

Jeff Christian

PETROLEUM GEOLOGIST

Wichita, Kansas

GEOLOGISTS' REPORT

DRILLING TIME AND SAMPLE LOG

OPERATOR: **MUSEFIN DRILLING COMPANY**
 LEASE: **LITTLER LLC 'B' # 1-32**
 LOCATION: **335' FINL & 2305' FEL**

SEC. **32** TWP. **16 S** R. **19 W**
 COUNTY: **RUSH** STATE: **KANSAS**
 FIELD: **HAMPTON NORTHEAST**

API: **15-165-22082**

CONTINGENT: **COMPLANTY TOOLS** RIG NO. **16**
 DRILLING STARTED: **07/03/2014** COMPLETED: **07/17/2014**
 MUD DISPLACED: **2837** MUD TYPE: **CHEMICAL**
 DRILLING TIME KEPT FROM: **3010'** TO: **RTD**
 SAMPLES SAVED FROM: **3010'** TO: **RTD**
 SAMPLES EXAMINED FROM: **3010'** TO: **RTD**
 GEOLOGICAL SUPERVISION FROM: **3060'** TO: **RTD**

MEASUREMENTS FROM KGS
 CASING RECORD
 Conductor: **NONE**
 Surface: **8 5/8" @ 217'**
 W/ 150 SX
 Production: **NONE**

FORMATION NAME LOG SAMPLE TOP DATE TIME TOP DATE TIME
 ANHYDRITE 1302' (-762) 1304' (-760) 1304' (-725)
 BASE ANHYDRITE 1340' (-724) 1339' (-725)
 TOPEKA 3108' (-1044) 3112' (-1048)
 HEEBNER 3396' (-1332) 3396' (-1332)
 TORONTO 3441' (-1350) 3416' (-1352)
 LANSING 3441' (-1377) 3442' (-1378)
 BKC 3698' (-1634) 3698' (-1634)
 PAWNEE 3741' (-1672) 3739' (-1675)
 ARBUCKLE 3805' (-1741) 3812' (-1748)
 TOTAL DEPTH 3913' (-1849) 3910' (-1846)

DATE	7:00 AM DEPTH	REMARKS
7/3/14	MIRT	SPUD 2:00 pm
7/4/14	630'	DRLG. dev. 1/4 deg. @ 220'
7/5/14	2240'	Twisted Off @ 2764'. Fished 12 Drill Collars & Bit
7/6/14	2780'	DRLG.
7/7/14	3310'	DRLG.
7/8/14	3680'	DRLG.
7/9/14	3816'	TOH w/ DST # 2 dev. 1 deg.
7/10/14	3836'	OB w/ DST # 4 RTD 3910' @ 6:40 pm dev. 1 1/4 deg.
7/11/14	3910'	Finish logging @ 5:00 am

Remarks
 The Littler LLC 'B' #1-32 was declared dry and abandoned.
 All shows of oil were drill stem tested and condemned.

Electric log measurements correlate about even compared to rotary measurements.

Samples deposited at the Kansas Geological Survey.

Respectfully Submitted,
Jeff Christian
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LITH	DRILL TIME (MIN/FT)	10	DEPTH (FT)	SAMPLE DESCRIPTIONS	REMARKS
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