



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1222355
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: _____

1222355

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 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				

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: <input type="checkbox"/> Yes <input type="checkbox"/> No
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Date of First, Resumed Production, SWD or ENHR.	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> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Tengasco, Inc.
Well Name	Howard A 1
Doc ID	1222355

Tops

Name	Top	Datum
Anhydrite	1838	+529
Heebner	3642	-1275
Toronto	3661	-1294
Lansing	3681	-1314
BKC	3982	-1615
Pawnee	4112	-1746
Ft. Scott	4187	-1820
Cherokee	4204	-1837
Mississippi	4276	-1909
TD	4378	-2011



DRILL STEM TEST REPORT

Prepared For: **Tengasco , Inc**

1327 Moose Rd
Hays KS 67601-9744

ATTN: Dan Jacobs, Mike Bai

Howard A #1

17-15s-25w Trego,KS

Start Date: 2014.07.22 @ 15:20:27

End Date: 2014.07.22 @ 23:39:21

Job Ticket #: 58832 DST #: 1

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

Printed: 2014.07.25 @ 09:06:33



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Tengasco, Inc
 1327 Noose Rd
 Hays KS 67601-9744
 ATTN: Dan Jacobs, Mike Bai

17-15s-25w Trego, KS
Howard A #1
 Job Ticket: 58832 **DST#: 1**
 Test Start: 2014.07.22 @ 15:20:27

GENERAL INFORMATION:

Formation: **LKC J-K**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 17:54:52
 Tester: Ray Schwager
 Time Test Ended: 23:39:21
 Unit No: 70
Interval: 3887.00 ft (KB) To 3940.00 ft (KB) (TVD)
 Reference Elevations: 2367.00 ft (KB)
 Total Depth: 3940.00 ft (KB) (TVD) 2360.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 7.00 ft

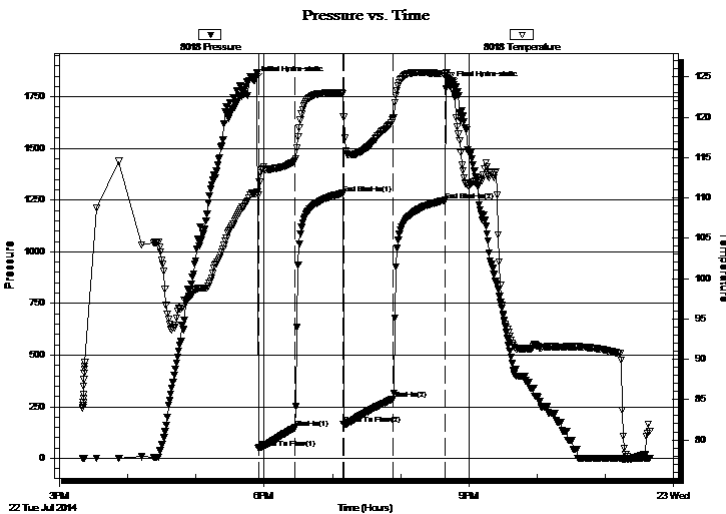
Serial #: 8018

Inside

Press@RunDepth: 288.05 psig @ 3889.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.07.22 End Date: 2014.07.22 Last Calib.: 2014.07.22
 Start Time: 15:20:27 End Time: 23:39:21 Time On Btm: 2014.07.22 @ 17:51:22
 Time Off Btm: 2014.07.22 @ 20:43:21

TEST COMMENT: 30-IFP-strg bl in 4 min
 45-ISIP-strg bl in 20 min
 45-FFP-strg bl thru-out
 45-FSIP-4 1/2" bl bk

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1829.72	110.57	Initial Hydro-static
4	48.33	110.40	Open To Flow (1)
36	147.69	114.59	Shut-In(1)
78	1282.59	122.96	End Shut-In(1)
79	165.53	120.02	Open To Flow (2)
122	288.05	119.77	Shut-In(2)
168	1249.35	125.35	End Shut-In(2)
172	1802.53	125.13	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	2140' GIP	0.00
124.00	MGO 10%G40%M50%O	1.47
775.00	CO	10.87

Gas Rates

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



TRILOBITE
TESTING, INC

DRILL STEM TEST REPORT

Tengasco , Inc
 1327 Noose Rd
 Hays KS 67601-9744
 ATTN: Dan Jacobs, Mike Bai

17-15s-25w Trego,KS
Howard A #1
 Job Ticket: 58832 **DST#: 1**
 Test Start: 2014.07.22 @ 15:20:27

GENERAL INFORMATION:

Formation: **LKC J-K**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 17:54:52
 Time Test Ended: 23:39:21

Test Type: Conventional Bottom Hole (Initial)
 Tester: Ray Schw ager
 Unit No: 70

Interval: 3887.00 ft (KB) To 3940.00 ft (KB) (TVD)
 Total Depth: 3940.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2367.00 ft (KB)
 2360.00 ft (CF)
 KB to GR/CF: 7.00 ft

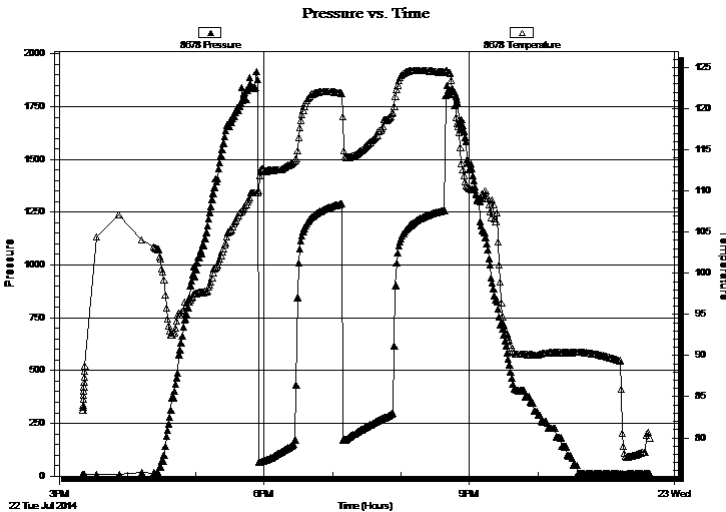
Serial #: 8678 **Outside**

Press@RunDepth: psig @ 3889.00 ft (KB)
 Start Date: 2014.07.22 End Date: 2014.07.22
 Start Time: 15:20:43 End Time: 23:38:07

Capacity: 8000.00 psig
 Last Calib.: 2014.07.22
 Time On Btm:
 Time Off Btm:

TEST COMMENT: 30-IFP-strg bl in 4 min
 45-ISIP-strg bl in 20 min
 45-FFP-strg bl thru-out
 45-FSIP-4 1/2" bl bk

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
0.00	2140' GIP	0.00
124.00	MGO 10%G40%M50%O	1.47
775.00	CO	10.87

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Tengasco , Inc

17-15s-25w Trego,KS

1327 Noose Rd
Hays KS 67601-9744

Howard A #1

Job Ticket: 58832

DST#: 1

ATTN: Dan Jacobs, Mike Bai

Test Start: 2014.07.22 @ 15:20:27

Tool Information

Drill Pipe:	Length: 3848.00 ft	Diameter: 3.80 inches	Volume: 53.98 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	65000.00 lb
			<u>Total Volume: 54.13 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial	58000.00 lb
Depth to Top Packer:	3887.00 ft			Final	58000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	53.00 ft				
Tool Length:	82.00 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			3859.00	
Shut In Tool	5.00			3864.00	
Hydraulic tool	5.00			3869.00	
Jars	5.00			3874.00	
Safety Joint	3.00			3877.00	
Packer	5.00			3882.00	29.00 Bottom Of Top Packer
Packer	5.00			3887.00	
Stubb	1.00			3888.00	
Perforations	1.00			3889.00	
Recorder	0.00	8018	Inside	3889.00	
Recorder	0.00	8678	Outside	3889.00	
Blank Spacing	33.00			3922.00	
Perforations	15.00			3937.00	
Bullnose	3.00			3940.00	53.00 Bottom Packers & Anchor

Total Tool Length: 82.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Tengasco , Inc

17-15s-25w Trego,KS

1327 Moose Rd
Hays KS 67601-9744

Howard A #1

Job Ticket: 58832

DST#: 1

ATTN: Dan Jacobs, Mike Bai

Test Start: 2014.07.22 @ 15:20:27

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

32 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.90 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	2140' GIP	0.000
124.00	MGO 10%G40%M50%O	1.466
775.00	CO	10.871

Total Length: 899.00 ft Total Volume: 12.337 bbl

Num Fluid Samples: 0

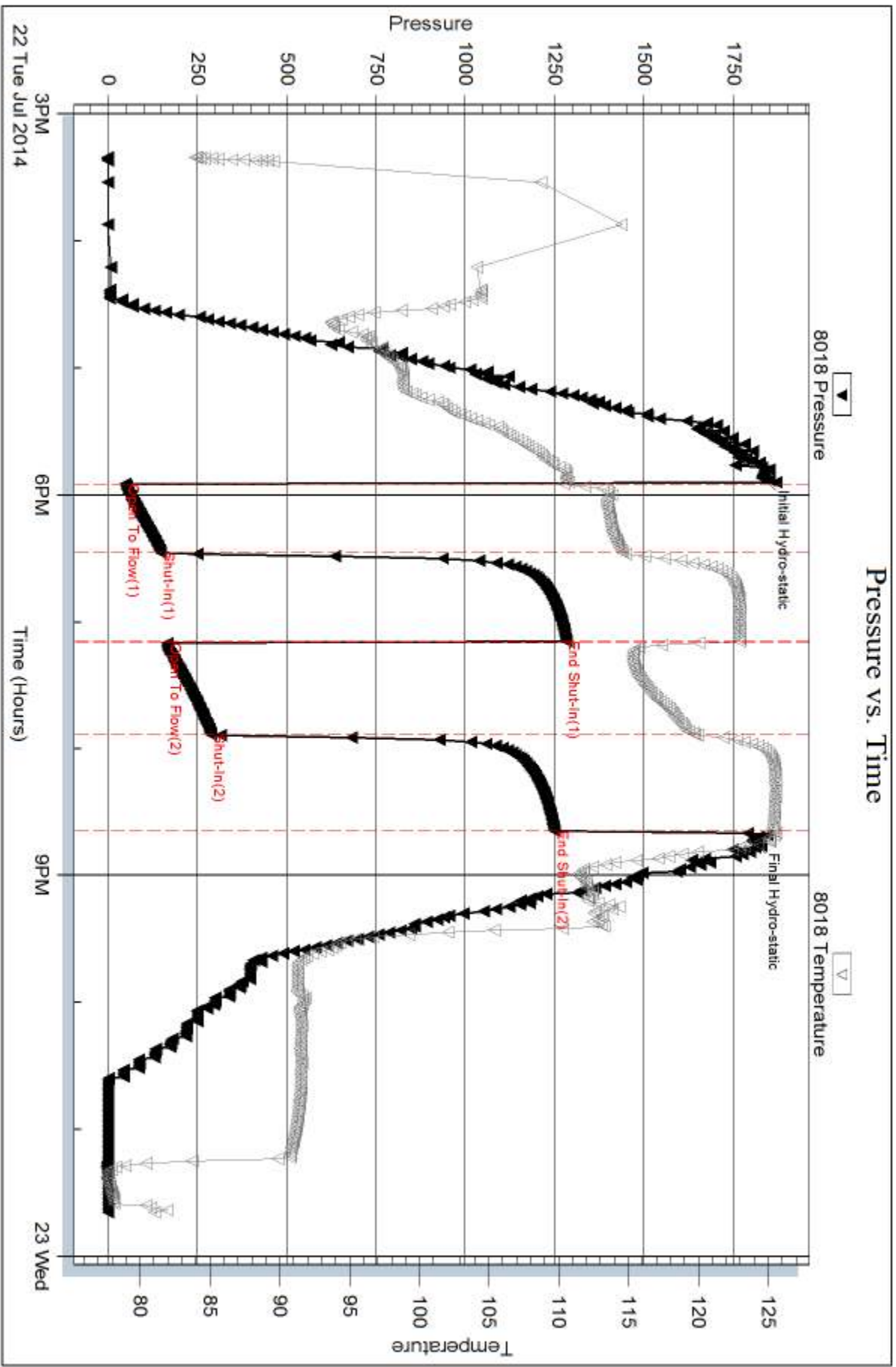
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

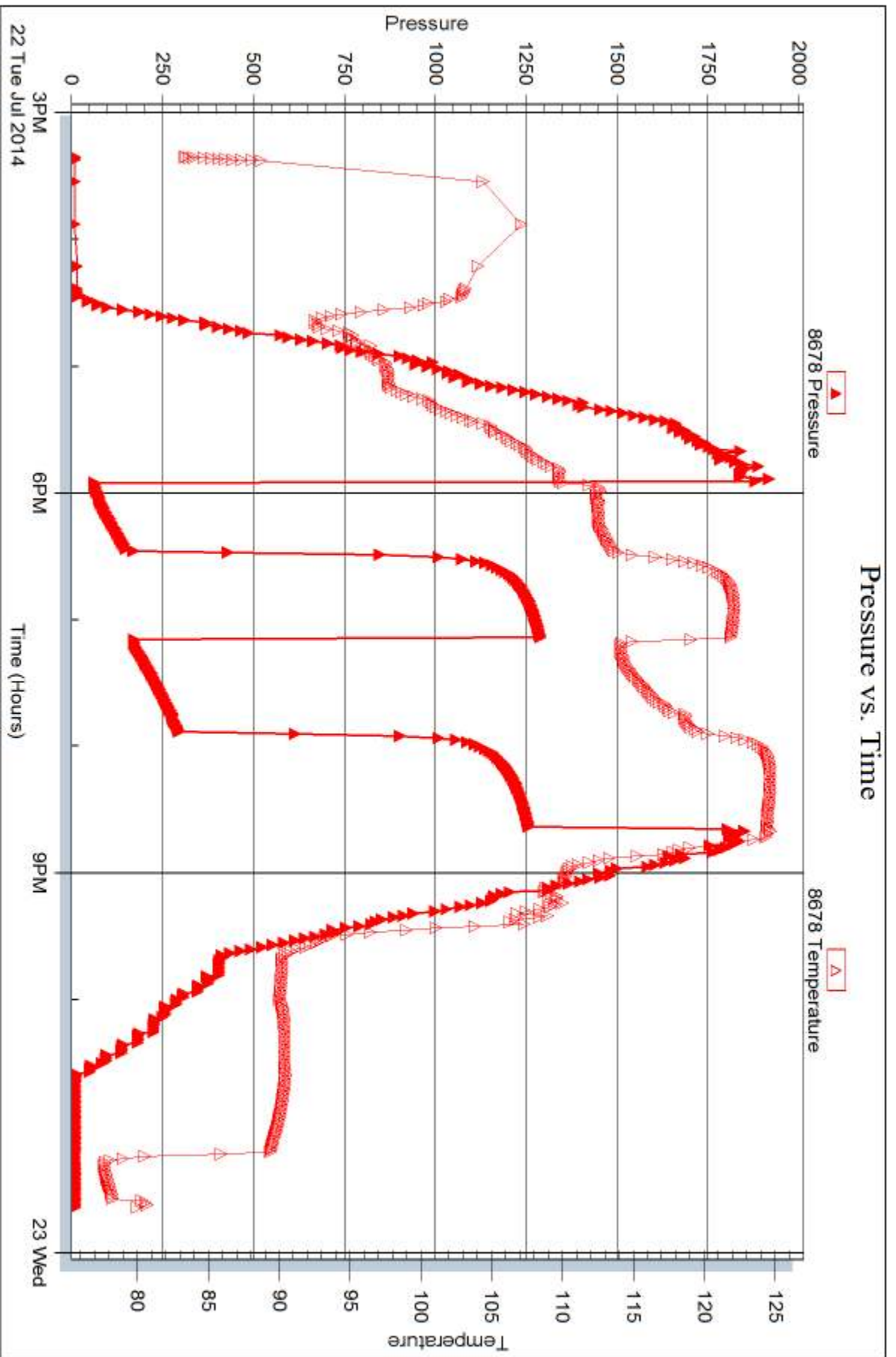


Serial #: 8678

Outside Tengasco, Inc

Howard A #1

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 58832

Printed: 2014.07.25 @ 09:06:34



DRILL STEM TEST REPORT

Prepared For: **Tengasco , Inc**

1327 Moose Rd
Hays KS 67601-9744

ATTN: Dan Jacobs, Mike Bai

Howard A #1

17-15s-25w Trego,KS

Start Date: 2014.07.24 @ 12:15:47

End Date: 2014.07.24 @ 19:43:41

Job Ticket #: 58833 DST #: 2

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

Printed: 2014.07.25 @ 09:05:59

Tengasco , Inc
17-15s-25w Trego,KS
Howard A #1
DST # 2
Mississippi
2014.07.24



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Tengasco, Inc
1327 Noose Rd
Hays KS 67601-9744
ATTN: Dan Jacobs, Mike Bai

17-15s-25w Trego,KS
Howard A #1
Job Ticket: 58833 **DST#: 2**
Test Start: 2014.07.24 @ 12:15:47

GENERAL INFORMATION:

Formation: **Mississippi**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 14:31:42
Time Test Ended: 19:43:41
Interval: **4280.00 ft (KB) To 4298.00 ft (KB) (TVD)**
Total Depth: 4298.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Reference Elevations: 2367.00 ft (KB)
2360.00 ft (CF)
KB to GR/CF: 7.00 ft

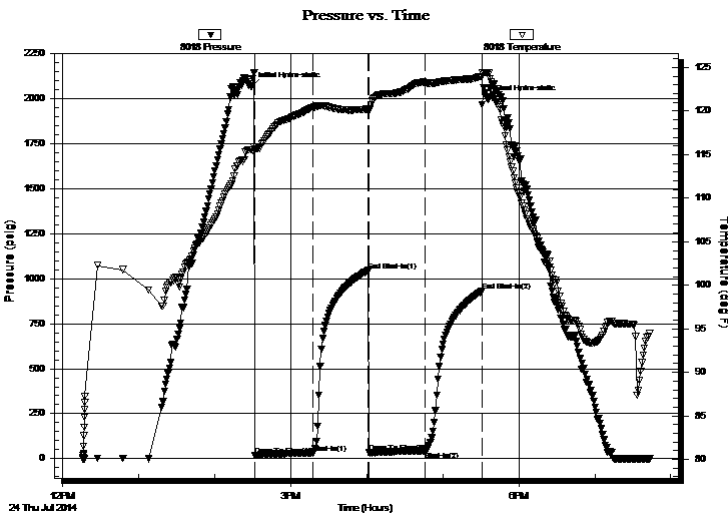
Serial #: 8018

Inside

Press@RunDepth: 43.90 psig @ 4281.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2014.07.24 End Date: 2014.07.24 Last Calib.: 2014.07.24
Start Time: 12:15:47 End Time: 19:43:41 Time On Btm: 2014.07.24 @ 14:29:12
Time Off Btm: 2014.07.24 @ 17:35:41

TEST COMMENT: 45-IFP-w k bl thru-out surface to 2" bl
45-ISIP-no bl bk
45-FFP-w k bl thru-out, surface to 1/2" bl
45-FSIP-no bl

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2066.83	115.56	Initial Hydro-static
3	17.91	115.42	Open To Flow (1)
49	32.35	120.42	Shut-In(1)
92	1045.69	120.24	End Shut-In(1)
93	34.62	120.06	Open To Flow (2)
137	43.90	123.27	Shut-In(2)
182	930.70	123.97	End Shut-In(2)
187	1995.42	124.39	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	90'GIP	0.00
30.00	O&GCM 10%G10%O80%M	0.15
60.00	CO	0.84

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Tengasco, Inc

17-15s-25w Trego, KS

1327 Noose Rd
Hays KS 67601-9744

Howard A #1

Job Ticket: 58833

DST#: 2

ATTN: Dan Jacobs, Mike Bai

Test Start: 2014.07.24 @ 12:15:47

GENERAL INFORMATION:

Formation: **Mississippi**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:31:42

Time Test Ended: 19:43:41

Test Type: Conventional Bottom Hole (Reset)

Tester: Ray Schwager

Unit No: 70

Interval: 4280.00 ft (KB) To 4298.00 ft (KB) (TVD)

Reference Elevations: 2367.00 ft (KB)

Total Depth: 4298.00 ft (KB) (TVD)

2360.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 7.00 ft

Serial #: 8678 Outside

Press@RunDepth: psig @ 4281.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.07.24

End Date:

2014.07.24

Last Calib.:

2014.07.24

Start Time: 12:15:56

End Time:

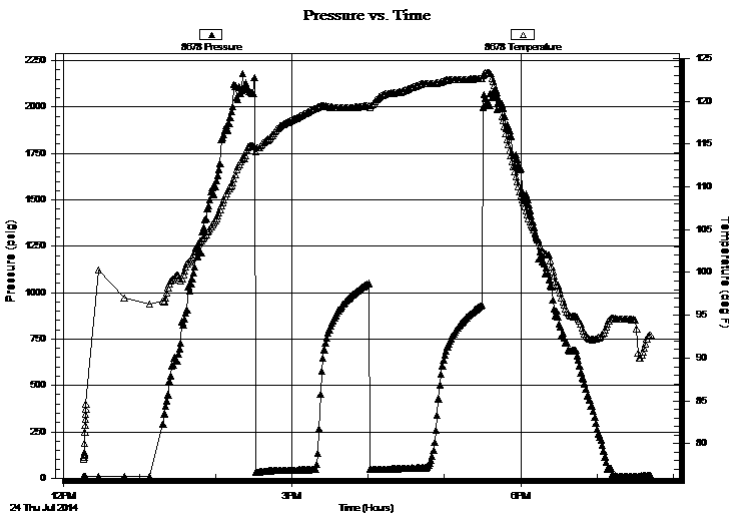
19:42:50

Time On Btm:

Time Off Btm:

TEST COMMENT: 45-IFP-w k bl thru-out surface to 2" bl
45-ISIP-no bl bk
45-FFP-w k bl thru-out, surface to 1/2" bl
45-FSIP-no bl

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
0.00	90'GIP	0.00
30.00	O&GCM 10%G10%O80%M	0.15
60.00	CO	0.84

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Tengasco , Inc

17-15s-25w Trego,KS

1327 Noose Rd
Hays KS 67601-9744

Howard A #1

Job Ticket: 58833

DST#: 2

ATTN: Dan Jacobs, Mike Bai

Test Start: 2014.07.24 @ 12:15:47

Tool Information

Drill Pipe:	Length: 4242.00 ft	Diameter: 3.80 inches	Volume: 59.50 bbl	Tool Weight: 2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 59.65 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial 59000.00 lb
Depth to Top Packer:	4280.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	18.00 ft			
Tool Length:	47.00 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			4252.00	
Shut In Tool	5.00			4257.00	
Hydraulic tool	5.00			4262.00	
Jars	5.00			4267.00	
Safety Joint	3.00			4270.00	
Packer	5.00			4275.00	29.00 Bottom Of Top Packer
Packer	5.00			4280.00	
Stubb	1.00			4281.00	
Recorder	0.00	8018	Inside	4281.00	
Recorder	0.00	8678	Outside	4281.00	
Perforations	14.00			4295.00	
Bullnose	3.00			4298.00	18.00 Bottom Packers & Anchor

Total Tool Length: 47.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Tengasco , Inc

17-15s-25w Trego,KS

1327 Moose Rd
Hays KS 67601-9744

Howard A #1

Job Ticket: 58833

DST#: 2

ATTN: Dan Jacobs, Mike Bai

Test Start: 2014.07.24 @ 12:15:47

Mud and Cushion Information

Mud Type: Gel Chem
Mud Weight: 9.00 lb/gal
Viscosity: 58.00 sec/qt
Water Loss: 9.38 in³
Resistivity: ohm.m
Salinity: 2400.00 ppm
Filter Cake: 1.00 inches

Cushion Type:
Cushion Length: ft
Cushion Volume: bbl
Gas Cushion Type:
Gas Cushion Pressure: psig

Oil API: 41 deg API
Water Salinity: ppm

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	90'GIP	0.000
30.00	O&GCM 10%G10%O80%M	0.148
60.00	CO	0.842

Total Length: 90.00 ft Total Volume: 0.990 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

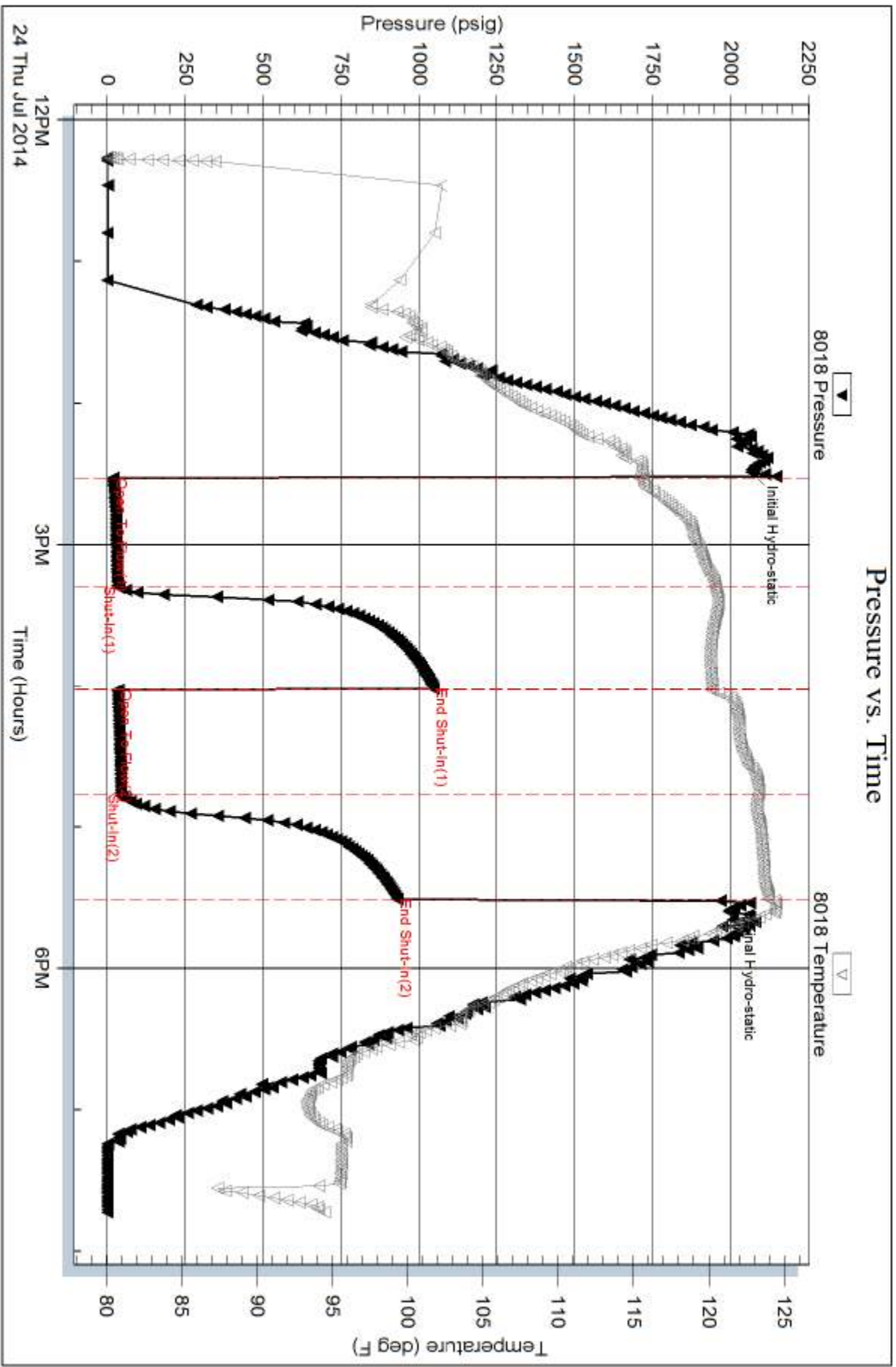
Serial #: 8018

Inside

Tengasco, Inc

Howard A #1

DST Test Number: 2

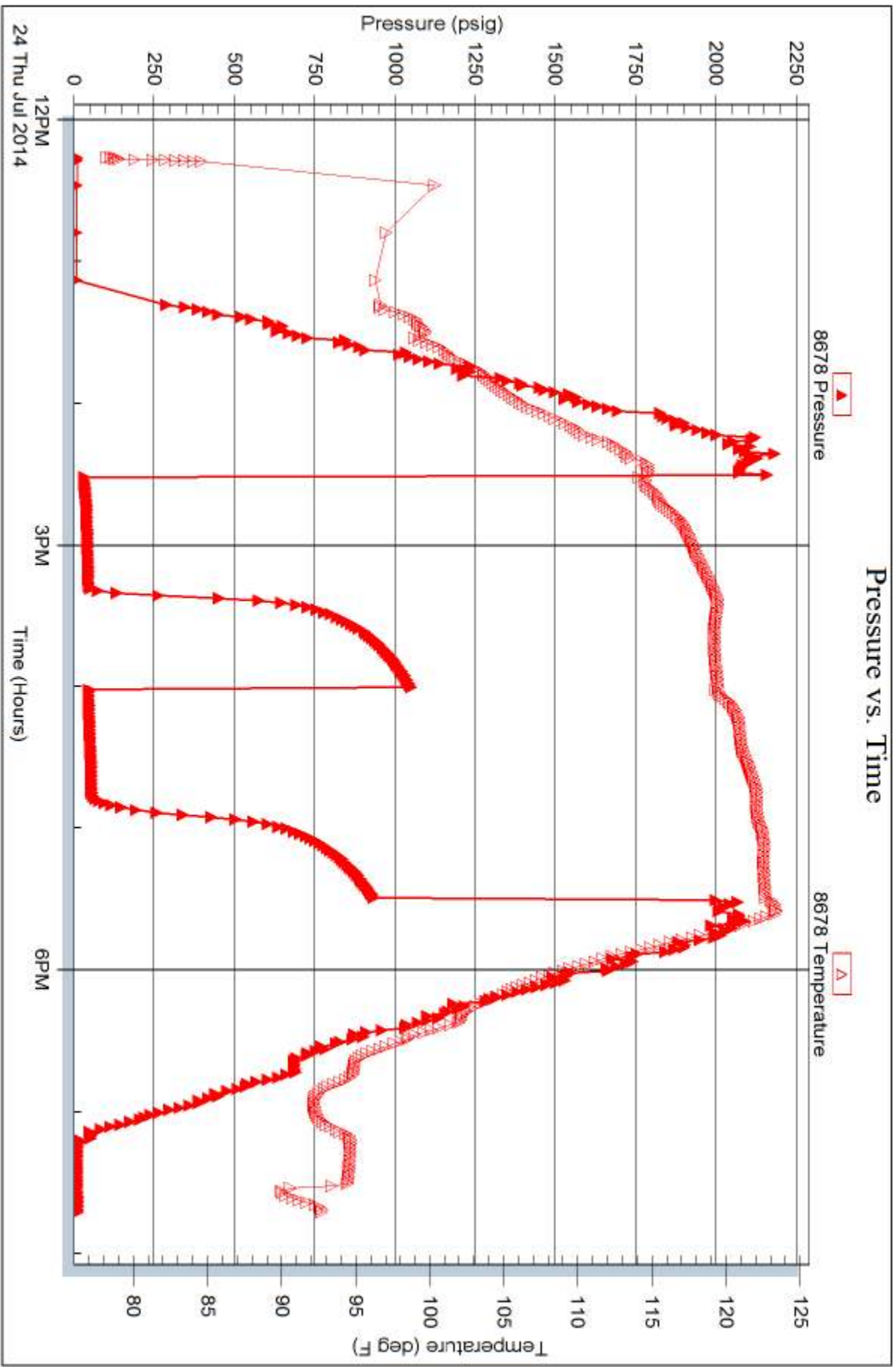


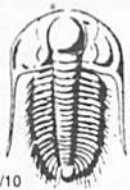
Serial #: 8678

Outside Tengasco, Inc

Howard A #1

DST Test Number: 2





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 58832

Well Name & No. Howard A #1 Test No. 1 Date 7-22-14
 Company Tengasco Inc Elevation 2367 KB 2360 GL
 Address 1327 Noose Rd. Hays, Ks 67601-9744
 Co. Rep / Geo. Mike BAIR Rig Am Eagle 1193
 Location: Sec. 17 Twp. 15^s Rge. 25^w Co. Trego State Ks

Interval Tested 3887-3940 Zone Tested LKC J-K
 Anchor Length 53 Drill Pipe Run 3848 Mud Wt. 8.8
 Top Packer Depth 3882 Drill Collars Run 30 Vis 58
 Bottom Packer Depth 3887 Wt. Pipe Run - WL 8
 Total Depth 3940 Chlorides 2000 ppm System LCM 2#

Blow Description IFP - WEAK TO A STRONG BLOW IN 4 MIN
TSIP - STRONG BLOW BACK IN 20 MIN
FFP - STRONG BLOW THRU-OUT
FSIP - 4 1/2" BLOW BACK

Rec	Feet of	%gas	%oil	%water	%mud
<u>124</u>	<u>MGO</u>	<u>10</u>	<u>50</u>	<u>40</u>	
<u>775</u>	<u>Co</u>				
<u>2140</u>	<u>GIP</u>				

Rec Total 899 BHT 125 Gravity 32 API RW - @ - ° F Chlorides - ppm
 (A) Initial Hydrostatic 1829 Test 1150 T-On Location 1330
 (B) First Initial Flow 48 Jars 250 T-Started 1520
 (C) First Final Flow 147 Safety Joint 75 T-Open 1755
 (D) Initial Shut-In 1282 Circ Sub _____ T-Pulled 2040
 (E) Second Initial Flow 165 Hourly Standby 1 100 T-Out 2339
 (F) Second Final Flow 288 Mileage 136RT 210.80 Comments _____
 (G) Final Shut-In 1249 Sampler _____
 (H) Final Hydrostatic 1802 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____

Initial Open 30
 Initial Shut-In 45
 Final Flow 45
 Final Shut-In 45
 Sub Total 0
 Total 1785.80
 MP/DST Disc't _____
 Sub Total 1785.80

Approved By _____ Our Representative Ray Schwager Thank you

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. 58833

Well Name & No. Howard A#1 Test No. 2 Date 7-24-14
 Company Tengasco, Inc Elevation 2367 KB 2360 GL
 Address 1325 Moose Rd. Hays, Ks 67601-9744
 Co. Rep / Geo. Mike Bair Rig Am Eagle rig 3
 Location: Sec. 17 Twp. 15^s Rge. 25^w Co. Trego State Ks

Interval Tested 4280-4298 Zone Tested MISS
 Anchor Length 18 Drill Pipe Run 4242 Mud Wt. 9.2
 Top Packer Depth 4275 Drill Collars Run 30 Vis 58
 Bottom Packer Depth 4280 Wt. Pipe Run - WL 9.4
 Total Depth 4298 Chlorides 2400 ppm System LCM 2#

Blow Description IFF - Weak Blow thru-out, surface to 2" Blow
ISIP - NO Blow
FFP - Weak Blow thru-out, surface to 1/2" Blow
FSIP - NO Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>90</u>	<u>GAS IN PIPE</u>				
<u>60</u>	<u>CO</u>				
<u>30</u>	<u>DTGCM</u>	<u>10</u>	<u>10</u>		<u>80</u>

Rec Total 90 BHT 124 Gravity 41 API RW - @ - °F Chlorides - ppm
 (A) Initial Hydrostatic 2066 Test 1250 T-On Location 1130
 (B) First Initial Flow 17 Jars 250 T-Started 1215
 (C) First Final Flow 32 Safety Joint 75 T-Open 1435
 (D) Initial Shut-In 1042 Circ Sub _____ T-Pulled 1735
 (E) Second Initial Flow 34 Hourly Standby _____ T-Out 1943
 (F) Second Final Flow 43 Mileage 136RT 210.80 Comments _____
 (G) Final Shut-In 930 Sampler _____
 (H) Final Hydrostatic 1995 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____

Initial Open 45
 Initial Shut-In 45
 Final Flow 45
 Final Shut-In 45
 Sub Total 1785.80
 Total 2177.47
 MP/DST Disc't _____

Approved By _____ Our Representative RAY Schwager Thank you
 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.

MUD LOG
WellSight Systems
Scale 1:240 (5"=100') Imperial
Measured Depth Log

Well Name: HOWARD A #1
Location: 1485' FNL & 800' FEL; NE/4 Sec. 17 T15S R25W
License Number: 34110
Spud Date: 7/18/2014
Surface Coordinates:
Region: Trego Co., KS
Drilling Completed: 7-25-2014

Bottom Hole
Coordinates:
Ground Elevation (ft): 2360' K.B. Elevation (ft): 2367'
Logged Interval (ft): 3400' To: TD Total Depth (ft): 4378'
Formation: Mississippian
Type of Drilling Fluid: Chemical Mud

Printed by MUD.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: Tengasco, INC.
Address: 1327 Noose Rd.
Hays, KS 67601

GEOLOGIST

Name: Mike Bair
Company: Basin Resources L.L.C.
Address:

FORMATION

FORMATION	LOG TOP	SAMPLE TOP
Anhydrite	1838 (+529)	1837 (+530)
Heebner	3642 (-1275)	3646 (-1279)
Toronto	3661 (-1294)	3663 (-1296)
Lansing	3681 (-1314)	3685 (-1318)
BKC	3982 (-1615)	3976 (-1609)
Pawnee	4112 (-1746)	4114 (-1748)
Ft. Scott	4187 (-1820)	4184 (-1817)
Cherokee	4204 (-1837)	4207 (-1840)
Miss	4276 (-1909)	4274 (-1907)
TD	4378 (-2011)	4378 (-2011)

DST

DST #1 3887 - 3940 30-45-45-45

IFP: Weak building to BOB in 4 min: ISIP: BOB in 20 min.

FFP: BOB throughout; FSIP: 4 1/2" blow back

FP: (48-147)(165-288) SIP: 1282 - 1249

IHP: 1829 FHP: 1802

REC: 2140' GIP; 775' CO; 124' MCO (10%g, 50%o, 40%m)

DST #2 4280-4298 45-45-45-45

IFP: Weak blow throughout, surf to 2": ISIP: No blow

FFP: Weak blow throughout surf to 1/2": FSIP: No blow

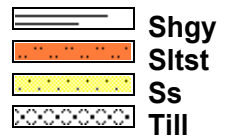
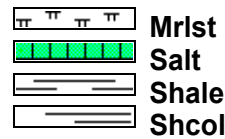
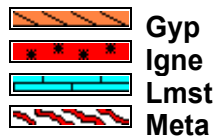
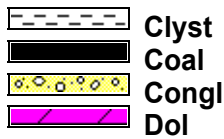
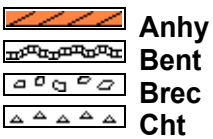
FP: (17-32)(34-43) SIP: 1042-930 HP: 2066-1995

REC: 90' GIP; 60' CO; 30' O&GCM (10%g, 10%o, 80%m)

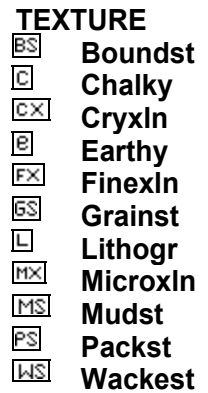
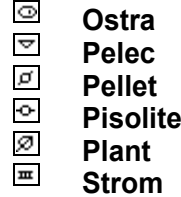
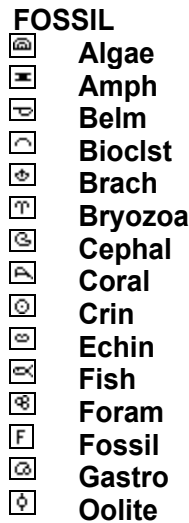
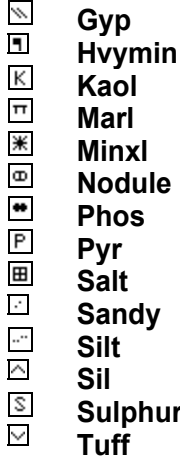
Comments

Production casing was ran to further test the economic potential of the Howard A#1.

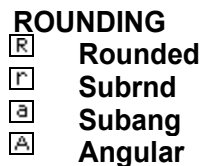
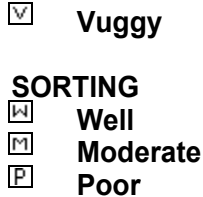
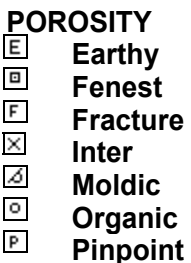
ROCK TYPES

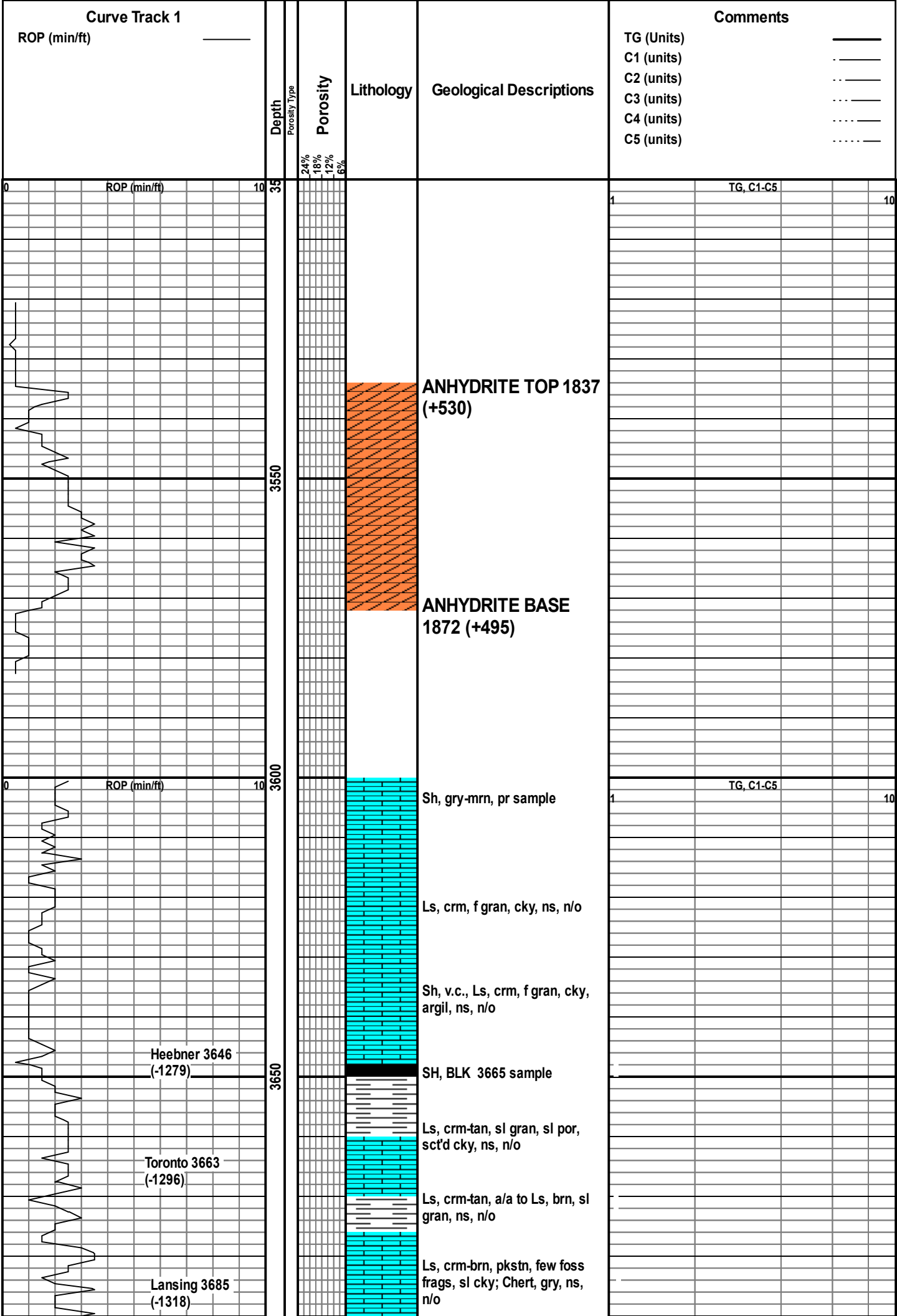


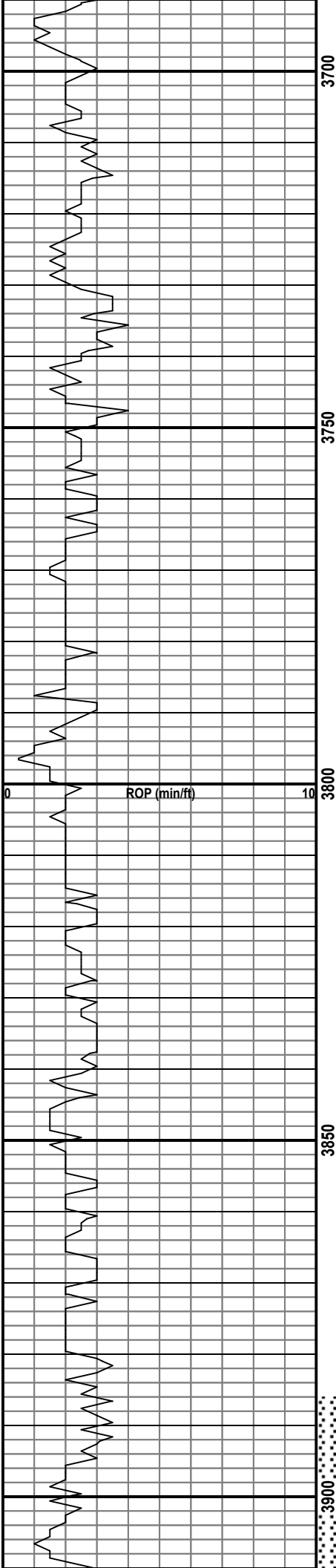
ACCESSORIES



OTHER SYMBOLS







3700
3750
3800
3850
3900

Chert, wh; Ls, wh, f gran, foss, few ool, pr vis por, ns, n/o

Ls, wh, fgran-gran, sl-fr ixl por, sl dolomitic, ns, n/o

Chert, wh; Ls, wh-crm, sl gran to ool, mst sl por, r pc dolomitic, ns, n/o

Ls, wh, f gran, few ool, sl por to Ls, tan, gran, fr ixl por, ns, n/o

Ls, wh-crm, f gran, fr ixl por, ns, n/o; Chert, wh-tan: Sh, blk

Ls, crm-tan, few ool, mst sl gran, sl por, ns, n/o few foss frags

Ls, crm, f gran-gran, fr ixl to Ls, tan, nvp; Sh, v.c. ns n/o

Ls, of wh-lt gry, fxl, some cky, ns, n/o
a/a, Sh, lt grn

Ls, tan, sl gran, some cal rexln, ns, n/o 3800

Chert, op-wh; Ls, wh-crm, fxl to sl gran, cky in pt, ns, n/o

Ls, ofwh, sl gran to gran, sl to fr ixl por, r pc suc, ns, n/o

Ls, ofwh, ool to oom, pr to fr oom por, barren, n/o

Flood Sh, v.c.; r pc Chert, bone wh

Ls, wh-crm, fxl-ool, some ck, soft wh; ns, n/o

Ls, tan, ool to few pc oom, ns, n/o

Ls, wh, fxl, sl cky to Ls, crm, fxl, ns, n/o 3875 cfs

Ls, wh, nvp, some cky, ns, n/o

Sh, grn-gry-blk; Ls, wh, sl gran to Ls crm, mdstn, ns, n/o 3900

Ls, wh, oom, sl-gd oom por, spt'd surf stn, sl- fr show gassy FO wh bxn, lt odor, few drops FO in tray 3920

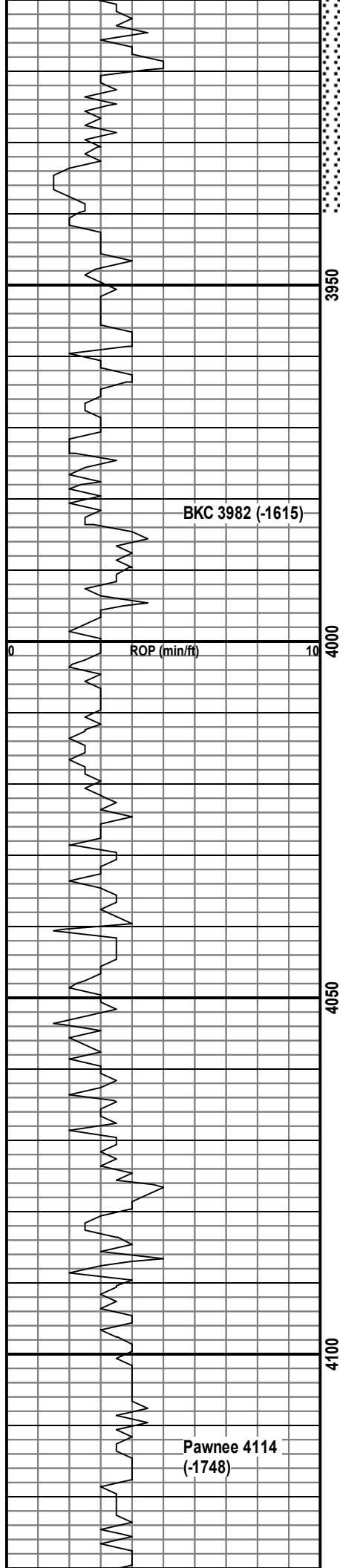
Ls, wh, oom a/a, mst barren

CFS

TG, C1-C5

cfs

DST#1 3887-3940



3950

4000

4050

4100

BKC 3982 (-1615)

Pawnee 4114 (-1748)

Ls, wh, con a/a, inst barren, n/o

Ls, wh, fxl, nvp, ns, n/o SH, blk

Ls, crm, ool, pr-v sl ixool por, few lt stn, r pc w v sl sfo, lt odor, r pc w hvy oil stn on edge, low rep

Sh, v.c., r pc Dolo, suc, sl ixl por, v sl sfo, n/o

Ls, wh, v f gran, v sl sfo, surf stn to lt sat'd stn (sluff?) to Ls, flesh, gran, cal rexln, v sl sfo, poss v wk odor 3970 sample

chert, tan; Ls, wh, fxl, nvp, spt'd stn, nsfo to Ls, tan, sl gran, spt'd stn, v sl sfo wh bxn, n/o

Chert, gry, Sh, gry-olive; Ls, wh f gran, a/a, sl od wh bxn, low rep

Ls, wh, fxl, sl cky, ns to Ls, r pc lt gry, fxl, pr vis por, spt'd surf stn to Ls, f gran, a/a w v sl sfo, n/o 4000

abdn't Sh, v.c.; Ls, wh-crm-lt gry, fxl to f grn, pr vis por, ns, n/o

Ls, crm-tan, mdstn, nvp, ns, n/o
pr sample; Ls, a/a; Sh, gry, soft

Ls, crm-tan, fxl to pkstn, ns, n/o; Sct'd Chert, sh

Ls, crm-tan, nvp, ns; Sh, red, soft to gry fiss, n/o

Slstn- sh, grn, mnrn; Ls, wh-lt gry, fxl to sl cky, ns, n/o

Sh, gry-olive; Chert, tan-brn, r pc SS, v fgrn, sl fri, ns; Ls, r pc fxl to v fgrn, spt'd stn, nsfo, n/o
40 min: r pc Ls, wh, ool, pr vis por, spt'd surf stn, sl sfo in 1 rx wh bxn, n/o 60 mim

Ls, wh, gran, pr-sl ixl por, spt'd sat'd stn, r v sl sfo wh bxn, v low rep; Chert, tan, n/o

Ls, wh, cky to Ls, a/a, few pc pr-sl pp por, r pc sm vg, few sat'd stn, couple pcs lt sfo wh bxn, n/o 4090

Ls, wh-crm, nvp, ns; Sh, gry-grn, ns, n/o

Ls, wh-brn, mdstn, ns, n/o

Ls, a/a; Sh, brn

a/a; Sh, brn-mrn, fis, ns, n/o

Ls, brn, nvp, ns; Sh, brn

cfs

TG, C1-C5

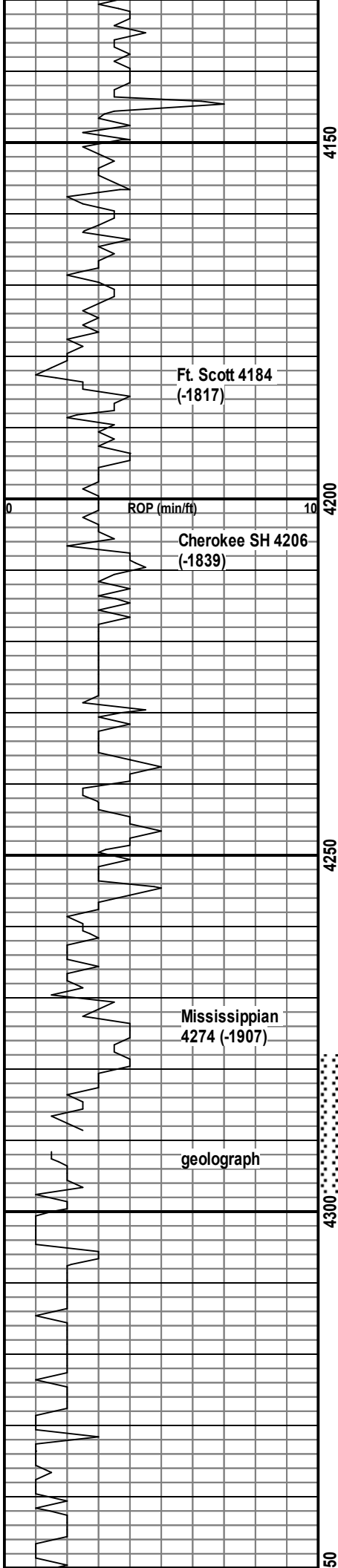
1

10

cfs

MudCo Ck 3940
Vis 58
Wt 8.8
WL 8.0
Chlr 2000
LCM 2#

MudCo CK 4029
Vis 63
Vt 8.8
WL 8.4
Chlr 2700
LCM 2#



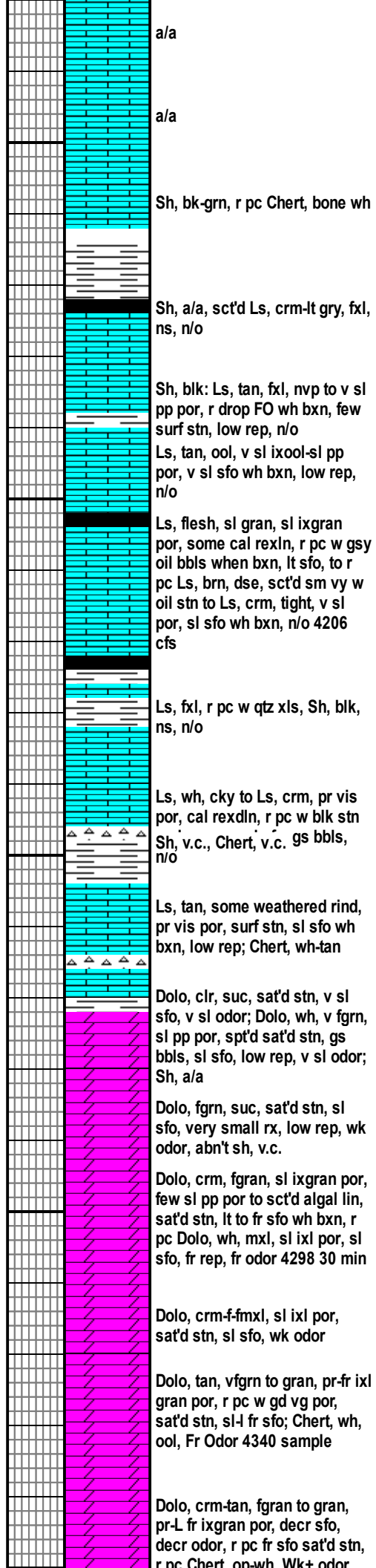
4150

4200

4250

4300

50



a/a

a/a

Sh, bk-grn, r pc Chert, bone wh

Sh, a/a, sct'd Ls, crm-lt gry, fxl, ns, n/o

Sh, blk: Ls, tan, fxl, nvp to v sl pp por, r drop FO wh bxn, few surf stn, low rep, n/o
Ls, tan, ool, v sl ixool-sl pp por, v sl sfo wh bxn, low rep, n/o

Ls, flesh, sl gran, sl ixgran por, some cal rexln, r pc w gsy oil bbls when bxn, lt sfo, to r pc Ls, brn, dse, sct'd sm vy w oil stn to Ls, crm, tight, v sl por, sl sfo wh bxn, n/o 4206 cfs

Ls, fxl, r pc w qtz xls, Sh, blk, ns, n/o

Ls, wh, cky to Ls, crm, pr vis por, cal rexdl, r pc w blk stn
Sh, v.c., Chert, v.c. gs bbls, n/o

Ls, tan, some weathered rind, pr vis por, surf stn, sl sfo wh bxn, low rep; Chert, wh-tan

Dolo, clr, suc, sat'd stn, v sl sfo, v sl odor; Dolo, wh, v fgrn, sl pp por, spt'd sat'd stn, gs bbls, sl sfo, low rep, v sl odor; Sh, a/a

Dolo, fgrn, suc, sat'd stn, sl sfo, very small rx, low rep, wk odor, abn't sh, v.c.

Dolo, crm, fgran, sl ixgran por, few sl pp por to sct'd algal lin, sat'd stn, lt to fr sfo wh bxn, r pc Dolo, wh, mxl, sl ixl por, sl sfo, fr rep, fr odor 4298 30 min

Dolo, crm-f-mxl, sl ixl por, sat'd stn, sl sfo, wk odor

Dolo, tan, vfgrn to gran, pr-fr ixl gran por, r pc w gd vg por, sat'd stn, sl-l fr sfo; Chert, wh, ool, Fr Odor 4340 sample

Dolo, crm-tan, fgran to gran, pr-L fr ixgran por, decr sfo, decr odor, r pc fr sfo sat'd stn, r pc Chert on-wh Wk+ odor

TG, C1-C5

1 cfs Vis 55 Wt. 9.1 10

MudCo Ck 4298
Vis 58
Wt 9.2
WL 9.4
Chlr 2400
LCM 1#

cfs DST #2 4280 - 4298

cfs Dolo, a/a, r pc w gd sfo, w some gs bbls, + fr odor 4298 60 min

4340 Drilling Sample (lag to 4300-10) Best Odor, SFO in Miss



RTD 4378
Dev 1 deg

ROP (min/ft)

0 10

43

4400

4450

4500

4550



Dolo, crm-tan, barren to r pc w
fr sfo, few fr ixl por, mst sl ixl
por, sl sfo, sct'd chert wk odor

Dolo, wh, v fgrn, mst parrent;
Chert, op-wh, v wk odor

Dolo, a/a to Dolo, tan, v fgran,
glauc, barren; Chert, wh

Dolo, a;a; Sh, grn-olive-mrn;
Abdn't Chert, wh

flood of Sh, a/a; Chert, wh 4378
60 min

cfs Vis 52

TG, C1-C5

1

10

QUALITY OILWELL CEMENTING, INC.

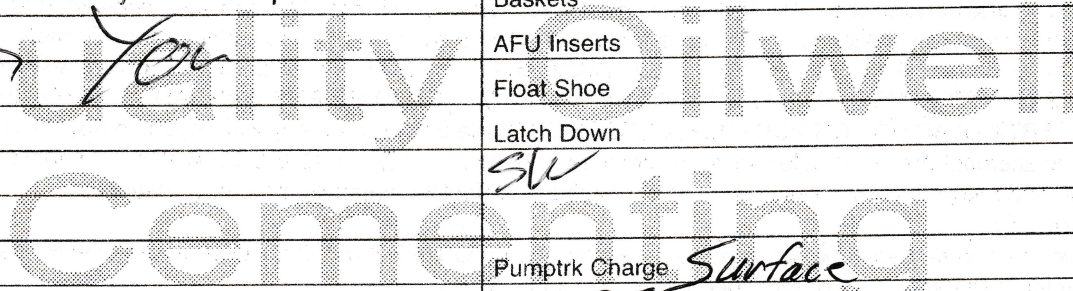
Federal Tax I.D.# 20-2886107

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

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

No. 316

Date	Sec.	Twp.	Range	County	State	On Location	Finish
7-18-14	17	15	25	Trego	KS	11:30 AM	1:00 PM
Lease: Howard A				Location: Collyer 18 1/2 S W 20		Well No. 1	
Contractor: American Eagle Rig 3				Owner: To Quality Oilwell Cementing, Inc.			
Type Jo: Surface				You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.			
Hole Size: 12 1/4		T.D.: 264		Charge To: Tengasco		Street:	
Csg.: 8 7/8		Depth: 262		City:		State:	
Tbg. Size:		Depth:		The above was done to satisfaction and supervision of owner agent or contractor.			
Tool:		Depth:		Cement Amount Ordered: 170 3900 27000			
Cement Left in Csg.: 20 ft		Shoe Joint: 20 ft		Meas Line Displace: 15 15			
EQUIPMENT				Common 170			
Pumptrk 20 No. Cementer/Helper: Mitt		Bulktrk 13 No. Driver: Mick		Bulktrk 04 No. Driver: Lonnie		Poz. Mix	
				Gel. 3			
				Calcium 56			
JOB SERVICES & REMARKS				Hulls			
Remarks:				Salt			
Rat Hole				Flowseal			
Mouse Hole				Kol-Seal			
Centralizers				Mud CLR 48			
Baskets				CFL-117 or CD110 CAF 38			
D/V or Port Collar				Sand			
Cement did Citate Thank You				Handling 179			
				Mileage 8 1/2			
				FLOAT EQUIPMENT			
				Guide Shoe			
				Centralizer			
				Baskets			
				AFU Inserts			
				Float Shoe			
				Latch Down			
				Pumptrk Charge: Surface			
Mileage: 35							
Signature: Keith Karls				Tax			
				Discount			
				Total Charge			



QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025

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

No. 521

Cell 785-324-1041

Date	Sec.	Twp.	Range	County	State	On Location	Finish
7-26-14	17	15	25	Trego	KS		6:30 AM

Location *Collver 18 1/2 S*

Lease <i>Howard "A"</i>	Well No. #1	Owner
Contractor <i>American Eagle 3</i>		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 <i>Production String</i>		Charge To <i>Tengasco Inc</i>
Hole Size <i>7 7/8</i>	T.D. <i>4378'</i>	Street
Csg. <i>5 1/2</i>	Depth <i>4381'</i>	City
Tbg. Size	Depth	State
Tool	Depth	The above was done to satisfaction and supervision of owner agent or contractor.
Cement Left in Csg. <i>20'</i>	Shoe Joint <i>20'</i>	Cement Amount Ordered <i>180 Q-Pro-C</i>
Meas Line	Displace <i>106 1/2</i>	<i>10% salt 2% gel</i>

EQUIPMENT

Pumptrk <i>5</i> No.	Cementor Helper <i>David</i>	Poz. Mix
Bulktrk <i>9</i> No.	Driver <i>Chad</i>	Gel. <i>3</i>
Bulktrk <i>Pu</i> No.	Driver <i>Brett</i>	Calcium

JOB SERVICES & REMARKS

Remarks:	Hulls
Rat Hole - <i>30 5x</i>	Salt <i>16</i>
Mouse Hole	Flowseal
Centralizers - <i>1, 5, 12, 20, 59, 93</i>	Kol-Seal
Baskets <i>59, 68, 94</i>	Mud CLR 48 - <i>500 gal</i>
Port Collar <i>Jt 60 @ 1456'</i>	CFL-117 or CD110 CAF 38
	Sand
	Handling <i>199</i>

Mixed 500 gal Mud Flush
Plugged Rat hole
Mixed 150 5x Q-Pro-C
Displaced 106 1/2 bbl
Lift pressure - 700 lbs
Landed @ - 1300 lbs
Plug held

Mileage	<i>5 1/2</i>	FLOAT EQUIPMENT
Guide Shoe		
Centralizer -	<i>6</i>	
Baskets -	<i>3</i>	
AFU Inserts		
Float Shoe -	<i>1</i>	
Latch Down -	<i>1</i>	
Rubber Plug	<i>1</i>	
Pumptrk Charge	<i>prod string</i>	
Mileage	<i>35</i>	

X Signature *Keith Koelen*

Tax	
Discount	
Total Charge	

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

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

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

No. 274

Date	8-4-14	Sec.	17	Twp.	15	Range	25	County	Trego	State	KS	On Location		Finish	11:00AM
------	--------	------	----	------	----	-------	----	--------	-------	-------	----	-------------	--	--------	---------

Location *Collyer, 18 1/2 S, Wn 2*

Lease	<i>Howard A</i>	Well No.	<i>1-19</i>	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.
Contractor	<i>Fischer</i>				
Type Job	<i>Port collar</i>				
Hole Size		T.D.		Charge To	<i>Tengasco Inc</i>
Csg.	<i>5 1/2</i>	Depth		Street	
Tbg. Size	<i>7 7/8</i>	Depth		City	State
Tool	<i>PC</i>	Depth	<i>1854</i>	The above was done to satisfaction and supervision of owner agent or contractor.	
Cement Left in Csg.		Shoe Joint		Cement Amount Ordered	<i>275sx QMDC, 1/4" Flow</i>
Meas Line		Displace		<i>5gel on the side</i>	

EQUIPMENT

Pumptrk	<i>17</i>	No.	Cementer		Poz. Mix
			Helper	<i>Lonniew</i>	
Bulktrk	<i>13</i>	No.	Driver		Gel.
			Driver	<i>Pylor</i>	<i>2</i>
Bulktrk	<i>P4</i>	No.	Driver		Calcium
			Driver	<i>Travis</i>	

JOB SERVICES & REMARKS

Remarks:		Hulls	
Rat Hole		Salt	
Mouse Hole		Flowseal	<i>68H</i>
Centralizers		Kol-Seal	
Baskets		Mud CLR 48	
D/V or Port Collar		CFL-117 or CD110 CAF 38	
		Sand	
		Handling	<i>225</i>
		Mileage	

*Tested tool to 750 psi. Opened tool
Mixed 2 gel and 200sx QMDC, 1/4" Flow
To circulate. Closed and tested tool. Washed
Clean*

FLOAT EQUIPMENT

Guide Shoe	<i>port collar opening tool</i>
Centralizer	
Baskets	
AFU Inserts	
Float Shoe	
Latch Down	
Pumptrk Charge	<i>port collar</i>
Mileage	<i>43</i>

X Signature *Allen Hammer*

Tax	
Discount	
Total Charge	