

GEOLOGICAL REPORT

Larry A. Nicholson

NAD 83
39.948237
-101.308736

COMPANY & WELL
Murfur Drilling Co. John 'A' #1-24
LOCATION 1380' FSL 2310' FWL S2 SE NE SW
SEC 24 TWP 1S RGE 36W
COUNTY Rawlins STATE Ks

Murfur Drilling Company, Inc.
API # 15-153-21141 FIELD, Darkwing Southwest
LEASE John 'A' #1-24
LOCATION S2 SE NE SW
SURVEY 1380' FSL 2310' FWL
SECTION 24 TWP 1S RGE 36W
COUNTY Rawlins STATE Kansas

ELEVATIONS
K.B. 3264
D.F. _____
G.L. 3253
All measurements from K.B. 3264

CONTRACTOR Murfur Drilling Company, Inc. Rig # 2
SPUD 5:30 pm 6-10-15 COMP. E.B. 3264
RTD 4776 11:43am 06-17-15 LTD 4776 D.F. _____
MUD UP AT 3260 G.L. 3253
MUD TYPE Chemical_Morgan Acid All measurements from K.B. 3264

SAMPLES SAVED FROM 3600 TO RTD CASING RECORD
DRILLING TIME FROM 3600 TO RTD Surface of _____ wf _____ sx
SAMPLES EXAMINED FROM 3600 TO RTD Conductor of 8.5/8 23H wf 185 _____
GEOLOGICAL SUPERVISION FROM 3600 TO RTD Production of _____ wf _____ sx
WELLSITE GEOLOGIST LARRY A. NICHOLSON

ELECTRICAL SURVEYS Pioneer, Den, Neu, Dual, Micro, Sonic

FORMATION TOPS & STRUCTURAL POSITION

FORMATION	SAMPLE TOPS	SUBSEA DATUM	ELEC LOG TOPS	SUBSEA DATUM	REFERENCE WELL
Anhydrite	3172	+92	3172	+92	3158 +97 -5
B/Anhydrite	3202	+62	3202	+62	3190 +65 -3
Neva	3664	-400	3664	-400	3653 -398 -2
Forker	3808	-544	3808	-544	3794 -539 -5
Topeka	3992	-728	3992	-728	3976 -721 -7
Oread	4106	-842	4106	-842	4094 -839 -3
Lansing	4210	-946	4210	-946	4200 -945 -1
Stark Sh	4426	-1162	4426	-1162	4410 -1155 -7
BKC	4474	-1210	4474	-1210	4456 -1201 -9
Pawnee	4600	-1336	4600	-1336	4583 -1308 -8
Cherokee Sh	4680	-1416	4680	-1416	4663 -1408 -11
RTD	4776	-1512	4776	-1512	4781 -1525
LTD	4776	-1512	4776	-1512	4780 -1526

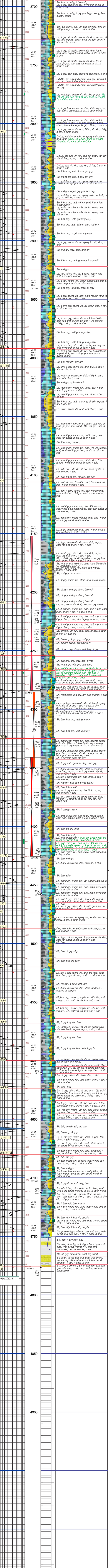
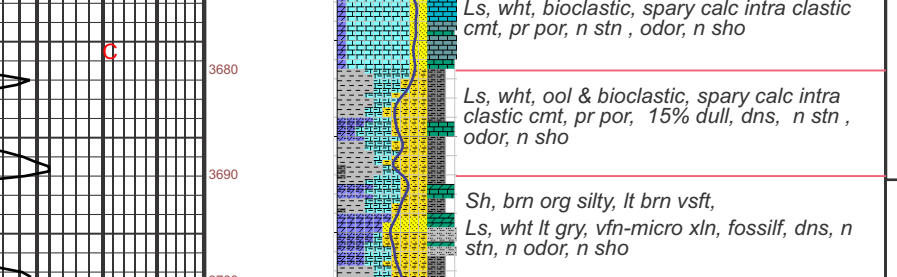
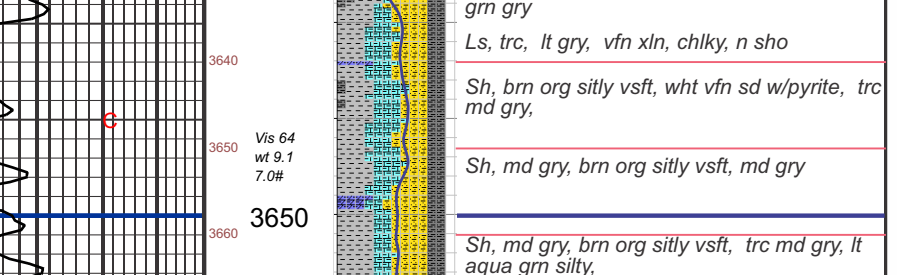
REFERENCE WELLS
A: Murfur Drilling - Burk Trust 'J' #1-25, 610' FNL 1590' FEL, Sec 25 T1S R36W KB 3255
B: _____

REMARKS & RECOMMENDATIONS:
Based on sample shows and dst results in the Lansing J zone, 5 1/2" csq was set.

*Note Rig and Loggers are on same depth. Good job by all.

LAN 7/82, Modified 5/05, 11/11, 4/12 Hanover, KS 66945 1inch = 25.4mm 8.5 x 9.5 216 mm x 2460 mm

LEGEND



COMPANY Murfur Drilling Company, Inc. ELEVATIONS
LEASE John 'A' #1-24 S2 SE NE SW K.B. 3264
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COUNTY Rawlins STATE Ks G.L. 3253
All measurements from K.B. 3264