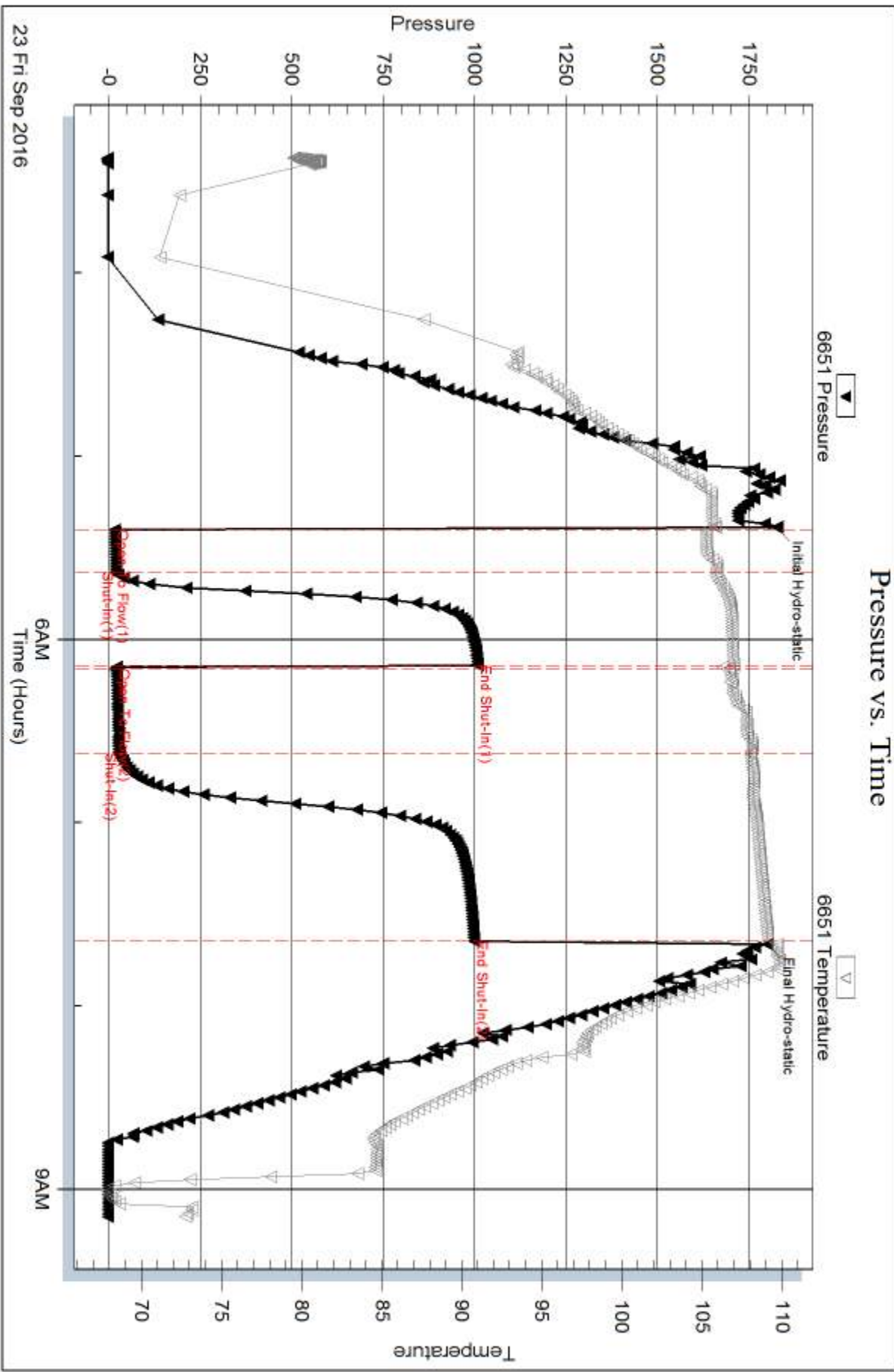
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



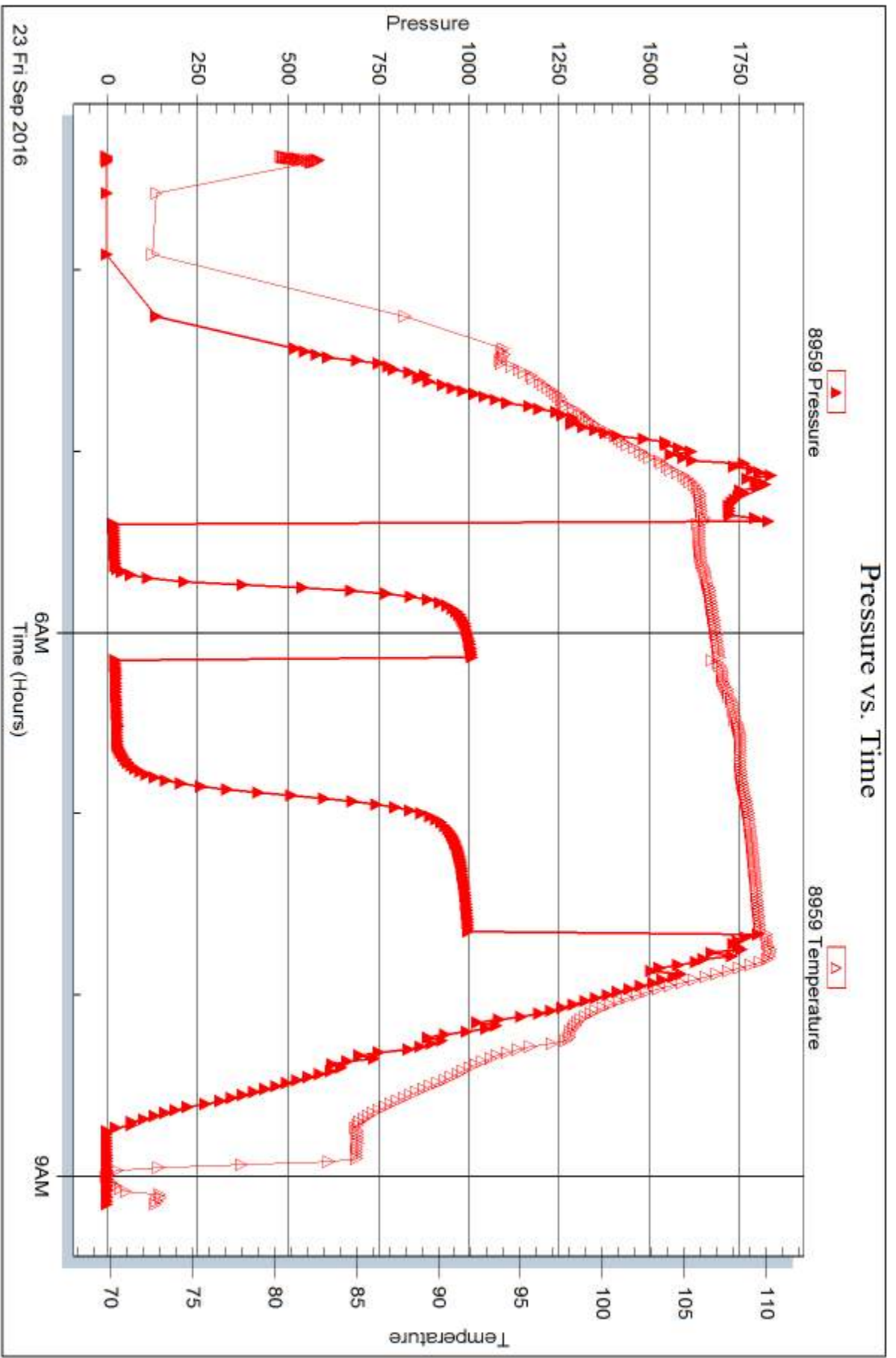
Serial #: 8959

Outside

Coachman Energy Operating Company, LLC

21-14S-20W Ellis, KS

DST Test Number: 2



23 Fri Sep 2016

6AM
Time (Hours)

9AM

Trilobite Testing, Inc

Ref. No: 61280

Printed: 2016.09.26 @ 11:11:50



DRILL STEM TEST REPORT

Prepared For: **Coachman Energy Operating Company, LLC**

1125 17th St., Suite 410
Denver, CO 80202

ATTN: Charlie Sturdavant

21-14S-20W Ellis,KS

Seibel Farms #1-21-14-20

Start Date: 2016.09.24 @ 09:52:04

End Date: 2016.09.24 @ 16:39:34

Job Ticket #: 61281 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2016.09.26 @ 11:11:07



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Coachman Energy Operating Company, LLC

Seibel Farms #1-21-14-20

1125 17th St., Suite 410
Denver, CO 80202

21-14S-20W Ellis,KS

Job Ticket: 61281

DST#: 3

ATTN: Charlie Sturdavant

Test Start: 2016.09.24 @ 09:52:04

GENERAL INFORMATION:

Formation: **Reagan**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:44:04

Time Test Ended: 16:39:34

Test Type: Conventional Bottom Hole (Reset)

Tester: Brannan Lonsdale

Unit No: 73

Interval: 3897.00 ft (KB) To 3903.00 ft (KB) (TVD)

Reference Elevations: 2247.00 ft (KB)

Total Depth: 3903.00 ft (KB) (TVD)

2239.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 6651

Inside

Press@RunDepth: 747.43 psig @ 3900.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2016.09.24

End Date:

2016.09.24

Last Calib.:

2016.09.24

Start Time: 09:52:05

End Time:

16:39:34

Time On Btm:

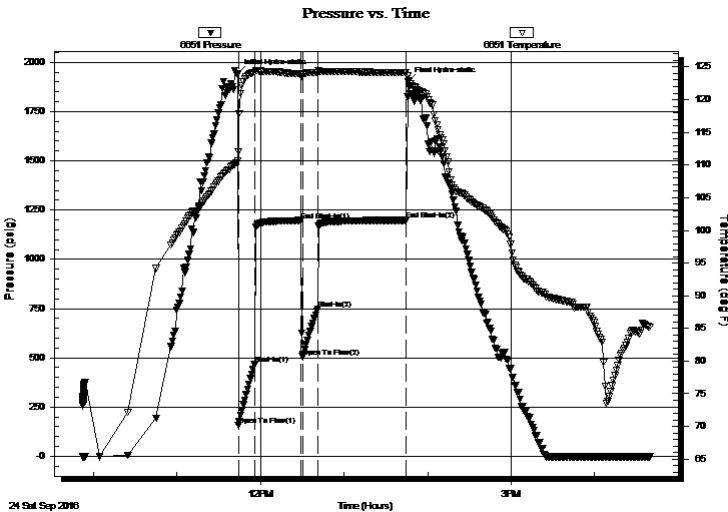
2016.09.24 @ 11:43:34

Time Off Btm:

2016.09.24 @ 13:46:04

TEST COMMENT: 15- IF- BOB 1 min
30- IS- No blow
15- FF- BOB 2 mins
60- FSI- No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1940.99	110.55	Initial Hydro-static
1	158.80	112.01	Open To Flow (1)
12	465.78	124.19	Shut-In(1)
46	1197.00	123.94	End Shut-In(1)
47	506.20	123.75	Open To Flow (2)
58	747.43	124.18	Shut-In(2)
121	1198.40	124.11	End Shut-In(2)
123	1902.13	123.59	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1562.00	MW, 15%M 85%W	22.14

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Coachman Energy Operating Company, LLC

Seibel Farms #1-21-14-20

1125 17th St., Suite 410
Denver, CO 80202

21-14S-20W Ellis,KS

Job Ticket: 61281

DST#: 3

ATTN: Charlie Sturdavant

Test Start: 2016.09.24 @ 09:52:04

Tool Information

Drill Pipe:	Length: 3875.00 ft	Diameter: 3.82 inches	Volume: 54.93 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 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: 62000.00 lb
			<u>Total Volume: - bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial 55000.00 lb
Depth to Top Packer:	3897.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	6.00 ft			
Tool Length:	35.00 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			3869.00	
Shut In Tool	5.00			3874.00	
Sampler	2.00			3876.00	
Hydraulic tool	5.00			3881.00	
Jars	5.00			3886.00	
Safety Joint	2.00			3888.00	
Packer	5.00			3893.00	29.00 Bottom Of Top Packer
Packer	4.00			3897.00	
Stubb	1.00			3898.00	
Perforations	2.00			3900.00	
Recorder	0.00	6651	Inside	3900.00	
Recorder	0.00	8959	Outside	3900.00	
Bullnose	3.00			3903.00	6.00 Bottom Packers & Anchor

Total Tool Length: 35.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Coachman Energy Operating Company, LLC

Seibel Farms #1-21-14-20

1125 17th St., Suite 410
Denver, CO 80202

21-14S-20W Ellis,KS

Job Ticket: 61281

DST#: 3

ATTN: Charlie Sturdavant

Test Start: 2016.09.24 @ 09:52:04

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:

41000 ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5800.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1562.00	MW, 15%M 85%W	22.142

Total Length: 1562.00 ft Total Volume: 22.142 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

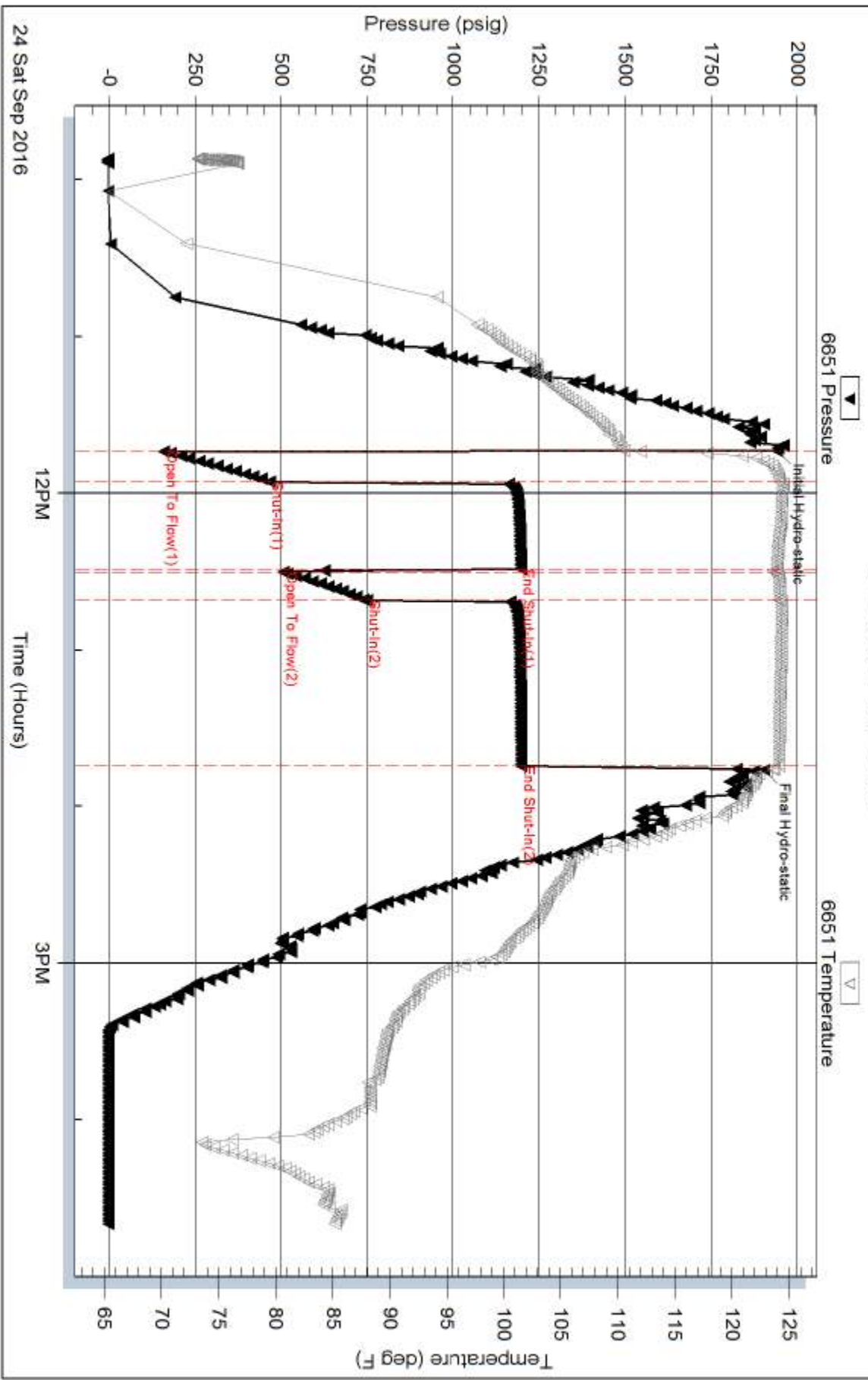
Laboratory Name:

Laboratory Location:

Recovery Comments: RW .15@74

Sampler: 2000mL W@155PSI

Pressure vs. Time



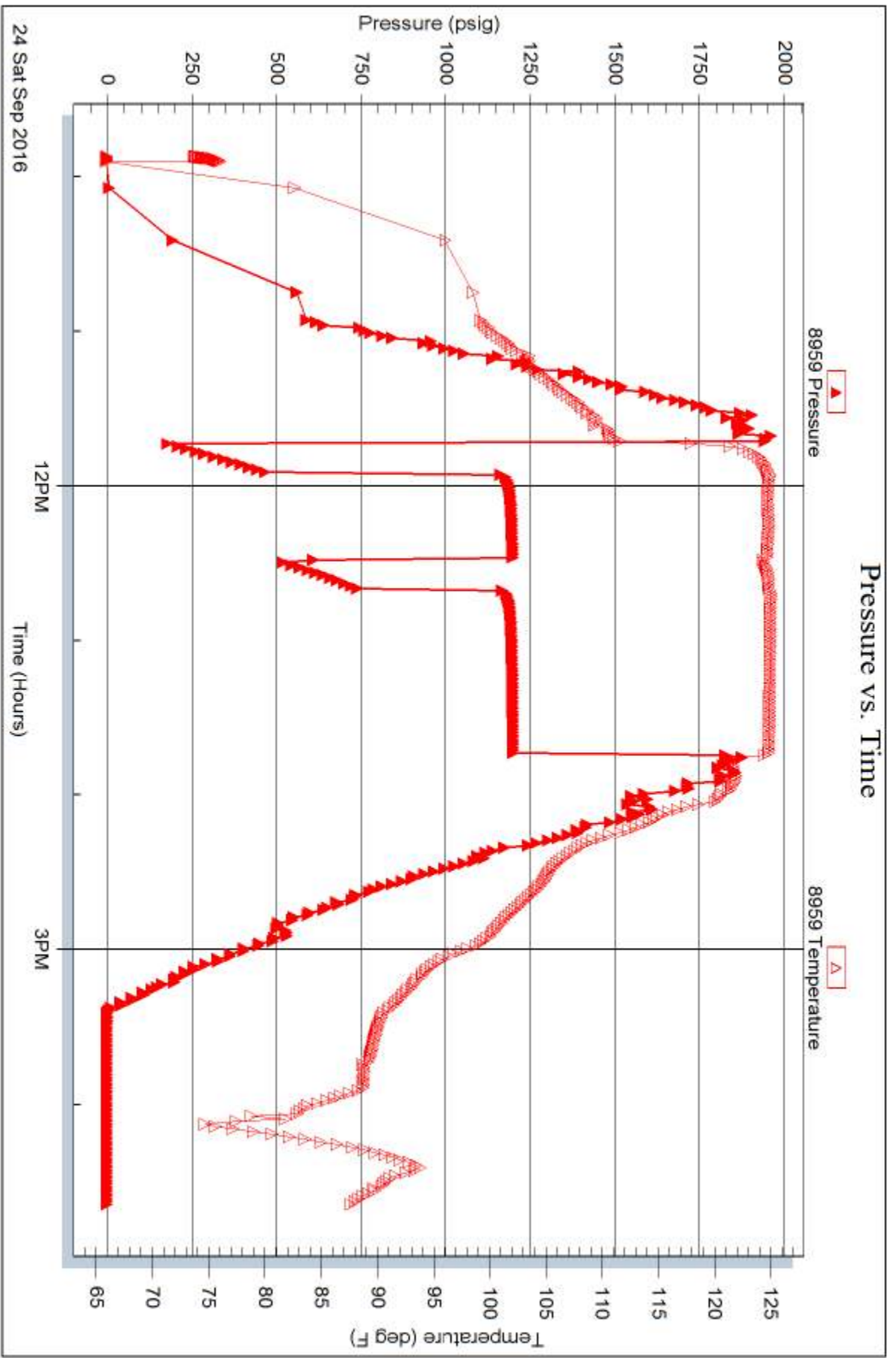
Serial #: 8959

Outside

Coachman Energy Operating Company, LLC

21-14S-20W Ellis, KS

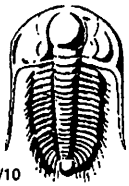
DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 61281

Printed: 2016.09.26 @ 11:11:08



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 61279

Well Name & No. Scobel Farms #1-21-14-20 Test No. 1 Date 9/21/16
 Company Coachman Energy Operating Co, LLC Elevation 2247 KB 2239 GL
 Address 1125 17th St, Suite 410 Denver, CO 80202
 Co. Rep / Geo. Charlie Sturdevant Rig Duke #2
 Location: Sec. 21 Twp. 14 S Rge. 20 W Co. Ellis State KS

Interval Tested 3552-3614 Zone Tested LKC "F"
 Anchor Length 62' Drill Pipe Run 3529 Mud Wt. 9.1
 Top Packer Depth 3547 Drill Collars Run — Vis 52
 Bottom Packer Depth 3552 Wt. Pipe Run — WL 6.8
 Total Depth 3614 Chlorides 2,600 ppm System LCM 2#

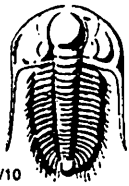
Blow Description IF - slowly built to 3"
ISI - No blow
FF - slowly built to 6 1/2"
FSI - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>190</u>	<u>WM</u>			<u>20</u>	<u>80</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 190 BHT 113° Gravity — API RW .22 @ 73 °F Chlorides 28,000 ppm
 (A) Initial Hydrostatic 1738 Test 1050 T-On Location 1746
 (B) First Initial Flow 38 Jars 250 T-Started 1915
 (C) First Final Flow 68 Safety Joint 75 T-Open 2139
 (D) Initial Shut-In 580 Circ Sub T-Pulled 9/22 0039 2354
 (E) Second Initial Flow 66 Hourly Standby T-Out 0232
 (F) Second Final Flow 103 Mileage 36 RT 27 Comments _____
 (G) Final Shut-In 556 Sampler _____
 (H) Final Hydrostatic 1700 Straddle _____
 Shale Packer 250 Ruined Shale Packer _____
 Extra Packer _____ Ruined Packer _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1652
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1652

Approved By _____ Our Representative Brannan Lonsdale

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 61280

Well Name & No. Sabel Farms #1-21-14-20 Test No. 2 Date 9/23/16
 Company Coachman Energy Operating Co, LLC. Elevation 2247 KB 2239 GL
 Address 1125 17th St., Suite 410 Denver, CO 80202
 Co. Rep / Geo. Charlie Sturdavant Rig Duke #2
 Location: Sec. 21 Twp. 14 S Rge. 20 W Co. Ellis State KS

Interval Tested 3671-3720 Zone Tested LKC "J"
 Anchor Length 49' Drill Pipe Run 3656 Mud Wt. 8.9
 Top Packer Depth 3666 Drill Collars Run — Vis 41
 Bottom Packer Depth 3671 Wt. Pipe Run — WL 7.8
 Total Depth 3720 Chlorides 5,600 ppm System LCM 1#
 Blow Description IF- Weak surface blow built slowly to 1/4"
ISI- No blow
PF- Surface blow
FST- No blow

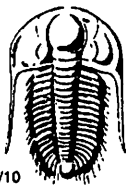
Rec	Feet of	%gas	%oil	%water	%mud
<u>15</u>	<u>OSM</u>				
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 15' BHT 109° Gravity — API RW — @ — F Chlorides — ppm

(A) Initial Hydrostatic <u>1825</u>	<input checked="" type="checkbox"/> Test <u>1050</u>	T-On Location <u>0307</u> <u>1851</u>
(B) First Initial Flow <u>17</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>0322</u>
(C) First Final Flow <u>20</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>0523</u>
(D) Initial Shut-In <u>1010</u>	<input type="checkbox"/> Circ Sub <u>—</u>	T-Pulled <u>0738</u>
(E) Second Initial Flow <u>20</u>	<input type="checkbox"/> Hourly Standby <u>—</u>	T-Out <u>0909</u>
(F) Second Final Flow <u>28</u>	<input checked="" type="checkbox"/> Mileage <u>36 RT x2</u> <u>54</u>	Comments <u>Rig repairs 9/22</u>
(G) Final Shut-In <u>1000</u>	<input type="checkbox"/> Sampler <u>—</u>	<u>@ 1845 to 9/23 @ 0300</u>
(H) Final Hydrostatic <u>1800</u>	<input type="checkbox"/> Straddle <u>—</u>	<input type="checkbox"/> Ruined Shale Packer <u>—</u>
Initial Open <u>15</u>	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Packer <u>—</u>
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer <u>—</u>	<input type="checkbox"/> Extra Copies <u>—</u>
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder <u>—</u>	Sub Total <u>0</u>
Final Shut-In <u>60</u>	<input type="checkbox"/> Day Standby <u>—</u>	Total <u>1679</u>
	<input type="checkbox"/> Accessibility <u>—</u>	MP/DST Disc't <u>—</u>
	Sub Total <u>1679</u>	

Approved By _____ Our Representative Brannan Lonsdale

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 61281

Well Name & No. Seibel Farms * 1-21-14-20 Test No. 3 Date 9/24/16
 Company Coachman Energy Operating Co., LLC Elevation 2247 KB 2239 GL
 Address 1125 17th St., Suite 410 Denver, CO 80202
 Co. Rep / Geo. Charlie Sturdevant Rig Duke → 2
 Location: Sec. 21 Twp. 14 S Rge. 20 W Co. Ellis State KS

Interval Tested 3897-3903 Zone Tested Reagan
 Anchor Length 6' Drill Pipe Run 3875 Mud Wt. 9.3
 Top Packer Depth 3892 Drill Collars Run — Vis 52
 Bottom Packer Depth 3897 Wt. Pipe Run — WL 7.8
 Total Depth 3903 Chlorides 5800 ppm System LCM 2nd

Blow Description IF - BOB 1 min
PSI - No blow
FF - BOB 2 mins
PSI - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>1562</u>	<u>NW</u>			<u>85</u>	<u>15</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 1562 BHT 124° Gravity — API RW .15 @ 24° F Chlorides 41000 ppm

(A) Initial Hydrostatic	<u>1941</u>	<input checked="" type="checkbox"/> Test	<u>1050</u>	T-On Location	<u>0931</u>
(B) First Initial Flow	<u>159</u>	<input checked="" type="checkbox"/> Jars	<u>250</u>	T-Started	<u>0952</u>
(C) First Final Flow	<u>466</u>	<input checked="" type="checkbox"/> Safety Joint	<u>75</u>	T-Open	<u>1144</u>
(D) Initial Shut-In	<u>1197</u>	<input type="checkbox"/> Circ Sub		T-Pulled	<u>1347</u>
(E) Second Initial Flow	<u>506</u>	<input type="checkbox"/> Hourly Standby		T-Out	<u>1639</u>
(F) Second Final Flow	<u>747</u>	<input checked="" type="checkbox"/> Mileage	<u>36 RT x .75</u>	Comments	
(G) Final Shut-In	<u>1198</u>	<input checked="" type="checkbox"/> Sampler	<u>250</u>		
(H) Final Hydrostatic	<u>1902</u>	<input type="checkbox"/> Straddle			

<input checked="" type="checkbox"/> Shale Packer	<u>250</u>	<input type="checkbox"/> Ruined Shale Packer	
<input type="checkbox"/> Extra Packer		<input type="checkbox"/> Ruined Packer	
<input type="checkbox"/> Extra Recorder		<input type="checkbox"/> Extra Copies	
<input type="checkbox"/> Day Standby		Sub Total	<u>0</u>
<input type="checkbox"/> Accessibility		Total	<u>1902</u>
Sub Total	<u>1902</u>	MP/DST Disc't	

Approved By _____ Our Representative Brannan Lensdale

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TRILOBITE TESTING, INC.

P.O. Box 362 • Hays, Kansas 67601

FLUID SAMPLER DATA

Ticket No. 61281 Date 9/24/16
 Company Name Coachman Energy Operating Company, LLC
 Lease Seibel Farms #1-21-14-20 Test No. 3
 County Ellis, KS Sec. 21 Twp. 14 S Rng. 20 W

SAMPLER RECOVERY

Gas _____ ML
 Oil _____ ML
 Mud _____ ML
 Water 2000 ML
 Other _____ ML
 Pressure 155 PSI
 Total 2000 ML

PIT MUD ANALYSIS

~~Chlorides 3,800 ppm.
 Resistivity _____ ohms @ _____ F
 Viscosity 52
 Mud Weight 9.3
 Filtrate 78
 Other LCA 2⁺~~

SAMPLER ANALYSIS

Resistivity 115 ohms @ 74 F
 Chlorides _____ 4,000 ppm.
 Gravity _____ corrected @ 60F

PIPE RECOVERY

~~TOP
 Resistivity _____ ohms @ _____ F
 Chlorides _____ ppm.
 MIDDLE
 Resistivity _____ ohms @ _____ F
 Chlorides _____ ppm.
 BOTTOM
 Resistivity _____ ohms @ _____ F
 Chlorides _____ ppm.~~

Cynosure Energy, LLC
1401 17th Street, Suite 850
Denver, CO 80202

Seibel Farms # 1-21-14-20
1351' FNL & 1788' FEL
Sec. 21-T14S-R20W
Ellis County, Kansas
KB = 2247'

Scale 1:240 Imperial

Well Name: Seibel Farms #1-21-14-20
Surface Location: 1351' FNL, 1788' FEL Sec 21-14S-20W
Bottom Location:
API: 15-051-26844-00-00
License Number:
Spud Date: 9/17/2016 Time: 7:00 PM
Region: Ellis County
Drilling Completed: 9/24/2016 Time: 8:45 PM
Surface Coordinates: 182185.2 & 1559396.7
Bottom Hole Coordinates:
Ground Elevation: 2239.00ft
K.B. Elevation: 2247.00ft
Logged Interval: 3000.00ft To: 3940.00ft
Total Depth: 3940.00ft
Formation: Reagan
Drilling Fluid Type: Chemical/Fresh Water Gel

OPERATOR

Company: Cynosure Energy, LLC
Address: 1401 17th Street, Suite 850
Denver, CO 80202
Phone: 720-476-3678
Contact Geologist: Gene Davis
Contact Phone Nbr: 720-272-9620
Well Name: Seibel Farms #1-21-14-20
Location: 1351' FNL, 1788' FEL Sec 21-14S-20W
API: 15-051-26844-00-00
Pool: Wildcat Field:
State: Kansas Country: USA

LOGGED BY



Charlie Sturtevant Consulting

Company: Charlie Sturdavant Consulting
Address: 920 12th Street
Golden, CO 80401

Phone Nbr: 303-907-2295----303-384-9481
Logged By: Geologist

Name: Charlie Sturdavant

NOTES

The Cynosure Seibel Farms #1-21-14-20 well was drilled to an RTD of 3940' and an LTD of 3935', bottoming in the Reagan. The geologist was on location, examining samples at 3070'. Sample shows of oil were noted in the Leacompton/Platsmouth and Oread above the Heebner, in the Lansing C, D, F, H, I and J, as well as in the Reagan.

Two DST's were conducted in the Lansing, with rather disappointing results. The test of the Lansing C, D E, and F recovered 190' of muddy water, while test of the I and J zones recovered 15' of oil specked mud. One DST was conducted in the Reagan, and recovered 1562' of muddy water (85% water).

Based on the sample shows, DST results, and log analysis, it was determined by all parties involved that the well should be plugged and abandoned.

The samples were saved and will be available for review at the Kansas Geological Survey well sample library, located in Wichita, Kansas.

Respectfully submitted,
Charlie Sturdavant
Consulting Geologist

SURFACE CO-ORDINATES

Well Type: Vertical
Longitude: 99.5468995
Latitude: 38.8232491
N/S Co-ord: 182185.2
E/W Co-ord: 1559396.7

CONTRACTOR

Contractor: Duke Drilling
Rig #: 2
Rig Type: mud rotary
Spud Date: 9/17/2016
TD Date: 9/24/2016
Rig Release:
Time: 7:00 PM
Time: 8:45 PM
Time:

ELEVATIONS

K.B. Elevation: 2247.00ft
K.B. to Ground: 8.00ft
Ground Elevation: 2239.00ft

ROCK TYPES

 Cht vari
 Lmst fw<7
 Lmst fw>7 shale, grn
 Shgy shale, gry
 Carbon Sh shale, red
 Ss

ACCESSORIES

MINERAL

- Argillaceous
- ⊥ Calcareous
- △ Chert White
- ▲ Chert, dark
- ⋈ Varicolored chert
- Dolomitic
- / Euhed rhombs of dol or
- ≡ Nodules
- P Pyrite






FOSSIL

- ∩ Bioclastic or Fragmental
- ◇ Brachiopod
- ∩ Bryozoa
- ⊠ Corals
- Crinoids
- F Fossils < 20%
- ⊠ Fussilimid
- Oolites
- Pelloids
- ⊙ Pisolites

STRAT./SED. STRUCTS

- ∩ Fenestrae
- ≡ Nodular
- ⋈ Stylolite

STRINGER

-  Conglomerate
-  Limestone
-  Shale
-  green shale
-  red shale










TEXTURE

- MX Microxln

× Sponge Spicules
 ▲ Spicules

OTHER SYMBOLS

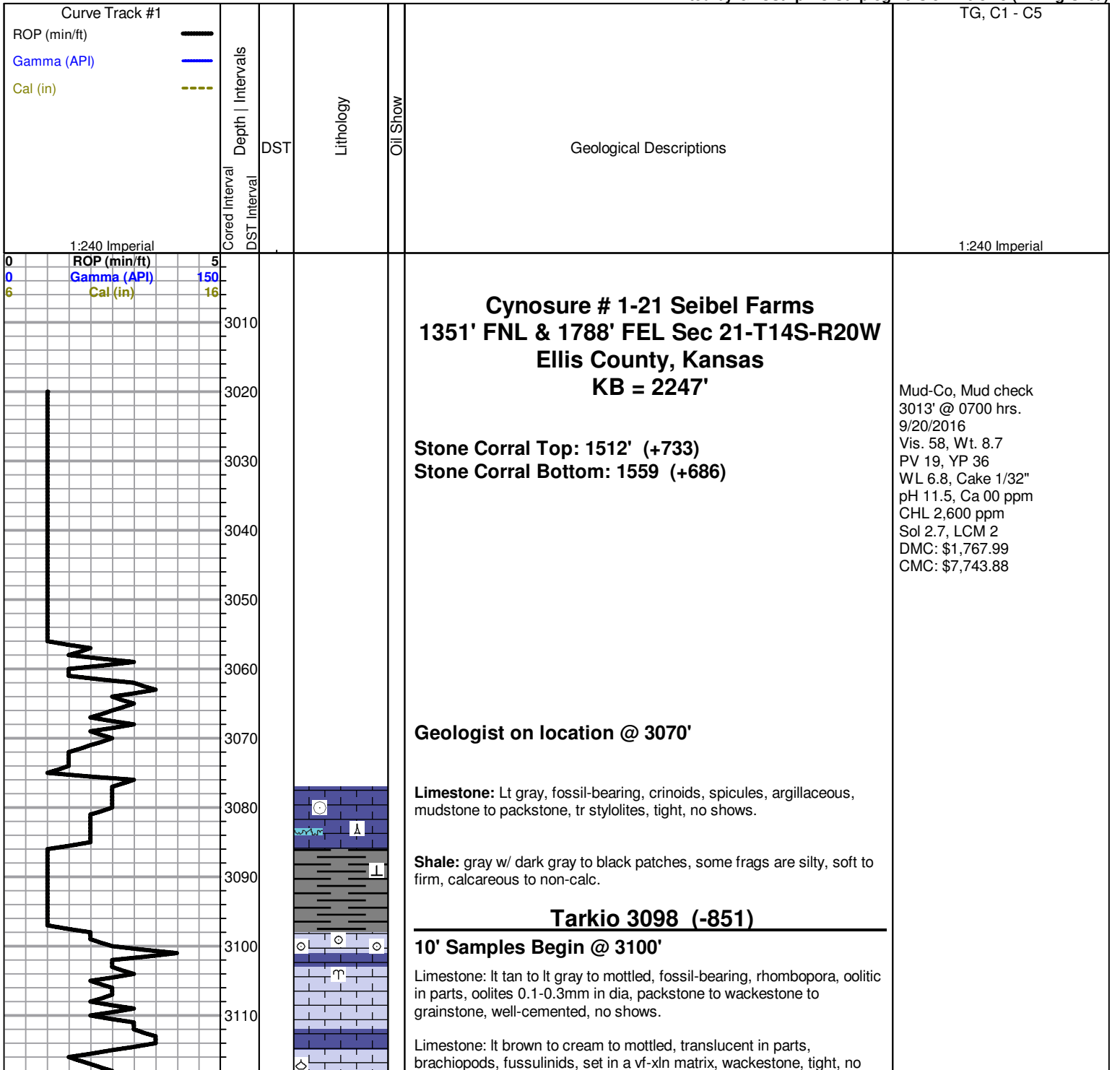
MISC

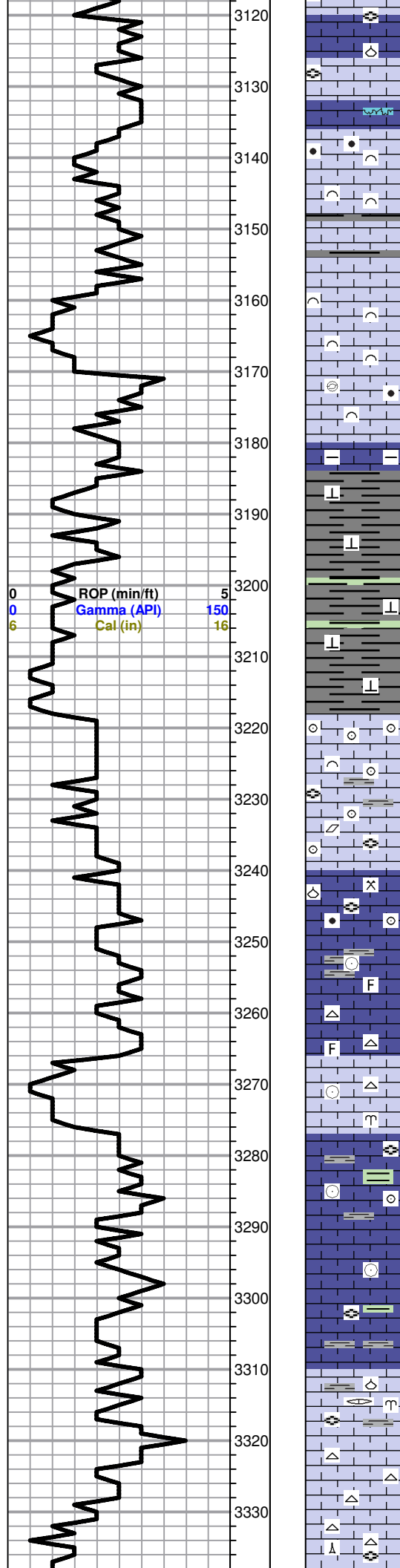
-  Daily Report
-  Digital Photo
-  Document
-  Folder
-  Link
-  Vertical Log File
-  Horizontal Log File
-  Core Log File
-  Drill Cuttings Rpt

DST

-  DST Int
-  DST alt

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shows.

Limestone: cream to lt tan to lt gray, fragmental to pelletal packstone to wackestone, vf-xln matrix, no shows.

Limestone: lt grayish-tan, f-xln, oolitic and bioclastic grainstone, tr porosity, no shows. Tr white bioclastic/oolitic, fussulinids, grainstone.

Streaks of gray to lt gray shale, calc, soft to firm.

Limestone: lt tan to tan w/ reddish-brown specks, bioclastic grainstone, fair inter-xln porosity, no shows.

Limestone: tan to lt gray to mottled, bioclastic grainstone, tr pisolites, pellets, oolites fossil frags, poor porosity, no shows.

fussulinids, crinoids, brachiopods.

Shale: gray to lt gray and brownish-orange, firm to soft, calcareous to non-calc.

Shale: gray to lt gray, soft, calcareous.

Tr lt greenish-gray shale.

Topeka 3218 (-971)

Limestone: cream to off white, oolitic-bioclastic grainstone, well-cemented, no shows, oolites to 1.5mm in dia., fussulinids, recrystallized, micro-sparry cement.

Limestone: tan to lt brown mottled, oolitic, fossiliferous, sparry calcite patches, tr argillaceous, packstone w/ vf-xln matrix, fussulinids, no shows, streaks of gray calc shale.

Limestone, brown to tan, micro-xln matrix, fossiliferous, brachiopods, spicules, fussulinids, oolites, pellets, wackestone, tight, no shows.

Limestone: lt brown, translucent, crypto- to micro-xln, micrite to mudstone w/ isolated fossils, crinoid discs set in gray shale, no shows.

Limestone: tan to mottled brown, gray, and tan, f-xln matrix, fossils, chert: lt gray, dark gray, frosted-sucrosic texture, fossil frags, no shows.

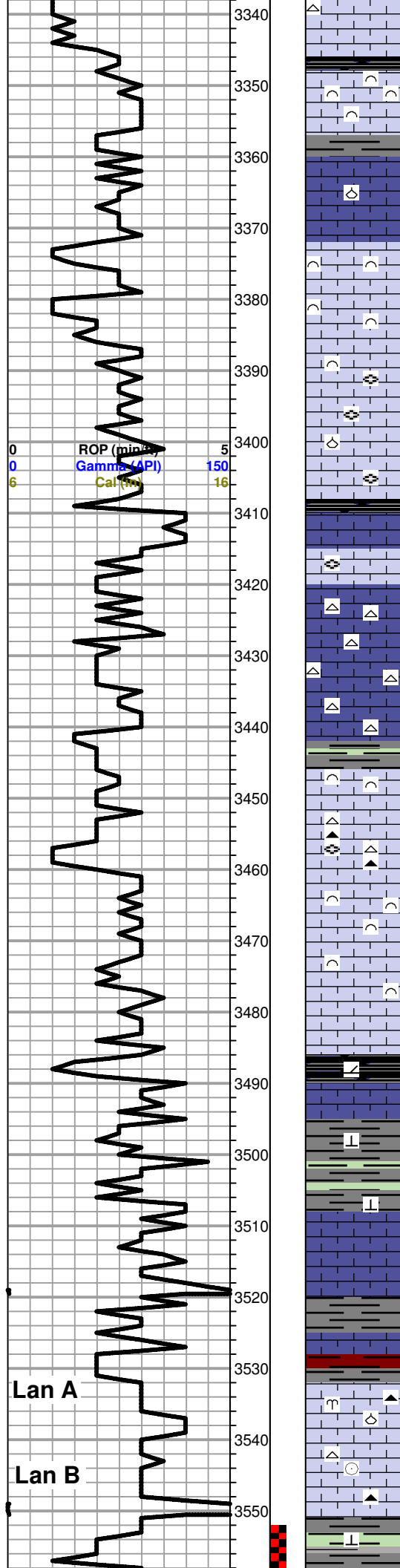
Limestone: brown to tan, fossiliferous, crinoids, bryozoans, no shows.

Limestone: lt gray to grayish-tan, mottled, tr argillaceous, fossil frags, fussulinids, crinoids, oolites, gray and brown shale streaks, tr greenish-gray shale streaks and patches, packstone, tr brown micrite, no shows.

Limestone: lt tan to tan w/ brown patches and spots, argillaceous streaks, fussulinids, fenestrate bryozoans, brachiopods, fossil frags, gray shale laminations, packstone, tr inter-xln porosity, no shows.

Limestone as above w/ chert: tan, brown, dark gray, fossils, fussulinids, frosted to vitreous, conchoidal fractures, no shows.

Limestone: cream, sucrosic to f-xln, fossil frags/debris, grainstone, Chert: cream to lt gray to lt tan, fossiliferous, fussulinids, spicules, no shows.



King Hill Shale 3346 (-1099)

Shale: black, carbonaceous, vy sli dolo, firm.

Limestone: cream to lt tan, fragmental, f-xlnmatrix w/ med-xln framework fossil debris, grainstone, no shows.

Limestone: cream to lt tan, micro-xln micrite, tr brachiopod shells, very tight, no shows.

Limestone: cream to lt tan, f- med-xln fragmental grainstone, fair inter-xln porosity, no shows.

Limestone as above w/ fussulinids.

Tr brachiopods in ls as above. Tr black shale, carbonaceous.

Queen Hill Shale 3408 (-1161)

Limestone: mottled tan and lt brown, fossil frags, fussulinids, packstone to brownish-tan micro-xln mudstone, no shows.

Limestone: cream to lt tan, micro-xln mudstone w/ few fossil frags, very cherty: lt tan, vitreous, plain, conchoidal breaks, some fragments of ls as above had minor pinpoint porosity and weak, spotty show of live oil, weak oil aroma, good to slow cut.

Limestone: lt tan and gray to brown mottled, fossiliferous-fragmental grainstone, tr arg., tr brownish-gray and greenish-gray shale.

Limestone as above w/ chert: black, brown, white, cream, fossiliferous, fussulinids, vitreous to frosted.

Limestone: cream to lt tan, recrystallized bioclastic grainstone w/ fair pinpoint porosity, oil aroma, spotty show of live oil, fair cut. One frag of black shale.

Limestone: cream to tan w/ brown specks/mottled, f-xln, bioclastic grainstone, tr arg., no shows, fleeting oil aroma.

Heebner 3486 (-1239)

Shale: black, carbonaceous, combustible, firm, dolomitic.

Limestone: tan to brown, mottled, vf-xln, tight, arg., no shows.

Shale: gray, lt gray, lt greenish-gray, calc, soft.

Toronto 3508 (-1261)

Limestone: cream to lt tan to vy lt gray, micro-xln mudstone, some thin laminations or algal layers, no shows.

Shale: gray, lt gray, lt greenish-gray.

Lansing 3525 (-1278)

Shale: maroon, gray, soft, sample washes red.

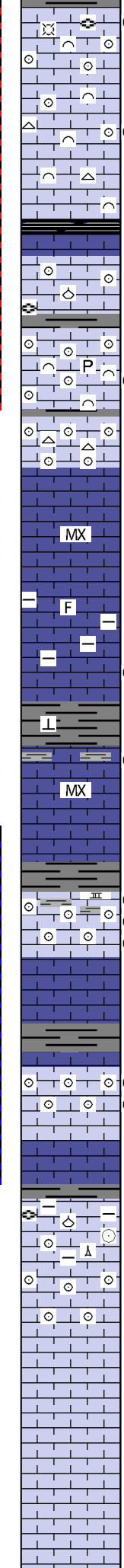
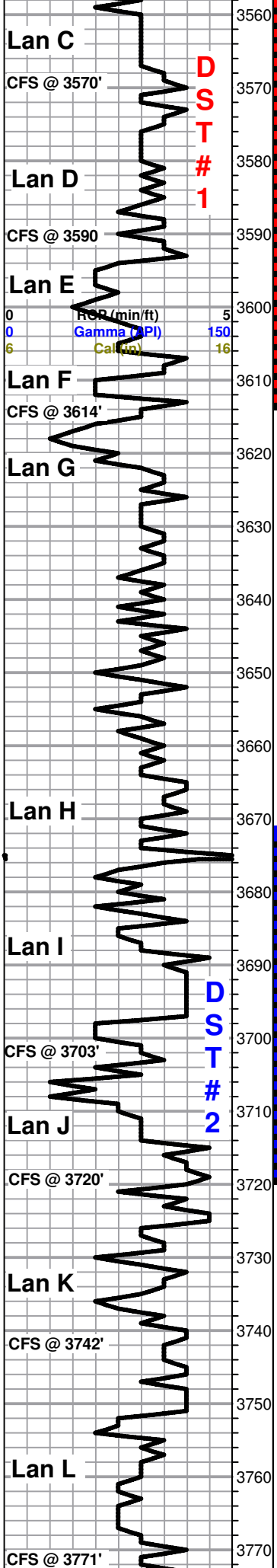
Limestone: brown to tan to lt gray, f-xln, fossiliferous, rhombopora, brachiopods, brown vitreous chert, sli arg., packstone, no shows.

Limestone: cream to grayish-brown, f-xln, crinoids, brown to honey-colored vitreous chert, no shows.

Shale: gray, lt gray lt greenish-gray, calc, soft to firm.

Limestone: cream, oolitic-bioclastic grainstone, corals, fossil debris,

Mud-Co, Mud check
3570' @ 0730 hrs.
9/21/2016
Vis. 52, Wt. 9.1
PV 18, YP 27



good secondary inter-xln porosity, very strong hydrocarbon aroma, good to fair staining in the porosity, 10% porosity in stained frags, rest is tight, Slow cut at best, most frags need to be crushed to release oil.

Limestone: cream to tan, oolitic-bioclastic grainstone, fussulinids, f-xln, weak porosity, weak oil aroma, spotty oil show, brown live oil to black and dead, slow cut, probably low permeability.

30 min: Spotty inter-xln porosity w/ live brown oil staining, recrystallized, good aroma, fair cut.

Black shale at the bottom in 60 min sample.

Limestone: tan, mottled w/ brown spots, fossiliferous, fussulinids, brachiopods, f-xln, oolites at top w/ some oomoldic porosity and slight oil staining, faint aroma, no cut unless crushed. Some chalky fragments. Tr pinpoint porosity w/ spotty oil stain, weak cut to no cut, most frags need to be crushed to cut.

30 min and 60 min samples: strong aroma, lt tan limestone, bioclastic-oolitic grainstone, fracture por. w/ drizzly calcite lining, pinpoint por., micro-vuggy por., all filled w/ brown live oil, instant streaming cut. Prite cubes up to 5mm. Some frags w/ black, heavier oil, instant streaming cut. Best show to date.

Limestone: lt tan to cream, oolitic grainstone, good inter-xln porosity, oolitic chert: lt gray to white, vitreous, no shows.

Limestone: cream to vy lt gray, massive micro-xln mudstone, sparry calcite patches and streaks, very tight, no shows.

Limestone: gray and tan mottled, f-xln, recrystallized, argillaceous, tr fossil frags, wackestone, tr pinpoint porosity and micro-vugs lined w/ vf-xln calcite druze, spotty live oil show, fair cut, no aroma.

Shale: gray, calc, soft to firm.

Limestone: Cream to vy lt gray, massive micro-xln mudstone, the top few feet have been subareally exposed, and developed fracture porosity, weathering nodules, minor pinpoint porosity. Spotty show of oil in the porosity, weak aroma, fair cut. Oily frags commonly have thin shale laminations. Appears to be tight and impermeable.

Shale: gray, fissile, non-calc, firm to easily scratched.

Limestone: cream to lt tan, oolitic grainstone to mudstone, exposure surface shows erosional textures and porosity: fracture, pinpoint micro-vuggy, and inter-xln, drizzly calcite linings w/ fair live brown oil show, chickenwire type weathering has created limestone nodules encased in druze that is filled with oil, dull yellow fluor, instant streaming cut. Strong hydrocarbon aroma.

30 min: Limestone as above w/ same porosity and oil shows. Some of the porosity is vuggy w/ pockets of free oil. 60 min: tr of oolitic grainstone w/ inter-xln porosity and oil saturation.

Limestone: vy lt gray to cream and tan, oolitic grainstone w/ oomoldic and inter-oolite porosity, oolites 0.2-0.6mm in dia, good live brown oil saturation, good odor, dull yellow fluor, instant streaming cut. Erosional exposure surface characteristics w/ fractures and micro-nodules. Water is quickly absorbed into the porosity. 30 min: chalky frags along w/ oolitic grainstone, free oil and oil staining. Tighter rock with depth.

Limestone: tan and brown mottled, arg., fossiliferous, brachiopods, fussulinids, spicules, crinoids, oolites to 1mm in dia., packstone.

Limestone: cream w/ pinkish-tan specks, oolitic grainstone, mostly recrystallized w/ ghost oolites, tight, no shows.

Limestone: vy lt gray to vy lt tan, micro- to vf-xln, recrystallized grainstone, very tight, no shows. Massive mudstone-like texture.

Limestone as above, no change.

WL 6.8, Cake 1/32"
 pH 11.0, Ca Tr ppm
 CHL 2,600 ppm
 Sol 5.6, LCM 2
 DMC: \$320.05
 CMC: \$8,063.93

**DST #1: 3552-3614',
 Rec: 190' MW, SIP
 580-556#**

Seibel Farms 21-14-20 d...

**Strap: 1.09' long to
 board.
 Deviation: 3/4 degree**

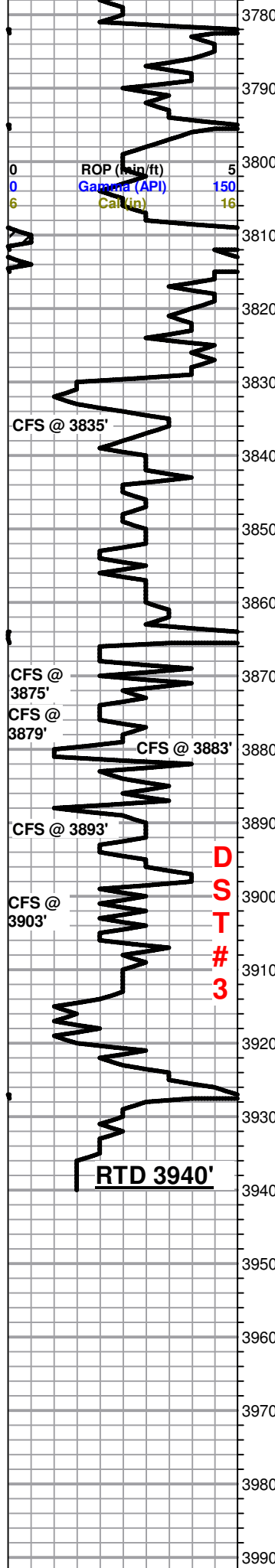
Mud-Co, Mud check
 3614' @ 0735 hrs.
 9/22/2016
 Vis. 41, Wt. 8.9
 PV 12, YP 20
 WL 7.8, Cake 1/32"
 pH 10.5, Ca Tr ppm
 CHL 5,700 ppm
 Sol 4.0, LCM 1
 DMC: \$502.76
 CMC: \$8,566.69

**DST # 2: 3671-3720',
 Rec: 15' oil specked
 mud, SIP: 1010-1000#**

Seibel Farms 21-14-20 d...

Mud-Co, Mud check
 3720' @ 0745 hrs.
 9/23/2016
 Vis. 56, Wt. 9.1
 PV 19, YP 25
 WL 7.8, Cake 1/32"
 pH 11.0, Ca Tr ppm
 CHL 4,600 ppm
 Sol 5.5 LCM 2
 DMC: \$85.55
 CMC: \$8,652.24

Base Kansas City 3776 (-1529)



Limestone as above w/ a minor increase in maroon and gray shale.

Increasing shale component to sample.

Limestone: It tan oolitic grainstone, well-cemented. Also mottled orange and white recrystallized limestone. Brown limestone nodules (balls) up to 2mm in dia. in bottom of pan, Conglomerate?

Shale: gray and maroon, lt gray, tr lt green. Orange and peach-colored limestone as above.

Pawnee 3834 (-1587)

30 & 60 "samples: some flakes of orange and salmon-colored chert, translucent, finely frosted, a few clear qtz sand grains in the bottom of the tray, med-gr, well-rnd., individual grains.

Cherty limestone: vari-colored, clear, translucent cloudy, lt tan, orange, salmon, some are fossil oolites, vitreous, conchoidal fractures. An abundance of shale: vari-colored, gray, lt gray, maroon, lt greenish-gray, no shows.

Shale: black.

Cherokee Shale 3866 (-1619)

Basal Penn. Congl 3871 (-1624)

Sandstone: unconsolidated, med-gr, well-rounded, clear qtz to orange qtz grs., no aroma, no show. Found in the bottom of the sample catcher's bucket. The bucket washed out red (shale?).

Sandstone: unconsolidated, vf- to med-gr, well-rnd. Red, soft & mushy shale washes out of sample bucket.

Chert is still represented in the sample and may be from this zone rather than cavings from the Pawnee cherty limestone. At 3893 sample washes white.

Reagan 3898 (-1651)

Sandstone: translucent vy lt yellow to white quartz arenite, f- to coarse-gr, well-rounded to sub-rounded, dolomitic to silica cement, hard to friable frags, the vy lt yellow fragments are stained by light oil, good aroma, no fluor, releases oil to cutting fluid only when crushed, tr pyrite, tr black dead oil.

30 min: Flooded w/ Shale: gray, maroon, soft, calcareous.

Sandstone: snow white to egg shell white, quartz arenite, almost pure quartz, vf- to med-gr, well- to sub-rounded, mature, forms clusters, some loose grains in the tray bottom, silica cement in some frags, calcite cement in others.

RTD 3940 (-1693)

**RTD 3940' @ 2245 hrs, 9/24/2016
Pioneer Energy Services LTD 3935'
Completed Logging Operations @ 0445 hrs
Geologist: Charlie Sturdavant off location
@ 0000 hrs 9/25/2016**

Mud-Co, Mud check
3903' @ 0710 hrs.
9/24/2016
Vis. 52, Wt. 9.3
PV 18, YP 25
WL 7.8, Cake 1/32"
pH 10.5, Ca 20 ppm
CHL 5,800 ppm
Sol 6.8 LCM 2
DMC: \$855.40
CMC: \$9,507.64

**DST # 3: 3897-3903',
Rec: 1562' Muddy
Water (80% water),
SIP: 1197-1198#**

