

JERRY A. SMITH

CERTIFIED PETROLEUM GEOLOGIST

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY: RITCHIE EXPLORATION, INC.
 ELEVATIONS

LEASE: #1 DEGES 36D
 FIELD: GRAMMEL WEST
 LOCATION: 1495 FSL & 1180' FEL
 SECTION: 36
 TWP: 10
 RANG: 29 W
 COUNTY: SHERIDAN
 STATE: KANSAS

CONTRACTOR: WILBROS, INC.
 SPTD: 11/05/14
 RFD: 4/27/15
 MUD UR: 4000
 API No. 15-19-21381

DRILLING TIME KEPT FROM: 2280/350
 SAMPLES EXAMINED FROM: 3880
 GEOLOGICAL SUPERVISION FROM: 3880
 GEOLOGIST ON WELL: JERRY A. SMITH

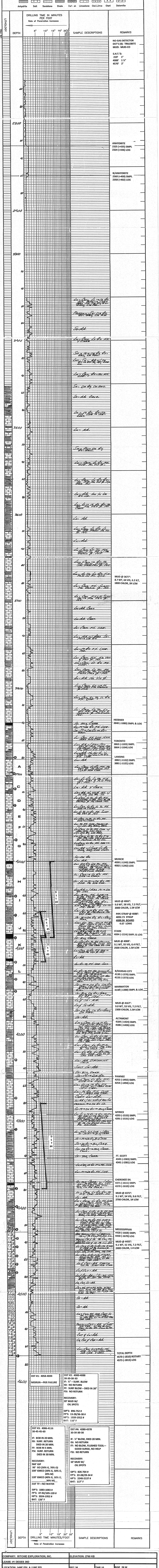
FORMATION TOPS LOG
 ANHYDRITE 2324 (+435)
 HEEDNER 3863 (-1103)
 LANSING 3882 (-1122)
 STARK 4084 (-1324)
 BIRKENS CITY 4130 (-1370)
 PAVINE 4252 (-1432)
 MYRICK 4291 (-1531)
 FT. SCOTT 4341 (-1581)
 CHEROKEE SH. 4370 (-1610)
 MISSISSIPPIAN 4430 (-1670)

SAMPLES
 2325 (+435)
 3860 (-1080)
 3882 (-1122)
 4084 (-1324)
 4130 (-1370)
 4252 (-1432)
 4291 (-1531)
 4341 (-1581)
 4371 (-1611)
 4428 (-1668)

MEASUREMENTS AND ALL FORMS
 KB
 D.F. 2755

NO GAS DETECTOR
 DST'S (4): TRILOBITE
 MUD: MUD-CO
 S.H.T.'S:
 219' 1"
 4088' 1 1/2"
 4570' 2"

DRILLING TIME PER FOOT
 Rate of Penetration Increases



COMPANY: RITCHIE EXPLORATION, INC.	ELEVATION: 2760 KB
LEASE: #1 DEGES 36D	SEC 36
LOCATION: 1495 FSL & 1180' FEL	TWP 10
COUNTY: SHERIDAN	RGE 29 W
STATE: KANSAS	