

Computer inventoried

26-14-18W

T.D.I. OIL OPERATIONS
214 West 16th
Hays, Kansas 67601

GEOLOGICAL REPORT

M. Hertel No. 1
NW-NW-SW, Sec. 26,
14 South, Rge. 18 West
Ellis County, Kansas

15-051-24,787

K C C

JUL 28 1992

March 30, 1992

RECEIVED
STATE PROSPECTION COMMISSION

JUL 14 1992

CONSERVATION DIVISION
WICHITA, KANSAS

T.D.I. Oil Operations
214 West 16th
Hays, Kansas 67601

GEOLOGICAL REPORT:

M. Hertel No. 1
NW-NW-SW, 26-14S-18W
Ellis County, Kansas

CONTRACTOR:

Emphasis Oil Operations Rig No. 5
Russell, Kansas 67665

DRILLING COMMENCED:

March 23, 1992

DRILLING COMPLETED:

March 29, 1992

CASING RECORD:

8 5/8 set at 236'. 5 1/2
set at 3699' with 125 sx.

DRILLING TIME:

By Geolograph.
1' intervals plotted and
recorded from 2900' to 3700'
R.T.D.

SAMPLES:

10' intervals from 3200' to
3600' then 5' intervals from
3600' to 3700' R.T.D.

DRILL STEM TESTS:

3 by Trilobite Testing Co.
Hays, Kansas 67601

LOGS:

Radiation Guard Log
ELI Wireline Services-
Hays, Kansas

ELEVATION:

Kelly Bushing 2031'
Ground Level 2026'
Measurements from K.B.

FORMATION TOPS
(ELI-R-Guard Log)

<u>FORMATION</u>	<u>DEPTH</u>	<u>MINUS DATUM</u>
Anhydrite	1226	+805
Base Anhydrite	1267	+764
Topeka	2997	-966
Heebner	3271	-1240
Toronto	3291	-1260
Lansing-Kansas City	3317	-1286
Base-Kansas City	3556	-1525
Conglomerate	3610	-1579
Arbuckle	3654	-1623
Rotary Total Depth	3700	-1669
Log Total Depth	3698	-1667

Lithology: Zones of Interest

NOTE: All sample descriptions have been corrected to the log measurements.

Heebner 3271 (-1240)

Toronto 3291 (-1260)

3293-95

LS; White, fine crystalline and dense.
Cherty. No free oil or odor.

Lansing-Kansas City 3317 (-1286)

3318-20

A Zone

LS; White to buff, fine crystalline
and slightly fossiliferous. Trace
of light stain. No free oil or
odor.

3343-47

B Zone

LS; White, good fossil and inter-oolitic
porosity with scattered light stain.
Fair show of free, slightly gassy.
Faint odor.

Tested by D.S.T. No. 1

Lithology: Page 2

3361-63
C-D Zone

LS; White, fossil porosity scattered
light stain. Slightly chalky.
No free oil or odor.

Tested by D.S.T. No. 1

3375-76
F Zone

LS; White, poor oolitic and fossil
porosity with scattered spotty stain.
Very slight show of free oil but
no odor.

Tested by D.S.T. No. 2

3398-3402
G Zone

LS; White, oolitic to poor oolitic
porosity with rare spotty stain. No
free oil or odor.

Tested by D.S.T. No. 2

3449-50
H Zone

LS; White to light gray, fine crystalline
and dense. Trace of white chert.

3470-75
I Zone

LS; White, slightly oolitic chalky
porosity with rare spotty stain.
No free oil or odor.

3493-97
J Zone

LS; Buff, trace of chalky crystalline
porosity, slightly oolitic and
fossiliferous. Cherty. No shows.

3516-22
K Zone

LS; Buff, fair fossil to slightly oolitic
porosity with spotty stain. Slightly
chalky. Very slight show of free
oil and no odor.

Tested by D.S.T. No. 3

3546-48
L Zone

LS; Buff, fine crystalline, dense to
slightly chalky. No free oil or
odor.

Tested by D.S.T. No. 3

Base-Kansas City 3556 (-1525)

Conglomerate 3610 (-1579)
3616-25

Cong; Orange, red, white cherts, sharp,
some oolitic. Weathered white lime
with associated red, brown, and gray
shales. No shows.

Lithology: Page 3

3625-32	Cong;	As above. Plus traces of fine to medium grained sand clusters with dead oil stain. No free oil or odor.
Arbuckle 3654 (-1623) 3654-60	Dol;	White, good fine to medium crystalline porosity with some included Quartz grains. No visible shows.
3660-65	Dol;	White to pink, fair to poor medium crystalline porosity with no show. Some included Quartz.
3665-3700	Dol;	No shows were logged.
Rotary Total Depth 3700 (-1669)		
Log Total Depth 3698 (-1667)		

DRILL STEM TESTS

Drill Stem Test No. 1 3324-3380 L.K.C.

Time: 45-45-45-45

Blow: 1st Open - 1" building to bottom in 14 min.
2nd Open - 1" building to 5"

Recovery: 480' of gas in pipe
60' Gassy heavy oil cut mud
60' Gassy muddy oil
60' Gassy mud cut oil
180' Total Fluid

Pressures:	IHMP: 1621'	IFP: 39# - 59#
	ISIP: 779#	FFP: 79# - 89#
	FSIP: 740#	BHT: 94°F
	FHMP: 1582#	

Mud Properties: Viscosity: 51 Weight: 8.8 Water loss: 9.2

Drill Stem Test No. 2 3377-3422 L.K.C.

Time: 45-45-45-45

Blow: 1st Open - 1" building to bottom in 26 min.
2nd Open - 3/4" building to bottom in 15 min.

Recovery: 375' of muddy salt water

Pressures:	IHMP: 1650#	IFP: 49# - 128#
	ISIP: 661#	FFP: 148# - 227#
	FSIP: 642#	BHT: 106°F
	FHMP: 1621#	

Mud Properties: Viscosity: 46 Weight: 8.7 Water loss: 6.0

DRILL STEM TEST CON'T

Drill Stem Test No. 3 3500-64 L.K.C.

Time: 45-45-45-45

Blow: 1st Open - 3" building to bottom in 9 min.
2nd Open - 1" building to bottom in 8 min.

Recovery: 1575' salt water (slightly gassy)

Pressures:	IHMP: 1767#	IFP: 99# - 454#
	ISIP: 838#	FFP: 553# - 661#
	FSIP: 838#	BHT: 115 F
	FHMP: 1738#	

Mud Properties: Viscosity: 44 Weight: 9.1 Water loss: 10.4

REMARKS AND RECOMMENDATIONS

The T.D.I. Oil Operations M. Hertel No. 1 ran 4 feet higher (-1286) than the Icer Addis Engel No. 1 (-1290) (SW-SW-SW, 26-14S-18W) and 3 feet higher than the DaMar Resources Randa No. 1 (-1289) (E/2-E/2-SE, 21-14S-18W) when comparing the Lansing-Kansas City tops. The Lansing-Kansas City was tested three times with a positive test coming out of the 1st test covering the B Zone.

The Arbuckle datum of -1623 (M. Hertel) is some 15 feet lower than the Addis Engel No. 1 and 17 feet lower than the Randa No. 1. No shows were logged in the Arbuckle or Conglomerate.

With the positive drill stem test covering the "B" Zone, it was decided that 5 1/2" casing be run to further test the M. Hertel No. 1.

DMS/das

Respectfully Submitted,

David M. Shumaker
David M. Shumaker
Petroleum Geologist