

WELL RECORD

API 15-031-21743

Well No. 20W Farm Crotts

Producer lancer oil Inc.

Location 3080fsl-4400fel SE SW NW

Sec. 28

Twp. 22

Rg. 16 E

Elevation

State Kansas

County Coffey

Kind (Oil, Gas, Water, Dry Hole)

Contractor Fleming Drilling, Inc.

Producing formation

Top

Bottom

Shot with

qls.

from

to

Packer Set at

Kind

Size

Liner

from

to

Perforated from

to

LOG

Thick- ness	Strata	Depth	Thick- ness	Strata	Depth
2	top Soil	2	1	lan Oil sand	1002
16	clay	18	5	oil sand	1007
4	Gravel	22	7	lam oil sand	1014
18	shale ,surface	40	2	shale	1016
166	shale	206	49	shale	1065
46	lime	301			
5	lime	306			
14	shale	320			
24	lime	344			
12	shale	356			
26	lime	382			
242	lime	624			
2	shale	626			
4	lime	630			
32	shale	662			
131	shale	793			
24	lime, 7 shgale	817			
9	lime	826			
54	shale	880			
5	lime, 40'	885			
21	shale, brkn.	906			
4	lime	910			
17	shale	927			
20	lime, 20'	947			
7	shale	954			
3	lime,	957			
41	shale	998			
	cored;				
1	shale	999			
1	lime	1001			

Total Depth 1065'

Open Hole set 40' of pipe for surface

Casing Cemented with 8 sacks cement.

Casing at

Casing at

Cement Ran 1059' of 2 7/8" pipe with

Floatshoe On bottom. SN# at 995

Tubing Cent# 1st, 3rd, 5th and 8th jt.

Rods

Additional Information

Started 9/25/91

Completed 10/1/91

RECEIVED

STATE OF KANSAS COM. 2300

OCT 11 1991

Date Completed

O. K.

Superintendent

COPY

Oilfield Research Laboratories
GENERAL INFORMATION & SUMMARY

Company Lancer Oil, Inc. Lease Crotts Well No. 20-W
 Location _____
 Section 28 Twp. 22S Rge. 16E County Coffey State Kansas

Elevation, Feet

Name of Sand.....

Lower Squirrel

Top of Core

999.2

Bottom of Core

1013.7

Top of Sand

999.5

Bottom of Sand

1013.7

Total Feet of Permeable Sand

9.6

Total Feet of Floodable Sand

6.7

Distribution of Permeable Sand: Permeability Range Millidarcys	Feet	Cum. Ft.
0 - 6	2.9	2.9
155 - 165	2.3	5.2
190 - 205	2.7	7.9
250 & above	1.7	9.6

Average Permeability Millidarcys 140.8

Average Percent Porosity 20.4

Average Percent Oil Saturation 56.9

Average Percent Water Saturation 23.0

Average Oil Content, Bbls./A. Ft. 902.

Total Oil Content, Bbls./Acre 8,663.

Average Percent Oil Recovery by Laboratory Flooding Tests 15.3

Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft. 261.

Total Oil Recovery by Laboratory Flooding Tests, Bbls./Acre 1,748.

Total Calculated Oil Recovery, Bbls./Acre See "Calculated Recovery" Section

RECEIVED
STATE COMMISSION ON CONSERVATION

OCT 11 1991

CONSERVATION DIVISION
WICHITA, KANSAS

Oilfield Research Laboratories

RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company Lancer Oil, Inc. Lease Crofts Well No. 20-W

Sample No.	Depth, Feet	Effective Porosity Percent	Percent Saturation			Oil Content Bbls. / A Ft.	Perm., Mill.	Feet of Sand		Total Oil Content	Perm. Capacity Ft. X md.
			Oil	Water	Total			Ft.	Cum. Ft.		
1	999.6	16.3	58	35	93	733	1.9	0.7	0.7	513	1.33
2	1000.7	21.5	49	19	68	817	271.	0.7	1.4	572	189.70
3	1001.6	21.6	53	20	73	888	197.	0.7	2.1	622	137.90
4	1002.5	22.7	62	15	77	1092	198.	1.0	3.1	1092	198.00
5	1003.5	20.5	62	18	80	986	160.	1.0	4.1	986	160.00
6	1004.6	23.3	63	13	76	1139	253.	1.0	5.1	1139	253.00
7	1005.5	21.9	54	23	77	918	200.	1.0	6.1	918	200.00
8	1006.5	22.3	55	24	79	952	157.	1.3	7.4	1238	204.10
9	1009.5	17.9	50	37	87	694	5.9	1.2	8.6	833	7.08
10	1012.6	15.6	62	24	86	750	0.29	1.0	9.6	750	0.29

COPY

was reduced from 57.3 to 42.0, or represents an average recovery of 15.3 percent. The weighted average effective permeability of the samples is 6.28 millidarcys, while the average initial fluid production pressure is 17.1 pounds per square inch (See Table V).

By observing the data given in Table IV, you will note that of the 9 samples tested, 7 produced water and oil, and 2 produced water only. This indicates that approximately 78 percent of the sand represented by these samples is floodable pay sand.

CALCULATED RECOVERY

It would appear from a study of the core data, that efficient primary and waterflood operations in the vicinity of this well should recover approximately 2,490 barrels of oil per acre. This is an average recovery of 371 barrels per acre foot from 6.7 feet of floodable sand analyzed in this core.

These recovery values were calculated using the following data and assumptions:

Original formation volume factor, estimated	1.04
Reservoir water saturation, percent, estimated	15.0
Average porosity, percent	21.9
Oil saturation after flooding, percent	42.0
Performance factor, percent, estimated	55.0
Net floodable sand, feet	6.7

-2-

The core was sampled and the samples sealed in plastic bags by a representative of the client.

FORMATION CORED

The detailed log of the formation cored is as follows:

<u>Depth Interval, Feet</u>	<u>Description</u>
999.2 - 999.5	Limestone, gray, shaly.
999.5 - 1000.2	Sandstone, dark grayish brown, very shaly with scattered shale and mica partings.
1000.2 - 1000.6	Shale, gray with widely scattered brown sandstone partings.
1000.6 - 1002.0	Sandstone, dark brown.
1002.0 - 1007.3	Sandstone, dark brown with very widely scattered shale and mica partings and inclusions.
1007.3 - 1008.3	Shale, gray with widely scattered brown sandstone partings.
1008.3 - 1009.0	Sandstone, light grayish brown, very shaly with scattered shale and mica partings.
1009.0 - 1010.2	Sandstone, brown, shaly with scattered shale and mica partings.
1010.2 - 1010.9	Shale, gray with scattered brown sandstone partings.
1010.9 - 1011.3	Limestone, gray, shaly.
1011.3 - 1013.7	Sandstone, dark grayish brown, very shaly with scattered shale and mica partings.

LABORATORY FLOODING TESTS

The sand in this core responded to laboratory flooding tests, as a total recovery of 1,748 barrels of oil per acre was obtained from 6.7 feet of sand. The weighted average percent oil saturation