

# HESS OIL COMPANY

225 N. Market, Suite 300

Wichita, Kansas 67202

(316) 263-2243

## GEOLOGICAL REPORT

### VELMA #1

145' FSL, 2600' FEL of

SECTION 13 - 17S - 20W

RUSH COUNTY, KANSAS

Commenced: 3-9-11

Surface Pipe: 8-5/8" @ 225' KB

Completed: 3-15-11

Production Pipe: none

Contractor: Mallard J.V.

Elevations: 2177' GR, 2182' KB

One foot drilling time was kept from 1400 to 1480' KB and from 3400' to rotary total depth. Ten foot drilling samples (wet & dry) were kept from 3500' to RTD.

Following are sample tops, descriptions of zones of interest (including all shows of oil & gas), and the results of all drill stem tests.

<u>ANHYDRITE</u>	<u>1414</u>	<u>( +768)</u>
<u>BASE ANHYDRITE</u>	<u>1449</u>	<u>( +733)</u>
<u>HEEBNER</u>	<u>3549</u>	<u>(-1367)</u>
<u>LANSING</u>	<u>3587</u>	<u>(-1405)</u>
<u>BASE KANSAS CITY</u>	<u>3861</u>	<u>(-1679)</u>

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Velma #1

Page 2

PAWNEE 3946 (-1764)

FORT SCOTT 3992 (-1810)

4012-14' KB Clear, medium to large grained, poorly sorted,  
poorly rounded, sandstone clusters and loose  
and 4016-19' KB grains. Fair show of free oil in poor to  
fair porosity, no odor, good stain and a  
strong cut.

DRILL STEM TEST #1 3990 to 4020' KB 30' Anchor

Blow: slow build to 5". 2nd - very slow build to 2".

Times: Open 45, Closed 45, Open 45, Closed 45.

Recovered: 360' Mud Cut SW (chlorides 50,000ppm)

Pressures: IH 2157# IF 44 - 149# ISIP 1150#  
FH 1901# FF 160 - 209# FSIP 1111#

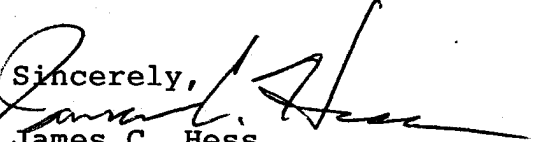
4021-26' KB Clear, medium grained, fairly sorted, fairly  
rounded, sandstone clusters & loose grains.  
Weak show of free oil in fair intergranular  
porosity, no odor, fair stain, and a weak  
cut. (some barron porosity)

ARBUCKLE 4057 (-1875)

ROTARY TOTAL DEPTH 4100 (-1918)

A full set of logs were run on the Velma #1 including, Dual Induction, Dual Compensated Porosity, and Sonic. Since the only untested oil shows occurred within 6' below DST #1 -- it was decided to plug the Velma #1.

Sincerely,

  
James C. Hess  
Geologist

# GEOLOGIST'S REPORT

## DRILLING TIME AND SAMPLE LOG

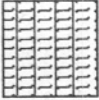
COMPANY <u>HESS OIL COMPANY</u> LEASE <u>VELMA #1</u> FIELD <u>- WILDCAT -</u> LOCATION <u>145' FSL, 2600' FEL</u> SEC <u>13</u> TWSP <u>17 S</u> RGE <u>20 W</u> COUNTY <u>RUSH</u> STATE <u>KANSAS</u>	ELEVATIONS KB <u>2182'</u> DF <u>2180'</u> GL <u>2177'</u> Measurements Are All From <u>KB</u>
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CONTRACTOR <u>MALLARD J.V.</u> SPUD <u>3-9-11</u> COMP <u>3-15-11</u> RTD <u>4100'</u> LTD <u>4098'</u> MUD UP <u>3450'</u> TYPE MUD <u>CHEMICAL</u>	CASING SURFACE <u>8-5/8" at 225'</u> PRODUCTION <u>none</u> ELECTRICAL SURVEYS DUAL INDUCTION NEUTRON & SONIC
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SAMPLES SAVED FROM <u>3500'</u>	TO <u>T D</u>
DRILLING TIME KEPT FROM <u>3400'</u>	TO <u>T D</u>
SAMPLES EXAMINED FROM <u>3500'</u>	TO <u>T D</u>
GEOLOGICAL SUPERVISION FROM <u>3700'</u>	TO <u>T D</u>
GEOLOGIST ON WELL <u>JAMES C. HESS</u>	

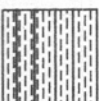
FORMATION TOPS	LOG	SAMPLES													
ANHYDRITE		1414 (+768)	<div style="display: flex; justify-content: space-between;"> <span>20 W</span> <span>17 S</span> </div> <table border="1" style="margin: auto; border-collapse: collapse;"> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td>13</td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </table>						13						
	13														
BASE ANHYDRITE		1449 (+733)													
HEEBNER		3549 (-1367)													
LANSING		3587 (-1405)													
BASE KANSAS CITY		3861 (-1679)													
PAWNEE		3946 (-1764)													
FORT SCOTT		3992 (-1810)													
ARBUCKLE		4057 (-1875)													
RTD		4100 (-1918)													


# LEGEND

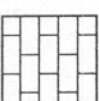
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
Anhydrite
- 

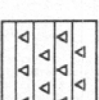
Salt
- 


Sandstone
- 

Shale
- 

Carb sh
- 

Limestone
- 

Ool. Lime
- 

Chert
- 

Dolomite

SCALE " = 100'

LOG 7703

Lithology	Drilling time in minutes	DEPTH	Sample Description	Remarks, drill stem tests, etc.
0	0	1400		
5		20		ANHYDRITE 1414 (+768)
10		40		
15		60		BASE ANHYDRITE 1449 (+733)
20		80		
3400		3400		



3400

20

40

60

80

3500

20

40

60

WT - Low VF-Fair DS sl chalky Lm  
P/S w/ chalky Lm  
Some green to Red sh's

AA w/ less sh's  
No D  
No show

WT - Fair VF-Fair sl chalky Lm  
w/ P/S w/ chalky Lm  
Some green to Red sh's

Lm - Fair VF-Fair sl chalky Lm  
w/ P/S w/ chalky Lm  
Some green to Red sh's

AA w/ more sh's  
No D  
No show

R1 Carb. sh's

WT - Fair VF-Fair sl chalky Lm  
w/ P/S w/ chalky Lm  
Red green to Red sh's

HEEBNER 3549 (-1367)

LANSING 3587 (-1405)

60 w/pe's wt chalky lm  
few green + red sh's  
Lm - Tan VF-Fxlm DS Lm  
w/pe's wt chalky lm  
few green + red sh's

80 Lm - Tan VF-Fxlm DS Lm  
w/pe's wt chalky lm  
Some green + red sh's  
AA w/ more sh's NO B  
NO SHOW

3600 w/pe's wt chalky lm  
w/pe's wt chalky lm  
Some green + red sh's  
AA w/less sh's  
Some barrel B  
NO SHOW

20 Lm - Tan VF-Fxlm DS Lm  
w/pe's wt chalky lm  
Some green + red sh's  
Tan dolitic calcareous  
F-main Lm  
F-xlm DS Lm  
NO SHOW

40 w/pe's wt chalky lm  
w/pe's wt chalky lm  
Some green + red sh's  
AA w/less sh's NO SHOW

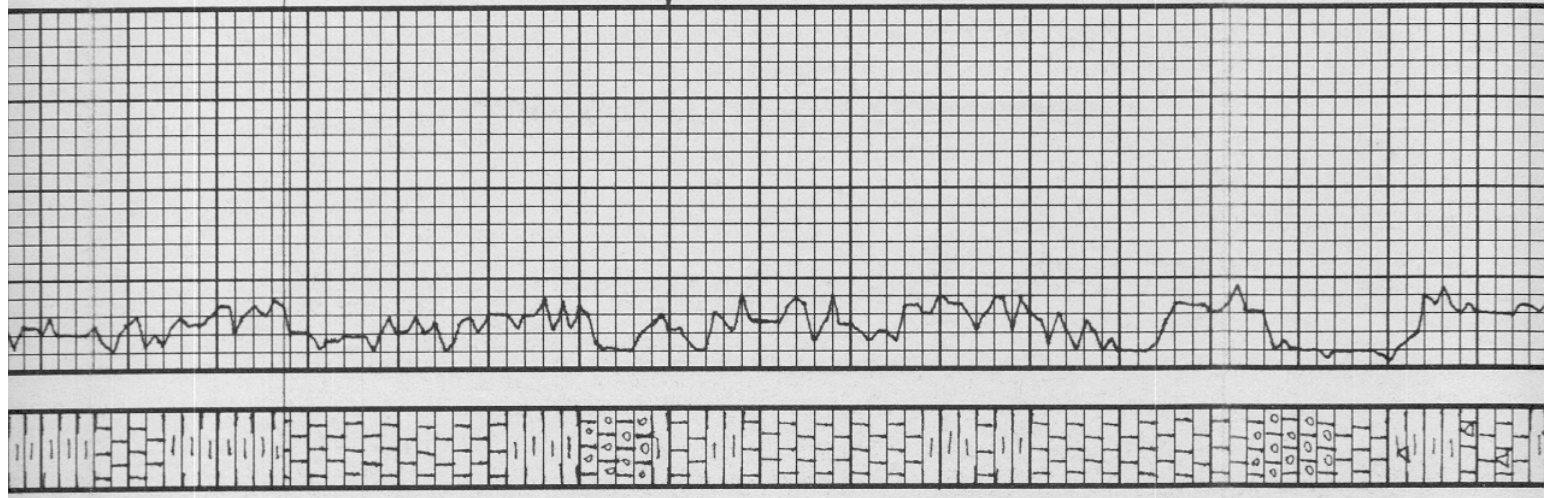
60 Lm - grey VF-Fxlm DS Lm  
w/pe's wt chalky lm  
few green + red sh's  
AA w/ more sh's NO B  
NO SHOW

80 w/pe's wt chalky lm  
w/pe's wt chalky lm  
few green + red sh's  
Lm - grey VF-Fxlm DS Lm  
w/pe's wt chalky lm  
few green + red sh's

3700 Tan dolitic F-main Lm  
Good B NO SHOW  
Lm - Tan F-main calcareous Lm  
Good B NO SHOW

20 w/pe's wt chalky lm  
w/pe's wt chalky lm  
Some green + red sh's  
AA w/ more sh's NO B

← 61r  
62r





20  
 WT-Tad VP-Fair DS LM  
 w/PC's VC Sharp A  
 Some Green + Red sh's  
 AA w/ more sh's NO B NO SHOW  
 40  
 CM-Lacey VP-Fair S Foss. LM  
 w/PC's VC Sharp A  
 Some Green + Red sh's  
 WT-Lacey VP-Fair DS LM  
 w/Some WT Chalky LM  
 Few Green + Red sh's  
 AA w/ more sh's NO B NO SHOW  
 60  
 CM-Tad VP-Fair S Foss. LM  
 w/PC's VC Sharp A  
 Few Green + Red sh's  
 CM-Tad Colicastic LM  
 Fair B NO SHOW  
 80  
 WT-Tad VP-Fair DS LM  
 w/PC's VC Sharp A  
 Few sh's Some Green sh's  
 AA w/ more sh's NO B NO SHOW  
 3800  
 CM-Tad F-Maxim Colicastic LM  
 Fair B NO SHOW  
 20  
 WT-Lacey Fair DS LM  
 w/PC's WT Chalky LM  
 Some Green + Red sh's  
 WT-Tad VP-Fair DS LM  
 w/PC's VC Sharp A  
 Some Green sh's  
 40  
 CM-Tad VP-Fair DS LM  
 w/PC's VC Sharp A  
 Few Green + Red sh's  
 AA w/ less sh's NO B NO SHOW  
 60  
 WT-Lacey VP-Fair DS LM  
 w/PC's WT Chalky LM  
 Few Green sh's  
 mostly Red + Green sh's  
 Some WT-Lacey VP-Fair LM  
 w/PC's WT Chalky LM  
 AA w/ more sh's

BASE KANSAS CITY 3861

(-1679)

(-1679)

Mostly Red + Green sh's  
Some wt. in grey VF-Fx/Lm  
w/pc's wt chalky Lm

60

AAA w/ more sh's NO P  
NO SLOW

80

Lm - Tan VF/Lm sl chalky Lm  
Some v.c. sharp Δ's  
Some green + Red sh's

AA w/ more sh's NO P  
NO SHOW

3900

Lm - It grey VF-Fx/Lm  
Some v.c. sharp Δ's  
Some green + Red sh's

20

AA w/ more orange Δ's  
NO P  
NO SHOW

WT - grey VF-Fx/Lm Δ's Lm  
w/ some v.c. sharp Δ's  
Some green + Red sh's

40

WT - It grey VF-Fx/Lm Δ's Lm  
w/ some v.c. sharp Δ's  
Some Red + Green sh's

40

AA w/ more sh's NO P  
NO SHOW

WT - It grey VF-Fx/Lm Δ's Lm  
w/ some v.c. sharp Δ's  
Some Red + Green sh's

60

WT - It grey VF-Fx/Lm Δ's Lm  
w/ some v.c. sharp Δ's  
Some Red + Green sh's

60

WT - grey VF-Fx/Lm Δ's Lm  
w/ some v.c. sharp Δ's  
Some Red + Green sh's

WT - grey VF-Fx/Lm Δ's Lm  
w/ some v.c. sharp Δ's  
Some Red + Green sh's

80

WT - grey VF-Fx/Lm Δ's Lm  
w/ some v.c. sharp Δ's  
Some Red + Green sh's

80

WT - grey VF-Fx/Lm Δ's Lm  
w/ some v.c. sharp Δ's  
Some Red + Green sh's

WT - grey VF-Fx/Lm Δ's Lm  
w/ some v.c. sharp Δ's  
Some Red + Green sh's

4000

WT - grey VF-Fx/Lm Δ's Lm  
w/ some v.c. sharp Δ's  
Some Red + Green sh's

20

WT - grey VF-Fx/Lm Δ's Lm  
w/ some v.c. sharp Δ's  
Some Red + Green sh's

WT - grey VF-Fx/Lm Δ's Lm  
w/ some v.c. sharp Δ's  
Some Red + Green sh's

4000

WT - grey VF-Fx/Lm Δ's Lm  
w/ some v.c. sharp Δ's  
Some Red + Green sh's

20

WT - grey VF-Fx/Lm Δ's Lm  
w/ some v.c. sharp Δ's  
Some Red + Green sh's

WT - grey VF-Fx/Lm Δ's Lm  
w/ some v.c. sharp Δ's  
Some Red + Green sh's

4000

WT - grey VF-Fx/Lm Δ's Lm  
w/ some v.c. sharp Δ's  
Some Red + Green sh's

20

WT - grey VF-Fx/Lm Δ's Lm  
w/ some v.c. sharp Δ's  
Some Red + Green sh's

WT - grey VF-Fx/Lm Δ's Lm  
w/ some v.c. sharp Δ's  
Some Red + Green sh's

4000

WT - grey VF-Fx/Lm Δ's Lm  
w/ some v.c. sharp Δ's  
Some Red + Green sh's

20

WT - grey VF-Fx/Lm Δ's Lm  
w/ some v.c. sharp Δ's  
Some Red + Green sh's

WT - grey VF-Fx/Lm Δ's Lm  
w/ some v.c. sharp Δ's  
Some Red + Green sh's

4000

WT - grey VF-Fx/Lm Δ's Lm  
w/ some v.c. sharp Δ's  
Some Red + Green sh's

20

WT - grey VF-Fx/Lm Δ's Lm  
w/ some v.c. sharp Δ's  
Some Red + Green sh's

PAWNEE 3946 (-1764)

Short Trip

FORT SCOTT 3992 (-1810)

DST #1

3990 - 4020' KB

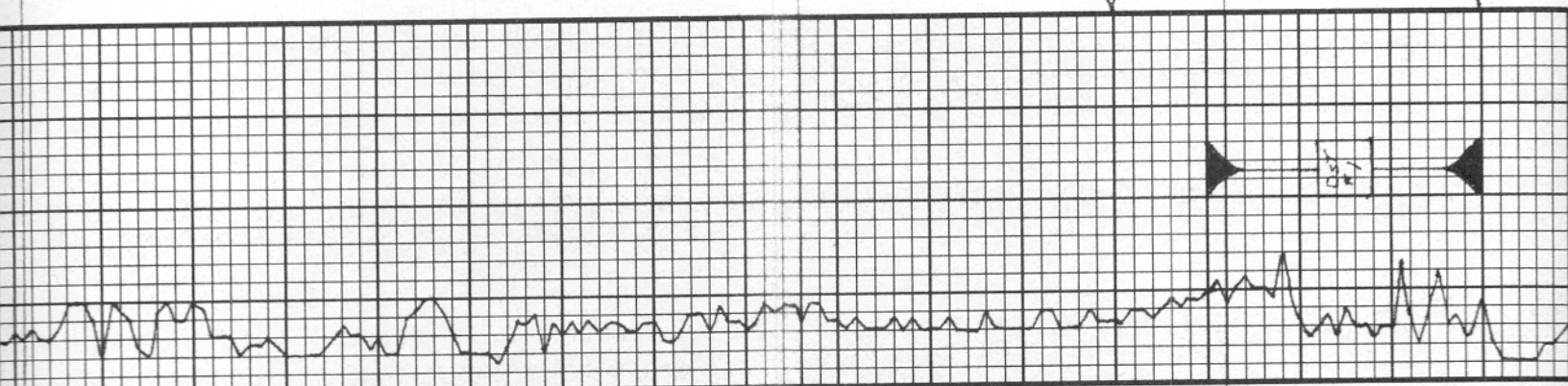
30' ANCHOR

TIMES:

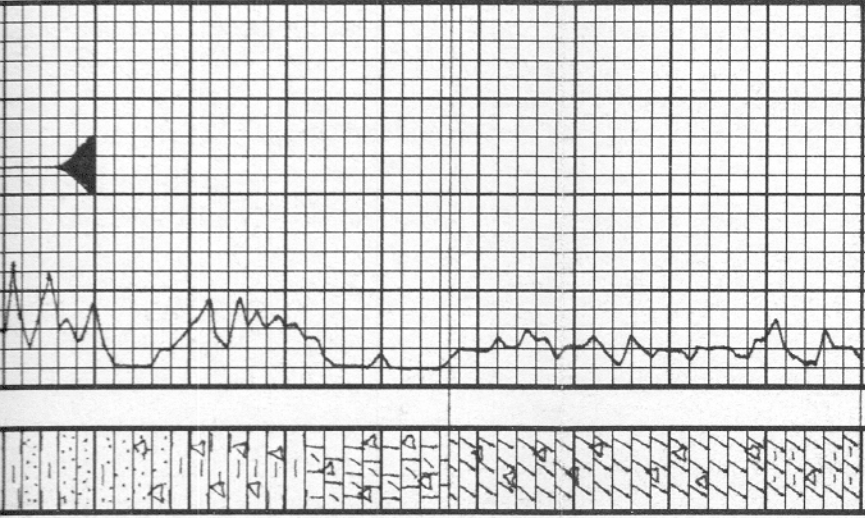
45-45-45-45

RECOVERED:

360' mcs w







TIMES:  
45-45-45-45

RECOVERED:  
360' MC SW

PRESSURES:  
IH 2157 #  
FA 1901 #  
IF 44-149 #  
FF 160-209 #  
ISIP 1150 #  
F5IP 1111 #

ARBUCKLE 4057 (-1875)

RTD 4100 (-1918)

Foil show at free oil in clear PG ss clusters + loose grains. No odor.

Weak show of free oil in clear MG ss cluster + loose grains. Some V.C. sharp sh's.

Mostly Red sh's (some green). Some V.C. sharp + weathered sh's. Some WT-Grey vein DS below. NO SHOW.

Crn-Grey Fm Dolomitic Lm w/ PG's V.C. sharp + weathered sh's. Few Red + Green sh's. NO SHOW.

MA w/ less sh's. NO SHOW.

WT-Grey F-Mx/M DS Dolo. PG's V.C. sharp + weathered sh's. Few Green + Red sh's. NO SHOW.

WT-Grey F-Mx/M DS Dolo. PG's V.C. sharp + weathered sh's. Few sh's. V. Red sh's. NO SHOW.

WT-Grey - Tan F-Mx/M DS Dolo. Some WT - Orange sharp sh's. Few sh's.

WT-Tan - Grey F-Mx/M DS Dolo. PG's WT - Orange sharp sh's. Few Green sh's.

20

40

60

80

4100

20

40

60

80