



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1107937
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: _____



1107937

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

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

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

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

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

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

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

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

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

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

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

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____ <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Woolsey Operating Company, LLC
Well Name	JAHAY 6 H
Doc ID	1107937

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
CONDUCTOR	30	20	53	40	GROUT	4	4 YDS NOT SX
SURFACE	17.5	13.375	54.5	316	CLASS A	300	2% gel, 3% cc
INTERMEDIATE	8.75	7	23	5102	POZMIX	50	2% gel, 3% cc
INTERMEDIATE	8.75	7	23	5102	CLASS H	150	10% gyp, 10% salt, 5/10% fl loss, ¼ lb floseal, 6# Kolseal
PRODUCTION	6.125	4.5	11.6	8930	NONE	0	PACKERS PLUS SYS

Conservation Division
Finney State Office Building
130 S. Market, Rm. 2078
Wichita, KS 67202-3802



Phone: 316-337-6200
Fax: 316-337-6211
<http://kcc.ks.gov/>

Mark Sievers, Chairman
Thomas E. Wright, Commissioner
Shari Feist Albrecht, Commissioner

Sam Brownback, Governor

January 28, 2013

DEAN PATTISSON
Woolsey Operating Company, LLC
125 N MARKET STE 1000
WICHITA, KS 67202-1729

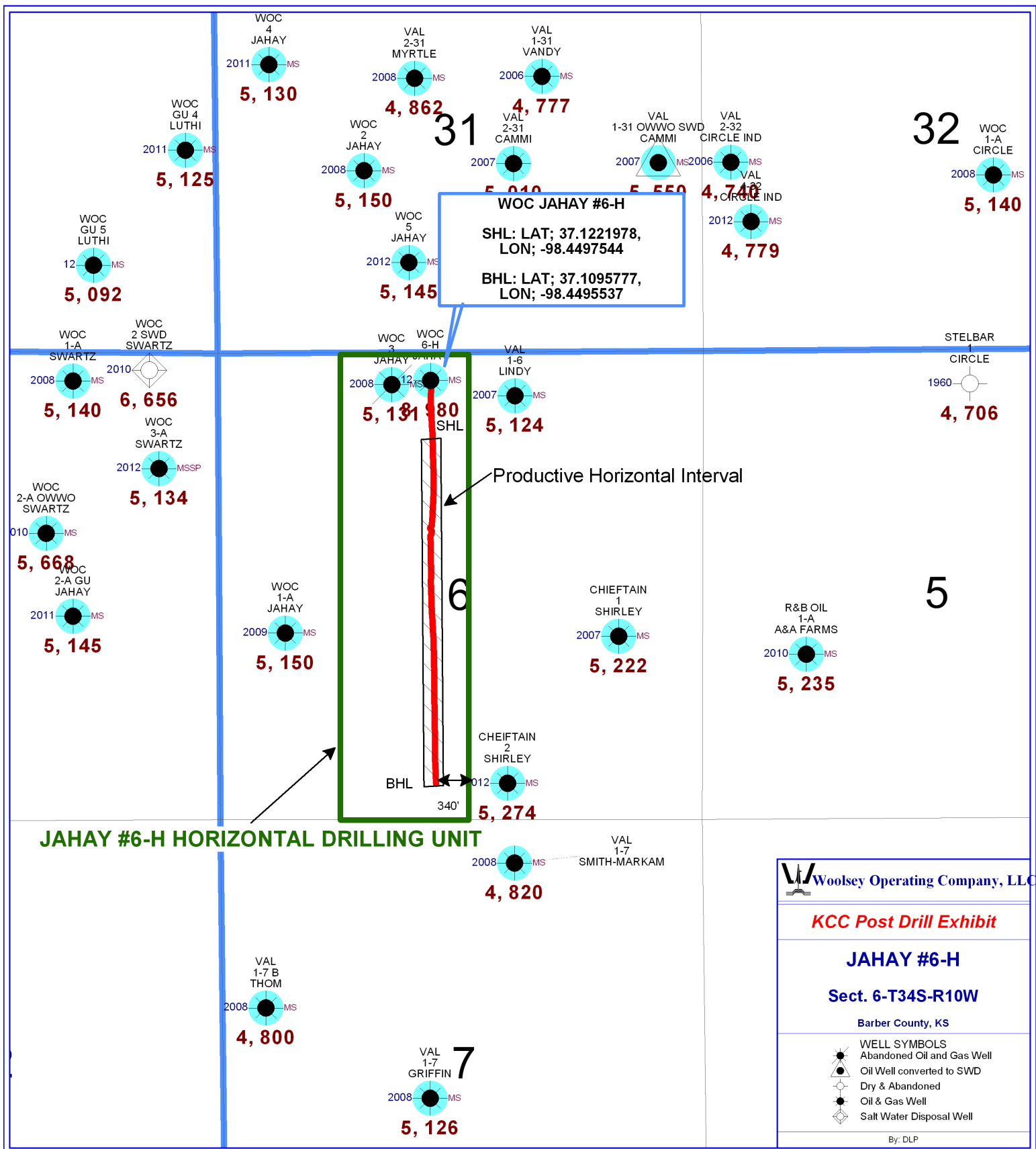
Re: ACO1
API 15-007-23946-01-00
JAHAY 6 H
NW/4 Sec.06-34S-10W
Barber County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,
DEAN PATTISSON



Woolsey Operating Company, LLC

KCC Post Drill Exhibit

JAHAY #6-H

Sect. 6-T34S-R10W

Barber County, KS

P.O. # _____

BIG BUCKETS RATHOLE DRILLING

No 5051

P.O. Box 5252

ORDERED BY

Enid, Oklahoma 73702

Phone (580) 233-9850

Fax (580) 233-4588

Date 10/1/12

Mike Sharp

Bill To *Weebey Operating LLC*

Lease *Jakay #6-H*

Address _____

Legal *Full 4 Sec 6-345-10W*

County *Barber Ks*

Rig *Dan D #11*

DESCRIPTION	AMOUNT
Furnish Men & Equipment To <i>Drill rat. mouse holes - 5 ft. 60" cellar 40 ft. of 30" pipe hole & remove dirt from loc</i>	
Materials Furnished <i>40 ft. of 20" pipe - 4 yds of 8 pk gravel 5' of 60" tinplate (cellar) 50 ft. of 1 1/2" triheim (Boat R&H) #1 Welder & plate - Ks trip permits</i>	7000 ⁰⁰
Operator <i>Justin Morrison</i> Approved By _____ Total	7000 ⁰⁰

ALLIED OIL & GAS SERVICES, LLC 053932

Federal Tax I.D.# 20-5975804

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

SERVICE POINT:
Medicine Lodge KS

Jahay

DATE <u>10/18/12</u>	SEC <u>6</u>	TWP <u>34s</u>	RANGE <u>10w</u>	CALLED OUT	ON LOCATION	JOB START	JOB FINISH <u>7:15 PM</u>
LEASE <u>Jahay</u>	WELL # <u>6 H</u>	LOCATION <u>Gerlone + Bethel Rd, 1/2 E,</u>			COUNTY <u>Barber</u>	STATE <u>KS</u>	
OLD OR <u>NEW</u> (Circle one)		S into					

CONTRACTOR Dan D OWNER Woolsey

TYPE OF JOB Surface

HOLE SIZE 17 1/2 T.D. 320

CASING SIZE 13 3/8 DEPTH 316

TUBING SIZE DEPTH

DRILL PIPE DEPTH

TOOL DEPTH

PRES. MAX 250 MINIMUM

MEAS. LINE SHOE JOINT

CEMENT LEFT IN CSG. 20 ft

PERFS.

DISPLACEMENT 46 1/2 BBL H₂O Fresh

CEMENT

AMOUNT ORDERED 300sx Class A + 3% cc + 2% Gel

COMMON	<u>300sx @ 17.90</u>	<u>5370.00</u>
POZMIX	@	
GEL	<u>6sx @ 23.40</u>	<u>140.40</u>
CHLORIDE	<u>11sx @ 64.00</u>	<u>704.00</u>
ASC	@	

EQUIPMENT

PUMP TRUCK CEMENTER Jason Thimesch 1

360/265 HELPER Ron Guiley 1

BULK TRUCK

421/252 DRIVER Jake Heard 3

BULK TRUCK

_____ DRIVER

HANDLING	<u>324x2.18</u>	@	<u>804.51</u>
MILEAGE	<u>14.81 x 15x 2.100</u>	@	<u>577.59</u>
			<u>222.15</u>
		TOTAL	<u>7596.50</u>

REMARKS:

Did circ Cement

WELL FILE

Regulatory Correspondence

Drill / Comp Workovers

Tests / Meters Operations

SERVICE

DEPTH OF JOB	<u>316'</u>		
PUMP TRUCK CHARGE			<u>1512.25</u>
EXTRA FOOTAGE	@		
MILEAGE	<u>15 @ 7.70</u>		<u>115.50</u>
MANIFOLD	@		
<u>IV</u>	<u>15 @ 4.40</u>		<u>66.00</u>
		TOTAL	<u>1693.75</u>

CHARGE TO: Woolsey

STREET _____

CITY _____ STATE _____ ZIP _____

PLUG & FLOAT EQUIPMENT

	@		
	@		
	@		
	@		
	@		
		TOTAL	

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) 0

TOTAL CHARGES 9,290.25

DISCOUNT 1858.05 IF PAID IN 30 DAYS

Net \$7432.20

PRINTED NAME MIKE THARP

SIGNATURE Mike Tharp

ALLIED CEMENTING CO., LLC. 038091

Federal Tax I.D.# 20-5975804

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

SERVICE POINT: Medicine Lodge

Johay

DATE <u>11-2-12</u>	SEC <u>6</u>	TWP. <u>34s</u>	RANGE <u>10W</u>	CALLED OUT <u>12:00 AM</u>	ON LOCATION <u>2:00 AM</u>	JOB START <u>8:45 AM</u>	JOB FINISH <u>10:00 AM</u>
LEASE <u>Jay Hay</u>	WELL # <u>6-H</u>	LOCATION <u>Bethel Rd & Gerline 1/2 E, State</u>		COUNTY <u>Barber</u>	STATE <u>KS</u>		

CONTRACTOR Dan D
 TYPE OF JOB Production
 HOLE SIZE 8 7/8" T.D. 5120'
 CASING SIZE 7" DEPTH 5102
 TUBING SIZE DEPTH
 DRILL PIPE DEPTH
 TOOL DEPTH
 PRES. MAX 1200 psi MINIMUM
 MEAS. LINE SHOE JOINT 43'
 CEMENT LEFT IN CSG.
 PERFS.
 DISPLACEMENT 200 Bbls
 EQUIPMENT

PUMP TRUCK CEMENTER Bon Gilley 1
 # 558-555 HELPER Scott Priddy 2
 BULK TRUCK
 # 421-252 DRIVER Braun Boor 3
 BULK TRUCK
 # DRIVER

OWNER Woolsey Operating
 CEMENT
 AMOUNT ORDERED 150s Class H-110 cement
10% Salt + 6% Kalseal + 5% F-160 + 4% #1
Flu Seal 50s x 60:40:40 gel

COMMON	<u>30</u> SK	@	<u>17.90</u>	<u>537.00</u>
POZMIX	<u>20</u> SX	@	<u>9.35</u>	<u>187.00</u>
GEL	<u>2</u> SX	@	<u>23.40</u>	<u>46.80</u>
CHLORIDE		@		
ASC		@		
	<u>11</u> <u>150</u> SX	@	<u>21.20</u>	<u>2332.00</u>
	<u>Bystral</u> <u>14</u> SX	@	<u>37.60</u>	<u>526.40</u>
	<u>Slit</u> <u>16</u> SX	@	<u>26.35</u>	<u>421.60</u>
	<u>Kalseal</u> <u>920</u> #	@	<u>.98</u>	<u>882.00</u>
	<u>F-160</u> <u>70</u> #	@	<u>18.90</u>	<u>1323.00</u>
	<u>Flu Seal</u> <u>57</u> #	@	<u>2.97</u>	<u>169.89</u>
		@		
		@		
HANDLING	<u>256</u>	@	<u>2.48</u>	<u>634.88</u>
MILEAGE	<u>10.87 / 19 / 2.60</u>	@		<u>424.71</u>
			TOT.	<u>8273.28</u>

REMARKS:
See Cement log

WELL FILE
 Regulatory Correspondence
 Workovers
 Dring / Comp
 Tests / Meters
 Operations

CHARGE TO: Woolsey Operating
 STREET _____
 CITY _____ STATE _____ ZIP _____

SERVICE

DEPTH OF JOB	<u>5120'</u>
PUMP TRUCK CHARGE	<u>3099.25</u>
EXTRA FOOTAGE	@
MILEAGE	<u>15</u> @ <u>2.70</u> <u>115.50</u>
MANIFOLD & Head	@ <u>275.00</u>
Light Veh	<u>15</u> @ <u>4.40</u> <u>66.00</u>

TOTAL 3555.75

7" PLUG & FLOAT EQUIPMENT

1 - Rubber Plug	@	<u>99.45</u>
1 - Sure Seal Shoe	@	<u>886.86</u>
1 - Sure Seal Collar	@	<u>712.53</u>
5 - Spiral Gliders	@	
5 - Stop Rings	@	

TOTAL 1,698.84

To Allied Cementing Co., 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.

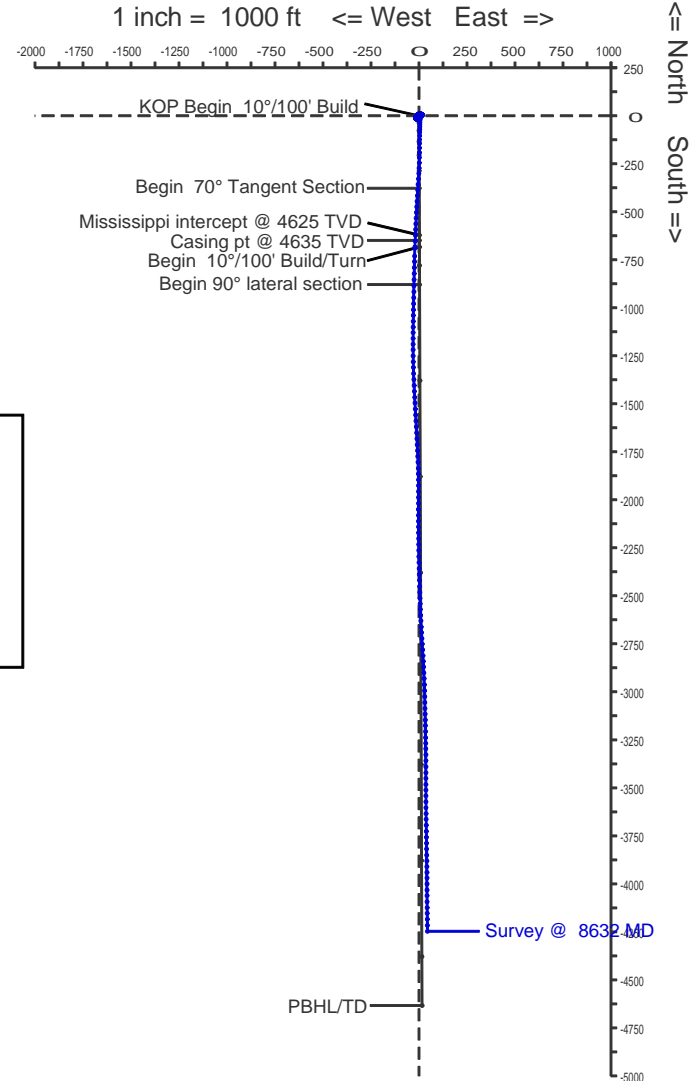
SALES TAX (If Any) 0
 TOTAL CHARGES 13,527.87
 DISCOUNT 20% 2705.58 IF PAID IN 30 DAYS
NET 10,822.29

PRINTED NAME X MIKE THARP
 SIGNATURE X Mike Tharp

Woolsey Operating Company, LLC

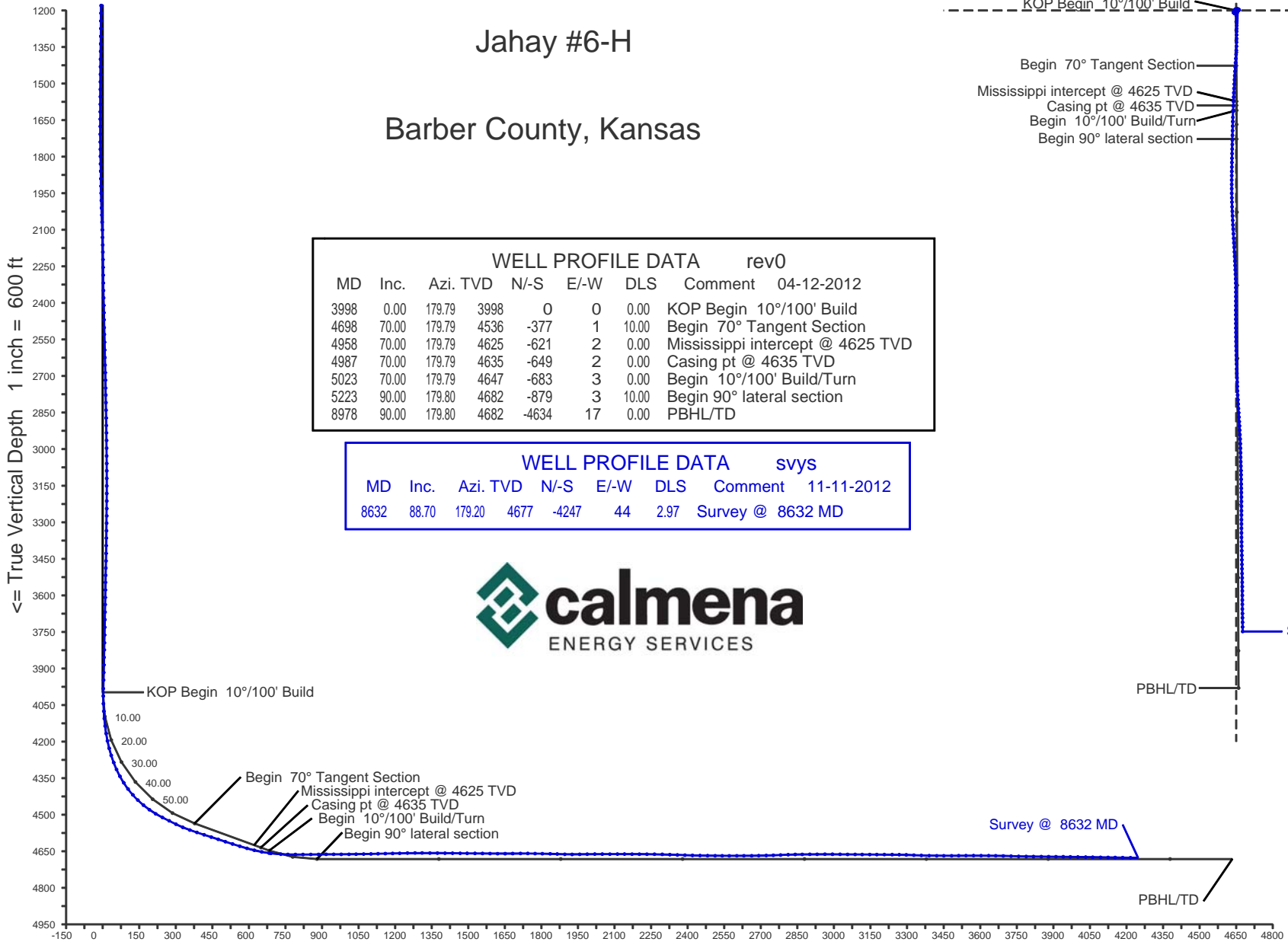
Jahay #6-H

Barber County, Kansas



WELL PROFILE DATA rev0							
MD	Inc.	Azi. TVD	N/S	E/W	DLS	Comment	04-12-2012
3998	0.00	179.79	3998	0	0	0.00	KOP Begin 10°/100' Build
4698	70.00	179.79	4536	-377	1	10.00	Begin 70° Tangent Section
4958	70.00	179.79	4625	-621	2	0.00	Mississippi intercept @ 4625 TVD
4987	70.00	179.79	4635	-649	2	0.00	Casing pt @ 4635 TVD
5023	70.00	179.79	4647	-683	3	0.00	Begin 10°/100' Build/Turn
5223	90.00	179.80	4682	-879	3	10.00	Begin 90° lateral section
8978	90.00	179.80	4682	-4634	17	0.00	PBHL/TD

WELL PROFILE DATA svys							
MD	Inc.	Azi. TVD	N/S	E/W	DLS	Comment	11-11-2012
8632	88.70	179.20	4677	-4247	44	2.97	Survey @ 8632 MD



Vertical Section on 179.79 deg azimuth with reference 0.00 N, 0.00 E

Calmena Energy Services

Company: Woolsey Operating Company, LLC
 Well: Jahay #6-H
 Location: Barber County, Kansas

Date: 11-Nov-2012
 Surveys
 Page 1
 Job# : 6527

MD (feet)	Inclination (degrees)	Azimuth (degrees)	TVD RKB (feet)	N/S (feet)	E/W (feet)	DLS (deg/100')	VS @ 179.79° Az (feet)	Grid Y	Grid X	Comments
Surface Location								165829.00	2014295.40	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	165829.00	2014295.40	
692.00	1.41	79.72	691.93	1.52	8.38	0.20	-1.49	165830.52	2014303.78	
723.00	1.76	95.72	722.92	1.54	9.23	1.81	-1.51	165830.54	2014304.63	
752.00	1.58	82.01	751.91	1.55	10.07	1.51	-1.51	165830.55	2014305.47	
783.00	1.70	94.50	782.89	1.57	10.95	1.21	-1.53	165830.57	2014306.35	
813.00	1.90	84.10	812.88	1.59	11.89	1.27	-1.55	165830.59	2014307.29	
843.00	1.90	88.50	842.86	1.65	12.88	0.49	-1.61	165830.65	2014308.28	
874.00	1.50	73.40	873.85	1.78	13.78	1.93	-1.73	165830.78	2014309.18	
906.00	1.20	82.00	905.84	1.95	14.51	1.13	-1.90	165830.95	2014309.91	
936.00	1.20	59.70	935.83	2.15	15.10	1.55	-2.10	165831.15	2014310.50	
967.00	1.00	30.20	966.83	2.55	15.51	1.91	-2.49	165831.55	2014310.91	
998.00	1.00	45.80	997.82	2.97	15.84	0.88	-2.91	165831.97	2014311.24	
1027.00	1.20	21.90	1026.82	3.43	16.14	1.71	-3.37	165832.43	2014311.54	
1058.00	1.40	26.80	1057.81	4.07	16.43	0.74	-4.01	165833.07	2014311.83	
1089.00	0.90	25.60	1088.80	4.63	16.70	1.61	-4.57	165833.63	2014312.10	
1119.00	1.10	352.50	1118.80	5.13	16.77	2.00	-5.06	165834.13	2014312.17	
1150.00	1.20	349.70	1149.79	5.74	16.67	0.37	-5.68	165834.74	2014312.07	
1180.00	1.00	347.80	1179.79	6.31	16.56	0.68	-6.24	165835.31	2014311.96	
1211.00	1.10	311.40	1210.78	6.77	16.28	2.14	-6.71	165835.77	2014311.68	
1243.00	0.90	297.90	1242.78	7.09	15.83	0.96	-7.03	165836.09	2014311.23	
1274.00	1.10	316.30	1273.77	7.42	15.41	1.21	-7.36	165836.42	2014310.81	
1306.00	1.50	295.90	1305.77	7.82	14.82	1.89	-7.77	165836.82	2014310.22	
1337.00	1.20	285.00	1336.76	8.08	14.14	1.27	-8.03	165837.08	2014309.54	
1368.00	1.70	288.60	1367.75	8.31	13.39	1.64	-8.26	165837.31	2014308.79	
1400.00	1.60	293.10	1399.73	8.64	12.53	0.51	-8.59	165837.64	2014307.93	
1431.00	1.40	274.70	1430.72	8.84	11.75	1.67	-8.80	165837.84	2014307.15	
1462.00	1.80	280.60	1461.71	8.96	10.90	1.39	-8.92	165837.96	2014306.30	
1493.00	1.50	278.20	1492.70	9.11	10.02	0.99	-9.07	165838.11	2014305.42	
1524.00	1.90	273.30	1523.68	9.20	9.10	1.37	-9.16	165838.20	2014304.50	
1554.00	1.80	281.90	1553.67	9.32	8.15	0.98	-9.29	165838.32	2014303.55	

Calmena Energy Services

Company: Woolsey Operating Company, LLC
 Well: Jahay #6-H
 Location: Barber County, Kansas

Date: 11-Nov-2012
 Surveys
 Page 2
 Job# : 6527

MD (feet)	Inclination (degrees)	Azimuth (degrees)	TVD RKB (feet)	N/-S (feet)	E/-W (feet)	DLS (deg/100')	VS @ 179.79° Az (feet)	Grid Y	Grid X	Comments
1585.00	2.40	276.90	1584.65	9.50	7.02	2.02	-9.47	165838.50	2014302.42	
1616.00	2.10	278.20	1615.62	9.66	5.82	0.98	-9.64	165838.66	2014301.22	
1646.00	2.20	266.40	1645.60	9.70	4.70	1.51	-9.68	165838.70	2014300.10	
1676.00	2.60	268.70	1675.58	9.65	3.44	1.37	-9.64	165838.65	2014298.84	
1708.00	2.60	269.70	1707.54	9.63	1.99	0.14	-9.62	165838.63	2014297.39	
1740.00	2.10	264.60	1739.52	9.57	0.68	1.69	-9.57	165838.57	2014296.08	
1770.00	2.10	255.90	1769.50	9.38	-0.40	1.06	-9.39	165838.38	2014295.00	
1799.00	2.20	249.00	1798.48	9.06	-1.43	0.96	-9.06	165838.06	2014293.97	
1830.00	2.20	245.00	1829.45	8.59	-2.53	0.50	-8.60	165837.59	2014292.87	
1860.00	2.50	241.80	1859.43	8.04	-3.63	1.09	-8.05	165837.04	2014291.77	
1891.00	2.40	233.40	1890.40	7.33	-4.74	1.20	-7.35	165836.33	2014290.66	
1921.00	2.40	237.80	1920.37	6.62	-5.78	0.61	-6.64	165835.62	2014289.62	
1950.00	2.60	243.40	1949.35	6.00	-6.88	1.09	-6.03	165835.00	2014288.52	
1980.00	2.80	239.50	1979.31	5.33	-8.12	0.90	-5.36	165834.33	2014287.28	
2011.00	2.40	227.00	2010.28	4.50	-9.25	2.23	-4.54	165833.50	2014286.15	
2040.00	2.20	216.00	2039.26	3.64	-10.02	1.67	-3.67	165832.64	2014285.38	
2069.00	2.20	225.10	2068.24	2.79	-10.74	1.20	-2.83	165831.79	2014284.66	
2101.00	2.10	214.90	2100.21	1.88	-11.51	1.23	-1.92	165830.88	2014283.89	
2132.00	1.70	213.00	2131.20	1.03	-12.09	1.31	-1.07	165830.03	2014283.31	
2163.00	1.10	217.00	2162.19	0.40	-12.52	1.96	-0.45	165829.40	2014282.88	
2192.00	1.10	193.30	2191.18	-0.09	-12.75	1.56	0.04	165828.91	2014282.65	
2223.00	1.10	193.10	2222.18	-0.67	-12.88	0.01	0.62	165828.33	2014282.52	
2255.00	0.90	197.50	2254.17	-1.21	-13.03	0.67	1.16	165827.79	2014282.37	
2287.00	1.30	206.30	2286.17	-1.77	-13.26	1.35	1.72	165827.23	2014282.14	
2319.00	1.20	208.60	2318.16	-2.39	-13.59	0.35	2.34	165826.61	2014281.81	
2350.00	1.00	186.90	2349.15	-2.95	-13.77	1.48	2.89	165826.05	2014281.63	
2380.00	1.30	200.50	2379.15	-3.52	-13.92	1.35	3.47	165825.48	2014281.48	
2411.00	1.20	207.90	2410.14	-4.14	-14.20	0.61	4.09	165824.86	2014281.20	
2441.00	1.10	187.70	2440.13	-4.70	-14.38	1.38	4.65	165824.30	2014281.02	
2470.00	1.10	192.00	2469.13	-5.25	-14.48	0.28	5.20	165823.75	2014280.92	

NAD27 Ks South gr elev=1400 RKB=1417

Calmena Energy Services

Company: Woolsey Operating Company, LLC
 Well: Jahay #6-H
 Location: Barber County, Kansas

Date: 11-Nov-2012
 Surveys
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 Job# : 6527

MD (feet)	Inclination (degrees)	Azimuth (degrees)	TVD RKB (feet)	N/-S (feet)	E/-W (feet)	DLS (deg/100')	VS @ 179.79° Az (feet)	Grid Y	Grid X	NAD27 Ks South gr elev=1400 RKB=1417 Comments
2502.00	1.40	206.10	2501.12	-5.90	-14.72	1.34	5.85	165823.10	2014280.68	
2530.00	1.40	208.60	2529.11	-6.51	-15.03	0.22	6.46	165822.49	2014280.37	
2562.00	1.50	205.90	2561.10	-7.23	-15.40	0.38	7.17	165821.77	2014280.00	
2594.00	1.30	189.10	2593.09	-7.97	-15.64	1.42	7.91	165821.03	2014279.76	
2625.00	1.40	207.70	2624.08	-8.65	-15.87	1.44	8.59	165820.35	2014279.53	
2656.00	1.70	199.80	2655.07	-9.42	-16.20	1.19	9.36	165819.58	2014279.20	
2687.00	1.70	195.90	2686.06	-10.29	-16.49	0.37	10.23	165818.71	2014278.91	
2718.00	1.40	188.40	2717.05	-11.11	-16.67	1.17	11.05	165817.89	2014278.73	
2750.00	1.10	174.80	2749.04	-11.80	-16.70	1.31	11.74	165817.20	2014278.70	
2779.00	1.30	181.70	2778.03	-12.41	-16.68	0.85	12.35	165816.59	2014278.72	
2810.00	1.00	168.50	2809.03	-13.02	-16.64	1.29	12.96	165815.98	2014278.76	
2841.00	0.80	175.00	2840.02	-13.50	-16.56	0.72	13.44	165815.50	2014278.84	
2873.00	1.20	170.60	2872.02	-14.06	-16.49	1.27	14.00	165814.94	2014278.91	
2904.00	1.20	165.50	2903.01	-14.69	-16.36	0.34	14.63	165814.31	2014279.04	
2934.00	0.90	152.80	2933.01	-15.20	-16.17	1.26	15.15	165813.80	2014279.23	
2965.00	1.10	128.60	2964.00	-15.61	-15.83	1.49	15.55	165813.39	2014279.57	
2997.00	0.80	103.80	2996.00	-15.85	-15.37	1.57	15.80	165813.15	2014280.03	
3029.00	0.90	107.50	3027.99	-15.98	-14.91	0.36	15.93	165813.02	2014280.49	
3060.00	1.30	101.30	3058.99	-16.12	-14.33	1.34	16.07	165812.88	2014281.07	
3090.00	1.00	97.10	3088.98	-16.22	-13.74	1.04	16.17	165812.78	2014281.66	
3121.00	1.00	86.90	3119.98	-16.24	-13.20	0.57	16.19	165812.76	2014282.20	
3152.00	1.00	95.70	3150.97	-16.25	-12.66	0.49	16.21	165812.75	2014282.74	
3183.00	1.40	90.10	3181.97	-16.28	-12.02	1.34	16.24	165812.72	2014283.38	
3214.00	1.30	100.60	3212.96	-16.35	-11.29	0.86	16.30	165812.65	2014284.11	
3245.00	1.30	73.70	3243.95	-16.31	-10.61	1.95	16.27	165812.69	2014284.79	
3275.00	1.50	75.70	3273.94	-16.12	-9.90	0.69	16.08	165812.88	2014285.50	
3305.00	2.10	64.40	3303.93	-15.78	-9.02	2.31	15.75	165813.22	2014286.38	
3336.00	2.10	60.60	3334.91	-15.26	-8.02	0.45	15.23	165813.74	2014287.38	
3366.00	1.50	57.90	3364.89	-14.78	-7.21	2.02	14.76	165814.22	2014288.19	
3397.00	1.60	41.90	3395.88	-14.24	-6.57	1.43	14.22	165814.76	2014288.83	

Calmena Energy Services

Company: Woolsey Operating Company, LLC
 Well: Jahay #6-H
 Location: Barber County, Kansas

Date: 11-Nov-2012
 Surveys
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 Job# : 6527

MD (feet)	Inclination (degrees)	Azimuth (degrees)	TVD RKB (feet)	N/-S (feet)	E/-W (feet)	DLS (deg/100')	VS @ 179.79° Az (feet)	Grid Y	Grid X	Comments
3429.00	1.60	54.20	3427.87	-13.65	-5.91	1.07	13.63	165815.35	2014289.49	
3460.00	1.50	43.00	3458.86	-13.10	-5.29	1.03	13.08	165815.90	2014290.11	
3489.00	2.00	46.30	3487.84	-12.47	-4.66	1.76	12.46	165816.53	2014290.74	
3519.00	1.80	39.10	3517.83	-11.75	-3.98	1.04	11.73	165817.25	2014291.42	
3548.00	1.30	36.10	3546.82	-11.13	-3.50	1.75	11.11	165817.87	2014291.90	
3579.00	1.30	45.40	3577.81	-10.60	-3.05	0.68	10.58	165818.40	2014292.35	
3610.00	1.10	50.00	3608.80	-10.16	-2.57	0.72	10.15	165818.84	2014292.83	
3639.00	1.20	28.20	3637.79	-9.71	-2.21	1.54	9.70	165819.29	2014293.19	
3670.00	1.50	41.20	3668.79	-9.12	-1.79	1.38	9.11	165819.88	2014293.61	
3701.00	1.50	46.00	3699.78	-8.53	-1.23	0.41	8.53	165820.47	2014294.17	
3732.00	1.20	39.50	3730.77	-8.00	-0.73	1.09	8.00	165821.00	2014294.67	
3764.00	1.40	34.70	3762.76	-7.42	-0.30	0.71	7.42	165821.58	2014295.10	
3796.00	1.80	44.00	3794.75	-6.74	0.27	1.49	6.74	165822.26	2014295.67	
3825.00	1.70	47.90	3823.73	-6.12	0.91	0.54	6.12	165822.88	2014296.31	
3856.00	1.80	34.70	3854.72	-5.41	1.53	1.34	5.42	165823.59	2014296.93	
3887.00	2.00	44.20	3885.70	-4.62	2.18	1.20	4.63	165824.38	2014297.58	
3918.00	1.80	42.50	3916.68	-3.88	2.89	0.67	3.89	165825.12	2014298.29	
3949.00	2.00	39.80	3947.67	-3.10	3.56	0.71	3.12	165825.90	2014298.96	
3984.00	1.90	55.80	3982.65	-2.31	4.43	1.58	2.32	165826.69	2014299.83	
4015.00	1.50	92.20	4013.63	-2.03	5.27	3.64	2.05	165826.97	2014300.67	
4046.00	2.10	149.30	4044.62	-2.54	5.96	5.80	2.56	165826.46	2014301.36	
4077.00	4.00	168.30	4075.58	-4.09	6.47	6.86	4.11	165824.91	2014301.87	
4107.00	5.10	185.20	4105.48	-6.44	6.56	5.74	6.46	165822.56	2014301.96	
4138.00	6.80	185.70	4136.31	-9.64	6.25	5.49	9.66	165819.36	2014301.65	
4169.00	8.90	185.70	4167.02	-13.85	5.83	6.77	13.87	165815.15	2014301.23	
4200.00	11.60	185.70	4197.52	-19.34	5.29	8.71	19.36	165809.66	2014300.69	
4231.00	14.40	183.60	4227.73	-26.29	4.73	9.16	26.31	165802.71	2014300.13	
4261.00	17.50	180.90	4256.57	-34.52	4.43	10.62	34.54	165794.48	2014299.83	
4292.00	20.60	179.90	4285.87	-44.64	4.37	10.05	44.66	165784.36	2014299.77	
4323.00	24.20	180.00	4314.52	-56.45	4.37	11.61	56.47	165772.55	2014299.77	

Calmena Energy Services

Company: Woolsey Operating Company, LLC
 Well: Jahay #6-H
 Location: Barber County, Kansas

Date: 11-Nov-2012
 Surveys
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 Job# : 6527

MD (feet)	Inclination (degrees)	Azimuth (degrees)	TVD RKB (feet)	N/-S (feet)	E/-W (feet)	DLS (deg/100')	VS @ 179.79° Az (feet)	Grid Y	Grid X	Comments
4354.00	28.30	180.60	4342.32	-70.16	4.30	13.25	70.17	165758.84	2014299.70	
4385.00	32.50	181.10	4369.05	-85.84	4.06	13.57	85.85	165743.16	2014299.46	
4416.00	37.00	181.50	4394.52	-103.50	3.66	14.53	103.51	165725.50	2014299.06	
4447.00	41.50	181.30	4418.52	-123.10	3.18	14.52	123.12	165705.90	2014298.58	
4477.00	45.80	180.70	4440.22	-143.80	2.82	14.40	143.81	165685.20	2014298.22	
4508.00	50.10	180.20	4460.98	-166.82	2.64	13.92	166.83	165662.18	2014298.04	
4539.00	54.50	180.20	4479.93	-191.34	2.56	14.19	191.35	165637.66	2014297.96	
4570.00	59.50	180.60	4496.81	-217.33	2.38	16.17	217.34	165611.67	2014297.78	
4601.00	64.30	181.50	4511.41	-244.66	1.87	15.69	244.67	165584.34	2014297.27	
4632.00	63.30	182.90	4525.09	-272.45	0.80	5.18	272.46	165556.55	2014296.20	
4663.00	63.10	183.40	4539.07	-300.08	-0.72	1.58	300.08	165528.92	2014294.68	
4694.00	67.40	183.70	4552.05	-328.17	-2.46	13.90	328.16	165500.83	2014292.94	
4725.00	71.00	183.70	4563.05	-357.09	-4.33	11.61	357.07	165471.91	2014291.07	
4756.00	71.80	183.70	4572.94	-386.41	-6.23	2.58	386.38	165442.59	2014289.17	
4787.00	72.10	183.70	4582.55	-415.82	-8.13	0.97	415.79	165413.18	2014287.27	
4818.00	72.00	183.20	4592.10	-445.26	-9.90	1.57	445.22	165383.74	2014285.50	
4848.00	71.90	183.20	4601.40	-473.74	-11.50	0.33	473.69	165355.26	2014283.90	
4879.00	72.00	182.90	4611.00	-503.17	-13.06	0.98	503.12	165325.83	2014282.34	
4910.00	72.50	182.90	4620.45	-532.66	-14.56	1.61	532.60	165296.34	2014280.84	
4941.00	73.20	182.50	4629.59	-562.25	-15.95	2.57	562.18	165266.75	2014279.45	
4972.00	74.00	182.50	4638.35	-591.96	-17.25	2.58	591.89	165237.04	2014278.15	
5003.00	76.70	182.20	4646.19	-621.92	-18.48	8.76	621.85	165207.08	2014276.92	
5034.00	79.10	182.20	4652.68	-652.21	-19.64	7.74	652.13	165176.79	2014275.76	
5065.00	81.90	182.00	4657.80	-682.76	-20.76	9.05	682.68	165146.24	2014274.64	
5072.00	82.90	182.00	4658.72	-689.69	-21.01	14.29	689.61	165139.31	2014274.39	
5113.00	87.50	182.00	4662.15	-730.51	-22.43	11.22	730.42	165098.49	2014272.97	
5142.00	88.50	181.30	4663.17	-759.48	-23.27	4.21	759.39	165069.52	2014272.13	
5173.00	90.10	181.30	4663.54	-790.47	-23.97	5.16	790.38	165038.53	2014271.43	
5204.00	90.00	181.30	4663.52	-821.46	-24.67	0.32	821.37	165007.54	2014270.73	
5236.00	90.40	180.90	4663.41	-853.46	-25.29	1.77	853.36	164975.54	2014270.11	

NAD27 Ks South gr elev=1400 RKB=1417

Calmena Energy Services

Company: Woolsey Operating Company, LLC
 Well: Jahay #6-H
 Location: Barber County, Kansas

Date: 11-Nov-2012
 Surveys
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 Job# : 6527

MD (feet)	Inclination (degrees)	Azimuth (degrees)	TVD RKB (feet)	N/S (feet)	E/W (feet)	DLS (deg/100')	VS @ 179.79° Az (feet)	Grid Y	Grid X	Comments
5268.00	90.50	181.30	4663.15	-885.45	-25.90	1.29	885.35	164943.55	2014269.50	
5299.00	90.30	180.90	4662.94	-916.44	-26.50	1.44	916.34	164912.56	2014268.90	
5330.00	89.90	181.30	4662.88	-947.44	-27.09	1.82	947.33	164881.56	2014268.31	
5361.00	89.80	181.50	4662.97	-978.43	-27.85	0.72	978.32	164850.57	2014267.55	
5393.00	90.80	181.30	4662.80	-1010.42	-28.63	3.19	1010.31	164818.58	2014266.77	
5422.00	90.80	181.10	4662.39	-1039.41	-29.24	0.69	1039.29	164789.59	2014266.16	
5453.00	91.40	180.60	4661.80	-1070.40	-29.70	2.52	1070.28	164758.60	2014265.70	
5483.00	91.30	180.60	4661.09	-1100.39	-30.01	0.33	1100.27	164728.61	2014265.39	
5512.00	91.10	180.70	4660.48	-1129.38	-30.34	0.77	1129.26	164699.62	2014265.06	
5542.00	91.10	180.20	4659.91	-1159.37	-30.58	1.67	1159.25	164669.63	2014264.82	
5572.00	91.40	180.20	4659.25	-1189.37	-30.68	1.00	1189.25	164639.63	2014264.72	
5601.00	91.10	179.70	4658.62	-1218.36	-30.65	2.01	1218.24	164610.64	2014264.75	
5633.00	91.40	179.50	4657.92	-1250.35	-30.43	1.13	1250.23	164578.65	2014264.97	
5664.00	90.50	178.50	4657.41	-1281.34	-29.89	4.34	1281.22	164547.66	2014265.51	
5693.00	89.50	177.90	4657.41	-1310.33	-28.98	4.02	1310.21	164518.67	2014266.42	
5725.00	89.40	177.40	4657.72	-1342.30	-27.67	1.59	1342.19	164486.70	2014267.73	
5756.00	89.60	177.60	4657.99	-1373.27	-26.32	0.91	1373.16	164455.73	2014269.08	
5787.00	89.80	177.40	4658.15	-1404.24	-24.96	0.91	1404.14	164424.76	2014270.44	
5818.00	89.30	177.10	4658.39	-1435.20	-23.48	1.88	1435.11	164393.80	2014271.92	
5849.00	89.50	177.20	4658.72	-1466.16	-21.93	0.72	1466.07	164362.84	2014273.47	
5878.00	89.80	177.20	4658.89	-1495.13	-20.52	1.03	1495.04	164333.88	2014274.88	
5910.00	90.00	177.20	4658.95	-1527.09	-18.95	0.63	1527.01	164301.91	2014276.45	
5941.00	89.10	176.40	4659.19	-1558.04	-17.22	3.88	1557.96	164270.96	2014278.18	
5972.00	89.10	176.50	4659.68	-1588.97	-15.31	0.32	1588.91	164240.03	2014280.09	
6003.00	89.50	176.50	4660.06	-1619.91	-13.41	1.29	1619.85	164209.09	2014281.99	
6034.00	90.60	177.20	4660.03	-1650.87	-11.71	4.21	1650.81	164178.13	2014283.69	
6065.00	91.20	177.60	4659.54	-1681.83	-10.30	2.33	1681.78	164147.17	2014285.10	
6097.00	90.30	177.20	4659.13	-1713.79	-8.85	3.08	1713.75	164115.21	2014286.55	
6127.00	89.20	177.10	4659.26	-1743.76	-7.36	3.68	1743.72	164085.24	2014288.04	
6157.00	88.80	177.40	4659.78	-1773.72	-5.92	1.67	1773.68	164055.28	2014289.48	

Calmena Energy Services

Company: Woolsey Operating Company, LLC
 Well: Jahay #6-H
 Location: Barber County, Kansas

Date: 11-Nov-2012
 Surveys
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 Job# : 6527

MD (feet)	Inclination (degrees)	Azimuth (degrees)	TVD RKB (feet)	N/-S (feet)	E/-W (feet)	DLS (deg/100')	VS @ 179.79° Az (feet)	Grid Y	Grid X	Comments
6187.00	89.20	177.20	4660.30	-1803.68	-4.51	1.49	1803.65	164025.32	2014290.89	
6219.00	89.30	178.50	4660.72	-1835.65	-3.31	4.07	1835.63	163993.35	2014292.09	
6248.00	87.80	179.30	4661.46	-1864.64	-2.75	5.86	1864.62	163964.36	2014292.65	
6279.00	87.70	179.30	4662.67	-1895.61	-2.37	0.32	1895.59	163933.39	2014293.03	
6309.00	90.20	179.90	4663.22	-1925.60	-2.16	8.57	1925.58	163903.40	2014293.24	
6340.00	91.30	180.00	4662.82	-1956.60	-2.14	3.56	1956.58	163872.40	2014293.26	
6371.00	91.20	180.20	4662.14	-1987.59	-2.19	0.72	1987.57	163841.41	2014293.21	
6402.00	90.00	180.60	4661.82	-2018.59	-2.41	4.08	2018.57	163810.41	2014292.99	
6433.00	89.50	179.90	4661.95	-2049.59	-2.54	2.77	2049.57	163779.41	2014292.86	
6464.00	90.10	179.90	4662.06	-2080.59	-2.49	1.94	2080.57	163748.41	2014292.91	
6495.00	90.50	179.90	4661.90	-2111.59	-2.43	1.29	2111.56	163717.41	2014292.97	
6524.00	89.70	179.50	4661.85	-2140.59	-2.28	3.08	2140.56	163688.41	2014293.12	
6555.00	89.50	179.30	4662.06	-2171.58	-1.96	0.91	2171.56	163657.42	2014293.44	
6585.00	89.60	179.20	4662.30	-2201.58	-1.56	0.47	2201.56	163627.42	2014293.84	
6616.00	90.00	179.30	4662.41	-2232.58	-1.16	1.33	2232.56	163596.42	2014294.24	
6647.00	90.00	179.30	4662.41	-2263.58	-0.78	0.00	2263.56	163565.43	2014294.62	
6679.00	88.00	178.80	4662.97	-2295.56	-0.25	6.44	2295.55	163533.44	2014295.15	
6710.00	87.60	178.60	4664.16	-2326.53	0.45	1.44	2326.52	163502.47	2014295.85	
6741.00	88.00	178.60	4665.35	-2357.50	1.21	1.29	2357.49	163471.50	2014296.61	
6772.00	88.20	178.60	4666.37	-2388.48	1.97	0.65	2388.47	163440.53	2014297.37	
6803.00	88.70	178.60	4667.21	-2419.45	2.72	1.61	2419.45	163409.55	2014298.12	
6834.00	89.00	178.50	4667.83	-2450.44	3.51	1.02	2450.44	163378.56	2014298.91	
6865.00	89.00	178.30	4668.38	-2481.42	4.37	0.65	2481.42	163347.58	2014299.77	
6896.00	89.90	178.10	4668.67	-2512.40	5.35	2.97	2512.41	163316.60	2014300.75	
6925.00	89.50	178.10	4668.83	-2541.39	6.31	1.38	2541.39	163287.61	2014301.71	
6954.00	90.00	177.60	4668.95	-2570.37	7.40	2.44	2570.38	163258.63	2014302.80	
6985.00	90.30	177.80	4668.87	-2601.34	8.64	1.16	2601.36	163227.66	2014304.04	
7014.00	90.10	176.90	4668.77	-2630.31	9.98	3.18	2630.33	163198.69	2014305.38	
7046.00	90.60	176.70	4668.57	-2662.26	11.77	1.68	2662.29	163166.74	2014307.17	
7075.00	91.00	176.50	4668.17	-2691.21	13.49	1.54	2691.24	163137.79	2014308.89	

Calmena Energy Services

Company: Woolsey Operating Company, LLC
 Well: Jahay #6-H
 Location: Barber County, Kansas

Date: 11-Nov-2012
 Surveys
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 Job# : 6527

MD (feet)	Inclination (degrees)	Azimuth (degrees)	TVD RKB (feet)	N/-S (feet)	E/-W (feet)	DLS (deg/100')	VS @ 179.79° Az (feet)	Grid Y	Grid X	NAD27 Ks South gr elev=1400 RKB=1417 Comments
7106.00	91.30	176.50	4667.55	-2722.14	15.38	0.97	2722.18	163106.86	2014310.78	
7135.00	92.00	176.40	4666.71	-2751.07	17.17	2.44	2751.12	163077.93	2014312.57	
7165.00	92.40	176.00	4665.56	-2780.99	19.16	1.88	2781.04	163048.01	2014314.56	
7196.00	92.20	176.50	4664.32	-2811.89	21.19	1.74	2811.95	163017.11	2014316.59	
7225.00	91.20	177.20	4663.46	-2840.84	22.78	4.21	2840.90	162988.16	2014318.18	
7254.00	90.30	177.40	4663.08	-2869.80	24.15	3.18	2869.87	162959.20	2014319.55	
7285.00	90.40	177.20	4662.89	-2900.77	25.61	0.72	2900.84	162928.23	2014321.01	
7315.00	90.50	177.20	4662.65	-2930.73	27.07	0.33	2930.81	162898.27	2014322.47	
7347.00	90.30	178.10	4662.43	-2962.70	28.38	2.88	2962.79	162866.30	2014323.78	
7378.00	89.40	178.60	4662.51	-2993.69	29.28	3.32	2993.78	162835.31	2014324.68	
7409.00	89.20	178.60	4662.89	-3024.68	30.03	0.65	3024.77	162804.32	2014325.43	
7440.00	89.60	178.80	4663.21	-3055.67	30.74	1.44	3055.76	162773.33	2014326.14	
7471.00	89.80	178.30	4663.37	-3086.66	31.52	1.74	3086.75	162742.34	2014326.92	
7500.00	89.60	178.50	4663.53	-3115.65	32.33	0.98	3115.74	162713.35	2014327.73	
7531.00	90.00	178.50	4663.63	-3146.64	33.14	1.29	3146.74	162682.37	2014328.54	
7560.00	89.70	178.80	4663.71	-3175.63	33.83	1.46	3175.73	162653.37	2014329.23	
7591.00	89.70	179.20	4663.87	-3206.62	34.37	1.29	3206.73	162622.38	2014329.77	
7623.00	90.00	179.20	4663.96	-3238.62	34.81	0.94	3238.72	162590.38	2014330.21	
7652.00	89.10	178.80	4664.18	-3267.61	35.32	3.40	3267.72	162561.39	2014330.72	
7681.00	87.80	179.50	4664.97	-3296.60	35.75	5.09	3296.71	162532.40	2014331.15	
7712.00	87.60	179.00	4666.21	-3327.57	36.16	1.74	3327.68	162501.43	2014331.56	
7743.00	88.40	179.90	4667.29	-3358.55	36.45	3.88	3358.66	162470.45	2014331.85	
7775.00	88.60	180.20	4668.13	-3390.54	36.42	1.13	3390.65	162438.46	2014331.82	
7806.00	89.40	180.20	4668.67	-3421.53	36.32	2.58	3421.64	162407.47	2014331.72	
7835.00	90.20	180.40	4668.77	-3450.53	36.16	2.84	3450.64	162378.47	2014331.56	
7867.00	90.40	180.00	4668.61	-3482.53	36.05	1.40	3482.64	162346.47	2014331.45	
7896.00	90.50	180.00	4668.38	-3511.53	36.05	0.34	3511.64	162317.47	2014331.45	
7926.00	90.60	180.00	4668.09	-3541.53	36.05	0.33	3541.64	162287.47	2014331.45	
7957.00	89.70	179.50	4668.01	-3572.53	36.19	3.32	3572.64	162256.47	2014331.59	
7988.00	89.70	179.30	4668.17	-3603.53	36.51	0.65	3603.64	162225.47	2014331.91	

Calmena Energy Services

Company: Woolsey Operating Company, LLC
 Well: Jahay #6-H
 Location: Barber County, Kansas

Date: 11-Nov-2012
 Surveys
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 Job# : 6527

MD (feet)	Inclination (degrees)	Azimuth (degrees)	TVD RKB (feet)	N/-S (feet)	E/-W (feet)	DLS (deg/100')	VS @ 179.79° Az (feet)	Grid Y	Grid X	NAD27 Ks South gr elev=1400 RKB=1417 Comments
8019.00	89.60	179.20	4668.36	-3634.52	36.92	0.46	3634.63	162194.48	2014332.32	
8048.00	88.70	178.80	4668.79	-3663.52	37.42	3.40	3663.63	162165.49	2014332.82	
8079.00	88.50	179.20	4669.55	-3694.50	37.97	1.44	3694.62	162134.50	2014333.37	
8111.00	88.50	179.20	4670.39	-3726.49	38.41	0.00	3726.60	162102.51	2014333.81	
8142.00	88.80	179.00	4671.12	-3757.47	38.90	1.16	3757.59	162071.53	2014334.30	
8173.00	89.20	179.20	4671.66	-3788.47	39.39	1.44	3788.58	162040.53	2014334.79	
8203.00	89.50	179.00	4672.00	-3818.46	39.86	1.20	3818.58	162010.54	2014335.26	
8235.00	89.70	178.60	4672.22	-3850.45	40.53	1.40	3850.58	161978.55	2014335.93	
8265.00	89.50	179.30	4672.43	-3880.45	41.08	2.43	3880.57	161948.55	2014336.48	
8295.00	89.90	179.30	4672.59	-3910.44	41.44	1.33	3910.57	161918.56	2014336.84	
8325.00	89.30	179.90	4672.80	-3940.44	41.65	2.83	3940.57	161888.56	2014337.05	
8354.00	89.40	179.50	4673.13	-3969.44	41.80	1.42	3969.57	161859.56	2014337.20	
8385.00	89.00	179.90	4673.56	-4000.44	41.97	1.82	4000.56	161828.56	2014337.37	
8417.00	88.70	179.70	4674.20	-4032.43	42.08	1.13	4032.56	161796.57	2014337.48	
8446.00	89.10	179.90	4674.76	-4061.42	42.18	1.54	4061.55	161767.58	2014337.58	
8478.00	89.40	179.50	4675.18	-4093.42	42.35	1.56	4093.55	161735.58	2014337.75	
8509.00	89.30	179.20	4675.53	-4124.42	42.70	1.02	4124.55	161704.58	2014338.10	
8538.00	88.90	179.20	4675.99	-4153.41	43.10	1.38	4153.54	161675.59	2014338.50	
8569.00	89.40	179.30	4676.45	-4184.40	43.51	1.64	4184.54	161644.60	2014338.91	
8601.00	89.60	179.00	4676.72	-4216.40	43.98	1.13	4216.53	161612.60	2014339.38	
8632.00	88.70	179.20	4677.18	-4247.39	44.47	2.97	4247.53	161581.61	2014339.87	

PACKERS PLUS - PACKER PLACEMENT



8980
**Do It Once
 Do It Right**

Operator:	Woolsey Petrc	Base Point:	20600 Conway
Company Rep:	Mike Tharp	Packers Plus Rep:	Tim Jones/Brad
Well Name:	JAHAY 6H	Date Started:	12/12/2012
Ticket Number:	SOU005924	Date Completed:	
County/State:	Barber Co. KS	Type of Job:	StackFrac HD

	Description	Length	Landed @	TMD	
			Actual MD	Accumulated	Proposed
			8930.00		
	Guide Shoe	0.92	8929.08	0.92	-0.92
	Float Collar	1.33	8927.75	2.25	-2.25
	Pup	6.11	8921.64	8.36	-8.36
	Float Collar	1.33	8920.31	9.69	-9.69
	Toe Circulation Sub	2.72	8917.59	12.41	-12.41
	Pup	6.08	8911.51	18.49	-18.49
1	Joint 4.50" 11.60ppf L-80	44.87	8866.64	63.36	-63.36
	Pup	3.08	8863.56	66.44	-66.44
	Dual Hydraulic FracPort (1)	4.32	8859.24	70.76	-70.76
	Pup	6.12	8853.12	76.88	-76.88
2	Joint 4.50" 11.60ppf L-80	45.26	8807.86	122.14	-122.14
3	Joint 4.50" 11.60ppf L-80	45.25	8762.61	167.39	-167.39
	Pup	3.09	8759.52	170.48	-170.48
	RSII	7.18	8752.34	177.66	-177.66
	Pup	6.13	8746.21	183.79	-183.79
4	Joint 4.50" 11.60ppf L-80	45.24	8700.97	229.03	-229.03
	Pup	3.08	8697.89	232.11	-232.11
	RSII	5.22	8692.67	237.33	-237.33
	Pup	6.09	8686.58	243.42	-243.42
5	Joint 4.50" 11.60ppf L-80	44.94	8641.64	288.36	-288.36
6	Joint 4.50" 11.60ppf L-80	45.23	8596.41	333.59	-333.59
	1.750" FracPort (2)	2.65	8593.76	336.24	-336.24
7	Joint 4.50" 11.60ppf L-80	41.35	8552.41	377.59	-377.59
8	Joint 4.50" 11.60ppf L-80	40.04	8512.37	417.63	-417.63
9	Joint 4.50" 11.60ppf L-80	41.46	8470.91	459.09	-459.09
	Pup	3.08	8467.83	462.17	-462.17
	RSII	5.22	8462.61	467.39	-467.39
	Pup	6.09	8456.52	473.48	-473.48
10	Joint 4.50" 11.60ppf L-80	41.45	8415.07	514.93	-514.93
11	Joint 4.50" 11.60ppf L-80	40.04	8375.03	554.97	-554.97

PACKERS PLUS - PACKER PLACEMENT

	1.875" FracPort (3)	2.65	8372.38	557.62	-557.62
12	Joint 4.50" 11.60ppf L-80	41.41	8330.97	599.03	-599.03
13	Joint 4.50" 11.60ppf L-80	41.43	8289.54	640.46	-640.46
14	Joint 4.50" 11.60ppf L-80	45.23	8244.31	685.69	-685.69
	Pup	3.08	8241.23	688.77	-688.77
	RSII	5.22	8236.01	693.99	-693.99
	Pup	6.10	8229.91	700.09	-700.09
15	Joint 4.50" 11.60ppf L-80	45.26	8184.65	745.35	-745.35
16	Joint 4.50" 11.60ppf L-80	45.26	8139.39	790.61	-790.61
	2.000" FracPort (4)	2.65	8136.74	793.26	-793.26
17	Joint 4.50" 11.60ppf L-80	40.04	8096.70	833.30	-833.30
18	Joint 4.50" 11.60ppf L-80	41.44	8055.26	874.74	-874.74
19	Joint 4.50" 11.60ppf L-80	31.36	8023.90	906.10	-906.10
	Pup	3.08	8020.82	909.18	-909.18
	RSII	5.23	8015.59	914.41	-914.41
	Pup	6.07	8009.52	920.48	-920.48
20	Joint 4.50" 11.60ppf L-80	45.26	7964.26	965.74	-965.74
21	Joint 4.50" 11.60ppf L-80	41.37	7922.89	1007.11	-1007.11
	2.125" FracPort (5)	2.65	7920.24	1009.76	-1009.76
22	Joint 4.50" 11.60ppf L-80	41.43	7878.81	1051.19	-1051.19
23	Joint 4.50" 11.60ppf L-80	40.00	7838.81	1091.19	-1091.19
24	Joint 4.50" 11.60ppf L-80	45.24	7793.57	1136.43	-1136.43
	Pup	3.09	7790.48	1139.52	-1139.52
	RSII	5.23	7785.25	1144.75	-1144.75
	Pup	6.08	7779.17	1150.83	-1150.83
25	Joint 4.50" 11.60ppf L-80	45.22	7733.95	1196.05	-1196.05
26	Joint 4.50" 11.60ppf L-80	45.30	7688.65	1241.35	-1241.35
	2.250" FracPort (6)	2.65	7686.00	1244.00	-1244.00
27	Joint 4.50" 11.60ppf L-80	45.30	7640.70	1289.30	-1289.30
28	Joint 4.50" 11.60ppf L-80	45.24	7595.46	1334.54	-1334.54
29	Joint 4.50" 11.60ppf L-80	45.20	7550.26	1379.74	-1379.74
	Pup	3.09	7547.17	1382.83	-1382.83
	RSII	5.22	7541.95	1388.05	-1388.05
	Pup	6.08	7535.87	1394.13	-1394.13
30	Joint 4.50" 11.60ppf L-80	45.25	7490.62	1439.38	-1439.38
31	Joint 4.50" 11.60ppf L-80	45.27	7445.35	1484.65	-1484.65
	2.375" FracPort (7)	2.65	7442.70	1487.30	-1487.30
32	Joint 4.50" 11.60ppf L-80	45.25	7397.45	1532.55	-1532.55
33	Joint 4.50" 11.60ppf L-80	45.28	7352.17	1577.83	-1577.83
34	Joint 4.50" 11.60ppf L-80	45.27	7306.90	1623.10	-1623.10
	Pup	3.08	7303.82	1626.18	-1626.18
	RSII	5.22	7298.60	1631.40	-1631.40
	Pup	6.08	7292.52	1637.48	-1637.48
35	Joint 4.50" 11.60ppf L-80	45.29	7247.23	1682.77	-1682.77
36	Joint 4.50" 11.60ppf L-80	45.28	7201.95	1728.05	-1728.05

PACKERS PLUS - PACKER PLACEMENT

	2.500" FracPort (8)	2.65	7199.30	1730.70	-1730.70
37	Joint 4.50" 11.60ppf L-80	45.30	7154.00	1776.00	-1776.00
38	Joint 4.50" 11.60ppf L-80	45.24	7108.76	1821.24	-1821.24
39	Joint 4.50" 11.60ppf L-80	45.23	7063.53	1866.47	-1866.47
	Pup	3.08	7060.45	1869.55	-1869.55
	RSII	5.23	7055.22	1874.78	-1874.78
	Pup	6.08	7049.14	1880.86	-1880.86
40	Joint 4.50" 11.60ppf L-80	45.21	7003.93	1926.07	-1926.07
41	Joint 4.50" 11.60ppf L-80	45.26	6958.67	1971.33	-1971.33
	2.625" FracPort (9)	2.65	6956.02	1973.98	-1973.98
42	Joint 4.50" 11.60ppf L-80	45.20	6910.82	2019.18	-2019.18
43	Joint 4.50" 11.60ppf L-80	45.25	6865.57	2064.43	-2064.43
44	Joint 4.50" 11.60ppf L-80	45.30	6820.27	2109.73	-2109.73
	Pup	3.08	6817.19	2112.81	-2112.81
	RSII	5.23	6811.96	2118.04	-2118.04
	Pup	6.09	6805.87	2124.13	-2124.13
45	Joint 4.50" 11.60ppf L-80	45.23	6760.64	2169.36	-2169.36
46	Joint 4.50" 11.60ppf L-80	45.24	6715.40	2214.60	-2214.60
	2.750" FracPort (10)	2.65	6712.75	2217.25	-2217.25
47	Joint 4.50" 11.60ppf L-80	45.18	6667.57	2262.43	-2262.43
48	Joint 4.50" 11.60ppf L-80	45.25	6622.32	2307.68	-2307.68
49	Joint 4.50" 11.60ppf L-80	45.25	6577.07	2352.93	-2352.93
	Pup	3.08	6573.99	2356.01	-2356.01
	RSII	5.23	6568.76	2361.24	-2361.24
	Pup	6.13	6562.63	2367.37	-2367.37
50	Joint 4.50" 11.60ppf L-80	45.30	6517.33	2412.67	-2412.67
51	Joint 4.50" 11.60ppf L-80	45.08	6472.25	2457.75	-2457.75
	2.875" FracPort (11)	2.65	6469.60	2460.40	-2460.40
52	Joint 4.50" 11.60ppf L-80	45.29	6424.31	2505.69	-2505.69
53	Joint 4.50" 11.60ppf L-80	45.26	6379.05	2550.95	-2550.95
54	Joint 4.50" 11.60ppf L-80	45.24	6333.81	2596.19	-2596.19
	Pup	3.11	6330.70	2599.30	-2599.30
	RSII	5.24	6325.46	2604.54	-2604.54
	Pup	6.12	6319.34	2610.66	-2610.66
55	Joint 4.50" 11.60ppf L-80	45.11	6274.23	2655.77	-2655.77
56	Joint 4.50" 11.60ppf L-80	45.18	6229.05	2700.95	-2700.95
	3.00" FracPort (12)	2.65	6226.40	2703.60	-2703.60
57	Joint 4.50" 11.60ppf L-80	45.35	6181.05	2748.95	-2748.95
58	Joint 4.50" 11.60ppf L-80	45.36	6135.69	2794.31	-2794.31
59	Joint 4.50" 11.60ppf L-80	45.27	6090.42	2839.58	-2839.58
	Pup	3.10	6087.32	2842.68	-2842.68
	RSII	5.25	6082.07	2847.93	-2847.93
	Pup	6.14	6075.93	2854.07	-2854.07
60	Joint 4.50" 11.60ppf L-80	45.25	6030.68	2899.32	-2899.32
61	Joint 4.50" 11.60ppf L-80	45.35	5985.33	2944.67	-2944.67

PACKERS PLUS - PACKER PLACEMENT

	3.125" FracPort (13)	2.65	5982.68	2947.32	-2947.32
62	Joint 4.50" 11.60ppf L-80	45.24	5937.44	2992.56	-2992.56
63	Joint 4.50" 11.60ppf L-80	44.87	5892.57	3037.43	-3037.43
64	Joint 4.50" 11.60ppf L-80	45.24	5847.33	3082.67	-3082.67
	Pup	3.07	5844.26	3085.74	-3085.74
	RSII	5.23	5839.03	3090.97	-3090.97
	Pup	6.13	5832.90	3097.10	-3097.10
65	Joint 4.50" 11.60ppf L-80	45.25	5787.65	3142.35	-3142.35
66	Joint 4.50" 11.60ppf L-80	45.25	5742.40	3187.60	-3187.60
	3.250" FracPort (14)	2.65	5739.75	3190.25	-3190.25
67	Joint 4.50" 11.60ppf L-80	45.26	5694.49	3235.51	-3235.51
68	Joint 4.50" 11.60ppf L-80	45.25	5649.24	3280.76	-3280.76
69	Joint 4.50" 11.60ppf L-80	45.34	5603.90	3326.10	-3326.10
	Pup	3.08	5600.82	3329.18	-3329.18
	RSII	5.22	5595.60	3334.40	-3334.40
	Pup	6.12	5589.48	3340.52	-3340.52
70	Joint 4.50" 11.60ppf L-80	45.30	5544.18	3385.82	-3385.82
71	Joint 4.50" 11.60ppf L-80	45.22	5498.96	3431.04	-3431.04
	3.375" FracPort (15)	2.65	5496.31	3433.69	-3433.69
72	Joint 4.50" 11.60ppf L-80	45.28	5451.03	3478.97	-3478.97
73	Joint 4.50" 11.60ppf L-80	45.24	5405.79	3524.21	-3524.21
74	Joint 4.50" 11.60ppf L-80	45.25	5360.54	3569.46	-3569.46
	Pup	3.07	5357.47	3572.53	-3572.53
	RSII	5.22	5352.25	3577.75	-3577.75
	Pup	6.12	5346.13	3583.87	-3583.87
75	Joint 4.50" 11.60ppf L-80	45.26	5300.87	3629.13	-3629.13
76	Joint 4.50" 11.60ppf L-80	45.18	5255.69	3674.31	-3674.31
	3.500" FracPort (16)	2.65	5253.04	3676.96	-3676.96
77	Joint 4.50" 11.60ppf L-80	44.72	5208.32	3721.68	-3721.68
78	Joint 4.50" 11.60ppf L-80	45.20	5163.12	3766.88	-3766.88
	Pup	3.10	5160.02	3769.98	-3769.98
	RSII	5.23	5154.79	3775.21	-3775.21
	Pup	6.09	5148.70	3781.30	-3781.30
79	Joint 4.50" 11.60ppf L-80	45.22	5103.48	3826.52	-3826.52
80	Joint 4.50" 11.60ppf L-80	45.26	5058.22	3871.78	-3871.78
	PUP	3.09	5055.13	3874.87	-3874.87
	SF Liner Hanger Packer	6.84	5048.29	3881.71	-3881.71



Woolsey Operating Company, LLC

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

Measured Depth Log

Well Name: Jahay #6 H
Location: Section 6 - Township 34 South - Range 10 West
License Number: API: 15-007-23946-01-00 Region: Barber County KS
Spud Date: October 18, 2012 Drilling Completed: November 12, 2012
Surface Coordinates: Apx NE NE NW
315' FNL, 2430' FWL

Bottom Hole
Coordinates:
Ground Elevation (ft): 1455' K.B. Elevation (ft): 1472'
Logged Interval (ft): 3300' To: 5120' Total Depth (ft): 5120'
Formation: Kansas City Group ----> Mississippian
Type of Drilling Fluid: Chemical Mud, Displaced at 2956'

Printed by WellSight Log Viewer from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: Woolsey Operating Company, LLC
Address: 125 N. Market, Suite 1000
Wichita, KS 67202

GEOLOGIST

Name: Billy G. Klaver
Company: Woolsey Operating Co. LLC
Address: 125 N. Market, Wichita Kansas, 67202

COMMENTS

Surface Casing: Set 20" X 53#/ft conductor to 40' KB with 4 yards of grout. Ran 7 joints of new 13 3/8" X 54.5#/ft casing to 316' KB (tally 316'). Cemented with 300 sx Class A, 2% gel, 3% cc. Plug down at 7 pm on October 18, 2012, cement did circulate.

Intermediate casing: Set 118 joints of 7" X 23#/ft new casing at 5102' with 50 sx 60/40 pozmix and 150 sx Class H.

Dan D Drilling Rig 11 Bit Record:

- 1) 17 1/2" JZ RT out at 320'
- 2) 12 1/4" HTC RT out at 708'
- 3) 8 3/4" RTC DSX 616 out at 3995'
- 4) 8 3/4" RTC SKFX out at 4184'
- 5) 8 3/4" RTC R-23 APDH out at 5120'
- 6-10) 6 1/8" TRC R-16, 5120' to 8980'

Gas Detector: Woolsey Operating Co. Gas Trailer #2

Mud System: Mud-Co. Brad Bortz, Engineer

DSTs: No tests were ran

Drilling Info.

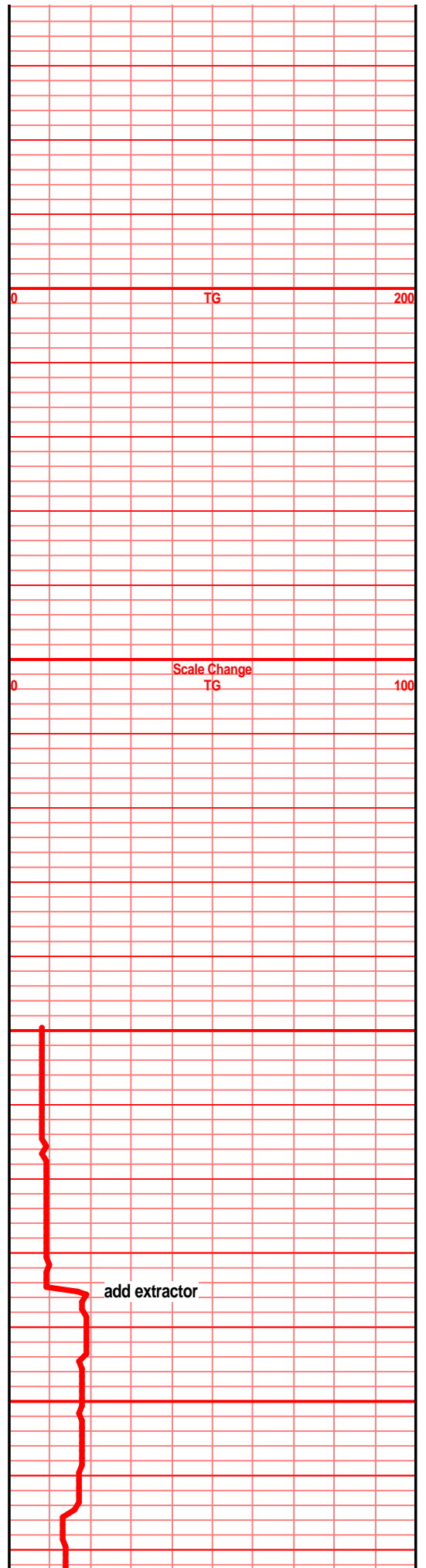
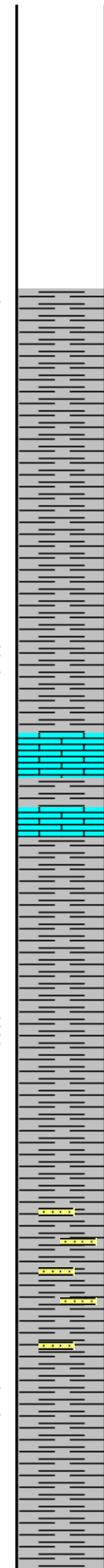
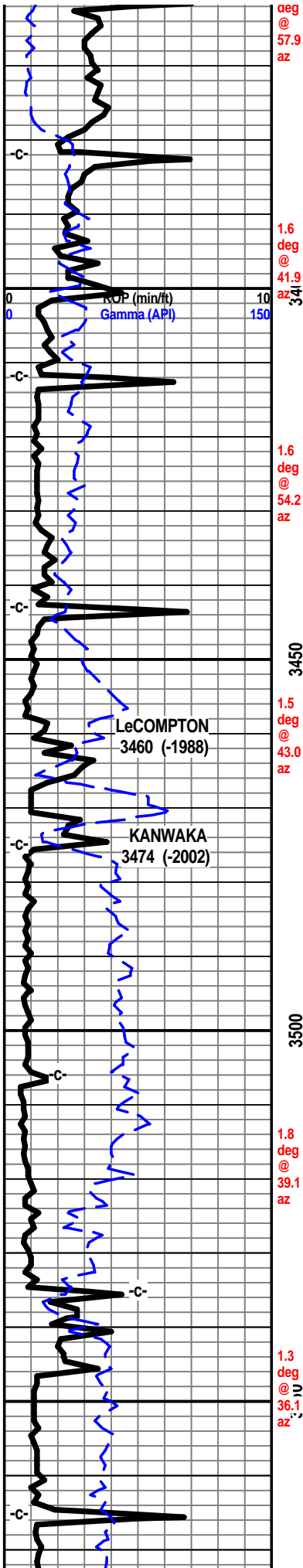
Chemical mud displaced at 2956' on 10/23/12.

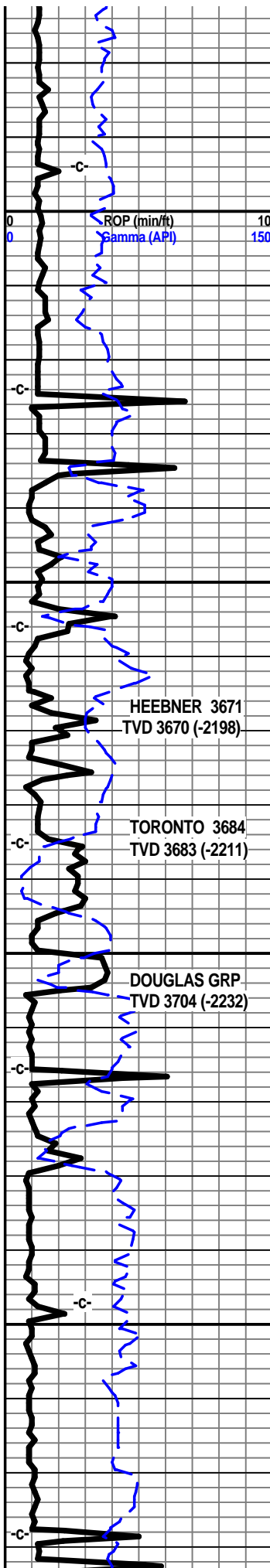
CREWS

Tool Pusher: Steve Ellington, Sammy Fry relief,

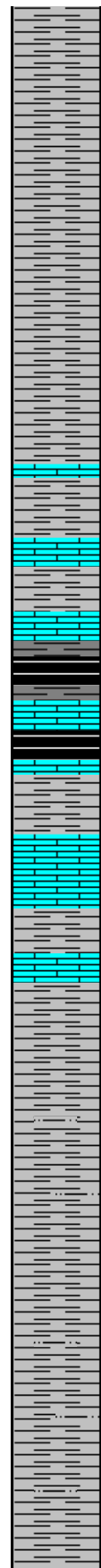
Drillers: 7 day-12 hour tours, Johnnie Stone, Terry Stark, Andy Braziel, Jack Lambert. Assorted Okie roughnecks.

October 20, 2012 TOOH at 708'
 October 21, 2012 Drilling at 1510'
 October 22, 2012 Drilling at 2170'
 October 23, 2012 Drilling at 2723'
 October 24, 2012 Drilling at 3235'
 October 25, 2012 TOOH at 3842' repairs
 October 26, 2012 TIH/directional tools
 October 27, 2012 Drilling at 4200'
 October 28, 2012 Drilling at 4470'
 October 29, 2012 Drilling at 4572'
 October 30, 2012 Drilling at 4656'
 October 31, 2012 Drilling at 4757'
 November 1, 2012 Drilling at 5001'
 November 2, 2012 Running 7" casing





1.3 deg @ 45.5 az
1.1 deg @ 50.0 az
1.1 deg @ 58.2 az
1.5 deg @ 41.2 az
1.5 deg @ 46.0 az
1.2 deg @ 39.5 az
1.4 deg @ 34.7 az



shl gry med gry silty gritty, sndy in prt, tr sst wht off wht f grnd, sub ang grns, poorly srtd, sub fria to soft, arg, clay fill tr mic

shl gry med gry silty gritty, tr sndy in prt

shl gry med gry silty gritty

shl gry lt med gry silty gritty gran, tr lst tan brn f vf xln dns hrd blkly ang arg

shl gry med gy silty gritty, tr blk carb wx grsy, lst drk tan brn f vf xln dns hrd blkly ang arg in prt

shl gry med gry, blk carb, wxy grsy in sample

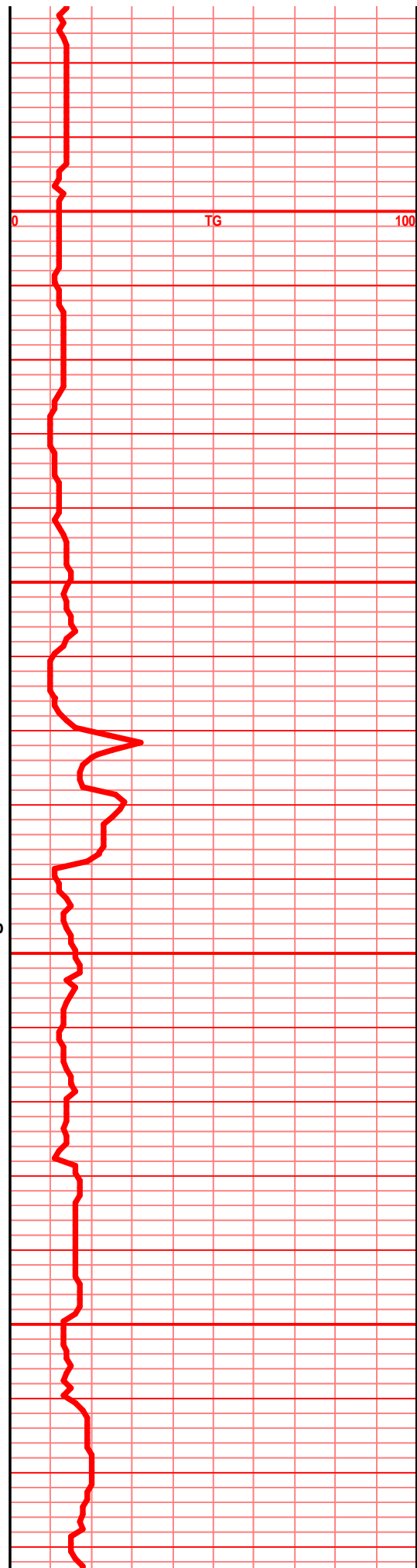
lst crm lt tan off wht f xln blkly flky ang pcs, sub chlky, micro foss frags, soft gran in prt

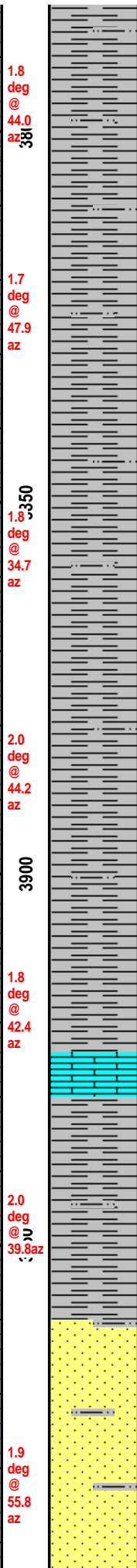
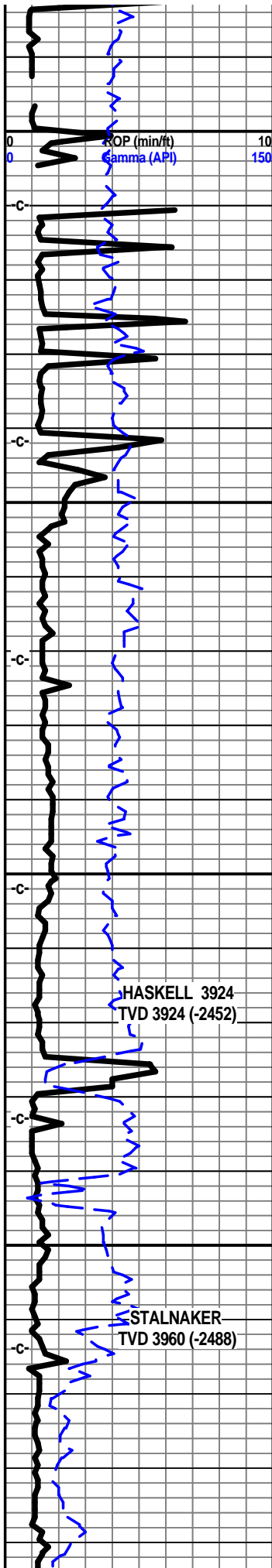
shl gry med gry silty

shl gry med gry silty soft

shl gry lt/med gry silty gritty, sndy in prt, mic, blk carb specks

shl arv lt/med arv silty aritv. sndv in prt. blk





shl gry lt med gry, silty gritty mic, sndy in prt, blk carb specks

shl lt gry/med gry silty gritty, mic, sndy in prt, snd grn inclu, blk carb specks

shl gry lt med gry silty soft easy

shl med tr drkr gry soft silty tr gritty gran

shl gry med to drkr gry silty soft tr gritty gran with clr vfn rded/sub ang sd grn inclu

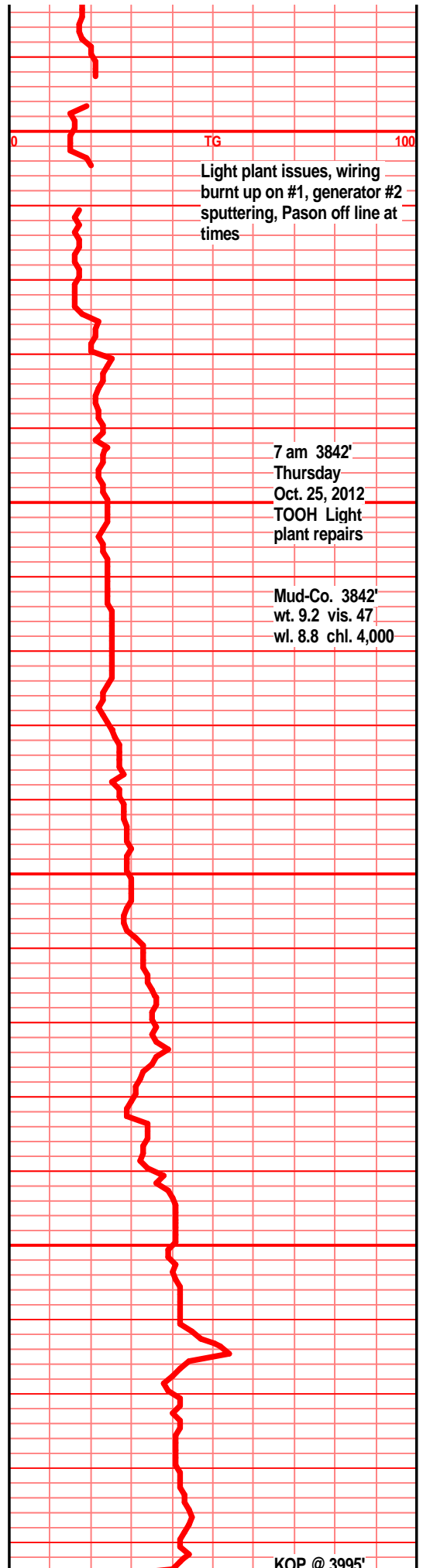
shl gry lt med drk gry silty gritty, mic in prt, snd grn inclu aa

shl gry med drk gry soft silty, spls wsh gry

shl gry med drk gry soft silty muddy

shl gry med lt gry silty soft muddy, snd grn inclu, tr sst off wht lt gry f grnd, prly srted, sub ang grns, arg, calc cem, sub fria to prly cem

sst off wht, lt gry f grnd, sub ang grns, prly srted, sub fria to tite, prly cem, calc cem, mic in prt, much carb fill, shl fill



6 pm Thursday
Oct. 25, 2012

sst off wht lt gry f grnd, sub ang grnd clstrs,
sub fria to tite, prly cem calc cem, clay fill arg,

sst off wht lt gry, f grnd clstrs, sub ang to tr
sub rded grns, sub fria to tite, prly srtded, prly
to fair cem, calc cem, arg clay fill

sst off wht lt gry fn grnd clstrs, sub ang to sub
rded grns, fair to prly cem, calc cem, mucho
carb chunks/fill, tr mic, soft gran in most

shl gry lt gry silty sndy, sst aa, f grnd sub ang
grns, sub fria, prly cem calc cem, clay fill arg
carb fill

shl gry lt med gry silty gritty sndy sst aa, shl
bec drker

mostly LCM, sst aa, change? hard to tell

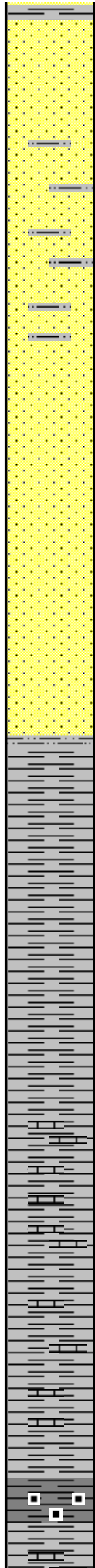
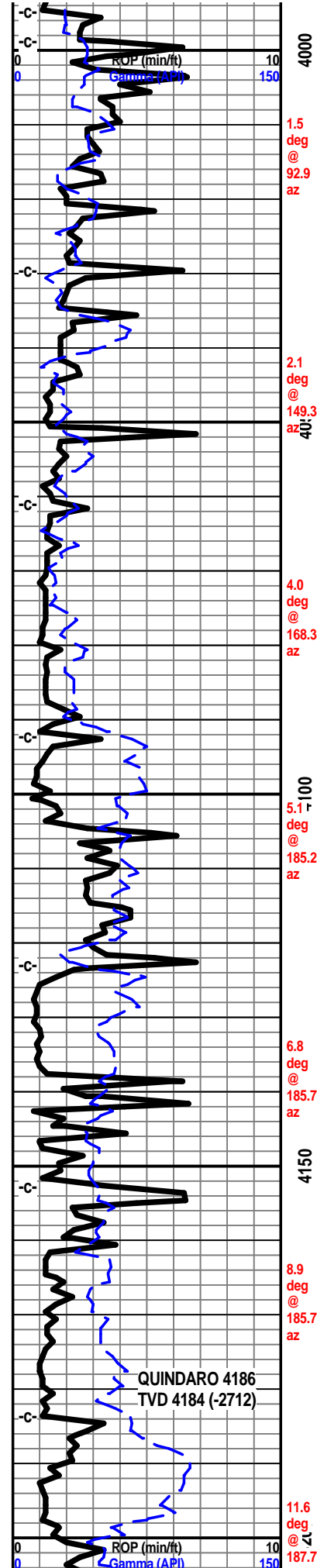
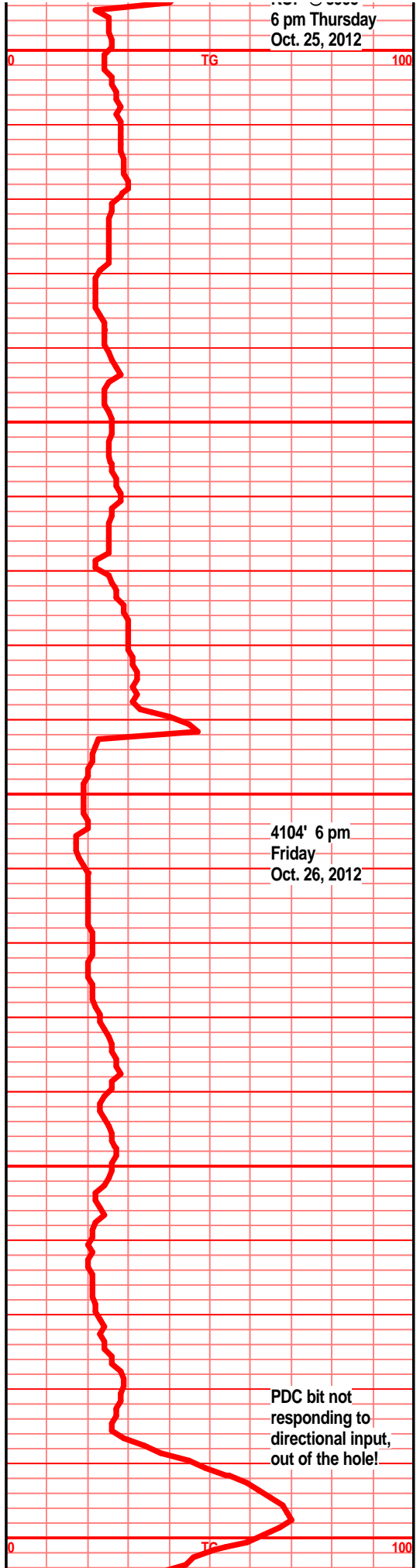
shl med drk gry silty soft muddy

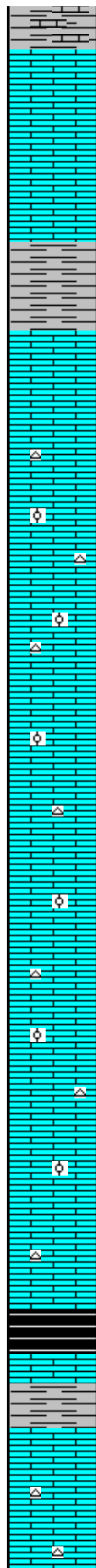
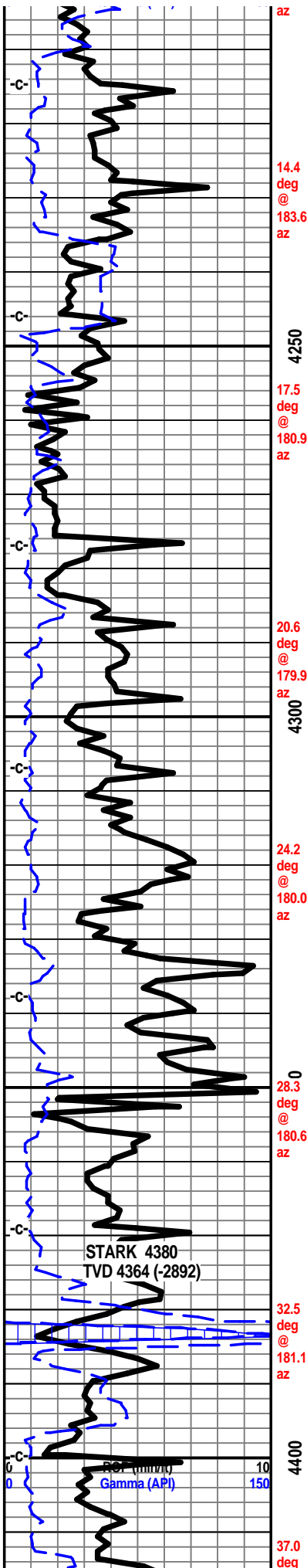
shl gry drk gry tr gry brn silty gritty calc in rpt

shl gry brn silty gritty calc, lst gry drk gry brn f
vf xln dns hrd blkly ang arg

sh gry med gry, tr gry brn silty gritty arg, lst
gry brn f vf xln dns hrd silty arg

shl ry dkr gry blk, tr blk carb, abun gas bubs,
platy, blkly ang pcs





lst crm gry tan f vf xln dns hrd blkly ang pcs, sub chlky, tr micro foss frags,

lst crm tan off wht f sli med xln flky, sub chlky foss frags, micor ool, inter xln por, pp moldic por soft in prt, shl gry calc ang blkly pcs

lst crm tan off wht f sli med xln gran soft sub chlky, foss frags, mirco foss frags, tr ool, calc xln fill, chrt wht shrp frsh opa

lst wht off wht lt crm tan f sli med xln gran soft sub chlky gran, foss frags, micro foss tr ool, calc xln fill, chrtly in prt

lst wht crm tan off wht f sli med xln gran soft blkly pcs sub chlky, foss frags, foss ool, calc xln fill, chrt wht shrp frsh

lst crm tan lt gry in prt, f xln, sli med xln gran soft, sub chlky, foss frags, foss ool micro ool, calc xln fill, tr chrt wht lt gry shrp frsh opa

lst wht off wht crm, f sli med xln gran flky, blkly ang pcs, sub chlky foss frag,s micro ool, tr chrt tan wht opa shrp frsh

lst wht off wht lt crm f sli med xln gran, flky, soft, blkly ang pcs, sub chlky, foss frags micro ool, chrt tan wht opa frsh shrp blkly

shl gry, drk gry, blk, blk carb, blkly ang pcs, platy, much gas bubs

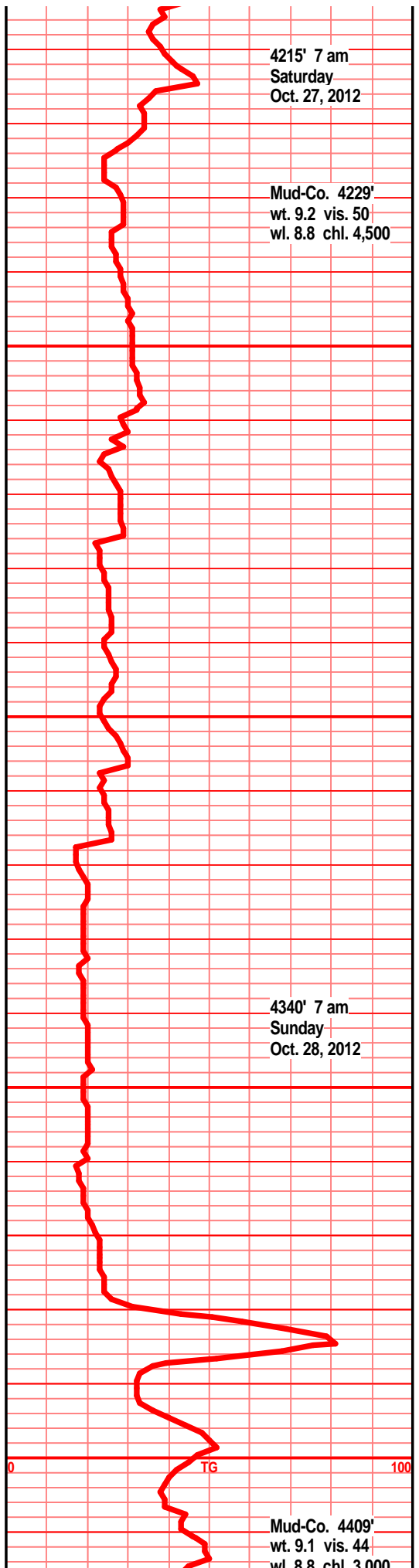
shl gry med gry calc, lst tan gry tr gry brn f xln dns hrd blkly ang arg, with lst tan crm f xln blkly ang foss sub chlky, calc xln fill

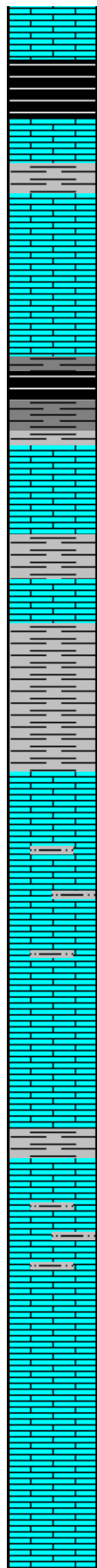
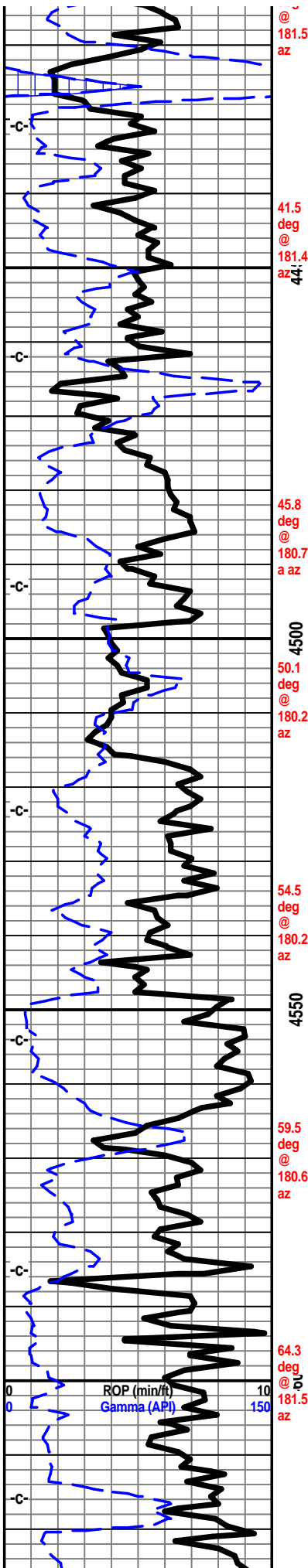
4215' 7 am
Saturday
Oct. 27, 2012

Mud-Co. 4229'
wt. 9.2 vis. 50
wl. 8.8 chl. 4,500

4340' 7 am
Sunday
Oct. 28, 2012

Mud-Co. 4409'
wt. 9.1 vis. 44
wl. 8.8 chl. 3,000





lst crm gry tan f xln gran blk ang dns hrd, foss frags, foss ool, sub chlky, flky in prt, calc xln fill, chrt off wht clr shrp frsh opa

much blk carb shl, wxy grsy gassy, lst tan crm lt gry/brn f vf xln dns hrd blk ang arg tr sub chlky calc xln fill

lst crm off wht lt tan f sli med xln gran flky ang, sub chlky foss frags, tr micro foss, micro ool, tr chrt wht tan shrp frsh

shl gry blk, blk carb, wxy grsy gassy pcs, abun gas bubs, "spitting gas", shl gry calc, lst crm tan off wht f xln blk flky sub chlky micro foss pcs chrt aa

lst crm gry, gry/brn f vf xln blk ang dns hrd calc, silty, gritty, arg, shls gry med gry brn silty calc

shls gry green, tan brn silty gritty calc in prt, lst tan gry brn f vf xln silty arg chlky gran

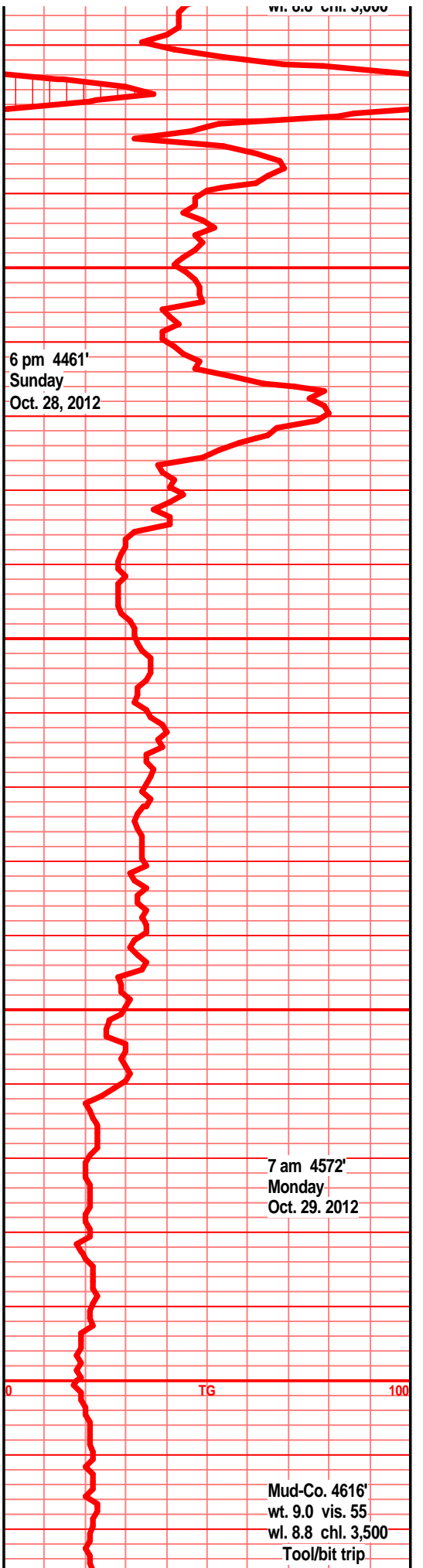
lst off wht crm tr tan gry mott, f vf xln blk flky sli sub chlky pcs, micro foss frags tr chrt wht lt gry shrp frsh opa foss

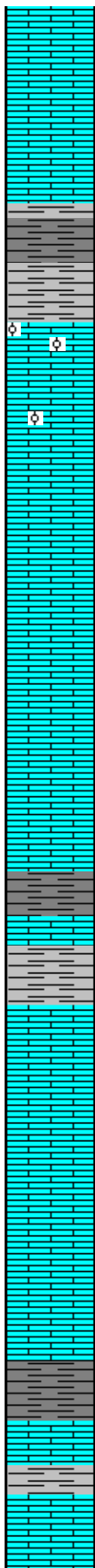
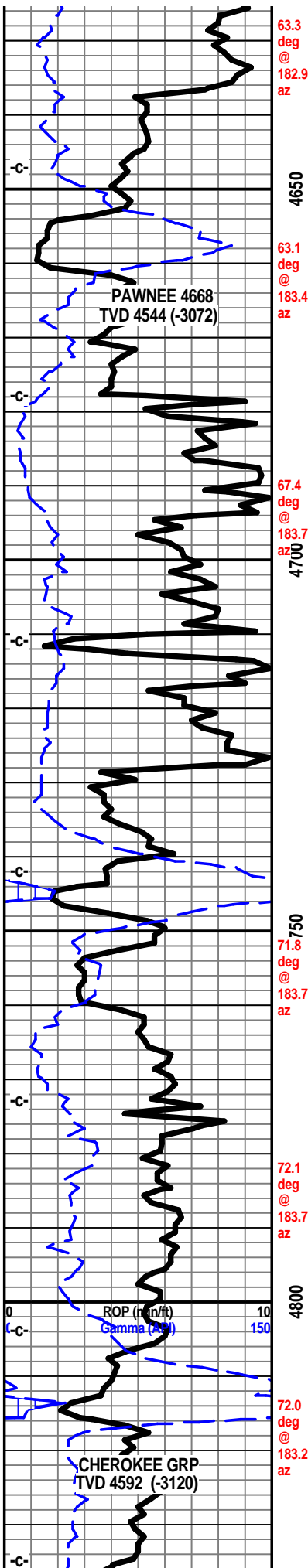
shl gry, blue green gry silty gritty sndy in prt, lst tan crm off wht f vf xln gran flky sub chlky micro foss frags,

lst crm buff tan f vf xln dns hrd blk pcs, sub chlky in prt, micro foss frags, micro ool, calc xln fill

lst crm buff tan f vf xln blk ang dns hrd pcs, micro foss, micro ool, tr sub chlky in prt, tr calc xln fill

lst crm buff tan f vf lxn blk ang dns pcs, tr sub





chiky calc xln fill, foss frags, micro foss frags, inter frags xln fill

lst crm buff tan off wht f xln blk ang tr gran, tr sub chlky foss frags, micro foss frags, tr ool, calc xln fill

shl gry med gry blk, drk gry blk blk carb tr gas bubs, silty soft in prt

lst crm buff tan f vf xln blk ang hrd pcs, tr sub chlky foss frags, micro ool, calc xln fill

lst off wth crm tan buff, f tr vf xln blk ang dns hrd, calc xln fill, tr sub chlky, foss frags, micro ool,

lst crm tan buff f vf xln dns hrd blk ang pcs, tr sub chlky, foss frags, micro ool, calc xln fill in some,

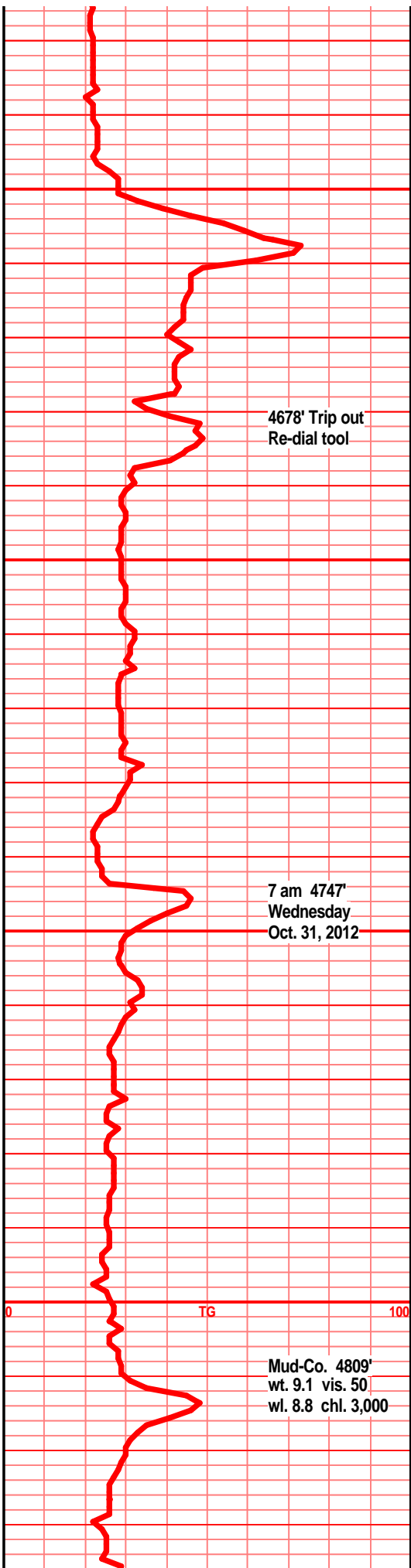
shl gry drk gry blk, blk carb in prt, lst tan crm buff f xln gran flky sub chlky calc xln fill

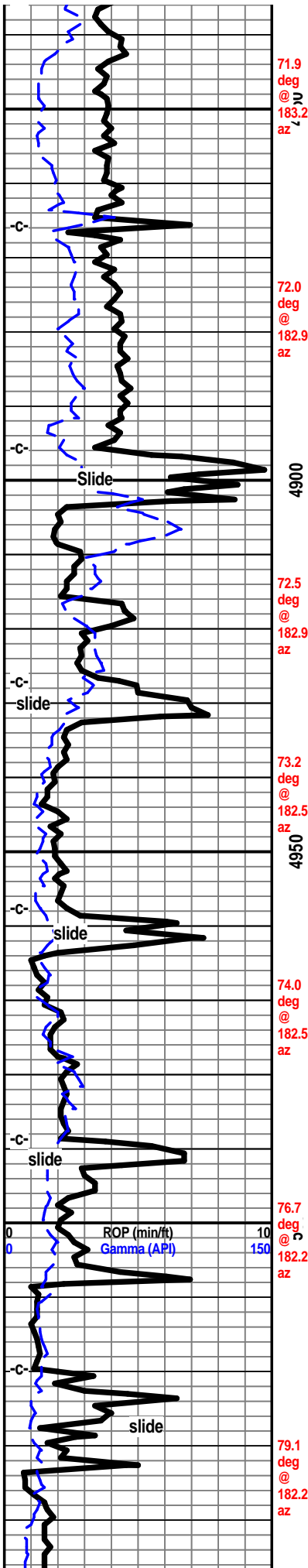
lst crm tan buff tr lt tan brn, f sli fn xln, sub chlky, blk ang dns hrd pcs, micro foss frags, calc xln fill

lst crm tan buff tr tan lt brn f vf xln dns hrd blk ang calc xln pcs, tr sub chlky micro foss frags

shl gry, drk med gry silty gritty, tr blk carb, wxy grsy pcs, tr gas bubs, lst tan gry brn f mic xln dns hrd blk ang arg, silty, tr calc fill

lst crm tan buff lt brn f vf xln blk dns sub chlky micro foss frags. calc xln fill





lst crm buff tan, tr lt tan brn f vf xln gran blk
dns hrd, sub chlky foss frags, micro foss, calc
xln fill

lst crm tan buff, tr tan lt brn f vf xln dns hrd
blk ang, sub chlky in prt, foss frags, tr micro
ool, calc xln fill

lst crm tan buff, tan lt brn f xln blk dns hrd
foss frags, calc fill, arg, shls gry green brn silty
gritty calc in prt

shl gry green brn, med gry silty gritty calc in
prt, maroon/gry banded, tr yellow/vari color,
silty soft ratty silts, snd grn inclu

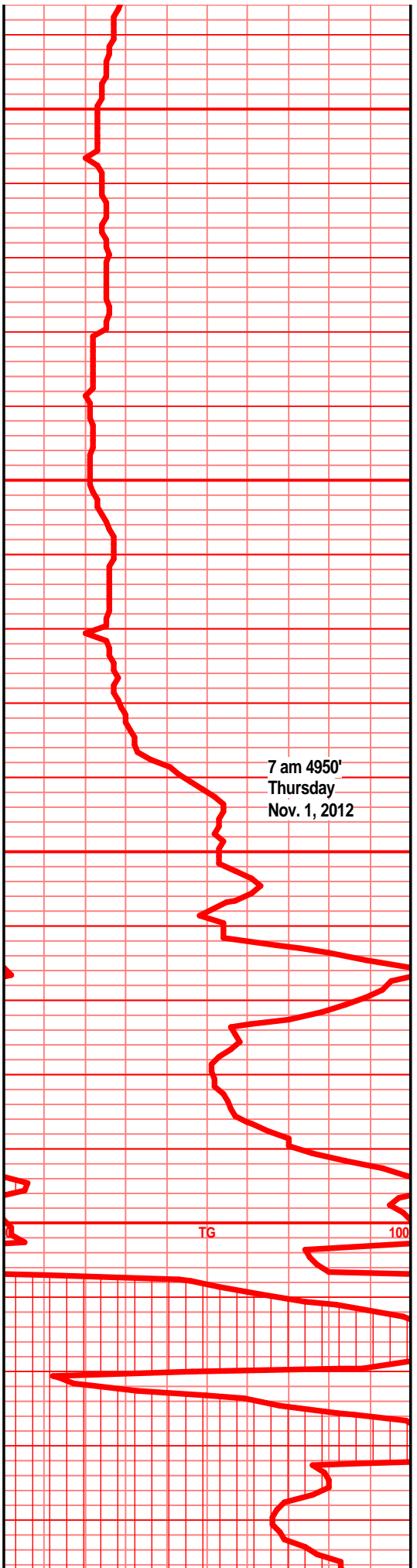
chrt clr, wht off wht, lt gry, lt blue/smokey, shrp
frsh opa, sub transl, tr chlky, limey, some
weath text por, tr pp moldic por tr hvy blk stain

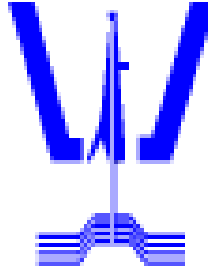
chrt clr, wht off wht, lt blue gry smokey, shrp
frsh opa, sub transl, some weath gran chlky
text, tr pp moldic por, tr hvy blk stain, blk
stain, blk SFO, nodor, spotted dull UV

chrt lt gry/clr, lt gry off wht, lt blue-gry smokey,
shrp frsh opa, sub transl, sub weath gran sli
chlky limey text, tr hvy blk stain, nodor,
spotted dull UV

chrt lt gry/clr, lt gry off wht, lt blue gry smokey,
shrp frsh opa, sub transl, tr wht chrt, gran
soft sub chlky text, pp moldic por, tan brn
stain, dull spotted stain, nodor

chrt lt gry off wht tr lt blue gry smokey, shrp
frsh opa, weath sli trip text edges/sides, pp
moldic por, tan lt brn stain, sli odor, dull
spotted UV





Woolsey Operating Company, LLC

Scale 1:600 (2"=100") Metric
Measured Depth Log

Well Name: Jahay #6 H
Location: Section 6 - Township 34 South - Range 10 West
License Number: 15-007-23946-01-00 Region: Barber County KS
Spud Date: October 18, 2012 Drilling Completed: November 12, 2012
Surface Coordinates: NE NE NE NW
315' FNL, 2430' FWL
Bottom Hole
Coordinates:
Ground Elevation (m): 1455' K.B. Elevation (m): 1472'
Logged Interval (m): 3900 To: 8980' Total Depth (m): 8980'
Formation: Kansas City Group -----> Mississippian
Type of Drilling Fluid: Chemical Mud, Water/Flo-Zan

Printed by WellSight Log Viewer from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: Woolsey Operating Company, LLC
Address: 125 N. Market Suite 1000
Wichita, Kansas 67202

GEOLOGIST

Name: Bill Klaver
Company: Woolsey Operating Company, LLC
Address: 125 N. Market Suite 1000
Wichita, Kansas 67202

Drilling Info


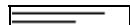




Drilling Fluids: Mud-Co. Brad Bortz, Engineer
 Gas Detector: Woolsey Operating Co, Gas Trailer #2

Dan D Drilling Rig 11 bit record: 1) 17 1/2" JZ RT, 2) 12 1/4" HTC RT, 3) 8 3/4" RTC DSX 616, 4) 8 7/8" RTC DSX 818, 5) 8 7/8" RTC R-23A PDH, 6-10) 6 1/8" RTC R-50-PDH








































































Crews

Tool Pusher: Steve Ellington, Sammy Fry, Relief
 Drillers: 7 day-12 hour tours, Johnnie Stone, Terry Stark, Andy Braziel, Jack Lambert. Assorted Okie roughnecks.
 Woolsey Operating company men: Mike Tharp, Donald Boyd.

ROCK TYPES

 Anhy	 Clyst	 Gyp	 Mrlst	 Shgy
 Bent	 Coal	 Igne	 Salt	 Sltst
 Brec	 Congl	 Lmst	 Shale	 Ss
 Cht	 Dol	 Meta	 Shcol	 Till

ACCESSORIES

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

OTHER SYMBOLS

POROSITY

- E Earthy
- F Fenest
- F Fracture
- X Inter
- M Moldic
- O Organic
- P Pinpoint

V Vuggy

SORTING

- W Well
- M Moderate
- P Poor

ROUNDING

- R Rounded
- S Subrnd
- a Subang
- A Angular

OIL SHOW

- Even

● Spotted

○ Ques

▽ Dead

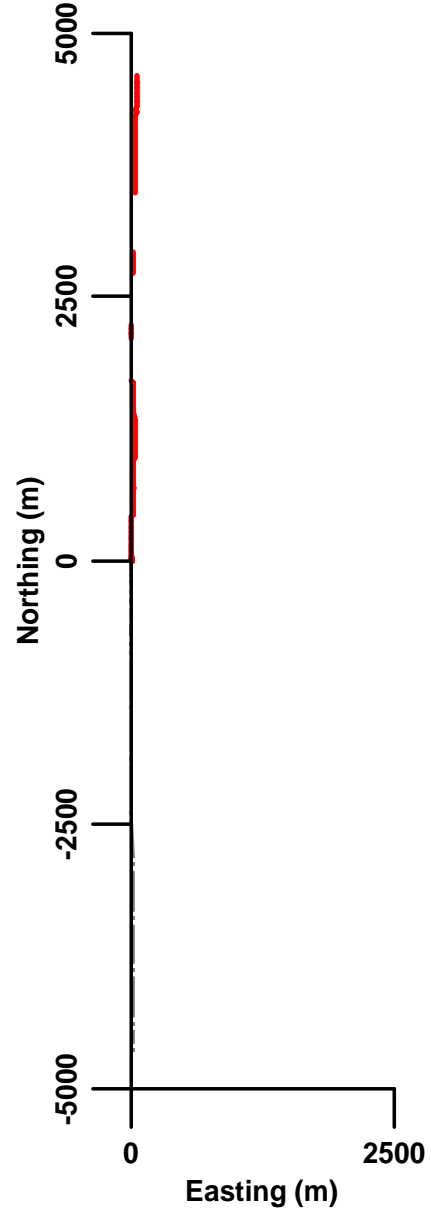
INTERVAL

- Core
- Dst

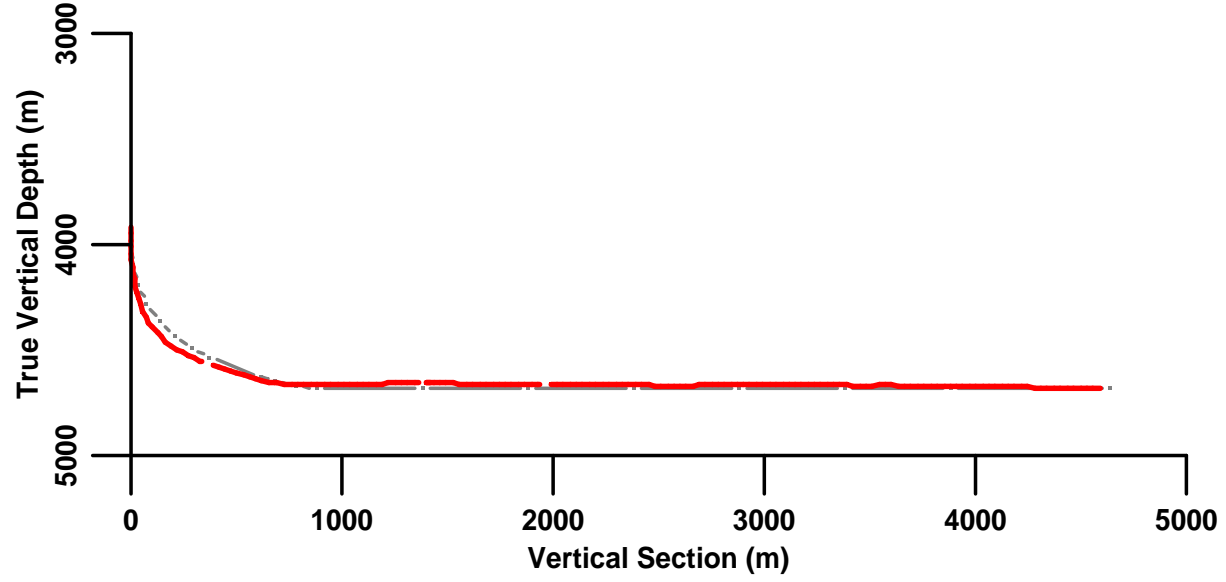
EVENT

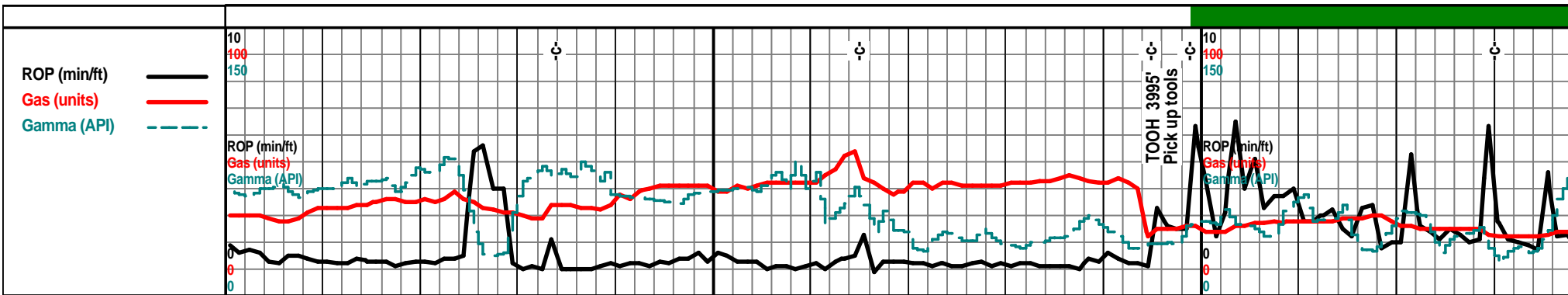
- ▽ Rft
- ▽ Sidewall

Plan



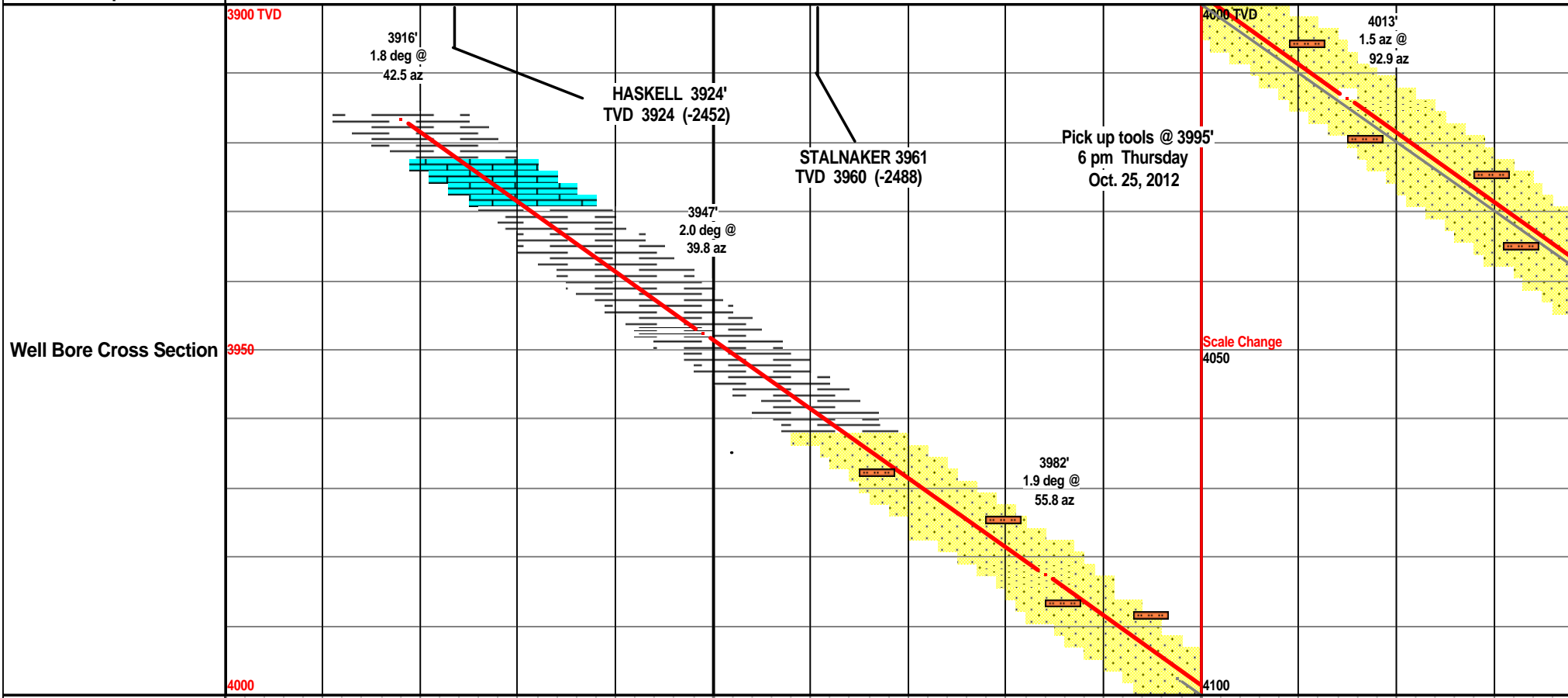
Elevation



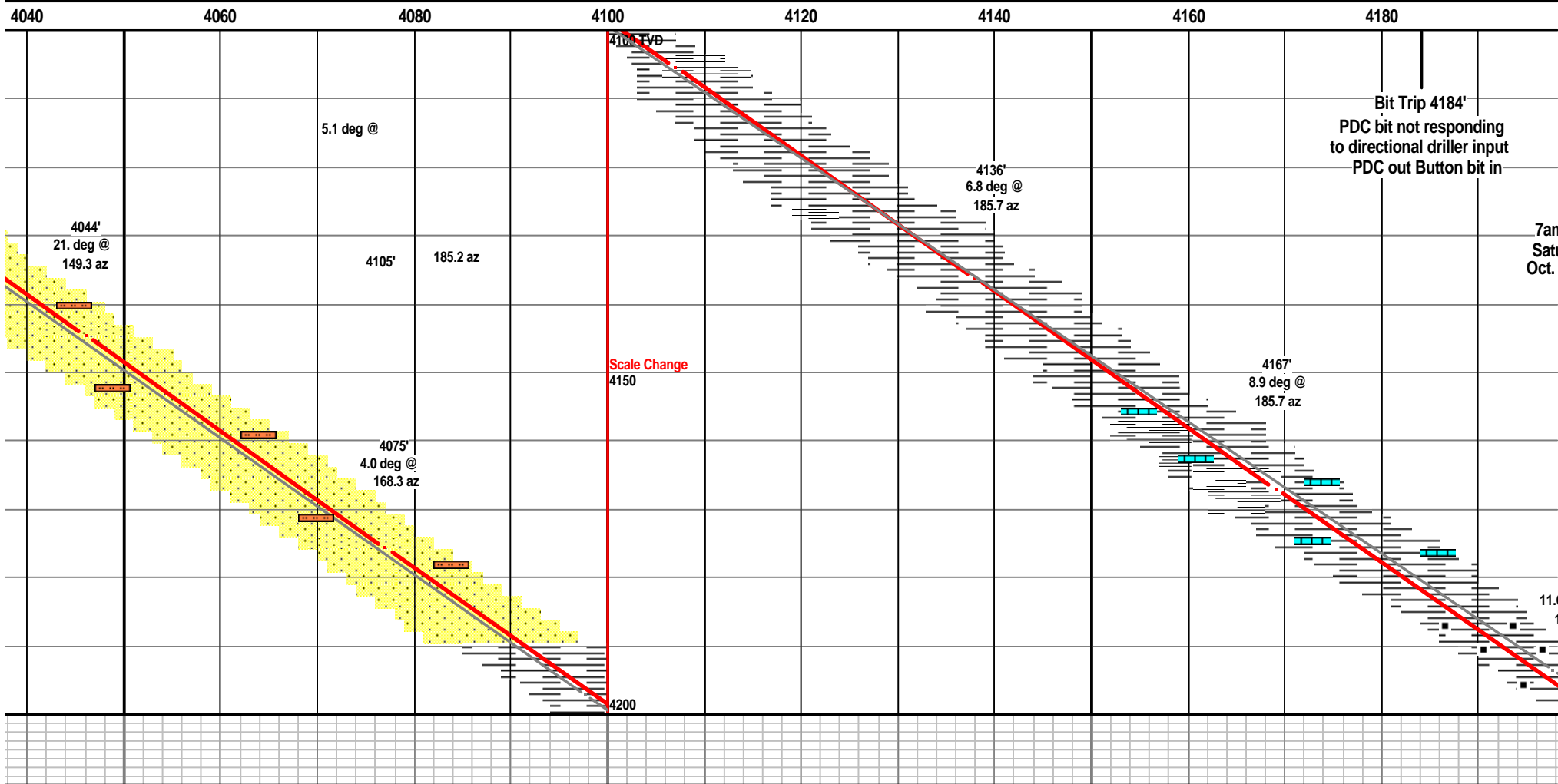
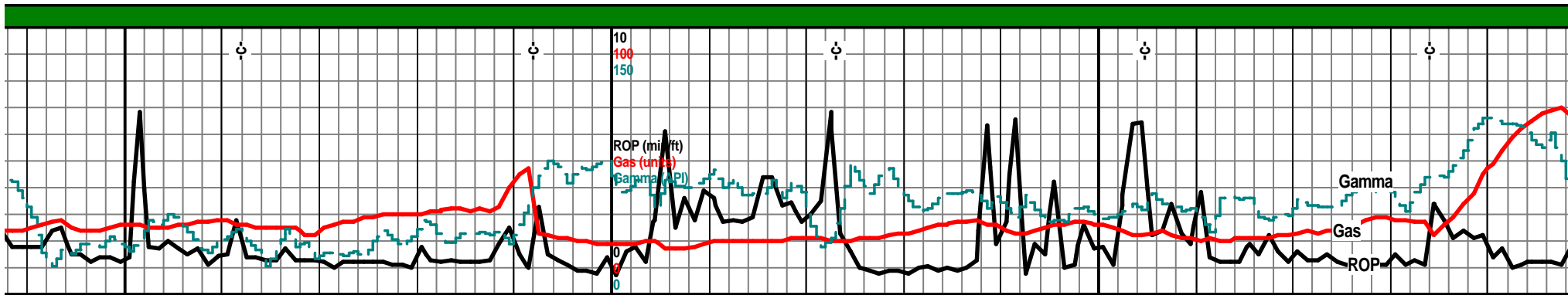


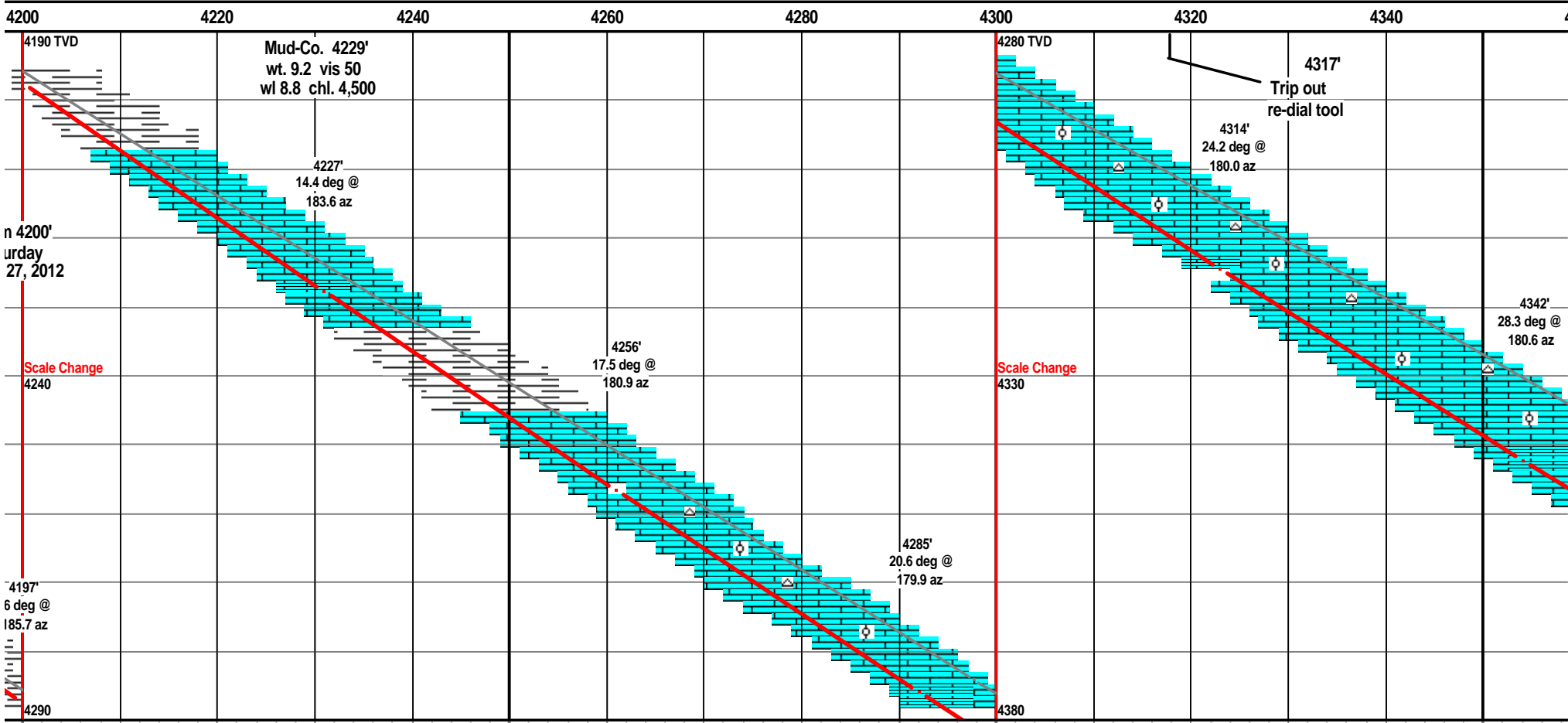
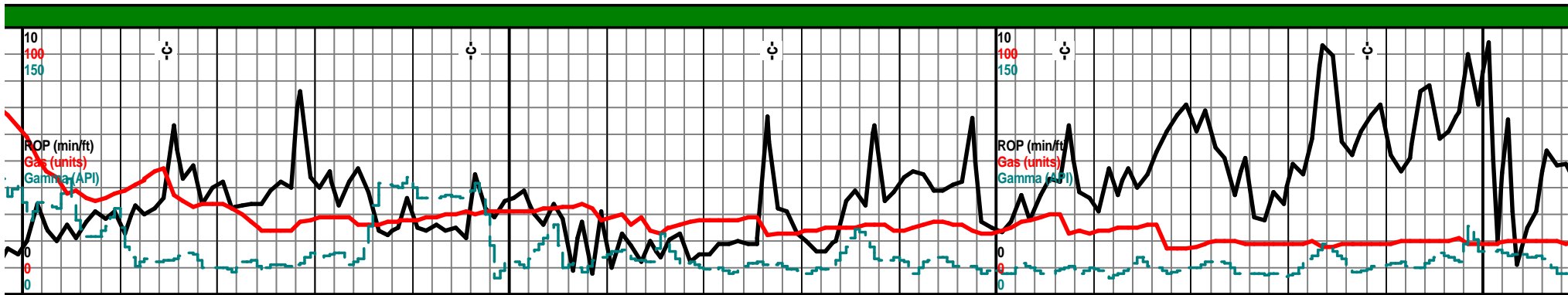
Oil Shows

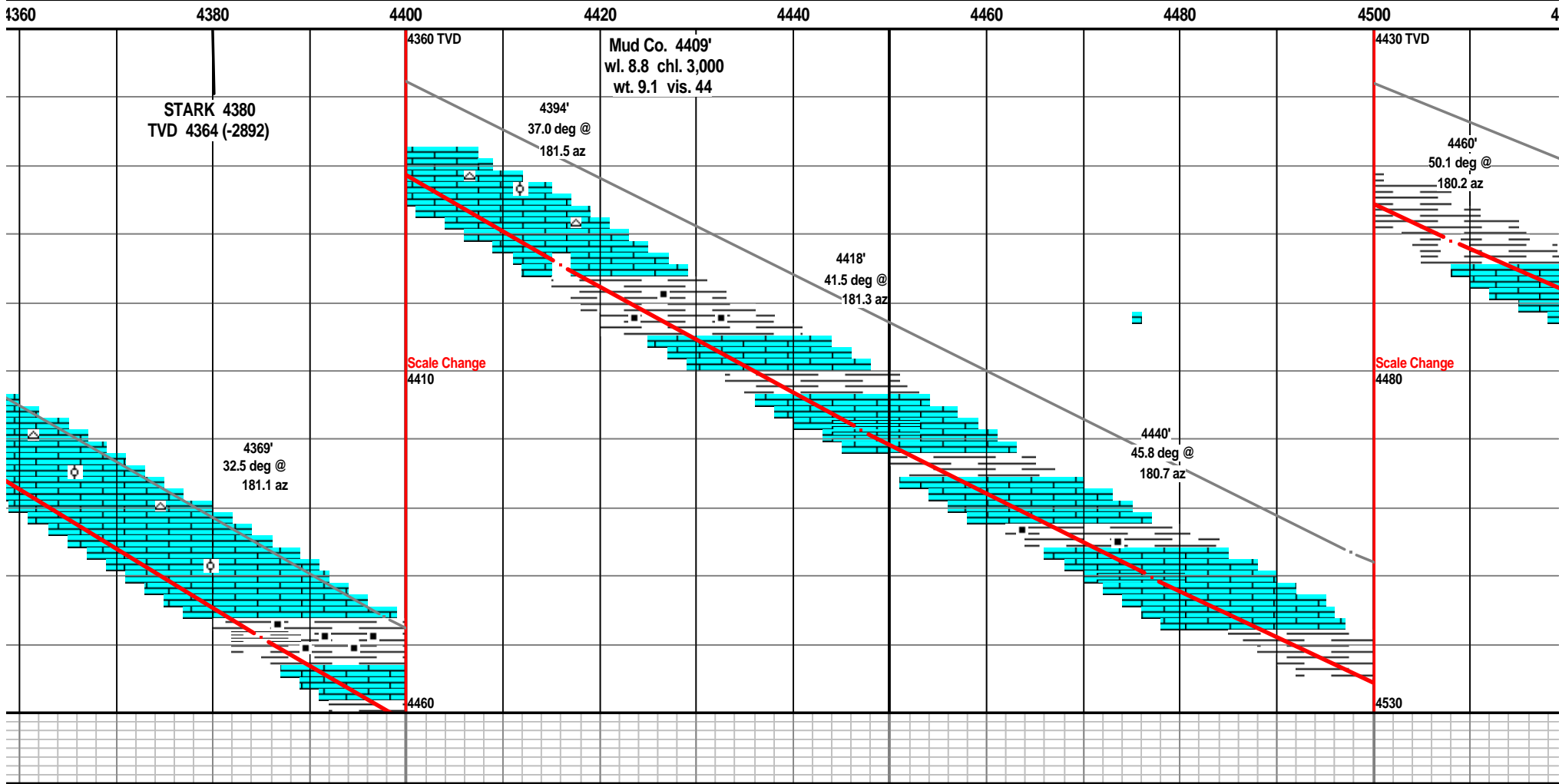
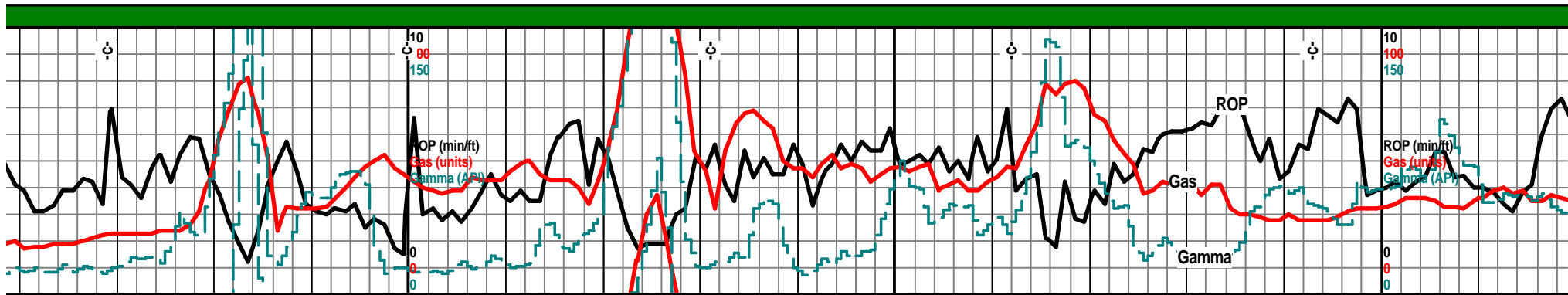
Depth 00 3920 3940 3960 3980 4000 4020

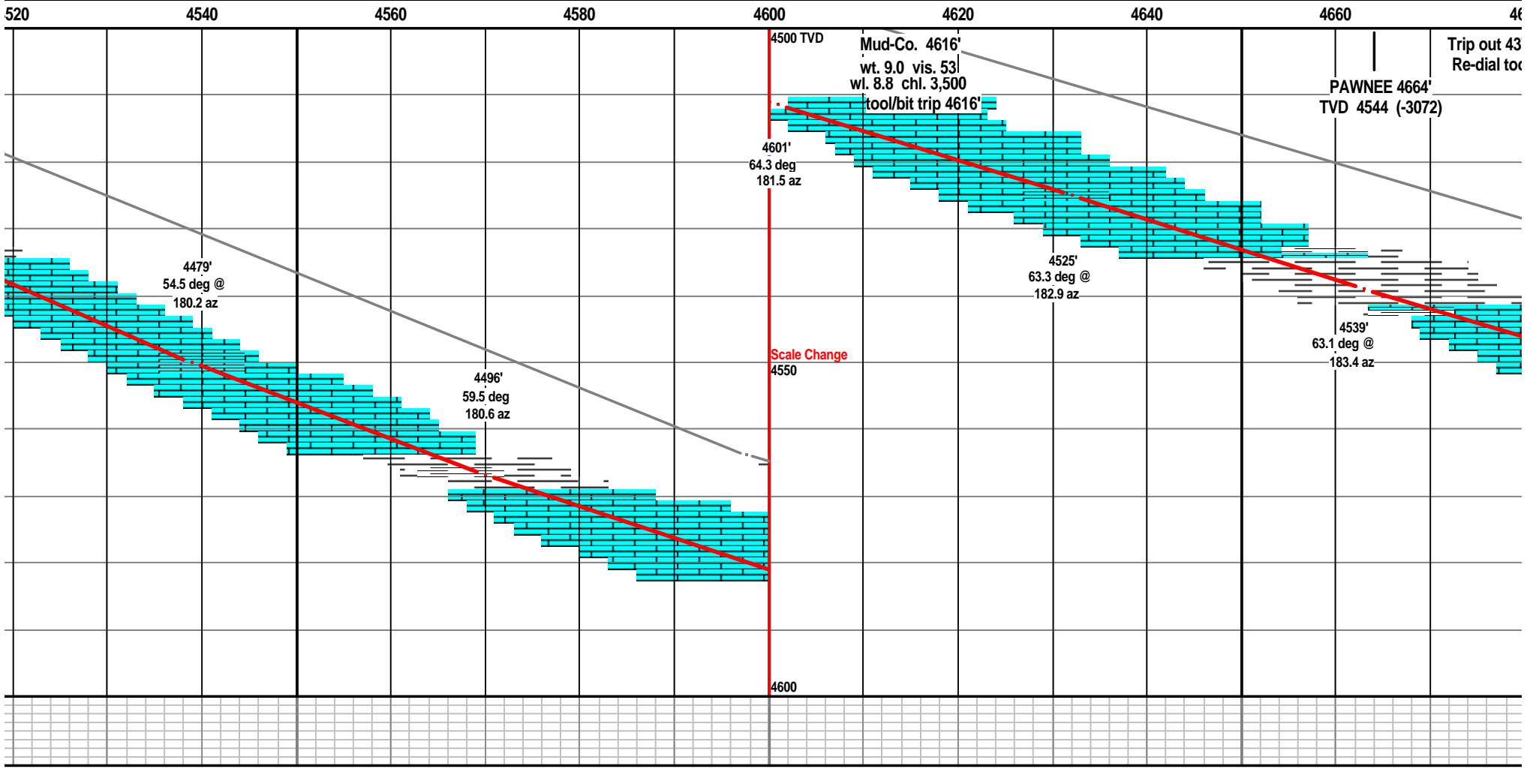
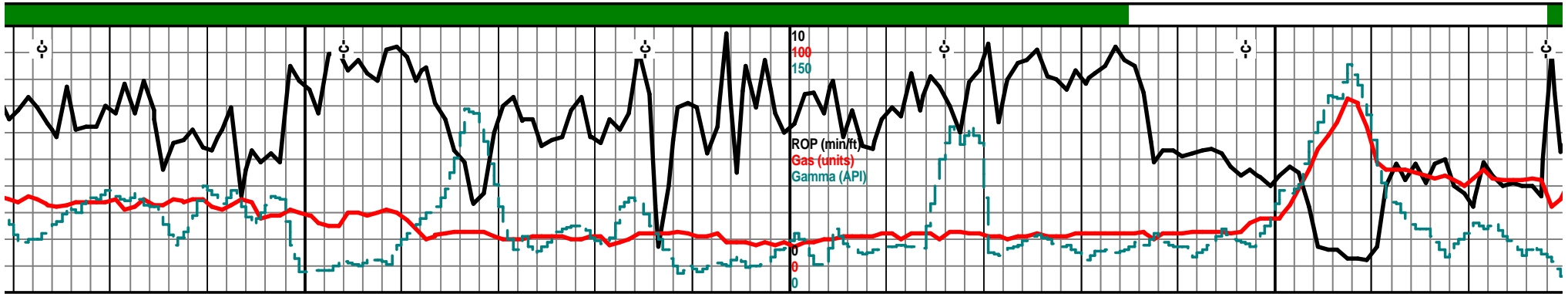


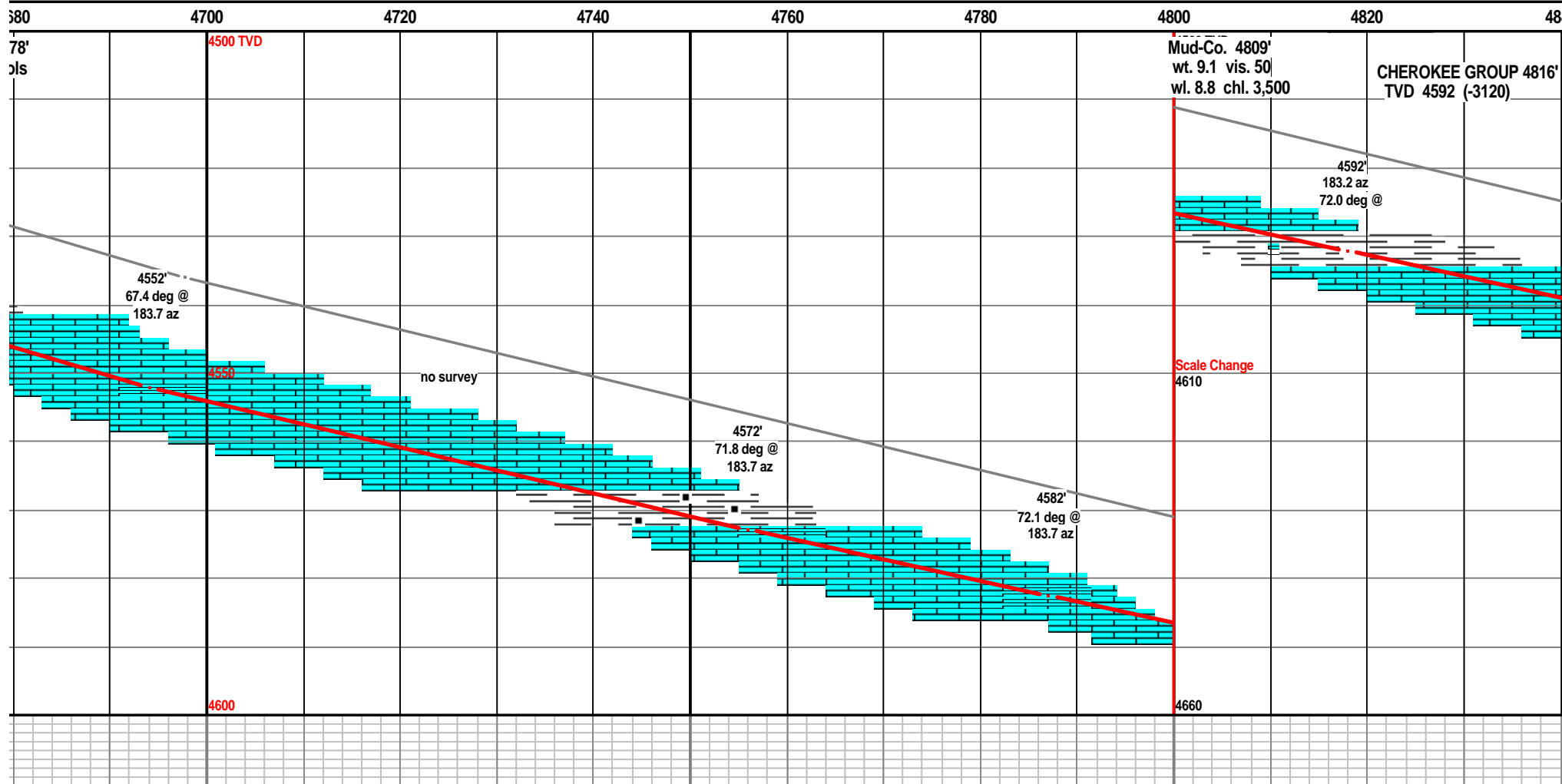
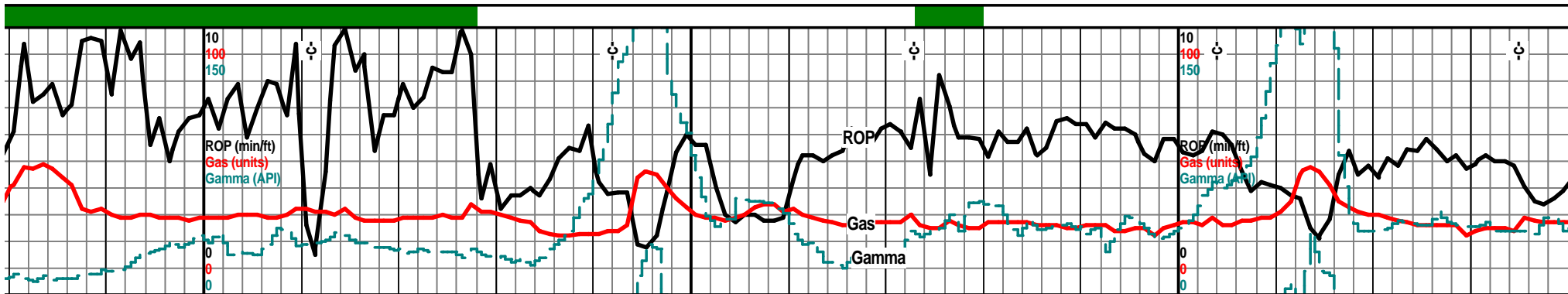
Porosity	24%
	18%
	12%
	6%
Porosity Type	

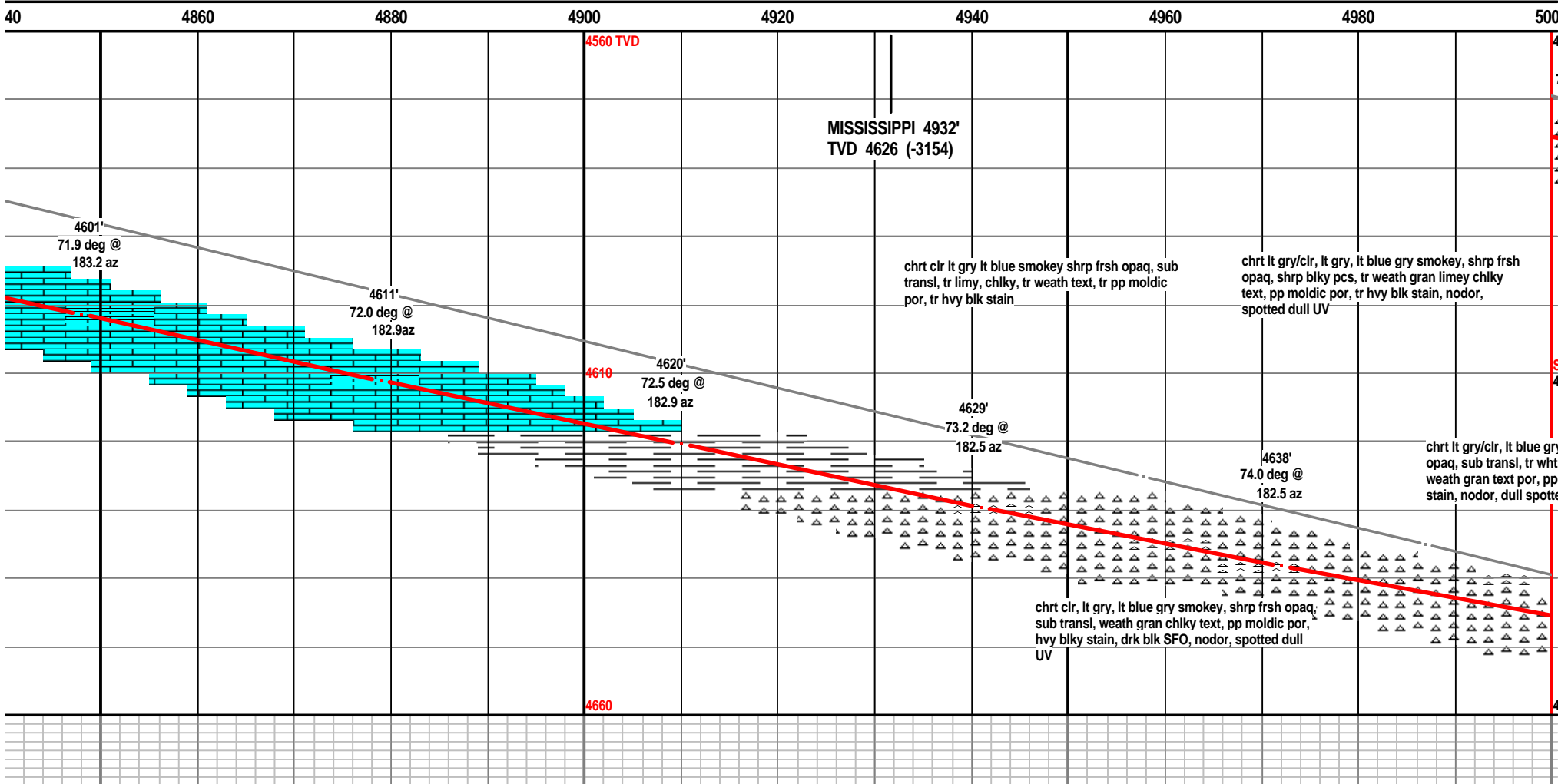
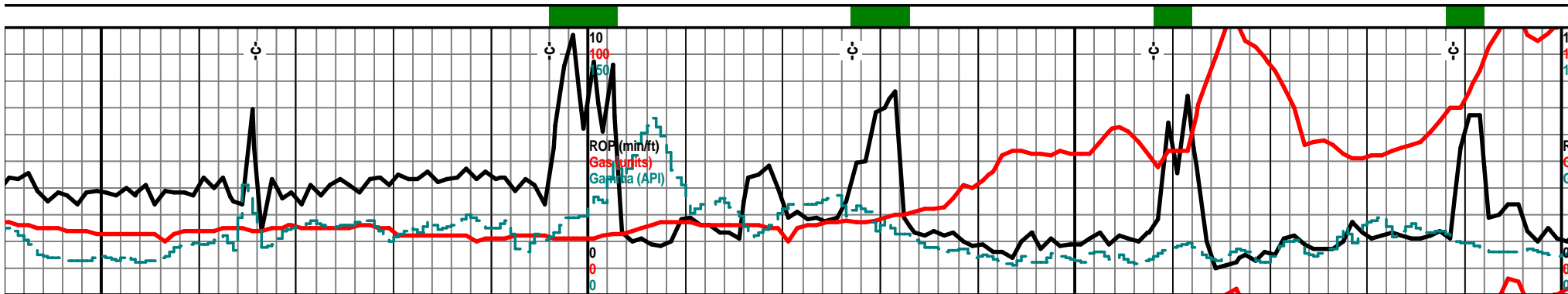


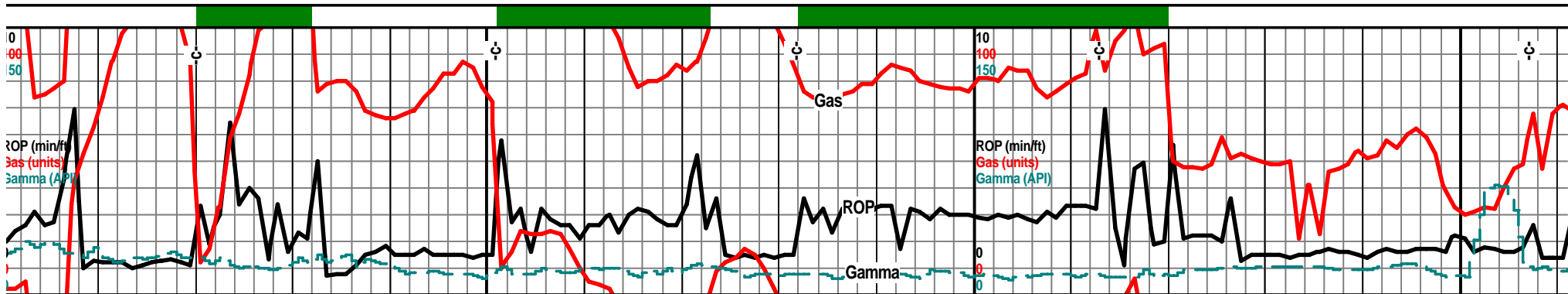












Depth (ft)	ROP (min/ft)	Gas (units)	Gamma (API)	Notes
4630 TVD				7" Casing Depth 5120'
4646'	76.7 deg @		-182.2 az	
4652'	79.1 deg @		182.2 az	
4658'	82.9 deg @		182.0 az	chrt off wht lt gry lt gry smokey shrp frsh opa, sub transl, blk ang pcs, with chrt tan wht off wht with weath tr spongey trip text pp moldic por, tan brn stained, odor? scattered UV
4657'	81.9 deg @		182.0 az	
4662'	87.5 deg @		182.0 az	
4663'	88.5 deg @		181.3 az	
4680				
4730				

chrtwth lt gry tr lt smokey shrp frsh blk ang opa with weath gran sli trip text, fair pp moldic por, scatt tan brn stain, drk sfo scattered dull UV, nodor tr gas bubs

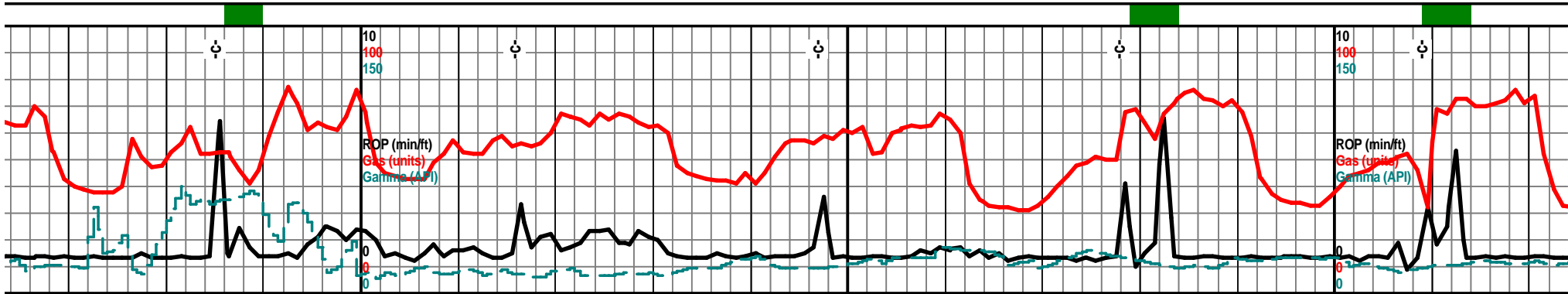
Scale Change
4680
y lt smokey shrp frsh chrt, soft gran sub chlky, moldic por, tr tan brn ad UV

chrt off wht wht lt gry shrp frsh opa, with weath gran sli trip text, pp moldic vug por, sli odor?, tan brn stain, tr gas bubs, dull UV

chrt off wht lt gry, tr lt gry smokey shrp frsh opa, sub transl with weath gran sub chlky sli trip text, pp moldic por, tr vug por, tan brn stain tr gas bubs, dull UV

chrt off wht lt gry lt gry smokey shrp frsh opa, transl, blk ang shards, chrt wht off wht with weath sli chlky trip soft text, pp moldic por, tan brn stain, nodor, dull scattered UV

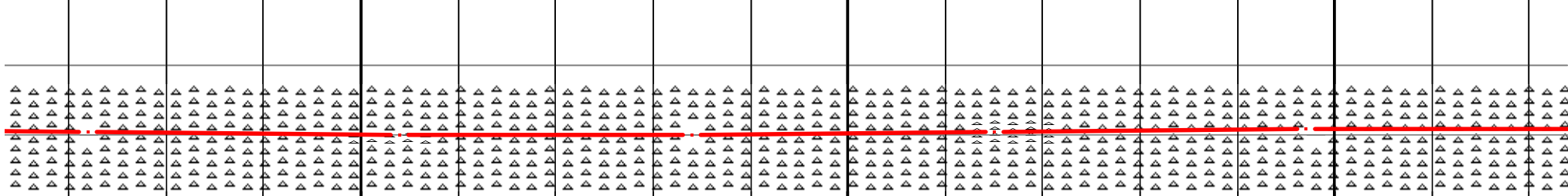
chrt off wht lt gry tr lt gry smokey, shrp frsh opa, semi transl, tan brn weath trip text edges, pp moldic por, tan brn stain, scattered dull edge UV, nodor



5980 6000 6020 6040 6060 6080 6100 6120

4620 TVD
 6075' 7am
 Sunday, November 4, 2012
 Mud-Co. 6109'
 wt. 8.4 vis. 27
 wl. N/C chl. 1,000

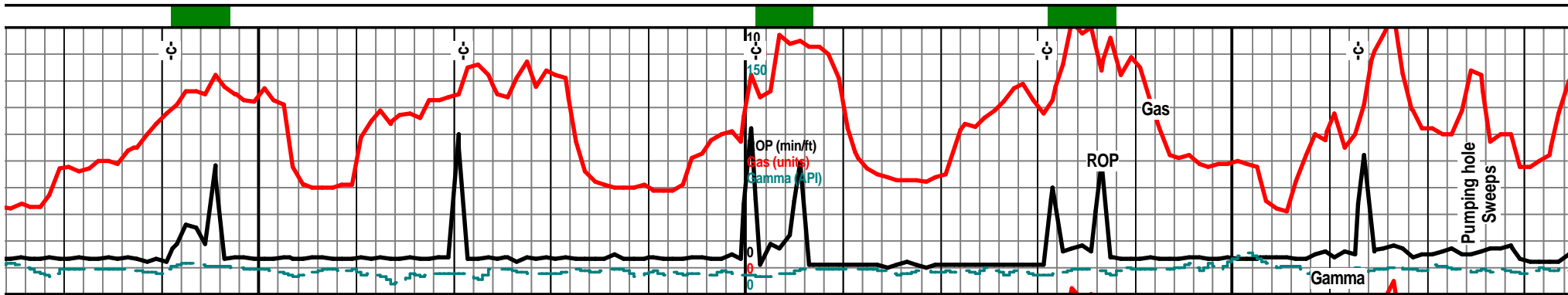
rp frsh opa, blkly shrp li weath edges, with noldic por, tan brn odor
 chrt off wht lt gry tr tan yellow tint, shrp frsh blk ang opa shards, semi transp, transl, weath edges/sides, tan lt brn stained edges, pp moldic por, tr hvy blk stain, nodor, tr gas bubs
 chrt off wht lt gry, tr lt gry smokey color, mstly frsh with weath edge/side text, pp moldic por, lt tan drk yellow stain, tr hvy blk stain, tr filmy SFO nodor
 chrt off wht lt gry lt smokey gry, shrp frsh opa, semi transl, with tr weath gran edge text, pp moldic por, yellow tan brn stain, filmy SFO, tr hvy grsy stain, dull UV
 chrt lt gry off wht smokey g transl, semi transp, with we moldic por, tan brn stain, y stain, tr gas bubs, dull UV, I



4659' 89.1 deg @ 176.5 az
 4660' 89.5 deg @ 176.5 az
 4660' 90.6 deg @ 177.2 az
 4659' 91.2 deg @ 177.6 az
 4659' 90.3 deg @ 177.2 az
 4670

chrt lt gry off wht, yellow/tan tint, shrp frsh opa semi transl, sub transp, blkly shap ang pcs, sli weath edges, tan brn stain, pp moldic por, tr hvy blk stain nodor, dull scatt edge UV
 chrt off wht, wht lt gry shrp frsh opa, semi transp, transl, shrp ang shards, with weath edges/sides, pp por, tan brn stain, tr hvy blk stain, tr filmy SFO, nodor
 chrt lt gry off wht, wht, shrp frsh opa, semi transl, sharp ang pcs, with sli weath text edges/sides, pp moldic por, tan brn stain, yellow tint stain, tr hvy grsy stain nodor, dull UV
 chrt off wht lt gry lt gry smokey, shrp frsh opa, semi transl, shrp hrd blkly pcs, pp moldic por, tan yellow brn stain, grsy hvy blk stain dull UV, nodor

4720 4720



6140

6160

6180

6200

6220

6240

6260

6280

4620 TVD

ry, shrp frsh opa, ath semi trip text, pp allow stain tr hvy grsy nodor

chrt lt gry off wht tr smokey color, shrp frsh opa, semi transl, hrd blk ang shards, with semi weath sli trip text edges/sides, pp moldic por, yellow tan brn stain, nodor, tr gas

chrt tr wht, off wht lt gry, tr lt gry smokey, shrp frsh opa, semi transl, with weath tan brn stained sli trip text edges, pp moldic por, tan brn stain, tr blk hvy stain tr gas bubs, scatt dull edge UV

chrt lt gry bec drkr smokey gry, shrp frsh opa, sub transl, with weath gran trip text edges, tan brn drk brn stain, drk filmy SFO, sli odor, tr gas bubs, scatt edge UV,

chrt lt gry, incr drkr gry smok blk with off wht tan mott wea edge/sides, pp moldic, vug pc stain, sli odor, tr gas bubs, du



4659' 89.2 deg @ 177.1 az

4659' 88.8 deg 177.4 az

4660' 89.2 deg @ 177.2 az

4670

4660' 89.3 deg @ 178.5 az

4661' 87.8 deg @ 179.3 az

4662' 87.7 deg @ 179.3 az

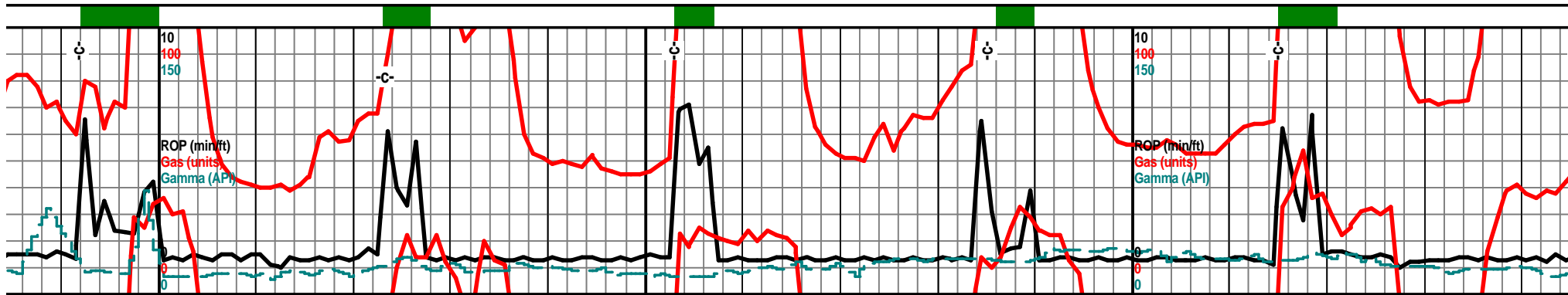
chrt lt gry off wht wht, shrp frsh opa, semi transl, blk ang shrp shards, with semi weath sli trip text edges/sides, pp moldic por, yellow tan lt brn stain, tr heavy blk grsy stain nodor tr gas bubs

chrt lt gry lt smokey shrp frsh opa, tr foss, shrp blk ang shards, with weath gran trip text edges, pp moldic por, vug por, tan brn stain tr hvy blk stain, floaters, tr gas bubs

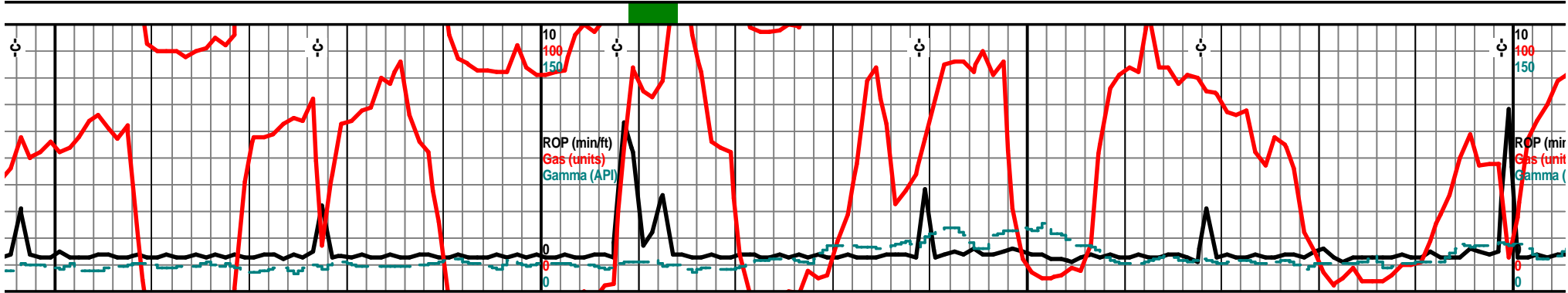
chrt off wht gry incr drkr smokey color gry shrp frsh opa, sub transl, with incr weath trip text edges/sides, tan brn stain, pp moldic por, vug por, sli odor, scatt dull edge UV.

chrt lt gry, smokey gry, tan gry mott, frsh shrp blk opa with weath gran trip edge text, tan brn tr hvy blk stain, sli odor, filmy SFO, floaters, pp moldic vug por

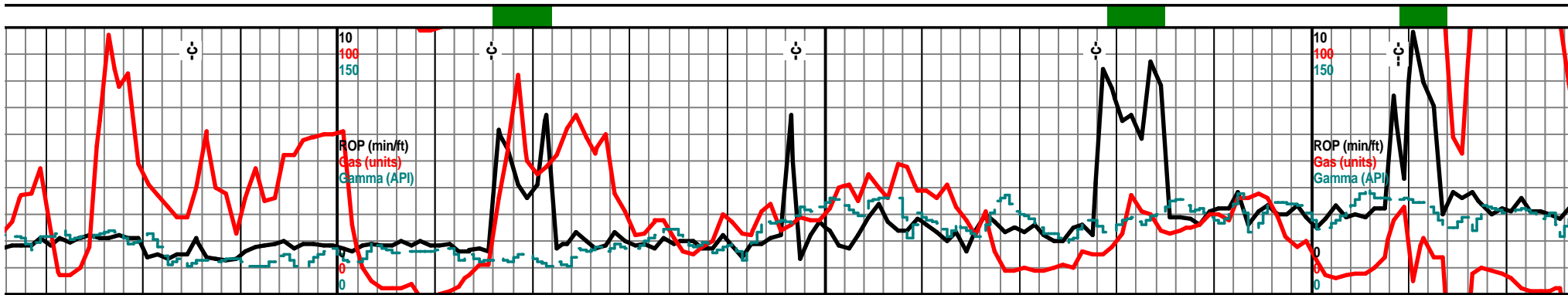
4720



6300	6320	6340	6360	6380	6400	6420	6440
Bit Trip 6292'	4620 TVD		6350' 7 am Monday, Nov. 5, 2012		4620 TVD		Mud-Co wt. 8.4 v wl. N/C cl
ey color, frsh shrp th gran trip r, tan brn tr hvy blk ill edge UV		chrt lt gry off wht, gry smokey shrp frsh opa blky ang shrds, with weath trip tan brn stained edge text, tr spongy text, pp moldic por, vug por, tan brn stain, tr hvy blk stain, gas bubs, dull scatted edge UV sli odor		chrt lt gry off wht, drkr gry smokey in color with tan brn off wht mott weath trip text edges, tr spongy weath edge text, pp moldic por, tan brn tr blk hvy grsy stain, sli odor, gas bubs, floating oil droplets, dull scatt edge UV			chrt off wht opaq, blkly a weath gran mott spong tan brn stair sli odor, dul
	4670				4670		
	4663' 90.2 deg @ 179.9 az		4662' 91.3 deg @ 180.0 az		4662' 91.2 deg @ 180.0 az		4661' 89.5 deg @ 179.9 az
			chrt lt gry off wht, smokey gry shrp frsh opa trans with weath tan brn mott trip text, tan brn wht mott spongy weath trip text pp moldic vug por, tan brn stain, filmy SFO, floating drops, sli odor, gas bubs, dull scatt edge UV				chrt off wht lt gry, lt gry/smokey color, shrp frsh opaq, sub transl, with weath tan brn mott trip text edges, tr tan brn spongy weath chrt, tan brn stain, drk hvy stain/SFO, filmy SFO, gd gas bubs, dull scatt edge UV, odor to noticeable odor
	4720				4720		



6460	6480	6500	6520	6540	6560	6580	6600
6448'		4620 TVD					4620 TVT
1s. 28 1l. 1,100							
lt gry, lt gry smokey color, shrp frsh ng shrds, sub transp/transl, with tan brn stained trip text por, tan brn / text trip text, pp moldic por, vug por, 1, VSSFO, hvy brn blk stain, gas bubs l egde UV		chrt wht off wht lt gry, gry smokey color, shrp frsh opa, transl, with tan brn stained edges, with tan brn stained mottled trip text edges, pp moldic por, tan brn stain, filmy SFO, "floaters" gas bubs, dull scatt UV edges		chrt wht off wht lt gry, lt gry smokey, shrp frsh opa, semi transl, with sli weath tan brn stained edge, chrt aa with tan brn wht mottled trip and spongy text edges, pp moldic por, tan brn stain, tr hvy tan blk stain, sli odor, gas bubs filmy SFO dull scatt UV, some glau specks		chrt off wht lt gry lt gr/smokey cc opaq shrp blkly shards with tan b semi weath edge, chrt aa with tan sli spongy text, pp moldic vug pc blk stain gas bubs, "floaters", filr scattered edge UV	
▲▲▲▲▲	▲▲▲▲▲	▲▲▲▲▲	▲▲▲▲▲	▲▲▲▲▲	▲▲▲▲▲	▲▲▲▲▲	▲▲▲▲▲
		4670					4670
	4662' 90.1 deg @ 179.9 az	4661' 90.5 deg @ 179.9 az		4661' 89.7 deg @ 179.3 az		4662' 89.5 deg @ 179.3 az	4662' 89.6 deg @ 179.2 az
	chrt off wht lt gry, lt gry smokey color shrp frsh opaq sub transl/transp, with tan brn stained edges, also with tan brn stained weath spongy trip text edges/sides, pp moldic por, vug por, tr hvy brn blk stain/SFO, gas bubs. dull edge UV		chrt wht off wht, lt gry smokey color, shrp frsh opaq blkly ang semi transl shards with tan brn stained sli weath edges, and chrt aa with tan brn mottled weath trip tr spongy text edges, pp moldic por, vug por, filmy SFO, tr hvy tan brn stain SFO, gas bubs, dull edge UV		chrt wht off wht lt gry, gry smokey color, with tan brn stain along sli weath edges, with chrt aa with tan brn wht mottled sli spongy trip text edge, pp moldic por vug por, tan brn stain, filmy SFO, :floaters, gas bubs, dull UV tr glau specks		
		4720					4720



6780 6800 6820 6840 6860 6880 6900 6920

4620 TVD 4620 TVD

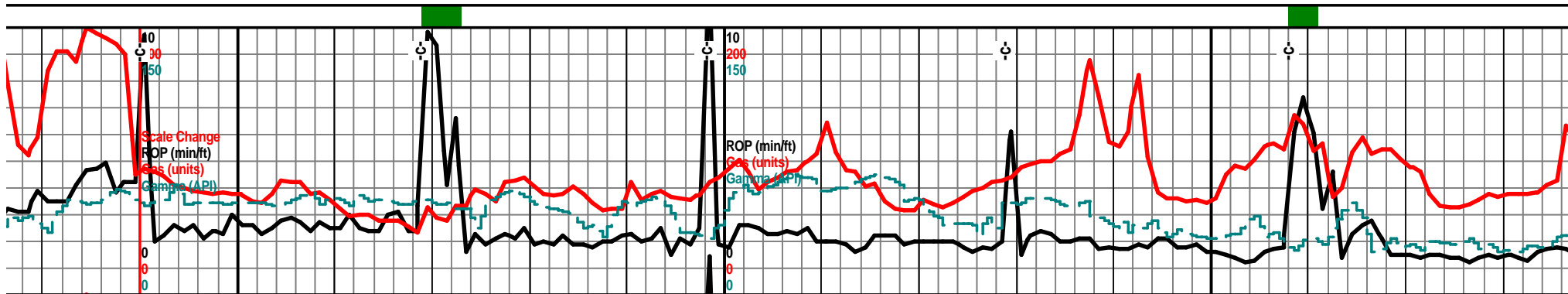
ong
 chrt wht off wht lt gry, clr, transl, opa, shrp frsh blk ang shards, with tan brn stained sli weath edge, chrt aa with weath trip sli spongy edges, tan brn stain, pp moldic por, oil droplets, tr gas bubs, scatt dull edge UV nodor, tr lst wht f xin flky sub chlky, chrty, chrt inclu, tr glau
 chrt off wht lt gry, vry lt smokey gry, shrp frsh opa shards, transp, "glassy", with tr tan brn stained weath sli trip text edge, tr weath sli spongy text trip text edges, tan brn stain, tr hvly stain, tr filmy SFO, nodor, scatt dull edge UV, poor vis show
 chrt off wht lt gry clr shrp frsh tansp, opa ang shrp shards, tr weath sli trip text, edge stain, blk stain, drk brn blk stain, pp moldic por, lst wht, tr blue green f xin flky chlky much glau chrty, chrt inclu tan brn stain



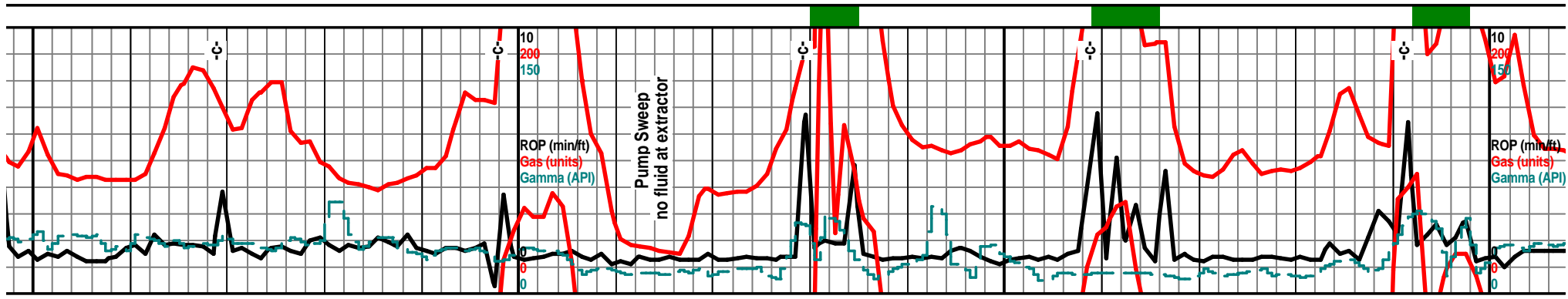
4666' 88.2 deg @ 178.6 az
 4667' 88.7 deg @ 178.6 az
 4667' 89.0 deg @ 178.5 az
 4668' 89.0 deg @ 178.3 az
 4668' 89.9 deg @ 178.1 az
 4668' 89.5 deg @ 178.1 az

hlt lt gry clr, transl, shrp frsh opa, shrp shards, with incr weath sli trip text with rn stain with weath sli trip text des, incr scatt dull UV, nodor, tr hvly blk
 chrt off wht wht lt gry shrp frsh opa, transl, with sli weath lt tan stained edge, chrt aa with weath sli spongy trip text edges, tan brn stain, tr hvly brn blk stain/grsy SFO, tr gas bubs, nodor, lst wht f xin flky sub chlky tr glau, with chrty inclu, wht frsh chrt with flky sub xin lst edge, NS here.
 chrt off wht mostly lt gry clear, transp, shrp blk ang opa shards, with tr tan lt brn stained sli weath edges, chrt in spl 90% frsh, tr weath sli spongy text w/tan brn stain pp moldic por, odd lst pcs, wht f xin flky sub chlky glau, wht/blue f xin flky gran glau, chrty, with chrt inclu
 chrt off wht lt gry clr shrp fr ang shrds, tr weath sli trip blk hvly grsy stain, brn blk lst wht off wht green f xin fl content, chrty, chrt inclu.

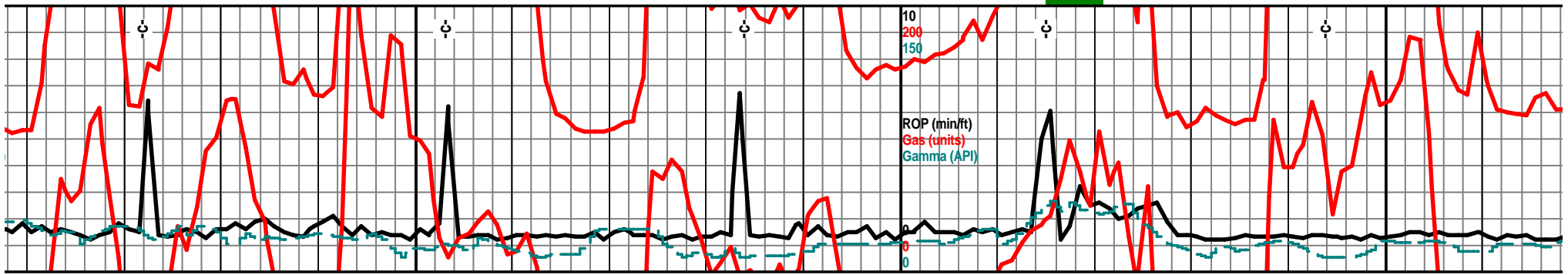
4720 4720



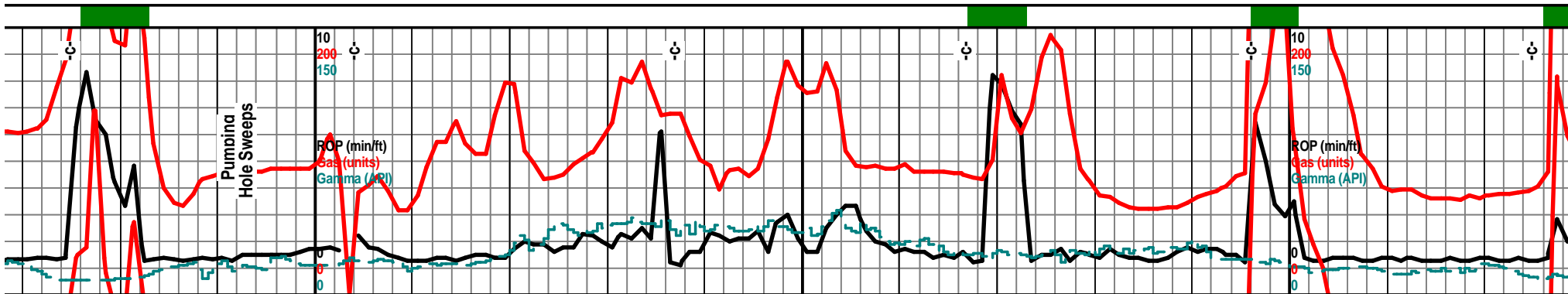
6940	6960	6980	7000	7020	7040	7060	7080	
Bit trip 6940' Tuesday Nov. 6, 2012	sample pulverizer added at trip		4620 TVD					
chrt gry off wht mott, lt gry shrp frsh opaq, speckled, transl, blk ang shrp shards, with tr weath edges, pp moldic por, tr stain, tr gas bubs, lst wht wht green mott, f xln gran flky sub chlky, chrty, chrt inclu, much glau			chrt off wht lt gry, shrp frsh opaq, sub transl, tr foss, wht gry specked, with tr rare edge stain, tr hvy brn blk stain, lst wht off wht, wht tan green mott, f xln flky sub chlky, chrty in prt, chrt inclu, much glau			chrt off wht, clr, lt gry, lt gry smokey, shrp frsh opaq, transl, transp in some, tr weath edge, tr hvy brn blk stain, nodor, scatt dull edge UV, lst wht off wht lt gry green tr dolo, f xln soft, flky sub chlky, tr foss, glau,		
	4668'	4668'	4668'	4668'	4668'	4668'	4668'	
@	90.0 deg @	90.3 deg	90.1 deg @	90.6 deg @	91.0 deg @			
z	177.6 az	177.8 az	176.9 az	176.7 az	176.5 az			
rsh opaq transl, blk text edges, edge stain, stain, tr pp moldic por, ky sub chlky, hvy glau		chrt off wht lt tan/gry, mott in prt, shrp frsh opaq, blk ang shrds, tr but rare weath edge, tan brn stain tr gas bubs, tr hvy stain, lst wht off wht, wht green mott, f xln gran sub chlky flky soft, much glau		chrt off wht, clr, vry lt gry shrp frsh opaq, transl, sub transp, blk ang shrp shards, incr chrt dec lst in spl, tr hvy brn blk stain, dull edge UV, lst wht off wht, f xln gran flky sub chlky, dolo in prt, chrty, chrt inclu, glau in most		chrt wht off wht lt gry shrp frsh opaq trans, clr/transp, blk ang shards, some foss, witi tr weath edge with tan lt brn stain, spls ms! chrt with lst wht crm f xln flky sub chlky ch chrty inclu less glau		
			4720					



7260	7280	7300	7320	7340	7360	7380	7400
Samples very fine		4620 TVD					4620 TVD
t gry shrp frsh opa, transl, clr shards, with incr weath sli trip is pp and moldic por, tr tan brn scatt UN on edges, tr lst aa, less		chrt off wht lt gry, vry lt gry smokey color, shrp frsh opa, transl, some clr transp, shrp blk ang shards, foss, with sli weath tan brn stained edges, pp moldic por, tan brn stain tr hvly blk stain, nodor, dull scatt edge UV, lst as before		chrt off wht, tr wht, vry lt smokey gry, shrp frsh opa, transl, tr clr to transp, shrp blk ang shards, with weath tan brn sli trip text edges, tan brn stain, pp moldic small vug por, tr hvly blk stain, nodor, tr dull edge UV, tr lst wht off wht lt green, sub chlky chrt with chrt inclu, tr glau		chrt wht off wht lt gry shrp frsh opa blkly shrds, chrt tan brn mott, tan br sli spongy trip text edges/sides, pp vug por, tan brn stain, tr hvly brn blk bubs, nodor, tr filmy SFO, tr floater: edge/side UV	
4663' 90.3 deg @ 177.4 az		4662' 90.4 deg @ 177.2 az		4662' 90.3 deg @ 178.1 az		4662' 89.4 deg @ 178.6 az	
chrt off wht lt gry tr lt gry/smokey color, shrp frsh opa, transl, tr clr transp. blkly ang shrp shards, with incr tan brn stain weath text edges, incr pp moldic por, tan brn stain, tr hvly brn/blk stain, nodor, dull scatt edge UV, tr lst off wht lt green f xln flky, sub chlky, chrt, glau		chrt off wht clr lt to vry lt smokey gry shrp frsh transl clr to transp in prt, tr weath tan brn stain sli trip text edges, tan brn stain tr blk hvly stain, nodor, NSFO, dull scatt edge UV, no change maynard		chrt wht off wht lt gry tr lt gry smokey, shrp frsh opa, transl, tr clr transp, shrp blkly ang shrds, with tan brn stained weath sli spongy trip text, pp moldic vug por, tan brn stain, tr hvly brn blk stain tr gas bubs, tr floating droplets, dull edge UV, nodor			
		4720				4720	



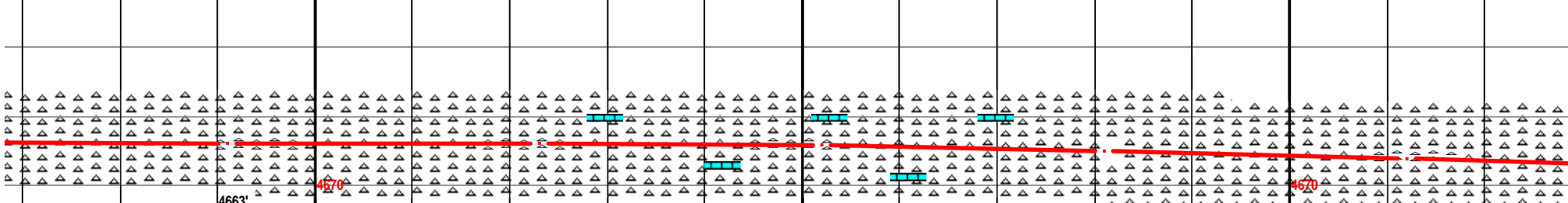
7420	7440	7460	7480	7500	7520	7540	7560	
				4620 TVD				
iq transl, shrp m stain weath moldic por, lk stain, tr gas s, dull scatt	chrt wht off wht lt gry shrp frsh opa transl, shrp blkly ang shards, with chrt wht tan lt gry mott, with weath sli trip tan brn stained text, tr spongy text, pp moldic por tr vug por, nodor, tan brn tr hvy brn blk stain, tr gas bubs, dull scatt edge UV		chrt wht off wht lt gry shrp frsh opa transl, shrp tan wht brn mott, weath gran sli spongy trip text, tan brn tr hvy blk stain, pp moldic small vug por, sli odor, filmy SFO, floating droplets, fair scatt UV		chrt off wht lt gry shrp frsh blkly ang shards, some clr transp, mstly transl, and chrt wht tan lt brn mott, with tan brn stained weath sli spongy trip text, pp moldic small vug por, tan brn stain, filmy SFO, floating droplets, sli odor?? dull scattered UV, tr hvy grsy brn blk stain			
1662' 2 deg @ 78.6 az	4663' 89.6 deg @ 178.8 az		4663' 89.8 deg @ 178.3 az		4663' 89.6 deg 178.5 az		4663' 89.7 deg 178.8 az	
chrt wht off wht lt gry shrp frsh opa transl, shrp blkly shards, chrt gry tan lt brn mott with weath gran sli spongy tan brn stained sli trip text edges, tan brn tr hvy brn blk stain, filmy SFO, floaters, tr gas bubs, dull edge UV, nodor	chrt wht, off wht lt gry, lt gry smokey color shrp frsh opa transl, with chrt lt tan lt brn tr lt gry mott, with tan brn stained weath sli trip some spongy text edges/sides, pp/moldic/vug por, tan brn tr hvy brn blk stain, tr gas bubs, filmy SFO tr floaters, dull scatt edge UV		chrt wht tr lt gry shrp frsh opa transl, some clr transp, mstly tan wht lt brn mott weath sli spongy trip text, pp moldic small vug por, sli odor, filmy RBSFO, floaters, dull scatt UV		chrt wht tr lt gry shrp frsh opa transl, some clr transp, mstly tan wht lt brn mott weath sli spongy trip text, pp moldic small vug por, sli odor, filmy RBSFO, floaters, dull scatt UV		chrt off wht lt clr transp, m mott, with tan style text, tan stain/SFO, pp floaters, odor	
				4720				



7580 7600 7620 7640 7660 7680 7700 7720

7 am 7604' Bit Trip Thursday Nov. 8, 2012

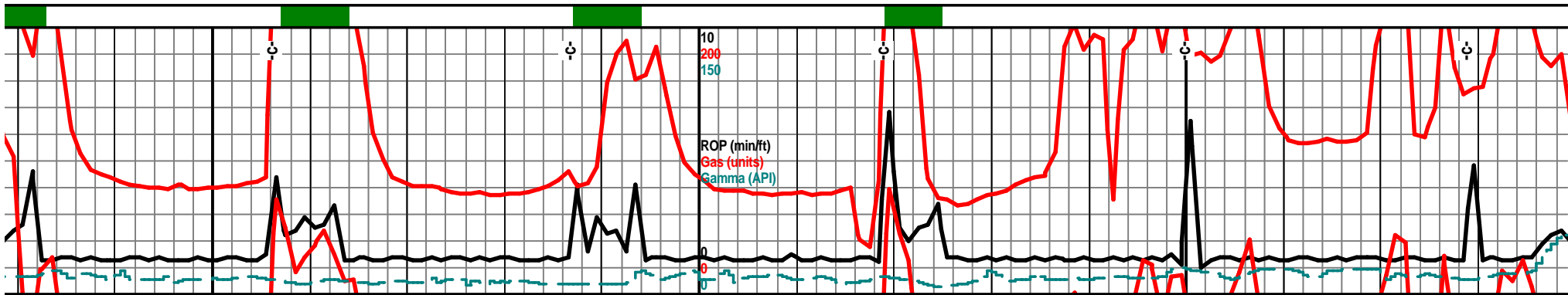
chrt lt gry off wht shrp frsh opa, transl, some clr transp, shrp blk ang shards, and chrt tan brn mott, weath gran spongy trip text, pp moldic small vug por, tan brn stain, tr tan brn/blk hvy grsy stain, filmy SFO, floaters, dull scat UV	chrt with off wht, clr transl, mstly opa to transp, shrp frsh blk sharp shards, lst wht lt green tint, f xln flky chiky glau, chrt wht tan mott weath spongy sli trip text, pp moldic por, tan brn stain, tr hvy bry blk stain, dull edge UV	chrt wht off wht some lt gry, shrp frsh opa transl, blk ang pcs, with chrt wht tan brn mott, tan brn stained weath sli spongy sli trip text, pp moldic por, vug por, tan brn stain tr hvy blk stain, dull scatt UV
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4663' 89.7 deg @ 179.2 az	4663' 90.0 deg 179.2 az	4664' 89.1 deg @ 178.8 az	4664' 87.6 deg @ 179.5 az	4666' 87.6 deg @ 179.0 az
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lt gry shrp frsh blk ang shrds, some sity transl, and chrt wht tan lt brn brn stained weath sli spongy trip brn stain, tr brn/blk hvy grsy moldic small vug por, filmy SFO, ??? scattered edge UV	chrt wht off wht of gry shrp frsh opa, transl, tr transp, wht shrp frh with tan brn stained weath sli spongy text, pp moldic por, tan brn stain, filmy SFO, lst wht some lt green f xln flky sub chiky glau chrt, chrtly inclu, wht chrt aa with lst edges, tr stain	chrt wht shrp frsh opa, chrt off wht lt gry shrp frsh opa, blk ang shards, chrt tan brn mott, weath gran tr spongy trip text tan brn stain, tr hvy stain, tr gas, filmy SFO, lst off wht lt green f xln sub chiky chrt, chrt inclu, tr stain	chrt wht off wht tr lt gry shrp fr transl, shrp blk ang pcs/sharc wht mott, with weath sli spongy edges/sides, pp moldic vug po stain, filmy SFO, floating dropl dull edge UV
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4720 4720



7740 7760 7780 7800 7820 7840 7860 7880

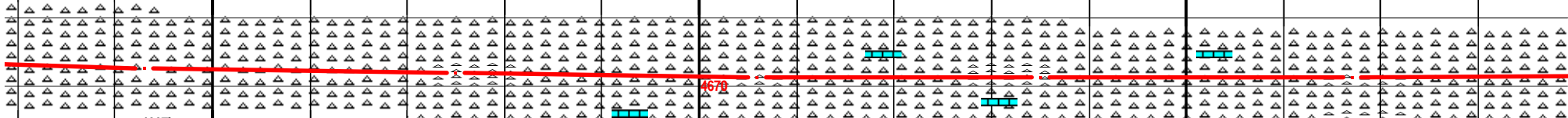
4620 TVD

chrt off wth, wht, lt gry, shrp frsh opa, sub transl, incr clr transp, shrp blk ang shrds, chrt wht tan lt brn mott color, with weath sli spongy trip text edges/sides, pp moldic and small vug por, tan brn tr hvy blk stain, filmy SFO, floaters, tr gas bubs, lst off wht green f xln flky chiky chrty glau

chrt wht off wht some lt gry, shrp frsh opa trans, shrp blk pcs, with chrt wht tan brn mott weath spongy trip text, pp moldic por, tan brn stain, SFO, filmy SFO, gas bubs, tr hvy blk stain

chrt wht off wht shrp frsh opa, semi transl, shrp blk shards, with chrt tan wht brn mott, weath gran sli spongy text, soft, vug, moldic, pp por, tan brn stained, SFO, filmy SFO, floating drops, tr gas bubs, dull UV, sli odor

ct
st
m
br
bu
sc



4678

4667'
88.4 deg @
179.9 az

4668'
88.6 deg @
180.2 az

4668'
89.6 deg @
180.2 az

4668'
90.2 deg @
180.4 az

4668'
90.4 deg @
180.0 az

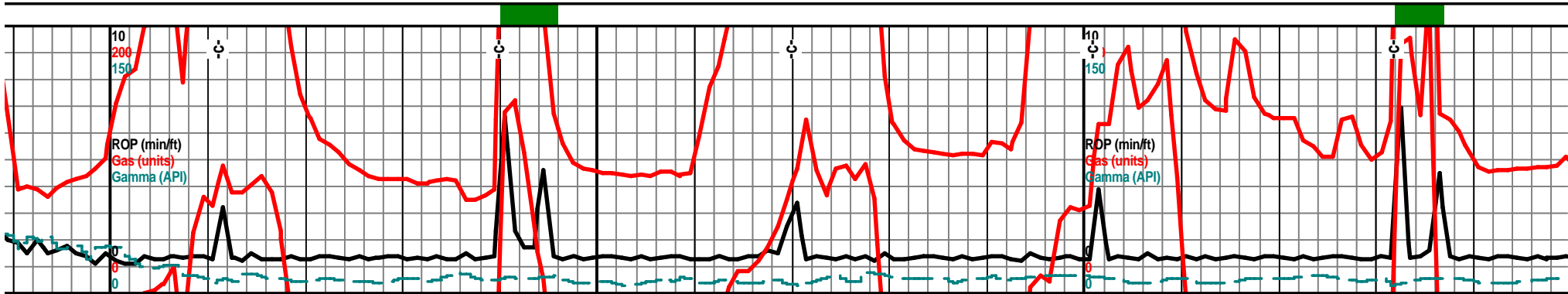
sh opa, sub ls, chrt tan lt brn y trip text r, tan brn tr hvy blk ets, nodor, scatt

chrt off wht, wht, lt gry, shrp frsh opa, sub transl, some clr transp, shrp blk shards, with chrt tan brn off wht mott, weath sli spongy trip text edges, pp moldic some small vug por, tan brn tr hvy blk stain, filmy SFO, floaters, tr gas bubs, tr lst as before

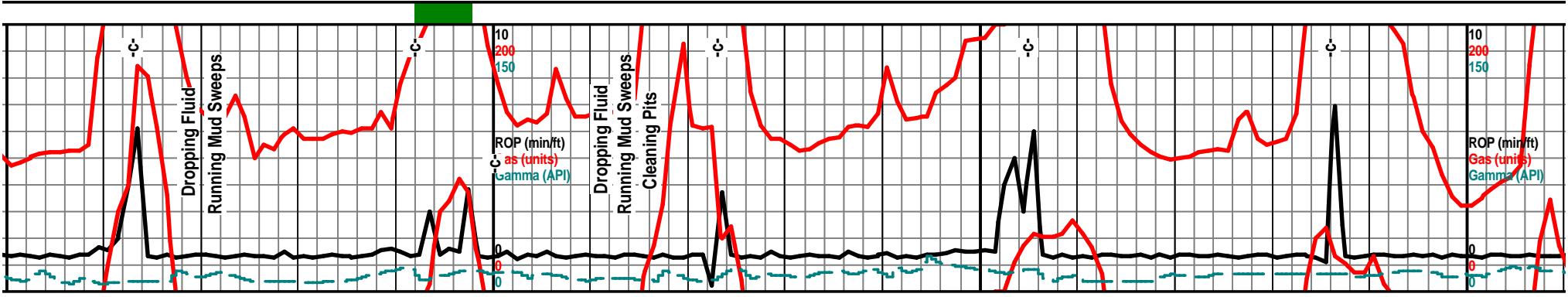
chrt wht off wht shrp frsh blk ang opa pcs, chrt tan brn wht mott, weath gran spongy text, pp moldic por, vug por, tan brn stain, tr hvy blk stain, SFO, filmy SFO, gas bubs, scatt dull UV, sli odor

chrt off wht wht shrp blk ang semi opa, cloudy chrt tan wht brn mott, gran weath spongy trip text, pp moldic vug por, tan brn stained, tr hvy brn blk stain, SSFO, filmy SFO, gas bubs, sli odo dull scatt UV

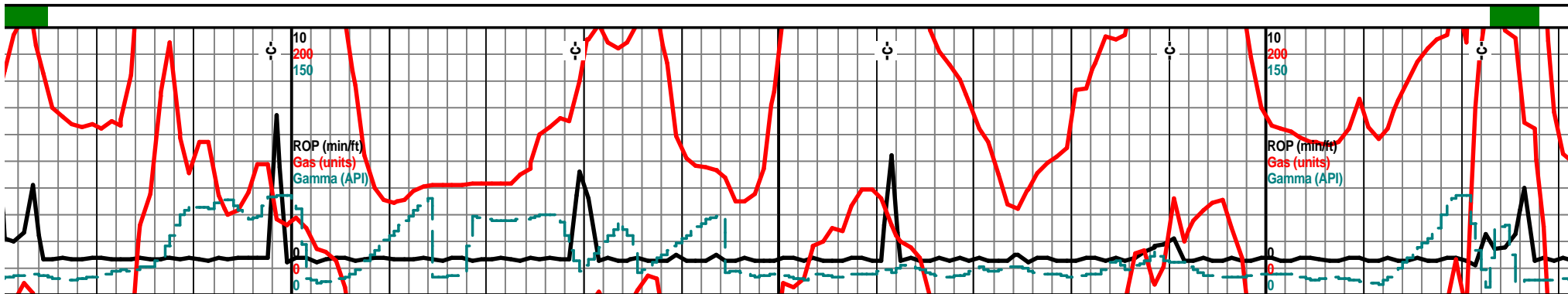
4720



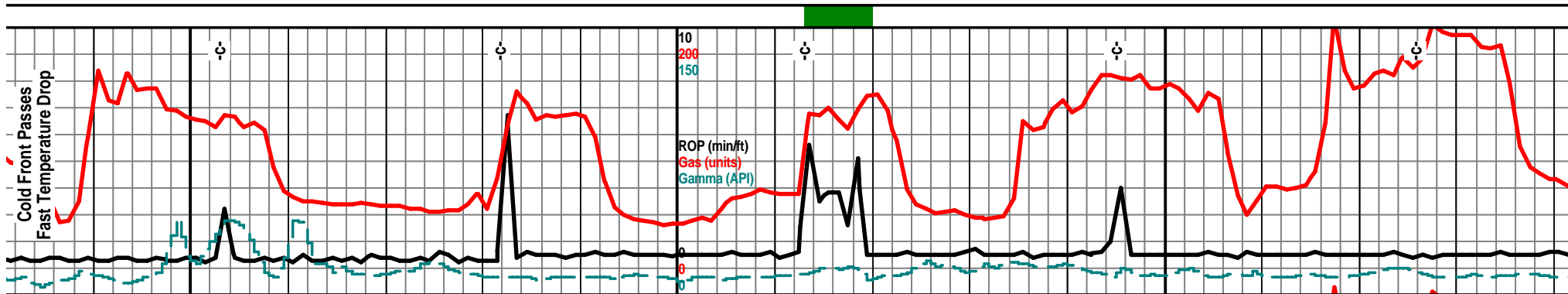
7900	7920	7940	7960	7980	8000	8020	8040	
7904' 7am Friday Nov. 9, 2012						4620 TVD		
<p>irt wht frsh shrp opa cloudy, transl, blk ang irp/dull pcs, with chrt wht off wht and tan brn off color, tan brn stain, pp moldic vug por, tan 'n stain, tr hvy brn blk stain filmy SFO, gas jbs, dull UV, tr wht off wht lst, fily sub chky xft chrt, with chrt inclu, tr glau</p>		<p>chrt wht off wht tr lt smokey gry shrp fsh opa and blk shards, chrt wht tan brn mott, weath spongy limy sli trip text, tan brn stained, pp moldic vug por, filmy SFO, tr gas bubs, sli odor</p>			<p>chrt wht shrp frsh blk cloudy opa, chrt tan brn mott, weath gran spongy trip text, tan brn tr drk brn blk stain, pp moldic vug por, sli odor, dull scatt UV, filmy SFO, filmy FSO gas bubs gd shows!</p>		<p>chrt wht off wht som blk ang hrd shards, brn mott, with weath gd vug por, tan brn odor, filmy SFO, SSF UV, good vis shows</p>	
4668' 90.5 deg @ 180.0 az		4668' 90.6 deg @ 180.0 az		4668' 89.7 deg 179.5 az		4668' 89.6 deg @ 179.2 az		
		<p>chrt wht off wht lt gry in prt, shrp frsh, transl, some opa/cloudy, shrp blk ang shards, chrt wht tan brn mott, with weath sli trip spongy soft text, pp moldic por, vug por, tan brn tr hvy brn/blk stain, sli odor, filmy SFO, floaters, dull edge UV</p>			<p>chrt wht shrp frsh opa transl, cloudy shrp blk ang pcs, with chrt wht tan brn mott, weath spongy limy trip text, pp moldic por vug por, tan brn stain, tr brn/blk hvy stain, sli odor, filmy SFO, floating droplets, fair/dull UV</p>		<p>chrt wht off wht frsh shrp opa sub transl, tr lt smokey gry, shrp blk ang shards mstly chrt tan wht brn mott, weath gran spongy trip text, pp moldic gd vug por, tan brn stain, tr hvy brn blk stain, gas bubs, SSFO, floating oil droplets, dull UV</p>	
4720								4720



8060	8080	8100	8120	8140	8160	8180	8200
		4620 TVD					4620 TVD
ie lt smokey gry, opaq shrp, mstly chrt wht off wht tan spongy trip text, pp moldic stain, tr hvy brn blk stain, sli floaters, gas bubs, dull		chrt off wht wth shrp frsh opaq blk ang shrp pcs, chrt tan brn wht off wht mott, with tan brn stained weath spongy trip text, pp moldic por, tan brn tr hvy brn blk stain gas bubs, SSFO, gd UV, filmy SFO, floaters		chrt off wht wht, tr lt smokey gry, shrp frsh opaq, cloudy, transl, ang blk shards, chrt tan wht brn mott, weath trip sli spongy text, pp moldic por, tan brn stain tr drk blk stain, filmy SFO, sli odor, gd scatt UV			chrt wth off wht shrp frsh opaq cloudy, c drk brn mott soft gran trip tr spongy text pp moldic, vug por, drk tan brn msly blk fair SFO, gas bubs, dull UV, fair odor
	4669'		4670'	4671'	4671'	4671'	4672'
	88.5 deg @ 179.2 az		88.5 deg @ 179.2 az	88.8 deg @ 179.0 az		89.2 deg @ 179.2 az	89.5 deg @ 179.0 az
chrt off wht to wht, with tr lt smokey gry shrp frsh opaq blk ang shards, with chrt tan brn off wht mott, tan brn stained weath sli spongy trip text, pp moldic por, vug por, sli odor SSFO, filmy SFO, gd show, dull UV			chrt off wht, wht shrp frsh opaq blk ang shards, tr lt gry smokey shrp frsh transl shrp pce, mostly chrt wht off wht tan brn mott, weath spongy trip text, pp moldic and vug por, tan brn tr hvy brn blk stain, SSFO, filmy SFO, sli odor, gas bubs, floaters, fair to dull UV			chrt wht off wth shrp frsh opaq blk ang pcs, chrt off wht tan brn mott, gran weath spongy trip text rx, pp moldic por, vug por, tan brn tr drk brn blk stain, sli odor, SFO, gas bubs, filmy SFO, floaters, dull UV	
		4720					4720



8380		8400		8420		8440		8460		8480		8500		8520	
		4620 TVD				7 am 8429' Bit Trip Saturday Nov. 10, 2012						4620 TVD			
		chrt off wht, wht, lt gry shrp frsh opa, transl, cloudy, shrp blk ang shrds, with chrt tan brn wht mott, weath trip sli spongy text, tan brn and hvy grsy blk stain, gd vis pp moldic and vug por, SFO, filmy SFO, tr gas bubs, even UV				chrt wht off wht tr lt gry shrp fsh opa transl, shrp blk ang pcs with chrt tan wht brn mott weath trip text, spongy text in prt, gd vis pp moldic por, vug por, tan brn stain, tr blk stain even UV, VSSFO, odor? tr gas bubs						chrt wht off wht, tr lt gry off wht/gry, shrp frsh opa, with chrt wht off wht, tan lt brn mott, weath trip sli spongy text, pp moldic por, vug por, tan lt brn, brn stain, tr hvy blk stain, filmy SFO, scatt/even UV, odor?			
		4673'		4674'		4674'		4675'		4676'		4676'			
		89.0 deg @ 177.9 az		88.7 deg @ 179.7 az		89.1 deg 179.9 az		89.4 deg @ 179.5 az		89.3 deg @ 179.2 az					
t, tr lt gry, shrp frsh opa transl, nrds, mstly chrt tan brn mott with ongy text, tan brn and blk stained, stain, gd vis moldic, pp and vug, filmy SFO tr gas bubs, even UV				chrt off wht lt gry, shrp frsh opa, transl, shrp blk shrds, mostly tan brn wht mott, weath gran sli spongy trip text, tan brn tr hvy grsh blk stain, gd vis pp moldic and vug por, SSSFO, filmy SFO, gas bubs, sli odor, dull even UV sat				chrt wht lt gry shrp frsh opa transl, glassy, bky ang shrp shards, chrt tan wht brn mott, weath trip text, spongy text, gd vis pp moldic vug por, tan brn stain, tr hvy blk stain, grsy SFO, floaters, sli odor, even sat/UV				chrt off wht tr lt gry/wht, shrp frsh l sub transl, tr cloudy, with chrt tan weath trip sli spongy text, pp mold tan brn stain, tr hvy blk stain, filmy droplets, scatt/even UV nodor			
		4720										4720			



8540 8560 8580 8600 8620 8640 8660 8680

4620 TVD

chrt off wht wht, lt gry/wht, shrp frsh opa, sub transl, cloudy, blk ang shrds, with mstly chrt tan lt brn brn stained weath trip sli spongy text, gd pp moldic and vug por, tan brn tr hvy blk stain, VSSFO, filmy SFO, tr gas bubs, scatt/even UV, odor?

chrt some wht, mstly off wht lt gry some smokey shrp frsh opa, tan lt brn stained weath edge text, pp moldic por, tan brn stain, tr hvy blk stain, scatt edge tr even UV, floaters, nodor

chrt off wht lt gry, lt tan brn, shrp frsh opa, transl, shrp blk ang shards, with weath trip edge text, tan brn stain, pp moldic por, tr vug por, sli odor, VSSFO, some floaters, sli odor, dull scatt/even UV

chrt o opa, por, tr scatt i



4676' 88.9 deg @ 179.2 az

4676' 89.4 deg @ 179.3 az

4676' 89.6 deg @ 179.0 az

4677' 88.7 deg @ 179.2 az

4677' 88.7 deg @ 179.0 az

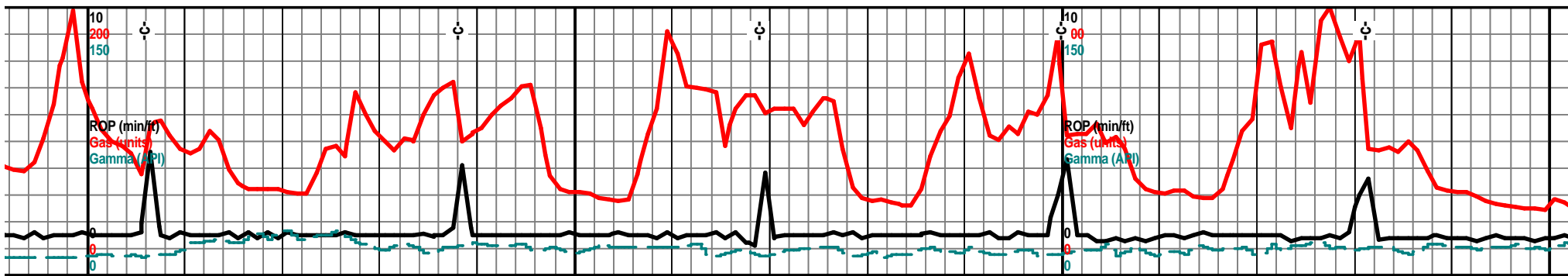
blk ang opa, wht lt brn mott, ic por, vug por, SFO, floating

chrt off wht, incr lt gry clr, shrp frsh opa, sub transl, shrp blk ang shrds, chrt wht tan brn mott with weath sli spongy trip text, pp moldic por, tan brn stain, tr hvy blk stain, floaters, scat/evin UV, | incr lst wht/green f xln flky chlky chrt, chrt inclu, glau

chrt off wht lt gry shrp frsh opa transl, some transp, shrp blk ang shards with weath trip edges, tan brn stained, pp moldic por, tr hvy blk stain, SSFO/brkn, sli odor, floating drops, scat/even UV

chrt off wht lt gry shrp frsh opa blk ang trans shrp shards, with tan lt brn brn stained weath trip edge text, pp moldic por, vug por, sli odor, VSSFO/floaters, dull scat/even UV

4720



8700 8720 8740 8760 8780 8800 8820 8840

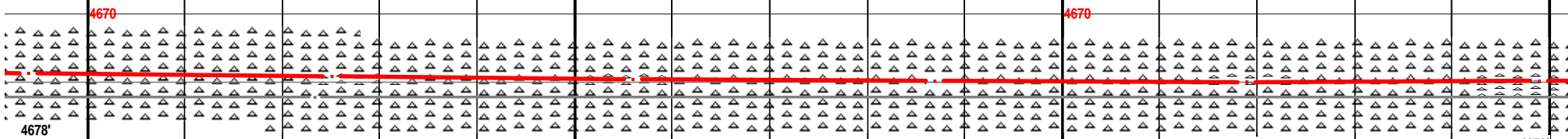
4620 TVD 7 am 8735' Sunday Nov. 11, 2012 4620 TVD

ff wht lt gry incr frsh, shrp blk ang shrds, transl, with weath trip text edge, pp moldic vug por, tan lt brn, brn stain, odor?, dull to even UV

chrt off with lt gry (spls incr frsh content) shrp frsh opaqt transl, blk ang shrp shards, with weath gran trip text sides/edges, tan brn stained, tr hvy blk stain odor?, filmy SFO, tr floaters, dull scatt to even edge UV

chrt off with lt gry shrp frsh opaqt, mstly transl, some transp, shrp blk ang shrds, (spl 90% frsh chrt) with tr weath trip text edge text, tr pp por, tan brn stained edges, nodor, dull edge UV, no SFO

chrt off wht lt gry shrp frsh transl, blk ang shrp shrd text edges/sides, pp tr molc stain, dull scattered edge U gas, tr floating droplets, spl



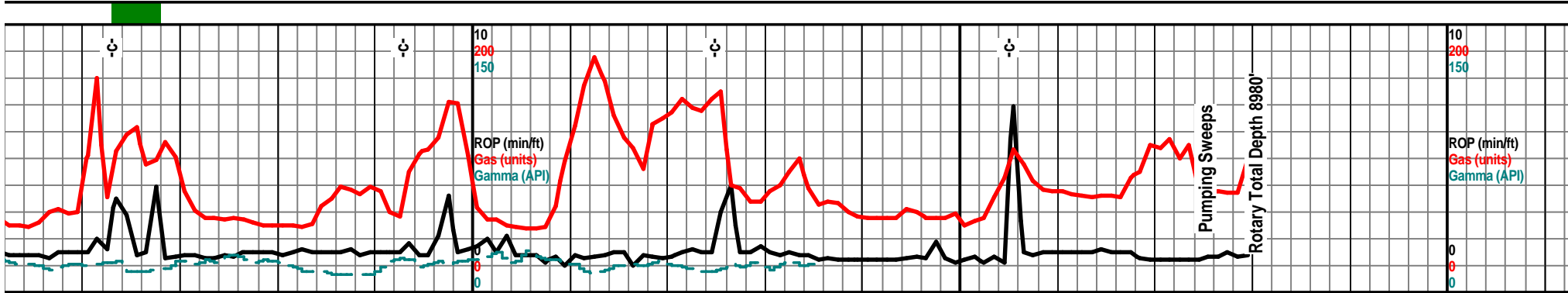
4678' 8.9 deg @ 179.0 az 4679' 89.2 deg @ 178.6 az 4679' 89.5 deg @ 178.5 az 4679' 89.5 deg @ 177.9 az 4679' 90.0 deg @ 177.9 az 4679' 90.3 deg @ 177.9 az

chrt off wht, wht, lt gry, gry/tan, shrp frsh opaqt, transl, shrp blk ang shrds, with weath tan brn stained trip edge text, pp moldic por, tr blk hvy stain, sli odor, filmy SFO, floating drops, tr gas bubs w/brkn

chrt off wht lt gry, mstly frsh (spl 90% frsh), shrp blk ang shrds, opaqt mstly transl, some transp, with tr weath edges, tan brn stained sli weath edges, tr pp por, nodor, dull egde UV poor shows

chrt off with lt gry shrp frsh opaqt, transl, some transp, shrp blk ang shards, with tr weath sli trip edge text, tan brn stained sli trip edges, pp por, tr hvy blk stain, nodor, NSFO, scatt dull edge UV

4720 4720



8860	8880	8900	8920	8940	8960	8980	9000
		4620 TVD				Rotary Total Depth 8980' TVD 4679' (-3207) 5 pm on 11-11-12	4620 TVD
opaq, transl, some ls, with tr weath sli trip fic por, lt tan lt brn V, NSFO, nodor, no msly frsh barren chrt		chrt lf wht off wht lt gry, clr, glassy, shrp frsh transl, mstly transp, blkly ang shrp shards, with tr rare weath tan lt brn stained trip text edges/sides, tr pp moldic por, nodor, NSFO, do have some floaters, scatt rare dull edge UV, lst wht chiky softy chrty, chrt aa with lst edges, tr glau			chrt off wht, tr wht, lt gry shrp frsh opaq, trans, mstly transp, with tr tan brn stained weath sli trip text, tr rare blk hvy stain, tr pp moldic por, nodor, NSFO, no gas bubs, some floating drops, dull scatt edge UV poor show!		
		4670				4670	
		4679' 89.9 deg @ 177.8 az				4679' 90.0 deg @ 177.1 az	
chrt off wht lt gry clr, glassy, shrp frsh opaq, trans, mstly transp, blkly ang shrds, with tr weath sli trip edge/sides, tan lt brn stain, tr pp moldic por, nodor, NSFO, tr scatt edge UV, tr lst wht/green f xln flky, soft, sub chiky, glau		chrt off wht, wht, lt gry clr glassy, shrp blkly ang pcs, transl, mstly transp, some opaq, with tr weath tan lt brn stained edges/sides, tr pp moldic por, tan brn tr hvy blk stain, mstly just frsh barren			chrt off wht lt gry, some wht.gry specked, shrp frsh opaq, transl, some transp, hrd blkly ang shards, with tr weath sli trip edge/side text, (90% barren frsh chrt), tr pp small vug por, nodor, dull scatt edge UV		
		4720				4720	

10
200
150

ROP (min/ft)
Gas (units)
Gamma (API)

0
0
0

9180 9200 9220 9240 9260 9280 9300

4620 TVD

4670

4720