



# OILFIELD RESEARCH LABORATORIES

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April 22, 1980

Glenn Caldwell  
P.O. Box 42  
Garnett, Kansas 66032

Gentlemen:

Enclosed herewith are the results of tests run on the rotary core taken from the Feuerborn Lease, Well No. 1, Linn County, Kansas, and submitted to our laboratory on April 8, 1980.

The core was sampled by a representative of Oilfield Research Laboratories.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Sanford A. Michel

SAM/tem

5 c to Garnett, Kansas

# Oilfield Research Laboratories

## GENERAL INFORMATION & SUMMARY

Company Glenn Caldwell Lease Feuerborn Well No. 1  
 Location NE $\frac{1}{4}$  SE $\frac{1}{4}$  SE $\frac{1}{4}$   
 Section 16 Twp. 20S Rge. 22E County Linn State Kansas

Elevation, Feet . . . . .	
Name of Sand . . . . .	Squirrel
Top of Core . . . . .	552.0
Bottom of Core . . . . .	591.3
Top of Sand . . . . . (Tested)	555.0
Bottom of Sand . . . . . (Tested)	588.6
Total Feet of Permeable Sand . . . . .	23.1

Distribution of Permeable Sand: Permeability Range Millidarcys	Feet	Cum. Ft.
0 - 10	6.5	6.5
10 - 20	4.5	11.0
20 - 40	3.3	14.3
40 - 100	6.0	20.3
175 & Above	2.8	23.1

Average Permeability Millidarcys . . . . .	47.0
Average Percent Porosity . . . . .	19.7
Average Percent Oil Saturation . . . . .	38.3
Average Percent Water Saturation . . . . .	48.6
Average Oil Content, Bbls./A. Ft. . . . .	589.
Total Oil Content, Bbls./Acre . . . . .	15,364.

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LOGName Glenn Caldwell Lease Feuerborn Well No. 1

<u>Depth Interval, Feet</u>	<u>Description</u>
552.0 - 559.2	Gray-Brown slightly shaly sandstone.
559.2 - 560.1	Gray-Brown shaly sandstone.
560.1 - 561.7	Gray-Brown sandstone.
561.7 - 566.6	Gray-Brown shaly sandstone.
566.6 - 574.7	Gray-Brown sandstone.
574.7 - 576.7	Gray-Brown shaly sandstone.
576.7 - 582.8	Gray-Brown sandstone.
582.8 - 584.6	Brown sandstone.
584.6 - 587.4	Gray and brown laminated shale.
587.4 - 588.6	Brown shaly sandstone.
588.6 - 590.7	Brown sandstone.
590.7 - 591.3	Gray shale.

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**RESULTS OF SATURATION & PERMEABILITY TESTS**

**TABLE 1-B**

Company Glenn Caldwell Lease Feuerborn Well No. 1

Sample No.	Depth, Feet	Effective Porosity Percent	Percent Saturation		Oil Content Bbbls. / A Ft.	Perm., Mill.	Feet of Sand		Total Oil Content	Perm. Capacity Ft. X md.
			Oil	Water			Total	Ft.		
1	555.5	21.2	39	47	86	10.	1.0	1.0	641	10.00
2	556.5	19.0	48	38	86	50.	1.0	2.0	708	50.00
3	557.5	21.5	34	50	84	40.	1.0	3.0	567	40.00
4	558.5	18.1	35	53	88	10.	1.2	4.2	590	12.00
5	559.5	18.7	26	72	98	2.3	0.9	5.1	339	2.07
6	560.5	21.3	47	34	81	18.	1.0	6.1	777	18.00
7	561.5	20.1	40	42	82	24	0.6	6.7	374	14.40
8	564.5	20.2	44	42	86	5.8	1.0	7.7	690	5.80
9	565.5	17.6	33	45	78	1.8	1.0	8.7	451	1.80
10	566.5	16.5	31	62	93	5.0	0.6	9.3	238	3.00
11	569.5	21.0	38	41	79	30.	1.0	10.3	619	30.00
12	570.5	21.2	49	41	90	35.	0.7	11.0	564	24.50
13	571.5	17.4	36	55	91	1.6	1.0	12.0	486	1.60
14	572.5	21.6	47	33	80	199.	1.0	13.0	788	199.00
15	573.5	20.9	45	38	83	47.	1.0	14.0	730	47.00
16	574.5	20.1	43	48	91	64.	1.0	15.0	671	64.00
17	575.5	18.0	32	52	84	3.1	1.0	16.0	447	3.10
18	576.5	15.5	20	65	85	0.44	1.0	17.0	241	0.44
19	577.5	21.5	42	46	88	16.	1.3	18.3	911	20.80
20	578.5	21.7	39	46	85	82.	1.0	19.3	657	82.00
21	579.5	22.2	32	47	79	41.	1.0	20.3	551	41.00
22	580.5	23.7	36	48	84	253.	1.0	21.3	662	253.00
23	581.5	19.2	28	59	87	22.	1.0	22.3	417	22.00
24	582.5	18.7	28	60	88	175.	0.8	23.1	325	22.00
25	584.5	20.9	39	58	97	-	1.8	24.9	1138	140.00
26	588.5	14.5	58	40	98	-	1.2	26.1	782	-

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## SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company	Lease	Well No.					
Glenn Caldwell	Feuerborn	1					
Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.	Average Percent Porosity	Average Percent Water Saturation	Average Oil Content Bbl./A. Ft.	Total Oil Content Bbls./Acre
555.0 - 576.7	17.0	31.0	526.71	19.4	38.1	584	9,921
576.7 - 582.8	6.1	91.6	558.80	20.3	38.7	598	5,443
555.0 - 582.8	23.1	47.0	1085.51	19.7	38.3	589	15,364
555.0 - 576.7	17.0			19.4	38.1	584	9,921
576.7 - 588.6	9.1			20.3	38.7	598	5,443
555.0 - 588.6	26.1			19.7	38.3	589	15,364

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**RESULTS OF WATER DIFFERENTIATION TESTS**  
**TABLE VI**

Company Glenn Caldwell Lease Feuerborn Well No. 1

Sample No.	Depth, Feet	Chloride Content of Brine in Sand ppm	Percent Water Saturation		
			Connate	Drilling & Foreign	Total
25	584.5	17,326			
26	588.5	20,596			

Note: ppm — parts per million