Noble Petroleum, Inc.

GEOLOGICAL REPORT
DRILLING TIME & SAMPLE LOG
REPORT PREPARED BY FRANK S. MIZE/GEOLOGIST

API#: 15-115-21,433

FRANK S. MIZE LICENSED 365 KANSAS GEOLOGIST

COMPANY	Noble Petroleum, Inc.
LEASE	Koehn #1
FIELD	WC
LOCATION	2,068' FSL & 1,875' FEL
SEC	19
TWSP	21S
RGE	5E
COUNTY	Marion
STATE	Kansas
CONTRACTOR	C&G Drilling, Rig #1
SPUD	7-14-12
COMP	7-18-12
SAMPLES SAVED FROM	1600' TO RTD

ELEVATION
K.B. 1378
D.F.
G.L. 1372

DEPTH MEASURED FROM KB
Log ___ Drilling ✓

CASING
Surface 8 5/8" @ 226'
Production NONE

Electric Logs
NONE

FORMATION	SAMPLE	E LOG	DATUM	A. Elog	B. Elog	C.
Oread	1396		-18		-19	
Heebner	1431		-53		-55	
Douglas	1460		-82		-83	
Brown	1631		-253		-245	
Lansing	1694		-316		-315	
Stark	1994		-616		-611	
Hushpuckney	2022		-644		-637	
BKC	2049		-671	-661	-665	
Marmaton	2110		-732	-720	-723	
Mississippian	2198		-820	-812	-813	
Kinderhook	2222		-844	-836	-832	
Hunton	2350		-972	-968	-959	
RTD	2354					

REFERENCE WELLS
A. C SW NE SE 19-21S-5E Thunderbird, Graham #1
B. C N/2 S/2 NE 19-21S-5E Pendleton, Greely #2
C.

Oread, Heebner & Douglas tops picked from Geolograph

1600

Shale: gray, slightly arrenaceous with some biotite

Shale: gray, slightly arrenaceous with some biotite

Brown Lime 1631 -253

Limestone: Light brown to off white, medium crystalline, little visible porosity, no show

Shale: gray to light gray

1650

Shale: gray to light gray

Shale: gray to light gray

Shale: gray to light gray, trace reddish brown

Lansing 1694 -316

Limestone: off white to light brown, medium to coarsely crystalline, no porosity, no show

1700 — vis 36 wt 9.3

Limestone: mottled off white to dirty gray, medium crystalline, very poor intercrystalline porosity, trace oolitic, oolicastic, no show

Limestone: off white to gray, medium to coarsely crystalline, some oolitic, oolicastic, little visible porosity, no show

Limestone: off white to gray, medium to coarsely crystalline, fair amount oolitic, oolicastic, little visible porosity, no show, some gray to green shale

Limestone: off white to gray, medium to coarsely crystalline, very poor intercrystallie porosity, trace heavy residual stain along fractured edges, no show free oil, no fluorescence, no odor, no cut, shale gray to green, trace pyrite

1750

Limestone: off white to gray to tan, medium to coarsely crystalline, dense, little visible porosity, no show, fossiliferous w/fusulinids

Limestone: gray, micritic, dense, no visible porosity, no show, some coarsely crystalline w/no porosity

Limestone: off white to grayish green, medium to coarsely crystalline, some densely oolitic, oolicastic, no visible porosity, no show

Limestone: off white to beige, coarsely crystalline, very poor intercrystalline porosity, 2 pieces w/heavy residual stain along fractured edges, no show free oil, no odor, no fluorescence, no cut

Shale: gray to green

Limestone: light brown, medium to coarsely crystalline, some good, most poor intercrystalline porosity, no show trace pyrite

1800

Limestone: light brown to tan to dark gray, medium to coarsely crystalline, dense, little visible porosity, no show, trace pyrite

Shale: dark gray

Limestone: off white to beige, medium to coarsley crystalline little visible porosity, no show

Limestone: off white to beige, medium to coarsley crystalline little visible porosity, no show

Limestone: beige to gray, fine to medium crystalline, some micritic, dense, little visible porosity, no show

Limestone: beige to gray, micritic, dense, little visible porosity, no show, fair amount opaque gray chert

1850

Limestone: off white to gray, medium to coarsely crystalline, some chalky, little visible porosity, no show

Shale: dark gray to green

Limestone: gray to dark gray, medium to coarsely crystalline dense, no visible porosity, no show

Limestone: off white, medium to coarsely crystalline, some chalky, little visible porosity, no show

Limestone: off white, medium to coarsely crystalline, some densely oolitic, oolicastic, little visible porosity, no show

Shale: dark gray

1900

Limestone: light brown, coarsely crystalline, densely oolitic, oolicastic, oolites shale filled, no visible porosity, no show

Limestone: gray to light brown, coarsely crystalline, dense, no porosity, no show

Limestone: off white to beige, medium to coarsely crystalline, dense, no visible porosity, no show

Shale: dark gray

Limestone: off white to gray, medium to coarsely crystalline, dense, little visible porosity, no show, much gray to green shale, trace red

Limestone: off white, medium crystalline, very poor intercrystalline porosity, slight show free oil, very faint odor, bright yellow fluorescence in 2-3% of 1950' drilling sample

1950

Shale: dark gray

Limestone: dark gray to dark brown, coarsely crystalline, dense, some densely oolitic, oolicastic, little visible porosity, no show

Limestone: light to dark brown, coarsely crystalline, dense, some densely oolitic, oolicastic, little visible porosity, no show, much dark gray to black shale

Limestone: off white to light brown, coarsely crystalline, dense, some densely oolitic, oolicastic, little visible porosity, no show

Limestone: beige, coarsely crystalline, dense, no porosity

Stark 1994 -616

Shale: black, carbonaceous, fossiliferous w/twig bryozoans

2000

Limestone: beige to gray, coarsely crystalline, no visible porosity, no show

Limestone: beige to gray, coarsely crystalline, no visible porosity, no show, trace gray chert

Hushpuckney 2022 -644

Shale: black, carbonaceous

Limestone: gray to light brown, coarsely crystalline, dense, no show

Shale: dark gray

Limestone: gray to light brown, coarsely crystalline, dense, no show

Shale: black, carbonaceous

BKC 2049 -671

Limestone: gray, coarsely crystalline, no porosity, trace gray chert, no show

2050

Shale: dark gray

Shale: dark gray

Shale: dark gray, trace red

Shale: dark gray, trace red

Shale: dark gray to red to green

Limestone: gray, medium crystalline, poor to fair intercrystalline porosity, no show

2100

Shale: dark gray to red to green, fossiliferous w/echinoids

Marmaton 2110 -732

Limestone: gray to grayish green, medium to coarsely crystalline, very poor intercrystalline porosity, no show, fair amount pyrite

Shale: dark gray to green to reddish brown

Shale: dark gray to green to reddish brown, slightly calcareous

Shale: dark gray to green to reddish brown

2150

Limestone: beige to gray, medium to coarsely crystalline, little visible porosity, no show

Shale: dark gray to red

Limestone: off white to gray, micritic, little visible porosity, no show

Shale: dark gray to red

Limestone: gray to beige to light brown, medium to coarsely crystalline, poor intercrystalline porosity, no show

Shale: black, carbonaceous

Limestone: beige to light brown, c crystalline, no porosity

Shale: dark to light gray

Mississippian 2198 -820

2200

Chert: white to off white, most fresh, white, trace gray trace tripolitic w/fair tripolitic porosity, no show free oil, no stain, no odor, no fluorescence

Chert: white to off white, most fresh, white, trace tripolitic w/fair tripolitic porosity, no show free oil, no stain, no odor, no fluorescence

Kinderhook 2222 -894

Shale: green to dark gray

Shale: dark gray to green to reddish brown

Shale: dark gray to green to reddish brown

2250

Shale: dark gray to green to reddish brown

Shale: dark gray to green

Shale: dark gray

Shale: dark gray

Limestone: dark brown, coarsely crystalline, dense, no porosity, no show

Shale: dark gray

2300

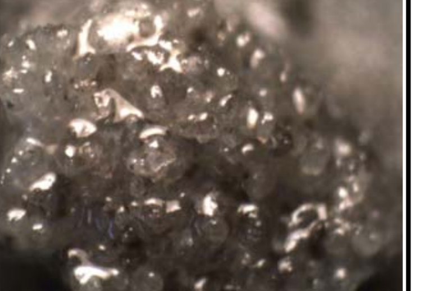
Shale: dark gray to red trace green

Shale: dark gray to red

Shale: dark to light gray

Shale: light gray

Shale: reddish brown, much pyrite



Misener 2348 -970

Hunton 2350 -972 — vis 55 wt 9.4 wl 9.2

2350 — #1 — See DST Results Below

Chert: white to green, most fresh, some with tripolitic interface, fair tripolitic porosity, slight show free oil, trace free quartz w/show free oil, good odor, trace Sandstone: clear to gray, fine to medium grained, fair sorting, poor to good silica & pyritic cement, good intergranular porosity, good show free oil, saturated, fluorescence in 40-45% of 15" sample, much slough in 30" sample, but all chert had bright yellow fluorescence.

Comments:

DIAMOND TESTING
P.O. Box 157
HOISINGTON, KANSAS 67544
(800) 542-7313
DRILL-STEM TEST TICKET
FILE: KHN1DST1

TIME ON: 1550
TIME OFF: 2335

Company NOBLE PETROLEUM — Lease & Well No. KOEHN #1
Contractor C&G RIG 1 — Charge to NOBLE PETROLEUM
Elevation 1378 KB — Formation HUNTON — Effective Pay ___ Ft. — Ticket No. M354
Date 7/17/2012 — Sec. 19 — Twp. 21 S — Range 5 E W — County MARION — State KANSAS
Test Approved By FRANK MIZE — Diamond Representative MIKE COCHRAN

Formation Test No. 1 — Interval Tested from 2328 ft. to 2354 ft. — Total Depth 2354 ft.
Packer Depth 2323 ft. Size 6 3/4 in. — Packer depth NA ft. Size 6 3/4 in.
Packer Depth 2328 ft. Size 6 3/4 in. — Packer depth NA ft. Size 6 3/4 in.
Depth of Selective Zone Set ___

Blow: 1st Open: SSB, BOB 30 SEC (NO BB)
2nd Open: GSB, BOB 45 SEC AFTER 11 MIN QUIT BLOWING BOB AND DIMMINISHED UNTIL DEAD @ 14 MIN (NO BB)

Recovered 532 ft. of GHOCWM 5% GAS, 37% OIL, 41% WTR, 17% MUD
Recovered 1376 ft. of GHOCWM 1% GAS, 30% OIL, 66% WTR, 3% MUD
Recovered 178 ft. of OSMW 4% OIL, 93% WTR 3% MUD
Recovered 2086 ft. of TOTAL FLUID
Recovered ___ ft. of PH:7.0 — Price Job
Recovered ___ ft. of RW: .65 @ 85° — Other Charges
Remarks: CHLOR: 7,000 PPM — Insurance

TOOL SAMPLE: 4% OIL, 93% WTR, 3% MUD — Total

Time Set Packer(s) 5:30 P.M. — Time Started Off Bottom 7:25 P.M. — Maximum Temperature 96

Initial Hydrostatic Pressure		(A)	1139 P.S.I.	
Initial Flow Period	Minutes 30	(B)	231 P.S.I. to (C)	849 P.S.I.
Initial Closed In Period	Minutes 30	(D)	879 P.S.I.	
Final Flow Period	Minutes 25	(E)	856 P.S.I. to (F)	880 P.S.I.
Final Closed In Period	Minutes 30	(G)	880 P.S.I.	
Final Hydrostatic Pressure		(H)	1136 P.S.I.	

Diamond Testing shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statement or opinion concerning the result of any test. Tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.

NOBLE PETROLEUM
DST#1 2328-2354 HUNTON
Start Test Date: 2012/07/17
Final Test Date: 2012/07/17

KOEHN #1
Formation: DST#1 2328-2354 HUNTON
Pool: WILDCAT
Job Number: M354

KOEHN #1