

OPERATOR

Company: Falcon Exploration, Inc.
 Address: 125 N. Market
 Suite 1252
 Wichita, KS 67202
 Contact Geologist: Brian Fisher
 Contact Phone Nbr: 316-262-1378
 Well Name: Emery Josserand SWD #1-5 (SE) (original Emery Josserand #1-5)
 Location: Sec 5 - T28S - R30W
 API: 15-069-20360-0001
 Pool: _____ Field: wildcat
 State: Kansas Country: USA

Scale 1:240 Imperial

Well Name: Emery Josserand SWD #1-5 (SE) (original Emery Josserand #1-5)
 Surface Location: Sec 5 - T28S - R30W
 Bottom Location: _____
 API: 15-069-20360-0001
 License Number: 5316
 Spud Date: 1/18/2012 Time: 12:00 AM
 Region: Gray County
 Drilling Completed: 1/28/2012 Time: 9:05 PM
 Surface Coordinates: 2570' FSL & 1850' FEL
 Bottom Hole Coordinates: _____
 Ground Elevation: 2810.00ft
 K.B. Elevation: 0.00ft
 Logged Interval: 3400.00ft To: 0.00ft
 Total Depth: 6780.00ft
 Formation: Mississippian
 Drilling Fluid Type: Chemical/Fresh Water Gel

SURFACE CO-ORDINATES

Well Type: Vertical
 Longitude: _____
 Latitude: _____
 N/S Co-ord: 2570' FSL
 E/W Co-ord: 1850' FEL

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 and Val Energy
 Rig #: Sterling 5 - Val 2
 Rig Type: mud rotary
 Spud Date: 1/18/2012 Time: 12:00 AM
 TD Date: 1/28/2012 Time: 9:05 PM
 Rig Release: _____ Time: _____

ELEVATIONS

K.B. Elevation: 0.00ft Ground Elevation: 2810.00ft
 K.B. to Ground: 2823.00ft

NOTES

A Tooke Daq gas detector from Sterling Drilling Company was employed on the original well. Drill time and gas curves were imported from said system into this log.

Due to negative results of drill stem tests and review of electrical logs, it was determined by the operator that the Emery Josserand #1-5 be plugged and abandoned as a dry hole.

The original well samples as well as the re-entry samples were saved and will be available for review at the Kansas Geological Survey Well Sample Library located in Wichita, KS.

This well was re-entered on November 29, 2014 and deepened into the Arbuckle. 5 1/2 production casing was set 50 ft into the Arbuckle for saltwater disposal. The body of this mudlog contains the original mudlog and the new mudlog has been attached. A Blohound gas detector was employed on this well and ROP and gas data were imported into this mudlog.

Respectfully submitted,
 Keith Reavis

Falcon Exploration, Inc.
daily drilling report

DATE	7:00 AM DEPTH	REMARKS
01/23/2012	3584	Geologist Keith Reavis on location @ 0330 hrs, 3460 ft., drilling Stotler, Tarkio, Topeka, Lecompton
01/24/2012	4255	drilling ahead, Heebner, Douglas, Lansing
01/25/2012	4771	drilling ahead, lower KC, base KC, Marmaton, Cherokee, conduct short trip At 5040 ft.
01/26/2012	5109	finish short trip, drill ahead, Cherokee, Inola, Morrow, show in Inola and Morrow warrant DST, conduct and complete DST #1
01/27/2012	5173	Tripping tools and bit, on bottom, ctch, resume drilling Mississippian, cut St. Louis, show warrants test, TOH for DST #2
01/28/2012	5296	Conduct and complete DST #2, successful test, TIH w/bit, resume drilling, TD @ 2105 hrs, ctch, TOH w/bit for logs
01/29/2012	5375	conduct and complete logging operations, geologist off location 1000 hrs
11/29/2014		geologist Keith Reavis on location @ 0800 hrs, drilling bottom plug tripping in hole and breaking circ. as needed
11/30/2014	5377	on bottom old TD @ 0130 hrs, begin mixing mud in frac tanks, displace, drilling ahead @ 1420 hrs
12/01/2014	5689	drilling ahead, Mississippian-Warsaw, Osage
12/02/2014	6115	drilling Osage, Viola, Arbuckle
12/03/2014	6520	drilling Arbuckle
12/04/2014	6780	TD @ 0005 hrs, ctch, short trip, TOH w/bit for logs, conduct and complete logging operations @ 1450 hrs, geologist off loc @ 1615 hrs

Falcon Exploration, Inc.
well comparison sheet

DRILLING WELL					COMPARISON WELL				COMPARISON WELL			
Emery Josserand #1-5					Smith #1-5				Smith #2-5			
2570' FSL & 1850' FEL					1460' FNL & 330' FWL				2170' FNL & 2440' FWL			
Sec 5-T28S-R30W					Sec 5-T28S-R30W				Sec 5-T28S-R30W			
2823 KB					2832 KB		Structural Relationship		2826 KB		Structural Relationship	
Formation	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log	Log	Sub-Sea	Sample	Log
Stotler	3541	-718	3540	-717	3530	-698	-20	-19	3541	-715	-3	-2
Tarkio	3612	-789	3613	-790	3602	-770	-19	-20	3613	-787	-3	-3
Bern	3711	-888	3713	-890	3700	-868	-20	-22	3712	-886	-2	-4
Topeka	3810	-987	3810	-987	3800	-968	-19	-19	3810	-984	-3	-3
Heebner	4146	-1323	4146	-1323	4140	-1308	-15	-15	4146	-1320	-3	-3
Lansing	4250	-1427	4252	-1429	4236	-1404	-23	-25	4249	-1423	-4	-6
Stark	4606	-1783	4606	-1783	4590	-1758	-25	-25	4610	-1784	1	1
Marmaton	4747	-1924	4742	-1919	4738	-1906	-18	-13	4748	-1922	-2	3
Pawnee	4840	-2017	4838	-2015	4822	-1990	-27	-25	4832	-2006	-11	-9
Cherokee	4886	-2063	4885	-2062	4870	-2038	-25	-24	4881	-2055	-8	-7
Morrow Sand	5091	-2268	5091	-2268	5078	-2246	-22	-22	5081	-2255	-13	-13
Mississippian	5137	-2314	5136	-2313	5154	-2322	8	9	5145	-2319	5	6
St. Lo Por	5281	-2458	5284	-2461	5284	-2452	-6	-9	5276	-2450	-8	-11
Original TD	5375	-2552	5377	-2554	5552	-2720	168	166	5551	-2725	173	171
Warsaw	5629	-2806	5632	-2809								
Osage	5900	-3077	5884	-3061								
Viola	6131	-3308	6134	-3311								
Simpson Sand	not picked		6400	-3577								
Arbuckle	6394	-3571	6430	-3607								
Total Depth	6780	-3957	6789	-3966								

Drill Stem Test #1



DIAMOND TESTING
 P.O. Box 157
 HOISINGTON, KANSAS 67544
 (800) 542-7313

TIME ON: 14:35 1.26.12
 TIME OFF: 00:27 1.27.12

DRILL-STEM TEST TICKET
 FILE: EMERYJOSSEAND1-5DST1

Company **FALCON EXPLORATION, INC.** Lease & Well No. **EMERY JOSSEAND #1-5 (SE)**
 Contractor **STERLING DRILLING CO. RIG #5** Charge to **FALCON EXPLORATION, INC.**
 Elevation **2823 KB** Formation **MORROW** Effective Pay _____ Ft. Ticket No. **T005**
 Date **1-26-12** Sec. **5** Twp. _____ 28 S Range _____ 30 W County **GRAY** State **KANSAS**
 Test Approved By **KEITH REAVIS** Diamond Representative **TIMOTHY T. VENTERS**

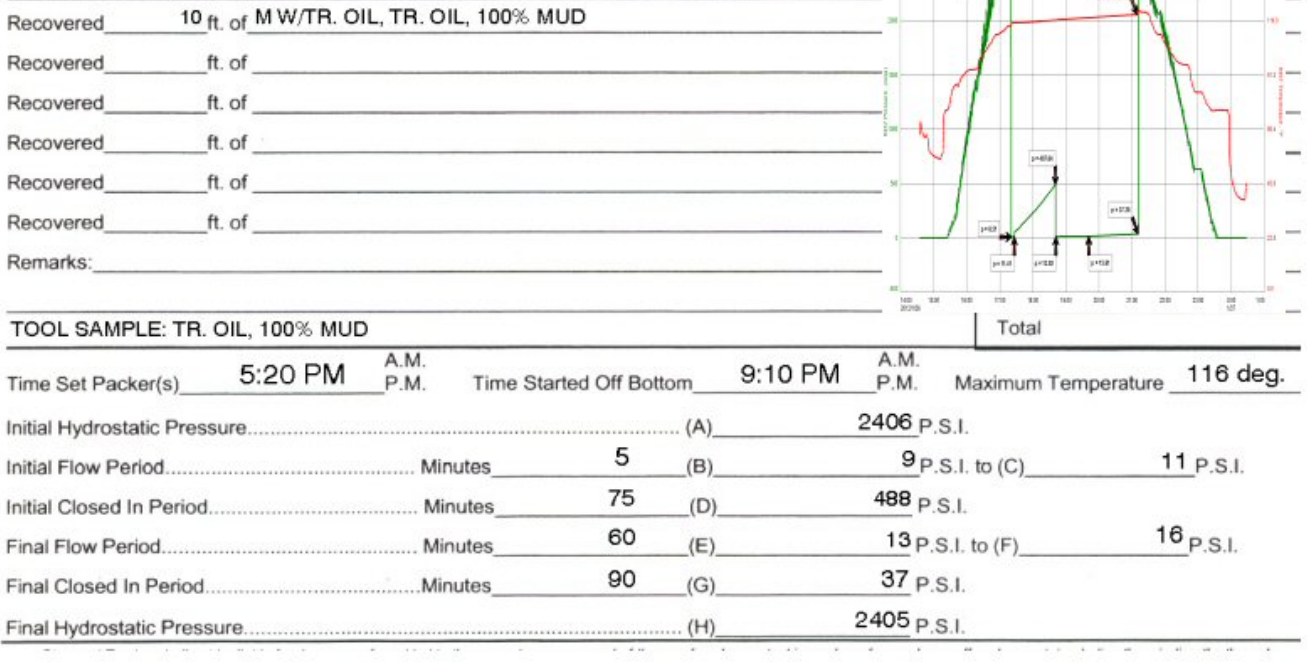
Formation Test No. **1** Interval Tested from **5067** ft. to **5115** ft. Total Depth **5147** ft.
 Packer Depth **5067** ft. Size **6 3/4** in. Packer depth **5120** ft. Size **6 3/4** in.
 Packer Depth **5115** ft. Size **6 3/4** in. Packer depth _____ ft. Size **6 3/4** in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) _____ 5053 ft. Recorder Number **8457** Cap. **10,000** P.S.I.
 Bottom Recorder Depth (Outside) _____ 5108 ft. Recorder Number **11030** Cap. **5,025** P.S.I.
 Below Straddle Recorder Depth _____ 5144 ft. Recorder Number **11029** Cap. **5,025** P.S.I.

Mud Type **CHEMICAL** Viscosity _____ Drill Collar Length **334** ft. I.D. **2 1/4** in.
 Weight **9.2** Water Loss **7.2** cc. Weight Pipe Length **0** ft. I.D. **2 7/8** in.
 Chlorides _____ 1,900 P.P.M. Drill Pipe Length **4705** ft. I.D. **3 1/2** in.
 Jars: Make **STERLING** Serial Number **#4** Test Tool Length **28** ft. Tool Size **3 1/2-IF** in.
 Did Well Flow? **NO** Reversed Out **NO** Anchor Length **80** ft. Size **4 1/2-FH** in.
 Main Hole Size **7 7/8** Tool Joint Size **4 1/2 XH** in. 31' DP IN ANCHOR Surface Choke Size **1** in. Bottom Choke Size **5/8** in.

Blow: 1st Open: **WEAK SURFACE BLOW BUILDING TO 1/4 INCH.**
 2nd Open: **WEAK SURFACE BLOW THROUGHOUT PERIOD.**



TOOL SAMPLE: TR. OIL, 100% MUD

Time Set Packer(s) 5:20 PM A.M. P.M. Time Started Off Bottom 9:10 PM A.M. P.M. Maximum Temperature 116 deg.

Initial Hydrostatic Pressure..... (A) 2406 P.S.I.

Initial Flow Period..... Minutes 5 (B) 9 P.S.I. to (C) 11 P.S.I.

Initial Closed In Period..... Minutes 75 (D) 488 P.S.I.

Final Flow Period..... Minutes 60 (E) 13 P.S.I. to (F) 16 P.S.I.

Final Closed In Period..... Minutes 90 (G) 37 P.S.I.

Final Hydrostatic Pressure..... (H) 2405 P.S.I.

Drill Stem Test #2



DIAMOND TESTING
P.O. Box 157
HOISINGTON, KANSAS 67544
(800) 542-7313

TIME ON: 21:32 1-27-12
TIME OFF: 07:59 1-28-12

DRILL-STEM TEST TICKET

FILE: JOSSERAND15DST2

Company FALCON EXPLORATION, INC. Lease & Well No. EMERY JOSSERAND #1-5 (SE)

Contractor STERLING DRILLING CO. RIG #5 Charge to FALCON EXPLORATION, INC.

Elevation 2823 KB Formation ST. LOUIS Effective Pay _____ Ft. Ticket No. T006

Date 1-28-12 Sec. 5 Twp. 28 S Range 30 W County GRAY State KANSAS

Test Approved By KEITH REAVIS Diamond Representative TIMOTHY T. VENTERS

Formation Test No. 2 Interval Tested from 5276 ft. to 5296 ft. Total Depth 5296 ft.

Packer Depth 5276 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Packer Depth 5271 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Depth of Selective Zone Set

Top Recorder Depth (Inside) 5257 ft. Recorder Number 8457 Cap. 10,000 P.S.I.

Bottom Recorder Depth (Outside) 5293 ft. Recorder Number 11029 Cap. 5,025 P.S.I.

Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ P.S.I.

Mud Type CHEMICAL Viscosity 51 Drill Collar Length 334 ft. I.D. 2 1/4 in.

Weight 9.2 Water Loss 5.6 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in.

Chlorides 3,000 P.P.M. Drill Pipe Length 4909 ft. I.D. 3 1/2 in.

Jars: Make STERLING Serial Number #4 Test Tool Length 33 ft. Tool Size 3 1/2-IF in.

Did Well Flow? NO Reversed Out NO Anchor Length 20 ft. Size 4 1/2-FH in.

Main Hole Size 7 7/8 Tool Joint Size 4 1/2 XH in. Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

Blow: 1st Open: WEAK SURFACE BLOW THROUGHOUT PERIOD.

2nd Open: WEAK SURFACE BLOW BUILDING TO 7 INCHES.

Recovered 215 ft. of GIP

Recovered 30 ft. of OCM, 26% OIL, 74% MUD

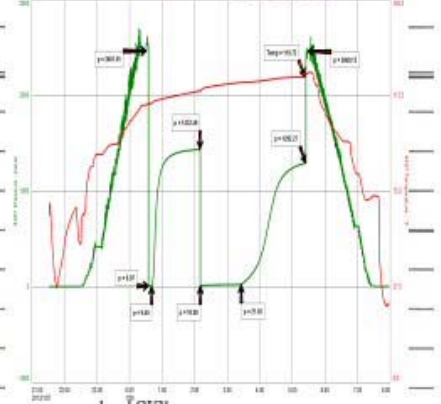
Recovered _____ ft. of _____

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Remarks: _____



TOOL SAMPLE: 37% OIL, 63% MUD

Time Set Packer(s) 12:34 AM A.M. P.M. Time Started Off Bottom 5:24 AM A.M. P.M. Maximum Temperature 120 deg.

Initial Hydrostatic Pressure..... (A) 2461 P.S.I.

Initial Flow Period..... Minutes 5 (B) 6 P.S.I. to (C) 9 P.S.I.

Initial Closed In Period..... Minutes 90 (D) 1432 P.S.I.

Final Flow Period..... Minutes 75 (E) 11 P.S.I. to (F) 22 P.S.I.

Final Closed In Period..... Minutes 120 (G) 1292 P.S.I.

Final Hydrostatic Pressure..... (H) 2460 P.S.I.

ROCK TYPES

- Cht
- Dolprim
- Dolsec
- sdymst
- Lmst fw<7
- Lmst fw>7
- shale, grn
- shale, gry
- Carbon Sh
- shale, red
- Ss

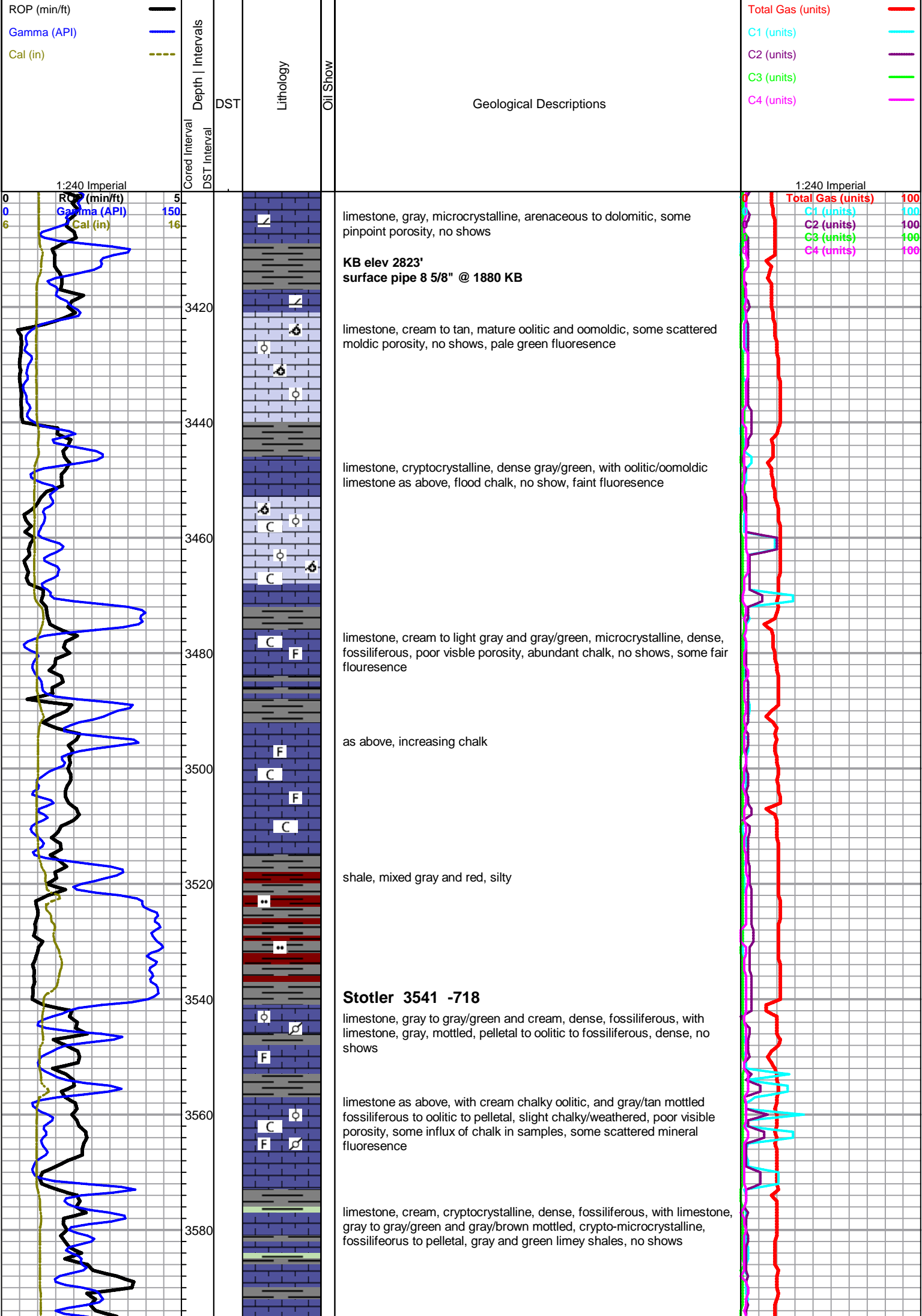
ACCESSORIES

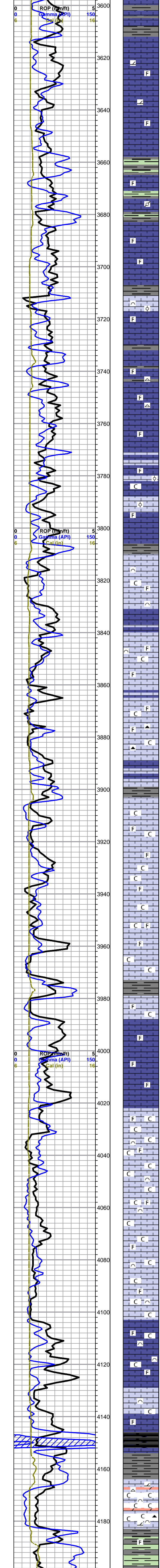
- MINERAL**
 - Argillaceous
 - Chert, dark
 - Dolomitic
 - Glauconite
 - Mineral Crystals
 - Pyrite
 - Silty
 - Chert White
- FOSSIL**
 - Bioclastic or Fragmental
 - Bryozoa
 - Fossils < 20%
 - Oolite
 - Pellets
 - Sponge Spicules
 - Oomoldic
- STRINGER**
 - Dolomite
 - Limestone
 - Sandstone
 - Siltstone
 - Shale
 - green shale
 - red shale
 - carb shale
- TEXTURE**
 - Chalky
 - Cryptocrystalline
 - Lithogr

OTHER SYMBOLS

- MISC**
 - Daily Report
 - Digital Photo
 - Document
 - Folder
 - Link
 - Vertical Log File
 - Horizontal Log File
 - Core Log File
 - Drill Cuttings Rpt
- DST**
 - DST Int
 - DST alt
 - Core
 - tail pipe

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Tarkio 3612 -789

limestone, gray/green to cream, cryptocrystalline, dense, arenaceous, some dolomitic, some secondary calcite, some cream microcrystalline, grainy, dense fossiliferous, no shows, faint fluorescence

limestone, cream, grainy fossiliferous, with chalky gray/tan mottled fossiliferous to pelletal, poor visible porosity, no shows, abundant soft green shale, with green and gray limey shales

limestone, cream to light gray, microcrystalline, fossiliferous, mostly dense, some chalky

Bern 3711 -888

limestone, light gray to cream, microcrystalline, fossiliferous, trace bioclastic and trace oolitic, poor overall visible porosity, no shows, scattered light fluorescence

limestone, cream to light gray, micro-cryptocrystalline, arenaceous to fossiliferous, dense, some chalk, scattered white frosted fossiliferous chert, sharp, fresh, no shows, poor fluorescence

limestone, mixed gray non-descript fossiliferous, some grainy, some chalky, mostly dense, with bedded gray dense oolitic, no shows or fluorescence

Topeka 3810 -987

limestone, light gray to white, chalky fossiliferous to bioclastic, grainy, poor visible porosity, no shows, abundant chalk, some white scattered cherts, no shows

as above

limestone, mixed gray bioclastic to fossiliferous, some large clasts, grainy, with cream, chalky bioclastic to fossiliferous, some dark gray fossiliferous chert, abundant chalk, no shows

limestone, mixed white to gray, chalky, fossiliferous, poor visible porosity, no shows, abundant chalk in samples

as above

Lecompton

as above

limestone, light gray to light tan, crypto-microcrystalline, slightly fossiliferous, chalky to dense, some brown organic flecks, no shows

limestone, mixed fossiliferous to bioclastic, grainy, chalky, with flood chalk in samples, 30-40%

mixed gray fossiliferous, dense, some chalky, grainy, marked decrease in chalk, no shows

Heebner 4146 -1323

shale, black carbonaceous

limestone, dolomitic, gray, cryptocrystalline, grainy bioclastic to sub-sucrosic, weathered to dense, fluorescence appx 40%, with chert, scattered boney white weathered to fresh frosted gray fossiliferous, no shows

Douglas 4183 -1360

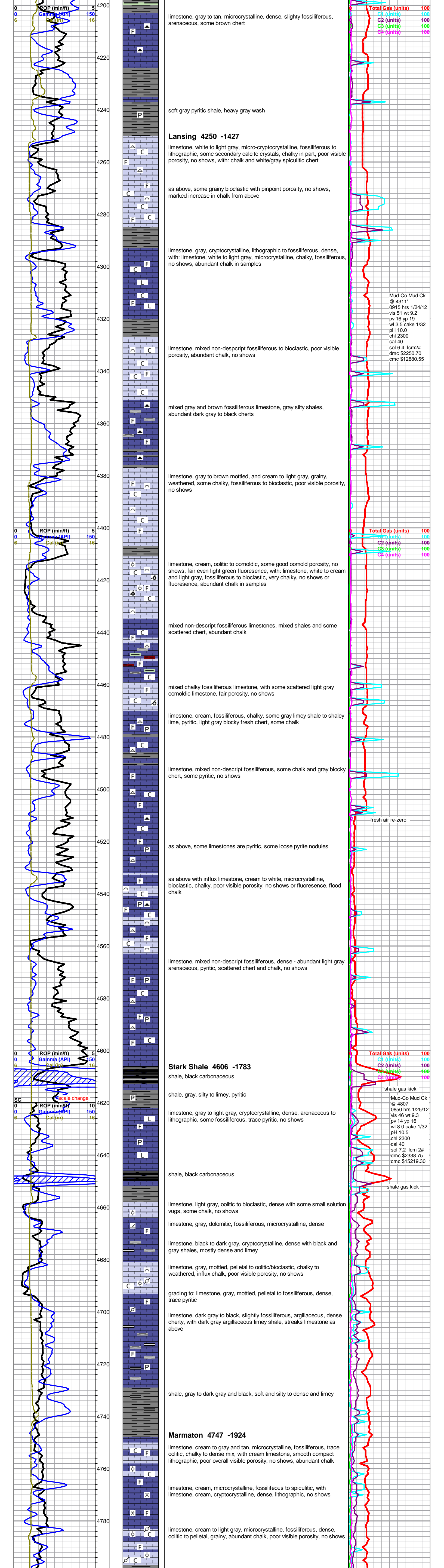
shale, mixed gray to green, some fossiliferous

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

Mud-Co Mud Ck
@ 3616'
0840 hrs 1/23/12
vis 48 wt 8.8
pv 15 yp 18
wl 8.0 cake 1/32
pH 11.0
chl 2500
cal 40
sol 3.6 lcm2#
dmc \$1636.60
cmc \$10629.85

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

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



limestone, gray to tan, microcrystalline, dense, slightly fossiliferous, arenaceous, some brown chert

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

soft gray pyritic shale, heavy gray wash

Lansing 4250 -1427

limestone, white to light gray, micro-cryptocrystalline, fossiliferous to lithographic, some secondary calcite crystals, chalky in part, poor visible porosity, no shows, with: chalk and white/gray spiculitic chert

as above, some grainy bioclastic with pinpoint porosity, no shows, marked increase in chalk from above

limestone, gray, cryptocrystalline, lithographic to fossiliferous, dense, with: limestone, white to light gray, microcrystalline, chalky, fossiliferous, no shows, abundant chalk in samples

Mud-Co Mud Ck @ 4311' 0915 hrs 1/24/12 vis 51 wt 9.2 pv 16 yp 19 wl 3.5 cake 1/32 pH 10.0 chl 2300 cal 40 sol 6.4 lcm2# dmc \$2250.70 cmc \$12880.55

limestone, mixed non-descript fossiliferous to bioclastic, poor visible porosity, abundant chalk, no shows

mixed gray and brown fossiliferous limestone, gray silty shales, abundant dark gray to black cherts

limestone, gray to brown mottled, and cream to light gray, grainy, weathered, some chalky, fossiliferous to bioclastic, poor visible porosity, no shows

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

limestone, cream, oolitic to oomoldic, some good oomold porosity, no shows, fair even light green fluorescence, with: limestone, white to cream and light gray, fossiliferous to bioclastic, very chalky, no shows or fluorescence, abundant chalk in samples

mixed non-descript fossiliferous limestones, mixed shales and some scattered chert, abundant chalk

mixed chalky fossiliferous limestone, with some scattered light gray oomoldic limestone, fair porosity, no shows

limestone, cream, fossiliferous, chalky, some gray limey shale to shaly lime, pyritic, light gray blocky fresh chert, some chalk

limestone, mixed non-descript fossiliferous, some chalk and gray blocky chert, some pyritic, no shows

fresh air re-zero

as above, some limestones are pyritic, some loose pyrite nodules

as above with influx limestone, cream to white, microcrystalline, bioclastic, chalky, poor visible porosity, no shows or fluorescence, flood chalk

limestone, mixed non-descript fossiliferous, dense - abundant light gray arenaceous, pyritic, scattered chert and chalk, no shows

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

Stark Shale 4606 -1783

shale, black carbonaceous

shale gas kick
 Mud-Co Mud Ck @ 4807' 0850 hrs 1/25/12 vis 46 wt 9.3 pv 14 yp 16 wl 8.0 cake 1/32 pH 10.5 chl 2300 cal 40 sol 7.2 lcm 2# dmc \$2338.75 cmc \$15219.30

shale, gray, silty to limey, pyritic

limestone, gray to light gray, cryptocrystalline, dense, arenaceous to lithographic, some fossiliferous, trace pyritic, no shows

shale, black carbonaceous

shale gas kick

limestone, light gray, oolitic to bioclastic, dense with some small solution vugs, some chalk, no shows

limestone, gray, dolomitic, fossiliferous, microcrystalline, dense

limestone, black to dark gray, cryptocrystalline, dense with black and gray shales, mostly dense and limey

limestone, gray, mottled, pelletal to oolitic/bioclastic, chalky to weathered, influx chalk, poor visible porosity, no shows

grading to: limestone, gray, mottled, pelletal to fossiliferous, dense, trace pyritic

limestone, dark gray to black, slightly fossiliferous, argillaceous, dense cherty, with dark gray argillaceous limey shale, streaks limestone as above

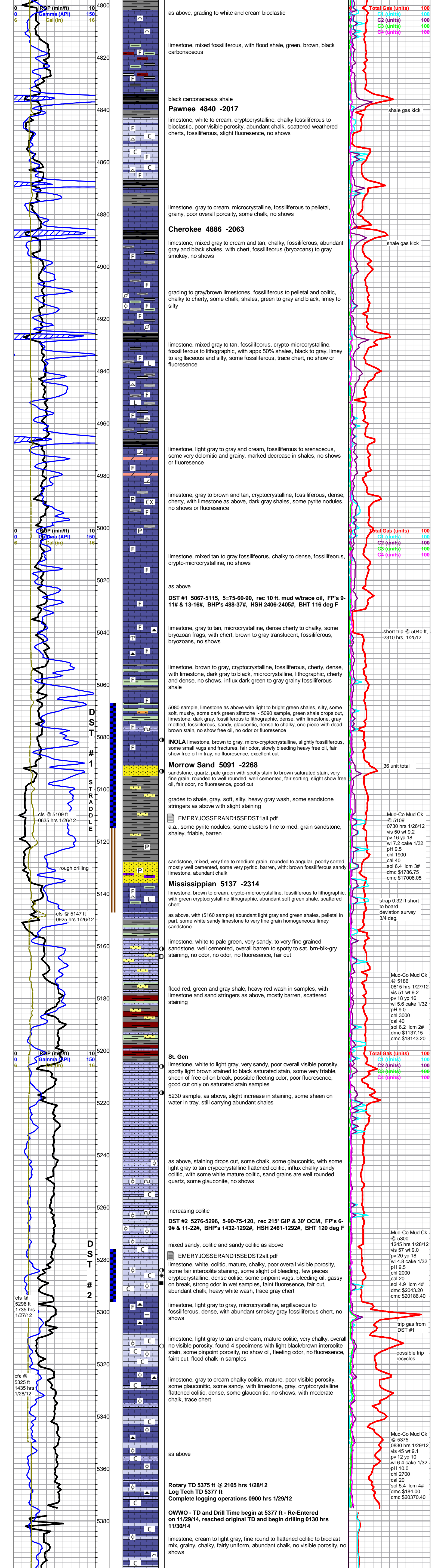
shale, gray to dark gray and black, soft and silty to dense and limey

Marmaton 4747 -1924

limestone, cream to gray and tan, microcrystalline, fossiliferous, trace oolitic, chalky to dense mix, with cream limestone, smooth compact lithographic, poor overall visible porosity, no shows, abundant chalk

limestone, cream, microcrystalline, fossiliferous to spiculitic, with limestone, cream, cryptocrystalline, dense, lithographic, no shows

limestone, cream to light gray, microcrystalline, fossiliferous, dense, oolitic to pelletal, grainy, abundant chalk, poor visible porosity, no shows



as above, grading to white and cream bioclastic

limestone, mixed fossiliferous, with flood shale, green, brown, black carbonaceous

black carbonaceous shale

Pawnee 4840 -2017

limestone, white to cream, cryptocrystalline, chalky fossiliferous to bioclastic, poor visible porosity, abundant chalk, scattered weathered cherts, fossiliferous, slight fluorescence, no shows

limestone, gray to cream, microcrystalline, fossiliferous to pelletal, grainy, poor overall porosity, some chalk, no shows

Cherokee 4886 -2063

limestone, mixed gray to cream and tan, chalky, fossiliferous, abundant gray and black shales, with chert, fossiliferous (bryozoans) to gray smokey, no shows

grading to gray/brown limestones, fossiliferous to pelletal and oolitic, chalky to cherty, some chalk, shales, green to gray and black, limey to silty

limestone, mixed gray to tan, fossiliferous, crypto-microcrystalline, fossiliferous to lithographic, with appx 50% shales, black to gray, limey to argillaceous and silty, some fossiliferous, trace chert, no show or fluorescence

limestone, light gray to gray and cream, fossiliferous to arenaceous, some very dolomitic and grainy, marked decrease in shales, no shows or fluorescence

limestone, gray to brown and tan, cryptocrystalline, fossiliferous, dense, cherty, with limestone as above, dark gray shales, some pyrite nodules, no shows or fluorescence

limestone, mixed tan to gray fossiliferous, chalky to dense, fossiliferous, crypto-microcrystalline, no shows

as above

DST #1 5067-5115, 5=75-60-90, rec 10 ft. mud w/trace oil, FP's 9-11# & 13-16#, BHP's 488-37#, HSH 2406-2405#, BHT 116 deg F

limestone, gray to tan, microcrystalline, dense cherty to chalky, some bryozoan frags, with chert, brown to gray translucent, fossiliferous, bryozoans, no shows

limestone, brown to gray, cryptocrystalline, fossiliferous, cherty, dense, with limestone, dark gray to black, microcrystalline, lithographic, cherty and dense, no shows, influx dark green to gray grainy fossiliferous shale

5080 sample, limestone as above with light to bright green shales, silty, some soft, mushy, some dark green siltstone - 5090 sample, green shale drops out, limestone, dark gray, fossiliferous to lithographic, dense, with limestone, gray mottled, fossiliferous, sandy, glauconitic, dense to chalky, one piece with dead brown stain, no show free oil, no odor or fluorescence

INOLA limestone, brown to gray, micro-cryptocrystalline, slightly fossiliferous, some small vugs and fractures, fair odor, slowly bleeding heavy free oil, fair show free oil in tray, no fluorescence, excellent cut

Morrow Sand 5091 -2268

sandstone, quartz, pale green with spotty stain to brown saturated stain, very fine grain, rounded to well rounded, well cemented, fair sorting, slight show free oil, fair odor, no fluorescence, good cut

grades to shale, gray, soft, silty, heavy gray wash, some sandstone stringers as above with slight staining

EMERYJOSSEAND15SEDST1all.pdf
a.a., some pyrite nodules, some clusters fine to med. grain sandstone, shaley, friable, barren

sandstone, mixed, very fine to medium grain, rounded to angular, poorly sorted, mostly well cemented, some very pyritic, barren, with: brown fossiliferous sandy limestone, abundant chalk

Mississippian 5137 -2314

limestone, brown to cream, crypto-microcrystalline, fossiliferous to lithographic, with green cryptocrystalline lithographic, abundant soft green shale, scattered chert

as above, with (5160 sample) abundant light gray and green shales, pelletal in part, some white sandy limestone to very fine grain homogeneous limey sandstone

limestone, white to pale green, very sandy, to very fine grained sandstone, well cemented, overall barren to spotty to sat. brn-blk-gry staining, no odor, no odor, no fluorescence, fair cut

flood red, green and gray shale, heavy red wash in samples, with limestone and sand stringers as above, mostly barren, scattered staining

St. Gen
limestone, white to light gray, very sandy, poor overall visible porosity, spotty light brown stained to black saturated stain, some very friable, sheen of free oil on break, possible fleeting odor, poor fluorescence, good cut only on saturated stain samples

5230 sample, as above, slight increase in staining, some sheen on water in tray, still carrying abundant shales

as above, staining drops out, some chalk, some glauconitic, with some light gray to tan cryptocrystalline flattened oolitic, influx chalky sandy oolitic, with some white mature oolitic, sand grains are well rounded quartz, some glauconite, no shows

increasing oolitic

DST #2 5276-5296, 5-90-75-120, rec 215' GIP & 30' OCM, FP's 6-9# & 11-22#, BHP's 1432-1292#, HSH 2461-1292#, BHT 120 deg F

mixed sandy, oolitic and sandy oolitic as above

EMERYJOSSEAND15SEDST2all.pdf
limestone, white, oolitic, mature, chalky, poor overall visible porosity, some fair interoolite staining, some slight oil bleeding, few pieces cryptocrystalline, dense oolitic, some pinpoint vugs, bleeding oil, gassy on break, strong odor in wet samples, faint fluorescence, fair cut, abundant chalk, heavy white wash, trace gray chert

limestone, light gray to gray, microcrystalline, argillaceous to fossiliferous, dense, with abundant smokey gray fossiliferous chert, no shows

limestone, light gray to tan and cream, mature oolitic, very chalky, overall no visible porosity, found 4 specimens with light black/brown interoolite stain, some pinpoint porosity, no show oil, fleeting odor, no fluorescence, faint cut, flood chalk in samples

limestone, gray to cream chalky oolitic, mature, poor visible porosity, some glauconitic, some sandy, with limestone, gray, cryptocrystalline flattened oolitic, dense, some glauconitic, no shows, with moderate chalk, trace chert

as above

Rotary TD 5375 ft @ 2105 hrs 1/28/12
Log Tech TD 5377 ft
Complete logging operations 0900 hrs 1/29/12

OWWO - TD and Drill Time begin at 5377 ft - Re-Entered on 11/29/14, reached original TD and begin drilling 0130 hrs 11/30/14

limestone, cream to light gray, fine round to flattened oolitic to bioclast mix, grainy, chalky, fairly uniform, abundant chalk, no visible porosity, no shows

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

shale gas kick

shale gas kick

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

short trip @ 5040 ft, 2310 hrs, 1/25/12

36 unit total

Mud-Co Mud Ck @ 5109' 0635 hrs 1/26/12
vis 50 wt 9.2
pv 16 yp 18
wl 7.2 cake 1/32
pH 9.5
chl 1900
cal 40
sol 6.4 lcm 3#
dmc \$1786.75
cmc \$17006.05

strap 0.32 ft short to board deviation survey 3/4 deg.

Mud-Co Mud Ck @ 5186' 0815 hrs 1/27/12
vis 51 wt 9.2
pv 18 yp 16
wl 5.6 cake 1/32
pH 9.0
chl 3000
cal 40
sol 6.2 lcm 2#
dmc \$1137.15
cmc \$18143.20

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

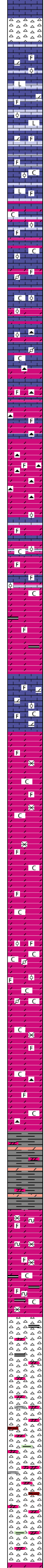
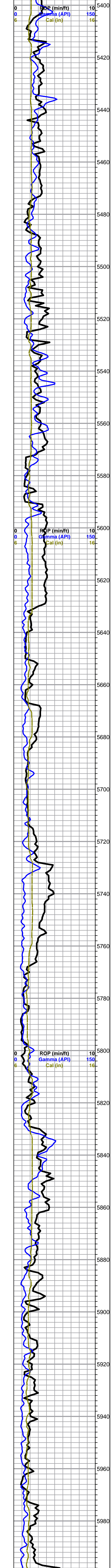
5230 sample, as above, slight increase in staining, some sheen on water in tray, still carrying abundant shales

Mud-Co Mud Ck @ 5300' 1245 hrs 1/28/12
vis 57 wt 9.0
pv 20 yp 18
wl 4.8 cake 1/32
pH 9.5
chl 2000
cal 20
sol 4.9 lcm 4#
dmc \$2043.20
cmc \$20186.40

trip gas from DST #1

possible trip recycles

Mud-Co Mud Ck @ 5375' 0830 hrs 1/29/12
vis 45 wt 9.1
pv 12 yp 10
wl 6.4 cake 1/32
pH 10.0
chl 2700
cal 20
sol 5.4 lcm 4#
dmc \$184.00
cmc \$20370.40



chert, white to gray, mostly opaque, fossiliferous and oolitic in part, no shows

limestone, as above, with gray to cream re-crystallized dolomitic oolitic and fossiliferous limestone, gray to dark gray limestone, slightly fossiliferous to lithographic, dense, no shows

as above

dolomitic limestone to limey dolomite, gray to light gray, flattened and recrystallized oolitic and chalky fossiliferous, no visible porosity, no shows

Spergen
as above with dolomite, brown to tan, microcrystalline, sub-sucrosic, dense, influx calcite crystals, trace chert, light gray, opaque to translucent, slightly fossiliferous, no shows

grades to limestone and dolomitic limestone, gray to tan, variable oolitic and pelletal, dense to weathered/chalky, with dolomite, brown to tan, re-crystallized fossiliferous to oolitic, mostly dense

as above, with some gray to brown arenaceous/argillaceous dolomite, influx cherts, gray fossiliferous, sharp, fresh

increasing chert

dolomite, cream, microcrystalline, fossiliferous, chalky in part, with limestone, cream, microcrystalline, dolomitic, chalky, fossiliferous, abundant chert as above, no shows

flood gray fossiliferous chert, with dolomite, cream, microcrystalline, some fossiliferous, no visible porosity, no shows

grading to dolomite and dolomitic limestone, slightly mottled, light gray to cream, flattened oolitic and fossiliferous, chalky to dense, cherts drop out, no shows

Warsaw 5629 -2806
dolomite, cream, microcrystalline, sub-sucrosic, some fossiliferous, dense, with chert, gray, fossiliferous, sharp, fresh, abundant black fissile shales, slightly pyritic, no shows

5690-5700 sample - dolomitic limestone, cream to tan, mottled, fossiliferous to oolitic, recrystallized and weathered, chalky, no visible porosity, no shows

dolomite, tan to gray, microcrystalline, altered fossiliferous, sub-sucrosic, flood large dolomite and quartz crystals, mostly euhedral, no shows

as above, some very weathered and chalky, varying degrees of quartz/dolomite crystals, no shows

as above

dolomite, gray to tan, mottled, microcrystalline, very oolitic and pelletal, some fossiliferous, some weathered to near chalk, flood chalk in samples

beginning 5810 sample, dolomite, gray to light gray, microcrystalline, some sub-sucrosic, some fossiliferous, fair small vugs, with: tan dolomite, altered fossiliferous, abundant chalk, no shows, scattered small quartz crystals

dolomite similar to that above, with influx gray mottled fossiliferous cherts

5850-70 samples, shale, variable gray, dense, limey, with variable gray argillaceous dolomite, no shows

dolomite, gray and cream mottled, altered sucrosic fossiliferous, glauconitic (similar to Cowley dolomites), abundant quartz and dolomite crystals

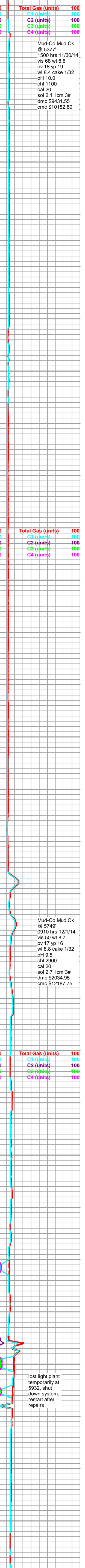
quickly grades to dolomite, mixed gray to tan, microcrystalline, fossiliferous to arenaceous, trace glauconitic, some very weathered, abundant chalk, with loose crystals as above

abundant black fissile shales in 5910 sample

Osage 5900 -3077 (log top 5884 -3061)
chert, white to gray and frosted gray, fossiliferous, sharp, fresh, with dolomite, light gray to tan, micro-fine crystalline, sub-sucrosic to fossiliferous, flood chalk, no shows, black shale a.a.

chert as above, dolomites mostly sucrosic, black shales mostly drop out, some scattered variable colored shales

dolomite, cream to gray, mostly microcrystalline, sub-sucrosic to sub-

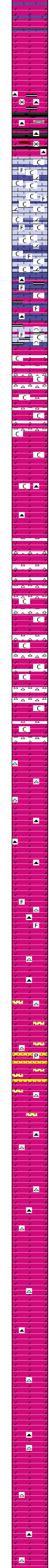
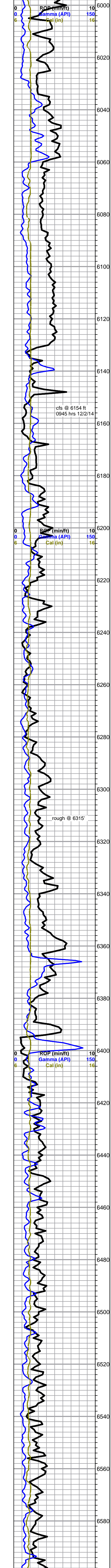


Mud-Co Mud Ck @ 5377
1500 hrs 11/30/14
vis 68 wt 8.6
pv 18 yp 19
wl 8.4 cake 1/32
pH 10.0
chl 1100
cal 20
sol 2.1 lcm 3#
dmc \$9431.55
cmc \$10152.80

Mud-Co Mud Ck @ 5749
0910 hrs 12/1/14
vis 50 wt 8.7
pv 17 yp 16
wl 8.8 cake 1/32
pH 9.5
chl 2900
cal 20
sol 2.7 lcm 3#
dmc \$2034.95
cmc \$12187.75

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

lost light plant temporarily at 5932, shut down system, restart after repairs



rhombic, dense, no visible porosity, with limestone, dolomitic, tan, fossiliferous, chalky, no shows

flood chalk in 6030 sample

dolomite, gray microcrystalline a.a., with variable gray arenaceous and argillaceous dolomite, flood dark gray chert, abundant black shale, abundant loose large quartz and dolomite crystals

increasing black shale, some other mixed shales

dolomitic limestone, light gray to cream, microcrystalline, fossiliferous, very chalky, no shows, with 20% + chalk, 5090 sample appx 50%, very heavy chalky white wash in samples

dolomitic limestone and dolomite, gray to tan, mixed crystalline and fossiliferous, some chalk, some black shale, pyritic, scattered small chips frosted gray chert

6150 sample, as above, flood cream chalky bioclastic limestone, friable, marked increase dense black pyritic shale

Viola 6131 -3308

dolomite, light gray to white, microcrystalline, sub-sucrosic, fairly dense, poor visible porosity, with appx 30-40% chert, gray, slightly fossiliferous, sharp, fresh, flood chalk, no shows

as above

6200 sample, dolomite, brown to dark gray, sucrosic to arenaceous, dense, decrease in chalk, no shows

6210 sample, grades to dolomite, tan to light gray, micro-cryptocrystalline, sub-sucrosic, fairly uniform, dense, no shows, some scattered small chips gray fossiliferous chert

6220 sample, dolomite, light gray, microcrystalline, arenaceous, small black flecks scattered in matrix, no odor, no oil, poor fluorescence

dolomite, mixed gray to tan, crypto-microcrystalline, sub-lithographic to sub-sucrosic, with chert, 30-40%, white, boney, sharp, fresh, fossiliferous in part, no shows, poor fluorescence

as above, slight decrease chert, flood chalk, heavy chalky wash in samples - 20-30%+

beginning 6280 sample, chert and chalk as above, dolomite grading to more uniform light gray, microcrystalline, sub-sucrosic, better crystal definition, some slight intercrystalline porosity, some of the fossiliferous chert exhibit slight weathering

6300 sample as above

6310-20 sample - dolomites as above with influx dolomite, gray to dark gray, microcrystalline, sub-sucrosic and sub-rhombic, some wormy small vugs, dense, marked decrease in chalk and chert, scattered fair fluorescence

6340-60 samples, dolomites as above, transition to more smokey gray chert from white, light even fluorescence

dolomite, brown, mottled, micro-fine crystalline, sub-rhombic, altered fossiliferous, poor visible porosity, mixed cherts, no shows

dolomite, tan to light gray, some brown, microcrystalline, sub-rhombic, some slight intercrystalline porosity, mixed cherts, some caliche, no shows, poor fluorescence

6410 sample - dolomite, cream to light gray, micro-cryptocrystalline, sub-sucrosic to sub-rhombic to lithographic, some sandy, with sandstone, quartz, white to translucent, very fine grain, well rounded and sorted, well cemented, pyritic, poor visible porosity, abundant small chert shards, mostly white, no shows

Simpson Sand Log Top 6400 -3577

as above, slightly increasing sand, dolomites takes on good bright yellow mineral fluorescence starting in 6440 sample

Arbuckle Log Top 6430 -3607

dolomite, cream to light gray, mixed crystalline, primary is cryptocrystalline, sand drops out beginning in 6450 sample, poor visible porosity, mixed small gray to white chert shards, no shows, good bright yellow mineral fluorescence

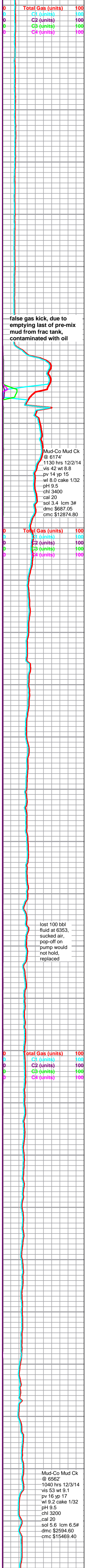
as above, rocks fairly uniform through this whole interval

as above

dolomite, mixed cream to gray and light brown, mostly cryptocrystalline, some microcrystalline, dense, with scattered cream and tan dolomite, microcrystalline, sub-rhombic to rhombic, some intercrystalline porosity, cherts as above, no shows

dolomites as above, slight increase in cream rhombic facies, cherts as above, some oolitic, fair even yellow mineral fluorescence, no shows

as above



false gas kick, due to emptying last of pre-mix mud from frac tank, contaminated with oil

Mud-Co Mud Ck @ 6174'
 1130 hrs 12/2/14
 vis 42 wt 8.8
 pv 14 yp 15
 wl 8.0 cake 1/32
 pH 9.5
 chl 3400
 cal 20
 sol 3.4 lcm 3#
 dmc \$687.05
 cmc \$12874.80

lost 100 bbl fluid at 6353, sucked air, pop-off on pump would not hold, replaced

Mud-Co Mud Ck @ 6562'
 1040 hrs 12/3/14
 vis 53 wt 9.1
 pv 16 yp 17
 wl 9.2 cake 1/32
 pH 9.5
 chl 3200
 cal 20
 sol 5.6 lcm 6.5#
 dmc \$2594.60
 cmc \$15469.40

