



GEOLOGIST'S REPORT
DRILLING TIME AND SAMPLE LOG

Geologist on Well: Alex Chapin

LEASE: Norton C #4

FIELD: Lazy L7 West

LOCATION: 470 FYNL 5000 FWL

SEC: 24 TWP: 17S RGE: 26W

COUNTRY: Ness STATE: Kansas

CONTRACTOR: Duke Drilling Rig #4

SPUD: 09/6/13 COMP: 09/14/13

RTD: 4500 LTD: 4500

MUD UP: 3700 TYPE MUD: CHEMICAL

SAMPLES SAVED FROM: 3700 TO: RTD

DRILLING TIME KEPT FROM: 3600 TO: RTD

SAMPLES EXAMINED FROM: 3700 TO: RTD

GEOLOGICAL SUPERVISION FROM: 3600

REFERENCE WELL: Norton-Kierhart #1 24-17S-26W

FORMATION: Pioneer

Sample Tops: E-log Tops

Structure: 2-4

Analysis: 1839 (+659) 1838 (+660)

Base Analysis: 1870 (+628) 1870 (+680)

Heebner: 3777 (-1279) 3777 (-1279)

Lansing: 3819 (-1311) 3818 (-1320)

BKC: 4124 (-1626) 4128 (-1622)

Fort Scott: 4326 (-1828) 4322 (-1824)

Cherokee Shale: 4348 (-1850) 4347 (-1849)

Mississippi: 4428 (-1930) 4428 (-1930)

RTD: 4438 (-1940)

LTD: 4439 (-1941)

CONDUCTOR: SURFACE: 8.58" @ 222'

PRODUCTION: 5 1/2" @ 4431

ELECTRICAL SURVEYS

D.L. DUCP

Measurements Are All From Kelly Bushing

CASINGS

REMARKS: Based on the positive structural position and the oil recoveries from both DST #1 and DST #2, it was decided to run 5-1/2" production casing to further test the Norton C #4.

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