



Mudgrove

Petroleum
Corporation

NOTES

Company: American Warrior, Inc

Lease: Lake #7

Field: Herd

Surface Location: NW-SE-SE-SW (335' FSL & 2279' FWL)

Bottom Hole Location: (459.48' North & 2584.08' East of Surface hole)

Sec: 14 Twsp: 32S Rge: 19W

County: Commanche State: Kansas

GL: 2046' KB: 2058'

Contractor: Duke Drilling Co. Rig #6

Spud: 4/16/14 Comp: 5/2/14

RTD: 6648' LTD: 6638'

Mud Up: Mud Type: Chemical/displaced

Drilling Time Kept: 4000' to RTD

Samples Saved From: 4400' to RTD

Samples Examined: 4400' to RTD

Geological Supervision: 4400' to RTD

Geologist on Well: Keith Reavis and Kurt Talbott

Surface Casing: 20" @60'; 13 3/8" @208'; 9 5/8" @995'

Production Casing: 5 1/2" @

Wireline Logs: By Weatherford: DUCP, DIL, MEL, Sonic

FORMATION	LAKE #7			RICH 23-3		LAKE #1	
	2046 GL	2058 KB		2033 GL	2045 KB	2017 GL	2030 KB
	LMD	LTVD	SS	MD	SS	MD	SS
HEEBNER	4749	4295	-2237	4287	-2242	4272	-2242
DOUGLAS	4821	4359	-2301	4348	-2303	4334	-2304
LANSING	4968	4488	-2430	4461	-2416	4459	-2429
DRUM	5195	4684	-2626	4686	-2641	4660	-2630
SWOPE	5326	4797	-2739	4798	-2753	4770	-2740
HERTHA	5388	4850	-2792	4857	-2812	4828	-2798
BASE KC	5488	4937	-2879	4942	-2897	4914	-2884
MARMATON	5501	4948	-2890	4948	-2903	4924	-2894

PAWNEE	5597	5031	-2973	5034	-2989	5012	-2982
FORT SCOTT	5642	5069	-3011	5074	-3029	5049	-3019
CHEROKEE	5654	5080	-3022				
MISSISSIPPIAN	5727	5142	-3084	5153	-3108	5130	-3100
VIOLA	6507	5837	-3779	5780	-3735	5750	-3720
TOTAL DEPTH	6638	5964	-3906	5992	-3947	5900	-3870

ROCK TYPES

Cht	Dolsec	shale, gry	Ss
Cht vari	Lmst fw<7	Carbon Sh	
Dolprim	shale, grn	shale, red	

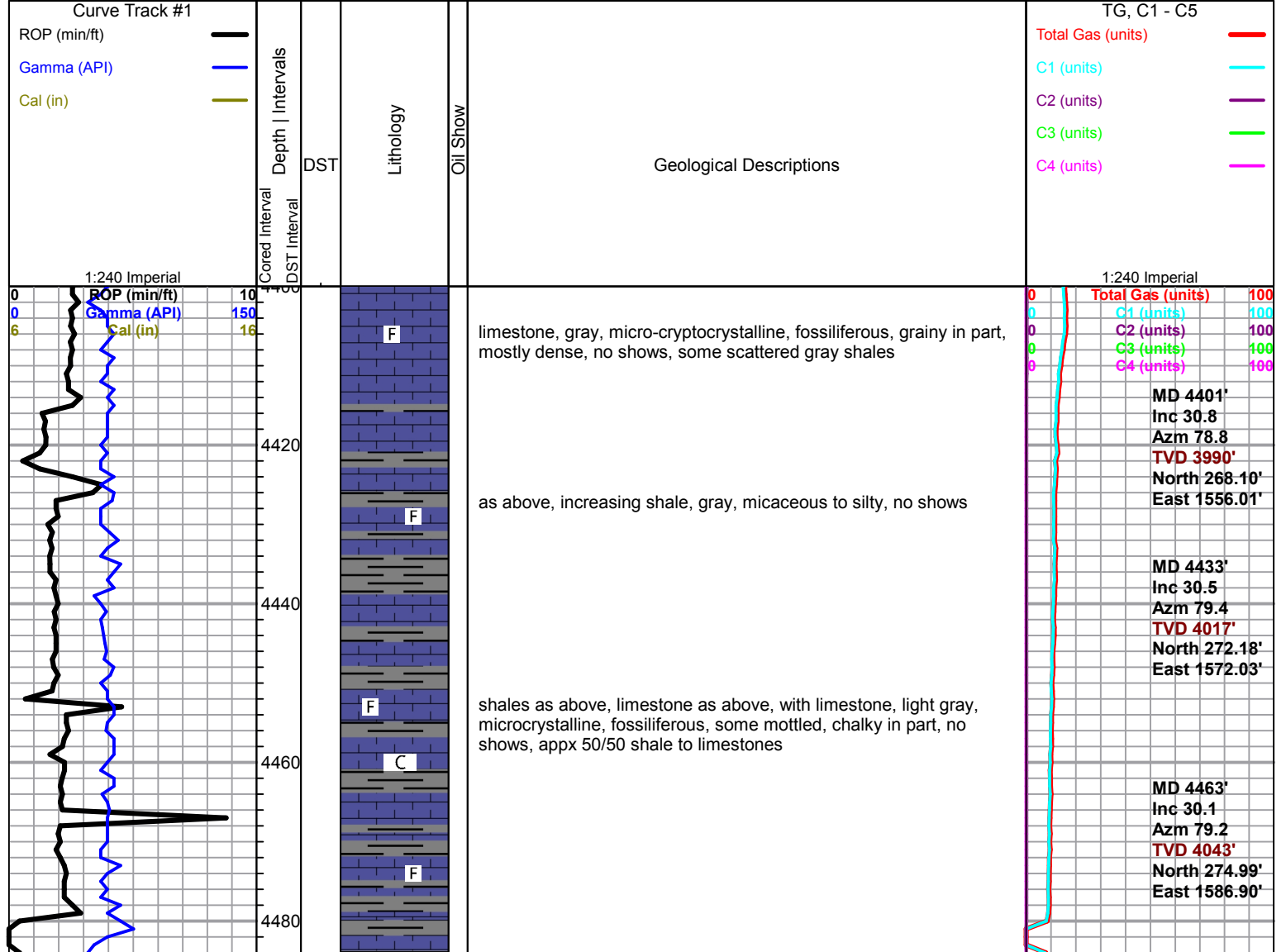
ACCESSORIES

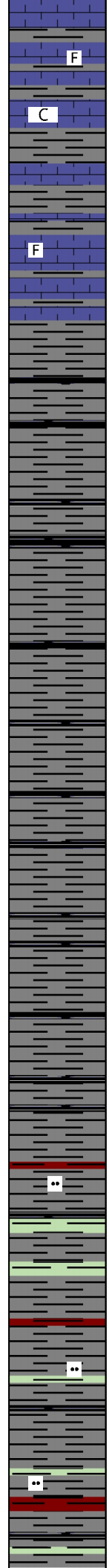
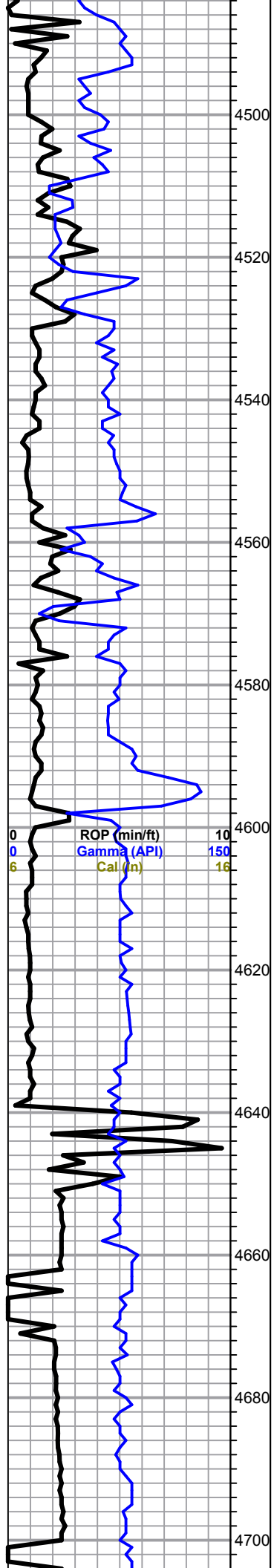
MINERAL ✕ Mineral Crystals • Silty	FOSSIL F Fossils < 20%	STRINGER Limestone Sandstone Siltstone	TEXTURE C Chalky
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OTHER SYMBOLS

Oil Show ● Good Show ● Fair Show ● Poor Show ○ Spotted or Trace ○ Questionable Stn D Dead Oil Stn ■ Fluorescence * Gas	DST DST Int DST alt Core tail pipe
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as above

starting 4580, mostly shales, gray and black

as above

shale, mixed, gray, green, some brick red and black, silty

MD 4494'
Inc 29.7
Azm 79.2
TVD 4070'
North 277.89'
East 1602.08'

MD 4525'
Inc 29.4
Azm 79.6
TVD 4097'
North 280.70'
East 1617.11'

MD 4556'
Inc 28.9
Azm 79.1
TVD 4124'
North 283.49'
East 1631.95'

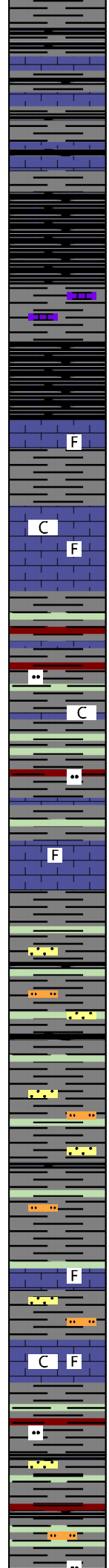
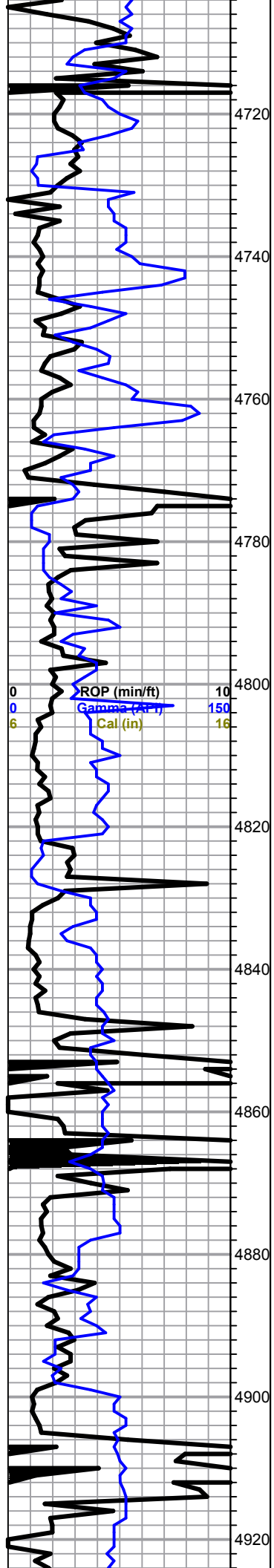
MD 4588'
Inc 28.4
Azm 78.9
TVD 4152'
North 286.42'
East 1647.01'

0	Total Gas (units)	100
0	C1 (units)	100
0	C2 (units)	100
0	C3 (units)	100
0	C4 (units)	100

MD 4619'
Inc 27.6
Azm 79.1
TVD 4180'
North 289.19'
East 1661.30'

MD 4650'
Inc 27.6
Azm 78.4
TVD 4207'
North 292.00'
East 1675.38'

MD 4682'
Inc 27.5
Azm 78.9
TVD 4236'
North 294.91'
East 1689.89'



4730 and 40 samples, shale as above, some light gray siltstones, increasing black shale with some black very dense carbonaceous shale, resembles coal, some light gray fossiliferous limestones

as above

black carbonaceous shales

Heebner

MD 4757.0 TVD 4297.0 (-2239.0)

black carbonaceous shales

limestone, white to light gray, crypto-microcrystalline, chalky, fossiliferous, poor visible porosity no shows

mixed shales

MD 4713'
Inc 27.6
Azm 78.6
TVD 4263'
North 297.71'
East 1703.96'

MD 4745'
Inc 27.6
Azm 78.8
TVD 4291'
North 300.61'
East 1718.49'

MD 4776'
Inc 27.8
Azm 79.3
TVD 4319'
North 303.35'
East 1732.64'

MD 4807'
Inc 27.7
Azm 79.2
TVD 4346'
North 306.04'
East 1746.82'

Douglas

MD 4829.0 TVD 4370.0 (-2312.0)

shale, gray to gray/green with some black, silty, with salt and pepper siltstone, sandstone stringers, quartz, gray, micaceous, very fine grain, sub-round to sub-angular, poor sorting, fair cemented to friable, no shows

as above

limestone, gray to cream, cryptocrystalline, fossiliferous, chalky in part, no visible porosity or shows

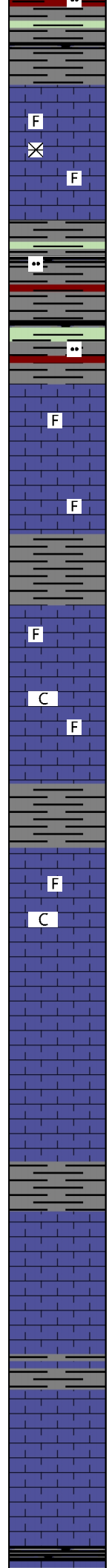
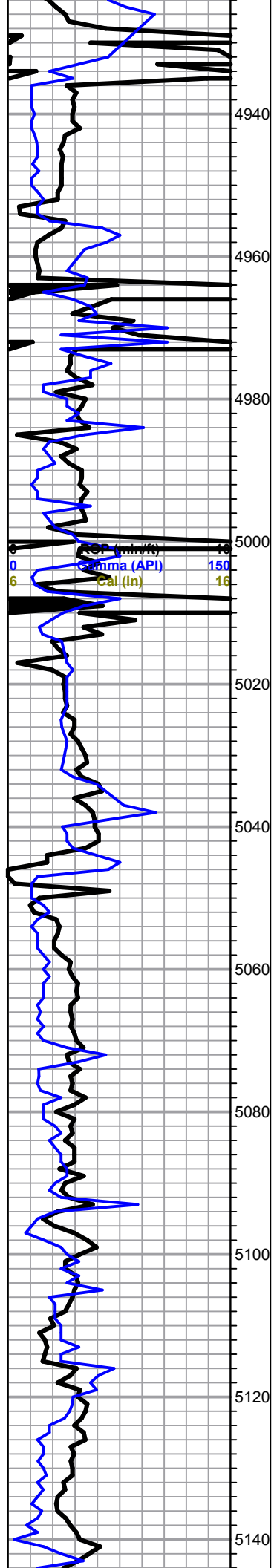
shale as above, with influx red shales, increase black shales, marked decrease in sandstone and siltstone

re-zero and gas test
Bloodhound,
clean out
extractor -
plugging?

MD 4839'
Inc deg 28.0
Azi deg 78.8
TVD 4375'
North 308.89'
East 1788.31'

MD 4871'
Inc 28.3
Azm 79.6
TVD 4403'
North 311.72'
East 1776.33'

Mud-Co Mud chk
@ 4913 ft.
1430 hrs. 4/27/14
Vis. 50 Wt. 9.3
PV 16 YP 20
WL 10.0
Cake 1/32,
pH 11.0
CHL 8000 ppm
Ca 40 ppm
Sol 6.7 LCM 2#
DMC 0.7005 20



limestone, gray to light brown, microcrystalline, fossiliferous, some secondary calcite, poor visible porosity, no shows

shales as above

Lansing
MD 4978.0 TVD 4489.0 (-2431.0)

limestone, light gray to gray, some tan, microcrystalline, fossiliferous, grainy in part, some secondary calcite, no visible porosity, no shows

limestone, light gray to tan, microcrystalline, fossiliferous, chalky in part, poor visible porosity, no shows

limestone, as above, some secondary calcite crystals, no visible porosity or shows

Ls-crm/tan, fxln, sucrosic, poor vis por, no vis shows

Ls-A/A
Shale- green/grey

Ls-crm/tan, fxln, slightly sucrosic, poor vis por, slightly cherty in part, Shale- Black/grey slightly silty

A/A

Ls-gry/tan, fxln, dense, poor vis por, slightly ool

Ls-tan/gry, fxln, few fossils/ool, poor vis por, chert-honey wht/ary. Trace blak carbon shale

MD 4933'
Inc 28.8
Azm 78.8
TVD 4457'
North 317.28'
East 1805.43'

MD 4965'
Inc 29.2
Azm 78.9
TVD 4485'
North 320.28'
East 1820.53'

MD 4997'
Inc 29.3
Azm 79.8
TVD 4513'
North 323.17'
East 1835.9'

Total Gas (units) 100
C1 (units) 100
C2 (units) 100
C3 (units) 100
C4 (units) 100

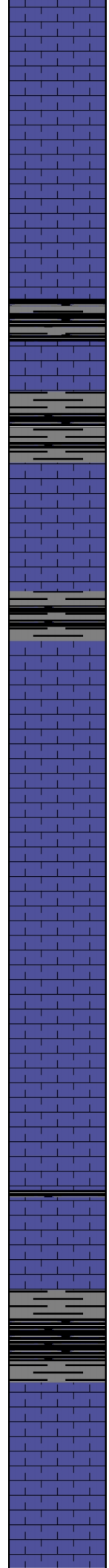
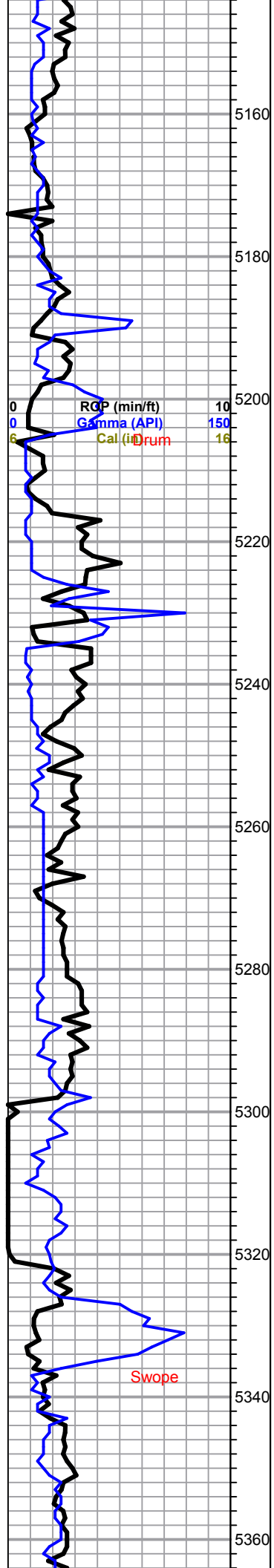
MD 5028'
Inc 30
Azm 79.7
TVD 4540'
North 325.9'
East 1850.99'

MD 5060'
Inc 30.2
Azm 79.4
TVD 4568'
North 328.81'
East 1866.77'

MD 5092'
Inc 30.3
Azm 79.2
TVD 4596'
North 331.8'
East 1882.61'

MD 5124'
Inc 30.5
Azm 79.2
TVD 4623'
North 334.83'
East 1898.52'

Mud-Co Mud chk
@ 5141 ft.
0815 hrs. 4/28/14
Vis. 48 Wt. 9.4
PV 16 YP 18
WL 8.8
Cake 1/32,
pH 10.5



bone, wht/gry, trace blk carbon shale

Ls-tan/gry, fxln, few fossils, poor vis por, slightly sucrosic,

A/A chert-buff/gry

Geologist Keith Reavis relieved by Geologist Kurt Talbott

Drum
MD 5205.0 TVD 4693.0 (-2635.0)

Ls-crm/tan/gry, fxln, dense, poor scattered iner xln por, cherty in part, Shale- gry/blk carbon

A/A
Black carbon shale

Ls-crm/tan, fxln, por vis por, slightly sucrosic,

Ls-tan/buff/lt gry, fxln, slighly ool, poor vis por, mostly dense,

A/A

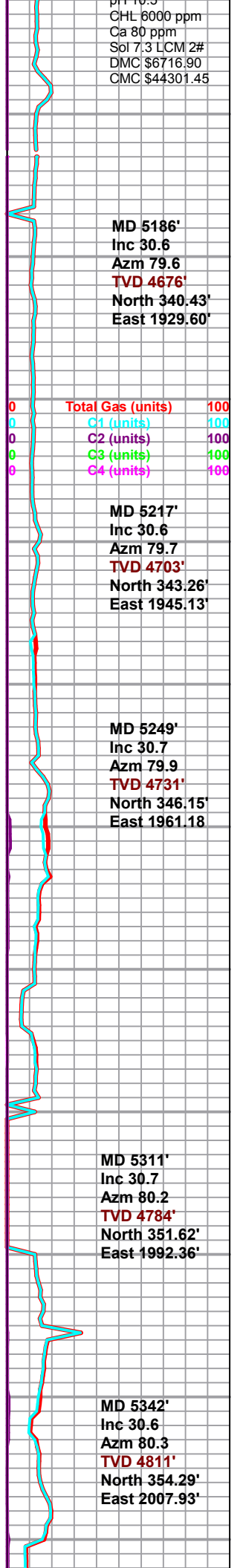
Ls-crm/lt gry, fxln, poor vis por,

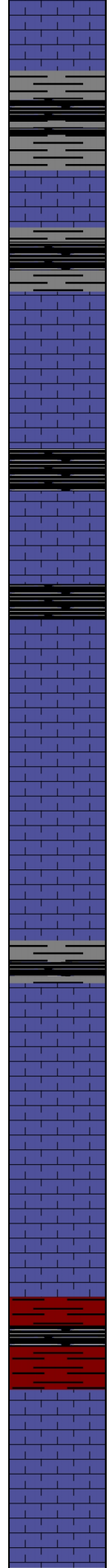
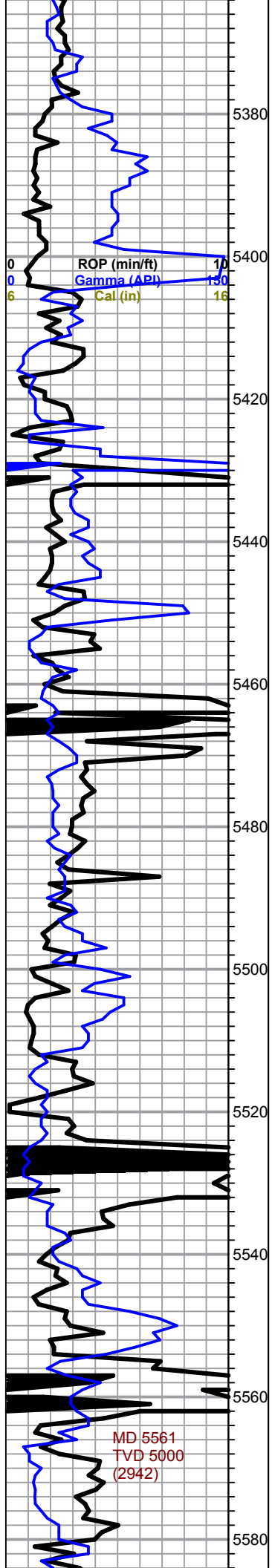
Ls-wht/crm, ool, poor iner ool to scattered sub oom por, slightly chalky

Ls-crm/wht fxln, ool, sucrosic, poor iner xln por, Shale- black carbon/gry/green

Swope
MD 5336.0 TVD 4806.0 (-2748.0)

Ls-wht/lt gry/crm, fxln, ool, poor scattered iner xln to iner ool por, barren, slightly chalky, chert-boney wht/gry





A/A

Ls-wht/lt gry, fxln, ool, poor scattered por, chalky,
chert-boney wht/lt gry
Shale-blk carbon, gry

Hertha
MD 5400.0 TVD 4861.0 (-2803.0)

Shale- black carbon/grey/brown

Ls-wht/lt gry,fxln, sucrosic, slightly ool, poor vis por,
chert-boney wht/gry
Shale-gry/blk/brwn abundant

A/A Black carbon shale abundant

Ls- gry, fxln, dense, poor vis por, cherty in part, shale-
gry, slightly silty,

Black carbon shale

Ls-gry/wht/tan, fxln, ool, dense, poor vis por, chert-
wht/crm- ool

Ls-crm/lt gry, fxln, sucrosic, dense, slightly ool, poor
vis por, chert-boney wht

Base KC
MD 5500.0 TVD 4947.0 (-2889.0)

Ls-gry, fxln, dense, slightly ool, poor vis por, chert-
wht-ool
Black carbon shale abundant gry/green

Marmaton
MD 5511.0 TVD 4957.0 (-2899.0)

Ls-wht/crm, fxln, ool, poor scattered iner xln to iner
ool por, no vis shows, chert-crm/boney wht

Ls-tan/buff, xln, dense, poor vis por, dense, cherty
in part,

A/A

Shale-black carbon, brown/red soft

MD 5561
TVD 5000
(2942)

Ls-wht/crm, fxln, dense, poor vis por, slightly ool,
chert-boney wht/grey

MD 5373'
Inc 30.5
Azm 80.3
TVD 4837'
North 356.88'
East 2023-48'

Total Gas (units) 100
C1 (units) 100
C2 (units) 100
C3 (units) 100
C4 (units) 100

MD 5436'
Inc 30.0
Azm 80.4
TVD 4892'
North 362.24'
East 2054.88'

MD 5467'
Inc 30.1
Azm 79.7
TVD 4919'
North 364.92'
East 2070.17'

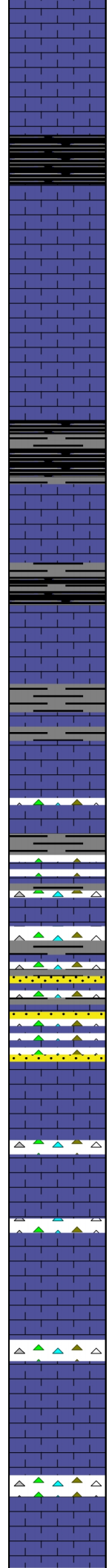
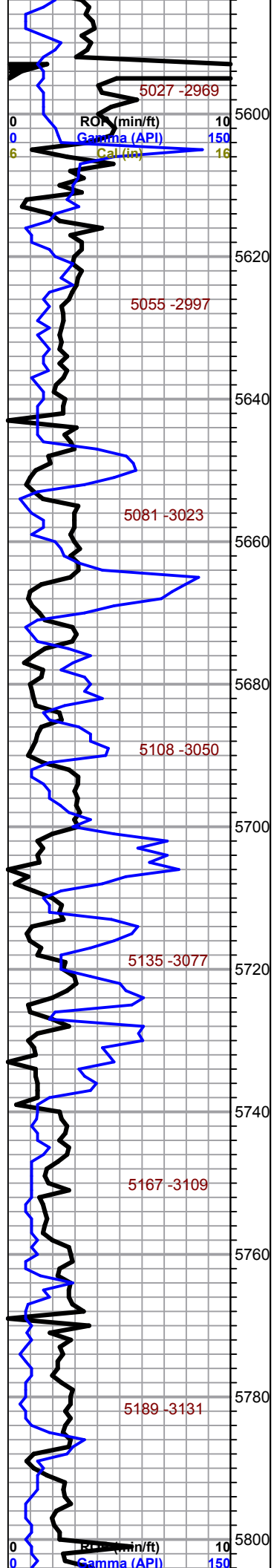
MD 5498'
Inc 29.9
Azm 79.4
TVD 4945'
North 367.73'
East 2085.42'

MD 5529'
Inc 30.3
Azm 79.8
TVD 4972'
North 370.54'
East 2100.71'

Mud Co Mud Check
@5532 4/28/14 0800hr
Vis. 54 Wt. 9.2 PV 20
YP 15 WL 8.0 pH 10.5
CHL 4500ppm Sol 6.2
Ca 60 ppm LCM 3#
DMC \$7567.4
CMC \$58585.75

MD 5561'
Inc 30.6
Azm 79.8
TVD 5000'
North
373.41'
East
2116.67'

SC
Total Gas (units) 1000
C1 (units) 1000
C2 (units) 1000
C3 (units) 1000
C4 (units) 1000



Pawnee
MD 5606.0 TVD 5038.0 (-2980.0)

Black carbon shale
 Ls-tan/crm, fxln, few fossils, poor vis por, cherty in part Shale-brown/red soft abundant

A/A Black carbon shale influx

Fort Scott
MD 5633.0 TVD 5062.0 (-3004.0)

Black carbon shale
 Ls-gry/tan, fxln, dense, few fossils, chert-tan/gry

A/A Black carbon shale

Ls-crm/tan/gry, fxln scattered por, mostly dense, chert-gry,
 Shale- gry/brwn/grn abundant

Ls-crm/wht/tan, fxln, scattered por, few ool/fossils, cherty-crm/boney wht-fossils,

Black carbon shale- Shale gry/green, slightly silty,

Ls-lt gry/crm/wht, few fossils/ool, poor por, Shale-
 A/A soft

Mississippian
MD 5738.0 TVD 5151.0 (-3093.0)

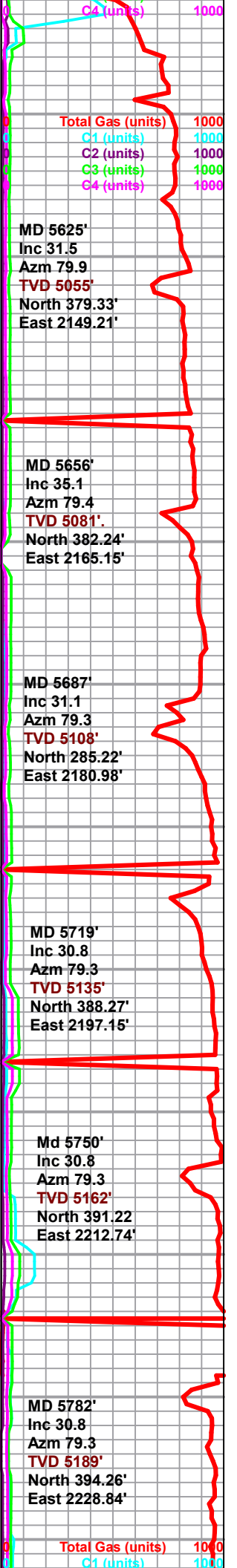
Ls-wht/crm/lt gry, fxln, slightly sucrosic, poor vis por,

Ls-wht/crm, fxln, poor vis por, slightly sucrosic, chert-boney wht/crm,-fossils

Limestone As Above

Ls-crm/tan, fxln, sucrosic, slightly dolomitic, poor vis por, chert-amber/boney wht

A/A



MD 5625'
 Inc 31.5
 Azm 79.9
 TVD 5055'
 North 379.33'
 East 2149.21'

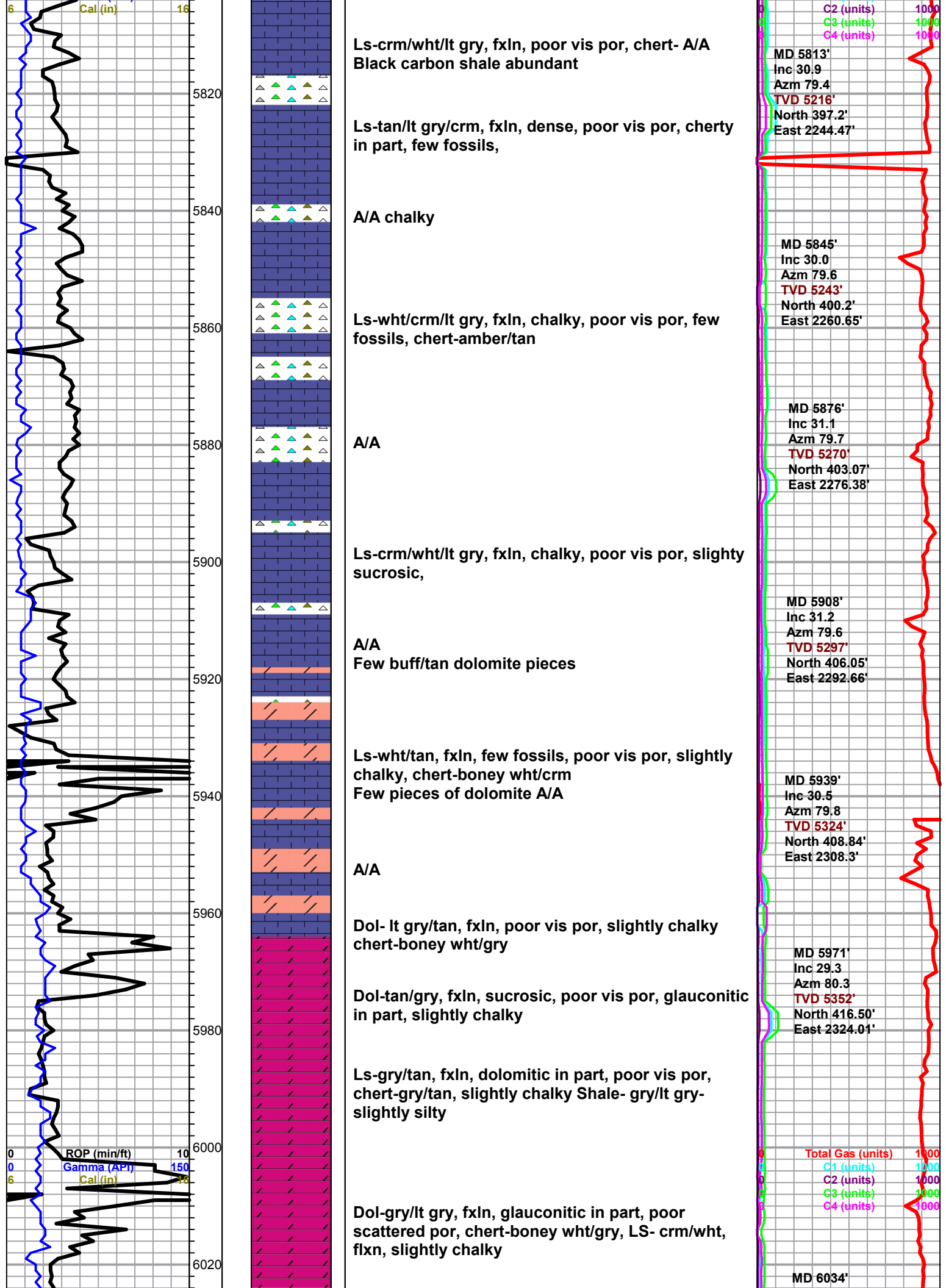
MD 5656'
 Inc 35.1
 Azm 79.4
 TVD 5081'
 North 382.24'
 East 2165.15'

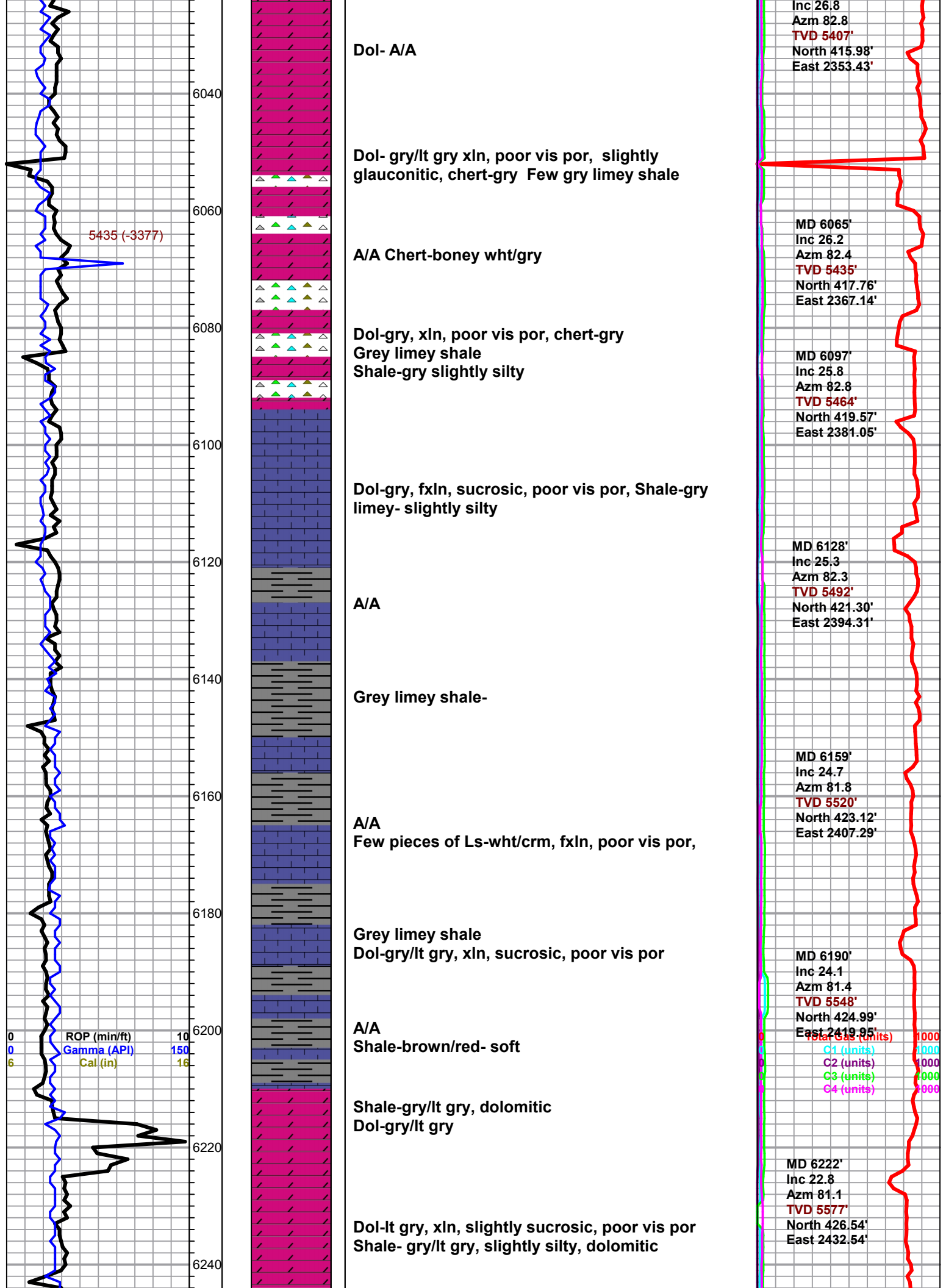
MD 5687'
 Inc 31.1
 Azm 79.3
 TVD 5108'
 North 285.22'
 East 2180.98'

MD 5719'
 Inc 30.8
 Azm 79.3
 TVD 5135'
 North 388.27'
 East 2197.15'

Md 5750'
 Inc 30.8
 Azm 79.3
 TVD 5162'
 North 391.22'
 East 2212.74'

MD 5782'
 Inc 30.8
 Azm 79.3
 TVD 5189'
 North 394.26'
 East 2228.84'





5435 (-3377)

Inc 26.8
Azm 82.8
TVD 5407'
North 415.98'
East 2353.43'

MD 6065'
Inc 26.2
Azm 82.4
TVD 5435'
North 417.76'
East 2367.14'

MD 6097'
Inc 25.8
Azm 82.8
TVD 5464'
North 419.57'
East 2381.05'

MD 6128'
Inc 25.3
Azm 82.3
TVD 5492'
North 421.30'
East 2394.31'

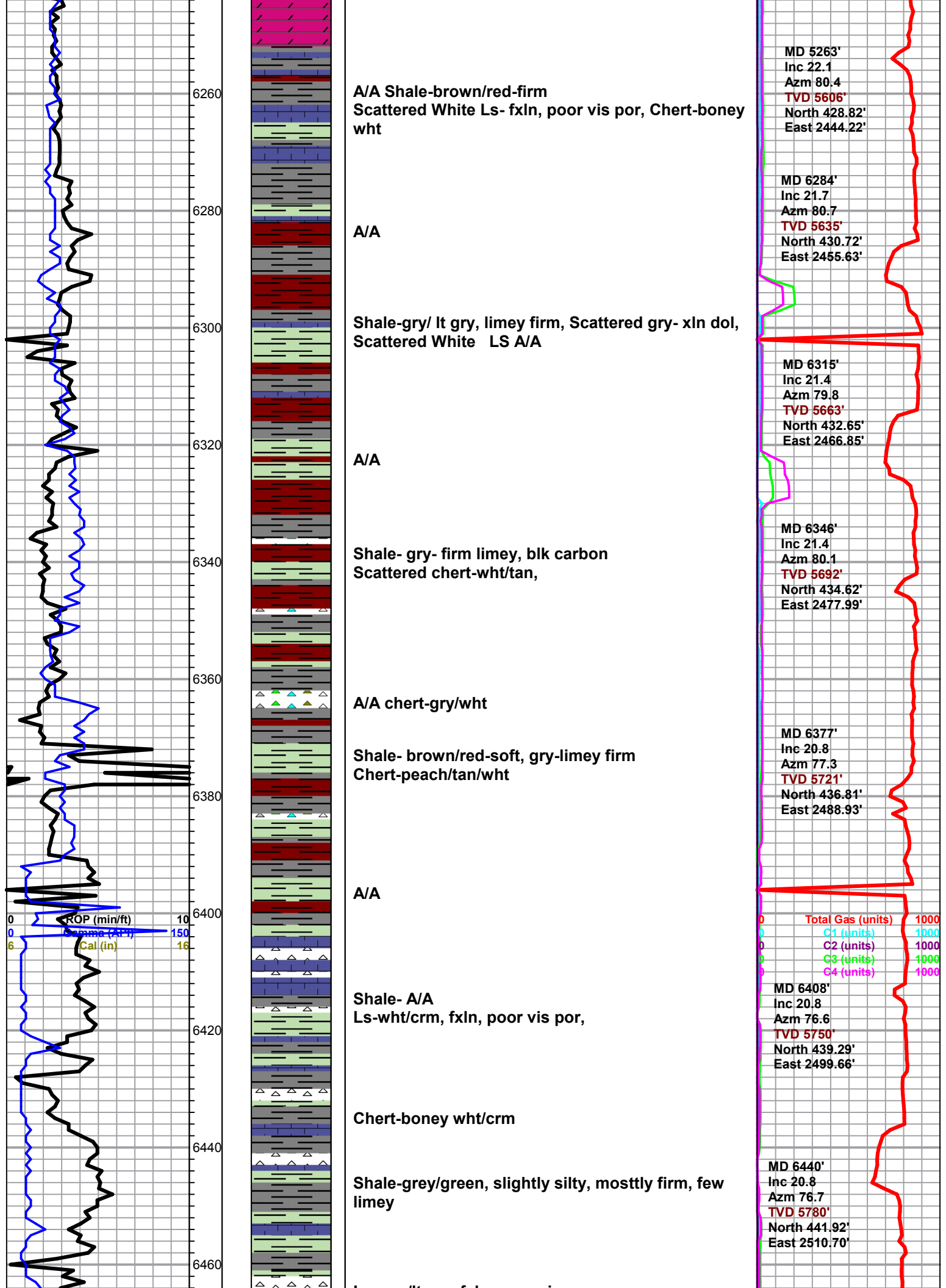
MD 6159'
Inc 24.7
Azm 81.8
TVD 5520'
North 423.12'
East 2407.29'

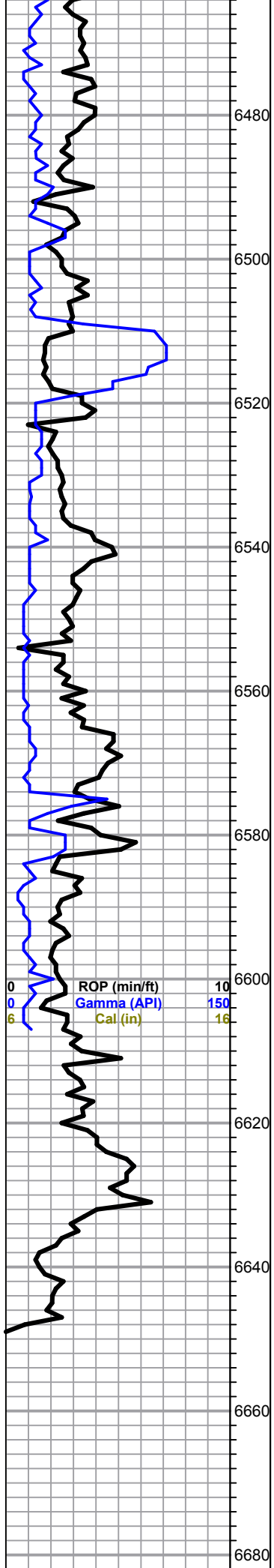
MD 6190'
Inc 24.1
Azm 81.4
TVD 5548'
North 424.99'
East 2419.95'

MD 6222'
Inc 22.8
Azm 81.1
TVD 5577'
North 426.54'
East 2432.54'

Total Gas (units) 1000
C1 (units) 1000
C2 (units) 1000
C3 (units) 1000
C4 (units) 1000

ROP (min/ft) 10
Gamma (API) 150
Cal (in) 16





Ls-crm/lt gry, fxln, poor vis por,
 Shale and chert A/A

 Shale-grey/aqua green, slightly silty, slightly
 glauconitic, Ls-crm/wht, fxln, cherty in part,

 A/A Trace gry fxln dolomite, poor vis por, slightly
 glauconitic,

Viola
MD 6520.0 TVD 5855.0 (-3797.0)

 Dol-tan/buff, fxln, poor iner xln por, sucrosic, trace
 flu,
 Chert-fresh-boney wht/opaque

 Dol-tan/buff/lt gry, xln, sucrosic, poor vis por, Trace
 flu, Shale-grey/green
 Chert-A/A

 Samples becoming poor
 A/A

 Dol-gry/lt gry/crm, xln, slightly sucrosic, poor
 scattered iner xln por, Chert-opaque/boney wht

 Dol-tan/buff/lt gry, xln, poor scattered iner xln por,
 slighty sucrosic, no vis shows,
 Chert-wht/crm

 A/A

 Dol- A/A
 Shale-gry/green, slightly silty, limey in part

Total Depth
MD 6648.0 TVD 5974.0 (-3916.0)

MD 6471'
 Inc 20.9
 Azm 76.3
 TVD 5809'
 North 444.49'
 East 2521.43'

 MD 6503'
 Inc 21.0
 Azm 76.6
 TVD 5839'
 North 447.17'
 East 2532.56'

 MD 6534'
 Inc 21.3
 Azm 76.3
 TVD 5668'
 North 449.79'
 East 2543.43'

 MD 6565'
 Inc 21.4
 Azm 76.3
 TVD 5897'
 North 452.47'
 East 2554.39'

 MD 6597'
 Inc 21.6
 Azm 76.8
 TVD 5926'
 North 455.19'
 East 2565.80'

 MD 6648
 Inc 21.6
 Azm 76.8
 TVD 5974'
 North 459.48'
 East 2584.08'

Total Gas (units) 1000
 C1 (units) 1000
 C2 (units) 1000
 C3 (units) 1000
 C4 (units) 1000

