

Jeff Christian

PETROLEUM GEOLOGIST

WICHITA, KANSAS

GEOLOGISTS' REPORT
 DRILLING TIME AND SAMPLE LOG

OPERATOR: **MURFIN DRILLING COMPANY**
 LEASE: **JONES # 1-12**
 LOCATION: **1390' FSI & 1800' FWL**

SEC: **12** TWP: **1 S** RANG: **38 W**
 COUNTY: **CHEYENNE** STATE: **KANSAS**

API FIELD: **WLDLCAT**
 15-02-23-21355

CONTRACTOR: **COMPANY TOOLS** RING NO. **14**
 DRILLING STARTED: **01/08/2013** COMPLETED: **01/18/2013**
 MUD DISPLAYED: **3302** MUD TYPE: **CHEMICAL**
 DRILLING TIME KEPT FROM: **3400'** TO RTD
 SAMPLES SAVED FROM: **3400'** TO RTD
 SAMPLES SKIPPED FROM: **3400'** TO RTD
 GEOLOGICAL SUPERVISION FROM: **3895'** TO RTD

MEASUREMENTS:
 CASING RECORD
 SURFACE: **5.80' @ 23'**
 W/ LOSS: **3X**
 CONDUCTOR: **NONE**
 PRODUCTION: **NONE**

FORMATION NAME LOG SAMPLE DATE
 ANHYDRITE 3144' (-31) 3145' (-30)
 NEVA 3594' (-49) 3594' (-49)
 FORAKER 3718' (-54) 3716' (-54)
 TOPEKA 3937' (-76) 3932' (-76)
 LANSING 4146' (-97) 4145' (-97)
 STARK 4375' (-120) 4374' (-119)
 BKC 4432' (-128) 4434' (-129)
 PAWNEE 4553' (-137) 4550' (-137)
 CHEROKEE 4643' (-148) 4640' (-148)
 TOTAL DEPTH 4727' (-152) 4725' (-150)

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DATE	7:00 AM DEPTH	REMARKS
1-8-13	MIRT	SPUD @ 8:00 pm
1-9-13	225'	WOC dev. 1/2 deg.
1-10-13	2175'	DRLG.
1-11-13	3380'	DRLG.
1-12-13	3740'	OB w/ DST # 1
1-13-13	4086'	DRLG.
1-14-13	4221'	TOH for DST # 3 dev. 2 deg.
1-15-13	4340'	TOH for DST # 4
1-16-13	4380'	TOH after DST # 5
1-17-13	4550'	TOH after DST # 6 RTD 4725' @ 5:00 pm dev. 2 deg.
1-18-13	4725'	Finish Lagging 4:00 am; DST 7 (straddle); P&A

Remarks
 All sample shows of free oil were drill stem tested and condemned in the Jones # 1-12.
 Electric log measurements correlate about 1' to 2' deep compared to rotary measurements.
 Sample tops adjusted to the electric log.
 Samples deposited at the Kansas Geological Survey.
 Respectfully Submitted,
Jeff Christian
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