

**OPERATOR**

Company: CAPTIVA II  
 Address: 445 UNION BLVD.  
 SUITE 208  
 LAKEWOOD, CO 80228  
 Contact Geologist: CHRIS GOTTSCHALK  
 Contact Phone Nbr: (785) 623-1524  
 Well Name: BROWN #1-12  
 Location: SE NW NE SW 12 - 22S - 10W  
 Pool:  
 State: KANSAS  
 API: 15-155-21643-0000  
 Field: WISBY NORTHWEST  
 Country: USA

## Scale 1:240 Imperial

Well Name: BROWN #1-12  
 Surface Location: SE NW NE SW 12 - 22S - 10W  
 Bottom Location:  
 API: 15-155-21643-0000  
 License Number: 31725  
 Spud Date: 2/12/2013 Time: 3:30 PM  
 Region: RENO  
 Drilling Completed: 2/18/2013 Time: 6:32 AM  
 Surface Coordinates: 2111' FSL & 1857' FWL  
 Bottom Hole Coordinates:  
 Ground Elevation: 1734.00ft  
 K.B. Elevation: 1743.00ft  
 Logged Interval: 2600.00ft To: 3677.00ft  
 Total Depth: 3675.00ft  
 Formation: LANSING-KANSAS CITY  
 Drilling Fluid Type: CHEMICAL/FRESH WATER GEL

**SURFACE CO-ORDINATES**

Well Type: Vertical  
 Longitude: -98.3744558 Latitude: 38.1502146  
 N/S Co-ord: 2111' FSL  
 E/W Co-ord: 1857' FWL

**LOGGED BY**

Company: SOLUTIONS CONSULTING  
 Address: 108 W 35TH  
 HAYS, KS 67601  
 Phone Nbr: (785) 259-3737  
 Logged By: Geologist Name: JEFF LAWLER

**CONTRACTOR**

Contractor: STERLING DRILLING COMPAY  
 Rig #: 4  
 Rig Type: MUD ROTARY  
 Spud Date: 2/12/2013 Time: 3:30 PM  
 TD Date: 2/18/2013 Time: 6:32 AM  
 Rig Release: 2/19/2013 Time: 8:00 AM

**ELEVATIONS**

K.B. Elevation: 1743.00ft Ground Elevation: 1734.00ft  
 K.B. to Ground: 9.00ft


**NOTES**

DUE TO STRUCTURAL POSITION, LOG ANALYSIS, & DST RESULTS IT WAS DECIDED TO PLUG & ABANDON THE BROWN #1-12.

WELL COMPARISON SHEET

FORMATION	P&A 6-64								P&A O&G 7-78				LONE STAR OIL, INC.								
	REX & MORRIS & RIGGS								SHEILDS OIL PRODUCERS				SHEILDS OIL PRODUCERS				PROFFITT PROSPECT #1				
	BROWN #1-12				BROWN #1				BROWN C #1				PROFFITT #1								
	SE SE NW 12-22-10				SE SE NW 12-22-10				NW SE 12-22-10				NENW NE 12-22-10				S2 NW NW NE 12-22-10				
KB		1743		KB		1742		KB		1762		KB		1755		KB		1761			
LOGTOPS		SAMPLE TOPS		COMP. CARD		LOG		SMPL.		COMP. CARD		LOG		SMPL.		COMP. CARD		LOG		SMPL.	
DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	CORR.	CORR.	DEPTH	DATUM	DEPTH	DATUM	CORR.	CORR.	DEPTH	DATUM	DEPTH	DATUM	CORR.	CORR.
ANHYDRITE TOP																					
BASE																					
GRAND HAVEN												2223	-468								
TARKIO LIME												2304	-549								
3RD SAND												2338	-583								
BASE 3RD SAND												2371	-616								
HOWARD			2531	-788								2527	-772								
TOPEKA	2637	-894	2634	-891	2618	-876	- 18	- 15				2631	-876	- 18	- 15						
HEEBNER SHALE	2930	-1187	2930	-1187	2923	-1181	- 6	- 6	2948	-1186	- 1	- 1	2930	-1175	- 12	- 12	2925	-1164	- 23	- 23	
TORONTO	2950	-1207	2953	-1210	2942	-1200	- 7	- 10	2968	-1206	- 1	- 4	2951	-1196	- 11	- 14					
DOUGLAS SHALE	2968	-1225										2973	-1218	- 7				2984	-1223	- 2	
BROWN LIME	3070	-1327	3071	-1328	3063	-1321	- 6	- 7	3090	-1328	+ 1	+ 0	3067	-1312	- 15	- 16	3066	-1305	- 22	- 23	
LKC	3098	-1355	3097	-1354	3090	-1348	- 7	- 6	3118	-1356	+ 1	+ 2	3095	-1340	- 15	- 14	3093	-1332	- 23	- 22	
BKC	3397	-1654	3397	-1654	3394	-1652	- 2	- 2				3396	-1641	- 13	- 13	3396	-1635	- 19	- 19		
CONGLOMERATE					3420	-1678															
VIOLA LIME	3456	-1713	3456	-1713	3450	-1708	- 5	- 5				3450	-1695	- 18	- 18	3458	-1697	- 16	- 16		
SIMPSON SHALE	3536	-1793	3540	-1797	3539	-1797	+ 4	+ 0				3548	-1793	+ 0	- 4	3546	-1785	- 8	- 12		
SIMPSON DOLOMITE	3542	-1799			3546	-1804	+ 5									3556	-1795	- 4			
SIMPSON SAND					3557	-1815						3556	-1801			3560	-1799				
ARBUCKLE	3594	-1851	3594	-1851	3598	-1856	+ 5	+ 5				3613	-1858	+ 7	+ 7						
RTD			3675	-1932					3190	-1428		- 504	3625	-1870		- 62	3593	-1832			- 100
LTD	3677	-1934			3629	-1887	- 47														

DST #1 LKC A-F 3075' - 3191'



### DRILL STEM TEST REPORT

Captiva II  
445 union Blvd Suit 208 Lakewood CO 80228  
ATTN: Jeff Lawler

**12-22s-10w Reno**  
**Brown #1-12**  
Job Ticket: 17387      DST#: 1  
Test Start: 2013.02.16 @ 17:15:00

**GENERAL INFORMATION:**

Formation: **LKC A-F**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 19:27:30  
 Time Test Ended: 00:56:30

Test Type: Conventional Bottom Hole (Initial)  
 Tester: Jared Scheck  
 Unit No: 3320- Great Bend- 70

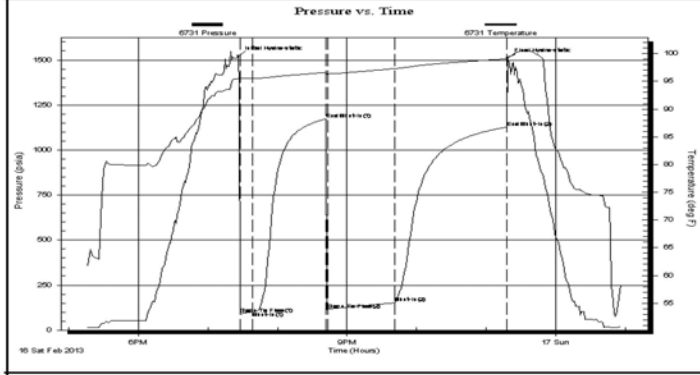
Interval: **3075.00 ft (KB) To 3191.00 ft (KB) (TVD)**  
 Total Depth: 3191.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1743.00 ft (KB)  
 1734.00 ft (CF)  
 KB to GR/CF: 9.00 ft

**Serial #: 6731**

Press@RunDepth:	151.64 psia @	ft (KB)	Capacity:	5000.00 psia	
Start Date:	2013.02.16	End Date:	2013.02.17	Last Calib.:	2013.02.17
Start Time:	17:15:00	End Time:	00:56:30	Time On Btm:	2013.02.16 @ 19:26:00
				Time Off Btm:	2013.02.16 @ 23:18:30

**TEST COMMENT:** 1st Opening 15 Minutes-Weak blow built 7 inches into water in 15 minutes  
 1st Shut-in 60 Minutes-No blow back  
 2nd Opening 60 Minutes-Weak blow built 2 inches from bottom of bucket in 60 minutes  
 2nd Shut-in 90 Minutes-No blow back



PRESSURE SUMMARY			
Time (Min.)	Pressure (psia)	Temp (deg F)	Annotation
0	1522.36	95.57	Initial Hydro-static
2	91.20	95.50	Open To Flow (1)
13	101.61	95.59	Shut-In(1)
76	1172.82	96.61	End Shut-In(1)
77	113.71	96.37	Open To Flow (2)
135	151.64	97.30	Shut-In(2)
232	1125.08	99.06	End Shut-In(2)
233	1510.86	99.36	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
120.00	mud	0.59

Gas Rates			
Choke (inches)	Pressure (psia)	Gas Rate (Mcf/d)	

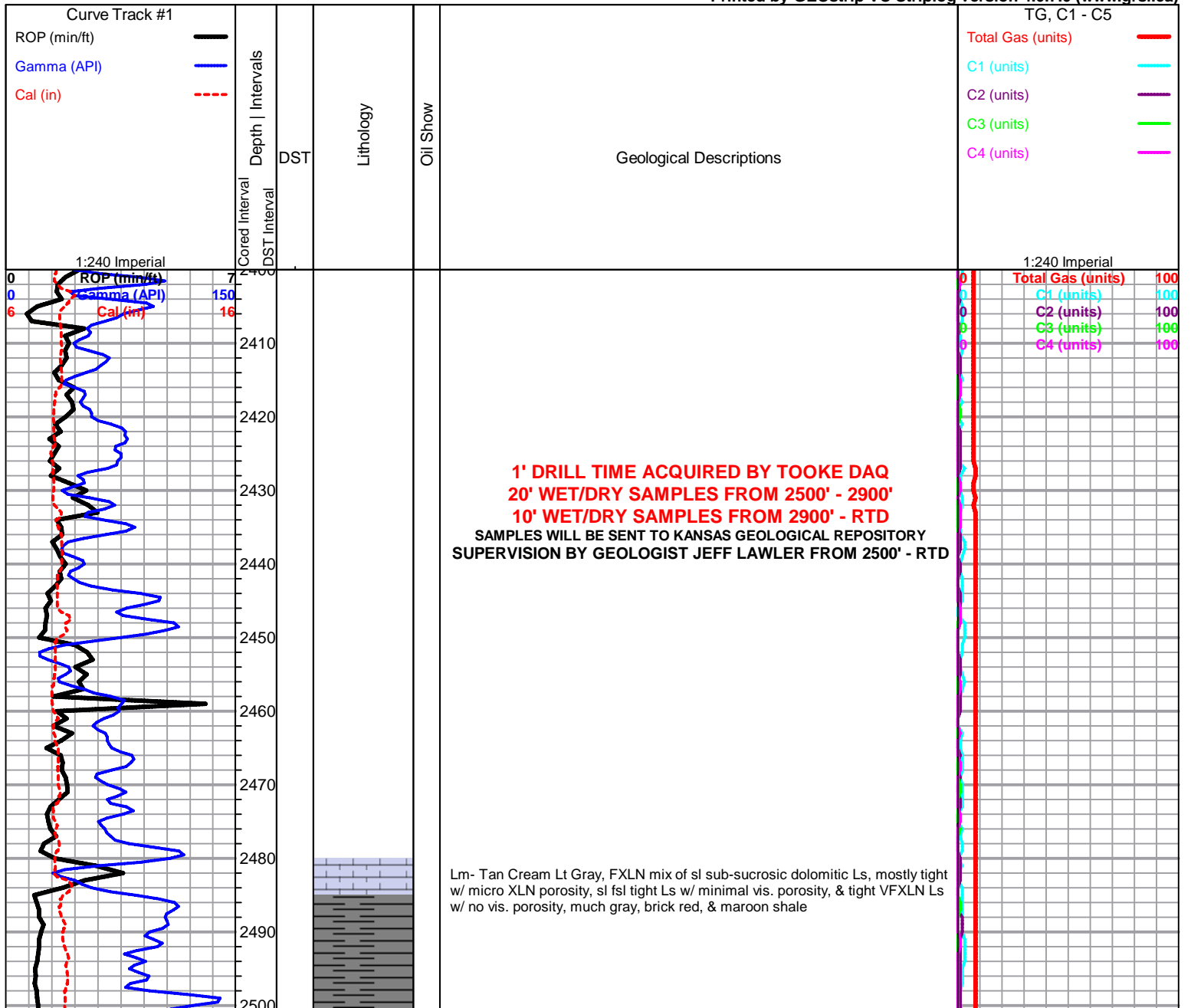
**ROCK TYPES**

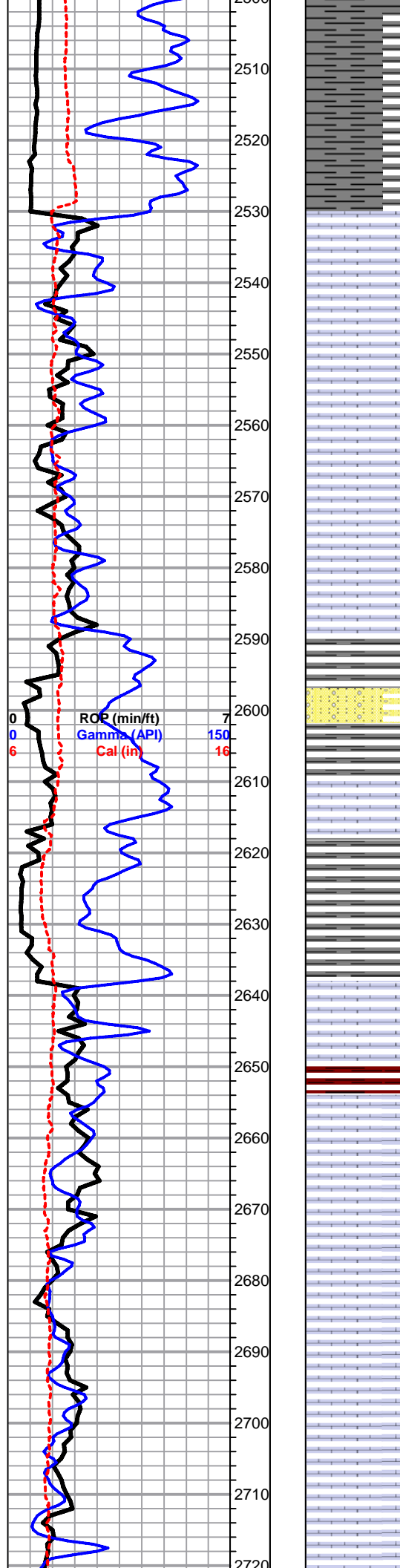
 Cht	 Dolprim	 shale, gry	 SsPebbley
 Congl	 Lmst fw7>	 Carbon Sh	
 Chtcongl	 shale, grn	 shale, red	

**OTHER SYMBOLS**

- DST**
-  DST Int
  -  DST alt
  -  Core

Printed by GEOstrip VC Striplog version 4.0.7.0 (www.grsi.ca)





Sh- Lt Gray Brown Maroon Lm Green, sl silty, gritty & earthy, sl calcareous, dense & well compacted

**HOWARD 2531' (-788) E-LOG**

Lm- Tan Cream, Fn Grn & FXLN, mix of sl calcareous, soft, loosely cemented & well cemented, sl fsl w/ interbedded fusulinids, mostly tight w/ micro XLN porosity

**\*GAS TEST\***

Lm- Cream Tan, FXLN, dense, well cemented mix, some sl fsl & tight w/ no vis. porosity, vry sl. cherty, some gritty, loosely cemented w/ vry fn ppt porosity, NS

Sh/Ss- Lt & Drk Gray Maroon Brick Red Lm Green, soft, sl silty & calcareous, gritty & earthy, mix of dove grey fn grn silty Ss & sandy lime, Lm Green- few chips w/ micro pyrite inclusions

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

Lm- Buff Tan, VFXLN, dense, vry well cemented, sl fsl, tight w/ no vis. porosity

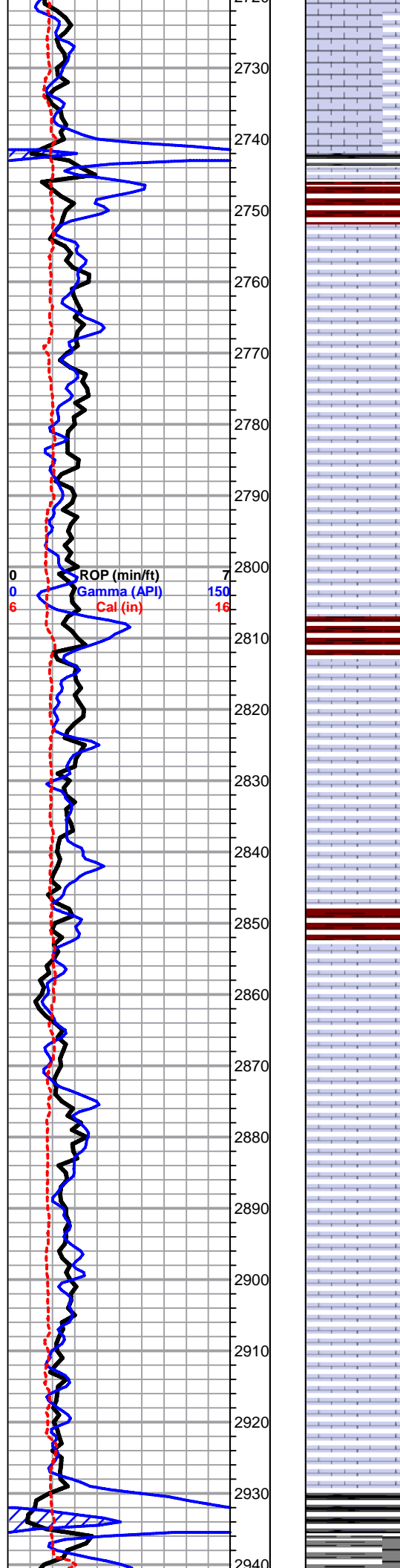
**TOPEKA 2634' (-891) E-LOG 2637' (-894)**

Lm/Ss- Cream Off White, FXLN, sl oolitic, well cemented, poorly developed, mostly interbedded, dense & tight w/ minimal vis. porosity Ss- Clear - Sl Frosted, mostly consolidated Fn grn, friable, sl speckled w/ dark minerals, clean, NS

Lm- Off White Tan, VF-FXLN, dense, well cemented, some lithographic, all mostly tight w/ no-minimal vis. porosity, clean & barren

Lm- Tan Cream, FXLN, dense, well cemented sl dolomitic Ls, sl gritty, mostly tight w/ XLN & some w/ dense XLN porosity, NS

Lm- Tan, FXLN, dense, well cemented, sub-sucrosic sl dolomitic Ls, tight w/ minimal vis. porosity, 2-3 chips of oolitic / sl oomoldic Ls, vry scrd partial skeletal dissolution, poorly developed, NS



Lm- Tan, A/A w/ sctrd secondary recrystallization

**\*\*BEGIN  
DISPLACEMENT\*\***

Lm- Cream Off White, FXLN, dense, well cemented, sl fsl, poorly developed w/ minimal vis. porosity

Lm- Tan Lt Gray, FXLN, mix of gritty, sub-sucrosic sl dolomitic Ls, well cemented, micro XLN-XLN porosity, few chips of lt gray sl fsl cherty Ls

Lm- Cream Off White Tan, FXLN, mix of well cemented, some sl cherty, fsl w/ no vis. porosity, some loosely cemented grainstones moderately developed, all clean & barren

Lm- Cream, FXLN, mix of sl fsl, some w/ dense secondary recrystallization porosity, some mostly tight w/ minimal vis. porosity, all clean & barren

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

Lm- Cream Off White, A/A, few sl chalky in part

Lm- Cream Off White, FXLN, sl fsl, mottled, sctrd XLN & secondary recrystallization porosity

Sh- Drk Gray Maroon, slick, well compacted, gritty & earthy

Lm- Cream Off White, FXLN, poorly developed, loosely cemented, sl chalky in part, some w/ dense fenestral XLN porosity

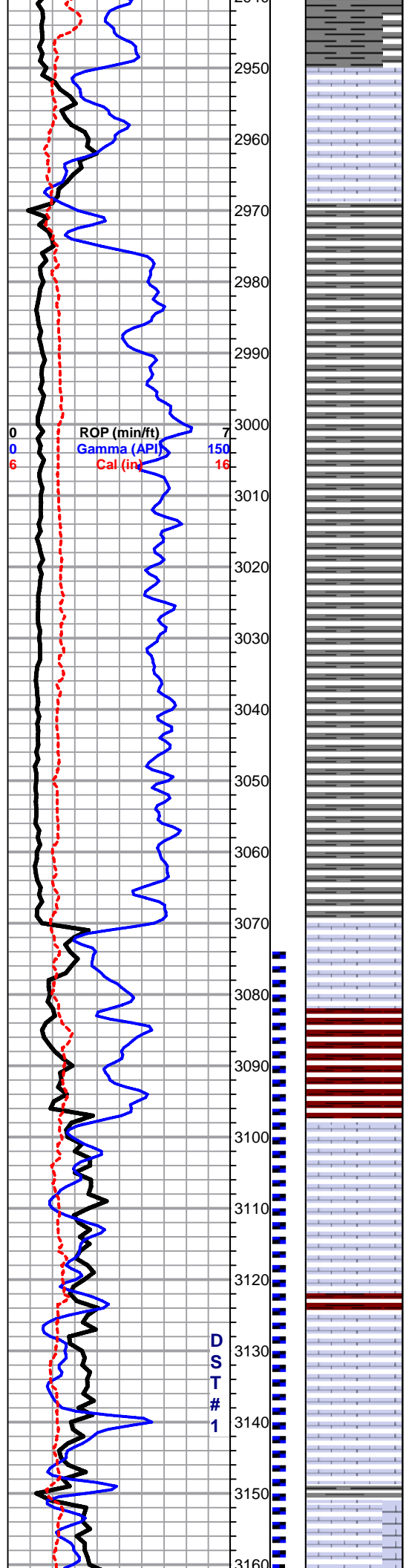
Lm- Cream Tan, FXLN, A/A, some well cemented, tight w/ minimal vis. porosity, sctrd gummy white chalk

Lm- Buff Off White, VFXLN, dense, vry well cemented, sl fsl, tight w/ no vis. porosity

Lm- Cream Off White, Vf-Fn Grn, A/A, w/ mud supported, sl fsl mix, chalky in part

Lm- Tan, VF-FXLN, dense, vry well cemented, tight w/ no vis. porosity

**HEEBNER 2930' (-1187) E-LOG 2930' (-1187)** Sh- Black Gray, fissile, carbonaceous, gritty & earthy



Sh- Lt Gray Lm Green, soft, silty, calcareous, dense, sl waxy, well compacted

**TORONTO E-LOG 2950' (-1207)**

Lm- Cream Off White, Crypto-FXLN, poorly developed mixed, few sl fsl, others w/o vis. grains or porosity, most w/ lt sctrd mottling

Lm- Off White, Fn Grn, soft, loosely cemented, mod. developed, chalky in part, dense vry fn ppt porosity, much soft white chalk

**DOUGLAS SHALE E-LOG 2968' (-1225)**

Sh- Lt Gray, abundant gummy argillaceous clumps, some Vf grn shaley Ss/Sandy lime, speckled w/ dark minerals

Sh- Lt Gray, abundant gummy argillaceous clumps

Sh- A/A

Sh- Lt Gray, soft, silty, calcareous, some slick & sl waxy, well compacted

Sh- Lt Gray, abundant soft, silty, & calcareous, gummy argillaceous clumps, & some sl sandy lime

**BROWN LIME 3071' (-1328) E-LOG 3070' (-1327)** Lm- Brown Tan, FXLN, dense, vry well cemented, fsl bio-turbated, high-energy mix w/ interbedded crinoids & fusulinids, no vis. porosity, sctrd recrystallized secondary XLN porosity

Sh- Maroon, gritty & earthy, gummy argillaceous clumps

**LKC 3097' (-1354) E-LOG 3098' (-1355)** Lm- Tan Cream, FXLN, sl developed, well cemented, fsl, mostly consistant dense XLN porosity, NS

Lm- Cream Off White, Vf Grn - FXLN, some mud supported matrix, chalky in part, sl fsl & poorly developed, fsl fragments, dense XLN porosity, sl unconsolidated

○ Lm- Cream Tan, FXLN, high-energy, fsl fragments, dense secondary XLN porosity, vry sl mineral flor, WK HALO WET CUT FLOR. NO STN, NSFO, NO ODR

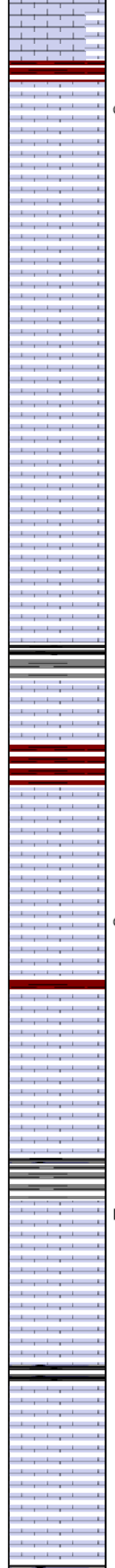
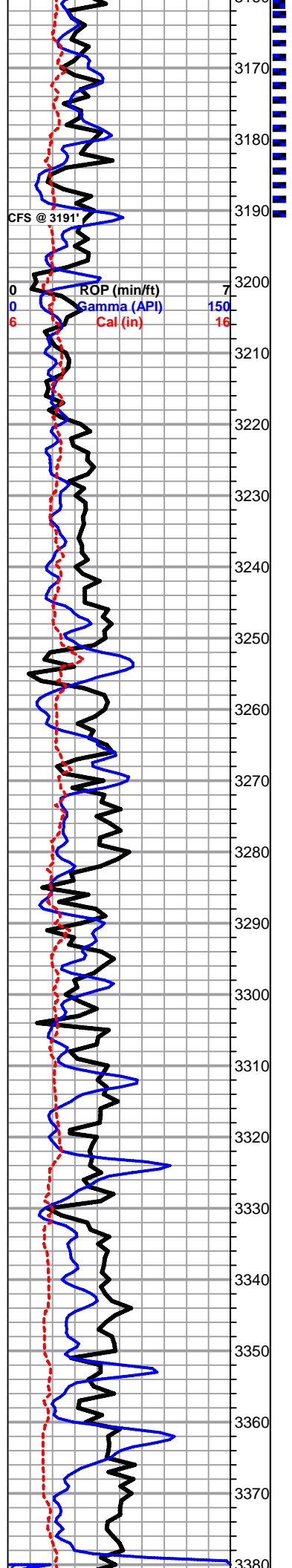
D ○ Lm- Cream Off White, FXLN, dense, well cemented, poorly developed, sl oolitic, poor/none interoolitic porosity, sctrd XLN porosity, RARE BLK RESIDUAL STN, NO SFO, PR-FR GSY ODR

Lm- Tan, FXLN, sl unconsolidated, some w/ chalky lime matrix, trashy, all poorly cemented & crumbley

○ Lm- Cream Off White, FXLN, dense, well cemented, sl dolomitic cherty Ls, gritty, sl developed w/ sctrd vry fn ppt porosity, sl fsl, SL GSY SHN, VRY LT STN, SL SGSYFO WHEN LEFT UNDER LAMP, PR-FR ODR, SLOW STRM

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

**\*\* GAS TEST @ 3117' LAGGED @ 3107' \*\***



HALO CUT & FLOR

Lm- Tan, VF-FXLN, sl fsl, dense, vry well cemented, tight w/ no vis. porosity

Lm- Lt Brown Tan, FXLN dense, vry well cemented, sl fsl, poorly developed w/ sctrd vry fn ppt porosity, SCTRDRK STN, SL SFO UPON CRUSH, PR ODR

Lm- Cream Tan, Crypto XLN, oolitic biomicrite, translucent siliceous cementation, no vis. porosity, tight

Lm- Off White Tan, oolitic mix of densely packed white oolites in golden brown siliceous cementation w/o vis. porosity/matrix, golden brown oolitic-vry sl oomoldic, w/ rare skeletal dissolution, dense micro/XLN porosity & poor/no intermoldic connectivity, and cream mud supported matrix, unconsolidated & sl pebbly, dense, loosely cemented, no vis. porosity, all clean & barren

Lm- Tan, FXLN, dense, poorly developed sub-sucrosic sl dolomitic Ls, micro XLN porosity, much soft white chalk

Lm- Cream, Fn Grn, dense well cemented algal Ls, no vis porosity

Lm/Chert- Tan Off White, FXLN, dense, well cemented, poorly developed w/ minimal vis. porosity, few chips of fresh bedded chert

Sh- Black Gray Lm Green, soft, fissile, carbonaceous, sl silty, sl waxy

Lm- Tan Off White, Crypto-VFXLN, dense, brittle, well cemented, tight w/ minimal vis. porosity, sl cherty

Sh- Maroon, gritty & earhty & Lm Green wash

Lm- Cream Off White, FXLN & Fn Grn, sl fsl mix, both loosely cemented & crumbly, no interparticle porosity, some sctrd XLN porosity w/ few chips having secondary recrystallization veins

Lm- Cream Off White, FXLN, oolitic/oomoldic, sctrd development, some w/ partial skeletal dissolution & poor intermoldic connectivity w/ sctrd vuggy porosity, mostly well cemented, 1-2 chips w/ VRY WK RARE SPOTTY STN, NO SFO, VRY FNT ODR, NO FLOR

Sh- Maroon, gritty & earhty

Lm- Cream Off White, Crypto-FXLN, dense, very well cemented, tight w/ minimal vis. porosity/development

Sh- Black Drk Gray Brown Maroon, small soft fissile carbonaceous chips, soft, slick, gritty & earhty, few sl unconsolidated & pebbly

Lm- Cream Tan, FXLN, sl fsl & oolitic, poorly developed, well cemented, mostly tight w/ sctrd XLN porosity, 1 chip w/ BLK RESIDUAL DD OIL STN, NO SFO, NO ODR

Sh- Black Gray Maroon, well compacted, carbaoneous, gritty & earhty, sl calcareous

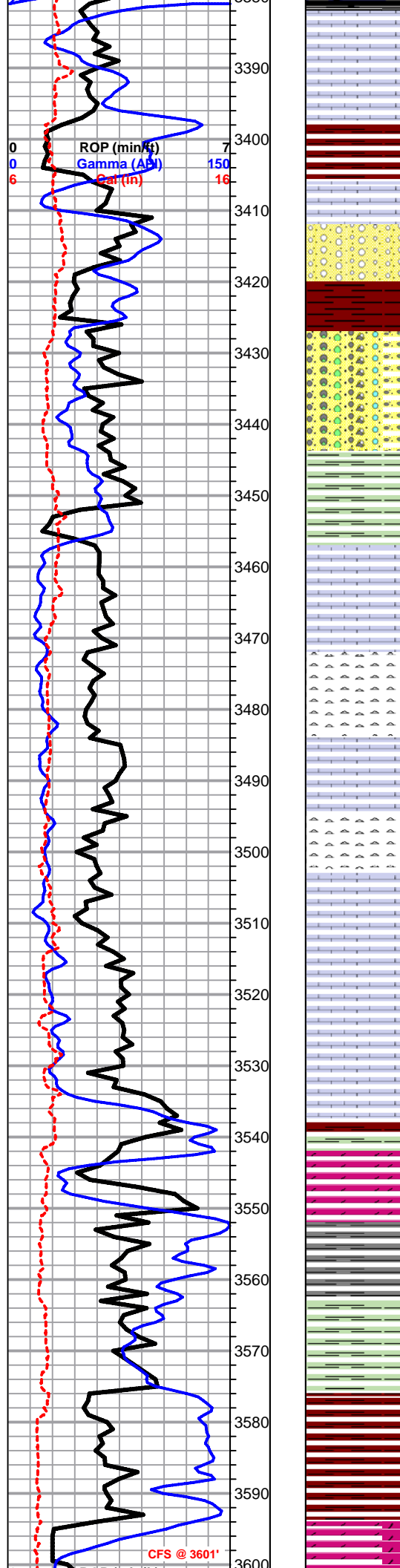
Lm- Cream, VF-FXLN, dense, well cemented, some sl fsl, tight w/ no vis. porosity, very clean, chips of soft white chalk

Sh- Black Pea Green Lm Green Maroon Lt Gray, slick well compacted,

SHORT TRIP  
SURVEY 1 1/4 dgr  
STRAP -1.33'

DST #1  
LKC A-F  
3075' - 3191'

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



carbonaceous, sl silty & soft, gritty & earthy, few chips vry unconsolidated & trashy

Lm- Off White, F-Med XLN, dense, loosely cemented & crumbly, fsl & sl oolitic, poorly developed w/ sctrd XLN porosity, minimal to no vis. interoolite porosity, very clean, much gummy white chalk

**BKC 3397' (-1654) E-LOG 3397' (-1654)** Sh- Red Maroon Brown Lm Green Gray, some red wash, gritty & earthy, sl waxy, some vry sl sandy lime

Lm/Ss- Off White Yellow tint, FXLN, well cemented, eroded & R/W, fsl, tight w/ no vis. porosity, Ss-Dove Gray, Vf Grn, shaley, loosely cemented

Conglomerate- Cream FXLN Ls, tinted w/ yellow & purple shale, eroded R/W, loosely cemented, shaley lime & Ss

Sh- Red Lt Gray, much gummy argillaceous clumps

Sand/Cherty Conglomerate- Clear, sub-rnd to rdn, f-m grn, mature, mix of consolidated to sl unconsolidate & clean to chalky & shaley, well cemented to friable, clean, NS Chert- Salmon & Cream, eroded & R/W, vry well cemented, some w/ small pyrite inclusions

Sh- Mint Green White, soft, sl waxy, some sl unconsolidated & pebbly, gummy white chalk/clay

**VIOLA 3456' (-1713) E-LOG 3456' (-1713)** Lm- White Off White, F-Med XLN, appears eroded & R/W, loosely cemented & crumbly, sl cherty in part, few chips of eroded & R/W white chert w/ sctrd XLN porosity, all very clean & barren

Lm- A/A w/ increasing ratio of crypto-VFXLN cherty Ls, tight, mostly w/o vis. grains or porosity

Chert- Golden Brown Semi-Translucent Salmon, sl fsl, fresh bedded

Lm- Cream Off White, FXLN, dense, loosely cemented, sl cherty Ls, tight w/ minimal vis. porosity

Chert- Egg Shell White, crypto-XLN, no vis. matrix or porosity, fresh bedded, near prestine

**\*\* GAS TEST @ 3505' \*\***

Lm/Chert- Off White, VF-FXLN mix of sl cherty Ls, gritty sl dolomitic Ls, & few chips of vry well cemented gritty sl dolomitic chert, all clean & barren

Lm- Cream Off White, A/A w/ more dolomitic chert

Lm- Cream Off Whie, VF-FXLN, dense, well cemented, tight sl dolomitic Ls, no vis. porosity, very clean & barren

**SIMPSON SHALE 3540' (-1797) E-LOG 3536' (-1793)** Sh- Mint Green Maroon, dense, well compacted, waxy, slick, gritty & earthy

**SIMPSON DOLOMITE E-LOG 3542' (-1799)** Dolomite- Cream Off White, FXLN, mix of soft, loosely cemented & crumbly and vry well cemented & dense, all w/ minimal vis. porosity, completely barren

Sh- Gray Maroon, gritty thin slivers, gritty & earthy chips

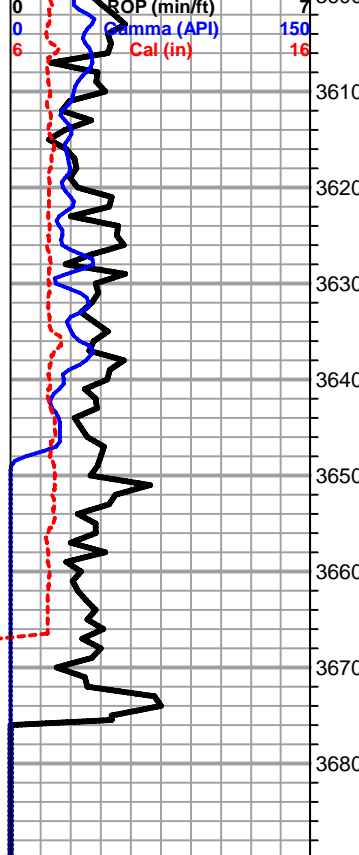
Sh- Red/Green Green/Gray, well compacted, mottled

Sh- Increasing amount of red, fissile Lt gray chips, some sl unconsolidated & pebbly, Lm Green w/ few speckles & inclusions of pyrite 1-2 chips w/ fn grn qtz. inclusions, no Ss clusters or ind. grains in tray

**ARBUCKLE 3594' (-1851) E-LOG 3594' (-1851)** Dolomite- Cream Tan, FXLN, mix of sucrosic, loosely cemented, few w/ glauconite specks (few chips sl sandy) FXLN oolitic / sl oomoldic w/ partial skeletal dissolution & poor

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





interconnectivity, well cemented, poorly developed, & 1-2 chips of oolitic chert, clean & barren, VRY FNT WHIFF OF ODR IN CUP

Dolomite- Cream Med-Crs XLN, sucrosic euhedral rhombs, loosely cemented & crumbley, moderately developed w/ FR interstitial porosity Pink- FXLN, dense, well cemented, tight w/ minimal vis. porosity, all clean & barren, NO STN, NO ODR

Dolomite- Tan Cream, F-Med XLN, most loosely cemented, moderately developed w/ consistant XLN & fn ppt porosity throughout, all clean & barren

Dolomite- A/A w/ better cementation, some chips w/ sctrd siliceous cementation, few chips of VF-FXLN, cherty dolomite

Dolomite- Tan Cream, F-Med XLN, well cemented, moderately developd w/ consistant vry fn ppt porosity

Dolomite- Tan Cream Med-Crse XLN, loosely-well cemented, moderate-well developed w/ GD consistant ppt porosity throughout

Dolomite- Tan, F-Med XLN, dense, well cemented, poorly developed, mostly consistant XLN w/ sctrd secondary porosity, tight

**RTD 3675' (-1932) LTD 3677' (-1934) @ 06:31 2/18/2013**

