

Jeff Christian

PETROLEUM GEOLOGIST
Wichita, Kansas

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

OPERATOR **NORTHERN LIGHTS OIL CO.**
LEASE **RHONDA #1**
LOCATION **2310' FSL & 2040' FWL**

SEC. **15** TWP. **17S** R. **20W**
COUNTY **RUSH** STATE **KANSAS**
FIELD **WILDCAT**

API **15-165-22169-00-00**
CONTRACTOR **SOUTHWIND** RIG NO. **3**
DRILLING STARTED **06/06/2019** COMPLETED **06/13/2019**
MUD DISPLACED **3095'** MUD TYPE **CHEMICAL**
DRILLING TIME KEPT FROM **3400'** TO **RTD**
SAMPLES SAVED FROM **3400'** TO **RTD**
SAMPLES EXAMINED FROM **3400'** TO **RTD**
GEOLOGICAL SUPERVISION FROM **3965'** TO **RTD**

FORMATION NAME	TOP	LOG DATUM	TOP	SAMPLE
ANHYDRITE	1382'	(+768)	1383'	(+767)
BASE ANHYDRITE	1415'	(+735)	1418'	(+732)
HEEBNER	3518'	(-1368)	3519'	(-1369)
LANSING	3562'	(-1412)	3564'	(-1414)
BKC	3836'	(-1686)	3836'	(-1686)
PAWNEE	3925'	(-1775)	3918'	(-1768)
LABETTE	3977'	(-1827)	3974'	(-1824)
CHEROKEE SD.	3996'	(-1846)	3996'	(-1846)
TOTAL DEPTH	4064'	(-1914)	4065'	(-1915)

ELEVATIONS
KB **2150'**
GL **2140'**

MEASUREMENTS FROM KB

CASING RECORD
Conductor **NONE**

Surface **8 5/8" @ 253'**
W/ **180 SX**
Production **5 1/2" @ 4065'**
W/ **175 SX**

ELECTRICAL SURVEYS:
Pioneer:
DIL
CML/DL
MEL

DATE	7:00 AM DEPTH	REMARKS
6/6/19	MIRT	SPUD 5:45 pm
6/7/19	266'	WOC
6/8/19	1710'	DRLG.
6/9/19	2717'	DRLG.
6/10/19	3420'	DRLG.
6/11/19	3945'	DRLG.
6/12/19	3997'	CTCH after DST # 1
6/13/19	4065'	Logging RTD 4065' @ 2:45 am dev. 1 deg. Finish Logging @ 9:30 am

Remarks

5 1/2" production casing set to further test the Cherokee sand.

Electric log measurements correlate about even compared to rotary measurements.

Samples delivered to to Kansas Geological Survey in Wichita.

Respectfull Submitted,
Jeff Christian
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LITH	0	DRILL TIME (MIN/FT)	10	DEPTH	SPM	SAMPLE DESCRIPTIONS	REMARKS
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