

**OPERATOR**

Company: MURFIN DRILLING CO., INC.  
 Address: 250 N WATER  
 SUITE 300  
 WICHITA, KS 67202  
 Contact Geologist: SHAUNA GUNZLEMAN  
 Contact Phone Nbr: (316) 267-3241  
 Well Name: BERDIE #2-21  
 Location: E2 NW NE Sec. 21 - 1S - 35W  
 Pool:  
 State: KANSAS

API: 15-153-21029-00-00  
 Field: WILDCAT  
 Country: USA

**Scale 1:240 Imperial**

Well Name: BERDIE #2-21  
 Surface Location: E2 NW NE Sec. 21 - 1S - 35W  
 Bottom Location:  
 API: 15-153-21029-00-00  
 License Number: 30606  
 Spud Date: 7/22/2014  
 Region: RAWLINS COUNTY KANSAS  
 Drilling Completed: 7/29/2014  
 Surface Coordinates: 660' FNL & 1650' FEL  
 Bottom Hole Coordinates:  
 Ground Elevation: 3180.00ft  
 K.B. Elevation: 3185.00ft  
 Logged Interval: 3500.00ft  
 Total Depth: 4470.00ft  
 Formation: LANSING - KANSAS CITY  
 Drilling Fluid Type: FRESH WATER / CHEMICAL GEL

Time: 5:15 PM  
 Time: 7:03 PM  
 To: 4471.00ft

**SURFACE CO-ORDINATES**

Well Type: Vertical  
 Longitude: -101.2485085  
 N/S Co-ord: 660' FNL  
 E/W Co-ord: 1650' FEL

Latitude: 39.9568147

**LOGGED BY**

Company: BIG CREEK CONSULTING, INC.  
 Address: 1909 MAPLE  
 ELLIS, KS 67637

Phone Nbr: (785) 259-3737  
 Logged By: Geologist  
 Name: JEFF LAWLER

**CONTRACTOR**

Contractor: MURFIN DRILLING CO., INC.  
 Rig #: 7  
 Rig Type: MUD ROTARY  
 Spud Date: 7/22/2014  
 TD Date: 7/29/2014  
 Rig Release: 7/30/2014

Time: 5:15 PM  
 Time: 7:03 PM  
 Time: 5:00 PM

**ELEVATIONS**

K.B. Elevation: 3185.00ft  
 K.B. to Ground: 5.00ft

Ground Elevation: 3180.00ft

**NOTES**


THE BERDIE #2-21 WAS DRILLED OFF A SEISMIC PROSPECT & RAN STRUCTURALLY HIGH TO REGIONAL WELLS. DUE TO LOG ANALYSIS AND ECONOMICAL RECOVERY ON MULTIPLE DST'S DECISION WAS MADE TO RUN 5 1/2" PRODUCTION CASING AND FURTHER EVALUATE ZONES WITH PERFORATION.

RESPECTFULLY SUBMITTED,  
 JEFF LAWLER

WELL COMPARISON SHEET

FORMATION	MURFING DRILLING CO., INC.										AMERADA PETROLEUM								
	BERDIE #2-21					BERDIE #1-21					LEONARD #1-16								
	NE SW NE NW 21-1-35					NW SW NE SW 16-1-35					NE NE 21-1-35								
	KB	3185	GL	3180	KB	3161	KB	3112	KB	3229	KB	3185	GL	3180	KB	3161	KB	3112	KB
LOG TOPS	SAMPLE TOPS				COMP. CARD		LOG	SMPL.	COMP. CARD		LOG	SMPL.	COMP. CARD		LOG	SMPL.			
DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	CORR.	CORR.	DEPTH	DATUM	CORR.	CORR.	DEPTH	DATUM	CORR.	CORR.				
ANHYDRITE TOP	3063	122	3040	145	3046	115	+ 7	+ 30	3003	109	+ 13	+ 36	3108	121	+ 1	+ 24			
BASE	3098	87	3068	117	3081	80	+ 7	+ 37	3036	76	+ 11	+ 41	3146	83	+ 4	+ 34			
NEVA	3568	-383			3549	-388	+ 5		3507	-395	+ 12								
RED EAGLE	3633	-448			3615	-454	+ 6		3571	-459	+ 11								
FORAKER	3684	-499			3665	-504	+ 5		3622	-510	+ 11								
STOTLER	3834	-649	3813	-628	3815	-654	+ 5	+ 26	3770	-658	+ 9	+ 30							
TOPEKA	3897	-712	3888	-703	3884	-723	+ 11	+ 20	3831	-719	+ 7	+ 16							
DEER CREEK	3906	-721	3896	-711	3895	-734	+ 13	+ 23	3846	-734	+ 13	+ 23							
OREAD	3998	-813	4000	-815	3982	-821	+ 8	+ 6	3934	-822	+ 9	+ 7	4048	-819	+ 6	+ 4			
HEEBNER	4059	-874	4067	-882	4044	-883	+ 9	+ 1	3991	-879	+ 5	- 3							
LANSING A	4119	-934	4117	-932	4100	-939	+ 5	+ 7	4048	-936	+ 2	+ 4	4166	-937	+ 3	+ 5			
LANSING B	4159	-974			4143	-982	+ 8		4090	-978	+ 4								
LANSING D	4170	-985	4170	-985	4154	-993	+ 8	+ 8	4101	-989	+ 4	+ 4							
LANSING G	4220	-1035	4218	-1033	4204	-1043	+ 8	+ 10	4153	-1041	+ 6	+ 8							
LANSING H	4270	-1085			4254	-1093	+ 8		4204	-1092	+ 7								
LANSING J	4310	-1125	4307	-1122	4298	-1137	+ 12	+ 15	4248	-1136	+ 11	+ 14							
STARK SHALE	4327	-1142	4324	-1139	4313	-1152	+ 10	+ 13	4261	-1149	+ 7	+ 10							
LANSING K	4350	-1165	4339	-1154	4337	-1176	+ 11	+ 22	4284	-1172	+ 7	+ 18							
BKC	4376	-1191	4371	-1186	4362	-1201	+ 10	+ 15	4310	-1198	+ 7	+ 12	4432	-1203	+ 12	+ 17			
LENAPAH	4389	-1204	4388	-1203	4375	-1214	+ 10	+ 11	4324	-1212	+ 8	+ 9							
MARMATON / ALTAMONT	4413	-1228	4412	-1227	4398	-1237	+ 9	+ 10	4348	-1236	+ 8	+ 9							
PAWNEE					4483	-1322			4429	-1317									
LOWER PAWNEE					4506	-1345			4450	-1338									
FT SCOTT					4553	-1392			4497	-1385									
CHEROKEE					4567	-1406			4510	-1398			4651	-1422					
REAGAN					4673	-1512			4600	-1488									
MISSISSIPPIAN					4761	-1600			4702	-1590			4826	-1597					
TOTAL DEPTH	4471	-1286	4470	-1285	4814	-1653	+ 367	+ 368	4755	-1643	+ 357	+ 358	4880	-1651	+ 365	+ 366			

DST #1 STOTLER 4743' - 4840'



### DRILL STEM TEST REPORT

Murfin Drilling Co., Inc  
250 N. Water STE 300  
Wichita KS 67202  
ATTN: Jeff Lawler

**21-1S-35W**

**Berdie #2-21**

Job Ticket: 58460      **DST#: 1**

Test Start: 2014.07.25 @ 17:38:00

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**GENERAL INFORMATION:**

Formation: **Stotler**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 19:49:30  
 Time Test Ended: 01:05:30

Interval: **3743.00 ft (KB) To 3840.00 ft (KB) (TVD)**  
 Total Depth: 3840.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 3185.00 ft (KB)  
 3180.00 ft (CF)  
 KB to GR/CF: 5.00 ft

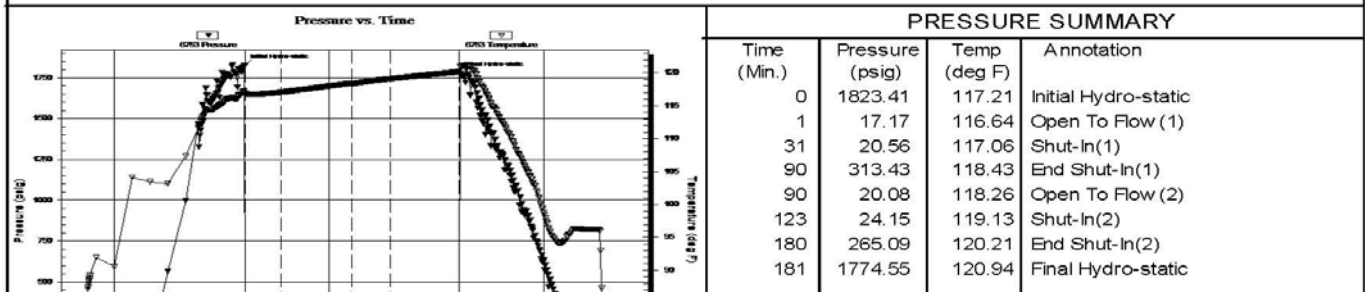
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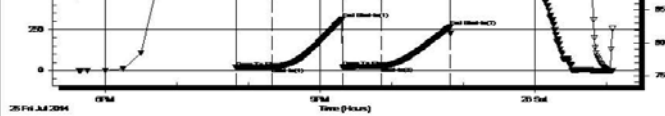
**Serial #: 6753      Outside**

Press@RunDepth: 24.15 psig @ 3744.00 ft (KB)      Capacity: 8000.00 psig  
 Start Date: 2014.07.25      End Date: 2014.07.26      Last Calib.: 2014.07.26  
 Start Time: 17:38:05      End Time: 01:05:29      Time On Btm: 2014.07.25 @ 19:49:15  
 Time Off Btm: 2014.07.25 @ 22:50:00

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**TEST COMMENT:** 30 - IF - Weak surface blow dead in 12 min.  
 60 - ISI - No return  
 30 - FF - No surface blow  
 60 - FSI - No return





**Recovery**

Length (ft)	Description	Volume (bbl)
10.00	Mud - 100M	0.05

**Gas Rates**

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

Trilobite Testing, Inc

Ref. No: 58460

Printed: 2014.07.26 @ 06:36:43

**DST #2 LANSING A - D 4055' - 4190'**



**TRILOBITE TESTING, INC.**

**DRILL STEM TEST REPORT**

Murfin Drilling Co., Inc  
 250 N. Water STE 300  
 Wichita KS 67202  
 ATTN: Jeff Lawler

**21-1S-35W**

**Berdie #2-21**

Job Ticket: 58461

**DST#: 2**

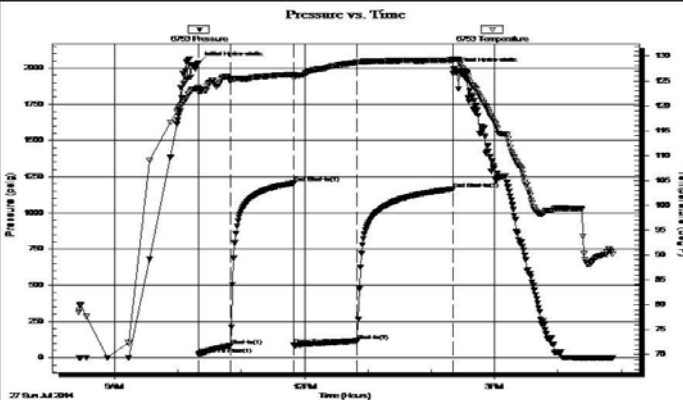
Test Start: 2014.07.27 @ 08:26:00

**GENERAL INFORMATION:**

Formation: **LKC - A - D**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 10:19:45  
 Time Test Ended: 16:52:30  
**Interval: 4055.00 ft (KB) To 4190.00 ft (KB) (TVD)**  
 Total Depth: 4190.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Royal Fisher  
 Unit No: 54  
 Reference Elevations: 3185.00 ft (KB)  
 3180.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 6753 Outside**  
 Press@RunDepth: 116.34 psig @ 4056.00 ft (KB)  
 Start Date: 2014.07.27 End Date: 2014.07.27 Capacity: 8000.00 psig  
 Start Time: 08:26:05 End Time: 16:52:29 Last Calib.: 2014.07.27  
 Time On Btm: 2014.07.27 @ 10:19:30  
 Time Off Btm: 2014.07.27 @ 14:21:45

**TEST COMMENT:** IF - Surface blow built to 4 1/2  
 ISI - No return  
 FF - Surface blow built to 4 3/4  
 FSI - No return



**PRESSURE SUMMARY**

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2036.80	123.62	Initial Hydro-static
1	22.06	122.74	Open To Flow (1)
31	81.94	125.11	Shut-In(1)
91	1205.58	126.28	End Shut-In(1)
91	85.80	125.57	Open To Flow (2)
151	116.34	128.76	Shut-In(2)
241	1164.78	129.20	End Shut-In(2)
243	1992.93	129.31	Final Hydro-static


**Recovery**

Length (ft)	Description	Volume (bbl)
63.00	OSVM - 65M - 35W - Oil Spots	0.31
63.00	OSVM - 55M - 45W - Oil Spots	0.32
63.00	OCVM - 80M - 15W - 5o	0.88
31.00	OCM - 95M - 5o	0.43

**Gas Rates**

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

**DST #3 LKC G 4184' - 4240'**

	<b>DRILL STEM TEST REPORT</b>	
	Murfin Drilling Co., Inc 250 N. Water STE 300 Wichita KS 67202 ATTN: Jeff Lawler	<b>21-1S-35W</b>  <b>Berdie #2-21</b> Job Ticket: 58462 <b>DST#: 3</b> Test Start: 2014.07.28 @ 02:43:00

**GENERAL INFORMATION:**

Formation: **LKC - G**  
 Deviated: No Whipstock:                      ft (KB)  
 Time Tool Opened: 05:33:45  
 Time Test Ended: 11:43:45

**Interval: 4184.00 ft (KB) To 4241.00 ft (KB) (TVD)**  
 Total Depth: 4241.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good

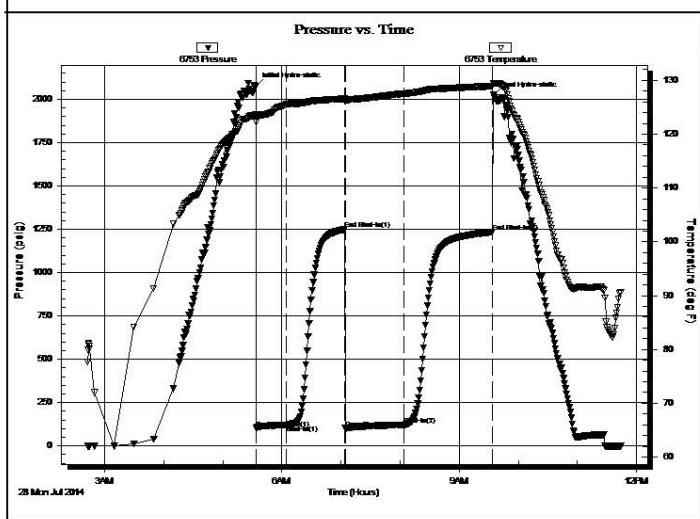
Test Type: Conventional Bottom Hole (Initial)  
 Tester: Royal Fisher  
 Unit No: 54

Reference Elevations: 3185.00 ft (KB)  
 3180.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 6753      Outside**

Press@RunDepth: 120.85 psig @ 4185.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2014.07.28      End Date: 2014.07.28	Last Calib.: 2014.07.28
Start Time: 02:43:05      End Time: 11:43:45	Time On Btm: 2014.07.28 @ 05:33:30
	Time Off Btm: 2014.07.28 @ 09:34:45

**TEST COMMENT:** 30 - IF - Surface blow built to 3"  
 60 - ISI - No return  
 60 - FF - Surface blow built to 6 3/4"  
 90 - FSI - No return




PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2076.95	123.56	Initial Hydro-static
1	101.17	122.20	Open To Flow (1)
31	121.05	125.51	Shut-In(1)
91	1250.24	126.60	End Shut-In(1)
91	101.10	126.19	Open To Flow (2)
151	120.85	127.53	Shut-In(2)
241	1234.57	128.93	End Shut-In(2)
242	2024.06	129.42	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
63.00	MCO - 50M - 50o	0.31
63.00	MCO - 10M - 90o	0.32

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

**DST #4 LKC H - J 4238' - 4331'**

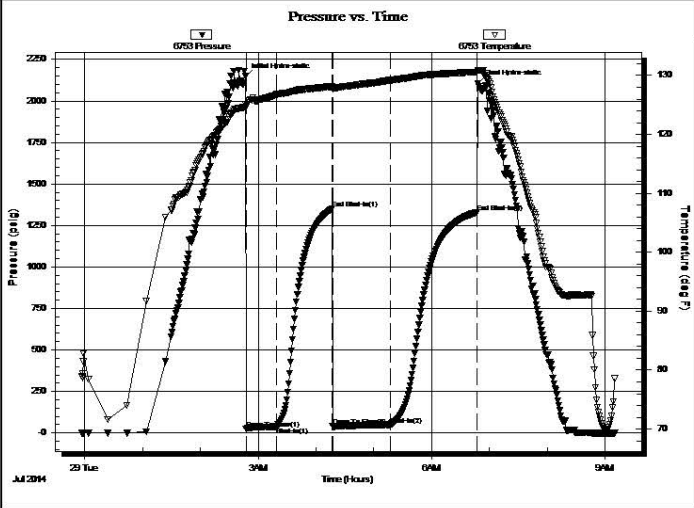
	<b>DRILL STEM TEST REPORT</b>	
	Murfin Drilling Co., Inc 250 N. Water STE 300 Wichita KS 67202 ATTN: Jeff Lawler	<b>21-1S-35W</b>  <b>Berdie #2-21</b> Job Ticket: 58463 <b>DST#: 4</b> Test Start: 2014.07.28 @ 23:57:00

**GENERAL INFORMATION:**

Formation: <b>LKC - H &amp; J</b>	Test Type: Conventional Bottom Hole (Initial)
Deviated: No Whipstock: ft (KB)	Tester: Royal Fisher
Time Tool Opened: 02:47:30	Unit No: 54
Time Test Ended: 09:09:45	Reference Elevations: 3185.00 ft (KB)
<b>Interval: 4239.00 ft (KB) To 4331.00 ft (KB) (TVD)</b>	3180.00 ft (CF)
Total Depth: 4331.00 ft (KB) (TVD)	KB to GR/CF: 5.00 ft
Hole Diameter: 7.88 inches Hole Condition: Good	

<b>Serial #: 6753</b>	<b>Outside</b>		
Press@RunDepth: 49.62 psig @ 4240.00 ft (KB)	Capacity: 8000.00 psig		
Start Date: 2014.07.28	End Date: 2014.07.29	Last Calib.: 2014.07.29	
Start Time: 23:57:05	End Time: 09:09:45	Time On Btm: 2014.07.29 @ 02:47:00	
		Time Off Btm: 2014.07.29 @ 06:47:45	

**TEST COMMENT:** 30 - IF - Surface blow built to 2 1/2"  
 60 - ISI - No return  
 60 - FF - Surface blow built to 2 1/2"  
 90 - FSI - No return

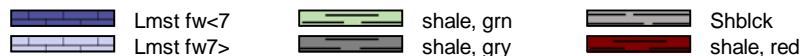


PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2146.15	125.15	Initial Hydro-static
1	24.94	124.65	Open To Flow (1)
32	37.40	126.77	Shut-In(1)
90	1349.48	128.09	End Shut-In(1)
91	39.56	127.72	Open To Flow (2)
151	49.62	129.15	Shut-In(2)
240	1329.84	130.60	End Shut-In(2)
241	2104.27	130.85	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbl)
65.00	OCM - 55M - 45o	0.32

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

### ROCK TYPES



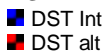
### ACCESSORIES

#### STRINGER

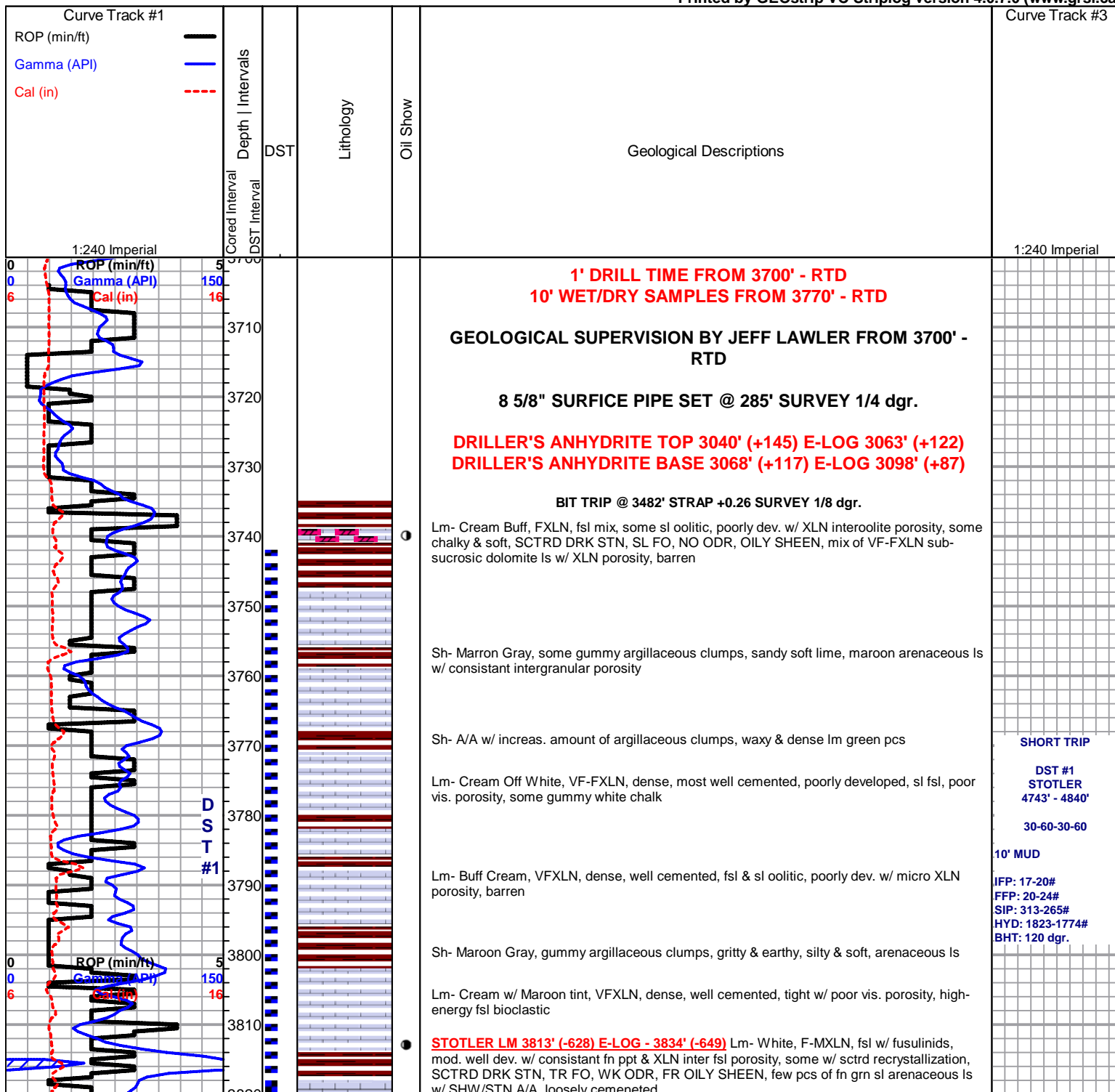


### OTHER SYMBOLS

#### DST



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

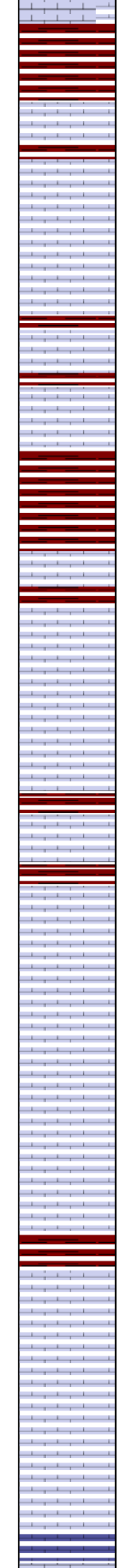
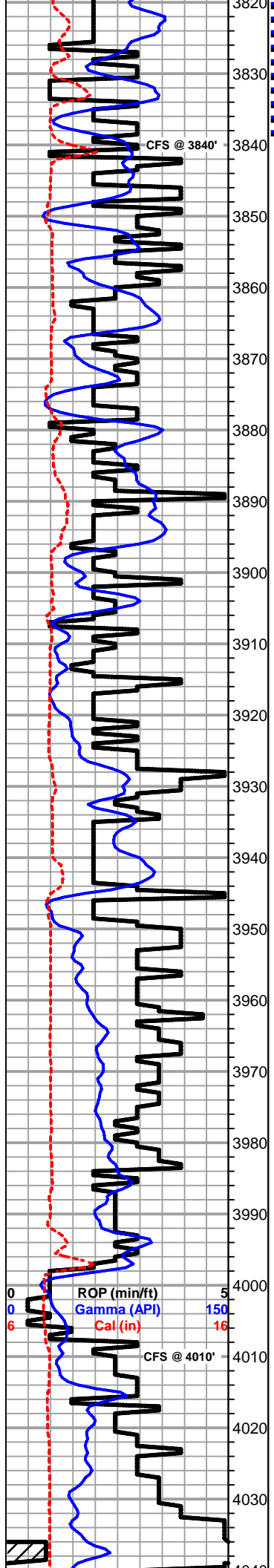


SHORT TRIP

DST #1  
STOTLER  
4743' - 4840'

30-60-30-60

10' MUD  
IFP: 17-20#  
FFP: 20-24#  
SIP: 313-265#  
HYD: 1823-1774#  
BHT: 120 dgr.



w/ CRWGS IN W/ loosely cemented

Sh- Maroon, gummy argillaceous clumps, some gritty & earthy

**\*\*LOST ~60-80 BBL VOL.\*\***

● Lm- White Off White, F-MXLN, fsl, mod. well dev. w/ GD inter fsl porosity, SCTRD DRK STN, TR FO, NO ODR, OILY SHEEN, some gummy white chalk

○ Lm- White Off White, FXLN, sl fsl, loosely cemented, some sl chalky in part, some sctrd recrystallization, SCTRD DRK STN, NSFO, SCTRD DO, NO ODR

Lm- Cream Off White, VF-FXLN, dense, well cemented, mostly tight & poorly dev. w/ poor vis. porosity, barren

Sh- Maroon Grey White, gritty & earthy, argillaceous wash, silty & soft, gummy white chalk

Sh- A/A w/ incr. gray shale & silty lm green shale

**TOPEKA 3888' (-703) E-LOG 3897' (-712)** Lm- Cream w/ Maroon tint, VF-FXLN, detrital ls, most well cemented, some loosely cemented, fsl w/ fusulinids, poorly dev. w/ micro XLN porosity

○ **DEER CREEK 3896' (-711) E-LOG 3906' (-721)** Lm- Cream Off White, FXLN, well cemented arenaceous ls mixed w/ few pcs of fsl, sctrd XLN porosity, SCTRD DRK STN, NSFO, NO ODR

Lm- Cream Off White, VFXLN, dense, well cemented, tight w/ minimal vis. porosity, vry clean

D Lm- White, VFXLN, dense, most vry well cemented & tight w/ sctrd porosity, BLK GILSONITE STN, NSFO, NO ODR

Sh/Ss- Maroon Lm Green, mix of gritty & earthy shale & loosely cemented shaley Ss

Lm- Maroon Lt Purple, Fn Grn arenaceous ls w/ consistant intergranular porosity, barren, some gummy white chalk

Lm- A/A w/ cream & buff fn grn arenaceous ls, gritty & earthy maroon shale

Lm- Lt Purple, incr. amount of fn grn arenaceous ls, silty gray & lm grn shale

● D Lm- White, Fn Grn, friable arenaceous ls w/ consistant intergranular porosity, well sorted & consolidated, DRK SAT TO SUB-SAT STN, NSFO, NO ODR, DEAD OIL??

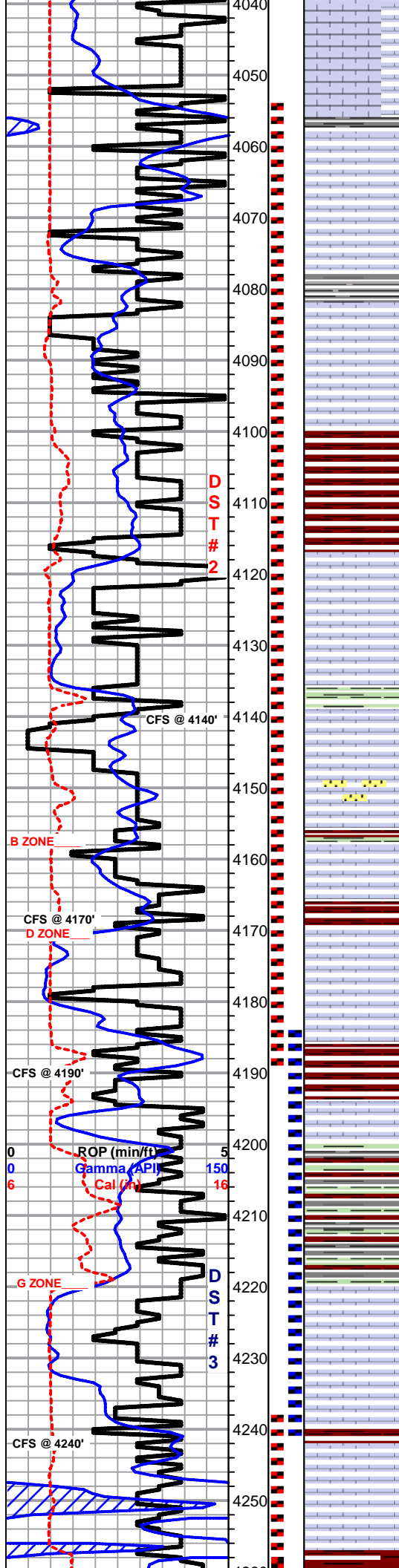
○ **OREAD 4000' (-815) E-LOG 3998' (-813)** Lm- Cream Off White, VF-FXLN, dense, most well cemented, oolitic, poorly dev. w/ XLN porosity mixed w/ tight VFXLN w/o vis. porosity, barren

○ Lm- A/A, few oolitic pcs w/ rare small oomoldic ppt porosity, no inter connectivity, 2-3 PCS W/ BLK GILSONITE EDGE STN, NSFO, NO ODR

Lm- Cream, VFXLN, dense, well cemented, tight w/ minimal vis. porosity, vry clean

Lm- Cream Buff, A/A w/ few pcs of crypto XLN w/o vis. porosity

Lm- Buff, VFXLN, vry well cemented, tight w/o vis. porosity, few pcs of vf grn, sl silty & loosely cemented mud supported matrix, all vry clean



Lm- Drk Gray, Vf Grn, dense, well cemented, silty, no vis. porosity

Lm- A/A w/ incr. amount, w/ soft & silty & loosely cemented

Lm- Cream Buff, Vf-fn Grn, mix of unconsolidated mud supported matrix, loosely-well cemented w/ poor vis. porosity, some sctrd XLN porosity, & semi-translucent oomoldic, loosely cemented, semi-friable, sctrd inter vugular connectivity, LT OILY STN, SFO, LT ODR UPON CRUSH, INSTANT HALO FLOR.

**HEEBNER 4067' (-882) E-LOG 4059' (-874)** Sh- Maroon Gray, gritty & earthy, silty & calcareous, few ps of unconsolidated & spkld w/ drk organics

Lm- Cream Buff Lt Gray, Fn Grn, consolidated arenaceous ls, loosely cemented, sl chalky, w/ constant intergranular porosity, barren

Lm- Brown Maroon, Fn Grn, arenaceous ls, consolidated & loosely cemented, FEW PCS W/ WK STN, NSFO, DULL FLOR., NO ODR

Sh- Maroon Gray, gritty & earthy, dense & blocky

**LKC 4117' (-932) E-LOG 4119' (-934)** Lm- Cream Off White, VF-FXLN, mix of sl fsl & oolitic, poorly dev. w/ sctrd XLN & fn ppt inter fsl porosity, SCTRD LT DRK SPOTTY STN, NSFO, NO ODR, & VFXLN, dense, vry well cemented, tight w/ minimal vis. porosity, vry clean & barren

Lm- White Cream, VFXLN Fn Grn, mix of lithographic w/o vis. porosity, & fn grn loosely cemented, sl arenaceous ls, consolidated w/ intergranular porosity, DRK STN, TR FO, NO ODR

Lm- White Off White, FXLN, mix of sl chalky & loosely cemented w/ sctrd ppt porosity & well cemented poorly dev w/ sctrd recrystallization & XLN porosity, all w/ SCTRD DRK STN, SL TR FO, NO ODR

Lm- Cream Maroon, VFXLN Fn Grn, lithographic w/o vis. porosity, barren & arenaceous ls

Lm- Cream Off White, FXLN, fsl & oolitic, mod. well dev. w/ sctrd-constant fn ppt interoolite porosity, few loose fusulinids, SCTRD LT STN, TR FO, OILY SHEEN, FNT ODR, LT FLOR.

Sh- Maroon Lm Green, gritty & earthy, silty & soft, maroon arenaceous ls

Lm- White, VF-FXLN, mod. well dev. w/ sctrd-dense fn ppt & XLN porosity, sctrd recrystallization & secondary porosity, SCTRD LT STN, SL SFO, WK ODR, BRIGHT YLW FLOR.

Lm- Cream Buff, VF-FXLN, dense, well cemented, mostly tight w/ no to poor vis. porosity, barren

Sh- Maroon Gray, gritty & earthy, silty & soft, some white chalk

Lm- Cream Buff, FXLN, fsl, poorly dev. w/ XLN porosity, barren

Sh- Gray Lm Green Maroon, silty & calcareous, soft & silty, gritty & earthy

Sh- Maroon Brown Lm Green, gritty & earthy, dense & blocky, unconsolidated & pebbly lm green clumps

Lm- Cream Off White, FXLN, fsl & oolitic, mix of unconsolidated & spkld w/ sediment, sctrd XLN & fn ppt porosity & mod. well dev. oomoldic w/ sctrd fn ppt porosity, few w/ dense ppt porosity, ALL W/ LT STN, FR-GD SFO, SWEET LT ODR, FREE FLOATING OIL ON TOP OF WET CUP

Lm- Cream, VFXLN, dense, well cemented, tight w/ minimal vis. to sctrd XLN porosity, vry clean, barren, few pcs w/ sctrd ppt porosity & secondary recrystallization, SCTRD LT STN, SFO, SOME W/ GSY BUBBLES UPON CRUSH, FR ODR

Lm- Lt Gray, VFXLN, dense, tight, loosely-well cemented, tight w/ minimal vis. porosity, barren

Lm- Cream Tan, VF-FXLN, dense, well cemented, sctrd dev. & XLN porosity, some rare ppt porosity w/ coarse recrystallization w/in porosity, DRK SCTRD STN, COPPER COLORED STN ALONG EDGE PLANES & ALONG RECRYSTALLIZATION, WK-FR SFO, FR ODR

**DST #2**  
**LKC A - D**  
**4055' - 4190'**

**220' TOTAL FLUID**

**31' OCM**

**(5%O, 95%M)**

**63' OCWM**

**(5%O, 15%M, 80%M)**

**63' OSPWM**

**(45%M, 55%M)**

**63' OSPWM**

**(35%M, 65%M)**

**IFP: 22-81#**

**FPP: 85-116#**

**SIP: 1205-1164#**

**HYD: 2036-1992#**

**BHT: 129 dgr.**

**DST #3**  
**LKC G**  
**4184' - 4240'**

**30-60-60-90**

**126' TOTAL FLUID**

**63' MCO**

**(90%O, 10%M)**

**63' MCO**

**(50%O, 50%M)**

**IFP: 101-121#**

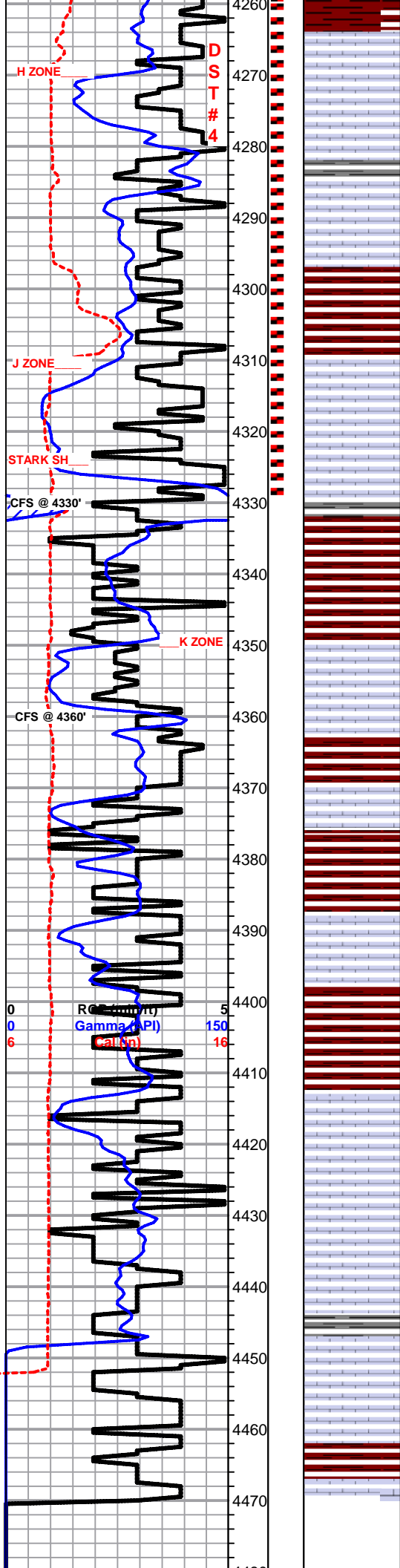
**FPP: 101-120#**

**SIP: 1250-1235#**

**HYD: 2076-2024#**

**BHT: 129 dgr.**





Sh- Maroon Gray Lm Green, gritty & earthy, silty & calcareous

● Lm- Cream Off White Tan, VF-FXLN, majority of mix w/ sctrd XLN & sctrd fn ppt to sub-vugular porosity, few mod. dev. oolitic w/ consistant fn ppt inter oolite porosity, ALL W/ SCTRD DRK STN, WK-FR SFO, OILY SHEEN, FR ODR

○ Lm- Lt Gray Buff, FXLN, poorly dev. & mostly tight w/ sctrd XLN porosity, FEW PCS W/ SCTRD BLK DO STN, NSFO, TR ODR, some gray wash

● Lm- Cream Off White, FXLN, loosely cemented, fsl w/ dense XLN porosity, DRK DO & LT STN, TR FO, WK-FR ODR, DULL TO YLW FLOR, some soft white chalk carrying DO STN A/A, some sctrd recrystallization

Sh- Maroon Brown Gray, dense & blocky, gritty & earthy, silty & calcareous, few black w/ hvy organics

● Lm- White Off White, FXLN, mod. well dev. oolitic w/ sctrd to mostly consistant fn ppt inter oolite porosity, SCTRD LT STN, HVY OILY SHEEN, SFO, GD ODR, MUCH FREE FLOATING OIL ON TOP OF WET CUP

● Lm- White Off White, VF-FXLN, fsl, sl oolitic w/ fusulinds, poorly dev. w/ sctrd XLN porosity, some soft white chalk, vry clean & barren

● Lm- Cream Off White, FXLN, sctrd XLN porosity, most well cemented, sctrd recrystallization, SCTRD DRK STN, TR FO, WK ODR

Sh- Maroon Gray, gritty & earthy, silty & soft, some sandy lime

Sh- Maroon Brown, A/A w/ dense & blocky

Lm- White Off White, FXLN, oolitic, poorly dev. w/ sctrd micro XLN & XLN porosity, sctrd secondary recrystallization porosity, well cemented, vry clean & barren

Lm- Cream Off White, VFXLN, dense, well cemented, few pcs of oolitic biomicrite w/ in situ fusulinds, mostly tight w/ minimal vis. porosity, some chalky mud supported matrix, all clean & barren

**BKC 4371' (-1186) E-LOG 4376' (-1191)** Sh- Maroon Lm Green Gray, gritty & earthy, silty & calcareous, soft & silty, some gray wash

**LENAPAH 4388' (-1203) E-LOG 4389' (-1204)** Lm- White Off White, FXLN, dense, well cemented, poorly dev. w/ sctrd XLN porosity, clean & barren

Sh- Maroon Lt Purple Lm Green Gray, gritty & earthy, dense & blocky, sl waxy

Sh- A/A w/ incr. amount of silty & calcareous gray shale

**MARMATON 4412' (-1227) E-LOG 4413' (-1228)** Lm- Cream Off White, VF-FXLN, dense, well cemented, poorly dev. mostly tight w/ sctrd XLN porosity, barren

Lm- Lt Gray, Fn Gray, sl arenaceous ls, loosely-well cemented, consistant intergranular porosity, barren

Lm- Maroon Lt Gray Mustard Yellow, dense & blocky, some sl silty & calcareous, few pcs of gummy wash

Lm- Lt Gray, Fn Grn, loosely-well cemented, poor vis. porosity, barren

Sh- Maroon Gray, gritty & earthy, soft, some silty, some sandy shale

Lm- Cream Tan, VFXLN, dense, well cemented, sl fsl, high-energy bioclastic w/ poor vis. porosity, barren

Sh- Maroon Gray, dense & blocky

Lm- Cream Off White, VFXLN, dense, well cemented, poorly dev. & mostly tight w minimal vis. porosity

**DST #4**  
**LKC H - J**  
**4238' - 4331'**

**30-60-60-90**

**65' OCM**  
**(45% O, 55% M)**

**IFP: 24-37#**  
**FFP: 39-49#**  
**SIP: 1349-1329#**  
**HYD: 2146-2104#**  
**BHT: 130 dgr.**

**RTD 4470' (-1285) LTD 4471' (-1286) @ 17:03 7/29/2014**

**SHORT TRIP**  
**SURVEY 1 dgr.**  
**CTCH**  
**TOH FOR LOG**

4480

4490

