

**GEOLOGIST'S REPORT**  
**DRILLING TIME AND SAMPLE LOG**

COMPANY **SHAKESPEARE OIL CO.**  
 LEASE **Ticker #211**  
 FIELD **Stratford**  
 LOCATION **514 FMS, 1494 FEL**  
 SEC **11 T18SP 13S R0E 32W**  
 COUNTY **Logan STATE Kansas**

CONTRACTOR **HD Drilling Rig #2**  
 SPUD **11-26-13** COMP **12-8-13**  
 RTD **4700'** LTD **4698'**  
 MUD UP **3500'** TYPE MUD **Chemical**

DRILLING TIME KEPT FROM **3750'** to RTD  
 SAMPLES EXAMINED FROM **3750'** to RTD  
 GEOLOGICAL SUPERVISION FROM **3800'** to RTD

GEOLOGIST ON WELL **Tim Priest**

FORMATION TOPS  
 Anhydrite 2492 (+501)  
 Heebner Shale 3974 (+981)  
 Lansing 4018 (+1025)  
 SARC 4244 (+1251)  
 BKC 4314 (+1321)

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ELEVATIONS  
 KB 2993'  
 DF \_\_\_\_\_  
 GL 2983'  
 Measurements Are All From **KB**

CASING  
 CONDUCTION **N/A**  
 SURFACE **8-5/8" @ 224'**  
 PRODUCTION **None**

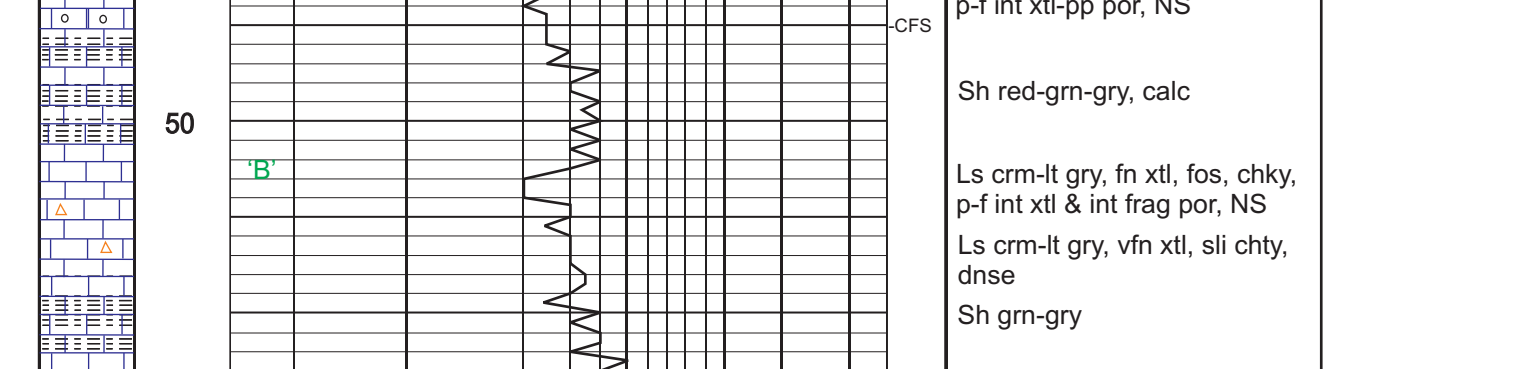
ELECTRICAL SURVEYS  
 CND/D/SP/PE  
 Micro  
 By: **Weatherford**

REMARKS  
 Due to negative DST's and lack of shows, it was decided to plug and abandon the well.

Respectfully Submitted,  
 Tim Priest  
 Petroleum Geologist

API #15-109-21219

DEPTH	LITHOLOGY	DRILLING TIME IN MINUTES PER FOOT	SAMPLE DESCRIPTION	REMARKS
2500				Anhydrite 2492(+501)
2516				Base/ Anhydrite 2516(+477)
3800			Ls crm-gry, fn xtl, fos, arg in prt	
			Ls crm-gry, fn xtl, sli fos, chky, p int xtl-pp por, NS	
			Sh gry, calc	
			Ls crm, fn xtl, fos, v chky, f int xtl-pp por, NS	
50			Ls crm-lt gry, fn xtl, sli chky, dnse	
			Sh blk	
			SS red, vfn grn, w/red silts	
			Ls gry, vfn xtl, dnse	
3900			Ls crm-lt gry, fn xtl, fos, arg in prt	
			Ls crm-lt gry, vfn xtl, dnse	
			Sh blk	
			Ls crm-lt gry, fn xtl, fos-fn ool, chky, f int xtl-pp por, NS	
50			Ls crm, vfn xtl, sli fos, sli chty, dnse	
			Ls crm, fn xtl, fos, sli chky, f int xtl-pp por, sptd blk stn, VSSFO, v sli odor, no fluor	
			Ls crm, fn xtl, fos, sli chty	
			Sh blk, carb	Heebner 3974 (-981)
			Ls crm-tan, fn xtl, sli chty, dnse	
			Sh lt gry-gry, silty, w/fn grn SS	
4000			Ls crm, fn xtl, fos, sli chky, p-f int xtl-pp por, NS	Toronto 4003 (-1010)
			Sh red-gry	Lansing 4018 (-1025)
			Ls crm-lt gry, fn xtl, ool, v chky, p-f int ool por, NS	
			Ls crm, vfn xtl, dnse	
			Ls crm, fn xtl, fos-sli ool, chky, p-f int xtl-pp por, NS	
			Sh red-grn-gry, calc	
50			Ls crm-lt gry, fn xtl, fos, chky, p-f int xtl & int frag por, NS	
			Ls crm-lt gry, vfn xtl, sli chty, dnse	
			Sh grn-gry	
			Ls crm-lt gry, fn xtl, fos, chky, p-f int xtl-pp por, NS	
4100			Ls crm, vfn xtl, chty, dnse	
			Ls crm, fn xtl, fos, chky, p-f int xtl-pp por, NS	
			Ls crm, vfn xtl, chty, dnse	
50			Ls crm-lt gry, fn xtl, ool, p-f ooc por, NS	
			Ls lt gry, vfn xtl, dnse	
			Sh gry, calc	
			Ls crm-lt gry, vfn xtl, sli chky, dnse	
			Sh blk, carb	Muncie Creek 4161 (-1168)
			Ls crm-lt gry, fn xtl, sli fos, sli chky, dnse	
			Sh gry-dk gry, calc	
			Ls crm-lt gry, fn xtl, fos, sli chky, p int xtl-pp por, sptd blk stn on few pcs, VSSFO, no odor, dull fluor	
			Ls crm-lt gry, vfn xtl, dnse	
			Sh blk, carb	
			Ls crm-tan, vfn xtl, dnse	
			Sh grn-gry, calc in prt	
50			Ls crm-lt gry, fn xtl, fos, chky, sli chty, p-f int xtl-pp por, NS	
			Sh red-grn-gry, calc in prt	
			Ls crm-lt gry, fn xtl, fos-ool, chky, p int xtl-pp por w/sme ooc por, NS	
			Ls tan-brn, vfn xtl, dnse	
			Sh blk, carb	DST #1 (4240'-4270') 30" 30"-45"-90" FF: Built to 3 in., no return FF: Built to 3 in., no return Rec: 30" Mud w/ool acum, 60" OSWMS (N/A) (60M) Fps: 16-39M/42-63M SIPs: 1042W/102W HSPs: 2103M/204M BHT: 115 deg F Chindens: 20.000ppm
			Ls crm-tan, mic xtl, dnse	4247 (-1254)
			Sh grn-gry, calc	
			Ls crm-lt gry, fos-sli ool, chky, f int xtl-pp por w/scat vugs, sptd-sat stn, SFO, strong odor, f-bri fluor	
			Ls crm-lt gry, vfn xtl, dnse	
			Sh blk, carb	
			Sh grn-gry	
			Ls crm-lt gry, vfn xtl, sli chky, sli chty, dnse	
			Sh gry-dk gry	
			Ls gry, vfn xtl, dnse	
4300			Sh red-gry, calc	B/K.C. 4317 (-1324)
			Sh red-grn, silty	
			Sh grn-gry	
50			Ls crm-lt gry, vfn xtl, sli fos, sli chky, dnse	
			Sh blk, carb	
			Ls crm-lt gry, fn xtl, fos, chky, p int xtl-pp por, NS	
			Ls crm-lt gry, vfn xtl, dnse	
			Ls tan-gry, vfn xtl, w/gry Sh & silts	
			Sh grn-gry	
			Sh blk, carb	
			Ls lt gry-gry, vfn xtl, dnse	
			Sh grn-gry-dk gry, silty	
			Ls crm-tan, fn xtl, fos, chky, dnse	
			Ls lt gry-gry, vfn xtl, w/int bed gry Sh	
			Ls crm-tan-gry, vfn xtl, sli chty, wlt gry-gry Sh	
			Sh blk, carb	Pawnee 4446 (-1449)
50			Ls crm-tan, fn xtl, fos, chky, no vis por	
			Ls crm-lt gry, vfn xtl, fos, sli chty, dnse	
			Sh blk, carb	
			Ls lt gry-gry, fn xtl, arg in prt, w/grn-gry Sh	
			Ls crm-tan, vfn xtl, fos, dnse	
			Ls tan-gry, vfn xtl, chty, dnse	
4500			Sh blk, carb	Myric Station 4484 (-1491)
			Ls tan-gry, fn xtl, ool, sli chty, p int ool por, NS	
			Ls crm-tan, vfn xtl, sli chty, dnse	
			Sh gry	
			Ls tan-gry, vfn xtl, dnse	
			Sh blk, carb	Cherokee Shale 4531 (-1538)
			Ls crm-lt gry, vfn xtl, dnse	
			Sh grn-gry, w/tan-gry fn xtl Ls	
			Ls crm-lt gry, vfn xtl, dnse	
			Sh blk, carb, w/gry fn xtl Ls	
			Ls tan-gry, vfn xtl, dnse	
50			Sh gry-grn-red	Johnson Zone 4573 (-1580)
			Ls crm-tan-gry, vfn xtl, fos-sub ool, p-f int xtl & pp-vug por, sptd-sli sat dk stn, SSFO, f odor, no fluor	
			Ls crm, fn xtl, chky, dnse	
			Sh gry-blk	DST #2 (4566'-4599') 30" 30"-45"-90" FF: Built to 2 in., no return FF: Built to 1 in., no return Rec: 50" Mud w/ool sps Fps: 16-27W/29-38W SIPs: 905W/92W HSPs: 2265W/221W BHT: 119 deg F
			Ls crm-lt gry, mic xtl, dnse	
			Sh var col, silty	
			Ls crm-tan, mic xtl, dnse	
50			Ls crm, mic xtl, v sandy, v chky, dnse	
			Ls crm-lt gry, mic fn xtl, sli sandy, dnse	
			Ls crm-lt gry, vfn xtl, sli sandy, dnse	
			Sh dk gry-dk gry	
			Ls crm-lt gry, vfn xtl, sli sandy, dnse	
			Ls crm-lt gry, mic xtl, dnse	
4700				Total Depth 4700 (-1707)



LEGEND  
 Anhydrite, Sandstone, Limestone, Shale, Carb Sh, Cherty LS, Chert, Dolomite

DRILLING TIME IN MINUTES PER FOOT  
 Rate of Penetration Decreases

DEPTH  
 2500, 3800, 50, 3900, 50, 4000, 50, 4100, 50, 4200, 50, 4300, 50, 4400, 50, 4500, 50, 4600, 50, 4700

LITHOLOGY  
 Anhydrite, Sandstone, Limestone, Shale, Carb Sh, Cherty LS, Chert, Dolomite

SAMPLE DESCRIPTION  
 Ls crm-gry, fn xtl, fos, arg in prt  
 Ls crm-gry, fn xtl, sli fos, chky, p int xtl-pp por, NS  
 Sh gry, calc  
 Ls crm, fn xtl, fos, v chky, f int xtl-pp por, NS  
 Ls crm-lt gry, fn xtl, sli chky, dnse  
 Sh blk  
 SS red, vfn grn, w/red silts  
 Ls gry, vfn xtl, dnse  
 Ls crm-lt gry, fn xtl, fos, arg in prt  
 Ls crm-lt gry, vfn xtl, dnse  
 Sh blk  
 Ls crm-lt gry, fn xtl, fos-fn ool, chky, f int xtl-pp por, NS  
 Ls crm, vfn xtl, sli fos, sli chty, dnse  
 Ls crm, fn xtl, fos, sli chky, f int xtl-pp por, sptd blk stn, VSSFO, v sli odor, no fluor  
 Ls crm, fn xtl, fos, sli chty  
 Sh blk, carb  
 Ls crm-tan, fn xtl, sli chty, dnse  
 Sh lt gry-gry, silty, w/fn grn SS  
 Ls crm, fn xtl, fos, sli chky, p-f int xtl-pp por, NS  
 Sh red-gry  
 Ls crm-lt gry, fn xtl, ool, v chky, p-f int ool por, NS  
 Ls crm, vfn xtl, dnse  
 Ls crm, fn xtl, fos-sli ool, chky, p-f int xtl-pp por, NS  
 Sh red-grn-gry, calc  
 Ls crm-lt gry, fn xtl, fos, chky, p-f int xtl & int frag por, NS  
 Ls crm-lt gry, vfn xtl, sli chty, dnse  
 Sh grn-gry  
 Ls crm-lt gry, fn xtl, fos, chky, p-f int xtl-pp por, NS  
 Sh grn-gry  
 Ls crm, vfn xtl, chty, dnse  
 Ls crm, fn xtl, fos, chky, p-f int xtl-pp por, NS  
 Ls crm, vfn xtl, chty, dnse  
 Ls crm-lt gry, fn xtl, ool, p-f ooc por, NS  
 Ls lt gry, vfn xtl, dnse  
 Sh gry, calc  
 Ls crm-lt gry, vfn xtl, sli chky, dnse  
 Sh blk, carb  
 Ls crm-lt gry, fn xtl, sli fos, sli chky, dnse  
 Sh gry-dk gry, calc  
 Ls crm-lt gry, fn xtl, fos, sli chky, p int xtl-pp por, sptd blk stn on few pcs, VSSFO, no odor, dull fluor  
 Ls crm-lt gry, vfn xtl, dnse  
 Sh blk, carb  
 Ls crm-tan, vfn xtl, dnse  
 Sh grn-gry, calc in prt  
 Ls crm-lt gry, fn xtl, fos, chky, sli chty, p-f int xtl-pp por, NS  
 Sh red-grn-gry, calc in prt  
 Ls crm-lt gry, fn xtl, fos-ool, chky, p int xtl-pp por w/sme ooc por, NS  
 Ls tan-brn, vfn xtl, dnse  
 Sh blk, carb  
 Sh grn-gry, calc  
 Ls crm-lt gry, fos-sli ool, chky, f int xtl-pp por w/scat vugs, sptd-sat stn, SFO, strong odor, f-bri fluor  
 Ls crm-lt gry, vfn xtl, dnse  
 Sh blk, carb  
 Sh grn-gry  
 Ls crm-lt gry, vfn xtl, sli chky, sli chty, dnse  
 Sh gry-dk gry  
 Ls gry, vfn xtl, dnse  
 Sh red-gry, calc  
 Sh red-grn, silty  
 Sh grn-gry  
 Ls crm-lt gry, vfn xtl, sli fos, sli chky, dnse  
 Sh blk, carb  
 Ls crm-lt gry, fn xtl, fos, chky, p int xtl-pp por, NS  
 Ls crm-lt gry, vfn xtl, dnse  
 Ls tan-gry, vfn xtl, w/gry Sh & silts  
 Sh grn-gry  
 Sh blk, carb  
 Ls lt gry-gry, vfn xtl, dnse  
 Sh grn-gry-dk gry, silty  
 Ls crm-tan, fn xtl, fos, chky, dnse  
 Ls lt gry-gry, vfn xtl, w/int bed gry Sh  
 Ls crm-tan-gry, vfn xtl, sli chty, wlt gry-gry Sh  
 Sh blk, carb  
 Ls crm-tan, fn xtl, fos, chky, no vis por  
 Ls crm-lt gry, vfn xtl, fos, sli chty, dnse  
 Sh blk, carb  
 Ls lt gry-gry, fn xtl, arg in prt, w/grn-gry Sh  
 Ls crm-tan, vfn xtl, fos, dnse  
 Ls tan-gry, vfn xtl, chty, dnse  
 Sh blk, carb  
 Ls tan-gry, fn xtl, ool, sli chty, p int ool por, NS  
 Ls crm-tan, vfn xtl, sli chty, dnse  
 Sh gry  
 Ls tan-gry, vfn xtl, dnse  
 Sh blk, carb  
 Ls crm-lt gry, vfn xtl, dnse  
 Sh grn-gry, w/tan-gry fn xtl Ls  
 Ls crm-lt gry, vfn xtl, dnse  
 Sh blk, carb, w/gry fn xtl Ls  
 Ls tan-gry, vfn xtl, dnse  
 Sh gry-grn-red  
 Ls crm-tan-gry, vfn xtl, fos-sub ool, p-f int xtl & pp-vug por, sptd-sli sat dk stn, SSFO, f odor, no fluor  
 Ls crm, fn xtl, chky, dnse  
 Sh gry-blk  
 Ls crm-lt gry, mic xtl, dnse  
 Sh var col, silty  
 Ls crm-tan, mic xtl, dnse  
 Ls crm, mic xtl, v sandy, v chky, dnse  
 Ls crm-lt gry, mic fn xtl, sli sandy, dnse  
 Ls crm-lt gry, vfn xtl, sli sandy, dnse  
 Sh dk gry-dk gry  
 Ls crm-lt gry, vfn xtl, sli sandy, dnse  
 Ls crm-lt gry, mic xtl, dnse

REMARKS  
 Anhydrite 2492(+501)  
 Base/ Anhydrite 2516(+477)  
 Heebner 3974 (-981)  
 Toronto 4003 (-1010)  
 Lansing 4018 (-1025)  
 Muncie Creek 4161 (-1168)  
 4247 (-1254)  
 B/K.C. 4317 (-1324)  
 Marmaton 4344 (-1351)  
 Pawnee 4446 (-1449)  
 Myric Station 4484 (-1491)  
 Fort Scott 4500 (-1507)  
 Cherokee Shale 4531 (-1538)  
 Johnson Zone 4573 (-1580)  
 4566'-4599'  
 Mississippi 4618 (-1625)  
 Total Depth 4700 (-1707)