

Jeff Christian

PETROLEUM GEOLOGIST

Wichita, Kansas

GEOLOGISTS' REPORT

DRILLING TIME AND SAMPLE LOG

OPERATOR MURKIN DRILLING CO., INC. LEASE HILLERS # 4-19 LOCATION 800' FWL & 1450' FWL SEC. 19 TWP. 9 S RING. 18 W COUNTY ROCKS STATE KANSAS FIELD MAYHEW API 15-163-23965 CONTRACTOR MURKIN COMPANY COMPETEED Z/15/2011 RIG NO. 8 DRILLING STARTED 7/8/2011 MUD TYPE CHEMICAL MUD DISP AGED 2754 MUD WEIGHT 7.15/2011 DRILLING TIME: FROM 3000' TO RTD SAMPLES SAVED FROM 3000' TO RTD SAMPLES EXAMINED FROM 3000' TO RTD GEOLOGICAL SUPERVISION FROM 3020' TO RTD	ELEVATIONS BK 2157' GL 2152' MEASUREMENTS FROM K.A.B. CASINO RECORD CONDUCTOR NONE Surface 8.8 deg @ 218' W/ 1/55 SW @ 218' Production 1 1/2" @ 3667'
FORMATION NAME ANHYDRITE 1517' (+641) LOG DATE/TIME 1517' (+640) SAMPLE B-H/S	FORMATION NAME ANHYDRITE 1552' (+605) LOG DATE/TIME 1552' (+602) SAMPLE B-H/S
FORMATION NAME TOPEKA 3081' (-924) LOG DATE/TIME 3081' (-924) SAMPLE B-H/S	FORMATION NAME HEEBNER 3291' (-1134) LOG DATE/TIME 3291' (-1134) SAMPLE B-H/S
FORMATION NAME TORONTO 3310' (-1153) LOG DATE/TIME 3310' (-1153) SAMPLE B-H/S	FORMATION NAME LANSLING 3330' (-1173) LOG DATE/TIME 3330' (-1173) SAMPLE B-H/S
FORMATION NAME BKC 3546' (-1389) LOG DATE/TIME 3546' (-1389) SAMPLE B-H/S	FORMATION NAME ARBUCKLE 3569' (-1412) LOG DATE/TIME 3569' (-1412) SAMPLE B-H/S
FORMATION NAME RTD 3670' (-1513) LOG DATE/TIME 3670' (-1513) SAMPLE B-H/S	FORMATION NAME RTD 3670' (-1513) LOG DATE/TIME 3670' (-1513) SAMPLE B-H/S

DATE	7:00 AM DEPTH	REMARKS
7/8/11	MIRT	SPUD 3:30 pm
7/9/11	250'	DRLG dev. 1/4 deg @ 218'
7/10/11	1810'	DRLG
7/11/11	2770'	DRLG
7/12/11	3396'	SHORT TRIP (prior to dst # 1) dev. 2 deg.
7/13/11	3432'	TOH w/ DST # 2
7/14/11	3532'	TIH after DST # 3
7/15/11	3608'	RTD 3670' @ 10:30 am dev. 2 1/4 deg.

Remarks

5 1/2" production casing set to further test the Arbuckle formation.

Electric log measurements correlate about even to 1' high compared to rotary measurements.

Sample tops adjusted to the electric log.

Samples deposited at the Kansas Geological Survey.

Respectfully,
Jeff Christian
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