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Scale 1:240 (5"=100') Imperial
Measured Depth Log

Well Name: Hageman #1
Location: Rooks County
License Number: API #15-163-24,274-0000
Spud Date: 11/14/14
Surface Coordinates: Section 36 - Township 8 South - Range 18 West
1,710' FSL & 570' FWL
Bottom Hole Coordinates: Vertical well with minimal deviation, same as above
Ground Elevation (ft): 2,019' K.B. Elevation (ft): 2,024'
Logged Interval (ft): 2,900' To: RTD Total Depth (ft): 3,510'
Formation: LKC, Arbuckle
Type of Drilling Fluid: Chemical (Andy's)

Region: Kansas
Drilling Completed: 11/24/14

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OPERATOR

Company: John O. Farmer, Inc
Address: 370 W. Wichita Ave
Russell, KS 67665

Comments

The Hageman #1 well was drilled by WW Rig #6 (Tool Pusher: Mark Biggie).

The location for the Hageman #1 well was found via 3-D seismic survey. Geologic samples were collected and evaluated from 2,900'-3,510'. Structurally, the Hageman #1 ran 19' high to our correlation well, Hageman #1 (G-D Oil Operations), at the Lansing. A bottom-hole test was conducted covering Toronto - LKC B, yielding positive results. Three additional tests were conducted in the LKC C, E-F, & H-K respectively, with the Lansing H-K test being the only one yielding positive results. The Arbuckle horizon was picked 8' high to our previously drilled Weigel Unit #1, 3,000' to the north. Upon completion of the logging operation a straddle test was conducted in the Arbuckle, yielding negative results. Upon completion of the drill stem test, the decision was made to set 5 1/2" production casing to further evaluate the Hageman #1 well on 11/24/14.

ROCK TYPES

 Anhy	 Clyst	 Gyp	 Mrlst	 Shgy
 Bent	 Coal	 Igne	 Salt	 Sltst
 Brec	 Congl	 Lmst	 Shale	 Ss
 Cht	 Dol	 Meta	 Shcol	 Till

OTHER SYMBOLS

POROSITY	<input checked="" type="checkbox"/> Vuggy	ROUNDING	<input type="checkbox"/> Spotted	EVENT
<input type="checkbox"/> Earthy	SORTING	<input type="checkbox"/> Rounded	<input type="checkbox"/> Ques	<input type="checkbox"/> Rft
<input type="checkbox"/> Fenest	<input type="checkbox"/> Well	<input type="checkbox"/> Subrnd	<input type="checkbox"/> Dead	<input type="checkbox"/> Sidewall
<input type="checkbox"/> Fracture	<input type="checkbox"/> Moderate	<input type="checkbox"/> Subang	INTERVAL	
<input type="checkbox"/> Inter	<input type="checkbox"/> Poor	<input type="checkbox"/> Angular	<input type="checkbox"/> Core	
<input type="checkbox"/> Moldic		OIL SHOW	<input type="checkbox"/> Dst	
<input type="checkbox"/> Organic		<input type="checkbox"/> Even		
<input type="checkbox"/> Pinpoint				

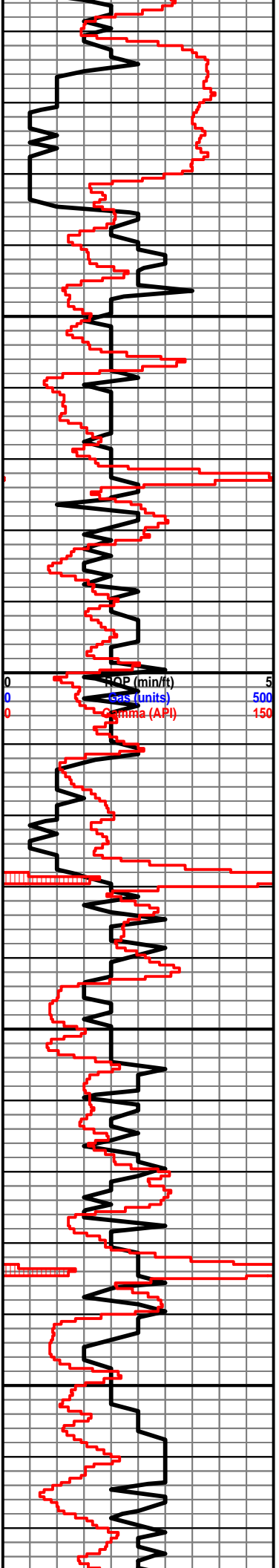
Curve Track 1		Depth	Lithology	Geological Descriptions	DST/Mud/Survey
ROP (min/ft)	Gas (units)				
0	0	0			
5	500	150			
11/14/14 @ 2:00pm Spud					
0	0	0			
5	500	150			
11/15/14 433', Drilling					
11/16/14 1,966', Drilling					
11/17/14 2,161', shut down due to mud pump					
11/20/14 2,705', Drilling					
11/21/14 3,215', Trip for DST #1					
11/22/14 3,278', Circulate for samples					
11/23/14 3,400' DST #4					
11/24/14 3,510', lay down drill pipe					

The open-hole logging was performed by Mr. Gus Pfannenstiel with Gemini Wireline, LLC (Hays, KS). Logs included: Compensated Density/Compensated Neutron, Dual Induction, and Microresistivity logs.

Formation tops and datums from the open-hole logs include the following:

Anhydrite	1378	646
Topeka	2931	-907
Heebner	3143	-1119
Toronto	3166	-1142
Lansing	3186	-1162
B/KC	3408	-1384
Congi.		
Arbuckle	3440	-1416
RTD		
LTD	3507	-1483

Tester: Brett Dickinson
Mud Engineer: Aaron Blew



2950

3000

3050

3100

ROP (min/ft) 5
 Gas (units) 500
 Gamma (API) 150

Ls: tan-lt gry, fn-sub xln, mostly DNS

Sh: lt gry-drk gry

Topeka 2935' (-911)

Ls: tan-lt gry, fn-sub xln, mostly DNS, NSFO, scat chert-off wh

Sh: drk gry

Wt: 8.7
 Vis: 7.6

Ls: off wh-tan, fn xln, scat int xln porosity, NSFO, no odor, scat fossil

Sh: lt gry

Sh: lt gry-drk gry

Ls: tan-gry, fn-sub xln, mostly DNS, no visible porosity, scat chalk

Ls: tan-lt gry, fn xln, poor int xln porosity, scat chert-off wh

Sh: drk gry-blk

Sh: lt gry-drk gry

Ls: tan-lt gry, fn xln, scat int xln porosity, chalky, scat fossil

Ls: ala

Sh: drk gry-blk, carb

Ls: tan-lt gry, fn xln, poor pp vuggy porosity, scat chert-off wh

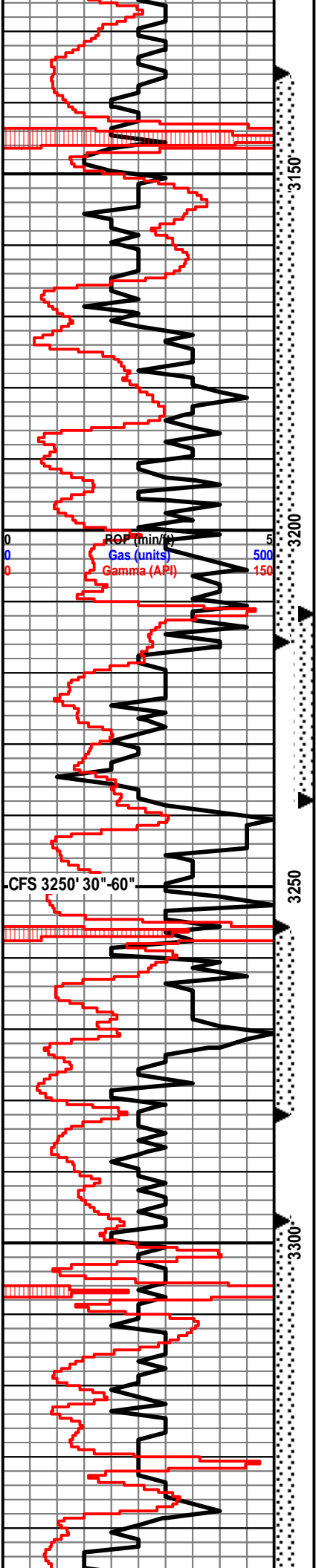
Ls: tan-lt gry, fn-sub xln, mostly DNS, scat chert-off wh

Wt: 9.2
 Vis: 57

DST #1 3,136-3,215' Toronto-LKC B
 30"-30"-45"-45"

IF: weak blow built to 9", no blow back
 EF: ROF in 32 minutes, no blow back

Sh: drk gry



Ls: off wh-tan, fn xln, scat int xln & pp vuggy porosity, scat oil st, SSFO, sl odor

Heebner 3147' (-1123)

Sh: blk, carb, fissile

Sh: drk gry-brn

Toronto 3170' (-1146)

Ls: off wh-tan, fn xln, scat pp vuggy porosity, scat dead oil st, NSFO, no odor

Sh: lt gry-drk gry

Lansing 3188' (-1164)

Ls: off wh-tan, fn xln, fossil, poor-fair int fossil porosity, fair oil sat, SSFO, sl odor

Ls: off wh-tan, fn xln, poor int xln & pp vuggy porosity, fair oil st, VSSFO, sl odor, scat chert-off wh

Sh: drk gry

Ls: off wh-tan, fn xln, poor int xln porosity, scat oil sat, SSFO, sl odor

Sh: drk gry-blk

Ls: off wh-tan, fn xln, fossil, poor int xln porosity, DNS, NSFO

CFS 3250' 30"-60"

Sh: drk gry-blk

Ls: off wh-tan, fn xln, scat int xln & pp vuggy porosity, scat oil st, VSSFO, sl odor

Ls: off wh-tan, fn xln, fair int xln porosity, fair oil sat, SSFO, sl chalky

Sh: drk gry

Sh: drk gry-blk

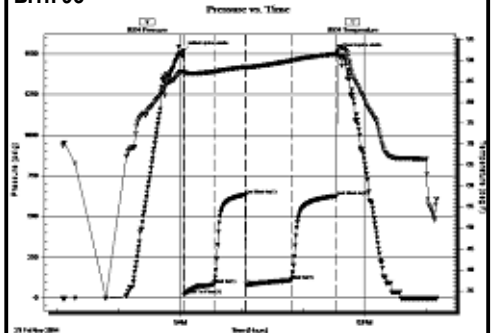
Ls: off wh-tan, fn xln, scat int xln porosity, scat chert-off wh, NSFO

Ls: off wh-tan, fn xln, scat int xln porosity, hvv chert-off wh, chalky, NSFO

Sh: drk gry

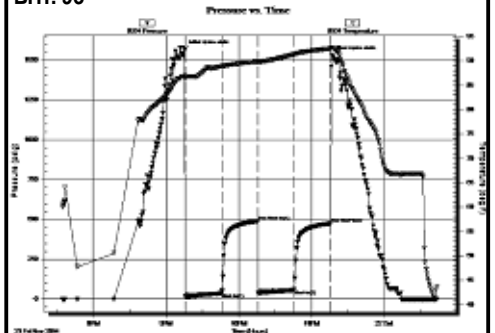
Ls: off wh-tan, fn-md xln, fair int xln & pp vuggy porosity, fair-good oil sat, FSFO, fair odor, scat chert-off wh, chalky

FP: 185' SGMO (5% G, 20% M, 75% O), 90' HOCM (25% O, 75% M)
 FP: 20-83, 82-110#
 SIP: 635-627#
 HP: 1,519-1,507
 BHT: 93



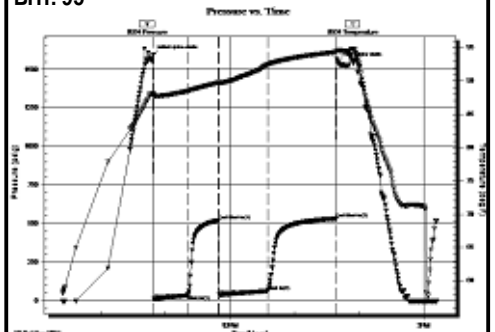
DST #2 3,212-3,238' LKC C
 30"-30"-30"-30"

IF: weak blow built to 1.5"
 FF: weak surface blow
 Rec: 65' MW (30% M, 70% W)
 FP: 14-38, 38-56#
 SIP: 489-474#
 HP: 1,564-1,529#
 BHT: 93



DST #3 3,256-3,282' LKC E-F
 30"-30"-45"-45"

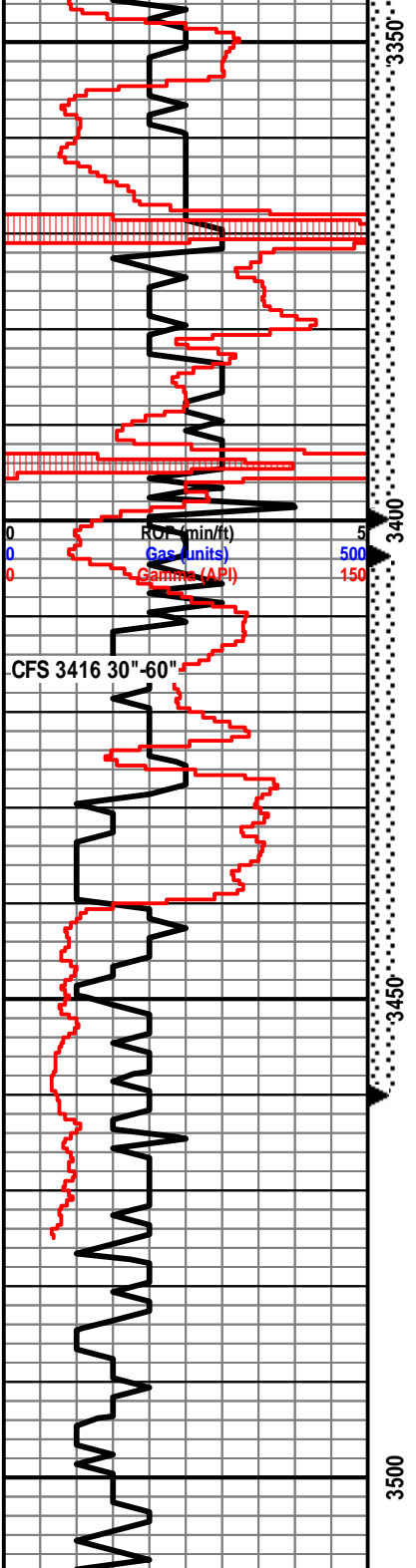
IF: weak blow built to .25"
 FF: weak blow built to .25"
 Rec: 1' CO, 69' MW (40% M, 60% W)
 FP: 14-36, 40-64#
 SIP: 523-533#
 HP: 1,595-1,548#
 BHT: 95



Wt: 9.2
 Vis: 45

DST #4 3,297-3,400' LKC H-K
 30"-30"-60"-60"

IF: BOB in 17 minutes, .25" blow back
 FF: BOB in 15 minutes, 1" blow back
 Rec: 190' GMO (35% G, 65% O), 125' OCWM (10% O, 30% W, 60% M), 125' SOCMM (3% O, 20% M, 77% W)
 FP: 21-111, 114-194#
 SIP: 493-490#
 HP: 1,617-1,602#
 BHT: 93



Sh: drk gry

Ls: off wh-tan, fn xln, scat fossil, fair int xln porosity, sl-fair oil sat, SSFO, sl odor, chalky

Sh: drk gry-blk

Ls: off wh-tan, fn xln, scat int xln porosity, sl oil sat, NSFO, no odor

Sh: drk gry

Ls: off wh-tan, fn xln, poor int xln porosity, NSFO

BKC 3411' (1387)

Sh: drk gry-brn

Sh: lt gry-drk gry-brn

Ls: tan-brn, fn-md xln, scat int xln porosity, scat oil st, NSFO

Arbuckle 3441' (-1417)

Dolo: off wh-tan, fn-md xln, fair sucrosic xln porosity, fair oil sat, SSFO, sl-fair odor

Dolo: off wh-tan, fn-md xln, poor-fair int xln porosity, fair-good oil sat, SSFO, fair odor, hvv chert-off wh

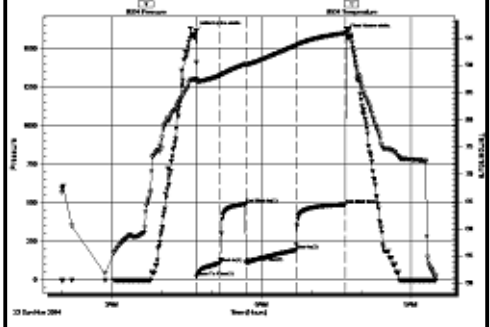
Dolo: off wh-lt brn, md xln, poor-fair int xln porosity, fair oil sat, VSSFO, fair odor,

Dolo: off wh-tan, fn-crs xln, ool, poor int xln & oom porosity, fair oil sat, VSSFO, sl-fair odor

Dolo: off wh-tan, fn-crs xln, poor int xln porosity, scat oil st, NSFO, no odor

Dolo: ala

BHT: 93



Wt: 9

Vis: 47

DST #5 3,404-3,460' Top 20' of Arbuckle
30"-30"-30"-30"

IF: weak blow built to .25"

FF: no blow

Rec: 5' Mud

FP: 17-21, 22-22#

SIP: 39-31#

HP: 1,702-1,651#

BHT: 98

