API #15-165-22072

Saman Sharifaie
Petroleum Geologist

GEOLOGIST'S REPORT
DRILLING TIME AND SAMPLE LOG

OPERATOR	Ritchie Exploration, Inc.
LEASE	Miller "A"
WELL	#1
LOCATION	2310' FNL & 2310' FEL
	Sec. 31-T16S-R19W
COUNTY	Ellis County, Kansas
CONTRACTOR	Discovery Drilling Rig #2
SPUD	09/13/14 CASING
RTD	3650' 8 5/8" @ 225'
LTD	3648' 4 1/2" @ 3649'
MUD UP	Chemical
DRILLING TIME KEPT FROM	3000' TO RTD
GEOLOGICAL SUPERVISION FROM	3700' TO RTD
TOOLS	Chase Group
ELEVATION	KB 2194' DF 2192' GL 2189'
	ELECTRICAL SURVEY BY: Company
	CNS, DIL, MEL

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REMARKS: Due to poor shows of oil in multiple potential pay zones and negative DST results, it is recommended and agreed upon by all parties that this well be plugged and abandoned.

Respectfully Submitted,

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Tops have been adjusted to electric logs

Curve Track 1
KB (feet)
Gamma (API)
Caliper (inches)

Curve Track 2
KB (feet)
Gamma (API)
Caliper (inches)

Formation	Sample Tops	Log Tops	Datum
Anhydrite	1131	1127	+1063
Base	1368	1365	+826
Topeka	3179	3175	-985
Deer Creek	3226	3222	-1032
Lecompton	3285	3281	-1091
Oread	3352	3348	-1158
Heebner	3456	3452	-1262
Toronto	3474	3470	-1280
Lansing	3502	3498	-1308
Stark	3739	3735	-1545
BKC	3770	3766	-1576
Pawnee	3811	3807	-1617
Ft. Scott	3870	3866	-1676
Cherokee Sh.	3900	3896	-1706
Arbuckle	3930	3926	-1736
RTD	3650	3650	-1456
LTD		3648	

Depth	Geologic Descriptions	Engineering Data
KB (feet)		
1100	**Anhydrite 1131 (+997)**	
1200	**Base 1368 (+775)**	
2000	**DAILY PENETRATION @ 7:00 AM** 09/14/14 - Drilling at 2,415 PM 09/15/14 - Drilling at 402 09/16/14 - Drilling at 2140' 09/17/14 - Drilling at 3,000' 09/18/14 - Drilling at 3440' 09/19/14 - Drilling at 3750' 09/20/14 - Testing at 3918' 09/21/14 - Plugging at 4030'	K.D.T. @ 3941' Wt. 9.2 Vis. 53 Ch. 6,000 LCM: 2#
2100	Lm, cemtrong fr ch, tbss, pr mcpr, calc ff tr/ bl in chip, mfp ff vis	
2200	Bl, gry, vf-mg, pyn	
2300	Lm, tcs, Dolo P	
2400	Lm, cmcrse, rsdr, tr bn, 3-7 yl ribbon por, dns, bdy calc ff chip, pcp pfk, vis	
2500	Bl, pcpyp, pl ally/ tr gray, mcsr P, pyn	
2600	Lm, lmcpcrsrs, fr ch, 3-7 yl ribbon por, pmd fMF dns, calc, chip, pcp	
2700	Bl, pcpyp, pl fbs, pyn	
2800	Bl, gry pcrs	
2900	Lm, cemtrong, rsdr ff, chk ch, fossil, pr mcpo, calc ff, tr/ bn chip, mfp ff pfk, vis	
3000	**Topeka 3179 (-1033)**	K.D.T. @ 3941' Wt. 9.2 Vis. 53 Ch. 6,000 LCM: 2#
3100	Lm, glcmicrsrs, fr ch, tbss ff, 3-yl ribbon pcs, calc, dns, pmd bdy, vsl, vis	
3200	Lm, pcpbrs, chk ch, cyl frgmt calc pcs, dns, bdy, tcs, vis	
3300	Bl, pcpy, fbs, pyn	
3400	Lm, pcpbrs, ch fbs, fossil P, cyl ch pcs, dns, bdy, tcs, vis, dns, slg, v	
3500	Lm, pcpyp, tcs, pyn, ally P	
3600	**Deer Creek 3226 (-1080)**	
3700	Lm, pcpbrs, fr ch, ch fbs, mcpo ch pcs, pl dns, slt P, tcs to tbss, vis	
3800	Lm, tcs, mcr dns, MIP	
3900	Bl, gry, vf-mg, fos ff, pcs P	
4000	Lm, cemtrong, fr ch, tbss, pr ch, dns, vsl, chk, slang to chip, slg, vis	
4100	Bl, pcpyp, ally ff, fos ff, tr dy p, mcs pcs	
4200	Lm, tbs, fr ch, fos, T-yl Dolo pcs, calc, tr ch, slg, T-dk gry chip, vis	
4300	Bl, dk pcpyp fos, ally P	
4400	Bl, pcpyp, tr fos **LeCompton 3285 (-1151)**	
4500	Lm, cmcrse, d ch, MIP, dns, bdy, pcs ff, vis	
4600	Bl, pcpyp, mcs P, pcs & ally ff	
4700	Lm, cemtrong, rsdr ff, chk ch, pr ribbon pcs, pl dns, calc, chip, vis	
4800	Lm, tcs, slg, ally, MIP, dns, bdy, vis	
4900	Bl, pcpyp, dk fos ff	
5000	Lm, tcs, P	
5100	Bl, pl pcbrs, vis	
5200	Lm, cemtrong fr ch, fossil, tbss, 3-yl Dolo pcs, dns, bdy, tcs, vis	
5300	Bl, pcpyp, pl ally	
5400	Lm, tcs, P	
5500	Lm, tcs, tr ch, p-fr ribbon & Dolo pcs, sl dns ff, calc ff, chip, vis	
5600	Lm, tcs, p ff	
5700	Lm, tcs/cgy, fr ch, tbss, T-Dolo pcs, nugg ff P, calc ff, v chip, vis	
5800	**Oread 3352 (-1224)**	
5900	Lm, tcs/cgy, fr ch, tbss, T-yl Dolo pcs, dns, calc ff, v chip, vis	
6000	Lm, cemtrong, fr ch, tbss, T-yl Dolo pcs, nugg ff P, v chip, vis	
6100	**Heebner 3456 (-1318)**	
6200	Bl, ch, calc	
6300	Bl, dk pcpyp, ally ff, vs calc	
6400	**Toronto 3474 (-1336)**	
6500	Lm, cmcrse, fr ch, fossil ff, p-fr ribbon pcs & tbss pcs, dns, sl P, tr dy, bdy ff, tcs, T-yl, vis	
6600	Bl, pcpyp, ally P	
6700	Bl, pcpyp, ally ff	
6800	**Lansing 3502 (-1364)**	
6900	Lm, cmcrse, chk ch, fossil ff, p-fr ribbon pcs, dns, bdy, calc ff, slang to chip, v T-bn dn, vis, tr bl, P gn fos, MIP	K.D.T. @ 3948' Wt. 9.3 Vis. 53 Ch. 6,000 LCM: 2#
7000	Bl, pcpyp, pcs P	20-60-60-90 IF: Blow built to 4 1/2" 20 min return FF: Blow built to 6" 30 min return Rec: 10' GCM (recovered 10 ft)* Rec: 31' FO (100%OIL) TIP: BOW (TOP, TOP, TOP)
7100	Lm, cemtrong, rsdr ff, chk ch, fossil, p-fr ribbon & sm pcs, dns, bdy, calc ff, pcp, chip, vis	
7200	Lm, tbs, slang, fr ch, ch fbs, p-fr ribbon, v fos ch, fr P, pcp, chip, tcs, vis, dns, v slg	**DST #1** Lansing 3502 - 3518' 3948'
7300	Lm, cmcrse, fr ch, tbss, p-fr ribbon pcs, dns, bdy, calc ff, chip, tcs, vis	
7400	Lm, cmcrse, fr ch, tbss, p-fr ribbon pcs, dns, bdy, calc ff, chip, tcs, vis	
7500	Lm, cmcrse, fr ch, tbss, p-fr ribbon pcs, dns, bdy, calc ff, chip, tcs, vis	
7600	Lm, cmcrse, fr ch, tbss, p-fr ribbon pcs, dns, bdy, calc ff, chip, tcs, vis	
7700	Lm, tcs, dns, pyn	
7800	Lm, tcs, dns, pyn	
7900	Lm, tcs, dns, pyn	
8000	Lm, tcs, dns, pyn	