

OPERATOR

Company: Herman L. Loeb, LLC
 Address: P.O. Box 838
 Lawrenceville, IL 62439

Contact Geologist:
 Contact Phone Nbr: 618-943-2227
 Well Name: Kodiak A #1-27
 Location: Section 27 - T26S - R15W
 API: 15-151-22447-0000
 Pool:
 State: Kansas

Field: Tatlock East
 Country: USA



Scale 1:240 Imperial

Well Name: Kodiak A #1-27
 Surface Location: Section 27 - T26S - R15W
 Bottom Location:
 API: 15-151-22447-0000
 License Number: 3273
 Spud Date: 2/14/2015 Time: 10:45 AM
 Region: Pratt County
 Drilling Completed: 2/22/2015 Time: 3:40 AM
 Surface Coordinates: 966' FNL & 2156' FWL
 Bottom Hole Coordinates:
 Ground Elevation: 2044.00ft
 K.B. Elevation: 2053.00ft
 Logged Interval: 3050.00ft To: 4483.00ft
 Total Depth: 4483.00ft
 Formation: Viola
 Drilling Fluid Type: Chemical/Fresh Water Gel

SURFACE CO-ORDINATES

Well Type: Vertical
 Longitude:
 Latitude:
 N/S Co-ord: 966' FNL
 E/W Co-ord: 2156' FWL

LOGGED BY

Keith Reavis
Consulting Geologist

Company: Keith Reavis, Inc.
 Address: 3420 22nd Street
 Great Bend, KS 67530

Phone Nbr: 620-617-4091
 Logged By: KLG #136

Name: Keith Reavis

CONTRACTOR

Contractor: Sterling Drilling Company
 Rig #: 4
 Rig Type: mud rotary
 Spud Date: 2/14/2015 Time: 10:45 AM
 TD Date: 2/22/2015 Time: 3:40 AM
 Rig Release: Time:

ELEVATIONS

K.B. Elevation: 2053.00ft
K.B. to Ground: 9.00ft

Ground Elevation: 2044.00ft

NOTES

Due to the results of DST's 1-4, electrical log analysis and low structural position, it was determined that the Kodiak A #1-27 be plugged and abandoned as a dry hole.

A Tooke Daq gas detection system operated by Sterling Drilling was employed during the drilling of this well. ROP and gas curves were imported into this log. Gamma ray and caliper curves from the Halliburton electrical log suite were also imported.

Log tops and measurements were consistently 3 to 5 ft high to tops and measurements picked from the Tooke Daq ROP. Drill time was shifted up hole 3 ft. to more closely match the gamma ray. All tops contained in this report were corrected to the electrical log measurements. Drill stem test intervals were corrected to electrical log depth.

Samples were saved and will be available for review at the Kansas Geological Survey Well Sample Library located in Wichita, KS.

Respectfully submitted,
Keith Reavis

Herman L. Loeb, LLC

daily drilling report

DATE	7:00 AM DEPTH	REMARKS
02/17/2015	2906	Geologist Keith Reavis on location @ 0940 hrs, 3096 ft, drilling ahead Tarkio, Howard, Topeka
02/18/2015	3881	Heebner, Douglas, Brown Lime, short trip @ Brown Lime, show in Toronto warrants test, short trip, TOH w/bit, conduct and complete DST #1, successful test, TIH w/bit, resume drilling, Lansing
02/19/2015	3937	Lansing B, gas kick and show warrant test, TOH w/bit for DST #2, conduct DST #2, successful test, TIH w/bit, resume drilling
02/20/2015	4020	show in D and G zones warrant condemnation/pressure test, TOH w/bit, TIH w/tools, conducting DST #3, complete DST #3, successful test, rig under repairs, TIH w/bit, resume drilling, show in H zone warrants test, TOH w/bit
02/21/2015	4068	TIH w/tools, conduct and complete DST #4, successful test, TIH w/bit, resume drilling, Stark, BKC, Kinderhook
02/22/2015	4483	drilling ahead, Kinderhook, Viola, TD @ 4483 ft, short trip, TOH for logs, rig up Halliburton, conduct logging operations, geologist off loc @ 1715 hrs

Drill Stem Tests






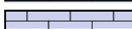





DST #1, 3710-3881 ft, 15-45-45-90, recovered 35 ft mud, IFP 21-27#, ISIP 883#, FFP 28-33#, FSIP 1010#, HSH 1913 & 1869#, BHT 111 deg. F

DST #2, 3917-3937 ft, 15-45-45-90, recovered 125 ft GIP, 62 ft SOCM, 62 ft MW w/oil specs, 62 ft saltwater, IFP 33-53#, ISIP 1145#, FFP 60-112#, FSIP 1153#, HSH 2048 & 1907#, BHT 117 deg F

DST #3, 3948-4020 ft, 15-45-30-90, recovered 340 ft G&OCWM, 509 ft MW w/oil specs, IFP 54-294#, ISIP 1258#, FFP 234-401#, FSIP 1249#, HSH 1951 & 1911#, BHT 120 deg F

DST #4, 4044-4068 ft, 15-45-45-90, recovered 105 ft GIP, 80 ft OCMW, 62 ft SOCW, IFP 34-48#, ISIP 1136#, FFP 54-91#, FSIP 1108#, HSH 2050 & 1997#, BHT 119 deg F

ROCK TYPES

	Dolprim		Lmst fw<7		shale, gry		Ss
	Dolsec		Lmst fw>7		Carbon Sh		Slst
	sdylmst		shale, grn		shale, red		

ACCESSORIES

MINERAL

- Argillaceous
- ⊥ Calcareous
- ▲ Chert, dark
- ∟ Dolomitic
- ✕ Mineral Crystals
- Silty
- △ Chert White
- Mc Mica

FOSSIL

- Bioclastic or Fragmenta
- F Fossils < 20%
- ⊕ Oolite
- ⊗ Pellets
- ⊗ Oomoldic

STRINGER

- Sandstone
- Siltstone
- green shale

TEXTURE

- C Chalky
- L Lithogr
- MX MicroIn

OTHER SYMBOLS

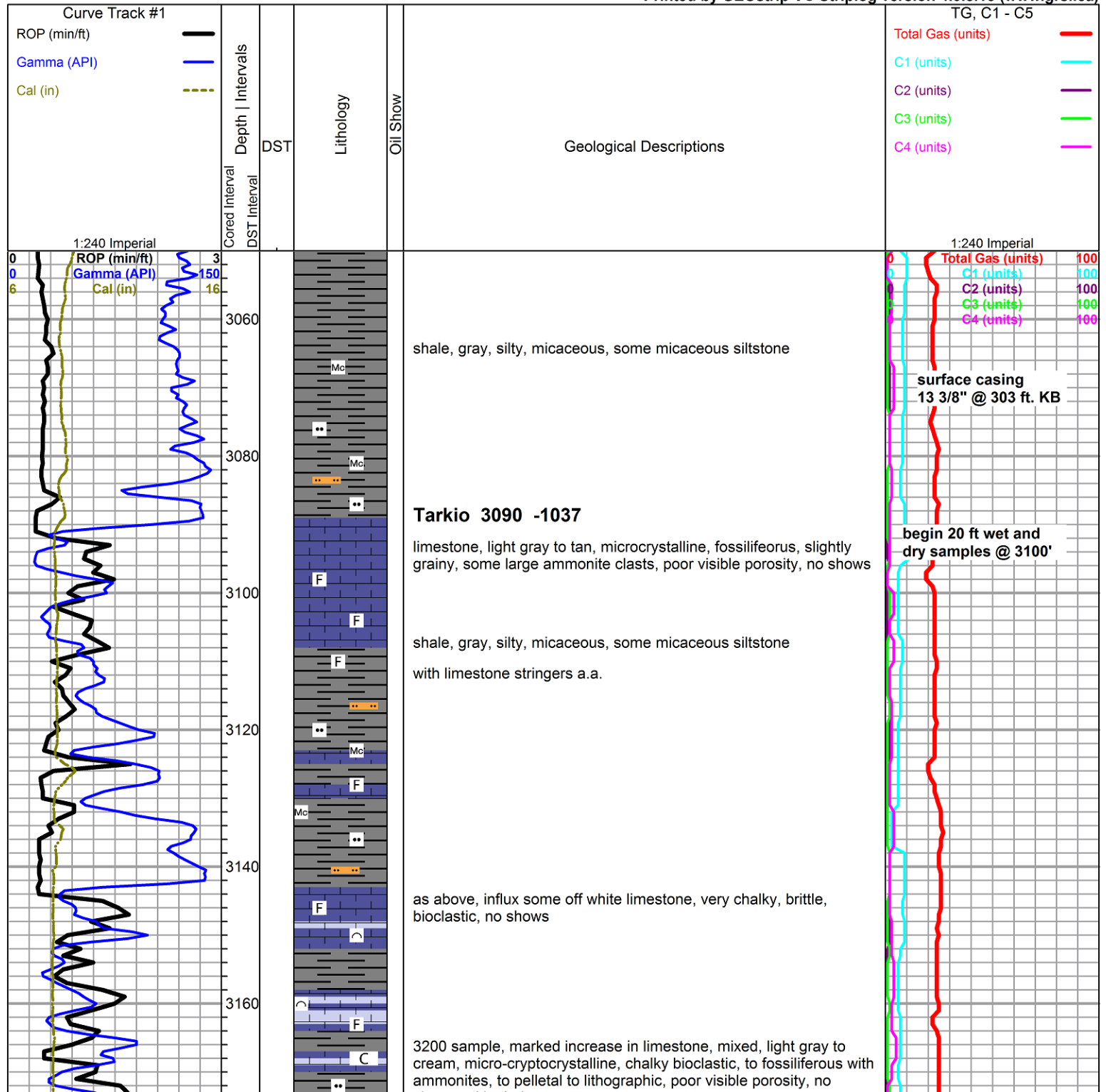
Oil Show

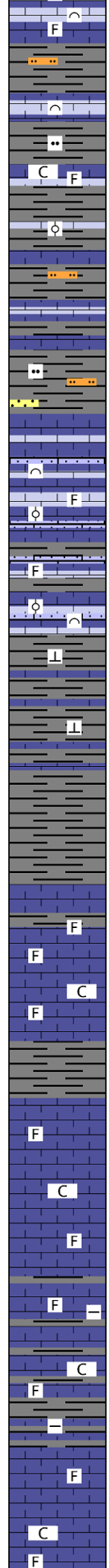
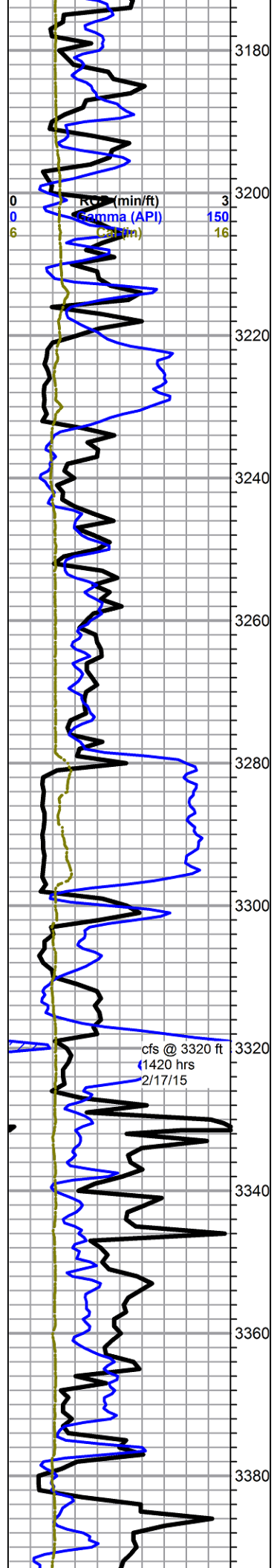
- Good Show
- Fair Show
- Poor Show
- Spotted or Trace
- Questionable Stn
- D Dead Oil Stn
- Fluorescence
- * Gas

DST

- DST Int
- DST alt
- Core
- tail pipe

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shows, with shales a.a.

shale a.a. with limestone stringers, mixed, some brown and gray grainy oolitic, chalky, no shows

gray silty shales, some gray siltstone, and very fine grain dirty sandstone

Howard 3231 -1178
 limestone, gray to gray brown mottled, grainy fossiliferous to bioclastic, some oolitic some sandy, poor visible porosity, no shows

limestone, a.a. with limestone, gray mottled pelletal, chalky in part, limestone, white to cream, microcrystalline, fossiliferous, chalky to dense, shales and siltstones a.a.

a.a. abundant gray limey shale to shale limestone, decreasing light facies

shale, gray, some silty

Topeka 3297 -1244
 limestone, cream, cryptocrystalline, fossiliferous, dense, with limestone, cream to gray/brown mottled, chalky, fossiliferous, argillaceous in part, poor visible porosity, abundant chalk, no shows, no fluorescence in limestones, only light fluorescence in chalk

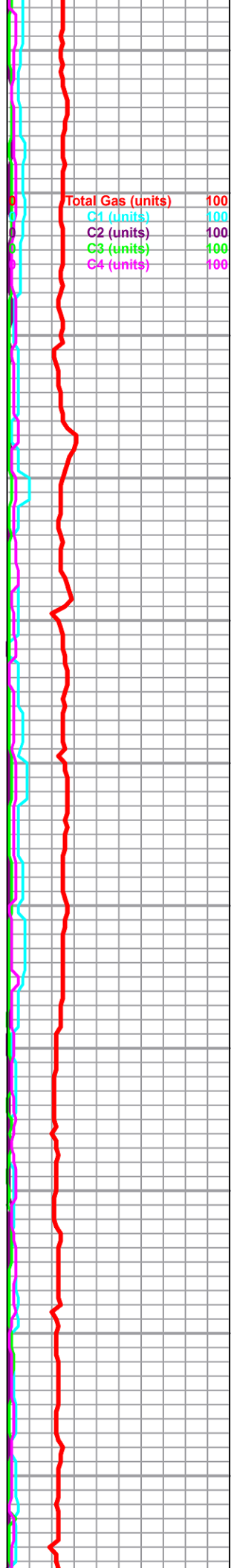
limestone, gray to cream, microcrystalline, fossiliferous, chalky to dense, no shows

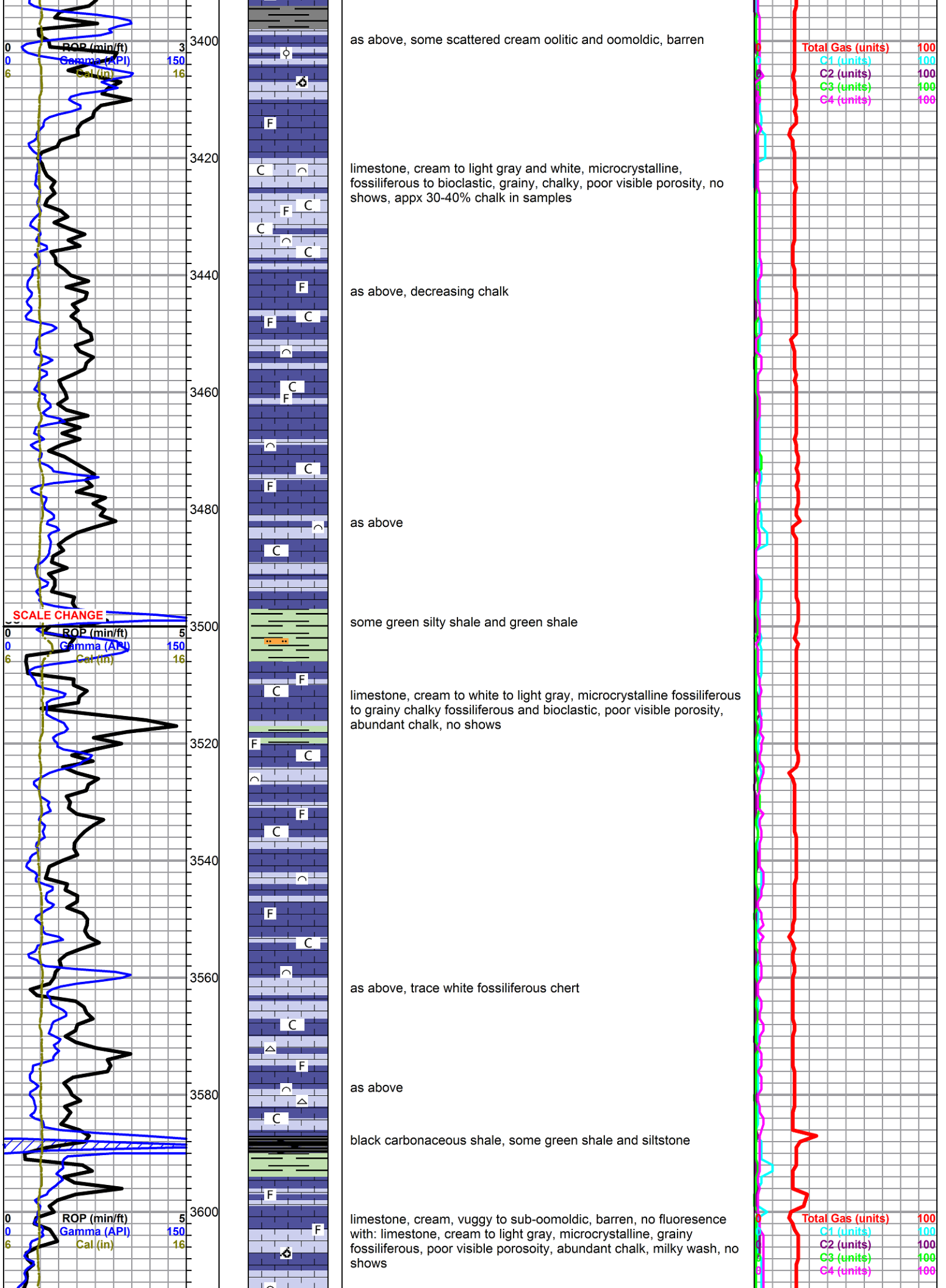
limestone, gray to dark gray, microcrystalline, fossiliferous, some large clasts, argillaceous, trace glauconitic, cream chalky limestones, fossiliferous, with dark gray limey shale

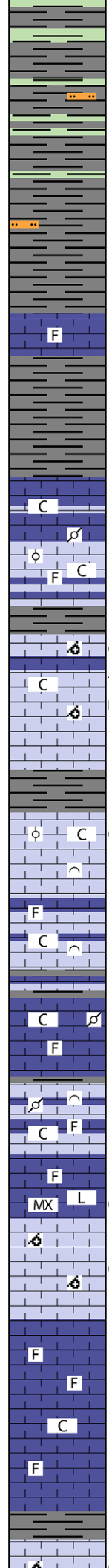
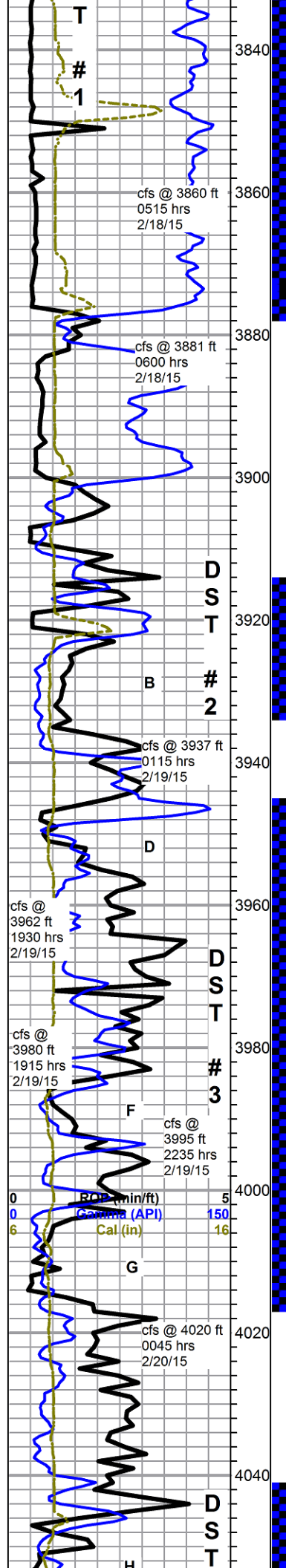
as above, increasing gray shales

limestone, cream to light gray, chalky fossiliferous, decreasing shales

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







Brown Lime 3877 -1824

limestone, tan to gray, cryptocrystalline, dense, fossiliferous, some calcite seams, no shows
 gray shales, silty, micaceous

Lansing 3900 -1847

limestone, white to light gray, some with tan mottling, weathered and chalky, recrystallized fossiliferous and oolitic/pelletal, poor visible porosity, no shows or odor, no fluorescence - some gray dense cryptocrystalline limestones

limestone, light gray, oomoldic, good crystal lined molds with secondary pinpoint porosity, barren to saturated golden brown to black stain, strong odor, bleeding gas, no show free oil but some sheen on break, good green fluorescence, slow very light cut, with some white/gray weathered fossiliferous, black spotty staining

limestone, white to cream, chalky bioclastic to flattened oolitic, 2 specimens only with some small vugs and black tarry residue, few sand grain sized pieces limestone in bottom of tray with residue, no free oil, no odor

limestone, cream to white, microcrystalline, fossiliferous to bioclastic, chalky, poor visible porosity, no shows

grades to limestone, dark gray to cream mottled, microcrystalline, fossiliferous, trace pelletal, chalky to dense, poor visible porosity, no shows

limestone, gray to tan, chalky, fossiliferous to bioclastic, some pelletal, some grainy but dense, poor visible porosity, barren, no fluorescence

4020 sample - limestone, mixed gray, fossiliferous to lithographic, few pieces fine crystalline with intercrystalline porosity and slight show oil, few pieces of lithographic with solution etching and dark stain, faint odor, no fluorescence or cut

30 min cfs - limestone, cream to tan, oomoldic, some oolitic, good porosity, mostly barren with some scattered stained pieces, no free oil, trace heavy oil on break, sour odor, scattered very faint fluorescence, slow fair streaming cut on specimens with stain

limestone, fairly non-descript gray and cream chalky fossiliferous

a.a.

limestone, cream to white, sub-oomoldic and oolitic, poorly developed mold porosity, scattered inter-oolite staining, mostly

Mud-Co Mud chk @ 3881 ft. 0630 hrs. 2/18/15 Vis. 53 Wt. 9.4 PV 15 YP 15 WL 9.0 Cake 1/32, pH 9.0 CHL 5000 ppm Ca 100 ppm Sol 7.5 LCM 3# DMC \$600.13 CMC \$13675.92

short trip @ 3881 ft

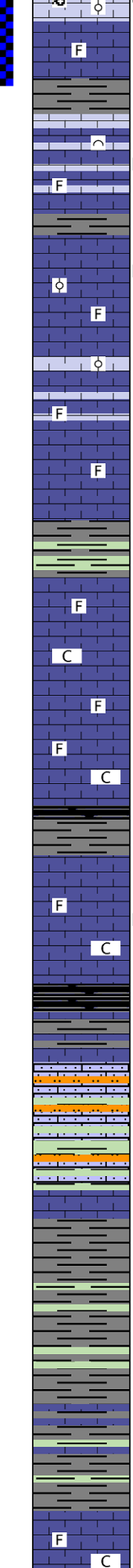
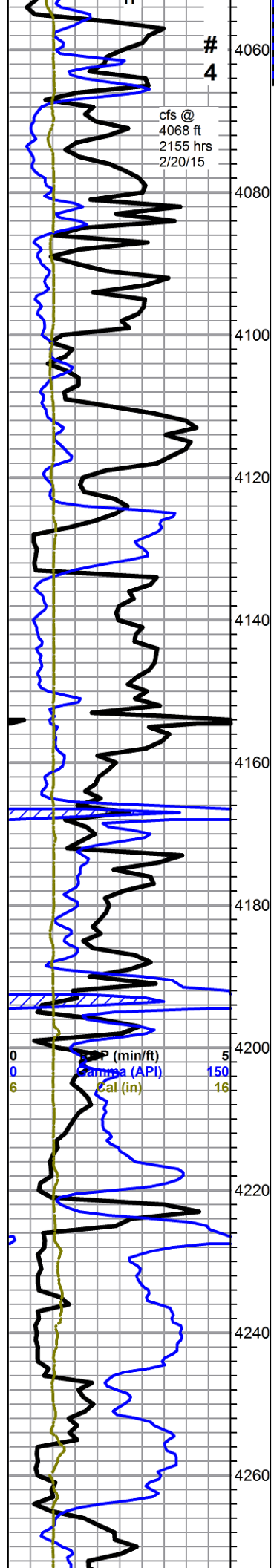
strap 1.44 long to board deviation 3/4 deg

NOTE: gas reading continued to rise and maxed out 5 min after lag thru on Tooke at 105 units

Mud-Co Mud chk @ 3937 ft. 0800 hrs. 2/19/15 Vis. 62 Wt. 9.7 PV 16 YP 16 WL 10.0 Cake 1/32, pH 9.0 CHL 5000 ppm Ca 280 ppm Sol 9.7 LCM 5# DMC \$0.00 CMC \$13675.92

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

Mud-Co Mud chk @ 4020 ft. 0800 hrs. 2/20/15 Vis. 54 Wt. 9.3 PV 15 YP 16 WL 8.8 Cake 1/32, pH 11.5 CHL 4000 ppm Ca 80 ppm Sol 7.6 LCM 3# DMC \$3097.26 CMC \$16773.18



barren, slightly bleeding, trace free oil in tray, faint odor, poor fluorescence, very slow bright streaming cut to no cut (note samples for this zone fine and sparse)

abundant gray shales

limestone, cream, light gray and white, cryptocrystalline, fossiliferous, trace bioclastic, chalky, scattered spotty black dead stain, no show oil, no odor

4120 sample, limestone, cream to white, cryptocrystalline, oolitic to fossiliferous, poor visible porosity, few pieces with dead black flakey gilsonite stain, no show free oil, no odor, no fluorescence, no cut

a.a. marked increase in chalk

mostly mixed non-descript fossiliferous

limestones, mixed, white to light gray and cream, mostly chalky fossiliferous, trace oolitic, trace dead stain (from above?)

Stark Shale 4166 -2113

limestone, cream to white, microcrystalline, fossiliferous, chalky in part, found 1 specimen with some secondary calcite, light stain, brown dead scaly oil residue on break, no odor, poor fluorescence

black carbonaceous shale

siltstone, silty shale, argillaceous limestone, light gray/green, still abundant limestones from above

Base KC 4224 -2171

gray and green shales, some silty

shales a.a. with limestone, gray to gray green, cryptocrystalline, fossiliferous to lithographic, some argillaceous

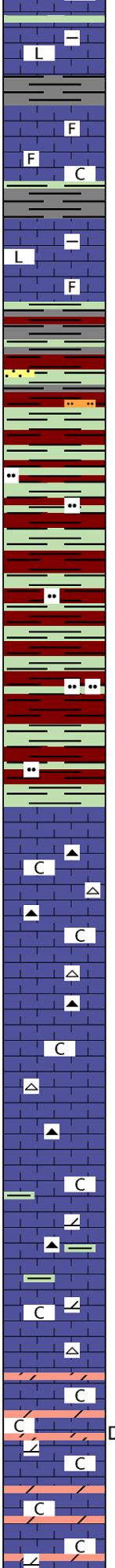
limestone, white to light gray, some green tinting, cryptocrystalline, chalky fossiliferous, some chalky lithographic and dense lithographic, some argillaceous limestone, scattered light brown grainy fossiliferous, no shows

Mud-Co Mud chk @ 4068 ft.
0730 hrs. 2/21/15
Vis. 54 Wt. 9.4
PV 15 YP 15
WL 8.8
Cake 1/32,
pH 11.0
CHL 5000 ppm
Ca 80 ppm
Sol 7.5LCM 4#
DMC \$451.24
CMC \$17224.42

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

grainy fossiliferous, no shows

4280
4300
4320
4340
4360
4380
4400
4420
4440
4460
4480



limestones a.a. with gray and green shales

Kinderhook 4313 -2260

mixed gray, green and red shales, with some gray micaceous silt and silty sandstone stringers, no shows

grades to: shale, maroon to lavender and green, silty

a.a.

Viola 4380 -2327

limestone, white to cream, cryptocrystalline, chalky, some secondary calcite, with white/reddish brown and gray mottled chalky limestone, microcrystalline, some grainy, chert, frosted gray to white translucent, vitreous, some pale green

note: abundant fine round to sub round quartz sand grains in bottom of tray, seeing no clusters

as above, increase in reddish brown mottled facies

limestone and cherts as above, with influx limestone, dolomitic, pale green, cryptocrystalline, dense, some argillaceous, abundant light green shales, some sandy, soft, no shows - still abundant sand grains bottom of tray

beginning 4470 sample, limestone, dolomitic, white to cream, some with pale green tint, very chalky, weathered, poor visible porosity, with scattered dolomite, white, some pale green tint, microcrystalline, sub-rhombic to sub-sucrosic, poor visible porosity, few pieces with spotty dead black stain, no free oil, no odor, no fluorescence, very slight bluish cut - appx 30%+ chalk in samples, (samples very fine this interval to TD)

Rotary TD 4483 ft @ 0340 hrs 2/22/15
Halliburton Log TD 4480 ft
complete logging operations 1600 hrs 2/22/15

ROP (min/ft) 5
Gamma (API) 150
CAL (in) 16

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