

Randall Kilian Corporation

Geologist



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GEOLOGIST'S WELL REPORT

COMPANY FOSSIL ENERGY, LLC (34992)

WELL Patriot #1

FIELD Fairport

LOCATION (legal) N $\frac{1}{2}$ SE NW SE

(footages) 1690' FSL & 1650' FEL

Section 17 TWP 12S RGE 15W

(Map) 8 $\frac{1}{2}$ mi N of Gorham, Ks

COUNTY Russell STATE Kansas

ELEVATION: 1845' K.B., 1835' G.L.

Depths measured from Kelly Bushing

A. P. I. NUMBER 15-167-24093

GEOLOGY BY Randall Kilian

PERTINENT WELL DATA

CONTRACTOR Southwind Drilling, Inc. (33350)

RIG #1 HYDRAULICS AZ-900 8x6x109
Cecil Farmer TP

DRILL PIPE X-H 6 $\frac{1}{4}$ " COLLARS 16 (483')

CASING: SURFACE 8 5/8" @ 563' w/ 375 sx 60/40 Poz

PRODUCTION 5 $\frac{1}{2}$ " @ 3342' w/ 145 sx Common 10%
salt, PC @ 910'

DRILLING FLUID. COMPANY KDT Drilling Fluids
(Chris Keas)

TYPE: Chemical

REMARKS: Full service Big rain 8-11-19

DRILL STEM TESTS: COMPANY Diamond Testing, LLC
(Tim Venters)

NUMBER OF TESTS One (1)

ELECTIC LOGS: COMPANY Pioneer Energy Services

DETAIL (5") 2400' - RTD

TYPE DI, Comp N-D, Micro

DRILLING TIME FROM 2450' TO RTD

SAMPLE TIME FROM 2450' TO RTD

SUPERVISION FROM 2450' TO RTD

VERTICAL DEVIATION 3/4@ 565', 1 @ 1953', 1 $\frac{1}{4}$ @
3025', 1 @ 3350'

PLUGGING REPORT 30 sx Rat, 15 sx Mouse

RESERVE PIT 500 bbls., Chl. 29,000, Ca. 1100

DRILL STEM TESTS

NO	INTERVAL	IFP/TIME	ISIP/TIME	FFP/TIME	FSIP/TIME	IHP/FHP	RECOVERY
1	LKc A-C 2968- 3025'	11# 15# 5"	162# 60"	14# 24# 60"	155# 30	1404# 1403#	475' GIP 30' Mud w/ s.o.
2							
3							
4							
5							
6							
7							
8							

MUD RECORD

CHK	DEPTH	WT	VIS	FIL	CHL	YP
1	2391'					
2	2424'	8.5	58	7.4	2k	20
3	2670'	8.5	48			
4	2960'	9.0	48			
5	2990'	8.9	50	8.2	6.5k	15
6	3121'	9.0	51	8.8	6.5k	15
7	3260'	9.2	48			
8						
9						
10						
11						

Displaced

LCM 2#

LCM 2#

LCM 1 1/2#

LCM 1 1/2#

BIT RECORD

NO	SIZE	MAKE	TYPE	DEPTHOUT	FEET	HOURS
1	12 1/2"	BDC		565'	565'	5 3/4
2	7 7/8"	JZ	RA23	2785'	3350'	59 3/4
3						
4						
5						
6						
7						
8						

FORMATION TOPS & STRUCTURAL GEOLOGY

R 15 W

REFERRED TO:

- A: SHIELDS OIL PRODUCERS
Kuhn #1 NE NW SE 17
- B: _____
- C: _____
- D: _____
- E: _____

T
12
S



STRATIGRAPHIC MARKERS	SUBJECT WELL			STRUCTURAL POSITION				
	SAMPLES	E. LOGS	DATUM	A	B	C	D	E

Anhydrite	893'	890'	+ 955	+ 948				
Base	936'	932'	+ 913					
Tarkio Lm	2468'	2465'	- 620	- 624				
3rd Sand	2494'	2493'	- 648	- 655				
Topeka	2717'	2714'	- 869	- 875				
Heeb. Sh.	2935'	2933'	-1088	-1092				
Toronto	2956'	2952'	-1107	-1112				
Lansing	2988'	2983'	-1138	-1144				
BKc.	3236'	3232'	-1387					
Arbuckle	3280'	3280'	-1435					
ID	3350'	3345'	-1500	-1248				

pipe strap 5.00' short.

*Structural position of subject well as compared to referred well.

SUMMARY

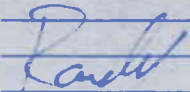
The Patriot #1 well was drilled with Southwind Drilling, Inc. tools rig #1 beginning August 6, 2019 and drilling was completed August 12, 2019.

The drill site is located in the Fairport Field, a nearly 100 year old field. The primary pay zones are the LKc A & C zones. These zones are pressure depleted with 162# SIP remaining. However, with the positive structural position and high quality permeability, commercial reserves remain. Based upon all data, 8 zones may be capable of contributing to the ultimate production of this well.

Recommended perfs; Arbuckle 3280-93', LKc L 3220-26', and LKc K 3196-3203'. These perfs are recommended based upon sample oil shows.

LKc C 3011-16', LKc A 2983-88', Toronto 2954-59', Topeka 2717-20'. The Tarkio 3rd Sand should be tested at some point 2492-2501'.

Respectfully,



Randall Kilian

DRILLING TIME (min/ft)

1/2 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60

POOR
FAIR
GOOD
DST

LITHOLOGY (LAGGED)

REMARKS

80

ASH 90

900

10

20

30

Base 40

2450

60

Tarkin 70

80

3rd sd 90

2500

Mud 2.224
Vis - SB Y.P. - 20
WT - 8.5 CM - 24
Wt. - 7.1 CM - 24

Geo. loc. time
4:00 PM 8-9-19.

SS - gray in. gran. friable
Mica 3-5% in good interstr.

ls - tan - grey fossil

sh - blk

sh - slt - grey - ben - gen

ls - off white - lt grey - tan - fossil
sl - cherty

ls - slate

sh - dark grey

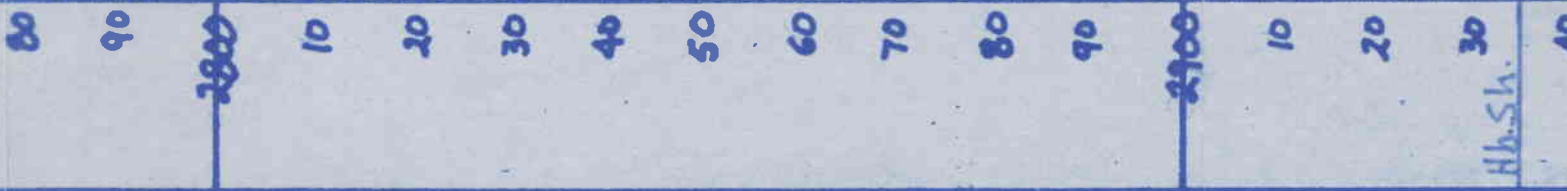
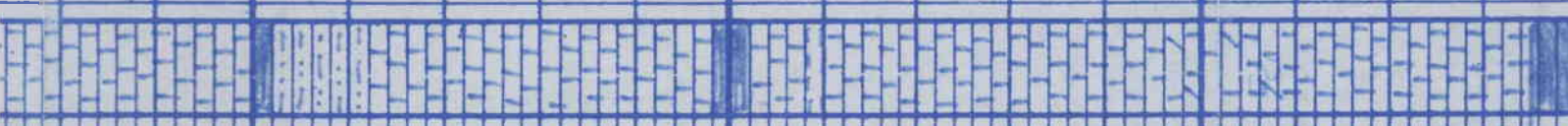
sh - blk, carb

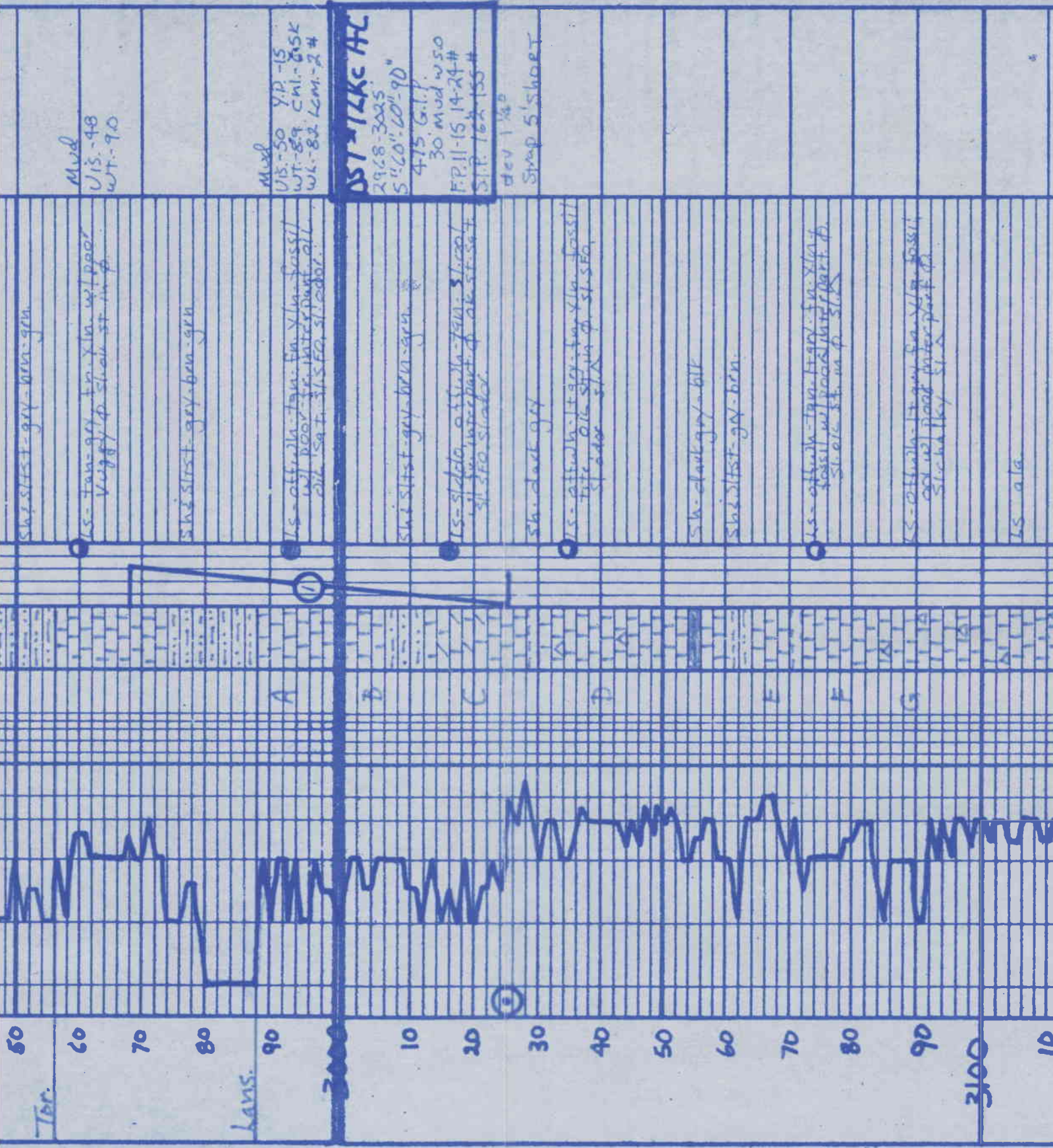
ls - off white, lt grey - fossil
tan - blk

ls - slaty, off white, tan - blk
sh - blk, carb

ls - off white - grey - tan - fossil
sl - cherty

sh - blk, carb, fissile





Mud
U13-98
WT-90

Mud
U13-50 Y.P.-15
WT-89 C.M.-GSK
WT-82 L.M.-24

OST-17Kc A/C
2928-3025
5" 60" 10" 90"
475 G.I.P.
30 Mud w.50
F.P. 11-15 14-24#
S.P. 162-155#
dev 1 1/20
Strap 5' SHOET

sh. siltst - grey-brn. grn.

ls. - tan-grey to xln. w/ poor
veggy p. sh. siltst. m.p.

sh. siltst - grey-brn. grn.

ls. - off-white to tan. xln. fossil
w/ poor siltst. part. all.
sh. siltst. siltst. siltst.

sh. siltst - grey-brn. grn.

ls. - siltst. off-white to tan. siltst.
siltst. siltst. part. of sh. siltst.

sh. siltst - grey

ls. - off-white to grey. tan. xln. fossil
w/ poor siltst. m.p. siltst.

sh. siltst - grey-brn.

sh. siltst - grey-brn.

ls. - off-white to tan. grey. xln. fossil
w/ poor siltst. part. sh. siltst.
m.p. siltst.

ls. - off-white to tan. grey. xln. fossil
w/ poor siltst. part. sh. siltst.
m.p. siltst.

ls. - tan

50
60
70
80
90
10
20
30
40
50
60
70
80
90
100
10

Top.

lans.

A

B

C

D

E

F

G

