

HESS OIL COMPANY

225 N. Market, Suite 300

Wichita, Kansas 67202

(316) 263-2243

GEOLOGICAL REPORT

RIES #1

350' FSL, 2610' FEL of

SECTION 18 - 14S - 22W

TREGO COUNTY, KS

Commenced:	5-10-12	Elevations:	2203' GR, 2208' KB
Completed:	5-18-12	Surface Pipe:	8-5/8" @ 230' KB
Contractor:	Mallard J.V.	Production Pipe:	5½"

One foot drilling time was kept from 1620 to 1720' KB and from 3400' to RTD. Ten foot drilling samples were kept from 3500' (wet & dry) to rotary total depth.

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>1643</u>	<u>(+565)</u>
<u>BASE ANHYDRITE</u>	<u>1683</u>	<u>(+525)</u>
<u>HEEBNER</u>	<u>3569</u>	<u>(-1361)</u>
<u>LANSING</u>	<u>3606</u>	<u>(-1396)</u>
<u>BASE KANSAS CITY</u>	<u>3861</u>	<u>(-1653)</u>
<u>PAWNEE</u>	<u>3967</u>	<u>(-1759)</u>

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Pawnee (cont.)

3967-74' KB White, very finely crystalline, limestone and white, sharp, & tripolitic, chert.
Weak to fair show of free oil in fair inter-crystalline (and some "on edge") porosity, no odor, fair stain, and a fair cut.

DRILL STEM TEST #1 3960 to 3990' KB 30' Anchor

Missrun !! packers failed.

DRILL STEM TEST #2 3945 to 3990' KB 45' Anchor

Blow: Bottom of bucket 3min., 2nd -- Bottom of bucket in 1 min.

Times: Open 30, Closed 45, Open 30, Closed 45.

Recovered: 840' Gas
960' Oil (40% O & 30% W -- last 120')

Pressures: IH 1952# IF 51 - 251# ISIP 1284#
FH 1920# FF 271 - 393# FSIP 1244#

FORT SCOTT 4034 (-1826)

4044-49' KB White, very finely crystalline, limestone.
Weak to fair show of free oil in very poor intercrystalline porosity, no odor, weak stain, and a fair cut. Looks Tight !

4104-10' KB Slight to weak show of free oil in few sandstone clusters. Clear, medium sized, well - poorly rounded, fairly sorted. Lots of loose grains. No odor, slight stain, and a weak cut.

DRILL STEM TEST #3 4020 to 4110' KB 90' Anchor

Blow: Weak surface blow -- died in 7 min.
2nd -- no blow.

Times: Open 30, Closed 30, Open 30, Closed 0.

Recovered: 10' Sl oil specked Mud

Pressures: IH 1987# IF 20 - 23# ISIP 66#
FH 1972# FF 23 - 25# FSIP ---

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MISSISSIPPI 4142 (-1934)

ROTARY TOTAL DEPTH 4190 (-1982)

A set of Dual Induction & Dual Compensated Porosity logs were run to check for sand pays. Also, to identify our Pawnee pay zone. All shows were included on DSTs #2 & #3 and nothing new was found on the logs.

5½" Casing was run as follows:

23 jts of 14 & 15# mixed (18 Short threads & collars) used from Ness City yard, were run on bottom.

80 New 15.5# jts were run on top.

Guide Shoe @ 4185' KB w/21' shoe jt.

Plug Retainer & Cent. #1 @ 4164' KB Cemented w/500 gals chem. flush & 200 sx EA-II cement.

Cent. #2 4032' KB, Cent. #3 3999' KB, Cent. #4 3968' KB,
Cent. #5 3936' KB, & Cent. #6 3903' KB. -- all flow masters.

Cent. #7 1661' KB, Basket 1640' KB and D.V. Tool 1616-18' KB

1st stage plug down 1:30 am 5-18-61

Circulated 4 hrs through D.V. Tool

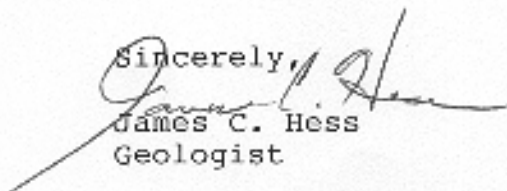
Cemented D.V. Tool to surface w/ ¹⁵⁰~~200~~ sx SMDC -- plug down 6:00am
5-18-61

Called KCC (785) 625-0550

Ray D. 8:10am 5-17-61

David 11:10am 5-18-61

Sincerely,


James C. Hess
Geologist



HESS OIL COMPANY
 P.O. Box 1009
 McPherson, KS 67460-1009

GEOLOGIST'S REPORT

DRILLING TIME AND SAMPLE LOG

COMPANY <u>HESS OIL COMPANY</u>	ELEVATIONS
LEASE <u>RIES #1</u>	KB <u>2208'</u>
FIELD <u>- WILDCAT -</u>	DF <u>2206'</u>
LOCATION <u>350' FSL, 2610' FEL</u>	GL <u>2203'</u>
SEC <u>18</u> TWSP <u>14 S</u> RGE <u>22 W</u>	Measurements Are All From <u>KB</u>
COUNTY <u>TREGO</u> STATE <u>KANSAS</u>	

CONTRACTOR <u>MALLARD J.V.</u>	CASING SURFACE <u>8-5/8" at 230'</u>
SPUD <u>5-10-12</u> COMP <u>5-18-12</u>	PRODUCTION <u>5-1/2"</u>
RTD <u>4190'</u> LTD <u>4192'</u>	ELECTRICAL SURVEYS DUAL INDUCTION & DENSITY NEUTRON
MUD UP <u>3350'</u> TYPE MUD <u>CHEMICAL</u>	

SAMPLES SAVED FROM 3500' TO TD

DRILLING TIME KEPT FROM 3400' TO TD

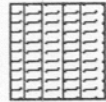
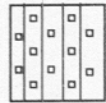

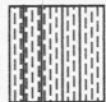
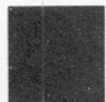
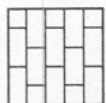
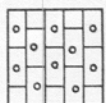
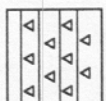
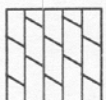
SAMPLES EXAMINED FROM 3500' TO TD

GEOLOGICAL SUPERVISION FROM 3275' TO TD

GEOLOGIST ON WELL JAMES C. HESS







FORMATION TOPS	LOG	SAMPLES	22 W				14 S
ANHYDRITE		1643 (+565)					
BASE ANHYDRITE		1683 (+525)					
HEEBNER		3569 (-1361)					
LANSING		3606 (-1398)					
BASE KANSAS CITY		3861 (-1653)					
PAWNEE		3967 (-1759)		18			
FORT SCOTT		4034 (-1826)					
MISSISSIPPI		4142 (-1934)					
R T D		4190 (-1982)					

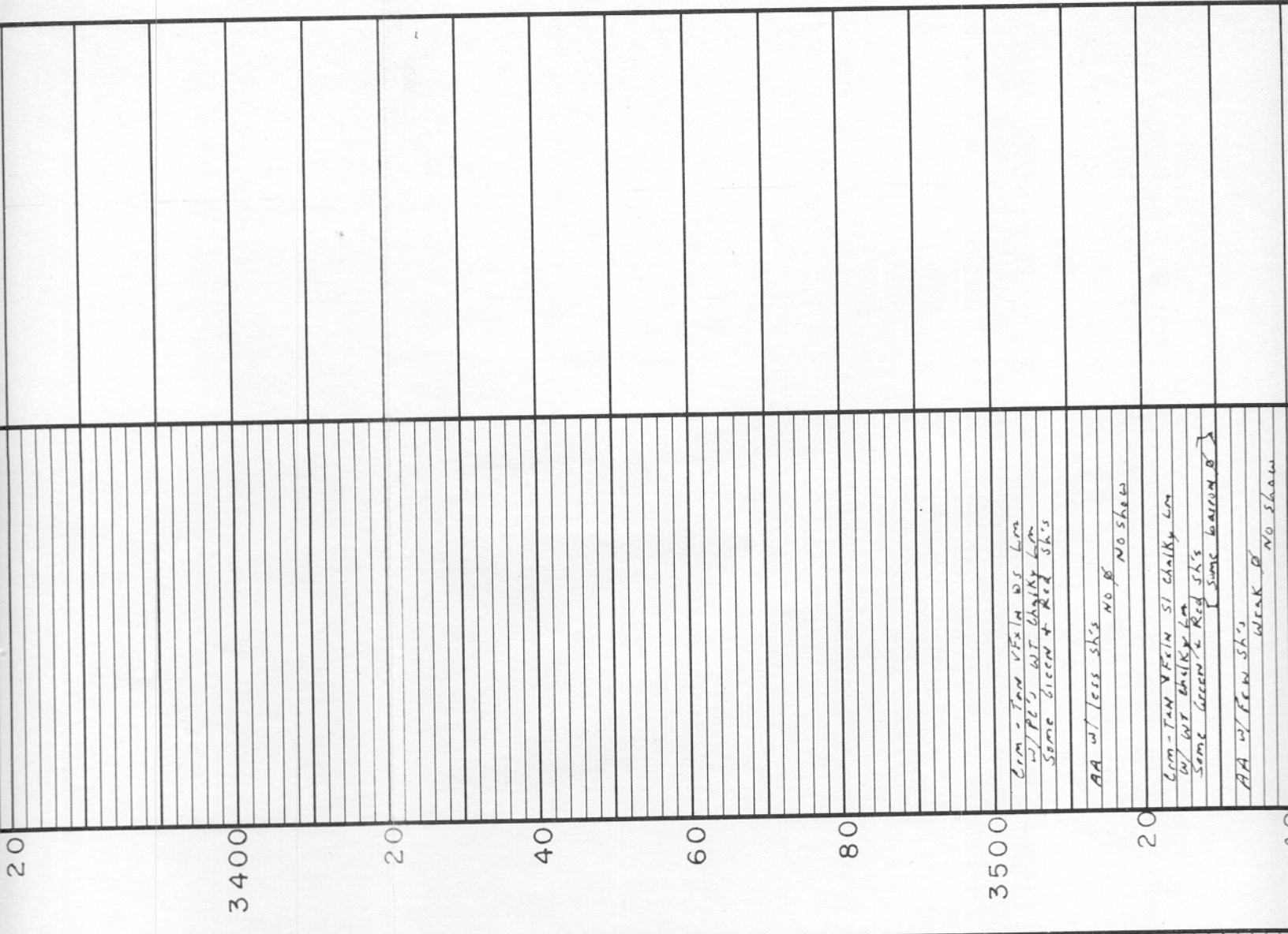
LEGEND

-  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	1620		
	0	40		ANHYDRITE 1643 (+565)
	0	60		
	0	80		BASE ANHYDRITE 1683
	0	1700		(+525)
	0	20		

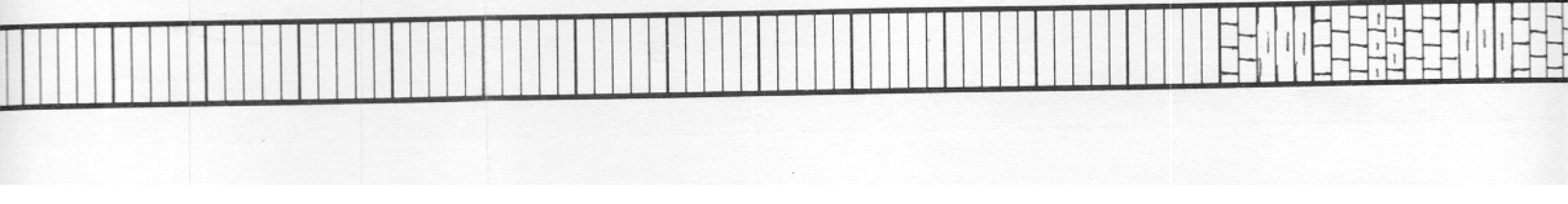
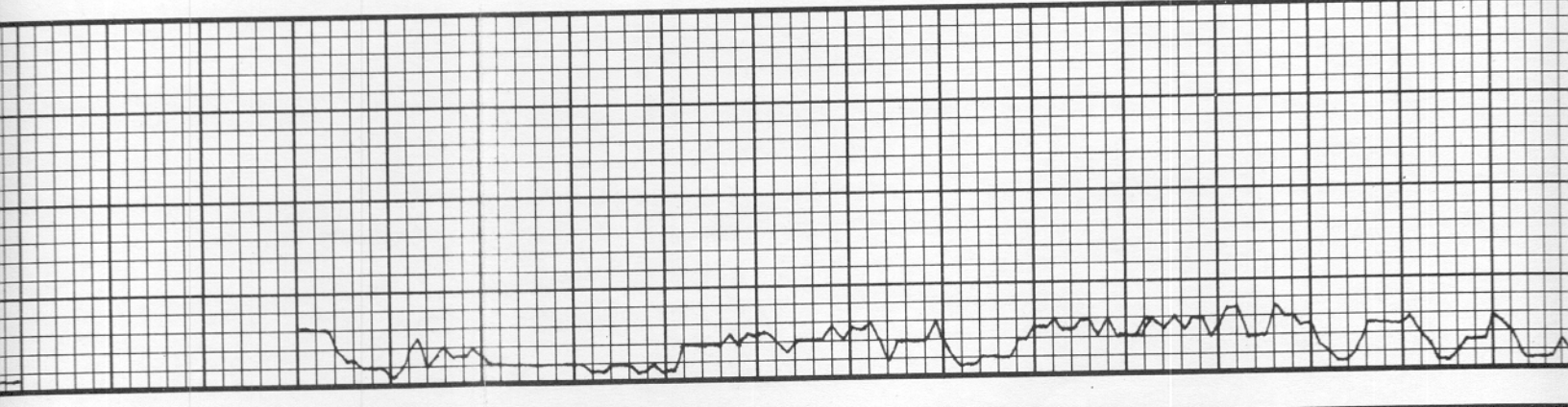


Grm - Tan VFEin B's Lm
w/Pl's wT Chalky Lm
Some Green + Red Sh's

AA w/ less sh's No of NO shaw

Grm - Tan VFEin S1 Chalky Lm
w/ wT chalky Lm
Some Green + Red Sh's } some barren ♂

AA w/ Few sh's
wreak ♂ No shaw



w/WT chalky lm
Some green + red sh's
Some brown ♂

AA w/ few sh's
Weak ♂
No show

WT-Tan VF-Fxlm DS Lm
w/pe's w/ chalky lm
Some green + red sh's

AA w/ less sh's
NO ♂
NO SHOW

TAN VF-Fxlm DS Lm
w/pe's w/ chalky lm
Few sh's

B1 Carb. sh's
Mostly green + red sh's
Some WT-Tan VF-Fxlm Lm
w/pe's w/ chalky lm

AA w/ less sh's
NO ♂
NO SHOW

WT-Tan VF-Fxlm sl chalky Lm
w/pe's w/ chalky lm
Some green + red sh's

AA w/ more sh's
NO SHOW

WT-Tan VF-Fxlm sl DS Lm
w/pe's w/ chalky lm
Some green + red sh's

AA w/ few sh's
NO ♂
NO SHOW

WT-Tan VF-Fxlm DS Lm
w/pe's w/ sharp Δ
pe's w/ chalky lm
Few green + red sh's

AA w/ NO ♂
NO SHOW

WT-Tan VF-Fxlm Lm
w/pe's w/ chalky lm
Few sh's

AA w/ NO ♂
NO SHOW

Very sl show of free oil in
V. poor interm ♂
Not worth testing!

w/pe's w/ chalky DS Lm
w/pe's w/ chalky lm
Few sh's

AA w/ less sh's
NO ♂
NO SHOW

HEEBNER 3569 (-1361)

LANSING 3606 (-1398)

40

60

80

3600

20

40

60

80

NO. 8

VFL SHOW IN WT VFLIN DS LM
w/ PAUC INTERMIX R NO SHAW

WT - grey VFLIN DS LM
w/ PE'S WT CHALKY LM
SOME GREEN + RED SH'S

AA w/ less sh NO. 8
NO SHAW

WT - grey VFLIN DS LM
w/ PE'S WT CHALKY LM
FEW SH'S

WT - grey VFLIN DS LM
w/ PE'S WT CHALKY LM
FEW GREEN + RED SH'S NO SHAW

LM - grey VFLIN DS LM
w/ PE'S WT CHALKY LM
SOME GREEN + RED SH'S

AA w/ more sh's NO. 8
NO SHAW

TAN VFLIN DS LM
w/ PE'S WT CHALKY LM
SOME GREEN + RED SH'S

AA w/ more sh's NO. 8
NO SHAW

CRIM - TAN VFLIN DS LM
w/ PE'S WT CHALKY LM
FEW GREEN + RED SH'S

AA w/ less sh's NO. 8
NO SHAW

WT - grey VFLIN DS LM
w/ PE'S WT CHALKY LM
SOME GREEN + RED SH'S

AA w/ some green + red sh's
NO. 8
NO SHAW

WT - grey VFLIN DS LM
SOME GREEN + RED SH'S

LM - TAN FALM COLITIC LM
w/ SMALL SIZED COLITIC FALLS
NO SHAW

LM - grey VFLIN DS LM
w/ PE'S WT CHALKY LM
FEW SH'S

AA w/ more sh's NO. 8
NO SHAW

LM - grey VFLIN DS LM
w/ PE'S WT CHALKY LM

3700

20

40

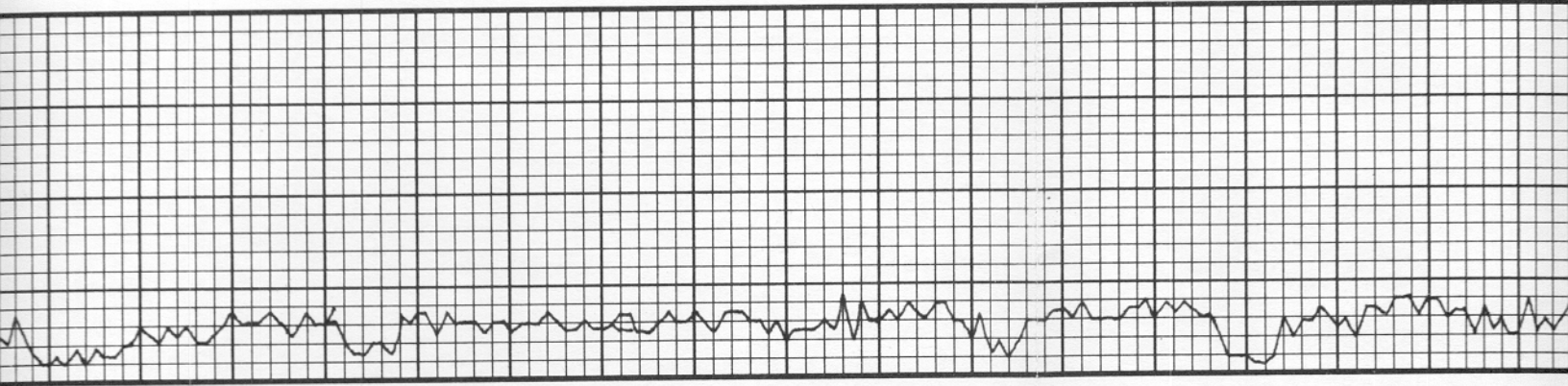
60

80

3800

20

40



010
010
010
010

010
010
010

BASE KANSAS CITY 3861

(-1653)

AA w/more sh's NO B NO SHOW

60 cm - grey VF in sl chalky lm w/pe's wt chalky lm some green & red sh's

WT - grey VF - fine chalky lm w/ some green & red sh's

AA w/more sh's NO B NO SHOW

80 cm - TAN VF in DS sl chalky lm w/pe's wt chalky lm some green & red sh's

AA w/more sh's NO B NO SHOW

3900 WT - TAN VF - fine DS lm w/pe's wt sharp A lots of green & red sh's

AA w/more sh's NO B NO SHOW

203 vs sl shams of fine DS in wt VF in DS lm w/pe's wt sharp A lots of green & red sh's

cm - TAN VF - fine sl chalky lm w/ lots of green & red sh's

WT - TAN VF in sl chalky lm w/pe's wt sharp A some green & red sh's

60 WT - TAN VF in lm w/pe's wt chalky lm pe's wt sharp A some green & red sh's

AA w/more sh's

80 weak - fine shams of fine sl in wt VF in lm and wt sharp A thin intervals of coarse edge NO odor

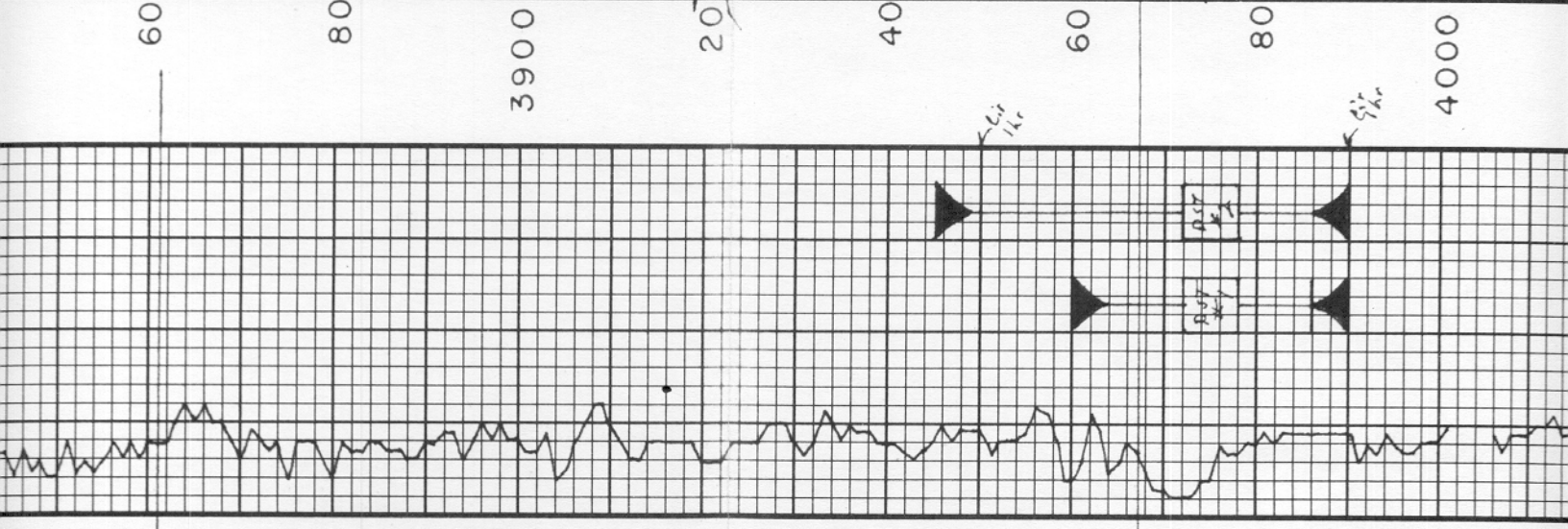
WT - cm VF in DS lm w/pe's wt sharp A some green sh's

AA w/less sh's

cm - grey VF in chalky lm w/pe's wt chalky lm some green & red sh's

4000 grey VF in sl chalky lm w/pe's wt - grey chalky lm w/ few sh's

AA w/more less chalky lm



DST #1
3960 - 3990' KB
30' ANCHOR
MISRUN

PAWNEE 3967 (-1759)

DST #2
3945 - 3990' KB
45' ANCHOR
TIMES:
30 - 45 - 30 - 45
RECOVERED: 840' oil
PRESSURE: 120' oil + WT

840' oil 120' oil + WT
 PRESSURES:
 IH 1952 #
 FH 1920 #
 IF 51-251 #
 FF 271-393 #
 ISIP 1284 #
 FSIP 1244 #

FORT
 SCOTT

4034 (-1826)

DST # 3

4020-4110' KB
 90' ANCHOR

TIMES:
 30-30-30-0

RECOVERED:
 10' Soil Speckled Mud

PRESSURES:
 IH 1987
 FH 1972 #
 IF 20-23 #
 FF 23-25 #
 ISIP 66 #
 FSIP ---

MISSISSIPPI 4142 (-1934)

w/pe wt - grey chalky lm
 w/ few sh's

AA w/ more grey chalky lm
 No sh
 No show

grey vfxim sl chalky lm
 w/ some grey chalky lm
 some green + red sh's

Bt Carb. sh's

Mostly green + red sh's

Wick - Fair show of free oil in
 WT vfxim lm w/ v. poor interesting
 "light" NO odor

com. tan vfxim ds lm
 w/ pe's wt chalky lm
 some green + red sh's

AA w/ more green + red sh's
 No sh
 No show

lm. tan vfxim ds lm
 w/ pe's wt chalky lm
 lots green + red sh's
 few loose sand grains NO show

AA w/ more loose sd grains
 No sh
 No show

Mostly green + red sh's
 some loose sand grains
 wt vfxim chalky lm

AA w/ no sh
 NO show

sl in block show of free oil in
 few sh's as clusters. NO odor
 lot of loose grains

Mostly red + green sh's
 few v. shaggy
 few sd grains

AA w/ more sh's
 No sh
 No show

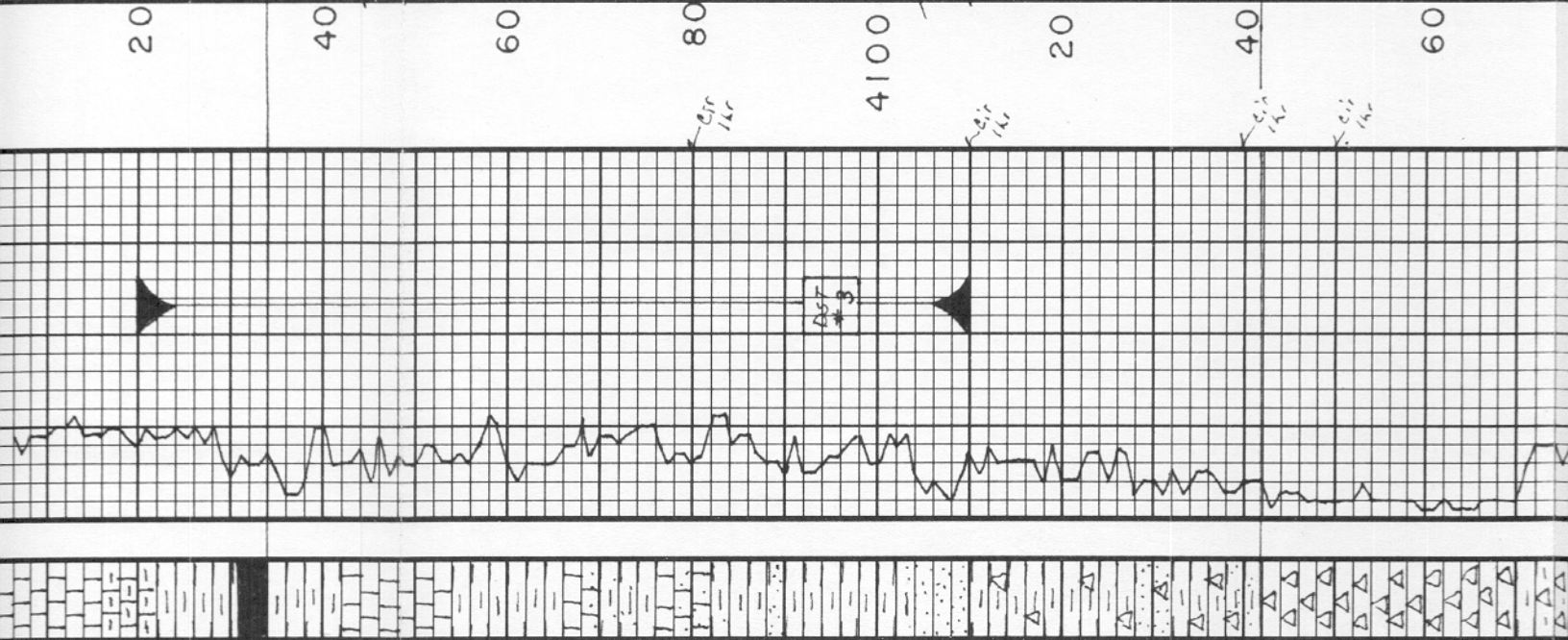
lots of yellow + vc. shaggy sh's
 some ss grains
 PE's wt vfxim lm
 w/ pe's wt chalky lm
 No show

Mostly wt sharp + weathered sh's
 some red + green sh's
 NO show

wt sharp + impolitic sh's
 some red + green sh's
 good sh
 NO show

Clean wt sharp + impolitic sh's
 few sh's
 good sh
 NO show

wt - (f) grey shaggy + impolitic sh's



△△
△△
△△
-△-
-△-
-△-
-△-
-△-
-△-
△



Few Sh's Good @ No Show
WT - 15 Grey Sheep + Polipills Δ
Lots of Red + Green Sh's No Show
AA w/more Sh's Fair @ No Show

80

RTD 4190 (-1982)

4200

20

40

60

80

4300

20