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GEOLOGIC REPORT LOG

COMPANY: Downing-Nelson Oil Co, Inc.
WELL: Scott #1-15
FIELD: Wildcat
LOCATION: 1750' FNL & 1870' FWL
SEC. 15 TWP. 21s RGE. 20w
COUNTY: Pawnee
STATE: Kansas

Section plat: 21s 20w, 15

PRODUCTION: Miss
ELEVATION: KB 2104 DF GL 2098
Drilling Measured From: KB
Samples Saved From: 3500 To: TD
Drilling Time From: 3500 To: TD
Samples Examined From: 3500 To: TD
Geological Supervision From: 3500 To Total Depth
Wellsite Geologist: A. Downing - M. Downing
Electrical Surveys: Pioneer
CDNL/DIL - Microlog
Sonic - DIL

OPERATOR: DNOCI
CONTRACTOR: Discovery Drilling, Rig #4
COMM: 4-01-13 COMP: 4-11-13

CASING RECORD
SURF: 8 5/8" - 191'
PROD: 5 1/2 - 4246'
TOTAL DEPTH DRILLERS: 4243
TOTAL DEPTH LOG: 4250

FORMATION TOPS AND STRUCTURAL POSITION

FORMATION	SAMPLE TOP	ELECTRIC LOG TOP	SUB-SEA DATUM	STRUCTURAL POSITION
Top Anhydrite	1229	1226	+881	+14
Base Anhydrite	1252	1250	+856	+17
Heebner	3582	3586	-1478	+29
Lansing	3634	3640	-1534	+21
Stark Shale	3882	3888	-1782	+80
BKC	3955	3960	-1854	+31
Fort Scott	4125	4128	-2022	+36
Cherokee Shale	4141	4144	-2039	+31
Cherokee Sand	4144	4150	-2044	+34
Miss	4200	4204	-2098	+36

REFERENCE WELL FOR STRUCTURE: Schreiner Petroleum
Riederer #1 SE-SE-SE Sec 10-21s-20w

DRILL STEM TESTS

No.	Interval	IFP/Time	ISIP/Time	FFP/Time	FSIP/Time	Recovery

REMARKS AND RECOMMENDATIONS:

It was decided to run 5 1/2 casing and produce the Miss and Cherokee Sand.

LEGEND
Anhydrite, Salt, Sandstone, Shale, Carb sh, Limestone, Ool. Lime, Chert, Dolomite

DRILLING TIME IN MINUTES PER FOOT (Rate of Penetration Decreases: 5'' 10'' 15'')	DEPTH	LITHOLOGY	SAMPLE DESCRIPTIONS	OIL SHOWS	REMARKS

Depth: 3500, 50, 3600, 50, 3700, 50, 3800, 50, 3900, 50, 4000, 50, 4100, 50, 4200, 50

Sample descriptions:

- Sh: Black Carb
- Sh: gry
- LS: wht, fn xln, chlky. Trnq dms w/ scat Foss
- Sh: gry - lt gry
- LS: Wht w/ tan, fn-md xln.
- Sh: drk gry
- Sh: gry
- LS: wht, Scat ool ox w/ gd oocø, v lt rnbw stn, NSFO, No Od. Fr amt chlky rx. Trnq prø + tite.
- Sh: gry
- LS: wht - lt tan, fn-vfn xln, prø. Scat oocø w/ rnbw stn, poss carry from "C" zone. Fr amt subxln-chlky rx. All NSFO, No Od. tan chts.
- Sh: drk gry
- LS: tan-brn, md xln, mttld in prt, prø, subxln in prt. Scat tan Foss chts.
- LS: tan, md xln, mttld w/ Foss. chlky w/ Scat oocø, barren. Trnq dms, prø. Much tan-brn chts.
- LS: wht-tan, ool. gd oocø, Totally barren w/ No Od.
- LS: tan-wht, mostly prø + dms. Scat tan chts.
- LS: wht, ool. Scat fr-gd oocø w/ subxln-chlky rx. Scat tan + wht shp chts. Trnq dms, All NS.
- Sh: Black Carb
- Sh: gry
- LS: wht, Scat oocø, barren. Trnq dms w/ gry-brn chts. All NS.
- Sh: gry
- LS: wht, fn-md xln. Mostly prø, scat subxln ox, fr amt tan-brn Foss chts.
- Sh: brn
- LS: tan, sml-md ool, gd oocø. Fr amt chlky wht rx, All NS w/ No Od.
- Sh: Black Carb
- LS: wht-tan. Scat gd oocø, mostly subxln-chlky. All NS w/ No Od.
- LS: wht-tan, fn-md xln. Scat Foss. All prø + dms.
- Sh: Black Carb
- LS: wht, scat ool w/ fr-gd oocø, fr amt subxln-chlky rx. Trnq prø + dms, All NS.
- Sh: lt gry
- LS: wht, fn-md xln, prø + dms
- Sh: gry w/ brn
- LS: A/A w/ scat Foss
- Sh: brn w/ gry. washes brn red.
- LS: wht, fn-md xln. Sml Foss, scat ppø, NS.
- Sh: gry
- LS: tan w/ wht, sub xln-chlky. Scat tan-brn chts, All NS.
- Sh: lt gry, trnq drk gry w/ blk.
- LS: tan-wht, fn xln. 1-2 rx w/ vlt brn stn, in pr ppø, NSFO, vfnt Od. Trnq NO visø + dms
- Sh: gry
- LS: tan, fn xln, prø + dms, No visø, NS. Trnq brn w/ depth
- Sh: Black Carb — 30 units
- Sh: gry
- LS: tan-brn, prø + dms.
- Sh: drk gry-blk
- LS: tan, md xln, Few Foss. pr-fr intxln + ppø. 3-4 rx w/ lt brn stn, rare sptd SFO, fnt-lt Od. R
- Sh: Black Carb
- SS: clr clust, md grain, fr rnd-sub ang, well sort. Fr IGø, Friable, fr amt dirty. 50% w/ fr rnbw stn when broken, vfnt Od, vdull Fluor.
- Sh: grn - silty w/ much interbedded wht LS. Units — No scl.
- Mostly red Sh, scat vdirty SS clust w/ dead blk stn.
- Cht: Mostly wht, some tan + yel. Some fresh, some slty weath. Scat fr brn stn, rare sptd SFO, Many barren ex. Fr Fluor, No Od. — 102 units
- Cht variegated dirty w/ good sat Brn stn (odor) gd SFO - gd odor some wht fresh chert - v. gd Fluor. — 123
- Mostly wht fresh w/ lots weathered wht ∆ w/ gd SFO - some dolomite ∆ in very weathered w/ gd SFO ft odor. Lite Brn sat stn - green Fluor. — 156
- Mostly wht fresh v. weathered w/ gd SFO - good odor becoming increas. wht-Vfn LS: leached ø - gilmore city — 147

DST #1 (DST intervals marked beside lithology: DST #1, DST #2, #3, #4, #5)

Remarks:

DST #1
4128-4158
30-45-30-45
Initial Flow: BOB 7" - NSIB
Final Flow: BOB open - NSIB
Rec: 840' grp
20' clean oil (36° API)
30' HGCM (40% oil)
IHP: 2059# FHP: 2056#
IFP: 18-20# FFP: 15-29#
SIP: 1393-1383#

DST #2
4171-4210
15-45-45-90
Initial Flow: BOB 30sec - 3" BB
Final Flow: Bob open - gts shut in
Rec: gts To small to measure
31' Drilling mud
IHP: 2117# FHP: 2007#
IFP: 22-21# FFP: 23-21#
SIP: 680-1228#

DST #3
4220-4226
15-45-45-90
Initial Flow: Bob 1" - NSIB
Final Flow: Bob open - gts shut in 36"
Rec: gts to small to measure
5' clean oil
125' GOCM 20% oil - 60 mud
IHP: 2119# FHP: 2004#
IFP: 60-36# FFP: 43-57#
SIP: 1279-1243#

DST #4
4220-4232
30-45-45-60
Initial Flow: Bob 30sec - 2 3/4" SI
Final Flow: Bob open gts 35" SI
Rec: 30' clean oil
120' GOCM 20% oil - 60 mud
gts to small to measure
IHP: 2113# FHP: 2107#
IFP: 43-49# FFP: 47-69#
SIP: 1196-1146#

DST #5
4231-4243
60-60-60-60
Initial Flow: Tool plugged 30"
Final Flow: Bob 3" - Surf. BB
IHP: 2023# FHP: 2105#
IFP: 41-55# FFP: 52-75#
SIP: 1168-1067#
Rec: 5' clean oil
120 SOCM 5% oil - 95 m

(signature) M. Downing