



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1237978
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: _____



1237978

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
--	---

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> _____ <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Berenergy Corporation
Well Name	Roetzel 'A' 27
Doc ID	1237978

All Electric Logs Run

Borehole Compensated Sonic Log
Microresistivity Log
Dual Compensated Porosity Log
Dual Induction Log
Computer Processed Interpretation
Sonic Cement Bond Log

Form	ACO1 - Well Completion
Operator	Berenergy Corporation
Well Name	Roetzel 'A' 27
Doc ID	1237978

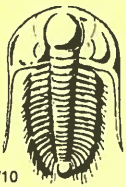
Tops

Name	Top	Datum
Chase Group	1398	361
Tarkio Lime	2261	-502
Topeka Lime	2577	-818
Heebner Shale	2844	-1085
Toronto Lime	2850	-1091
Brown Lime	2970	-1211
Lansing-Kansas City	2987	-1228
Arbuckle	3247	-1475

Form	ACO1 - Well Completion
Operator	Berenergy Corporation
Well Name	Roetzel 'A' 27
Doc ID	1237978

Perforations

Shots Per Foot	Perforation Record	Material Record	Depth
4	3299-3303		
4	3279-3282		
	CIBP		3270
4	3248-3252	acidize - 250 gal. 15% MOD 202 acid	
	CIBP		3230
4	3090-3094, 3034- 3038	acidize - 750 gal. 15% NE, 2000 gal. 15% NE w/ 40 balls	



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 58994

4/10

Well Name & No. Roetzel A 27 Test No. 1 Date 06/10/14
 Company Berens Energy Corporation Elevation 1759 KB 1749 GL
 Address PO BOX 5850 Denver, CO 80217
 Co. Rep / Geo. Ed Buchanan Rig Val 6
 Location: Sec. 24 Twp. 20S Rge. 11W Co. Barton State KS

Interval Tested 3032 - 3079 Zone Tested Lansing Kansas City "D, E, F"
 Anchor Length 47 Drill Pipe Run 3023 Mud Wt. 9.0
 Top Packer Depth 3027 Drill Collars Run 0 Vis 44
 Bottom Packer Depth 3032 Wt. Pipe Run 0 WL 8.4
 Total Depth 3079 Chlorides 1600 ppm System LCM

Blow Description IF: strong Blow, BOB in 2 minutes
ISI: NO Blow Back
FF: strong Blow, BOB immediate
FST: NO Blow Back

Rec	Feet of	%gas	%oil	%water	%mud
<u>2170</u>	<u>GIP</u>				
<u>110</u>	<u>GOCM</u>	<u>15</u>	<u>15</u>	<u>70</u>	

Rec Total 110 BHT 102 Gravity 39.6 API RW N/C @ N/C °F Chlorides N/C ppm

(A) Initial Hydrostatic 1495 Test 1150 T-On Location 04:30
 (B) First Initial Flow 31 Jars 236 T-Started 05:07
 (C) First Final Flow 40 Safety Joint 75 T-Open 07:50
 (D) Initial Shut-In 758 Circ Sub _____ T-Pulled 12:06
 (E) Second Initial Flow 412 Hourly Standby 1 100 T-Out 14:44
 (F) Second Final Flow 63 Mileage 120 186 Comments _____
 (G) Final Shut-In 729 Sampler 250 _____
 (H) Final Hydrostatic 1478 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____

Initial Open 15 Extra Packer _____ Extra Copies _____
 Initial Shut-In 60 Extra Recorder _____ Sub Total _____
 Final Flow 60 Day Standby _____ Total _____
 Final Shut-In 120 Accessibility _____ MP/DST Disc't _____
 Sub Total 2011

Approved By A. Edward Buchanan 6/10/2014 Our Representative [Signature]

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.

P.O. Box 362 • Hays, Kansas 67601

FLUID SAMPLER DATA

Ticket No. 58994 Date 06/10/14

Company Name Berco Energy Corporation

Lease Roetzel A27 Test No. 1

County Barton Sec. 24 Twp. 20S Rng. 11W

SAMPLER RECOVERY

Gas 29.04 cuft ~~ML~~

Oil 4000 ML

Mud _____ ML

Water _____ ML

Other _____ ML

Pressure 600 PSI ML

Total 4000 ML

PIT MUD ANALYSIS

Chlorides 1600 ppm.

Resistivity N/C ohms @ N/C F

Viscosity 44

Mud Weight 9.0

Filtrate 8.4

Other _____

SAMPLER ANALYSIS

Resistivity _____ ohms @ _____ F

Chlorides _____ ppm.

Gravity 39.6 corrected @60F

PIPE RECOVERY

TOP

Resistivity N/C ohms @ _____ F

Chlorides N/C ppm.

MIDDLE

Resistivity N/C ohms @ _____ F

Chlorides N/C ppm.

BOTTOM

Resistivity N/C ohms @ _____ F

Chlorides N/C ppm.



**TRIBOLITE
TESTING, INC.**

DRILL STEM TEST REPORT

Beren Energy Corporation

24-20S-11W Barton

PO Box 5850
Denver, CO 80217

Roetzel A 27

Job Ticket: 58994

DST#: 1

ATTN: Ed Buchanan

Test Start: 2014.06.10 @ 05:07:47

GENERAL INFORMATION:

Formation: **Lansing Kansas City**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:50:17

Time Test Ended: 14:44:32

Test Type: Conventional Bottom Hole (Initial)

Tester: Leal Cason

Unit No: 74

Interval: **3032.00 ft (KB) To 3079.00 ft (KB) (TVD)**

Reference Elevations: 1759.00 ft (KB)

Total Depth: 3079.00 ft (KB) (TVD)

1749.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 8367

Outside

Press@RunDepth: 63.27 psig @ 3033.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.06.10

End Date:

2014.06.10

Last Calib.:

2014.06.10

Start Time: 05:07:47

End Time:

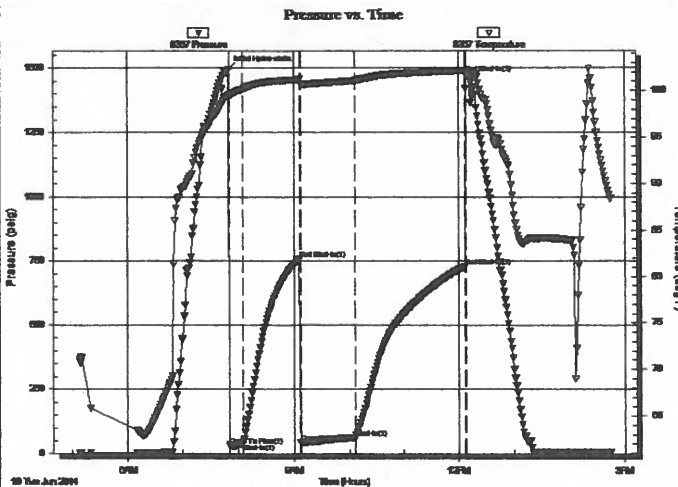
14:44:32

Time On Btm:

2014.06.10 @ 07:49:47

Time Off Btm:

TEST COMMENT: IF: Strong Blow, BOB in 2 minutes
IS: No Blow Back
FF: Strong Blow, BOB immediate
FSI: No Blow Back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1495.55	99.45	Initial Hydro-static
1	30.98	99.27	Open To Flow (1)
16	39.87	100.15	Shut-in(1)
77	757.99	101.19	End Shut-in(1)
78	42.55	100.72	Open To Flow (2)
137	63.27	101.07	Shut-in(2)
257	728.58	102.16	End Shut-in(2)
259	1478.15	101.86	End Shut-in(3)

Recovery

Length (ft)	Description	Volume (bbl)
0.00	2170 GIP	0.00
110.00	GOCM 15%G 15%O 70%M	1.54

Gas Rates

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

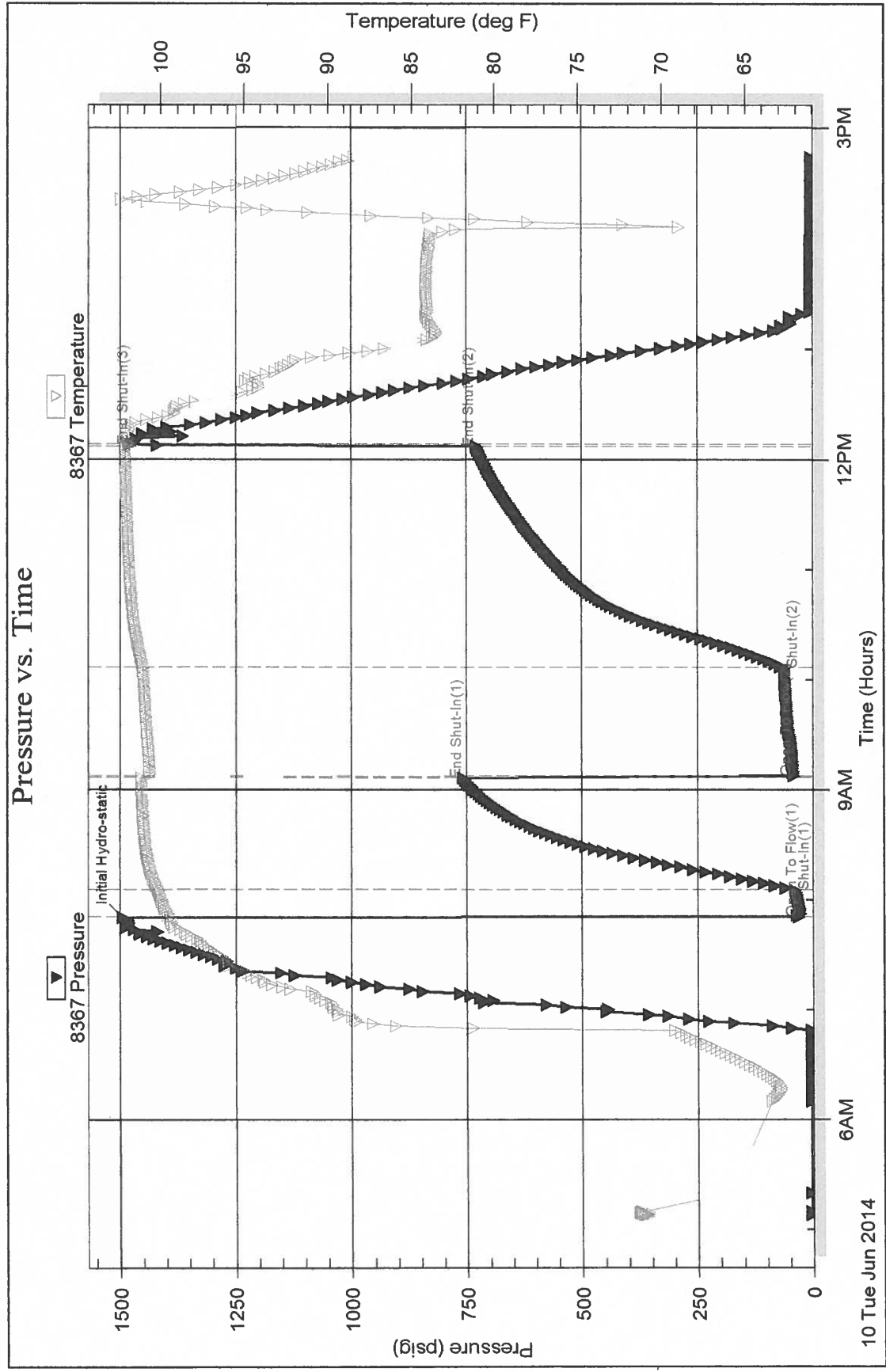
Serial #: 8367

Outside

Beren Energy Corporation

Roetzel A 27

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 58994

Printed: 2014.06.10 @ 14:58:37



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 58995

Well Name & No. Roetzal A 27 Test No. 2 Date 06/11/14
 Company Berenergy Corporation Elevation 1759 KB 1749 GL
 Address PO Box 5850 Denver, CO 80217
 Co. Rep / Geo. Ed Buchanan Rig Val 6
 Location: Sec. 24 Twp. 20S Rge. 11W Co. Barton State KS

Interval Tested 3249.5 - 3256.5 Zone Tested Arbuckle
 Anchor Length 7 Drill Pipe Run 3240 Mud Wt. 9.3
 Top Packer Depth 3244.5 Drill Collars Run 0 Vis 52
 Bottom Packer Depth 3249.5 Wt. Pipe Run 0 WL 8.8
 Total Depth 3256.5 Chlorides 3000 ppm System LCM

Blow Description IF: Strong Blow, BOB in 90 seconds
ISI: No Blow Back
FF: Weak Blow, Built to 6 inches by 8 minutes, Dead @ 25 minutes
FSI: NO BLOW BACK

Rec	Feet of	%gas	%oil	%water	%mud
<u>6</u>	<u>50MCW</u>	<u>1</u>	<u>75</u>	<u>24</u>	
<u>800</u>	<u>MCW</u>		<u>80</u>	<u>20</u>	

Rec Total 906 BHT 108 Gravity N/C API RW .46 @ 60 ° F Chlorides 17000 ppm
 (A) Initial Hydrostatic 1631 Test 1156 T-On Location 15:45
 (B) First Initial Flow 106 Jars 256 T-Started 16:41
 (C) First Final Flow 301 Safety Joint 75 T-Open 18:17
 (D) Initial Shut-In 368 Circ Sub _____ T-Pulled 22:33
 (E) Second Initial Flow 304 Hourly Standby 8 800 T-Out 08:26
 (F) Second Final Flow 368 Mileage (120) 186 Comments waited until
 (G) Final Shut-In 368 Sampler 250 Daylights to pull test
 (H) Final Hydrostatic 1588 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open 15 Extra Recorder _____ Sub Total _____
 Initial Shut-In 66 Day Standby _____ Total _____
 Final Flow 60 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 120 Sub Total 2711

Approved By L. Edward Buchanan 6/12/2014 Our Representative [Signature]

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.

P.O. Box 362 • Hays, Kansas 67601

FLUID SAMPLER DATA

Ticket No. 58995 Date 06/12/14
 Company Name Bereenergy Corporation
 Lease Roetzel A-27 Test No. 2
 County Barton Sec. 24 Twp. 20S Rng. 11W

SAMPLER RECOVERY

Gas .4 CU FT
 Oil _____
 Mud _____
 Water 2000
 Other _____
 Pressure 25 psi
 Total 2000

~~ML~~
ML
ML
ML
ML
ML
ML

PIT MUD ANALYSIS

Chlorides 3000 ppm.
 Resistivity NIC ohms @ NIC F
 Viscosity 52
 Mud Weight 9.3
 Filtrate 8.8
 Other _____

SAMPLER ANALYSIS

Resistivity .47 ohms @ 61 F
 Chlorides 17000 ppm.
 Gravity NIC corrected @60F

PIPE RECOVERY

TOP
 Resistivity .46 ohms @ 60 F
 Chlorides 17000 ppm.
MIDDLE
 Resistivity .46 ohms @ 60 F
 Chlorides 17000 ppm.
BOTTOM
 Resistivity .46 ohms @ 60 F
 Chlorides 17000 ppm.

Serial #: 6798

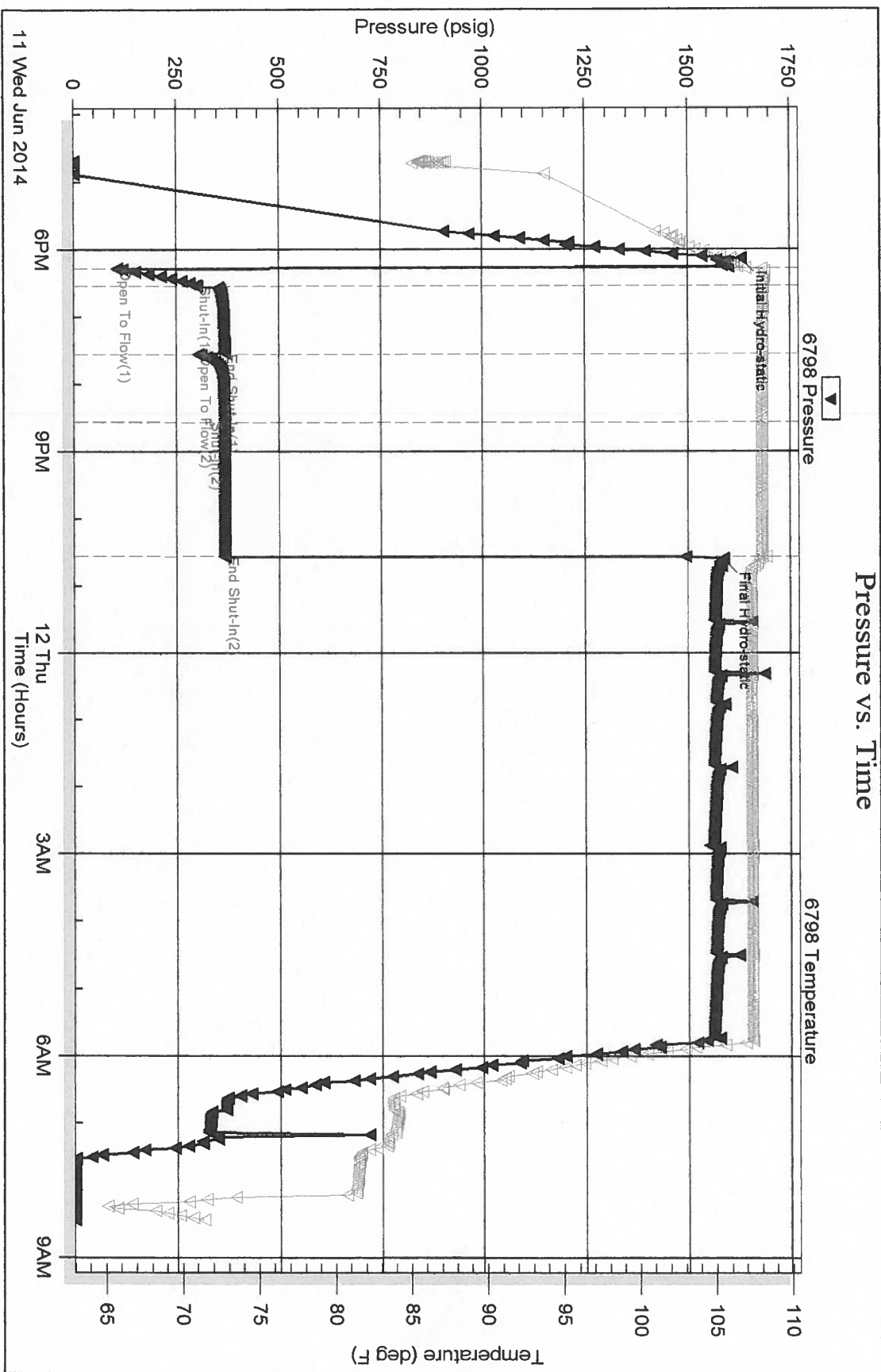
Inside

Berenergy Corporation

Roetzel A 27

DST Test Number: 2

Pressure vs. Time





**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Berenergy Corporation
 PO Box 5850
 Denver, CO 80217
 ATTN: Ed Buchanan

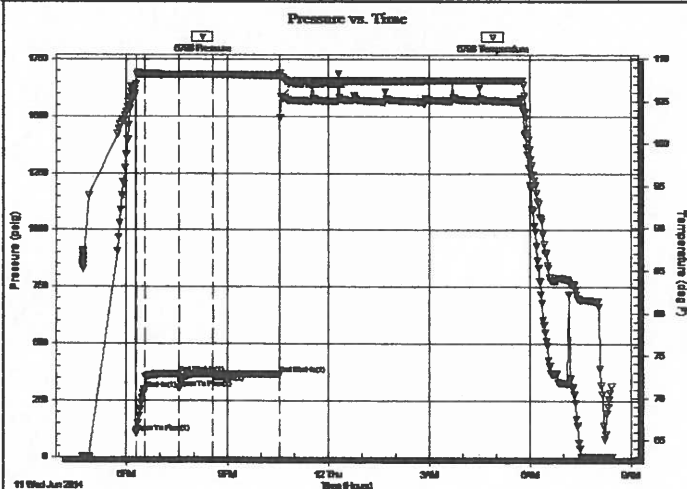
24-20S-11W Barton
Roetzel A 27
 Job Ticket: 58995 **DST#: 2**
 Test Start: 2014.06.11 @ 16:41:24

GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 18:17:09
 Time Test Ended: 08:26:24
 Interval: **3250.00 ft (KB) To 3257.00 ft (KB) (TVD)**
 Total Depth: 3256.50 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Leal Cason
 Unit No: 74
 Reference Elevations: 1759.00 ft (KB)
 1749.00 ft (CF)
 KB to GR/CF: 10.00 ft

Serial #: 6798 Inside
 Press@RunDepth: 367.59 psig @ 3250.50 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.06.11 End Date: 2014.06.12 Last Calib.: 2014.06.12
 Start Time: 16:41:24 End Time: 08:26:24 Time On Btm: 2014.06.11 @ 18:08:09
 Time Off Btm: 2014.06.11 @ 22:36:09

TEST COMMENT: IF: Strong Blow, BOB in 90 seconds
 IS: No Blow Back
 FF: Weak Blow, Built to 6 inches by 8 minutes, Dead @ 25 minutes
 FSI: No Blow Back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1630.67	106.02	Initial Hydro-static
9	105.84	106.98	Open To Flow (1)
25	301.05	108.12	Shut-In(1)
85	367.61	108.10	End Shut-In(1)
86	303.61	108.07	Open To Flow (2)
146	367.59	108.07	Shut-In(2)
266	368.18	108.05	End Shut-In(2)
268	1587.85	107.88	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
800.00	MCW 20%M 80%W	11.22
6.00	SOMCW 1%O 24%M 75%W	0.08

* Recovery from multiple tests

Gas Rates

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

ALLIED OIL & GAS SERVICES, LLC 062974

Federal Tax I.D. # 20-8651475

REMIT TO P.O. BOX 93999
SOUTHLAKE, TEXAS 76092

SERVICE POINT: West Bend, Ks

DATE <u>6-6-14</u>	SEC. <u>24</u>	TWP. <u>20</u>	RANGE <u>11</u>	CALLED OUT <u>2:00 PM</u>	ON LOCATION <u>3:30 PM</u>	JOB START <u>11:00 AM</u>	JOB FINISH <u>12:09 AM</u>
LEASE <u>Roetzl</u>	should be #27 WELL # <u>6</u>		LOCATION <u>2.81 + 5 mi Altp 1.5 E out 1 wood Barton</u>	COUNTY <u>Barton</u>	STATE		
OLD OR NEW (Circle one)			<u>Went into</u>				

CONTRACTOR <u>Val # 18</u>	OWNER <u>Same</u>
TYPE OF JOB <u>Spud</u>	
HOLE SIZE <u>12 1/4</u>	T.D. <u>1334'</u>
CASING SIZE <u>8 5/8</u>	DEPTH <u>1334'</u>
TUBING SIZE	DEPTH
DRILL PIPE	DEPTH
TOOL	DEPTH
PRES. MAX <u>1360</u>	MINIMUM <u>700</u>
MEAS. LINE	SHOE JOINT <u>45.49</u>
CEMENT LEFT IN CSG. <u>45.49</u>	
PERFS.	
DISPLACEMENT <u>82.37</u>	

CEMENT			
AMOUNT ORDERED	<u>350nl 60/40, 80/100, 3%cc</u>		
	<u>4" Flow/ft - 300nl class A, 3%cc</u>		
COMMON	<u>300</u>	@	<u>17.90</u> <u>5370.00</u>
POZMIX		@	
GEL		@	
CHLORIDE	<u>1620 #</u>	@	<u>1.10</u> <u>1782.00</u>
ASC		@	
AW	<u>350</u>	@	<u>19.99</u> <u>6958.00</u>
Flow/ft	<u>87.5</u>	@	<u>2.97</u> <u>259.87</u>
		@	
		@	
		@	
		@	
HANDLING	<u>713.12</u>	@	<u>2.48</u> <u>1768.54</u>
MILEAGE	<u>30.992 x 20x</u>		<u>2.75</u> <u>1704.56</u>
			TOTAL <u>12,842.92</u>

EQUIPMENT

PUMP TRUCK	CEMENTER <u>Tim Graham (NA)</u>
# <u>588</u>	HELPER <u>Paul Raddy</u>
BULK TRUCK	
# <u>599</u>	DRIVER <u>Don Carper</u>
BULK TRUCK	
# <u>609-239</u>	DRIVER <u>David Martiney (NO)</u>

REMARKS:

Run 1334' of 8 5/8 cas. Break circulation
Pumped 5 bbls H2O. Mixed 350nl 60/40
80nl, 3%cc, 4" flow/ft followed
By 300nl class A, 3%cc. Released
plug. Displaced with H2O. Landed
plug at 1360'. Released + float held.
Cement did circulate
14 bbls cement to pit

SERVICE

DEPTH OF JOB <u>1334'</u>	
PUMP TRUCK CHARGE	<u>2213.75</u>
EXTRA FOOTAGE	@
MILEAGE <u>20</u>	@ <u>7.20</u> <u>154.00</u>
MANIFOLD	@
LVM <u>20</u>	@ <u>4.40</u> <u>88.00</u>
Head Rent	@ <u>275.00</u> <u>275.00</u>
TOTAL <u>2730.75</u>	

CHARGE TO: Bereenergy Corp.
STREET _____
CITY _____ STATE _____ ZIP _____

PLUG & FLOAT EQUIPMENT

<u>8 5/8 AFV float shoe</u>	<u>850.00</u>	<u>850.00</u>
<u>" AFV float collar</u>	@ <u>1275.00</u>	<u>1275.00</u>
<u>32- Centralizers</u>	@ <u>75.00</u>	<u>2400.00</u>
<u>2- Stop Rings</u>	@ <u>56.00</u>	<u>112.00</u>
<u>1- Bucket</u>	@ <u>560.00</u>	<u>560.00</u>
<u>2- Thread Lock</u>	@ <u>85.00</u>	<u>170.00</u>
TOTAL <u>5367.00</u>		

To: Allied Oil & Gas Services, LLC.
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

SALES TAX (If Any) _____
TOTAL CHARGES \$ 26,040.72
DISCOUNT \$ 6,510.18 IF PAID IN 30 DAYS
\$ 19,530.64

PRINTED NAME L. EDWARD BUCHANAN
SIGNATURE L. Edward Buchanan

ALLIED OIL & GAS SERVICES, LLC 063552

Federal Tax I.D. # 20-8651475

REMIT TO P.O. BOX 93999
SOUTHLAKE, TEXAS 76092

SERVICE POINT: Ht Bend

DATE <u>6-13-14</u>	SEC. <u>24</u>	TWP. <u>20</u>	RANGE <u>11</u>	CALLED OUT <u>12:00 PM</u>	ON LOCATION <u>1:30 PM</u>	JOB START <u>5:00 AM</u>	JOB FINISH <u>1:00 PM</u>
LEASE <u>Rocheal</u>		WELL # <u>6</u>		LOCATION <u>281 + 5 mi NE 1/4 SE, 1N</u>		COUNTY <u>Barton</u>	STATE <u>Kr</u>
OLD OR NEW (Circle one)		<u>W. Side</u>					

CONTRACTOR <u>Val</u>	OWNER <u>Some</u>
TYPE OF JOB <u>Production</u>	
HOLE SIZE <u>7 7/8</u>	T.D. <u>3365</u>
CASING SIZE <u>5 1/2</u>	DEPTH
TUBING SIZE	DEPTH
DRILL PIPE	DEPTH
TOOL	DEPTH
PRES. MAX <u>1060</u>	MINIMUM <u>400</u>
MEAS. LINE	SHOE JOINT <u>44.73</u>
CEMENT LEFT IN CSG. <u>44.73</u>	
PERFS.	
DISPLACEMENT <u>79.51</u>	

EQUIPMENT

PUMP TRUCK # <u>597</u>	CEMENTER <u>Tom Dierham</u>
	HELPER <u>Bern Newell</u>
BULK TRUCK # <u>870-844</u>	DRIVER <u>Kevin Weyhous</u>
BULK TRUCK #	DRIVER

REMARKS:

Ren 3365' of 5 1/2" cas. Break Circulation Pump 5 H₂O, 500 gal Dull 100, Plugged Hole w/ 30 lb Manganese 1/20" shot, Mixed 210 lb ASC, 2% Adh 10% salt, 6% Asphalt, 5" Kolbeal/wh, .3% FI-160, .14% Defoamer. Worked up. Released Plug. Displaced with H₂O bonded Plug @ 1000#. Released a float hold.

Rough

CHARGE TO: Berenergy

STREET _____

CITY _____ STATE _____ ZIP _____

CEMENT			
AMOUNT ORDERED	<u>210 lb ASC, 2% Adh, 10% salt, 6% Asphalt, 5" Kolbeal/wh, .3% FI-160, .14% Defoamer, 50 gal GP/40 4% Adh, 500 gal Dull</u>		
COMMON	<u>30</u>	@ <u>17.90</u>	<u>537.00</u>
POZMIX	<u>20</u>	@ <u>9.35</u>	<u>187.00</u>
GEL	<u>358 #</u>	@ <u>1.05</u>	<u>375.90</u>
CHLORIDE		@	
ASC	<u>210</u>	@ <u>23.50</u>	<u>4935.00</u>
Kolbeal	<u>1050 #</u>	@ <u>.98</u>	<u>1029.00</u>
FI-160	<u>50 #</u>	@ <u>18.90</u>	<u>945.00</u>
Defoamer	<u>23 #</u>	@ <u>3.50</u>	<u>80.50</u>
Fluorad	<u>1150 #</u>	@ <u>2.97</u>	<u>35.14</u>
		@	
		@	
		@	
		@	
HANDLING	<u>314.94</u>	@ <u>2.48</u>	<u>781.05</u>
MILEAGE	<u>300.33</u>	@ <u>2.75</u>	<u>825.91</u>
TOTAL			<u>9732.00</u>

SERVICE

DEPTH OF JOB	<u>3365'</u>	@ <u>2558.75</u>	
PUMP TRUCK CHARGE			
EXTRA FOOTAGE		@	
MILEAGE	<u>20</u>	@ <u>7.70</u>	<u>154.00</u>
MANIFOLD LVM	<u>20</u>	@ <u>4.40</u>	<u>88.00</u>
High Connection		@	
Head Rent		@ <u>577.50</u>	<u>577.50</u>
TOTAL			<u>3378.25</u>

PLUG & FLOAT EQUIPMENT

5 1/2" Float Shoe		<u>608.00</u>	<u>608.00</u>
Float Collar	@	<u>725.00</u>	<u>725.00</u>
35- Centricity	@	<u>57.00</u>	<u>1995.00</u>
Rubber Plug	@	<u>85.00</u>	<u>85.00</u>
1. Barbet	@	<u>395.00</u>	<u>395.00</u>
1. Stop Ring	@	<u>49.00</u>	<u>49.00</u>
TOTAL			<u>3857.00</u>

To: Allied Oil & Gas Services, LLC.
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME L.E. BUCHANAN

SIGNATURE L. Paul Buchanan 6/13/2014

SALES TAX (If Any) _____

TOTAL CHARGES \$ 116,917.25

DISCOUNT \$ 4241.81 IF PAID IN 30 DAYS

\$ 12,725.44

T. M. MCCOY & CO., INC.

CONSULTING GEOLOGISTS
P.O. BOX 608 · WILSON, WYOMING 83014 · 307-733-4332

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

Well Name: Berenergy Corporation H.J. Roetzel 'A' 27
Location: SW SE NW NE Sec. 24, T20S, R11W, Barton County, Kansas
License Number: 15-009-25868
Spud Date: June 4, 2014
Surface Coordinates: 1270' FNL & 1788' FEL
Bottom Hole Coordinates: Vertical Hole
Lat/Long: 38.3007925, -98.4855037
Ground Elevation (ft): 1749'
Logged Interval (ft): 1334' To: TD
Formation: Chase Group through Arbuckle
Type of Drilling Fluid: Fresh water and water based mud

Region:

Drilling Completed: June 12, 2014

K.B. Elevation (ft): 1759'

Total Depth (ft): 3365'

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

OPERATOR

Company: Berenergy Corporation
Address: 1888 Sherman St #600
Denver, Colorado
80203

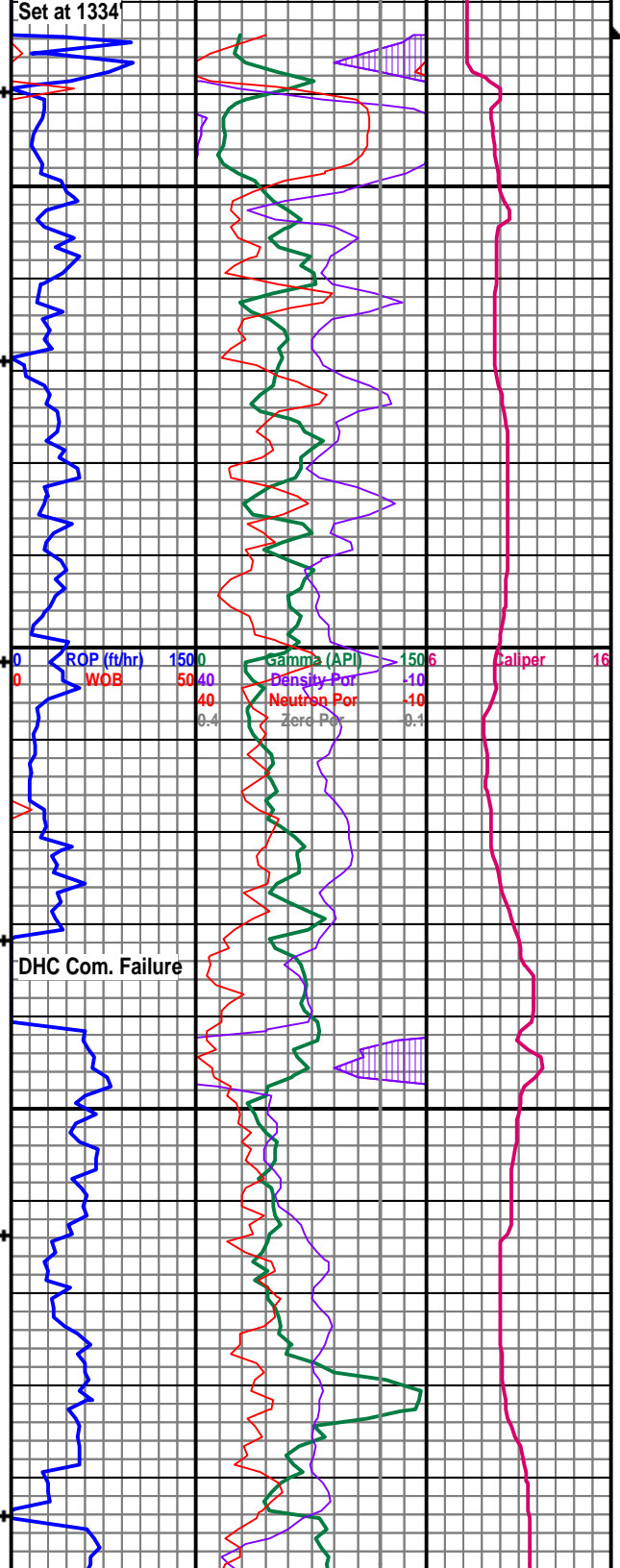
GEOLOGIST

Name: Ryan Thress
Company: T. M. McCoy & Co., Inc.
Address: P.O. Box 608
Wilson, WY 83014
307-733-4332

00:00

MD 1334
INC0.75

WOB 0
RPM 76
PSI 815
SPM 56



1350

1400

1450

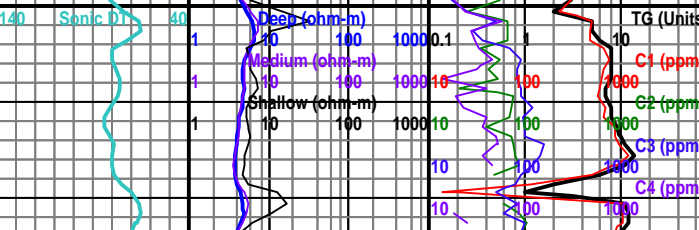
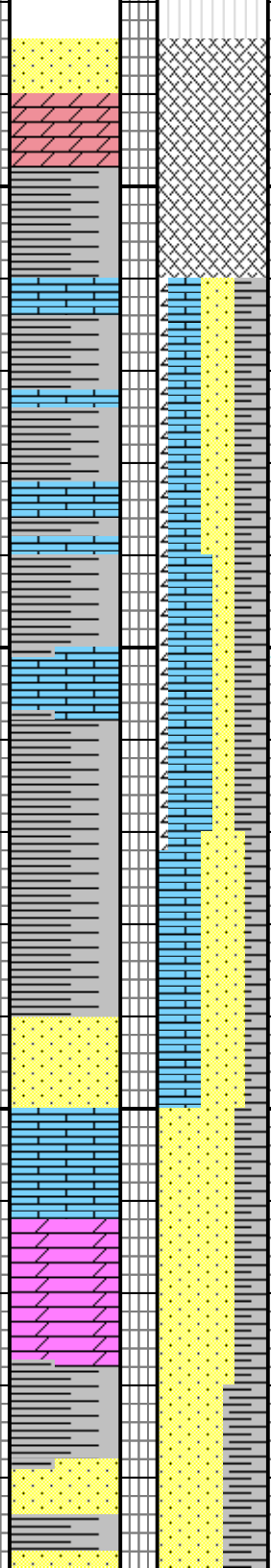
1510

1401
Chase
Group

ROP (ft/hr) 1500
WOB 5040
Gamma (API) 1506
Density Por -10
Neutron Por -10
Zero Por 0.4

DHC Com. Failure

WOB 0
RPM 64
PSI 821
SPM 56



1354'
4u TG
377 ppm C1
47 ppm C2
0 ppm C3
26 ppm C4

1368'
53u TG
4625 ppm C1
423 ppm C2
128 ppm C3
176 ppm C4

1426'
158u TG
13738 ppm C1
999 ppm C2
233 ppm C3
907 ppm C4

1457'
252u TG
20346 ppm C1
2346 ppm C2
481 ppm C3
2545 ppm C4

Drilling hands caught all samples.

30-ft samples from 1390'-1840'

Samples 1390'-1810' are medium sand-sized (250-500 μ) chips and sand grains and contain abundant iron filings; cuttings are too small for complete and thorough descriptions. Only rock type is barely discernible. Occasionally there exists a coarse-grained chip.

LIMESTONE: white (N9), sub-millimeter sized chips, rounded, strong reaction in HCl.

CHERT: white to clear, hard, conchoidal fracture, no reaction with HCl.

SHALE: light olive gray to greenish gray, soft, occasional millimeter-sized platy cuttings, some zones very calcareous, others non calcareous, without significant difference in appearance. Rare pyrite nodules.

SANDSTONE: clear to white (N9), soft to firm, subrounded medium to coarse-grained sand sized chips composed of very fine to fine-grained sand, typically a lime sandstone, commonly micaceous, calcite cemented.

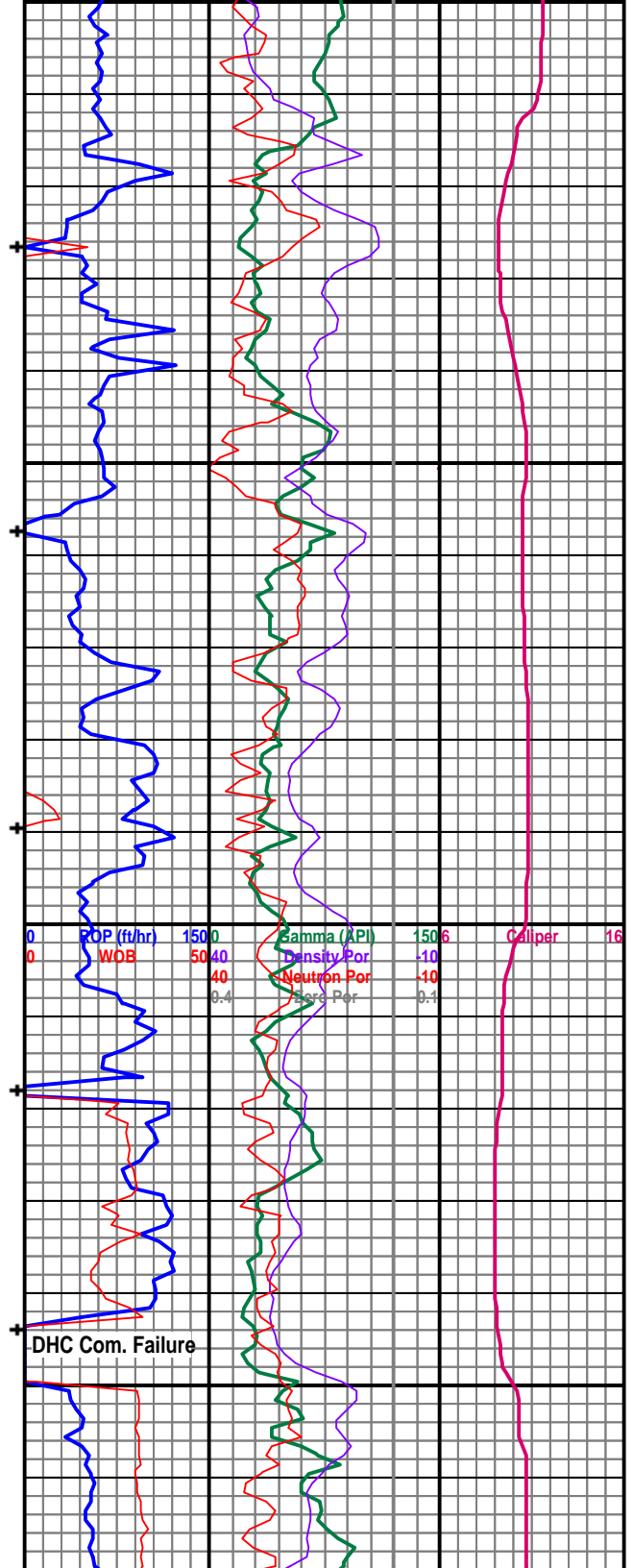
DHC Communication Failure

WOB 0
RPM 88
PSI 836
SPM 56

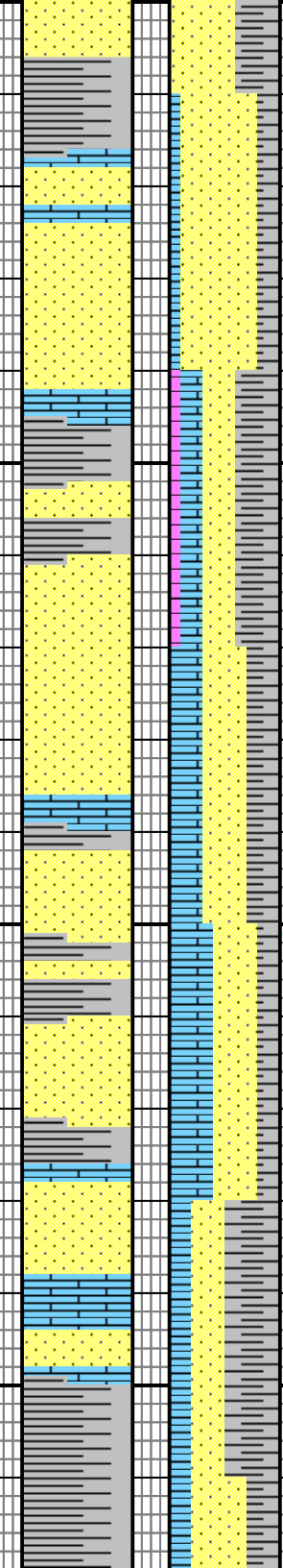
WT 8.9
VS 26

WOB 31
RPM 78
PSI 856
SPM 56

WT 8.7
VS 26



1500
1550
1600
1650



140 Sonic DJ

Deep (ohm-m)
Medium (ohm-m)
Shallow (ohm-m)

10	100	1000	0.1	1	10	100	1000	10e4
10	100	1000	10	100	1000	10e4	10e5	10e6
10	100	1000	10	100	1000	10e4	10e5	10e6
10	100	1000	10	100	1000	10e4	10e5	10e6
10	100	1000	10	100	1000	10e4	10e5	10e6

1519'
277u TG
7450 ppm C1
5095 ppm C2
3950 ppm C3
11350 ppm C4

1562'
86u TG
1949 ppm C1
2251 ppm C2
725 ppm C3
3802 ppm C4

1620'
113u TG
6418 ppm C1
1819 ppm C2
685 ppm C3
2428 ppm C4

SHALE: light olive gray to greenish gray, soft, occasional millimeter-sized platy cuttings, some zones very calcareous, others non calcareous, without significant difference in appearance. Rare pyrite nodules.

LIMESTONE: white (N9), sub-millimeter sized chips, rounded, strong reaction in HCl.

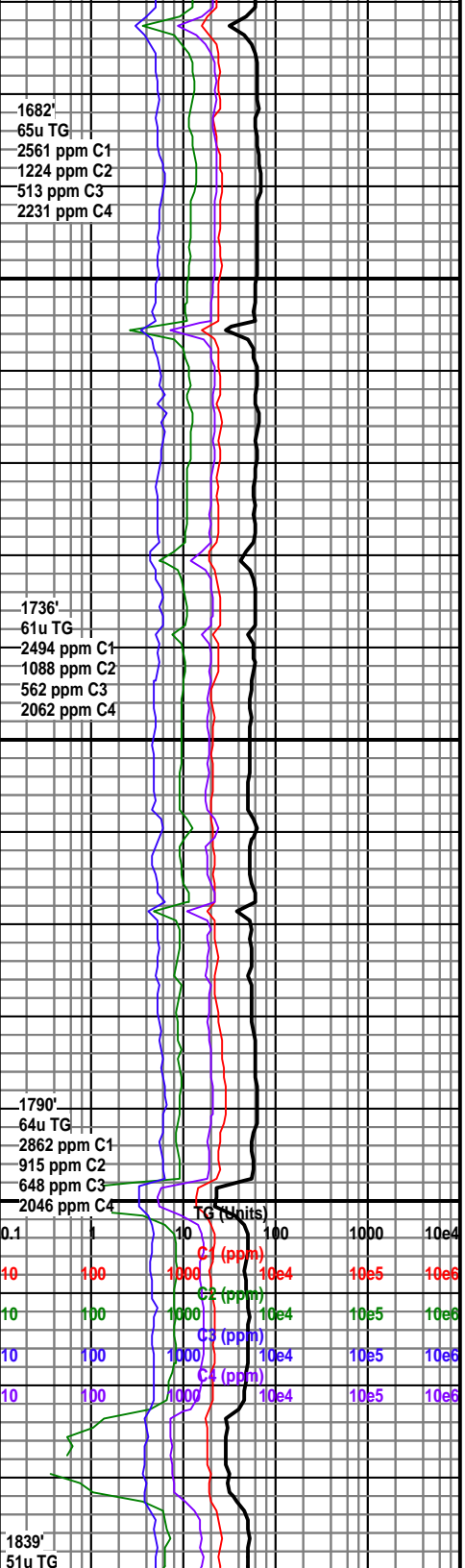
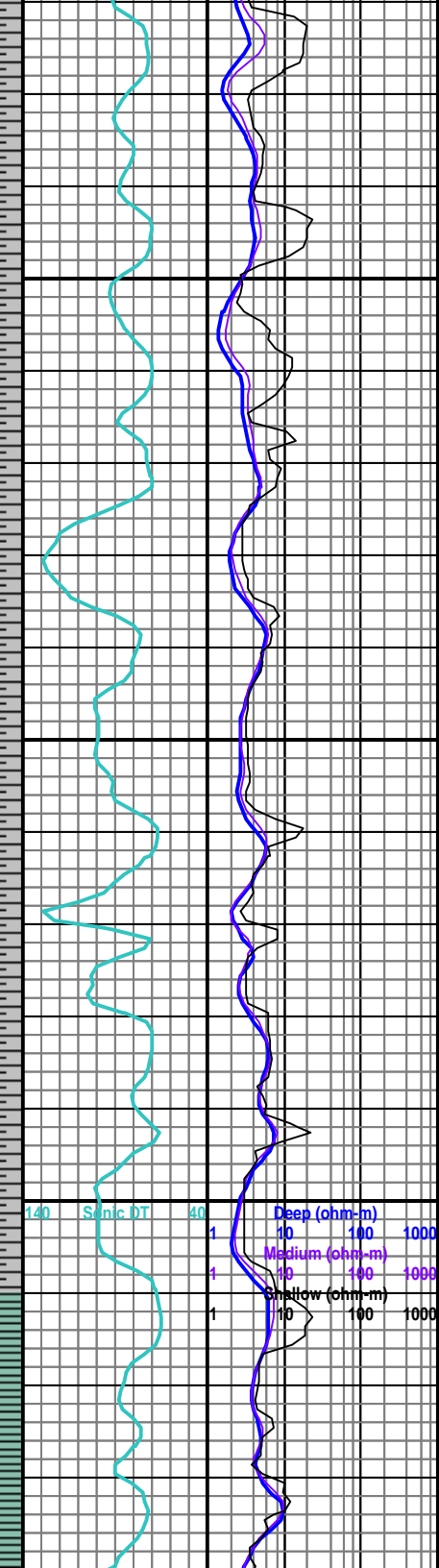
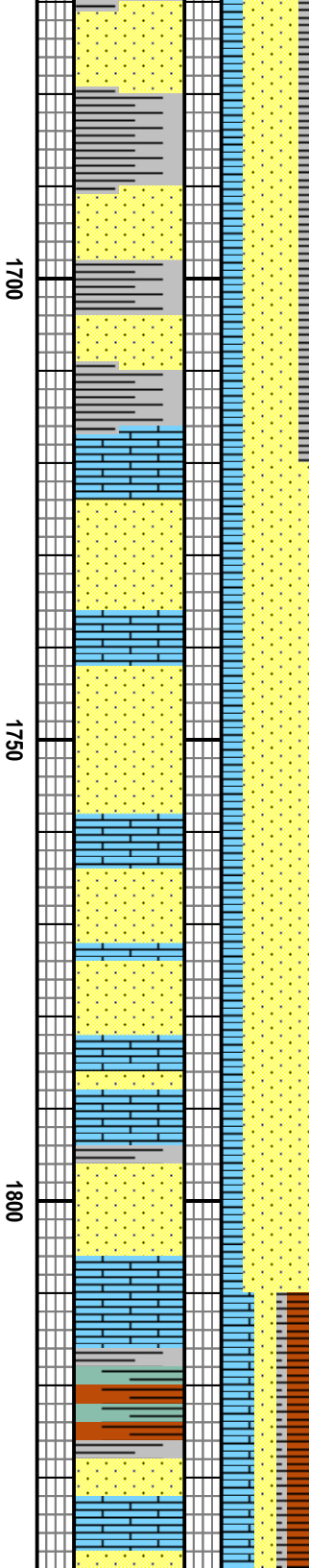
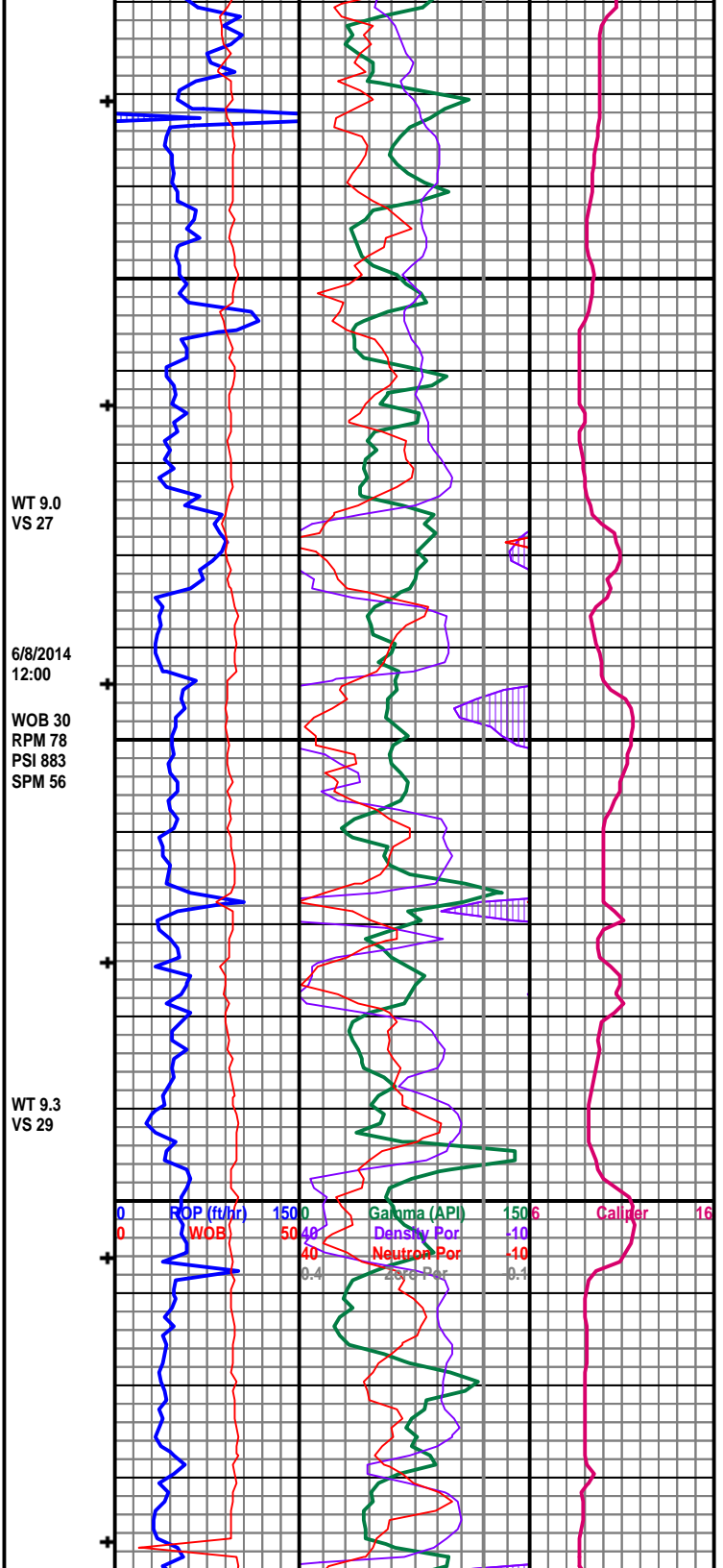
SANDSTONE: clear to white (N9), soft to firm, subrounded medium to coarse-grained sand sized chips composed of very fine to fine-grained sand, typically a lime sandstone, commonly micaceous, calcite cemented.

trace CHERT: white to clear, hard, conchoidal fracture, no reaction with HCl.

LIMESTONE: white (N9), sub-millimeter sized chips, rounded, strong reaction in HCl.

DHC Com. Failure

DHC Communication Failure



SHALE: light olive gray to greenish gray, soft occasional millimeter-sized platy cuttings, some zones very calcareous, others non calcareous, without significant difference in appearance. Rare pyrite nodules.

SANDSTONE: clear to white (N9), soft to firm, subrounded medium to coarse-grained sand sized chips composed of very fine to fine-grained sand, typically a lime sandstone, commonly micaceous, calcite cemented.

trace CHERT: white to clear, hard, conchoidal fracture, no reaction with HCl.

SHALE: light olive gray to greenish gray, soft, occasional millimeter-sized platy cuttings, some zones very calcareous, others non calcareous, without significant difference in appearance. Rare pyrite nodules.

LIMESTONE: white (N9), sub-millimeter sized chips, rounded, strong reaction in HCl.

SANDSTONE: clear to white (N9), soft to firm, subrounded medium to coarse-grained sand sized chips composed of very fine to fine-grained sand, typically a lime sandstone, commonly micaceous, calcite cemented.

SHALE: med light gray (N6) to dark greenish gray (5GY 4/1) to dark reddish brown (10R 3/4), mod firm, platy, generally smooth, locally gritty/silty, locally calcareous.

WOB 31
RPM 86
PSI 908
SPM 55

WT 9.5
VS 28

Driller misuse of
Pason

WT 9.4
VS 29

WT 9.3
VS 29

WOB 39
RPM 76
PSI 904
SPM 55

WT 9.3
VS 28

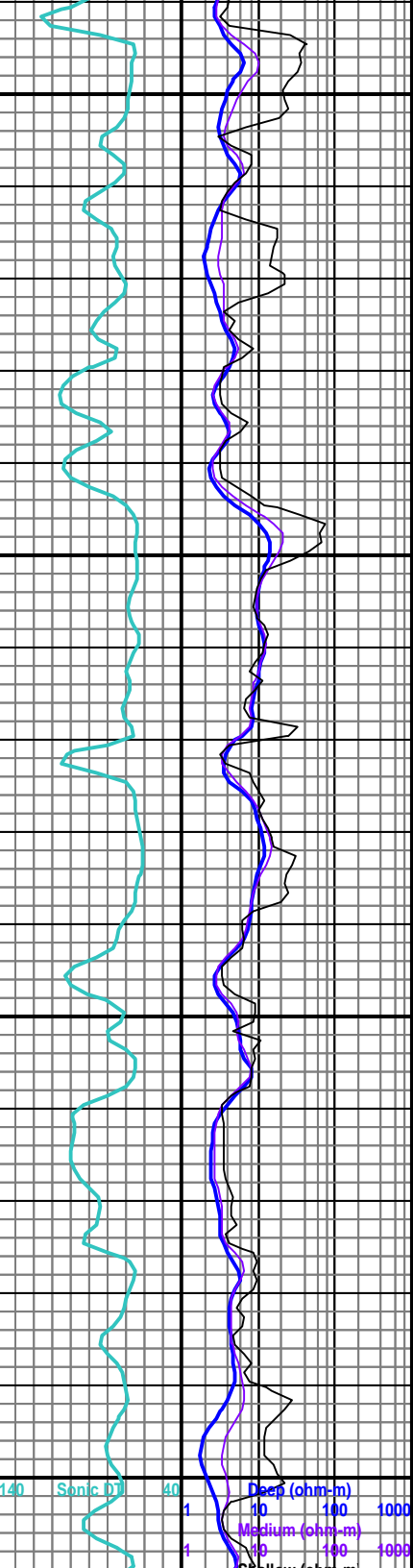
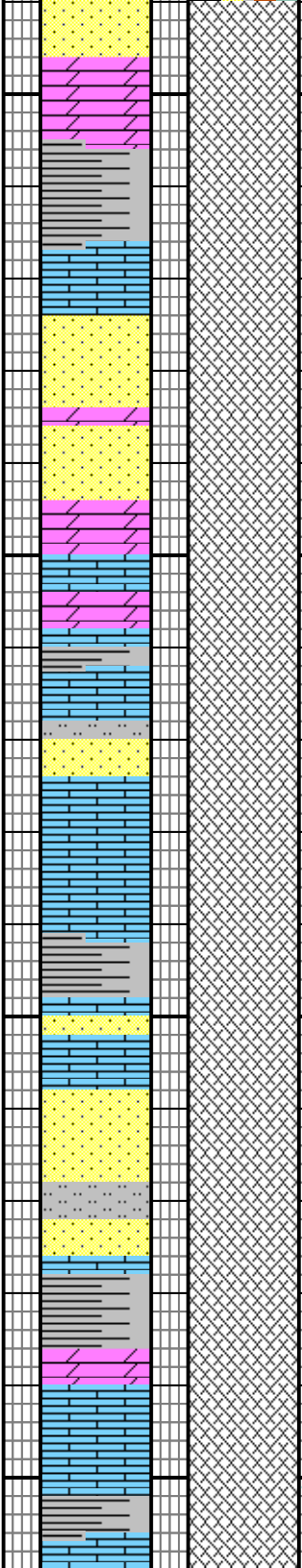
0	RGP (r/m)	1500	Gamma (API)	1506	Calliper	16
0	WOB	50	Density Por	-10		
0		40	Neutron Por	-10		
0		0.4	Zero Por	0.1		

1850

1900

1950

2000



2448 ppm C1
643 ppm C2
496 ppm C3
1652 ppm C4

1915'
71u TG
2960 ppm C1
1116 ppm C2
1280 ppm C3
1844 ppm C4

No samples caught 1840'-2200'

140	Sonic DJ	40	Deep (ohm-m)	1000	10	2002'	TG (Units)	100	1000	10e4
1		1	Medium (ohm-m)	1000	10	111u TG	C1 (ppm)	10e4	10e5	10e6
1		1	Shallow (ohm-m)	1000	10	4546 ppm C1	C2 (ppm)			
						2030 ppm C2				

WT 9.4
VS 29

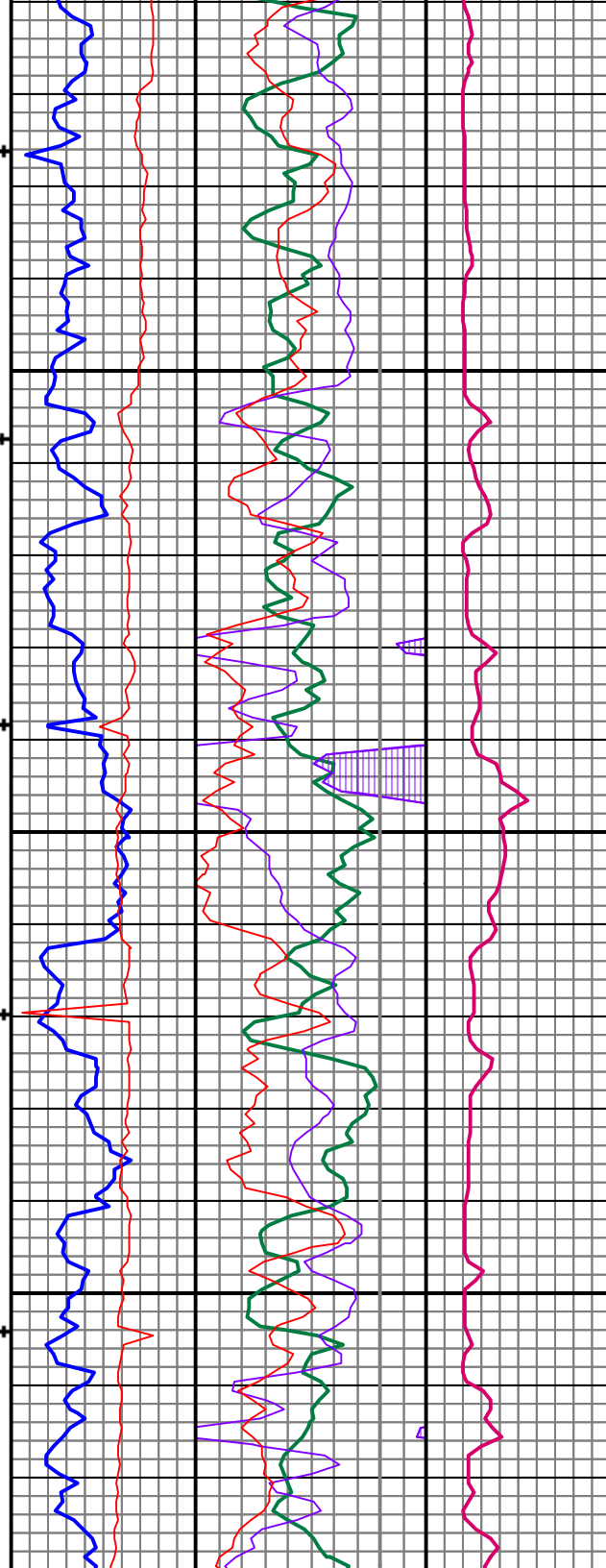
MD 2026
INC 1.00

WOB 34
RPM 86
PSI 922
SPM 55

WT 9.4
VS 29

WT 9.3
VS 29

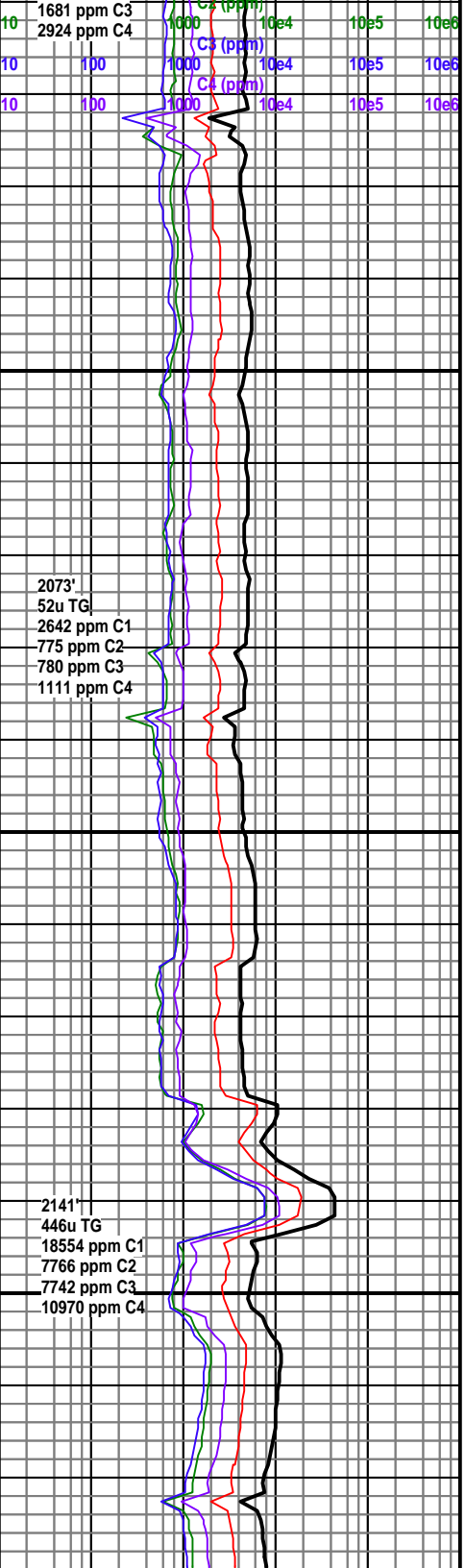
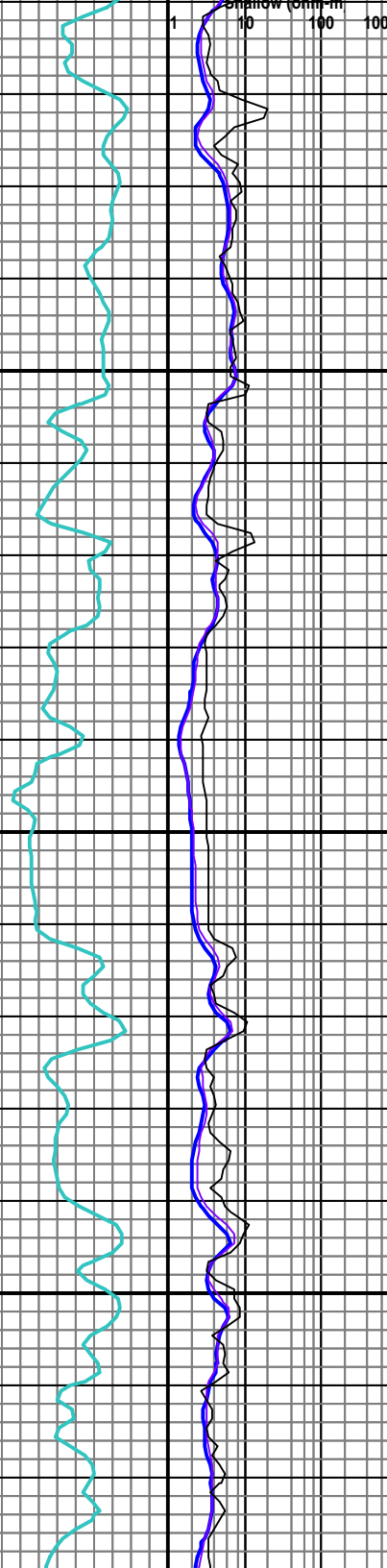
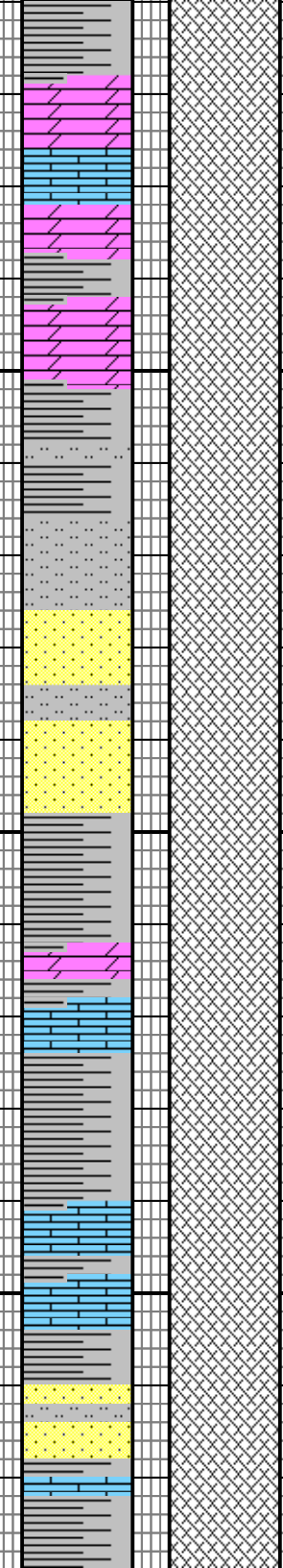
WOB 30
RPM 83
PSI 939
SPM 55



2050

2100

2150



1681 ppm C3
2924 ppm C4

C2 (ppm)
C3 (ppm)
C4 (ppm)

2073'
52u TG
2642 ppm C1
775 ppm C2
780 ppm C3
1111 ppm C4

2141'
446u TG
1854 ppm C1
7766 ppm C2
7742 ppm C3
10970 ppm C4

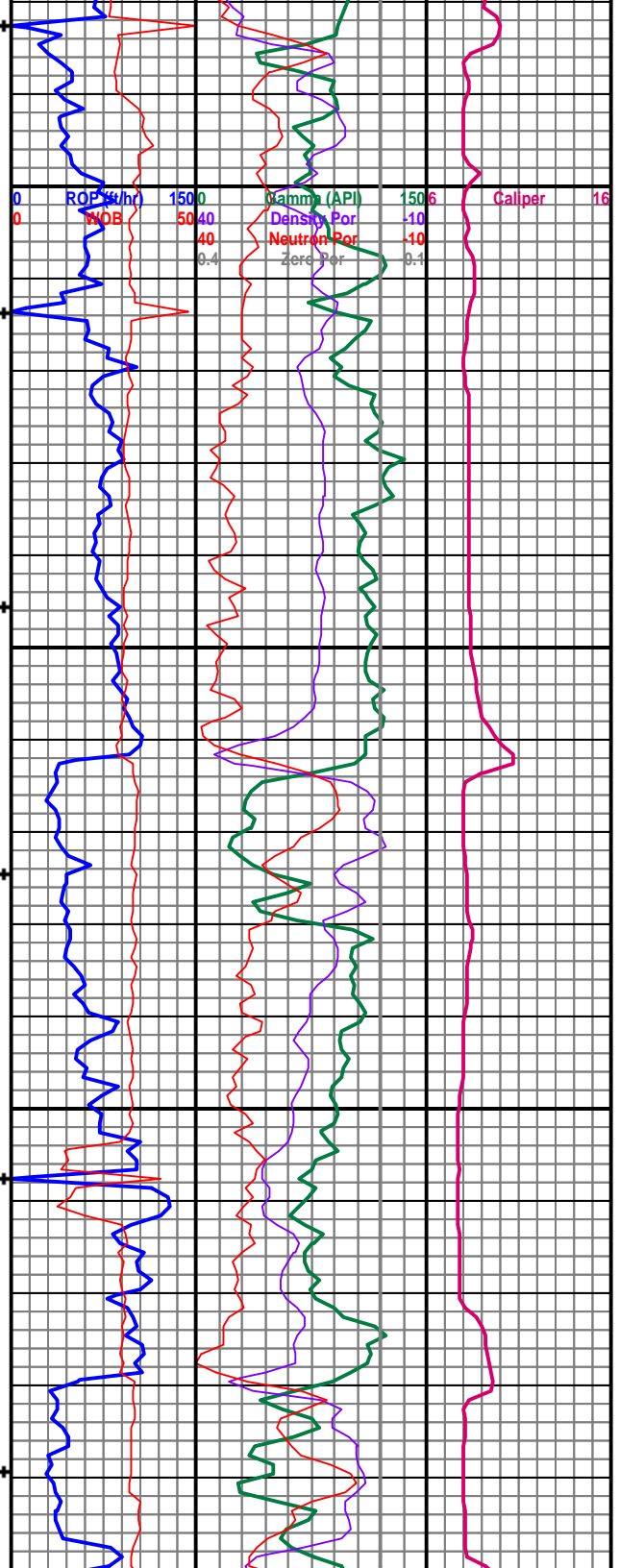
6/9/2014
00:00

WOB 31
RPM 77
PSI 953
SPM 54

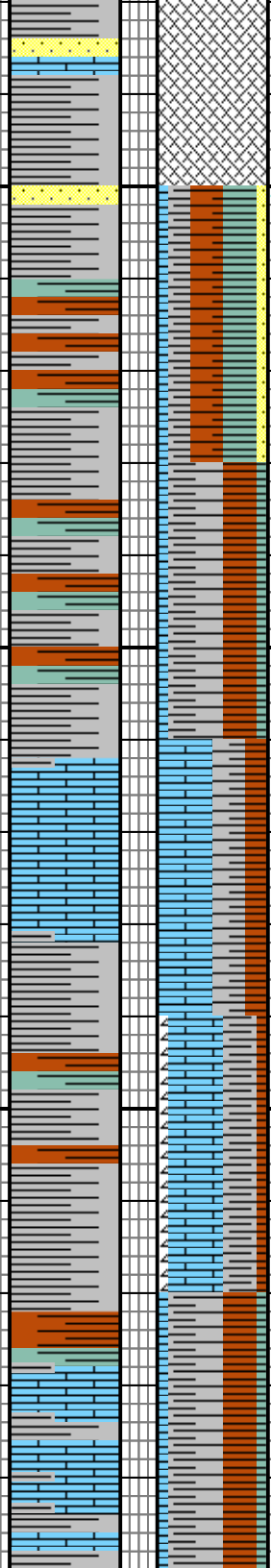
2262
Tarkio Ls

WT 9.5
VS 30

WOB 34
RPM 81



2200
2250
2300
2350



Log Type	Scale	Units
Deep (ohm-m)	10, 100, 1000	0.1, 1, 10
Medium (ohm-m)	10, 100, 1000	10, 100, 1000
Shallow (ohm-m)	10, 100, 1000	10, 100, 1000
TG (Units)	10, 100, 1000	10e4, 10e5, 10e6
C1 (ppm)	10, 100, 1000	10e4, 10e5, 10e6
C2 (ppm)	10, 100, 1000	10e4, 10e5, 10e6
C3 (ppm)	10, 100, 1000	10e4, 10e5, 10e6
C4 (ppm)	10, 100, 1000	10e4, 10e5, 10e6

2224'
388u TG
16020 ppm C1
6881 ppm C2
6724 ppm C3
9184 ppm C4

2310'
1326u TG
75300 ppm C1
17552 ppm C2
18134 ppm C3
22021 ppm C4

30-ft samples 2200'-2350'

SHALE: dark greenish gray (5GY 4/1), soft, platy to sub blocky, moderate reaction to HCl.

2230': no fluorescence, occasional chip has slow streaming pale yellow cut, weak splotchy halo.

SHALE: dark reddish brown (10R 3/4) to very dusky red (10R 2/2), platy, soft, moderately strong reaction to HCl, fully deprecitates in HCl.

SHALE: med dark gray (N4) to a dark greenish gray (5G 4/1), platy to sub blocky, long thin blades common, soft to mod firm, locally micaceous, calcareous.

2260': no fluorescence, occasional chip has slow streaming pale yellow cut, no halo.

LIMESTONE: very light gray (N8) to light gray (N7), platy to sub blocky, firm to moderately hard brittle, very reactive to HCl.

SHALE: medium gray (N5) to medium dark gray (N4), very soft, platy to sub rounded, no to slight reaction in HCl

2290': yellow fluorescence, slow diffuse pale yellow cut, splotchy halo.

CHERT: white to clear, hard, commonly large, well-rounded grains, conchoidal fracture, no reaction with HCl.

LIMESTONE: white (N9), platy to sub-blocky, soft to firm, reacts very strongly to HCl, locally fossiliferous.

2320': yellow fluorescence, slow diffuse pale yellow cut, splotchy yellow halo.

SHALE: dark greenish gray (5GY 4/1), soft, platy, moderate reaction to HCl, light patchy oil staining.

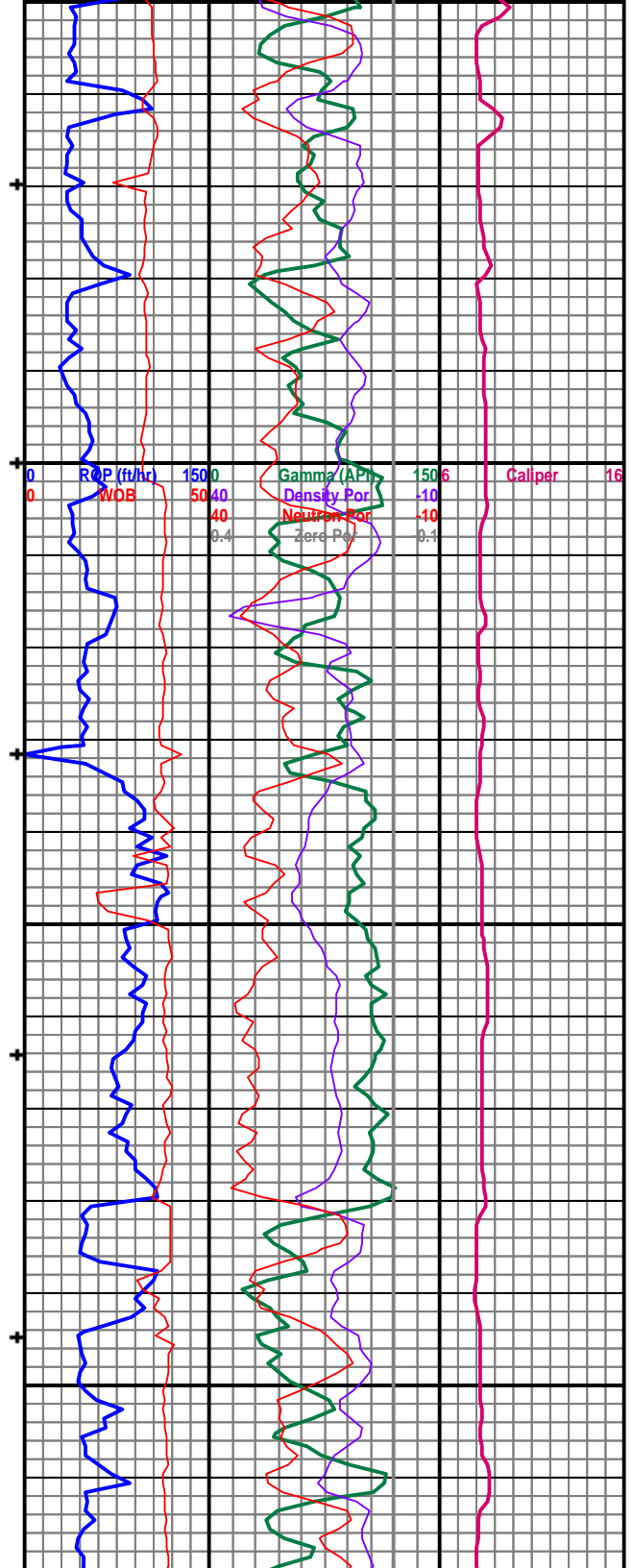
2350': yellow fluorescence, slow diffuse pale yellow cut, splotchy halo.

PSI 961
SPM 54

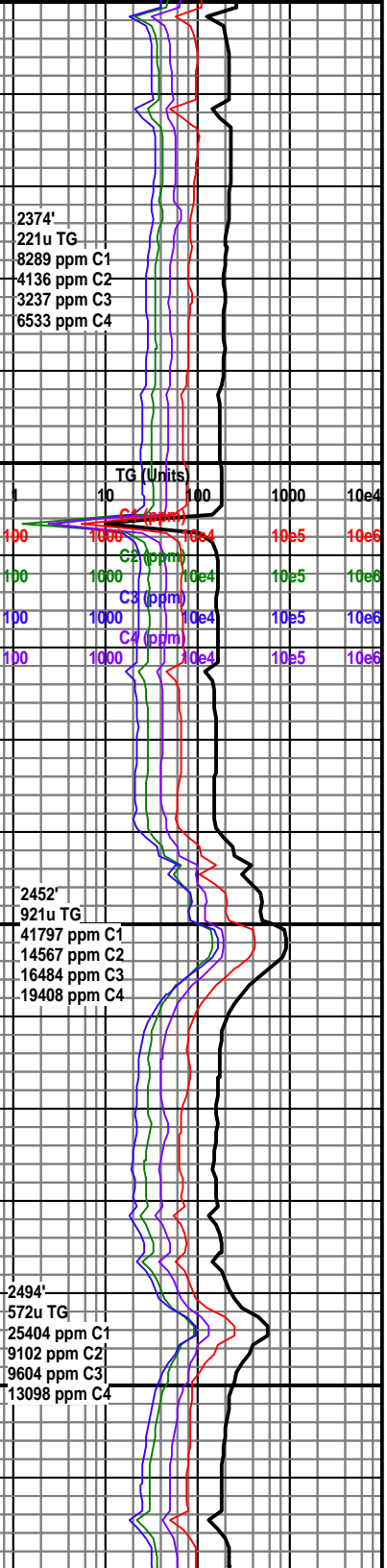
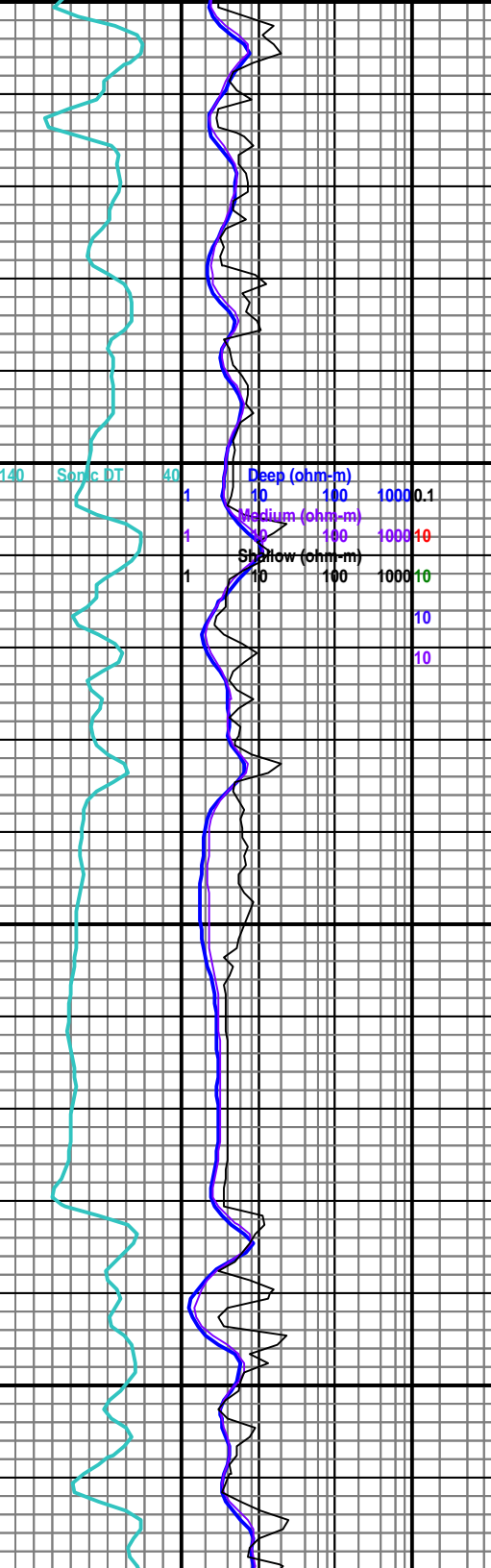
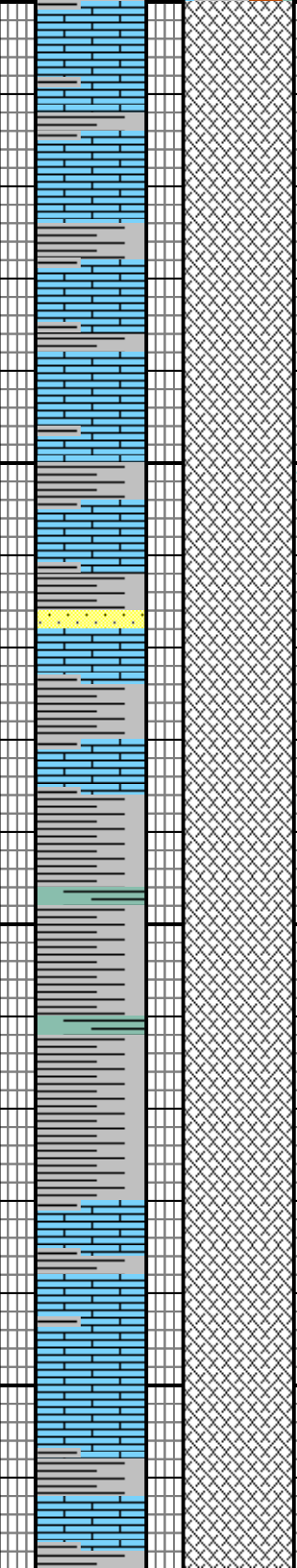
WT 9.5
VS 30

WOB 38
RPM 84
PSI 975
SPM 54

WT 9.6
VS 29



50
2400
2450
2500



2374'
221u TG
8289 ppm C1
4136 ppm C2
3237 ppm C3
6533 ppm C4

2452'
921u TG
41797 ppm C1
14567 ppm C2
16484 ppm C3
19408 ppm C4

2494'
572u TG
25404 ppm C1
9102 ppm C2
9604 ppm C3
13098 ppm C4

No samples caught 2350'-2570'

2580
Topeka Ls
Shawnee Group

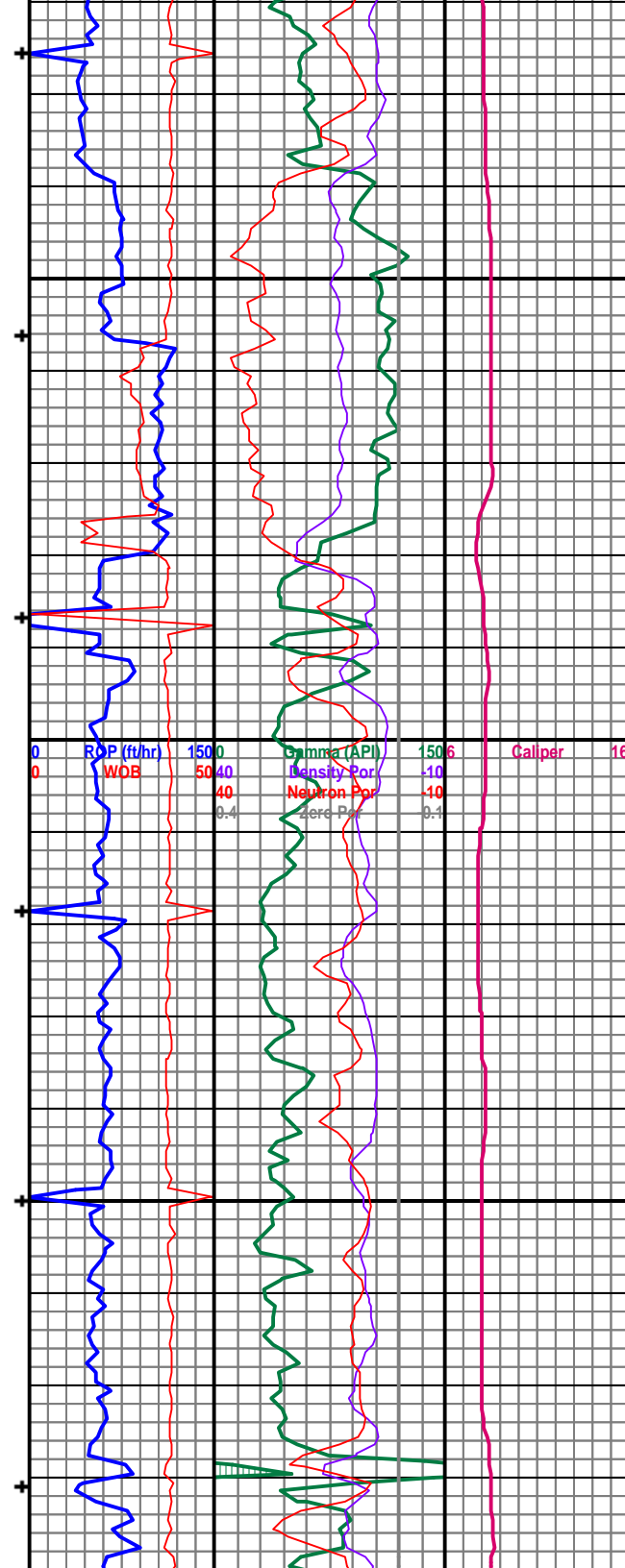
WOB 37
RPM 74
PSI 985
SPM 54

WT 8.6
VS 60

WOB 38
RPM 70
PSI 947
SPM 55

WT 8.8
VS 45

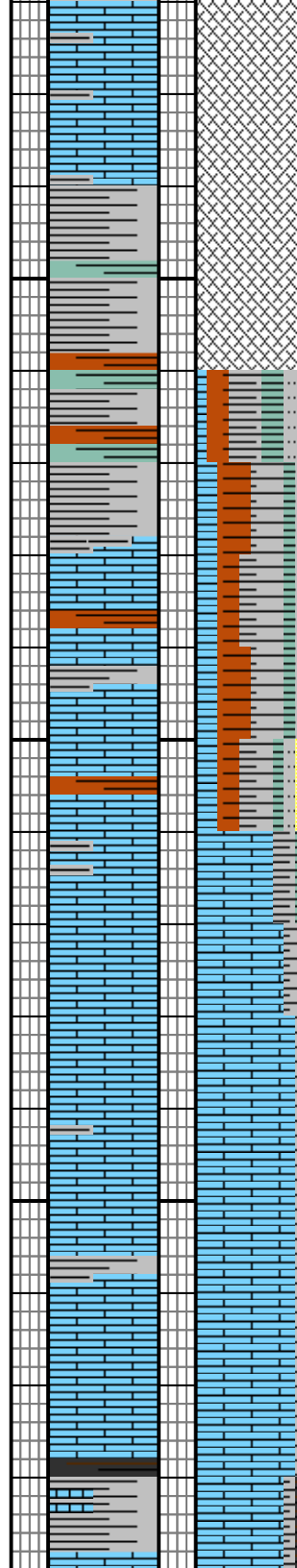
Calhoun
Sh



2550

2600

2650



140

Sonic DT

40

Deep (ohm-m)

10 100 1000 0.1

Medium (ohm-m)

10 100 1000 10

Shallow (ohm-m)

10 100 1000 10

Dumped pits &
mudded up-gas
trap bypassed

10-ft samples 2570' to TD

SHALE: light gray (N6) to med. dark gray (N4) to grayish black (N2), platy to sub blocky, very soft to moderately firm, waxy, locally micaceous, no reaction to a moderate reaction in HCl, occasion patches of pyrite flakes and rare nodules.

SILTSTONE: medium gray (N5) to medium dark gray (N4), sub blocky, soft, gritty with local areas of high clay content and locally micaceous, slight to no reaction in HCl.

2570': very slow diffuse cut, splotchy, incomplete, very pale yellow residual halo.

SHALE: dark reddish brown (10R 3/4) to very dusky red (10R 2/2), platy, soft, locally gritty appearance, moderately strong reaction to HCl, fully deprecitates in HCl.

2583'
183u TG
7210 ppm C1
2948 ppm C2
2785 ppm C3
5518 ppm C4

SHALE: dark greenish gray (5GY 4/1), soft, platy to sub blocky, moderate reaction to HCl.

2610': no fluorescence, no cut, no halo.

LIMESTONE: mottled white (N9) to light gray (N7) to buff, crystalline and algal limestone common, blocky, firm to very hard, locally fossiliferous, no visible porosity, vigorous reaction to HCl, firm to hard, smells strongly of sulfur while reacting with HCl.

2640': dull yellow fluorescence, no cut, no halo.

LIMESTONE: light gray (N7) to bluish white (5B 9/1) mottled with medium dark gray (N4), firm to very hard, blocky to sub-blocky, crystalline, fossiliferous, vigorous reaction to HCl.

2657'
43u TG
2599 ppm C1
563 ppm C2
534 ppm C3
704 ppm C4

2670': pale yellow fluorescence, slow diffuse pale yellow cut, no halo.

SHALE: medium dark gray (N4) to black (N1), firm platy cuttings, slightly calcareous, no fluorescence.

Deer Creek Ls

Lecompton Ls

Kanwaka Sh

Oread Ls

2847 Heebner 2853 Toronto Ls

WOB 41
RPM 69
PSI 968
SPM 54

6/9/2014
12:00

PASON EDR
Shutdown

WT 9.1
VS 44

ROP (ft/hr)	1500	Gamma (API)	1506	Caliper	16
WOB	5040	Density Log	-10		
	40	Neutron Por	-10		
	0.4	Core Por	0.1		

WT 9.0
VS 44

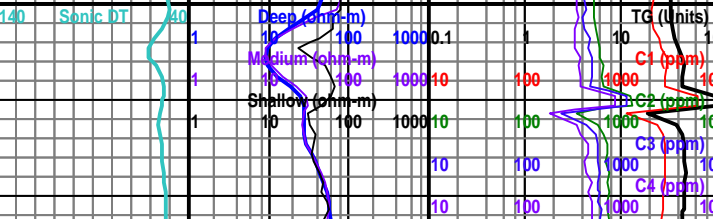
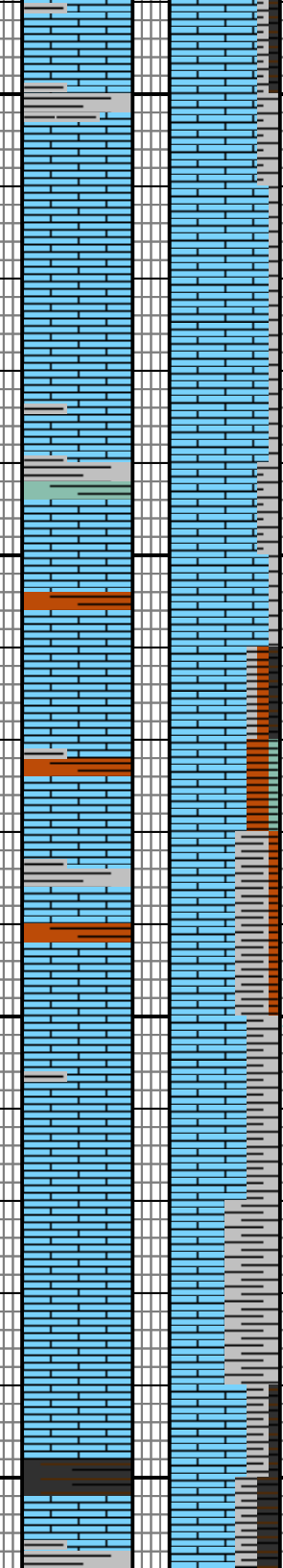
WOB 27
RPM 76
PSI 978
SPM 54

2700

2750

2800

2850



2718'
61u TG
3698 ppm C1
883 ppm C2
744 ppm C3
835 ppm C4

2775'
82u TG
5317 ppm C1
1074 ppm C2
946 ppm C3
892 ppm C4

2811'
98u TG
6440 ppm C1
1308 ppm C2
1174 ppm C3
860 ppm C4

2853'
98u TG
6752 ppm C1

LIMESTONE: pale yellowish brown (10YR 6/2) to very light gray (N8), firm, sub blocky cuttings, mudstone to wackestone texture, unidentifiable fossil debris, no visible porosity, argillaceous, very dull yellow fluorescence, yellow diffuse cloudy cut.

2720': dull yellow fluorescence, no cut, spatchy incomplete halo.

SHALE: medium gray (N5) to medium dark gray (N4), firm, platy cuttings, slightly calcareous, no fluorescence.

LIMESTONE: yellowish gray (5Y 8/1), hard, sub blocky, wackestone, local calcite lined vug porosity, rare fracture porosity with residual stain, vigorous reaction in HCl with strong odor sulfurous odor.

2760': very slow diffuse cut, splotchy, incomplete, very pale yellow residual halo.

LIMESTONE: med light gray (N6), occurs as blocky cuttings, mudstone, locally streaked with medium dark gray (N4) argillaceous material, no fluorescence.

SHALE: med dark gray (N4) to dark gray (N3), platy and elongated, firm and brittle, locally very silty, strong reaction to HCl; also occasionally a very dusky red (10R 2/2), higher silt content, soft, slightly calcareous.

2800': pale yellow with splotches of yellow mineral fluorescence, pale yellow diffuse cut.

LIMESTONE: yellowish gray (5Y 8/1), firm to moderately hard, blocky cuttings, mudstone to wackestone, commonly fossiliferous, occasional fracture porosity with residual stain, occasional chert fragments, pale dull yellow fluorescence.

SHALE: med dark gray (N4) to dark gray (N3), platy and elongated, firm and brittle, waxy, local moderately strong reaction to HCl.

2840': pale yellow mineral fluorescence, pale yellow diffuse cut, incomplete patchy halo.

SHALE: grayish black (N2) to black (N1), platy, firm and brittle, waxy yet with a slightly gritty appearance, weak reaction to HCl.

2882
Douglas
Group

WT 8.9
VS 43

PASON EDR
Shutdown

WT 8.9
VS 46

WOB 16
RPM 77
PSI 1007
SPM 53

2973
Brown
Lime

2990
Lansing-
Kansas
City

WT 9.1
VS 48

MD 3021
INC 1.25

ROP (ft/hr)
WOB

A

Gamma (API)
Density Por
Neutron Por
Zero Por

1506
-10
-10
0.1

Calliper 16

B

C

2900

2950

3000

A

B

C

140

Sonic DT

40

Dark (ohm-m)
10
100

Medium (ohm-m)
10
100

Shallow (ohm-m)
10
100

10000.1

1000

1000

10

10

10

10

10

10

10

10

10

10

PASON EDR
Shutdown

1359 ppm C2
1040 ppm C3
606 ppm C4

2903'
103u TG
5844 ppm C1
1555 ppm C2
1336 ppm C3
1549 ppm C4

2934'
116u TG
6349 ppm C1
1947 ppm C2
1507 ppm C3
1789 ppm C4

2965'
101u TG
6273 ppm C1
1501 ppm C2
1248 ppm C3
1060 ppm C4

TG (Units)
C1 (ppm)
C2 (ppm)
C3 (ppm)
C4 (ppm)
3011 TG
136u TG
5590 ppm C1
2665 ppm C2
2190 ppm C3
3209 ppm C4

2870' MD: Missed Sample

LIMESTONE: very pale orange (10YR 8/2), occurs as ~1mm subangular chips, firm to hard, locally fossiliferous, reacts vigorously to HCl.

2880': dull yellow mineral fluorescence, slow light green diffuse cut.

SHALE: moderate brown (5YR 3/4), moderately soft, platy to sub blocky cuttings, gritty, silty, calcareous, no fluorescence.

SHALE: dark greenish gray (5GY 4/1), soft, platy to sub blocky, moderate reaction to HCl.

2920': pale yellow mineral fluorescence, no cut, no halo.

LIMESTONE: very pale orange (10YR 8/2), occurs as ~1mm subangular chips, firm to hard, locally fossiliferous, reacts vigorously to HCl.

2940' MD: Missed Sample

SHALE: light gray (N6) to med. dark gray (N4), sub blocky, very soft, waxy, micaceous, locally silty with gritty appearance, no reaction to a moderate reaction in HCl, sample mainly consists of armored mudballs--unconsolidated clays balls with rock chips.

2970': Missed Sample

LIMESTONE: dark yellowish brown (10YR 4/2), blocky, angular, very hard, dense, crystalline, locally fossiliferous, reacts vigorously to HCl.

2980': no mineral fluorescence, slow streaming light blue cut, incomplete halo.

SILTSTONE: medium gray (N5) to medium dark gray (N4), sub blocky, soft, gritty with local areas of high clay content and locally micaceous, slight to no reaction in HCl.

3000': dull yellow to rare bright yellow mineral fluorescence, slow streaming pale yellow cut, incomplete halo.

LIMESTONE: white (N9) to grayish orange (10YR 7/4), hard, sub blocky cuttings, fossiliferous, subhedral pyrite, rare vugs, locally a packstone but more commonly dense mudstone, local oil staining, pale yellow to yellow fluorescence.

LIMESTONE: moderate yellowish brown (10YR 5/4), locally very pale orange (10YR 8/2), firm to hard, blocky cuttings, micrite, less commonly peloidal, local vugs and fenestral porosity with oil staining, fossiliferous, occasional nrvit

DST #1
3032'-3079'
15-60-60-120
min
IH 1495
IF 40
BOB 2min
ISI 758
BB none
FF 63
BOB 1 sec
FSI 729
BB none
FH 1478

Recovery:
2170' GIP
110' GOCM

6/10/2014
00:00

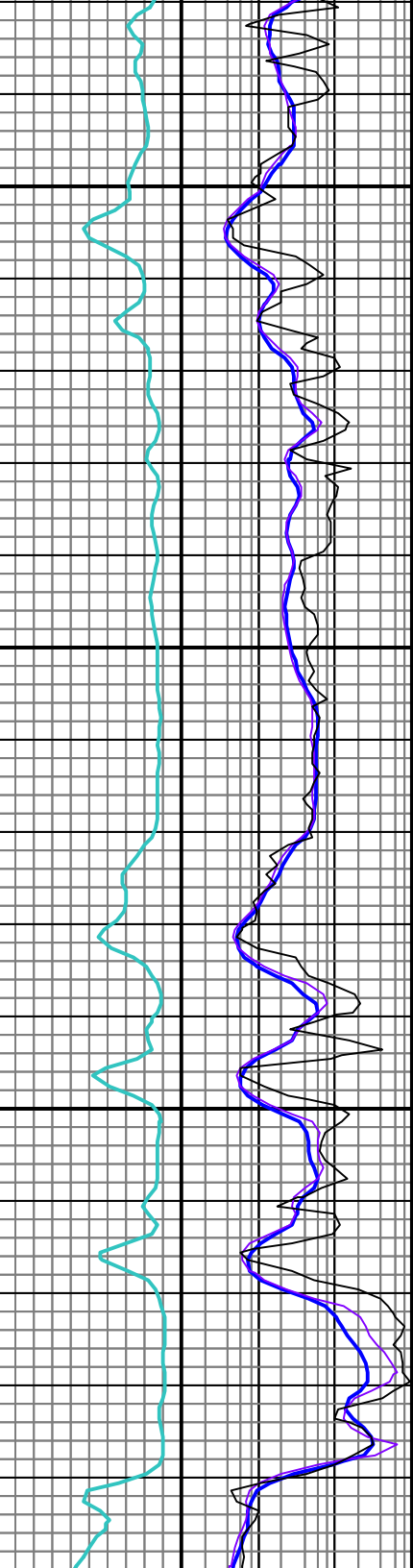
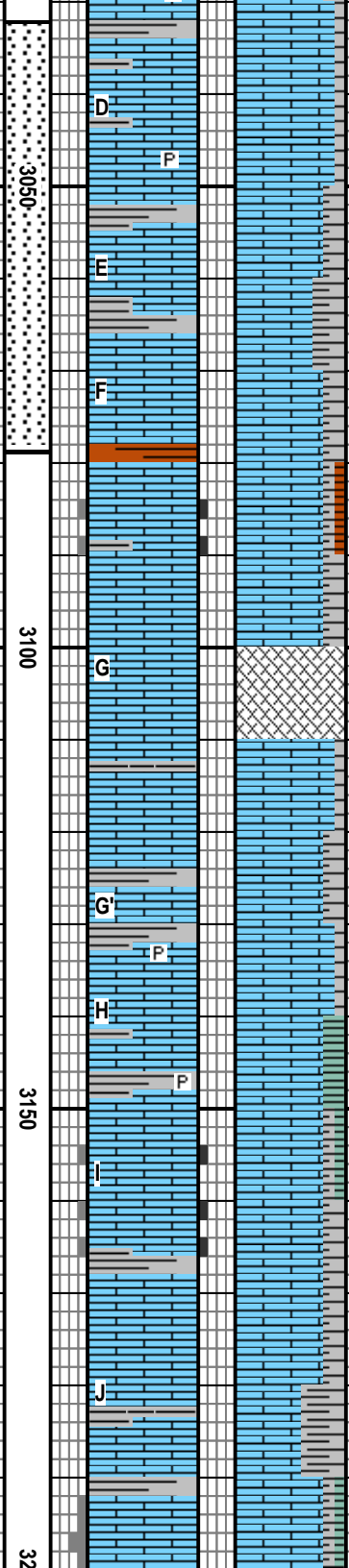
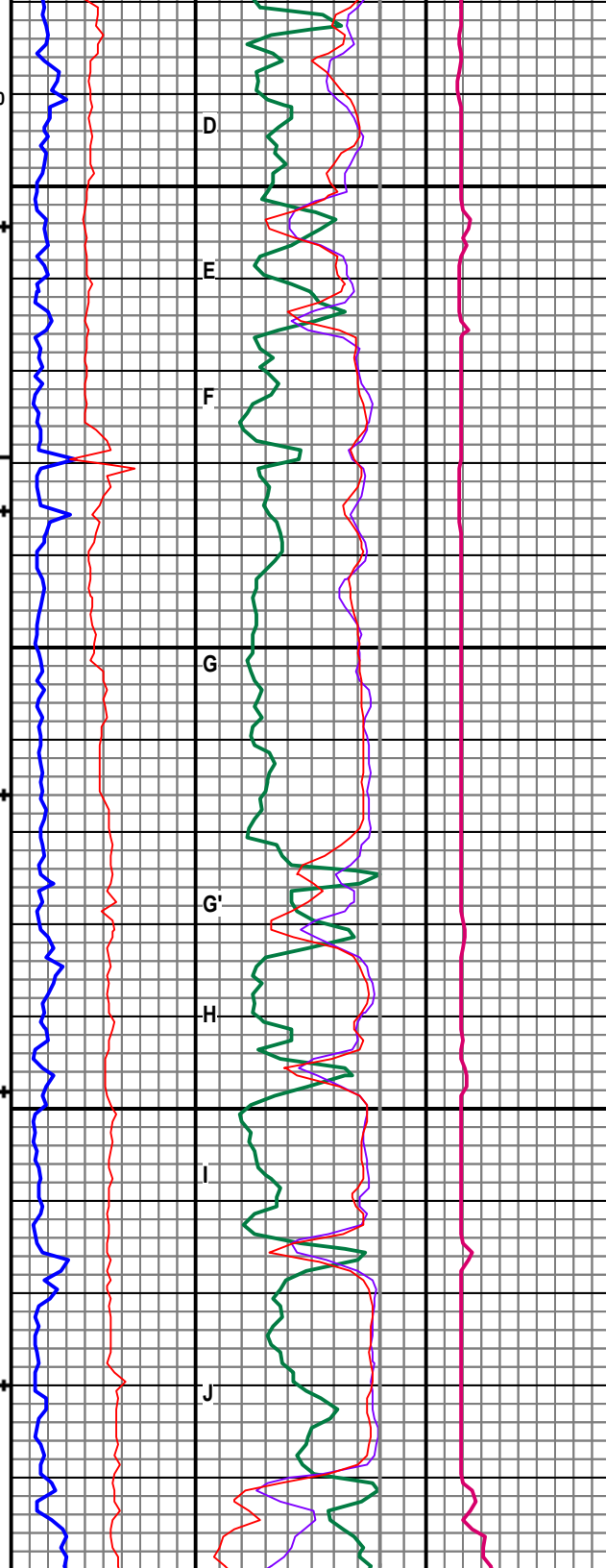
WT 9.0
VS 61

WT 9.2
VS 59

WT 9.2
VS 59

WOB 26
RPM 68
PSI 1009
SPM 54

WT 9.3
VS 55



Trip Gas

3080' MD
1298u TG
33415 ppm C1
28907 ppm C2
22711 ppm C3
45067 ppm C4

3043'
196u TG
6602 ppm C1
4215 ppm C2
3131 ppm C3
5709 ppm C4

3057'
213u TG
7770 ppm C1
4210 ppm C2
3363 ppm C3
5965 ppm C4

3089'
355u TG
9717 ppm C1
6935 ppm C2
5617 ppm C3
13248 ppm C4

3108'
185u TG
5536 ppm C1
3540 ppm C2
2761 ppm C3
6684 ppm C4

3159'
163u TG
4509 ppm C1
3408 ppm C2
2545 ppm C3
5937 ppm C4

3190'
140u TG
3593 ppm C1
3092 ppm C2
2133 ppm C3
5266 ppm C4

nodules, slow streaming to cloudy light blue cut, light blue halo.

3040': dull to bright yellow fluorescence, light blue slow diffuse cut, patchy halo.

LIMESTONE: light brownish gray (5YR 6/1) to white (N9), hard to very hard, mudstone, local intraclasts, tight, pale yellow fluorescence, pale yellow cut, petroliferous odor.

SHALE: med light gray (N6) to dark greenish gray (5GY 4/1) to dark reddish brown (10R 3/4), mod firm, platy to sub blocky cuttings, generally smooth, locally gritty/silty, locally calcareous.

3070': yellow fluorescence, light blue streaming cut, patchy halo.

LIMESTONE: white (N9), moderately hard, packstone or biolithite with interclastic porosity stained with oil residue, vigorous reaction in HCl, slow streaming blue cut, faint halo, strong petroliferous odor.

LIMESTONE: mod yellowish brown (10YR 5/4), locally very pale orange (10YR 8/2), firm, sub blocky cuttings, mudstone to packstone, tight, occasional fossils, occasional light oil staining.

3110': Missed Sample

3120': dull yellow fluorescence, occasional chip has light blue slow streaming cut, patchy halo.

LIMESTONE: very pale orange (10YR 8/2) to grayish orange (10YR 7/4), hard, brittle, mudstone, tight, occasional stylolite, no oil stain, reacts vigorously in HCl.

SHALE: medium dark gray (N4) to black (N1), moderately firm, locally calcareous, common pyrite, common thin (< 1mm) black lamina, no fluorescence.

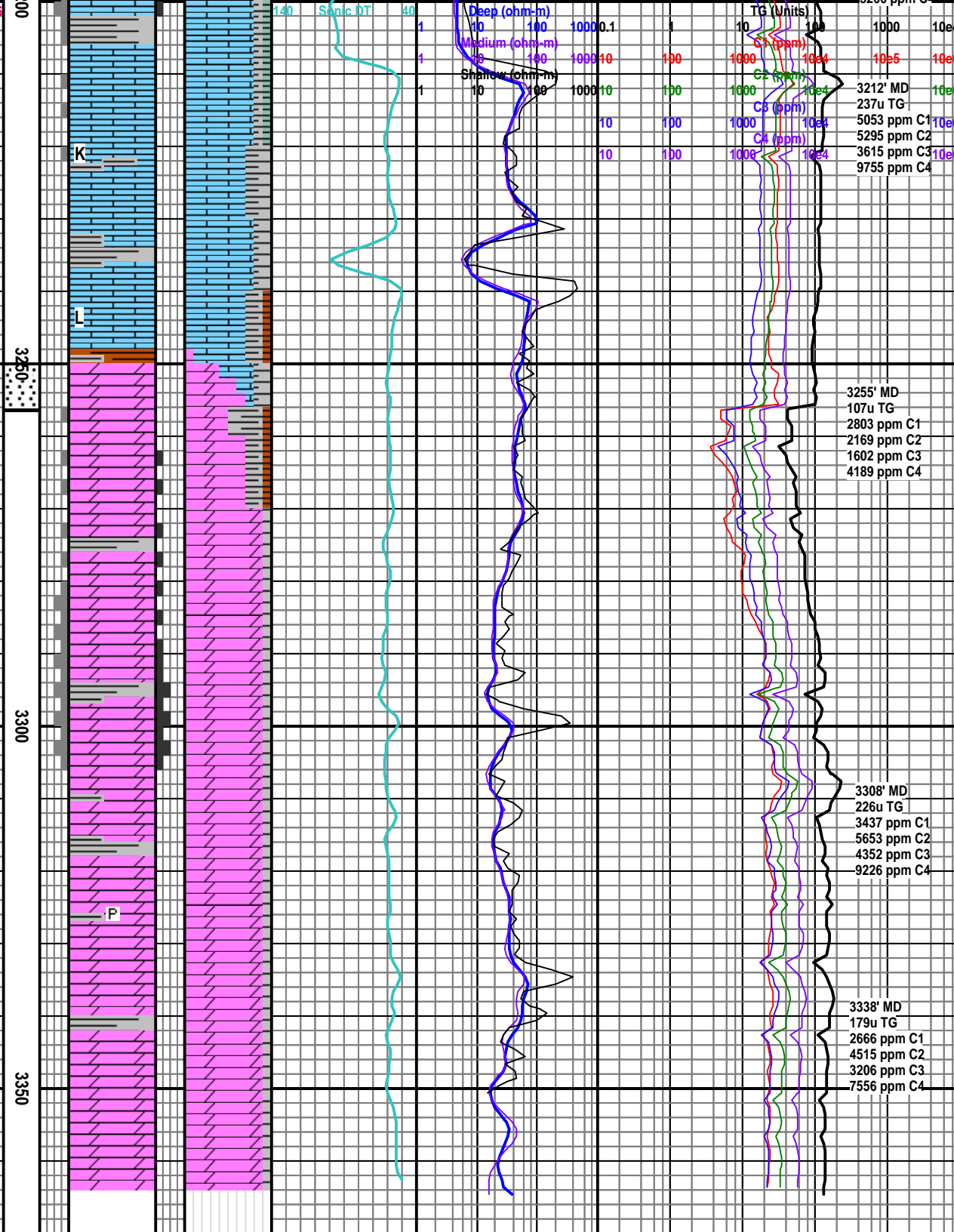
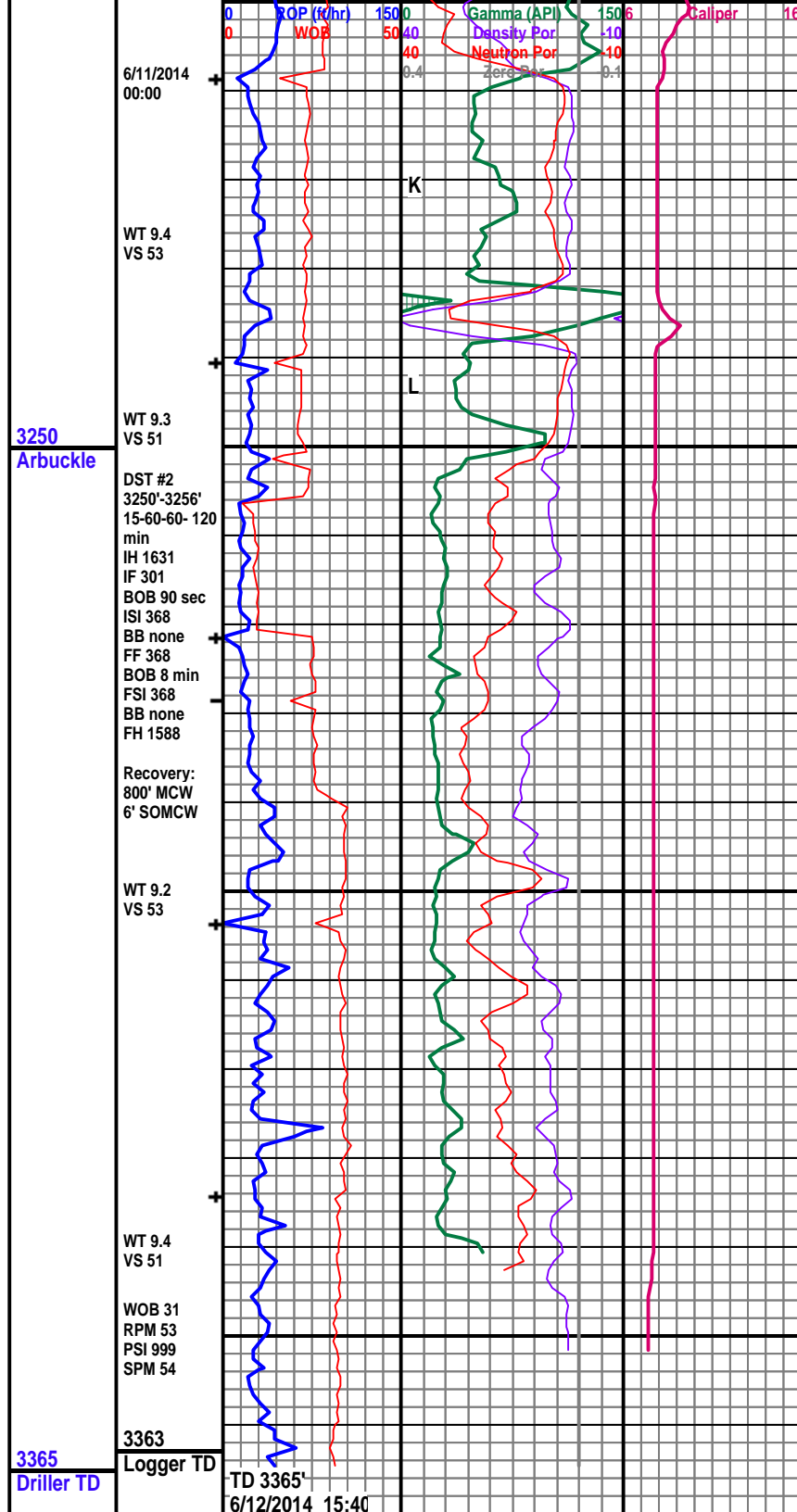
3140': dull yellow fluorescence, light blue slow diffuse cut, patchy halo.

LIMESTONE: white (N9) to mod yellowish brown (10YR 5/4), sub blocky to platy, firm, micrite, commonly fossiliferous, locally soft and chalky, trace vug porosity with light oil staining,

3170': dull yellow fluorescence, light blue slow diffuse cut with occasional chip with light blue slow streaming cut, weak complete halo.

LIMESTONE: white (N9) to med light gray (N6) to mod yellowish brown (10YR 5/4), micrite, hard, blocky, locally vuggy, no oil stains, locally fossiliferous, weak slow streaming pale yellow cut

SHALE: med dark gray (N4) to a dark greenish gray (5G 4/1), platy to sub blocky, soft to mod firm, locally micaceous, locally calcareous



3200': pale yellow fluorescence, no cut, no halo.

LIMESTONE: mottled pale yellowish brown (10YR 6/2) with very light gray (N8), mudstone, tight, fir to hard, blocky, locally fossiliferous, locally vuggy, rare intercrystal porosity.

3230': pale yellow fluorescence, no cut, weak patchy halo.

LIMESTONE: white (N9) to med light gray (N6) to modyellowish brown (10YR 5/4), mudstone, locally crystalline, hard, locally soft and chalky, blocky, occasional vugs, no oil stains, locally fossiliferous, no fluorescence, no cut

large anglur chert fragments in Arbuckle

DOLOMITE: white (N9) to buff, crystalline, sucrosic texture common, visible porosity, hard, vugs common, no stain in Alizarin Red, slow mild reaction in HCl, weak petroliferous odor, dull yellow mineral fluorescence.

DOLOMITE: grayish orange (10YR 7/4), mudstone, hard, tight, sub-blocky chips, no stain in Alizarin Red, no oil staining, slow mild reaction in HCl.

3280': bright yellow fluorescence, instant blue white slow streaming cut to cloudy cut, blue white halo.

DOLOMITE: grayish orange (10YR 7/4), grainstor and sucrosic textures, hard, visible porosity-interparticle and vug, moderate to significant oil staining, slow mild reaction in HCl, strong petroliferous odor.

3000': bright yellow fluorescence, instant bright white blue fast streaming cut to milky cloud, full white halo

DOLOMITE: grayish orange (10YR 7/4), hard, sub-blocky, tight mudstone or wackestone, occasional recrystallized oolitic-rich zones, no oil staining, calcite fracture fill, chert nodules commom, occasional pyrite, slow mild reaction in HCl, no stain in Alizarin Red.

3350': bright yellow fluorescence, no cut, no halo

SHALE: medium dark gray (N4) to dark gray (N3), moderately soft yet brittle, blocky to sub-blocky, micaceous-rich horizons, commonly contains medium to coarse well rounded limestone grains reacts moderately strong to HCl.

3255' MD
107u TG
2803 ppm C1
2169 ppm C2
1602 ppm C3
4189 ppm C4

3308' MD
226u TG
3437 ppm C1
5653 ppm C2
4352 ppm C3
9226 ppm C4

3338' MD
179u TG
2666 ppm C1
4515 ppm C2
3206 ppm C3
7556 ppm C4

3250
Arbuckle

3365
Driller TD

Thank You!
T. M. McCoy & Co., Inc.
Geologist: Ryan Thress

Empty data grid for the first section of the log.

0	RQP (ft/hr)	1500	Gamma (API)	1506	Calliper	16
0	WOB	5040	Density Por	-10		
		40	Neutron Por	-10		
		0.4	Zero Por	0.1		

Empty data grid for the second section of the log.

3400

3450

Empty data grid for the third section of the log.

3500

Empty data grid for the fourth section of the log.

Empty data grid for the first section of the log.

140	Sonic DT	40	Deep (ohm-m)		TG (Units)				
		1	10	100	0.1	1	10	100	10e4
		1	Medium (ohm-m)				C1 (ppm)		
		1	10	100	10	100	1000	10e4	10e5
			Shallow (ohm-m)				C2 (ppm)		
		1	10	100	10	100	1000	10e4	10e5
							C3 (ppm)		
					10	100	1000	10e4	10e5
					10	100	1000	10e4	10e5

Empty data grid for the second section of the log.

Empty data grid for the third section of the log.

Empty data grid for the fourth section of the log.

3550

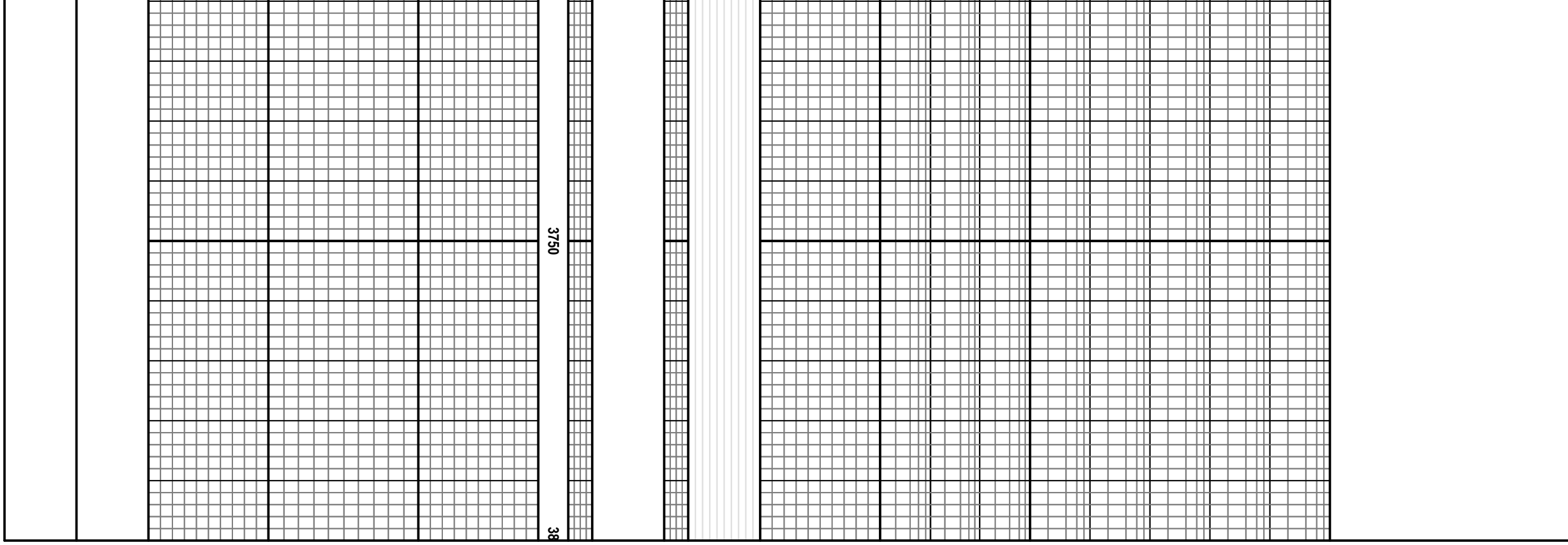
3600

3650

3700

0	RQP (ft/hr)	1500	Gamma (API)	1506	Caliper	16
0	WOB	5040	Density Por	-10		
		40	Neutron Por	-10		
		0.4	Zero Por	0.1		

140	Sonic DT	40	Deep (ohm-m)		TG (Units)					
		1	10	100	0.1	1	10	100	10e4	
		1	Medium (ohm-m)				C1 (ppm)			
		1	10	100	10	100	1000	10e4	10e5	10e6
		1	Shallow (ohm-m)				C2 (ppm)			
		1	10	100	10	100	1000	10e4	10e5	10e6
							C3 (ppm)			
							1000	10e4	10e5	10e6
							C4 (ppm)			
							1000	10e4	10e5	10e6



BERENERGY CORPORATION

H. J. ROETZEL 'A' 27

SW SE NW NE SEC 24 T20S R11W

BARTON COUNTY, KANSAS

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SUMMARY

Berenergy Corporation ran 5 1/2" production casing in the vertical H. J. Roetzel 'A' 27 well to 3365' TD in the Cambrian-Ordovician Arbuckle Group. Onsite geologic services started at spud, and included examination of drill cuttings and Pason total gas/chromatography. Two DSTs were run. DIL-GR-SP-CNL-CDL-CAL-MLL and sonic logs were run from base of surface casing to TD. The primary objective was the Arbuckle. Secondary objectives included sands in the Chase Group, the Tarkio Limestone and the Topeka Limestone, and limestones in the Lansing-Kansas City Group.

Drilling

The surface hole was drilled with fresh water mud. The salty drilling fluid that resulted from drilling the Hutchinson salt member of the Sumner Group at ~1000' was removed from the reserve pit. After 8 5/8" surface casing was set at 1334', drilling with fresh water continued to 2530'. The remainder of the hole was drilled with water-based mud. There were no problems with the hole during drilling, drill stem testing, logging, or casing.

Chase Group

Total gas increased from a background of 4-10 units to a peak of 252 units at the top of the Chase Group sands. Maximum total gas of 277 units was recorded in gas show interval 1516' – 1536'. No liquid hydrocarbon shows were observed.

Tarkio Limestone

Total gas increased from a background of 50-100 units to a peak of 1326 units at 2310' in the lower Tarkio. No liquid hydrocarbon shows were observed.

Topeka Limestone

Total gas increased from a background of 10-20 units to a peak of 183 units at the top of the Topeka. No liquid hydrocarbon shows were observed.

Lansing–Kansas City Groups

Zones 'A' through 'L' were documented in this well. Overall, oil staining was limited to zones 'D', 'I', and 'J'. Total gas averaged 150-200 units. Maximum formation gas was 355 units in Zone 'G'; trip gas was 1298 units. Cut fluorescence ranged from slow streaming pale yellow to fast streaming blue-white. DST 1 recovered 2170 ft of gas in drill pipe on top of 110 ft of gas and oil-cut mud from combined zones 'D', 'E' and 'F'. The sampler contained 4000 ml of 39.6° gravity oil and no water.

Arbuckle Group

The top of the Arbuckle was penetrated carefully. It was drilled 1 ft at a time with each foot circulated before the next was drilled. Drill cuttings from the top 6 ft of the Arbuckle, 3250' – 3256', exhibited no oil show. Total gas was ~100 units. DST 2 of the top 6 ft recovered 800 ft of mud-cut water and 6 ft of mud-cut water with an oil skim. The sampler contained 2000 ml of water and no oil.

Drill cuttings from a second horizon roughly 60 ft into the Arbuckle had a strong petroleum odor, commonly were oil-stained, displayed visible porosity and yielded cut fluorescence that was instant fast streaming bright white-blue. Total gas increased to 226 units.

Ryan J. Thress
Consulting Wellsite Geologist
June 2014

Berenergy Corporation
H. J. Roetzel 'A' 27

WELL DATA

OPERATOR: Berenergy Corporation

WELL NAME: H. J. Roetzel 'A' 27

SURFACE LOCATION: 1270' FNL & 1788' FEL
SW SE NW NE Sec. 24, T20S, R11W
Barton County, Kansas

LAT/LONG: 38.3007925°, -98.4855037°

ELEVATIONS: GL 1749' KB 1759'

API NUMBER: 15-009-25868

ROAD DIRECTIONS: From Great Bend, KS, E 16 miles on KS-96; S 4 miles on 2nd Rd; W 1 mile on Ave Q; N 0.7 mile on SE 160th Ave; W 0.3 mile on lease road to location.

SURFACE CASING: 8 5/8" set at 1334'

PRODUCTION CASING: 5 1/2" set at 3365'

SPUD DATE: June 4, 2014 01:45 hrs

DRILLING COMPLETED: June 12, 2014 15:40 hrs

TOTAL DEPTH: 3365' Driller 3363' Logger

LAST FORMATION: Arbuckle Group

OPERATOR REPS: Energy Operating Company Inc.
Dan Hall – Engineer
David Braden – Engineer

WELLSITE SUPERVISION: L. E. Ed Buchanan

FORMATION TOPS

Formation KB 1759	Sample Top MD	Log Top MD	Log Top TVD	Log Top Subsea	Drilled Thickness
PERMIAN Chase Group	1401	1398	1398	361	
PENNSYLVANIAN Wabaunsee Group	–				
Tarkio Ls	2262	2261	2261	-502	62
Shawnee Group					
Topeka Ls	2580	2577	2577	-818	76
Oread Ls	2744	2741	2741	-982	103
Heebner Sh Mbr	2847	2844	2844	-1085	5
Toronto Ls Mbr	2853	2850	2850	-1091	29
Douglas Group	2882	2879	2879	-1120	91
Brown Lime	2973	2970	2970	-1211	5
Lansing-Kansas City Group	–				
Zone A	2990	2987	2987	-1228	16
Zone B	3006	3003	3003	-1244	14
Zone C	3020	3017	3017	-1258	13
Zone D	3033	3030	3030	-1271	23
Zone E	3056	3053	3053	-1294	9
Zone F	3065	3062	3062	-1303	15
Zone G	3080	3077	3077	-1318	52
Zone H	3132	3129	3129	-1370	16
Zone I	3148	3145	3145	-1386	19
Zone J	3167	3164	3164	-1405	41
Zone K	3208	3205	3205	-1446	29
Zone L	3237	3234	3234	-1475	13
CAMBRIAN-ORDOVICIAN Arbuckle Group	– 3250		3247	-1488	115
Total Depth Driller	3365				
Total Depth Logger		3363	3363	-1604	

Geologic ages from:

Moore et al. (1951); *The Kansas rock column* (No. 89-93). University of Kansas Publications.

LITHOLOGY AND SHOWS

The following descriptions are interpretive. Derrick hands collected lagged 30-ft samples 1390' - 1840'; no samples 1840' - 2200'; 30-ft samples 2200' - 2350'; no samples 2350' - 2570' and 10-ft samples 2570' - 3365' TD, along with spot samples to constrain select tops and when drilling activities dictated. Samples were reviewed with the aid of wireline logs from 1334' to 3365' TD, and wireline logs were adjusted down 3 feet on the Wellsite Geologist's Composite Log to match driller's depths.

Samples were inspected using an Olympus SZ61 stereoscope. Grain sizes were determined by use of an AmStrat grain size comparator. Colors of wet cuttings were determined from the Rock-Color Chart distributed by the Geological Society of America. 10% HCl was used in acid reaction tests, and Alizarin red was used to aid with carbonate species determination.

Selected samples were examined for oil fluorescence with a US GeoSupply brand fluoroscope. Cut tests for liquid hydrocarbons were performed with solvent on wet cuttings. All samples collected were drilled with fresh water and water-based mud and sieved and rinsed in fresh water.

Significant gas shows, as determined with a Pason Gas Analyzer (TG; C1-C4), are described in each formation overview. The reader may also refer to the accompanying Wellsite Geologist's Composite Log for the complete record of lagged mud log gas correlated to wireline log data.

Surface Casing: 8 5/8" set at 1334'; +425' subsea

CHASE GROUP SAMPLE TOP: 1401' LOG: 1398' TVD: 1398' SUBSEA: +361'

Overview:

The topmost group of Wolfcampian beds is made up of prominent escarpment-making sands, limestones, and shales. The shale units are predominantly gray and massive, though locally characterized by shades of reds and greens. Chert or flint-bearing limestones are included in this division. The Chase group sands are known for gas shows in this area. Samples 1390'-1810' are all medium-sand sized (250-500 μ) chips and sand grains and contain abundant iron filings; cuttings are too small for complete and thorough descriptions. Only rock type is barely discernible. Occasionally there exists a coarse-grained chip.

1401' - 1840'

SHALE: light olive gray to greenish gray, soft, occasional millimeter-sized platy cuttings, some zones very calcareous, others non calcareous, without significant difference in appearance, rare pyrite nodules; **CHERT:** white to clear, hard, conchoidal fracture, no reaction with HCl; **LIMESTONE:** white (N9), sub-millimeter sized chips, rounded, strong reaction in HCl; **SANDSTONE:** clear to white (N9), soft to firm, subrounded medium to coarse-grained sand sized chips composed of very fine to fine-grained sand, typically a lime sandstone, commonly micaceous, calcite cemented; **SHALE:** medium light gray (N6) to dark greenish gray (5GY 4/1) to dark reddish brown (10R 3/4), moderate firm, platy, generally smooth, locally gritty/silty, locally calcareous.

1840' - 2200'

No samples collected.

LITHOLOGY AND SHOWS

RICHARDSON GROUP SAMPLE TOP: N/A' LOG: N/A' TVD: N/A' SUBSEA: N/A'

Overview: The Richardson Subgroup comprises the youngest Pennsylvanian rocks of the Wabaunsee Group and includes strata from the top of the Brownville limestone to the top of the Tarkio limestone. Samples were caught at the base of the Richardson Subgroup to identify the transition into the Tarkio limestone. The Richardson is predominately red and green shale with silty lenses and limestone stringers. Total gas increased from a background of 40-60 units to a peak of 388 units within the sampled section. No oil shows were observed.

2200' – 2262' **SHALE**: med dark gray (N4) to a dark greenish gray (5G 4/1), platy to sub blocky, long thin blades common, soft to mod firm, locally micaceous, calcareous; with **SHALE**: dark reddish brown (10R 3/4) to very dusky red (10R 2/2), platy, soft, moderately strong reaction to HCl, fully decrepitates in HCl; **SHALE**: dark greenish gray (5GY 4/1), soft, platy to sub blocky, moderate reaction to HCl; local lenses of **SILTSTONE**: medium gray (N5) to medium dark gray (N4), sub blocky, soft, gritty with local areas of high clay content, moderately reacts to HCl; with stringers of **LIMESTONE**: very light gray (N8) to light gray (N7), platy to sub blocky, firm to moderately hard, brittle, very reactive to HCl.

TARKIO LS SAMPLE TOP: 2262' LOG: 2261' TVD: 2261' SUBSEA: -502'

Overview: The Tarkio limestone is youngest member of the Nemaha Subgroup of the Wabaunsee Group. It is gray to weathered brown and commonly consists of two massive beds separated by a shaly zone. Fossils are very common, especially fusulinids. Algal remains are present in the upper bed. Total gas increased from a background of 50-100 units to a peak of 1326 units. No oil shows were observed.

2262' – 2350' **LIMESTONE**: very light gray (N8) to light gray (N7), platy to sub blocky, firm to moderately hard, brittle, very reactive to HCl; yellow fluorescence, slow diffuse pale yellow cut, splotchy halo; with **SHALE**: medium gray (N5) to medium dark gray (N4), very soft, platy to sub rounded, no to slight reaction in HCl; and **CHERT**: white to clear, hard, commonly large, well-rounded grains, conchoidal fracture, no reaction with HCl.

2350' - 2570' No samples collected.

TOPEKA LS
SHAWNEE GROUP SAMPLE TOP: 2580' LOG: 2577' TVD: 2577' SUBSEA: -818'

Overview: The Shawnee Group is part of the Upper Pennsylvanian Series and comprises four limestone formations and three shale formations. Thick limestones and a distinctive type of cyclic sedimentation are characteristics that distinguish these rocks from

LITHOLOGY AND SHOWS

those of neighboring groups. The shale formations are 2-6 ft thick. Total gas increased from a background of 10-20 units to a peak of 183 units at the top of Topeka Limestone. No hydrocarbon shows were observed.

2580' – 2678'	LIMESTONE: mottled white (N9) to light gray (N7) to buff, crystalline and algal limestone common, blocky, firm to very hard, locally fossiliferous, no visible porosity, vigorous reaction to HCl, firm to hard, smells strongly of sulfur while reacting with HCl; LIMESTONE: light gray (N7) to bluish white (5B 9/1) mottled with medium dark gray (N4), firm to very hard, blocky to sub-blocky, crystalline, fossiliferous, vigorous reaction to HCl; SHALE: dark reddish brown (10R 3/4) to very dusky red (10R 2/2), platy, soft, locally gritty appearance, moderately strong reaction to HCl, fully decrepitates in HCl; SHALE: dark greenish gray (5GY 4/1), soft, platy to sub blocky, moderate reaction to HCl. Cuts: 2610' no fluorescence, no cut, no halo; 2640' dull yellow fluorescence, no cut, no halo; 2670' pale yellow fluorescence, slow diffuse pale yellow cut, no halo.
2678' – 2681'	SHALE: medium dark gray (N4) to black (N1), firm, platy cuttings, slightly calcareous, no fluorescence.
2681' – 2699'	Second LIMESTONE: pale yellowish brown (10YR 6/2) to very light gray (N8), firm, sub blocky cuttings, mudstone to wackestone texture, unidentifiable fossil debris, no visible porosity, argillaceous, very dull yellow fluorescence, yellow diffuse cloudy cut. Cut 2720': dull yellow fluorescence, no cut, splotchy incomplete halo.
2699' – 2702'	SHALE: medium gray (N5) to medium dark gray (N4), firm, platy cuttings, slightly calcareous, no fluorescence.
2702' – 2740'	Third LIMESTONE: yellowish gray (5Y 8/1), hard, sub-blocky, wackestone, local calcite lined vug porosity, rare fracture porosity with residual stain, vigorous reaction in HCl with strong odor sulfurous odor; pale yellow with splotches of yellow mineral fluorescence, pale yellow diffuse cut.
2740' – 2744'	SHALE: med dark gray (N4) to dark gray (N3), platy and elongated, firm and brittle, locally very silty, strong reaction to HCl; also occasionally a very dusky red (10R 2/2), higher silt content, soft, slightly calcareous.
OREAD LS	SAMPLE TOP: 2744' LOG: 2741' TVD: 2741' SUBSEA: -982'
2744' – 2847'	Fourth LIMESTONE: med light gray (N6), occurs as blocky cuttings, mudstone, locally streaked with medium dark gray (N4) argillaceous material, no fluorescence; LIMESTONE: yellowish gray (5Y 8/1), firm to moderately hard, blocky cuttings, mudstone to wackestone, commonly fossiliferous, occasional fracture porosity with residual stain, occasional chert fragments, pale dull yellow fluorescence. Cuts: 2760' very slow diffuse cut, splotchy, incomplete, very pale yellow residual halo; 2800' pale yellow with splotches of yellow mineral fluorescence, pale yellow diffuse cut; 2840' pale yellow mineral fluorescence, pale yellow diffuse cut, patchy halo.

LITHOLOGY AND SHOWS

HEEBNER SH MBR	SAMPLE TOP: 2847	LOG: 2844'	TVD: 2844'	SUBSEA: -1085'
2847' – 2853'	SHALE: grayish black (N2) to black (N1), platy, firm and brittle, waxy yet with a slightly gritty appearance, weak reaction to HCl.			
TORONTO LS MBR	SAMPLE TOP: 2853'	LOG 2850'	TVD: 2850'	SUBSEA: -1091'
2853' – 2882'	LIMESTONE: very pale orange (10YR 8/2), occurs as ~1mm subangular chips, firm to hard, locally fossiliferous, reacts vigorously to HCl; pale yellow fluorescence, pale yellow cut.			
DOUGLAS GROUP	SAMPLE TOP: 2882'	LOG: 2879'	TVD: 2879'	SUBSEA: -1120'
Overview:	The Douglas Group conformably underlies the Shawnee Group. It consists primarily of clastic rocks, mostly shale. Limestones are quantitatively of minor importance. No significant oil or gas shows; background gas averaged 40-50 units.			
2882' – 2973'	Predominantly SHALE: moderate brown (5YR 3/4), moderately soft, platy to sub blocky cuttings, gritty, silty, calcareous, no fluorescence; SHALE: dark greenish gray (5GY 4/1), soft, platy to sub blocky, moderate reaction to HCl; SHALE: light gray (N6) to med. dark gray (N4), sub blocky, very soft, waxy, micaceous, locally silty with gritty appearance, no reaction to a moderate reaction in HCl, sample mainly consists of armored mud balls—unconsolidated clay balls with rock chips; with minor stringers of LIMESTONE: very pale orange (10YR 8/2), occurs as ~1mm subangular chips, firm to hard, locally fossiliferous, reacts vigorously to HCl. Cut 2920': occasional pale yellow mineral fluorescence, no cut, no halo.			
BROWN LIME	SAMPLE TOP: 2973'	LOG: 2970'	TVD: 2970'	SUBSEA: -1211'
Overview:	Marker bed right above the Lansing-Kansas City Group. The limestone is commonly dark brown and very hard, easily seen on engineering data. Included in this section is the shale that separates the Brown Lime and the Lansing-Kansas City Group. No significant gas or oil shows were observed.			
2973' – 2978'	LIMESTONE: dark yellowish brown (10YR 4/2), blocky, angular, very hard, dense, crystalline, locally fossiliferous, reacts vigorously to HCl.			
2978' – 2990'	SHALE: medium gray (N5) to medium dark gray (N4), firm, platy cuttings, slightly calcareous, no fluorescence; with SILTSTONE: medium gray (N5) to medium dark			

LITHOLOGY AND SHOWS

gray (N4), sub blocky, soft, gritty with local areas of high clay content and locally micaceous, slight to no reaction in HCl. Cut 2980': no mineral fluorescence, slow streaming light blue cut, incomplete halo.

LANSING-KANSAS CITY GROUP

SAMPLE TOP: 2990' LOG: 2987' TVD: 2987' SUBSEA: -1228'

Overview:

The Lansing-Kansas City Group contains 12 limestone formations (zones 'A' through 'L') alternating with marine shale units and has a thickness of about 260 feet at this location. Many of the limestones are cross-bedded, oolitic, and algal. Overall, oil staining was limited to zones 'D', 'I', and 'J'. Total gas averaged 150-200 units. Maximum formation gas was 355 units in Zone 'G'; trip gas was 1298 units. Cut fluorescence ranged from slow streaming pale yellow to fast streaming blue-white. DST 1 recovered 2170 ft of gas in drill pipe on top of 110 ft of gas and oil-cut mud from combined zones 'D', 'E' and 'F'. The sampler contained 4000 ml of 39.6° gravity oil and no water.

2990' – 3006'

Zone A; **LIMESTONE**: white (N9) to grayish orange (10YR 7/4), hard, sub blocky cuttings, fossiliferous, subhedral pyrite, rare vugs, locally a packstone but more commonly dense mudstone, local oil staining, pale yellow to yellow fluorescence. Cut 3000': dull yellow to rare bright yellow mineral fluorescence, slow streaming pale yellow cut, incomplete halo.

3006' – 3020'

Zone B; **LIMESTONE**: white (N9) to grayish orange (10YR 7/4), hard, sub blocky cuttings, fossiliferous, subhedral pyrite, rare vugs, locally a packstone but more commonly dense mudstone, local oil staining, pale yellow to yellow fluorescence; **SHALE**: medium gray (N5), firm platy chips and bit scrapings, locally silty, non-calcareous, silty chips remain intact in H₂O, no fluorescence.

3020' – 3033'

Zone C; **LIMESTONE**: moderate yellowish brown (10YR 5/4), locally very pale orange (10YR 8/2), firm to hard, blocky cuttings, micrite, less commonly peloidal, local vugs and fenestral porosity with oil staining, fossiliferous, occasional pyrite nodules. Cut: slow streaming to cloudy light blue cut, light blue halo.

3033' – 3056'

Zone D; **LIMESTONE**: light brownish gray (5YR 6/1) to white (N9), hard to very hard, mudstone, local intraclasts, tight, pale yellow fluorescence, pale yellow cut, petroliferous odor. Cut 3040': dull to bright yellow fluorescence, light blue slow diffuse cut and patchy halo.

3056' – 3065'

Zone E; **LIMESTONE**: light brownish gray (5YR 6/1) to white (N9), hard to very hard, mudstone, local intraclasts, tight, pale yellow fluorescence, pale yellow cut, petroliferous odor. **SHALE**: med light gray (N6) to dark greenish gray (5GY 4/1) to dark reddish brown (10R 3/4), mod firm, platy to sub blocky cuttings, generally smooth, locally gritty/silty, locally calcareous.

3065' – 3080'

Zone F; **LIMESTONE**: white (N9), moderately hard, packstone or biolithite with interclastic porosity stained with oil residue, vigorous reaction in HCl, slow streaming blue cut, faint halo, strong petroliferous odor. Cut 3070': yellow

LITHOLOGY AND SHOWS

fluorescence, light blue streaming cut and patchy halo.

- 3080' – 3132' Zone G; A thick sequence of **LIMESTONE**: mod yellowish brown (10YR 5/4), locally very pale orange (10YR 8/2), firm, sub blocky cuttings, mudstone to packstone, tight, occasional fossils, occasional light oil staining. **LIMESTONE**: very pale orange (10YR 8/2) to grayish orange (10YR 7/4), hard, brittle, mudstone, tight, occasional stylolite, no oil stain, reacts vigorously in HCl. Cut 3120': dull yellow fluorescence, occasional chip has light blue slow streaming cut, patchy halo.
- 3132' – 3148' Zone H; **LIMESTONE**: white (N9) to mod yellowish brown (10YR 5/4), sub blocky to platy, firm, mudstone, commonly fossiliferous, locally soft and chalky, trace vug porosity with light oil staining. **SHALE**: medium dark gray (N4) to black (N1), moderately firm, locally calcareous, common pyrite, common thin (< 1mm) black lamina, no fluorescence. Cut 3140': dull yellow fluorescence, light blue slow diffuse cut, patchy halo.
- 3148' – 3167' Zone I; **LIMESTONE**: white (N9) to mod yellowish brown (10YR 5/4), sub blocky to platy, firm, mudstone, commonly fossiliferous, locally soft and chalky, trace vug porosity with light oil staining.
- 3167' – 3208' Zone J; **LIMESTONE**: white (N9) to medium light gray (N6) to moderate yellowish brown (10YR 5/4), mudstone, hard, blocky, locally vuggy, no oil stains, locally fossiliferous, weak slow streaming pale yellow cut; **SHALE**: med dark gray (N4) to a dark greenish gray (5G 4/1), platy to sub blocky, soft to moderately firm, locally micaceous, locally calcareous. Cut 3170': dull yellow fluorescence, light blue slow diffuse cut with occasional chip with light blue slow streaming cut, weak complete halo.
- 3208' – 3237' Zone K; **LIMESTONE**: mottled pale yellowish brown (10YR 6/2) with very light gray (N8), mudstone, tight, firm to hard, blocky, locally fossiliferous, locally vuggy, rare intercrystalline porosity. Cut 3230': pale yellow fluorescence, no cut, weak patchy halo.
- 3237' – 3250' Zone L; **LIMESTONE**: white (N9) to med light gray (N6) to moderate yellowish brown (10YR 5/4), mudstone, locally crystalline, hard, locally soft and chalky, blocky, occasional vugs, no oil stains, locally fossiliferous, no fluorescence, no cut.

ARBUCKLE GROUP SAMPLE TOP: 3250' LOG: 3247' TVD: 3247' SUBSEA: -1488'

Overview: The Arbuckle Dolomite (Cambrian-Ordovician) is composed mostly of light gray to white, vuggy and sucrosic dolomite. The top of the Arbuckle was penetrated carefully. It was drilled 1 ft a time with each foot circulated before the next was drilled. Drill cuttings from the top 6 ft of the Arbuckle, 3250' – 3256', exhibited no oil show. Total gas was ~100 units. DST 2 of the top 6 ft recovered 800 ft of mud-cut water and 6 ft of mud-cut water with an oil skim. The sampler contained 2000 ml of water and no oil.

LITHOLOGY AND SHOWS

3250' – 3365' TD

DOLOMITE: white (N9) to buff, crystalline, sucrosic texture common, visible porosity, hard, vugs common, no stain in Alizarin Red, slow mild reaction in HCl, weak petroliferous odor, dull yellow mineral fluorescence; **DOLOMITE:** grayish orange (10YR 7/4), mudstone, hard, tight, sub-blocky chips, no stain in Alizarin Red, no oil staining, slow mild reaction in HCl. **DOLOMITE:** grayish orange (10YR 7/4), grainstone and sucrosic textures, hard, visible porosity--interparticle and vug, moderate to significant oil staining, slow mild reaction in HCl, strong petroliferous odor. **DOLOMITE:** grayish orange (10YR 7/4), hard, sub-blocky, tight mudstone or wackestone, occasional recrystallized oolitic-rich zones, no oil staining, calcite fracture fill, chert nodules common, occasional pyrite, slow mild reaction in HCl, no stain in Alizarin Red. Cut 3280': bright yellow fluorescence, instant blue white slow streaming cut to cloudy cut, blue white halo. Cut 3000': bright yellow fluorescence, instant bright white blue fast streaming cut to milky cloud, full white halo.



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Beren Energy Corporation

24-20S-11W Barton

PO Box 5850
Denver, CO 80217

Roetzel A 27

Job Ticket: 58994

DST#: 1

ATTN: Ed Buchanan

Test Start: 2014.06.10 @ 05:07:47

GENERAL INFORMATION:

Formation: **Lansing Kansas City**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:50:17

Time Test Ended: 14:44:32

Test Type: Conventional Bottom Hole (Initial)

Tester: Leal Cason

Unit No: 74

Interval: **3032.00 ft (KB) To 3079.00 ft (KB) (TVD)**

Total Depth: 3079.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 1759.00 ft (KB)

1749.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 8367

Outside

Press@RunDepth: 63.27 psig @ 3033.00 ft (KB)

Start Date: 2014.06.10

Start Time: 05:07:47

End Date: 2014.06.10

End Time: 14:44:32

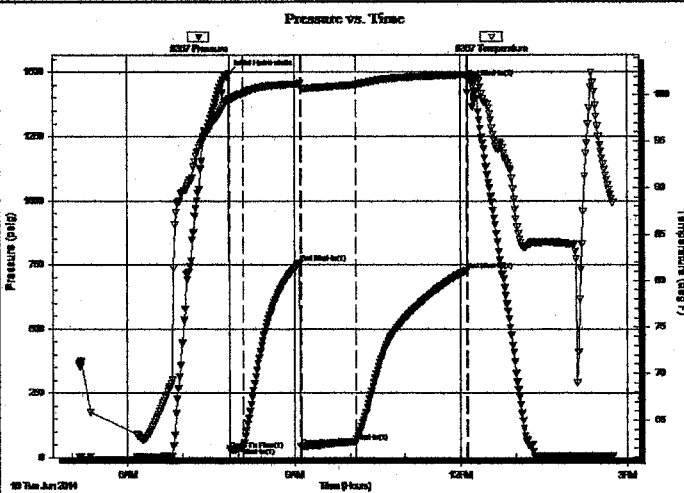
Capacity: 8000.00 psig

Last Callb.: 2014.06.10

Time On Btm: 2014.06.10 @ 07:49:47

Time Off Btm:

TEST COMMENT: IF: Strong Blow, BOB in 2 minutes
IS: No Blow Back
FF: Strong Blow, BOB immediate
FS: No Blow Back



PRESSURE SUMMARY

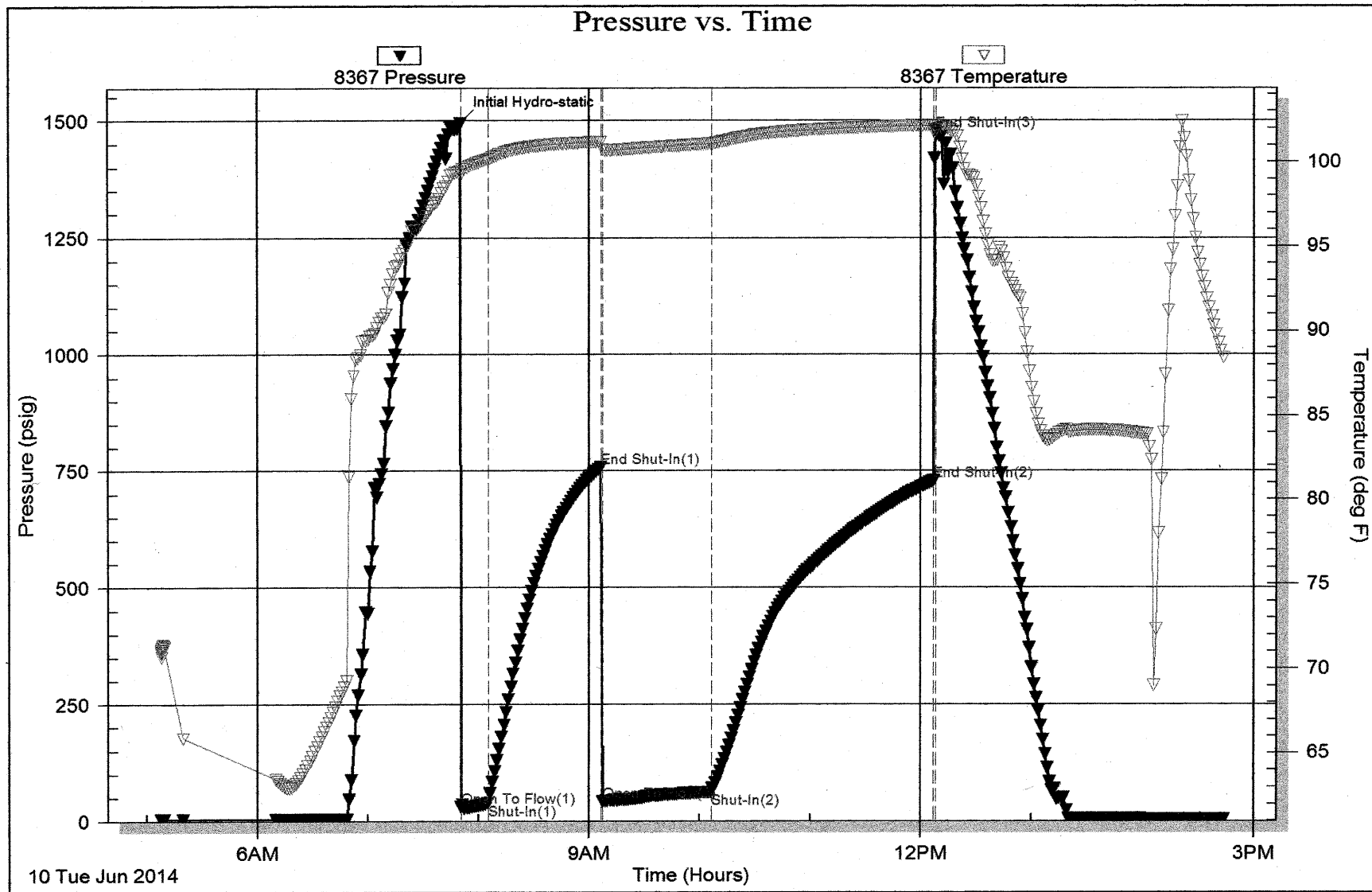
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1495.55	99.45	Initial Hydro-static
1	30.98	99.27	Open To Flow (1)
16	39.87	100.15	Shut-in(1)
77	757.99	101.19	End Shut-in(1)
78	42.55	100.72	Open To Flow (2)
137	63.27	101.07	Shut-in(2)
257	728.58	102.16	End Shut-in(2)
259	1478.15	101.86	End Shut-in(3)

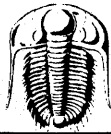
Recovery

Length (ft)	Description	Volume (bbl)
0.00	2170 GIP	0.00
110.00	GOCM 15%G 15%O 70%M	1.54

Gas Rates

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





TRILOBITE TESTING, INC.

P.O. Box 362 • Hays, Kansas 67601

FLUID SAMPLER DATA

Ticket No. 58994 Date 06/10/14
 Company Name Beien Energy corporation
 Lease Roetzel A27 Test No. 1
 County Barton Sec. 24 Twp. 20S Rng. 11W

SAMPLER RECOVERY

Gas 29.04 cuft ML
 Oil 4000 ML
 Mud _____ ML
 Water _____ ML
 Other _____ ML
 Pressure 600 psi ML
 Total 4000 ML

PIT MUD ANALYSIS

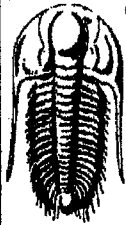
Chlorides 1600 ppm.
 Resistivity N/C ohms @ N/C F
 Viscosity 44
 Mud Weight 9.0
 Filtrate 8.4
 Other _____

SAMPLER ANALYSIS

Resistivity _____ ohms @ _____ F
 Chlorides _____ ppm.
 Gravity 39.6 corrected @60F

PIPE RECOVERY

TOP
 Resistivity N/C ohms @ _____ F
 Chlorides N/C ppm.
MIDDLE
 Resistivity N/C ohms @ _____ F
 Chlorides N/C ppm.
BOTTOM
 Resistivity N/C ohms @ _____ F
 Chlorides N/C ppm.



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Bereenergy Corporation

24-20S-11W Barton

PO Box 5850
Denver, CO 80217

Roetzel A 27

Job Ticket: 58995

DST#: 2

ATTN: Ed Buchanan

Test Start: 2014.06.11 @ 16:41:24

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:17:09

Time Test Ended: 08:26:24

Test Type: Conventional Bottom Hole (Reset)

Tester: Leal Cason

Unit No: 74

Interval: **3250.00 ft (KB) To 3257.00 ft (KB) (TVD)**

Reference Elevations: 1759.00 ft (KB)

Total Depth: 3256.50 ft (KB) (TVD)

1749.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 6798

Inside

Press@RunDepth: 367.59 psig @ 3250.50 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.06.11

End Date:

2014.06.12

Last Calib.: 2014.06.12

Start Time: 16:41:24

End Time:

08:26:24

Time On Btm: 2014.06.11 @ 18:08:09

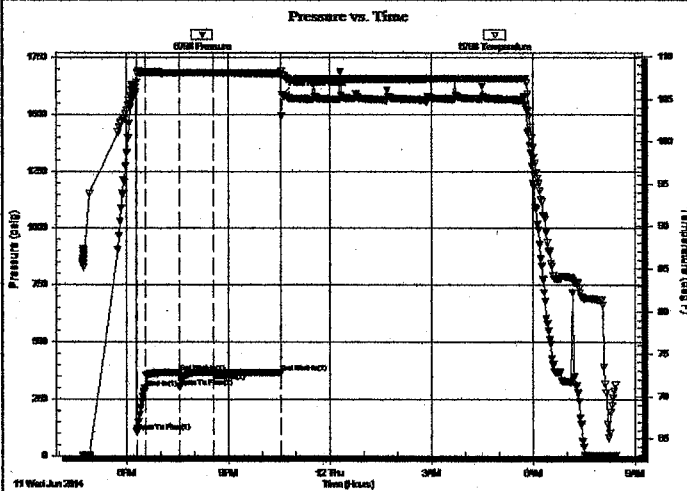
Time Off Btm: 2014.06.11 @ 22:36:09

TEST COMMENT: IF: Strong Blow, BOB in 90 seconds

IS: No Blow Back

FF: Weak Blow, Built to 6 inches by 8 minutes, Dead @ 25 minutes

FSI: No Blow Back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1630.67	106.02	Initial Hydro-static
9	105.84	106.98	Open To Flow (1)
25	301.05	108.12	Shut-In(1)
85	367.61	108.10	End Shut-In(1)
86	303.61	108.07	Open To Flow (2)
146	367.59	108.07	Shut-In(2)
266	368.18	108.05	End Shut-In(2)
268	1587.85	107.88	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
800.00	MCW 20%M 80%W	11.22
6.00	SOMCW 1%O 24%M 75%W	0.08

* Recovery from multiple tests

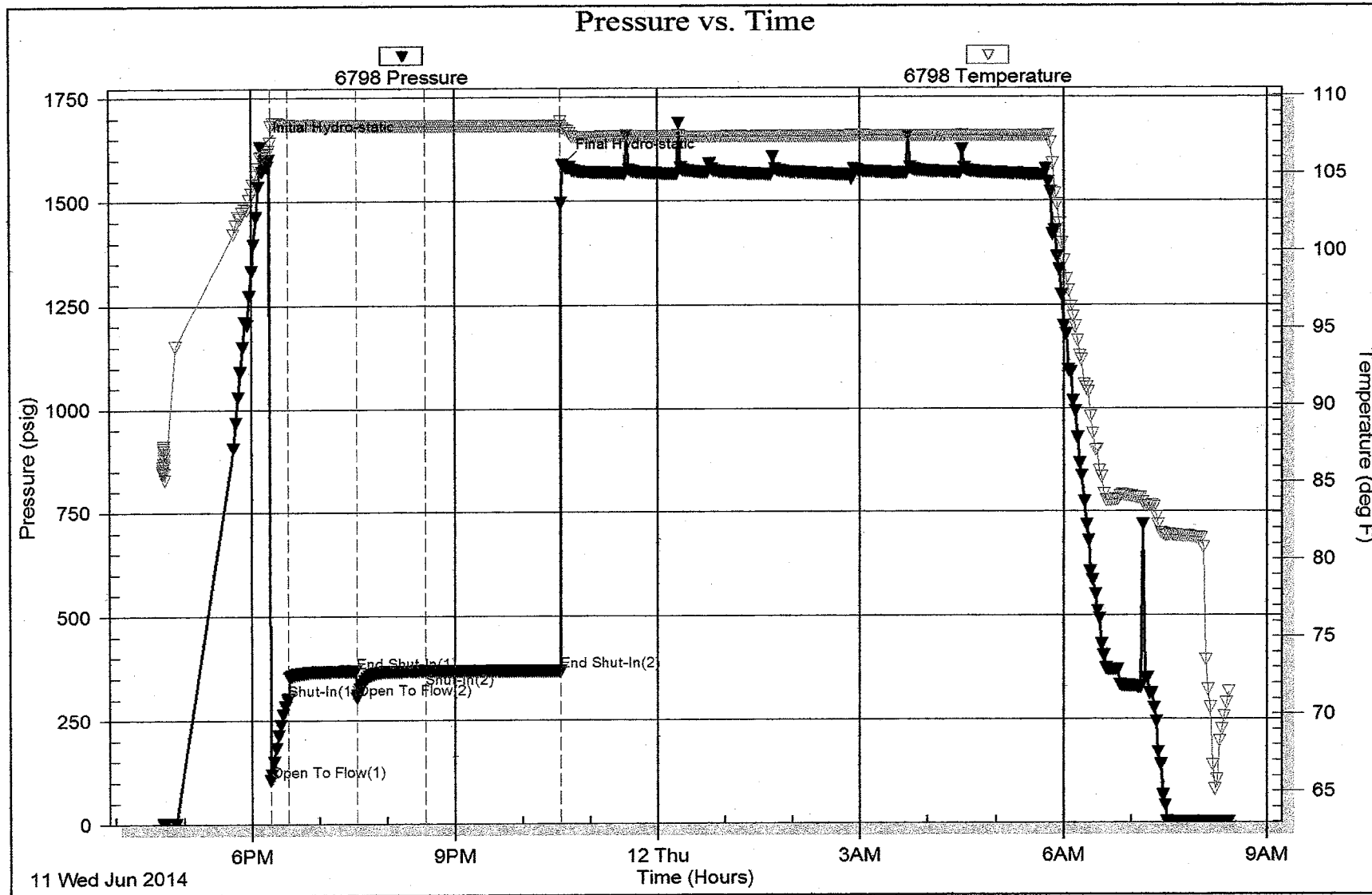
Gas Rates

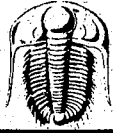
	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

Trilobite Testing, Inc

Ref. No: 58995

Printed: 2014.06.12 @ 08:39:21





TRILOBITE TESTING, INC.

P.O. Box 362 • Hays, Kansas 67601

FLUID SAMPLER DATA

Ticket No. 58995 Date 06/12/14
 Company Name Bereenergy Corporation
 Lease Roetzel A-27 Test No. 2
 County Barton Sec. 24 Twp. 20S Rng. 11W

SAMPLER RECOVERY

Gas 0.4 CU FT ML Chlorides 3000 ppm.
 Oil _____ ML Resistivity NIC ohms @ NIC F
 Mud _____ ML Viscosity 52
 Water 2000 ML Mud Weight 9.3
 Other _____ ML Filtrate 8.8
 Pressure 25 psi ML Other _____
 Total 2000 ML _____

PIT MUD ANALYSIS

SAMPLER ANALYSIS

Resistivity .47 ohms @ 61 F
 Chlorides 17000 ppm.
 Gravity NIC corrected @60F

PIPE RECOVERY

TOP
 Resistivity .46 ohms @ 80 F
 Chlorides 17000 ppm.
MIDDLE
 Resistivity .46 ohms @ 60 F
 Chlorides 17000 ppm.
BOTTOM
 Resistivity .46 ohms @ 60 F
 Chlorides 17000 ppm.

SERVICES

CONTRACTOR:	Val Energy Rig 6	Wichita, KS
SUPERVISION:	L. E. Ed Buchanan	661-204-2565
WELLSITE GEOLOGY:	T. M. McCoy & Co., Inc. Ryan J. Thress	Wilson, WY 307-733-4332
RIG INSTRUMENTATION:	Pason Systems	Golden, CO 877-255-3158
WIRELINE SERVICES:	Pioneer Energy Services Dale Legleiter	Hays, KS 785-625-3858
DRILLING FLUIDS:	Mudco Jason Whiting	Great Bend, KS 620-282-0556
DRILLSTEM TESTING:	Trilobite Testing, Inc. Andy Carrier	Hays, KS 785-625-4778
CASING:	Murray Casing Crews Inc.	Great Bend, KS 620-793-7587
CEMENT:	Allied Oil & Gas Services Wayne Davis	Great Bend, KS 620-793-5861

DAILY OPERATIONS

Day	Report Date	Depth	Ft Cut	Start	End	Hrs	Reported Activity (previous 24 hr leading to 6 AM report time)
1	2-Jun	0	0	12:00 13:30	13:00 20:30	1.00 7.00	MIRU skid camp house Wait on 2nd truck load with generator, potable water tank, septic system. (2nd truck broke down at Hoistington, KS).
2	3-Jun	0	0	06:00 10:00	10:00 17:00	4.00 7.00	Unload 2nd truck with generator, potable water tank, septic system onto 1st truck at Hoisington, KS. Mobe to Reotzel A 27. Set in & rig up potable water tank, generator, septic system. Rig down potable water tank & fill half full with well water for Roetzel A 27 lease. Set in potable water tank & rig up.
3	4-Jun	0	0	06:00 07:30 07:30 16:00 16:00 23:00	07:30 16:00 23:00 6:00	1.50 8.50 7.00 7.00	Wait for Val Rig 6 to mobe in loads on Roetzel A 27 location. MIRU Val Rig 6. Rig up trucks left location at 16:00 hrs 6/3/2014. Send rotary table to machine shop for repairs. Continue rig up equipment to drill. Dry watch rig.
4	5-Jun	345	345	06:00 07:00 12:30 01:00 01:45 01:45 03:30 03:30 03:45 05:15 05:15 05:45	07:00 12:30 01:00 01:45 03:30 03:45 05:15 05:45	1.00 5.50 12.50 0.75 1.75 0.25 1.50 0.50 0.25	Dry watch rig. Replacement rotary table arrived 12:30 hrs. Install replacement rotary table, mounts, floor plates, & chain guard w/ welders. Drill rat & mouse holes. Drill 12 1/4" hole 0' - 194'. Calibrate Pason. Drill 194' - 315'. Circulate. Survey 315'--0.25 deg. Drill 315' - 345'.
5	6-Jun	1285	940	06:00 10:00 10:30 16:30 17:00 17:00 02:30 02:30 03:00	10:00 10:30 16:30 17:00 02:30 03:00	4.00 0.50 6.00 0.50 9.50 0.50 3.00	Drill 345' - 620'. Circulate. Survey 620'--0.75 deg. Drill 620' - 901'. Service rig. Survey 901'--0.25 deg. Drill 901' - 1215'. Repair geolograph line. Drill 1215' - 1285'.

DAILY OPERATIONS

Day	Report Date	Depth	Ft Cut	Start	End	Hrs	Reported Activity (previous 24 hr leading to 6 AM report time)
6	7-Jun	1334	49	06:00	08:30	2.50	Drill 1285' - 1334'.
				08:30	09:00	0.50	Circulate 2x bottoms up.
				09:00	12:00	3.00	Wiper trip to bit, drop survey, strap drill pipe out. Kelly up at 90', work off drilling ring.
				12:00	13:30	1.50	Clean off bit, remove survey tool. Trip in to 1334'. Survey 1334'--0.75 deg.
				13:30	14:00	0.50	Circulate 2x bottoms up.
				14:00	15:30	1.50	Trip out to run surface casing.
				15:30	21:30	6.00	Safety meeting w/ rig crew & casing crew. Run 1338.73' 31 jts 8 5/8" J-55 24# ST& C 8rd casing. Shoe set at 1334'; float collar at 1288.51'. Work casing thru gravel 90' - 420'. Rig down casing crew.
				21:30	22:30	1.00	Safety meeting w/ rig crew & cementers. Circulate and reciprocate casing 20 ft.
				22:30	00:30	2.00	Rig up cement head & lines. Test lines to 3000psi, pump 5bbls water ahead followed by 689.5/ft3 or 350sx Lead cement: Density=12.5ppg Yield=1.97 ft3/sx Water=10.7 gal/sx. Followed by 351/ft3 or 300sx Tail cement: Density=14.8ppg Yield=1.17 ft3/sx Water=6.4 gal/sx. Shut down, release wiper plug, displace with 82.25bbls fresh water. Bump plug with 1360psi with 890psi prior. Hold 1360psi for 5 minutes, release pressure, floats held (ok) CIP @ 00:09hrs 6/7/2014 Received 14bbls cement returns back to surface. R/D cementers.
				00:30	06:00	5.50	Monitor cement for fall back. No cement fall back on surface job. Wait on cement 12 hrs.
7	8-Jun	1453	119	06:00	12:00	6.00	Wait on cement.
				12:00	13:30	1.50	Break out 8 5/8" landing joint. Install Larkin well head. Nipple up BOPE.
				13:30	15:30	2.00	Make up bit 2 & BHA. Trip in to 1270'.
				15:30	19:00	3.50	Test BOP. Adapter union leaking, remove, tighten several times, constantly leaking. Adapter union is worn out.
				19:00	20:30	1.50	Trip out to repair BOPE.
				20:30	23:00	2.50	Remove and set out rotary table, remove annular BOP. Cut off & replace adapter union set with welder. Install & nipple up annular BOP. Install rotary table.
				23:00	23:30	0.50	Trip in 4 stands DCs to 378'.
				23:30	00:00	0.50	Test BOPE to 577 psi, hold for 10 min, OK.
				00:00	01:00	1.00	Trip in to 1288'.
				01:00	02:00	1.00	Drill out cement, float collar, cement & shoe at 1334'.

DAILY OPERATIONS

Day	Report Date	Depth	Ft Cut	Start	End	Hrs	Reported Activity (previous 24 hr leading to 6 AM report time)
				02:00	06:00	4.00	Drill 7 7/8" hole 1334' - 1453'.
8	9-Jun	2470	1017	06:00	15:00	9.00	Drill 1453' - 1869'.
				15:00	15:30	0.50	Service rig. Work on 2" line to BOP.
				15:30	19:30	4.00	Drill 1869' - 2026'.
				19:30	20:00	0.50	Circulate. Survey 2026'--1 deg.
				20:00	06:00	10.00	Drill 2026' - 2470'.
9	10-Jun	3079	609	06:00	07:30	1.50	Drill 2470' - 2557'.
				07:30	08:00	0.50	Displace hole with mud.
				08:00	15:00	7.00	Drill 2557' - 2866'.
				15:00	15:30	0.50	Service rig.
				15:30	19:30	4.00	Drill 2866' - 3021'.
				19:30	20:30	1.00	Circulate. Survey 3021'--1.25 deg.
				20:30	23:00	2.50	Drill 3021' - 3079'.
				23:00	23:45	0.75	Circulate samples.
				23:45	01:45	2.00	Wipe hole to shoe at 1334'. Trip in to 3079'.
				01:45	03:00	1.25	Circulate bottoms up twice.
				03:00	06:00	3.00	Trip out for DST 1. Strap drill pipe out.
10	11-Jun	3247	168	06:00	06:30	0.50	Pick up & make up DST tools.
				06:30	08:00	1.50	Trip in with DST 1. Test LKC zones D, E, & F 3032' - 3079'.
				08:00	12:15	4.25	DST 1: Open 15 min, shut-in 60 min, open 60 min, shut-in 120 min.
				12:15	13:30	1.25	Trip out with DST 1. Gas at 10 stands out, estimate 2396', no H2S.
				13:30	14:30	1.00	Recovered 110 ft of mud cut oil. Break down & lay down DST tools.
				14:30	15:45	1.25	Make up bit 2 & BHA. Trip in to 1334'.
				15:45	16:00	0.25	Fill drill pipe and circulate out gas from same.
				16:00	17:00	1.00	Trip in to 3079'.
				17:00	18:00	1.00	Circulate out gas from drill pipe & hole (1298 units).
				18:00	01:00	7.00	Drill 3079' - 3239'.
				01:00	06:00	5.00	Drill 3239' - 3247'. Drill 1 ft at a time, then circulate samples for top of Arbuckle.

DAILY OPERATIONS

Day	Report Date	Depth	Ft Cut	Start	End	Hrs	Reported Activity (previous 24 hr leading to 6 AM report time)
11	12-Jun	3256	9	06:00	12:30	6.50	Drill 3247' - 3256'.
				12:30	14:00	1.50	Wipe hole to shoe at 1334'. Trip in to 3256'.
				14:00	15:00	1.00	Circulate 2x bottoms up.
				15:00	17:00	2.00	Trip out for DST 2.
				17:00	18:15	1.25	Make up DST 2 & trip in to 3256.5'.
				18:15	22:45	4.50	DST 2: Open 15 min; shut-in 60 min; open 60 min; shut-in 120 min.
				22:45	05:45	7.00	Unseat DST packer. Rig down DST head & hose. Wait for daylight to pull DST 2. Gained 500 lbs--6000 lbs on weight indicator.
				05:45	06:00	0.25	Trip out with DST 2.
12	13-Jun	3365	109	06:00	06:45	0.75	Trip out with DST 2. Oil skim water 806'.
				06:45	07:30	0.75	Reverse out skim oil to water truck.
				07:30	08:30	1.00	Trip out with DST 2. Lay down and load out DST 2 tools.
				08:30	09:15	0.75	Make up bit 2 & trip in to shoe at 1334'.
				09:15	09:30	0.25	Fill pipe at shoe.
				09:30	10:15	0.75	Trip in to 3256'.
				10:15	11:15	1.00	Circulate 2x bottoms up.
				11:15	15:45	4.50	Drill 3256' - 3365'.
				15:45	16:15	0.50	Circulate bottoms up.
				16:15	17:30	1.25	Wipe hole 18 stands to 2230'. Trip in to 3365'.
				17:30	18:30	1.00	Circulate 2x bottoms up.
				18:30	21:00	2.50	Drop survey tool. Trip out for wireline logs.
				21:00	01:00	4.00	Safety meeting w/ rig crew & Pioneer loggers. Rig up & run DIL-GR-SP CNL-CDL-GR-Cal-MLL & Sonic logs.
				01:00	03:30	2.50	Make up bit 2 & trip in to shoe at 1334'. Fill pipe. Trip in to 3365'.
03:30	05:30	2.00	Circulate hole clean for casing. Wait for casing crew to help lay down drill pipe.				
05:30	06:00	0.50	Lay down drill pipe to run 5 1/2" production casing.				
13	14-Jun	3365	0	06:00	10:00	4.00	Lay down drill pipe, drill collars, kelly, rat hole & mouse hole.
				10:00	14:00	4.00	Safety meeting with rig crew & casing crew. Rig up casing tools. Run 81 jts 3385.70' of J-55 15.5# 5 1/2" LT&C 8rd casing. Shoe set at 3364'.

DAILY OPERATIONS

Day	Report Date	Depth	Ft Cut	Start	End	Hrs	Reported Activity (previous 24 hr leading to 6 AM report time)
				14:00	15:30	1.50	Circulate hole with 5 1/2" casing clean. Reciprocate 15 ' while circulating. Safety meeting with rig crew & cementers.
				15:30	16:30	1.00	Break last joint 5 1/2" casing. Rig down casing tools. Rig up cement head & lines. Make up last joint 5 1/2" casing.
				16:30	17:00	0.50	Cement rat hole & mouse hole.
				17:00	18:00	1.00	Cement 5 1/2" casing. Cement 5.5" casing. Pump 5bbls fresh water followed by 10bbls DU 1100 mud flush, followed by 5bbls fresh water. Pump 30sx neat rathole 20sx neat mouse hole. Mix & pump 330ft3/ft or 58.77bbls or 210sx ASC 10% salt + 6% gypseal + 5#/sx coalseal +0.03%FL160 + 1.4% defoamer. Shut down, flush lines clean, release wiper plug. Displace with 80bbls fresh water. Bump plug with 1050 psi with 350 psi prior. Hold 1050 psi for 5 minutes (ok) release pressure floats held (ok). CIP @ 17:45hrs 6/13/2014. Rig down cementers. Good circulation through cement job.
				18:00	21:00	3.00	Pick up BOP. Set casing slips with 60K. Rough cut 5 1/2" casing, lay down 18' of cut-off 5 1/2" casing. Nipple down BOP. Weld slip on 5 1/2" casing collar 6" above ground level. Install rubber packing, split rings & wing union on Larkin style wellhead. Install 5 1/2" x 2" swedge, 2" ball valve, and secure well.
				21:00	02:00	5.00	Clean and shovel out mud tanks. RELEASE RIG 02:00 HRS 6/14/2014
				02:00	06:00	4.00	Wait on daylight to rig down rig for rig move.

MUD RECORD

Report #	Date	Depth ft	WT lb/gal	Vis sec/qt	PV cp	YP lb/100ft ²	Gels 10s/10m	Filtrate API	Cake x/32"	pH	Alkalinity ppm	H ₂ O %	Chlorides ppm	Solids	Sand %	Calcium ppm	LCM lb/bbl	Remarks
1	6/3	0	9.6	40					water	7.0			390			140		
2	6/5	799	10.2	41				n/c		7.0	86.9	7,800	13.1	trace	hvy	trace		
3	6/6	1334	10.3	42				n/c		7.0	91.2	91,000	8.8	trace	hvy	trace		
4	6/8	1806	9.3	29				n/c		7.0	93.2	6,400	6.8	trace	hvy	0		
5	6/9	2826	9	44	12	11	7/28	8.40	1	10.0	0.48/-	95.1	1,600	4.9	trace	20	0	
6	6/10	3079	9.3	67	15	13	8/34	8.80	1	9.5	0.36/-	93	3,200	7	trace	20	0	
7	6/11	3256	9.3	52	17	13	8/35	8.80	1	10.5	0.58/-	93	3,000	7	trace	10	trace	
8	6/12	3256	9.2	57	19	21	10/25	8.80	1	11.0	0.72/-	93.7	2,000	6.3	trace	20	trace	

MUD RECORD

Report #	Date	Depth	WT	Vis	PV	YP	Gels	Filtrate API	Cake	pH	Alkilineity	H ₂ O %	Chlorides	Solids	Sand	Calcium	LCM	Remarks
		ft	lb/gal	sec/qt	cp	lb/100ft ²	10s/10m		x/32"		ppm		ppm		%	ppm	lb/bbl	

ABBREVIATIONS & UNITS

Weight (Wt)	lbs/gal
Viscosity (Vis)	sec/qt
Plastic Viscosity (PV)	centipoise
Yield Point (YP)	lbs/100 sq ft
Gel Strengths (Gels)	lbs/100 sq ft (10 sec / 10 min)
Filtrate API	ml/30 min
Filter cake	x/32"
Alkilineity	ppm
H ₂ O %	% water by volume
Chlorides	ppm in water phase
Solids	% by volume
Sand	% by volume
Calcium	ppm in water phase
Lost circulation material (LCM)	lb/bbl added

BIT RECORD

Bit	Size	Make	Serial No.	Type	Depth	Ft	Hrs	Ft/Hr	WOB	RPM	Pump	Nozzle	Condition	Reason
					Out	Cut			K		Press	Size	TBG	Pulled
1	12 1/4	JZ	GA115	J21214 Tricone	1334	1334	28.5	46.8				3x15, 1x13	4-4-1/8	Surface Casing
2	7 7/8	JZ	1403160	HAZDQ Tricone	3365	2031	65.0	31.2	26-35	65-85	800-1000	2x14, 1x13	3-3-1/16	TD

DEVIATIONS

MD ft	INC deg
0	0
315	0.25
620	0.75
902	0.25
1334	0.75
2026	1.00
3021	1.25
3365	0.5

DRILLING CURVE

