LITHOLOGY STRIP LOG

WellSight Systems

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

Well Name:	**HERMAN L. LOEB LLC. SCHOOL TRUST #20-5**		
Location:	**NE NW SW NE SEC.5-T35S-R12W, BARBER CO. KANSAS**		
License Number:	**15-007-24092-00-00**	**Region:**	**HARDNER**
Spud Date:	**11/01/13**	**Drilling Completed:**	**11/14/13**
Surface Coordinates:	**1,325' FNL, 2,295' FEL**		
Bottom Hole Coordinates:			
Ground Elevation (ft):	**1,470'**	**K.B. Elevation (ft):**	**1,479'**
Logged Interval (ft):	**3,600' To: 5,640'**	**Total Depth (ft):**	**5,640'**
Formation:	**Arbuckle**		
Type of Drilling Fluid:	**Native Mud To; 3,245', Chemical Gel To RTD.**		

OPERATOR

Company: Herman L. Loeb LLC.
Address: PO Box 838
Lawrenceville IL 62439
Phone: 812-453-0385

GEOLOGIST

Name: James R. Hall (Wellsite Supervisor)
Company: Black Gold Petroleum
Address: PO Box 66
Valley Center, Kansas
67147-0066

Comments

Drilling contractor: Sterling Drilling Co. Rig #4, Tool Pusher: Lanny Saloga.

Surface Casing: 13 3/8" set at 271' w/275sx, cement did circulate.

Activity:
11/01/13; Spud.
11/03/13; Drilling @ 1,365'.
11/04/13; Drilling @ 2,380'.
11/05/13; Drilling @ 3,085'.
11/06/13; Drilling @ 3,660'. Displaced system and convert to Chemical Gel mud @ 3,245'.
11/07/13; Running DST #1 (Stalnaker Sandstone, see test results below), @ 4,190'. Prior to DST #1 ran 30std. short trip, and strap pipe (1.39' short to the board.
11/08/13; Drilling @ 4,320'.
11/09/13; Drilling @ 4,630'.
11/10/13; 4,860' running DST #2 Miss. 4,790' - 4,860',(see test results below).
11/11/13; Drilling @ 4,930'
11/12/13; Drilling @ 5,165'.
11/13/13; Tripping NB #2 @ 5,313'.
11/14/13; Drilling @ 5,500'.
11/15/13; Open Hole Logs after RTD 5,640'. Make ready to run 5 1/2" casing to evaluate the Stalnaker Sandstone and Mississippi.

Deviation Surveys: 0.50 @ 275', 2.25 @ 4,190', 2.50 @ 4,860', 2.0 @ 5,013', 1.75 @ 5,640'.

Bit Record:
#1 17 1/2" out @ 275'.
#2 7 7/8" New JZ HA20Q in @ 275', out @ 5,313', made 5,038' in 175 hrs.
#3 7 7/8" RR JZ QX30 in @ 5,313', out @ 5,640', made 327' in 28.5 hrs.

Drilling time commenced: @ 3,600'. Minimum 10' wet and dry samples commenced: @ 3600' to RTD. Samples delivered to Kansas Geological Sample Library at Wichita, Kansas.

Gas Detector: Sterling Rig unit #4. Tooke Daq Drilling time and Hotwire gas values were placed on this Plotted Sample Strip log.

Mud System: Mud-Co/Service Mud. Chemical Gel system @ 3,245', Mud Engineer: Brad Bortz & Terry Ison.

DST Co. Trilobite Testing Co., Tester: Leal Casom (Pratt Office).

Open Hole Logs: Halliburton (Liberal Kansas), Logging Engineer: J. Bollom.
DIL, CDL/CNL/PE, MEL/SON.

Reference Wells: "A" Gulf Oil Exploration & Production School Trust #18-5, S/2 NW NE 5-35S-12W, "B" Gulf Oil Corp. School Trust #19-4, SW/4 4-35S-12W.

Note: The open hole log gamma ray and caliper curves have been placed on this sample strip log, for better correlation. This sample strip log has been shifted 2' for correlation purposes with the open hole logs. Tops shown on the strip log are E-log tops.

DSTs

DST #1 (Stalnaker Sandstone), 4,156' - 4,168 (12' straddle test), 15-60-15-60, IH 2110, IF 149-614 (BOB 10sec, GTS 3min, 10min 2.1mmcf, 15min 2.4mmcf). ISI 1701 (1/2" blow), FF 483-598 (BOB&GTS immd., 5min 1.7mmcf, 10min 2.5mmcf, 15min 2.5mmcf), FSI 1699 (1/2"blow), Rec; 4,143' GIP, 10' GMCW (5%gas, 50%water, 40%mud), Rwa 0.81 @ 61 F (0.48 @ 102 F), BHT 102 F.

DST #2 (Mississippi) 4,790' - 4,860' (70'). 15-45-45-90, IH 2517, IF 113-308, (BOB 15sec., GTS 12min (orange flame), ISI 1162, (blow back, BOB 20min), FF 201-265, (BOB immd., 10min 168mcf, 20min 393mcf, 30min 313mc 40min 286mcf, 45min 286mcf), gas sample taken, FSI 1050 (blow back to 4"), FH 2426, Rec; 3797' GIP, 934' GSYOIL (5%gas,93%oil), 62' GWMCO (10%gas,80%oil,16%mud), Oil Gravity 19.6 API, BHT 120 F.

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Herman L Loeb LLC

PO Box 838
Lawerencevill, IL 62439

ATTN: Tom Pronald

5-35S-12W Barber

School Trust 20-5

Job Ticket: 52516 **DST#: 1**

Test Start: 2013.11.07 @ 10:19:52

GENERAL INFORMATION:

Formation: **Stalnaker**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 13:39:52
Time Test Ended: 17:39:37

Test Type: Conventional Straddle (Initial)
Tester: Leal Cason
Unit No: 45

Interval: 4156.00 ft (KB) To 4168.00 ft (KB) (TVD)
Total Depth: 4190.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

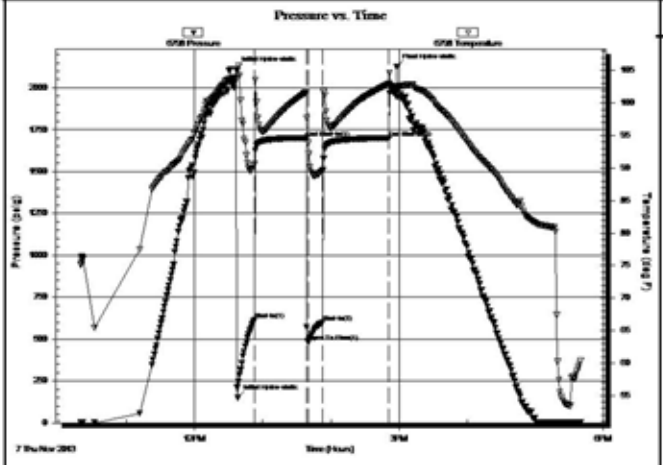
Reference Elevations: 1479.00 ft (KB)
1470.00 ft (CF)
KB to GR/CF: 9.00 ft

Serial #: 6798 **Inside**

Press@RunDepth: 598.54 psig @ 4157.00 ft (KB)
Start Date: 2013.11.07 End Date: 2013.11.07
Start Time: 10:19:53 End Time: 17:39:37

Capacity: 8000.00 psig
Last Calib.: 2013.11.07
Time On Btm: 2013.11.07 @ 12:36:37
Time Off Btm: 2013.11.07 @ 14:58:07

TEST COMMENT: IF: Strong Blow , BOB in 10 seconds, GTS in 3 minutes, Gauged & Caught Sample
ISI: 1/2 inch Blow Back
FF: Strong Blow , BOB & GTS immediate, Gauged & Caught Sample
FSI: 1/2 inch Blow Back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2110.45	104.00	Initial Hydro-static
2	149.60	105.16	Initial Hydro-static
16	614.37	90.61	Shut-In(1)
62	1701.22	101.69	End Shut-In(1)
64	483.24	93.89	Open To Flow (1)
77	598.54	89.64	Shut-In(2)
135	1699.85	102.97	End Shut-In(2)
142	2127.72	102.56	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	4143 GIP	0.00
10.00	GMCW 5%G 40%M 50%W	0.05

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.50	300.00	2120.85
Last Gas Rate	0.75	150.00	2567.90
Max. Gas Rate	0.50	350.00	2458.13

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Herman L Loeb LLC

PO Box 838
Lawerencevill, IL 62439

ATTN: Tom Pronald/Jim Hall

5-35S-12W Barber

School Trust 20-5

Job Ticket: 52517 **DST#: 2**

Test Start: 2013.11.10 @ 10:05:17

GENERAL INFORMATION:

Formation: **Mississippi**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 12:51:17
Time Test Ended: 20:45:47

Test Type: Conventional Bottom Hole (Reset)
Tester: Leal Cason
Unit No: 45

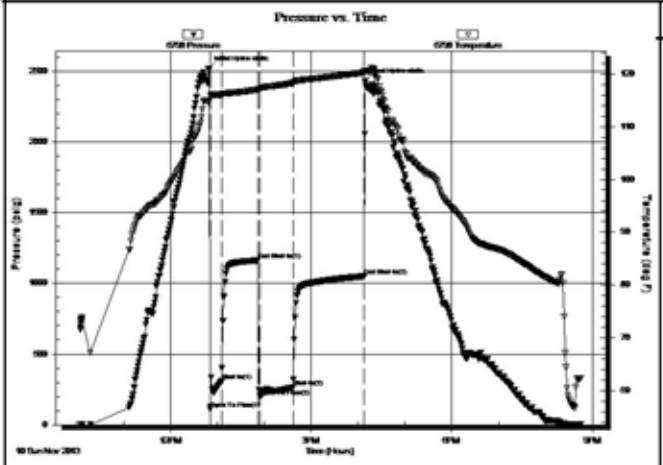
Interval: 4790.00 ft (KB) To 4860.00 ft (KB) (TVD)
Total Depth: 4860.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 1479.00 ft (KB)
1470.00 ft (CF)
KB to GR/CF: 9.00 ft

Serial #: 6798 **Inside**
Press@RunDepth: 265.34 psig @ 4791.00 ft (KB)
Start Date: 2013.11.10 End Date: 2013.11.10
Start Time: 10:05:18 End Time: 20:45:47

Capacity: 8000.00 psig
Last Calib.: 2013.11.10
Time On Btm: 2013.11.10 @ 12:48:32
Time Off Btm: 2013.11.10 @ 16:09:17

TEST COMMENT: IF: Strong Blow , BOB in 15 seconds, GTS in 12 minutes
ISI: BOB Blow Back in 20 minutes
FF: STrong Blow , BOB & GTS Immediate, Gauged & Caught Sample
FSI: Blow Back Built to 4 inches



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2517.48	114.63	Initial Hydro-static
3	112.92	115.75	Open To Flow (1)
17	307.64	116.08	Shut-In(1)
64	1161.90	117.04	End Shut-In(1)
67	200.99	117.14	Open To Flow (2)
109	265.34	118.25	Shut-In(2)
200	1050.05	120.24	End Shut-In(2)
201	2425.71	120.53	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	3797 GIP	0.00
62.00	GVMCO 10&G 4%W 16%M 80%O	0.30
934.00	GSY Oil 5%G 95%O	11.77

* Recovery from multiple tests

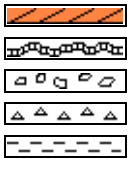
Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.25	92.00	168.79
Last Gas Rate	0.50	28.00	286.02
Max. Gas Rate	0.25	92.00	168.79

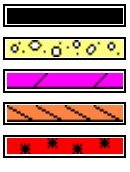
Carbonates

CARBONATE CLASSIFICATION:
AFTER DUNHAM: GRAIN; any fossil, fossil fragment, sand grain, or other rock fragment within the rock. MUDSTONE; muddy carbonate rocks containing less than 10% grains. WACKESTONE; mud supported carbonate rocks with more than 10% grains. PACKSTONE; grain supported muddy carbonate rocks. GRAINSTONE; mud free carbonate rock, grain supported. BOUNDSTONE; carbonate rock bound together at deposition (coral, etc.). CRYSTALLINE CARBONATE; carbonate rock retaining to little of their depositional texture to be classified.

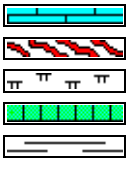
ROCK TYPES



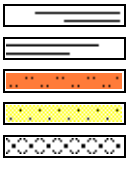
Anhy
Bent
Brec
Cht
Clyst



Coal
Congl
Dol
Gyp
Igne



Lmst
Meta
Mrlst
Salt
Shale



Shcol
Shgy
Sltst
Ss
Till

ACCESSORIES

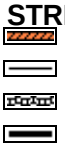
MINERAL

- Anhy
- Arggrn
- Arg
- Bent
- Bit
- Brecfrag
- Calc
- Carb
- Chtdk
- Chtlt
- Dol
- Feldspar
- Ferrpel
- Ferr
- Glau
- Gyp
- Hvymin
- Kaol
- Marl
- Minxl
- Nodule
- Phos
- Pyr
- Salt
- Sandy
- Silt
- Sil
- Sulphur
- Tuff

FOSSIL

- Algae
- Amph
- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral
- Crin
- Echin
- Fish
- Foram
- Fossil
- Gastro
- Oolite
- Ostra
- Pelec
- Pellet
- Pisolite
- Plant
- Strom

STRINGER



Anhy
Arg
Bent
Coal
Dol

Gyp
Ls
Mrst
Sltstrg
Ssstrg

TEXTURE

- Boundst
- Chalky
- Cryxln
- Earthy
- Finexln
- Grainst
- Lithogr
- Microxln
- Mudst
- Packst
- Wackest

OTHER SYMBOLS

POROSITY

- Earthy
- Fenest
- Fracture
- Inter
- Moldic
- Organic
- Pinpoint
- Vuggy

SORTING

- Well
- Moderate
- Poor

ROUNDING

- Rounded
- Subrnd
- Subang
- Angular

OIL SHOW

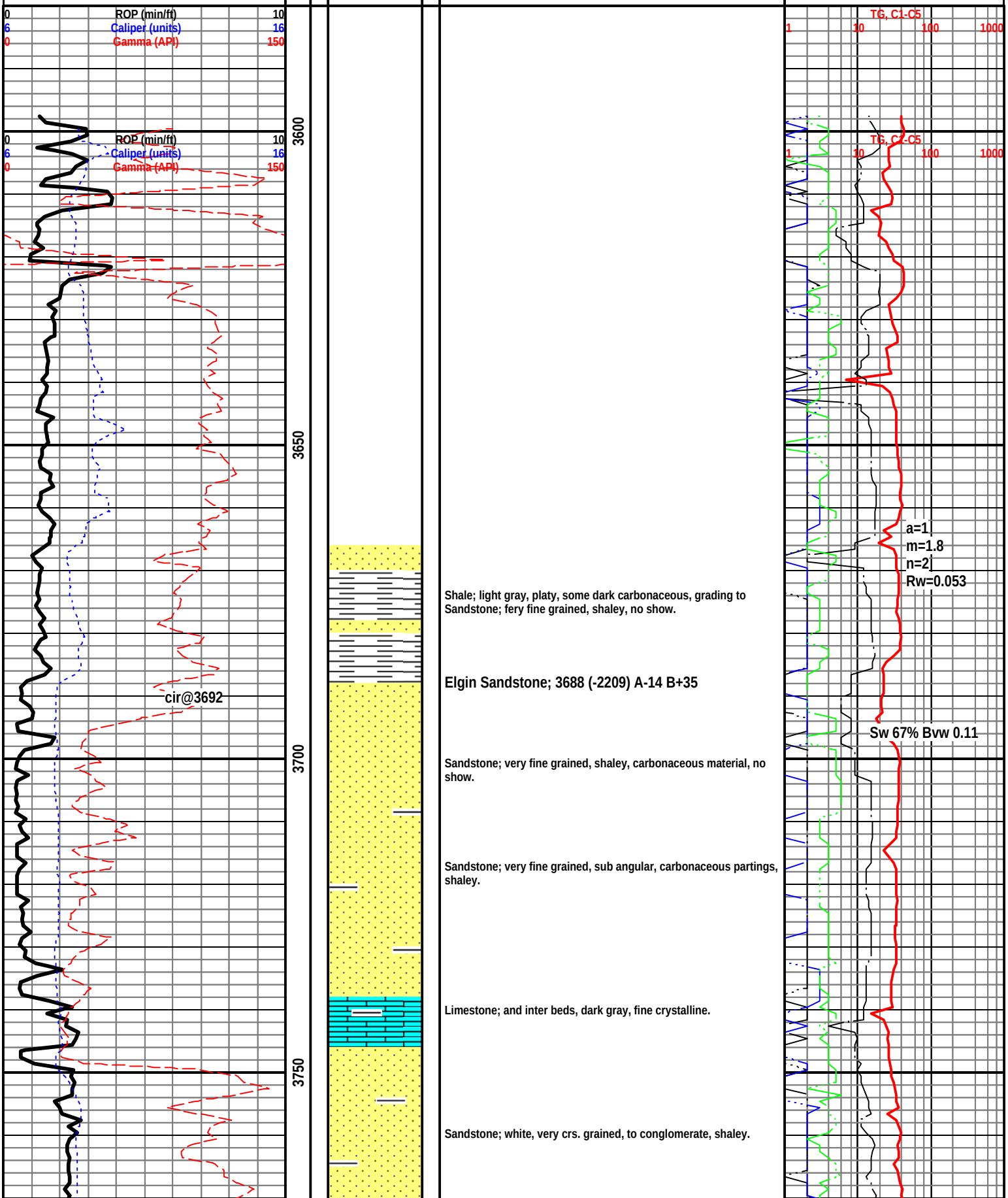
- Even
- Spotted
- Ques
- Dead

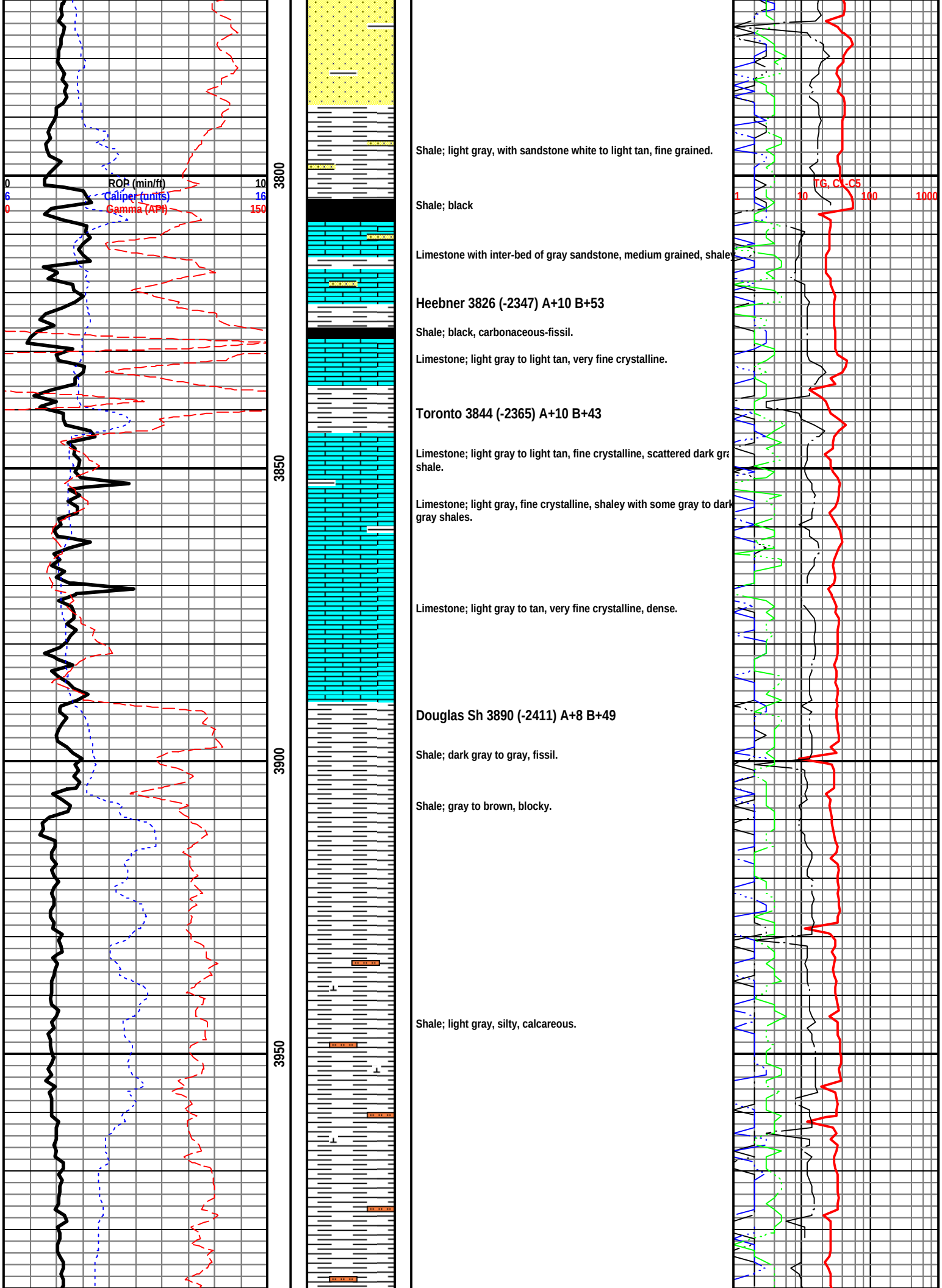
INTERVAL

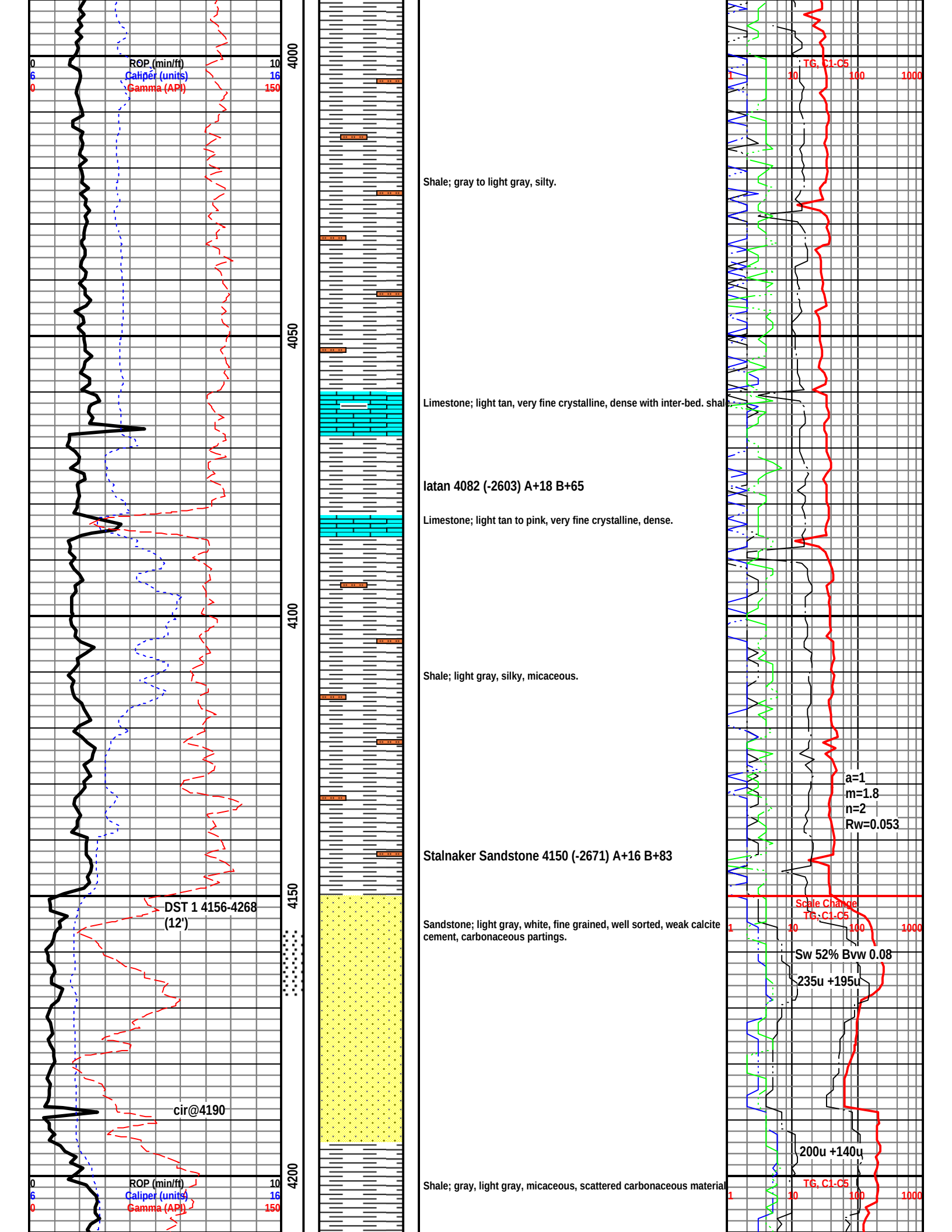
- Core
- Dst

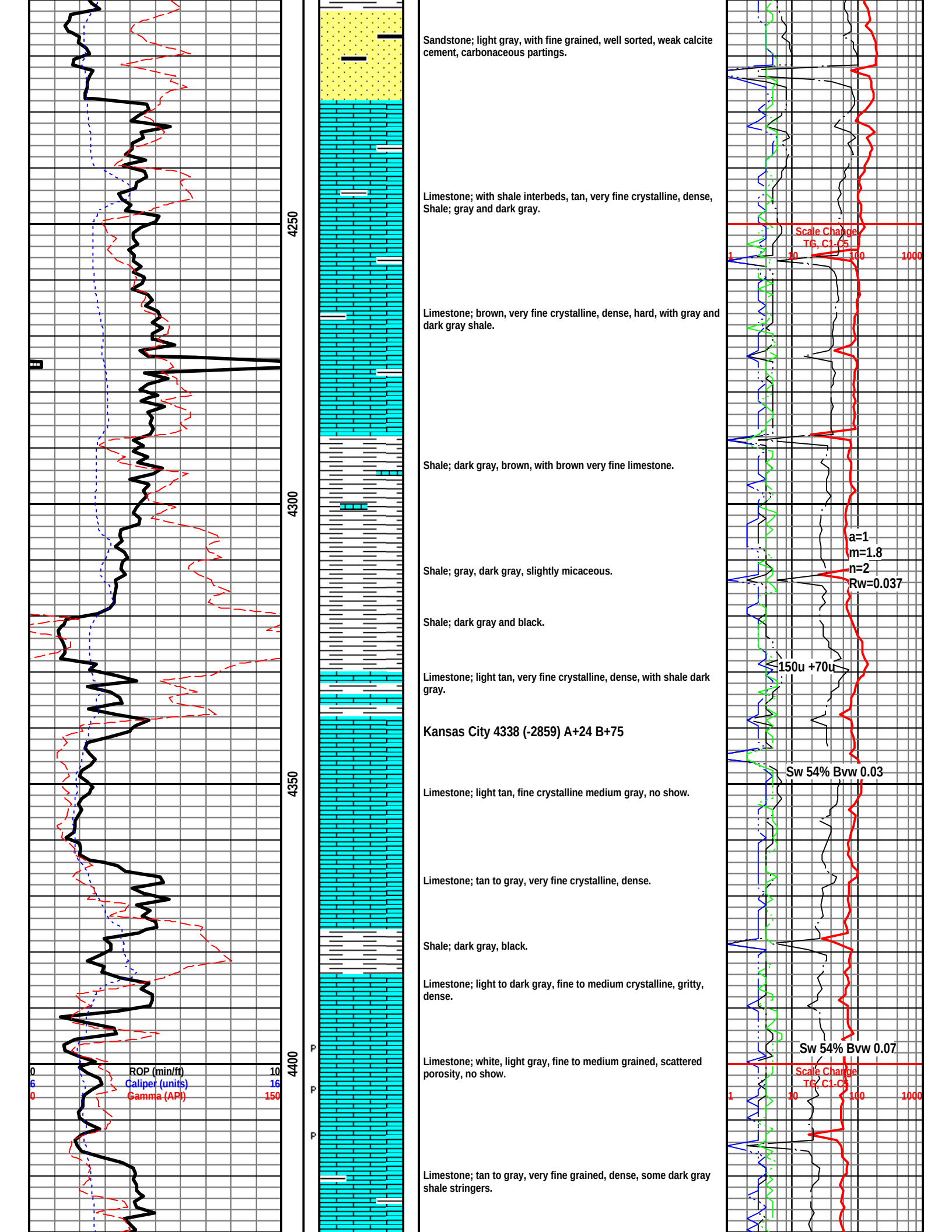
EVENT

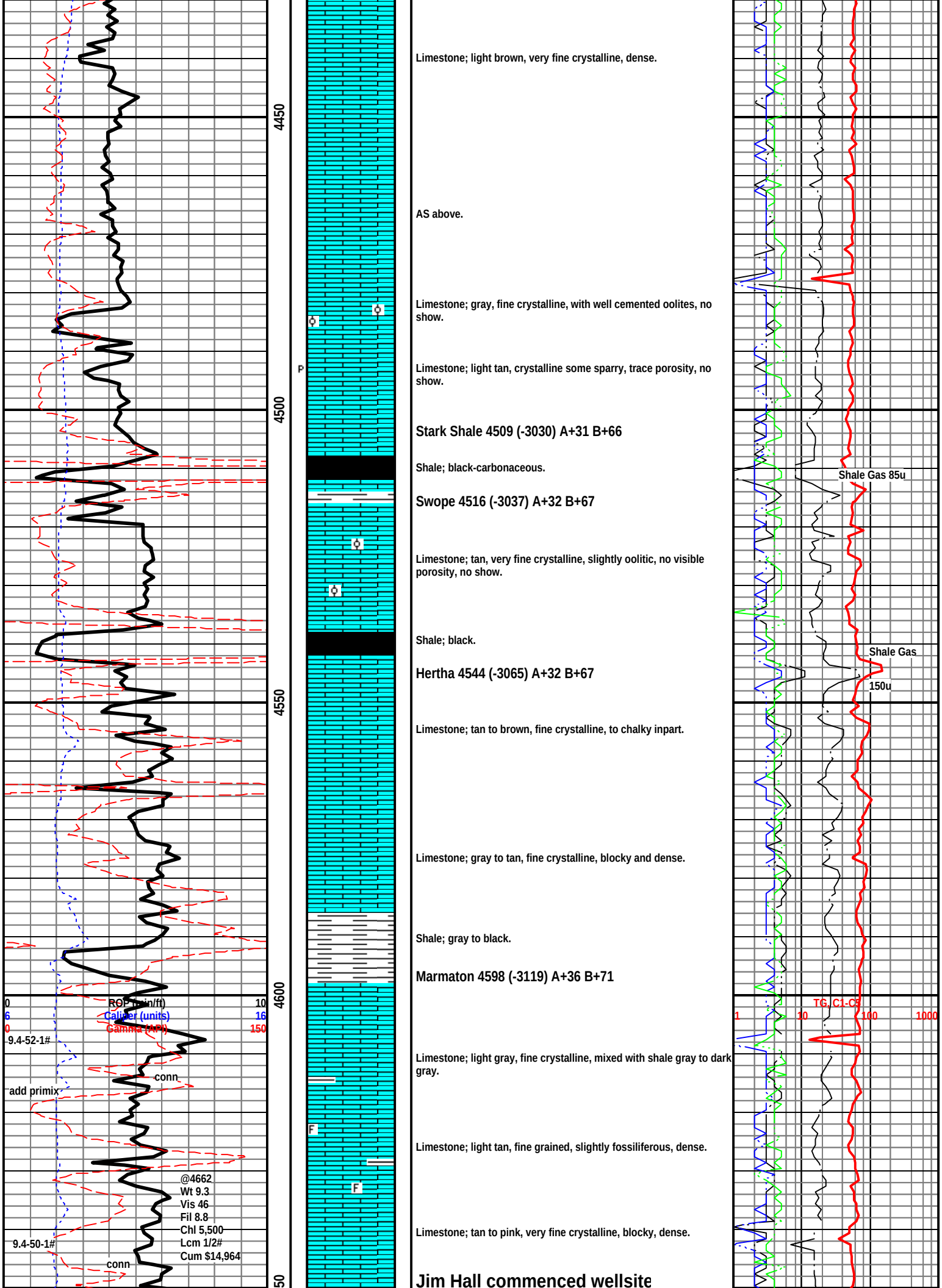
- Rft
- Sidewall

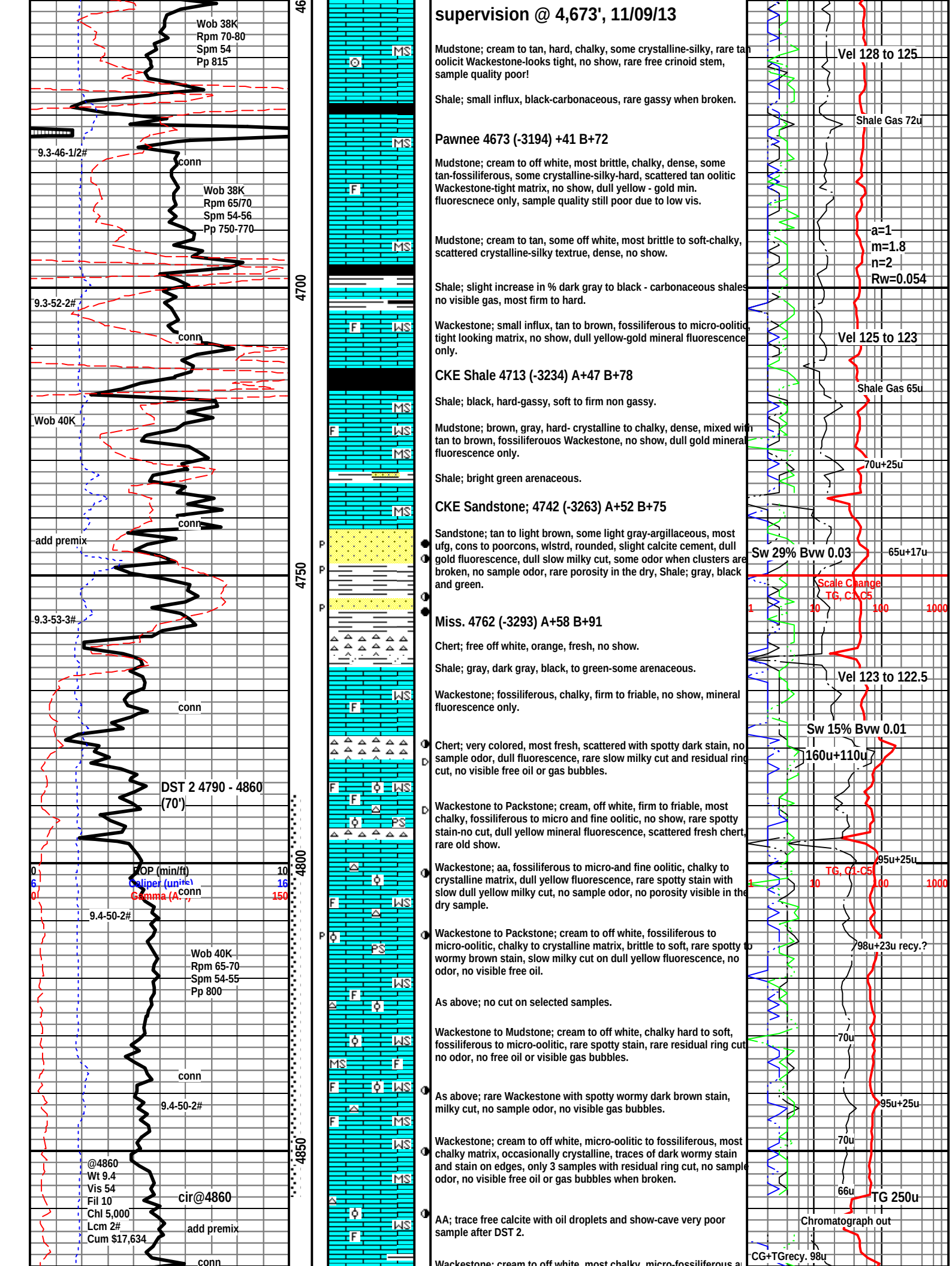

Curve Track 1
ROP (min/ft)
Caliper (units)
Gamma (API)
Depth
Porosity Type
Lithology
Oil Shows
Geological Descriptions
TG, C1-C5
TG (Units)
C1 (units)
C2 (units)
C3 (units)
C4 (units)
C5 (units)
0
ROP (min/ft)
10
6
Caliper (units)
16
0
Gamma (API)
150
1
10
100
1000
3600
3650
3700
3750
cir@3692
a=1
m=1.8
n=2
Rw=0.053
Sw 67% Bvw 0.11
Shale; light gray, platy, some dark carbonaceous, grading to Sandstone; fery fine grained, shaley, no show.
Elgin Sandstone; 3688 (-2209) A-14 B+35
Sandstone; very fine grained, shaley, carbonaceous material, no show.
Sandstone; very fine grained, sub angular, carbonaceous partings, shaley.
Limestone; and inter beds, dark gray, fine crystalline.
Sandstone; white, very crs. grained, to conglomerate, shaley.

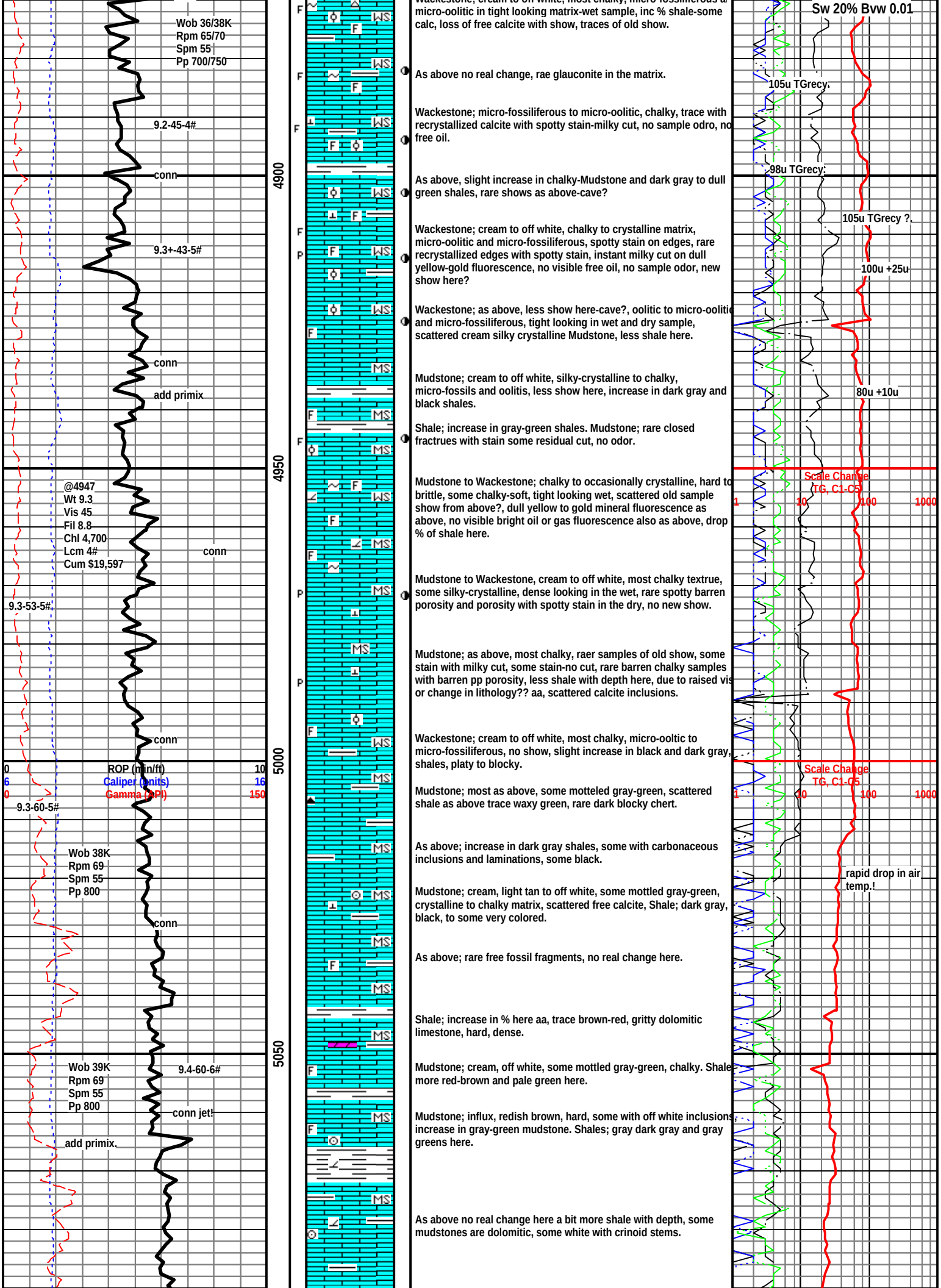

0
ROP (min/ft)
10
6
Caliper (units)
16
0
Gamma (API)
150
3800
3850
3900
3950
TG, C1-C5
1
10
100
1000
Shale; light gray, with sandstone white to light tan, fine grained.
Shale; black
Limestone with inter-bed of gray sandstone, medium grained, shaley
Heebner 3826 (-2347) A+10 B+53
Shale; black, carbonaceous-fissil.
Limestone; light gray to light tan, very fine crystalline.
Toronto 3844 (-2365) A+10 B+43
Limestone; light gray to light tan, fine crystalline, scattered dark gra
shale.
Limestone; light gray, fine crystalline, shaley with some gray to dark
gray shales.
Limestone; light gray to tan, very fine crystalline, dense.
Douglas Sh 3890 (-2411) A+8 B+49
Shale; dark gray to gray, fissil.
Shale; gray to brown, blocky.
Shale; light gray, silty, calcareous.

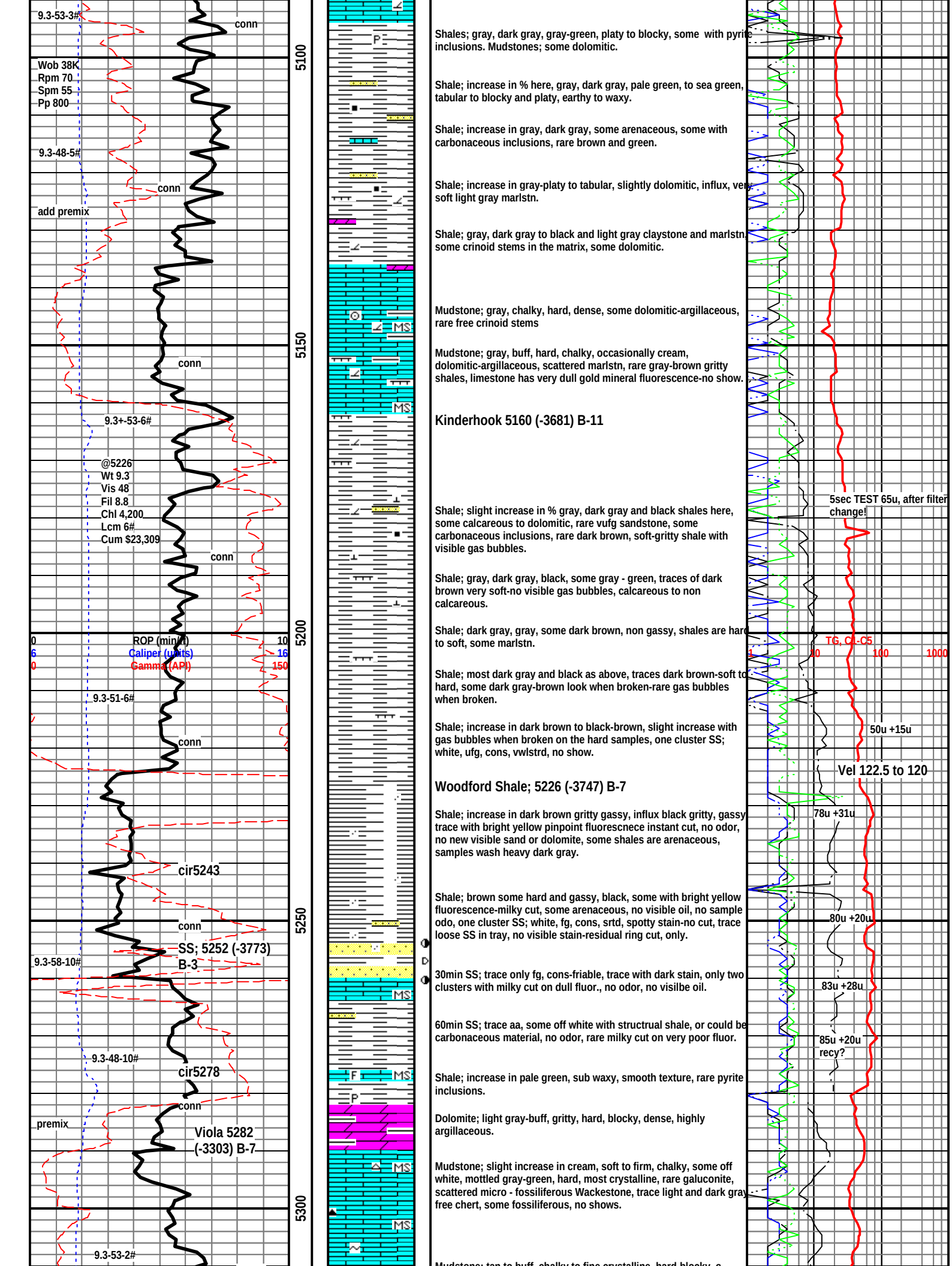

0
ROP (min/ft)
10
6
Caliper (units)
16
0
Gamma (API)
150
4000
4050
4100
4150
4200
Shale; gray to light gray, silty.
Limestone; light tan, very fine crystalline, dense with inter-bed. shale
latan 4082 (-2603) A+18 B+65
Limestone; light tan to pink, very fine crystalline, dense.
Shale; light gray, silky, micaceous.
Stalnaker Sandstone 4150 (-2671) A+16 B+83
Sandstone; light gray, white, fine grained, well sorted, weak calcite cement, carbonaceous partings.
Shale; gray, light gray, micaceous, scattered carbonaceous material
DST 1 4156-4268
(12')
cir@4190
TG, C1-C5
1
10
100
1000
a=1
m=1.8
n=2
Rw=0.053
Scale Change
TG, C1-C5
Sw 52% Bvw 0.08
235u +195u
200u +140u

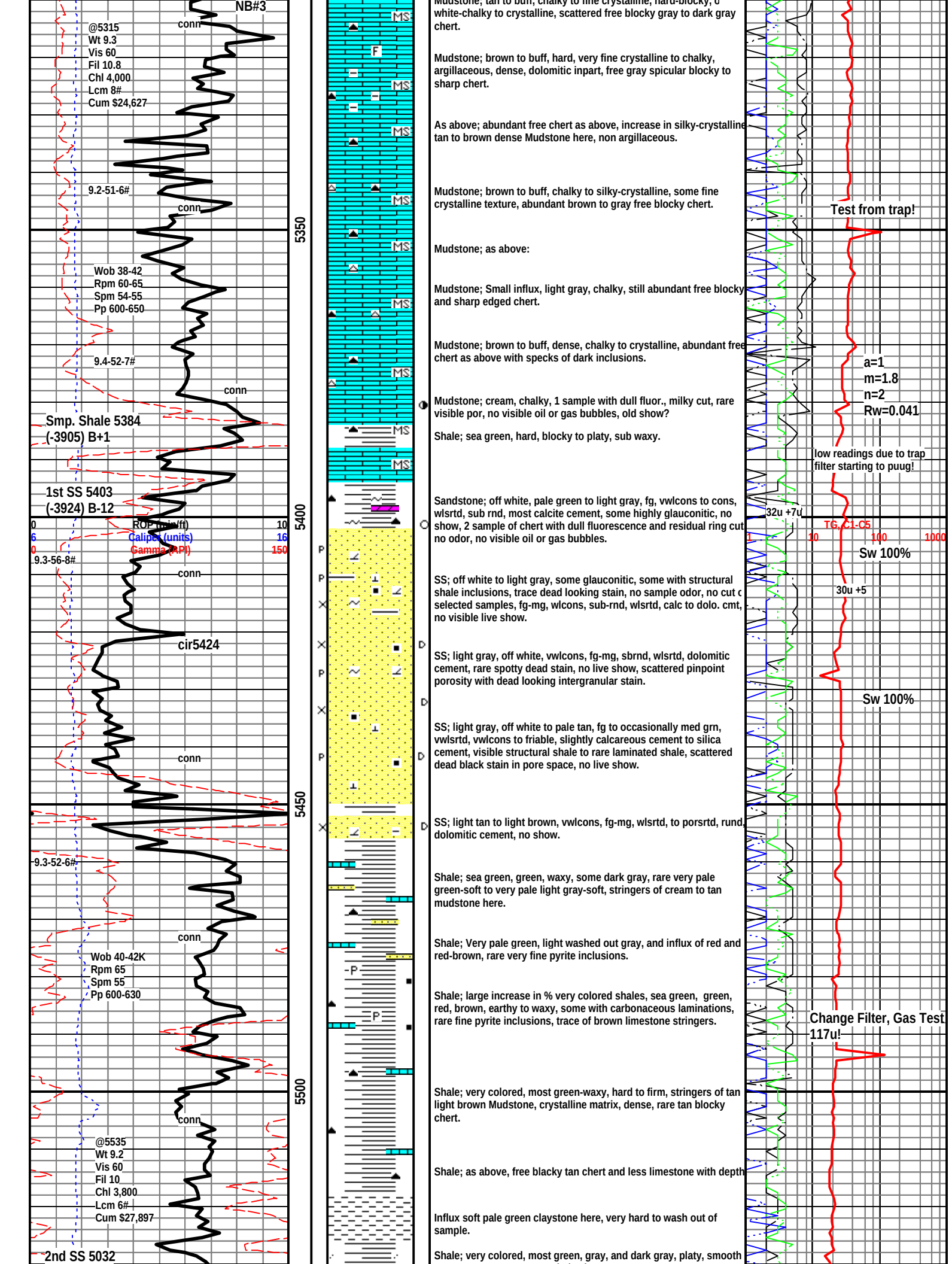

4250
4300
4350
4400
0
ROP (min/ft)
10
6
Caliper (units)
16
0
Gamma (API)
150
Sandstone; light gray, with fine grained, well sorted, weak calcite cement, carbonaceous partings.
Limestone; with shale interbeds, tan, very fine crystalline, dense, Shale; gray and dark gray.
Limestone; brown, very fine crystalline, dense, hard, with gray and dark gray shale.
Shale; dark gray, brown, with brown very fine limestone.
Shale; gray, dark gray, slightly micaceous.
Shale; dark gray and black.
Limestone; light tan, very fine crystalline, dense, with shale dark gray.
Kansas City 4338 (-2859) A+24 B+75
Limestone; light tan, fine crystalline medium gray, no show.
Limestone; tan to gray, very fine crystalline, dense.
Shale; dark gray, black.
Limestone; light to dark gray, fine to medium crystalline, gritty, dense.
Limestone; white, light gray, fine to medium grained, scattered porosity, no show.
Limestone; tan to gray, very fine grained, dense, some dark gray shale stringers.
P
P
P
Scale Change
TG, C1-C5
1
10
100
1000
a=1
m=1.8
n=2
Rw=0.037
150u +70u
Sw 54% Bvw 0.03
Sw 54% Bvw 0.07
Scale Change
TG, C1-C5
1
10
100
1000

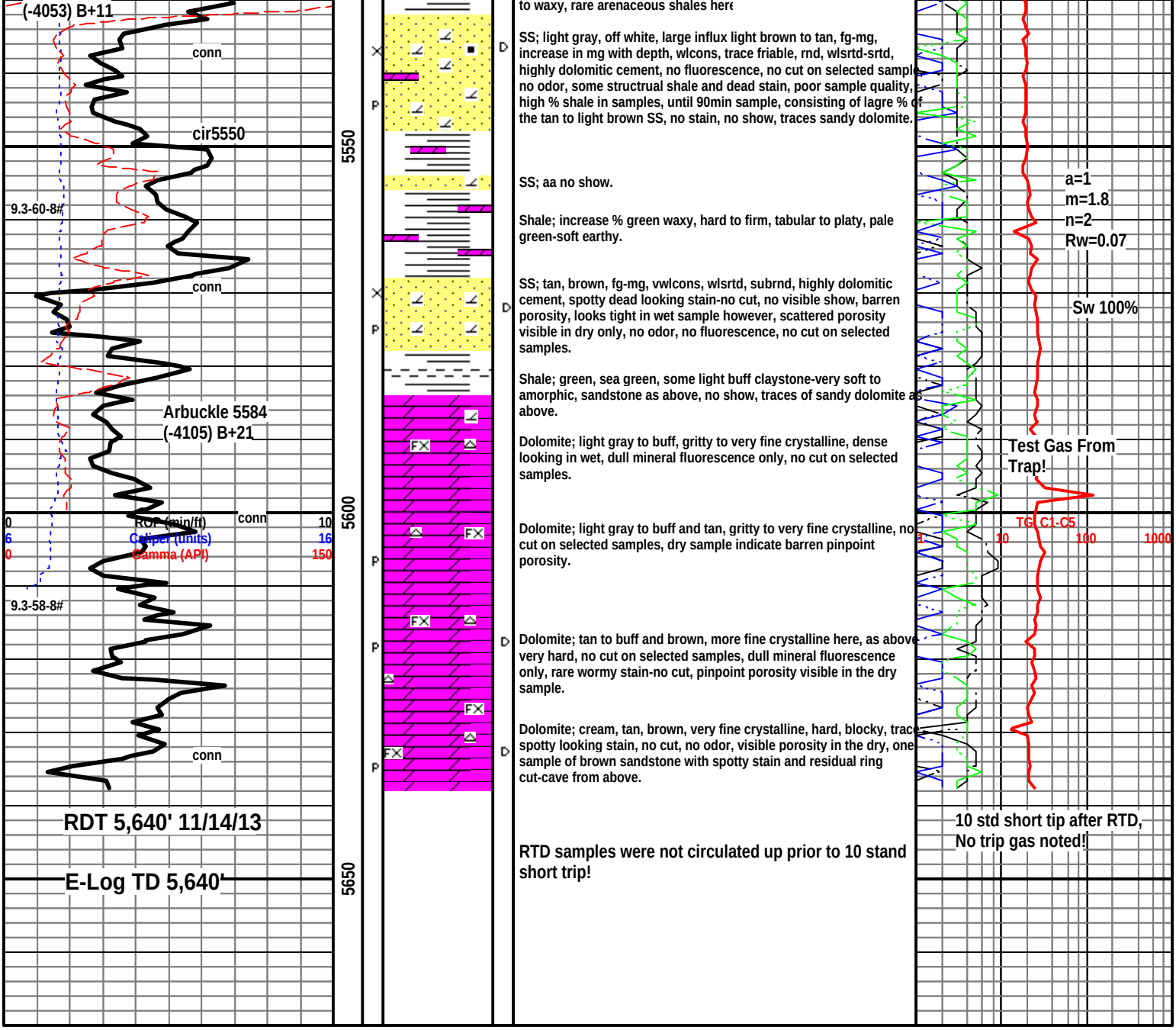

4450
4500
4550
4600
4650
P
F
F
0
6
0
ROP (min/ft)
Caliper (units)
Gamma (API)
10
16
150
9.4-52-1#
conn
add primix
@4662
Wt 9.3
Vis 46
Fil 8.8
Chl 5,500
Lcm 1/2#
Cum $14,964
9.4-50-1#
conn
Limestone; light brown, very fine crystalline, dense.
AS above.
Limestone; gray, fine crystalline, with well cemented oolites, no show.
Limestone; light tan, crystalline some sparry, trace porosity, no show.
Stark Shale 4509 (-3030) A+31 B+66
Shale; black-carbonaceous.
Swope 4516 (-3037) A+32 B+67
Limestone; tan, very fine crystalline, slightly oolitic, no visible porosity, no show.
Shale; black.
Hertha 4544 (-3065) A+32 B+67
Limestone; tan to brown, fine crystalline, to chalky inpart.
Limestone; gray to tan, fine crystalline, blocky and dense.
Shale; gray to black.
Marmaton 4598 (-3119) A+36 B+71
Limestone; light gray, fine crystalline, mixed with shale gray to dark gray.
Limestone; light tan, fine grained, slightly fossiliferous, dense.
Limestone; tan to pink, very fine crystalline, blocky, dense.
Jim Hall commenced wellsite
Shale Gas 85u
Shale Gas
150u
TG, C1-C5
1
10
100
1000


Wob 38K
Rpm 70-80
Spm 54
Pp 815
9.3-46-1/2#
conn
Wob 38K
Rpm 65/70
Spm 54-56
Pp 750-770
9.3-52-2#
conn
Wob 40K
conn
add premix
4700
4750
9.3-53-3#
conn
DST 2 4790 - 4860
(70')
4800
ROP (min/ft)
Caliper (inches)
Gamma (API)
conn
9.4-50-2#
Wob 40K
Rpm 65-70
Spm 54-55
Pp 800
conn
9.4-50-2#
4850
@4860
Wt 9.4
Vis 54
Fil 10
Chl 5,000
Lcm 2#
Cum $17,634
cir@4860
add premix
conn
supervision @ 4,673', 11/09/13
Mudstone; cream to tan, hard, chalky, some crystalline-silky, rare tan oolicit Wackestone-looks tight, no show, rare free crinoid stem, sample quality poor!
Shale; small influx, black-carbonaceous, rare gassy when broken.
Pawnee 4673 (-3194) +41 B+72
Mudstone; cream to off white, most brittle, chalky, dense, some tan-fossiliferous, some crystalline-silky-hard, scattered tan oolitic Wackestone-tight matrix, no show, dull yellow - gold min. fluorescnece only, sample quality still poor due to low vis.
Mudstone; cream to tan, some off white, most brittle to soft-chalky, scattered crystalline-silky textrue, dense, no show.
Shale; slight increase in % dark gray to black - carbonaceous shales no visible gas, most firm to hard.
Wackestone; small influx, tan to brown, fossiliferous to micro-oolitic, tight looking matrix, no show, dull yellow-gold mineral fluorescence only.
CKE Shale 4713 (-3234) A+47 B+78
Shale; black, hard-gassy, soft to firm non gassy.
Mudstone; brown, gray, hard- crystalline to chalky, dense, mixed with tan to brown, fossiliferouos Wackestone, no show, dull gold mineral fluorescence only.
Shale; bright green arenaceous.
CKE Sandstone; 4742 (-3263) A+52 B+75
Sandstone; tan to light brown, some light gray-argillaceous, most ufg, cons to poorcons, wlstrd, rounded, slight calcite cement, dull gold fluorescence, dull slow milky cut, some odor when clusters are broken, no sample odor, rare porosity in the dry, Shale; gray, black and green.
Miss. 4762 (-3293) A+58 B+91
Chert; free off white, orange, fresh, no show.
Shale; gray, dark gray, black, to green-some arenaceous.
Wackestone; fossiliferous, chalky, firm to friable, no show, mineral fluorescence only.
Chert; very colored, most fresh, scattered with spotty dark stain, no sample odor, dull fluorescence, rare slow milky cut and residual ring cut, no visible free oil or gas bubbles.
Wackestone to Packstone; cream, off white, firm to friable, most chalky, fossiliferous to micro and fine oolitic, no show, rare spotty stain-no cut, dull yellow mineral fluorescence, scattered fresh chert, rare old show.
Wackestone; aa, fossiliferous to micro-and fine oolitic, chalky to crystalline matrix, dull yellow fluorescence, rare spotty stain with slow dull yellow milky cut, no sample odor, no porosity visible in the dry sample.
Wackestone to Packstone; cream to off white, fossiliferous to micro-oolitic, chalky to crystalline matrix, brittle to soft, rare spotty to wormy brown stain, slow milky cut on dull yellow fluorescence, no odor, no visible free oil.
As above; no cut on selected samples.
Wackestone to Mudstone; cream to off white, chalky hard to soft, fossiliferous to micro-oolitic, rare spotty stain, rare residual ring cut no odor, no free oil or visible gas bubbles.
As above; rare Wackestone with spotty wormy dark brown stain, milky cut, no sample odor, no visible gas bubbles.
Wackestone; cream to off white, micro-oolitic to fossiliferous, most chalky matrix, occasionally crystalline, traces of dark wormy stain and stain on edges, only 3 samples with residual ring cut, no sample odor, no visible free oil or gas bubbles when broken.
AA; trace free calcite with oil droplets and show-cave very poor sample after DST 2.
Wackestone; cream to off white, most chalky, micro-fossiliferous a
Vel 128 to 125
Shale Gas 72u
a=1
m=1.8
n=2
Rw=0.054
Vel 125 to 123
Shale Gas 65u
70u+25u
Sw 29% Bvw 0.03
65u+17u
Scale Change
TG, C1-C5
1
10
100
1000
Vel 123 to 122.5
Sw 15% Bvw 0.01
160u+110u
95u+25u
TG, C1-C5
1
10
100
1000
98u+23u recy.?
70u
95u+25u
70u
66u
TG 250u
Chromatograph out
CG+TGrecy. 98u


Wob 36/38K
Rpm 65/70
Spm 55
Pp 700/750
9.2-45-4#
conn
9.3+-43-5#
conn
add primix
@4947
Wt 9.3
Vis 45
Fil 8.8
Chl 4,700
Lcm 4#
Cum $19,597
conn
9.3-53-5#
conn
0
ROP (min/ft)
10
6
Caliper (inits)
16
0
Gamma (API)
150
9.3-60-5#
Wob 38K
Rpm 69
Spm 55
Pp 800
conn
Wob 39K
Rpm 69
Spm 55
Pp 800
9.4-60-6#
conn jet!
add primix.
4900
4950
5000
5050
Micro-oolitic in tight looking matrix-wet sample, inc % shale-some calc, loss of free calcite with show, traces of old show.
As above no real change, rae glauconite in the matrix.
Wackestone; micro-fossiliferous to micro-oolitic, chalky, trace with recrystallized calcite with spotty stain-milky cut, no sample odro, no free oil.
As above, slight increase in chalky-Mudstone and dark gray to dull green shales, rare shows as above-cave?
Wackestone; cream to off white, chalky to crystalline matrix, micro-oolitic and micro-fossiliferous, spotty stain on edges, rare recrystallized edges with spotty stain, instant milky cut on dull yellow-gold fluorescence, no visible free oil, no sample odor, new show here?
Wackestone; as above, less show here-cave?, oolitic to micro-oolitic and micro-fossiliferous, tight looking in wet and dry sample, scattered cream silky crystalline Mudstone, less shale here.
Mudstone; cream to off white, silky-crystalline to chalky, micro-fossils and oolitis, less show here, increase in dark gray and black shales.
Shale; increase in gray-green shales. Mudstone; rare closed fractrues with stain some residual cut, no odor.
Mudstone to Wackestone; chalky to occasionally crystalline, hard to brittle, some chalky-soft, tight looking wet, scattered old sample show from above?, dull yellow to gold mineral fluorescence as above, no visible bright oil or gas fluorescence also as above, drop % of shale here.
Mudstone to Wackestone, cream to off white, most chalky textrue, some silky-crystalline, dense looking in the wet, rare spotty barren porosity and porosity with spotty stain in the dry, no new show.
Mudstone; as above, most chalky, raer samples of old show, some stain with milky cut, some stain-no cut, rare barren chalky samples with barren pp porosity, less shale with depth here, due to raised vis or change in lithology?? aa, scattered calcite inclusions.
Wackestone; cream to off white, most chalky, micro-ooltic to micro-fossiliferous, no show, slight increase in black and dark gray, shales, platy to blocky.
Mudstone; most as above, some motteled gray-green, scattered shale as above trace waxy green, rare dark blocky chert.
As above; increase in dark gray shales, some with carbonaceous inclusions and laminations, some black.
Mudstone; cream, light tan to off white, some mottled gray-green, crystalline to chalky matrix, scattered free calcite, Shale; dark gray, black, to some very colored.
As above; rare free fossil fragments, no real change here.
Shale; increase in % here aa, trace brown-red, gritty dolomitic limestone, hard, dense.
Mudstone; cream, off white, some mottled gray-green, chalky. Shale more red-brown and pale green here.
Mudstone; influx, redish brown, hard, some with off white inclusions, increase in gray-green mudstone. Shales; gray dark gray and gray greens here.
As above no real change here a bit more shale with depth, some mudstones are dolomitic, some white with crinoid stems.
Sw 20% Bvw 0.01
105u TGrecy.
98u TGrecy.
105u TGrecy ?.
100u +25u
80u +10u
Scale Change
TG, C1-C5
1
10
100
1000
Scale Change
TG, C1-C5
1
10
100
1000
rapid drop in air temp.!


9.3-53-3#
conn
Wob 38K
Rpm 70
Spm 55
Pp 800
9.3-48-5#
conn
add premix
conn
9.3+-53-6#
@5226
Wt 9.3
Vis 48
Fil 8.8
Chl 4,200
Lcm 6#
Cum $23,309
conn
0
ROP (min/ft)
10
6
Caliper (units)
16
0
Gamma (API)
150
9.3-51-6#
conn
cir5243
conn
SS; 5252 (-3773)
B-3
9.3-58-10#
9.3-48-10#
cir5278
conn
premix
Viola 5282
(-3303) B-7
9.3-53-2#
5100
5150
5200
5250
5300
P
MS
MS
MS
MS
F
MS
P
MS
MS
Shales; gray, dark gray, gray-green, platy to blocky, some with pyritic inclusions. Mudstones; some dolomitic.
Shale; increase in % here, gray, dark gray, pale green, to sea green, tabular to blocky and platy, earthy to waxy.
Shale; increase in gray, dark gray, some arenaceous, some with carbonaceous inclusions, rare brown and green.
Shale; increase in gray-platy to tabular, slightly dolomitic, influx, very soft light gray marlstn.
Shale; gray, dark gray to black and light gray claystone and marlstn. some crinoid stems in the matrix, some dolomitic.
Mudstone; gray, chalky, hard, dense, some dolomitic-argillaceous, rare free crinoid stems
Mudstone; gray, buff, hard, chalky, occasionally cream, dolomitic-argillaceous, scattered marlstn, rare gray-brown gritty shales, limestone has very dull gold mineral fluorescence-no show.
Kinderhook 5160 (-3681) B-11
Shale; slight increase in % gray, dark gray and black shales here, some calcareous to dolomitic, rare vufg sandstone, some carbonaceous inclusions, rare dark brown, soft-gritty shale with visible gas bubbles.
Shale; gray, dark gray, black, some gray - green, traces of dark brown very soft-no visible gas bubbles, calcareous to non calcareous.
Shale; dark gray, gray, some dark brown, non gassy, shales are hard to soft, some marlstn.
Shale; most dark gray and black as above, traces dark brown-soft to hard, some dark gray-brown look when broken-rare gas bubbles when broken.
Shale; increase in dark brown to black-brown, slight increase with gas bubbles when broken on the hard samples, one cluster SS; white, ufg, cons, vwlstrd, no show.
Woodford Shale; 5226 (-3747) B-7
Shale; increase in dark brown gritty gassy, influx black gritty, gassy trace with bright yellow pinpoint fluorescnece instant cut, no odor, no new visible sand or dolomite, some shales are arenaceous, samples wash heavy dark gray.
Shale; brown some hard and gassy, black, some with bright yellow fluorescence-milky cut, some arenaceous, no visible oil, no sample odo, one cluster SS; white, fg, cons, srtd, spotty stain-no cut, trace loose SS in tray, no visible stain-residual ring cut, only.
30min SS; trace only fg, cons-friable, trace with dark stain, only two clusters with milky cut on dull fluor., no odor, no visilbe oil.
60min SS; trace aa, some off white with structrual shale, or could be carbonaceous material, no odor, rare milky cut on very poor fluor.
Shale; increase in pale green, sub waxy, smooth texture, rare pyrite inclusions.
Dolomite; light gray-buff, gritty, hard, blocky, dense, highly argillaceous.
Mudstone; slight increase in cream, soft to firm, chalky, some off white, mottled gray-green, hard, most crystalline, rare galuconite, scattered micro - fossiliferous Wackestone, trace light and dark gray free chert, some fossiliferous, no shows.
5sec TEST 65u, after filter change!
TG, C1-C5
1
10
100
1000
50u +15u
Vel 122.5 to 120
78u +31u
80u +20u
83u +28u
85u +20u
recy?


NB#3
@5315
Wt 9.3
Vis 60
Fil 10.8
Chl 4,000
Lcm 8#
Cum $24,627
conn
9.2-51-6#
conn
Wob 38-42
Rpm 60-65
Spm 54-55
Pp 600-650
9.4-52-7#
conn
Smp. Shale 5384
(-3905) B+1
1st SS 5403
(-3924) B-12
0
ROP (min/ft)
10
6
Caliper (units)
16
0
Gamma (API)
150
9.3-56-8#
conn
cir5424
conn
9.3-52-6#
conn
Wob 40-42K
Rpm 65
Spm 55
Pp 600-630
conn
@5535
Wt 9.2
Vis 60
Fil 10
Chl 3,800
Lcm 6#
Cum $27,897
2nd SS 5032
5350
5400
5450
5500
MS
F
P
D
Mudstone; tan to buff, chalky to fine crystalline, hard-blocky, 0 white-chalky to crystalline, scattered free blocky gray to dark gray chert.
Mudstone; brown to buff, hard, very fine crystalline to chalky, argillaceous, dense, dolomitic inpart, free gray spicular blocky to sharp chert.
As above; abundant free chert as above, increase in silky-crystalline tan to brown dense Mudstone here, non argillaceous.
Mudstone; brown to buff, chalky to silky-crystalline, some fine crystalline texture, abundant brown to gray free blocky chert.
Mudstone; as above:
Mudstone; Small influx, light gray, chalky, still abundant free blocky and sharp edged chert.
Mudstone; brown to buff, dense, chalky to crystalline, abundant free chert as above with specks of dark inclusions.
Mudstone; cream, chalky, 1 sample with dull fluor., milky cut, rare visible por, no visible oil or gas bubbles, old show?
Shale; sea green, hard, blocky to platy, sub waxy.
Sandstone; off white, pale green to light gray, fg, vwlcons to cons, wlsrtd, sub rnd, most calcite cement, some highly glauconitic, no show, 2 sample of chert with dull fluorescence and residual ring cut no odor, no visible oil or gas bubbles.
SS; off white to light gray, some glauconitic, some with structural shale inclusions, trace dead looking stain, no sample odor, no cut c selected samples, fg-mg, wlcons, sub-rnd, wlsrtd, calc to dolo. cmt, no visible live show.
SS; light gray, off white, vwlcons, fg-mg, sbrnd, wlsrtd, dolomitic cement, rare spotty dead stain, no live show, scattered pinpoint porosity with dead looking intergranular stain.
SS; light gray, off white to pale tan, fg to occasionally med grn, vwlsrtd, vwlcons to friable, slightly calcareous cement to silica cement, visible structural shale to rare laminated shale, scattered dead black stain in pore space, no live show.
SS; light tan to light brown, vwlcons, fg-mg, wlsrtd, to porsrtd, rund, dolomitic cement, no show.
Shale; sea green, green, waxy, some dark gray, rare very pale green-soft to very pale light gray-soft, stringers of cream to tan mudstone here.
Shale; Very pale green, light washed out gray, and influx of red and red-brown, rare very fine pyrite inclusions.
Shale; large increase in % very colored shales, sea green, green, red, brown, earthy to waxy, some with carbonaceous laminations, rare fine pyrite inclusions, trace of brown limestone stringers.
Shale; very colored, most green-waxy, hard to firm, stringers of tan light brown Mudstone, crystalline matrix, dense, rare tan blocky chert.
Shale; as above, free blacky tan chert and less limestone with depth
Influx soft pale green claystone here, very hard to wash out of sample.
Shale; very colored, most green, gray, and dark gray, platy, smooth
Test from trap!
a=1
m=1.8
n=2
Rw=0.041
low readings due to trap filter starting to puug!
32u +7u
TG, C1-C5
1
10
100
1000
Sw 100%
30u +5
Sw 100%
Change Filter, Gas Test 117u!


(-4053) B+11
conn
cir5550
9.3-60-8#
conn
Arbuckle 5584
(-4105) B+21
conn
0
ROP (min/ft)
10
6
Caliper (units)
16
0
Gamma (API)
150
9.3-58-8#
conn
RDT 5,640' 11/14/13
E-Log TD 5,640'
5550
5600
5650
to waxy, rare arenaceous shales here
SS; light gray, off white, large influx light brown to tan, fg-mg, increase in mg with depth, wlcons, trace friable, rnd, wlsrtd-srtd, highly dolomitic cement, no fluorescence, no cut on selected samples, no odor, some structrual shale and dead stain, poor sample quality, high % shale in samples, until 90min sample, consisting of lagre % of the tan to light brown SS, no stain, no show, traces sandy dolomite.
SS; aa no show.
Shale; increase % green waxy, hard to firm, tabular to platy, pale green-soft earthy.
SS; tan, brown, fg-mg, vwlcons, wlsrtd, subrnd, highly dolomitic cement, spotty dead looking stain-no cut, no visible show, barren porosity, looks tight in wet sample however, scattered porosity visible in dry only, no odor, no fluorescence, no cut on selected samples.
Shale; green, sea green, some light buff claystone-very soft to amorphic, sandstone as above, no show, traces of sandy dolomite as above.
Dolomite; light gray to buff, gritty to very fine crystalline, dense looking in wet, dull mineral fluorescence only, no cut on selected samples.
Dolomite; light gray to buff and tan, gritty to very fine crystalline, no cut on selected samples, dry sample indicate barren pinpoint porosity.
Dolomite; tan to buff and brown, more fine crystalline here, as above very hard, no cut on selected samples, dull mineral fluorescence only, rare wormy stain-no cut, pinpoint porosity visible in the dry sample.
Dolomite; cream, tan, brown, very fine crystalline, hard, blocky, trace spotty looking stain, no cut, no odor, visible porosity in the dry, one sample of brown sandstone with spotty stain and residual ring cut-cave from above.
RTD samples were not circulated up prior to 10 stand short trip!
a=1
m=1.8
n=2
Rw=0.07
Sw 100%
Test Gas From Trap!
TG C1-C5
1
10
100
1000
10 std short tip after RTD, No trip gas noted!