

# OILFIELD RESEARCH LABORATORIES

536 NORTH HIGHLAND - CHANUTE, KANSAS 66720 - PHONE (316) 431-2650

February 21, 1981

L & B Leasing, Inc.  
P. O. Box 153  
Hutchinson, Kansas 67501

Gentlemen:

Enclosed herewith is the report of the analysis of the rotary core taken from the McGuire Lease, Well No. 6, located in Miami County, Kansas and submitted to our laboratory on December 17, 1980.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Sanford A. Michel

SAM/kas

5 c to Hutchinson, Kansas

# Oilfield Research Laboratories

## GENERAL INFORMATION & SUMMARY

Company L & B Leasing, Inc. Lease McGuire Well No. 6

Location 165' SNL & 165' WEL-N $\frac{1}{2}$  - SE $\frac{1}{2}$

Section 12 Twp. 18S Rge. 22E County Miami State Kansas

Elevation, Feet - - - - -

Name of Sand - - - - - Peru

Top of Core - - - - - 278.0

Bottom of Core - - - - - 293.0

Top of Sand - - - - - 278.0

Bottom of Sand - - - - - 290.8

Total Feet of Permeable Sand - - - - - 11.8

Total Feet of Floodable Sand - - - - - 0.0

Distribution of Permeable Sand:  
Permeability Range  
Millidarcys

Feet

Cum. Ft.

0 - 0.50                      4.7                      4.7

1 - 4                              2.0                      6.7

4 & Above                      5.1                      11.8

Average Permeability Millidarcys - - - - - 3.3

Average Percent Porosity - - - - - 16.2

Average Percent Oil Saturation - - - - - 37.9

Average Percent Water Saturation - - - - - 52.7

Average Oil Content, Bbls./A. Ft. - - - - - 479.

Total Oil Content, Bbls./Acre - - - - - 6,128.

Average Percent Oil Recovery by Laboratory Flooding Tests - - - - - 0.

Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft. - - - - - 0.

Total Oil Recovery by Laboratory Flooding Tests, Bbls./Acre - - - - - 0.

Total Calculated Oil Recovery, Bbls./Acre - - - - - 0.

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The core was sampled by a representative of Oilfield Research Laboratories. Fresh water mud was used as a drilling fluid. The core was reported to be from a virgin area.

Since the core did not respond to flooding susceptibility tests, no calculated recovery is given.

## FORMATION CORED

The detailed log of the formation cored is as follows:

<u>Depth Interval, Feet</u>	<u>Description</u>
278.0 - 284.1	Brown slightly calcareous shaly sandstone.
284.1 - 287.3	Brown and gray laminated slightly calcareous sandstone and shale.
287.3 - 290.8	Light brown and gray laminated slightly calcareous sandstone and shale.
290.8 - 293.0	Gray sandy shale.

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## RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company L. & B Leasing, Inc. Lease McGuire Well No. 6

Sample No.	Depth, Feet	Effective Porosity Percent	Percent Saturation			Oil Content Bbbs. / A Ft.	Perm., Mill.	Feet of Sand		Total Oil Content	Perm. Capacity Ft. X md.
			Oil	Water	Total			Ft.	Cum. Ft.		
1	278.5	17.7	46	42	88	632	5.3	1.0	1.0	632	5.30
2	279.5	10.6	36	61	97	296	3.9	1.0	2.0	296	3.90
3	280.5	14.6	43	44	87	487	4.9	1.0	3.0	487	4.90
4	281.6	14.8	49	45	94	563	1.0	1.0	4.0	563	1.00
5	282.5	12.4	40	52	92	385	0.16	1.0	5.0	385	0.16
6	283.5	20.2	44	36	80	690	8.2	1.1	6.1	759	9.02
7	284.5	20.7	40	39	79	642	10.	1.0	7.1	642	10.00
8	285.2	17.7	37	51	88	508	4.0	1.0	8.1	508	4.00
9	286.5	17.3	39	56	95	523	0.36	1.2	9.3	628	0.43
10	287.5	15.3	14	82	96	166	Imp.	1.0	10.3	166	0.00
11	288.5	17.7	28	63	91	385	0.41	1.0	11.3	385	0.41
12	289.5	15.1	37	61	98	433	0.27	1.0	12.3	433	0.27
13	290.4	15.3	41	55	96	487	0.17	0.5	12.8	244	0.09

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## SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company	Lease	Well No.	
L & B Leasing, Inc.	McGuire	6	
Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.
278.0 - 290.8	11.8	3.3	39.48
Depth Interval, Feet	Feet of Core Analyzed	Average Percent Oil Saturation	Average Percent Water Saturation
278.0 - 290.8	12.8	16.2	37.9
		Average Percent Porosity	Average Oil Content Bbl./A. Ft.
		52.7	479
		Total Oil Content Bbls./Acre	6,128

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## RESULTS OF LABORATORY FLOODING TESTS

**TABLE IV**

Company **L & B Leasing, Inc.** Lease **McGuire** Well No. **6**

Sample No.	Depth, Feet	Effective Porosity Percent	Original Oil Saturation		Oil Recovery		Residual Saturation		Volume of Water Recovered cc*	Effective Permeability Millidarcys**	Initial Fluid Production Pressure Lbs./Sq./In.
			%	Bbls./A. Ft.	%	Bbls./A. Ft.	% Oil	% Water			
1	278.5	17.2	47	627	0	0	47	43	0	Imp.	-
2	279.5	10.7	36	299	0	0	36	61	0	Imp.	-
3	280.5	15.0	42	489	0	0	42	46	0	Imp.	-
4	281.6	14.7	49	559	0	0	49	46	0	Imp.	-
5	282.5	12.9	39	390	0	0	39	53	0	Imp.	-
6	283.5	20.0	44	683	0	0	44	38	0	Imp.	-
7	284.5	20.6	40	639	0	0	40	40	0	Imp.	-
8	285.2	18.2	36	508	0	0	36	54	0	Imp.	-
9	286.5	16.9	40	524	0	0	40	55	0	Imp.	-
10	287.5	15.3	14	166	0	0	14	82	0	Imp.	-
11	288.5	17.6	28	382	0	0	28	65	0	Imp.	-
12	289.5	15.0	37	431	0	0	37	61	0	Imp.	-
13	290.4	14.8	42	482	0	0	42	54	0	Imp.	-

Notes: cc—cubic centimeter.

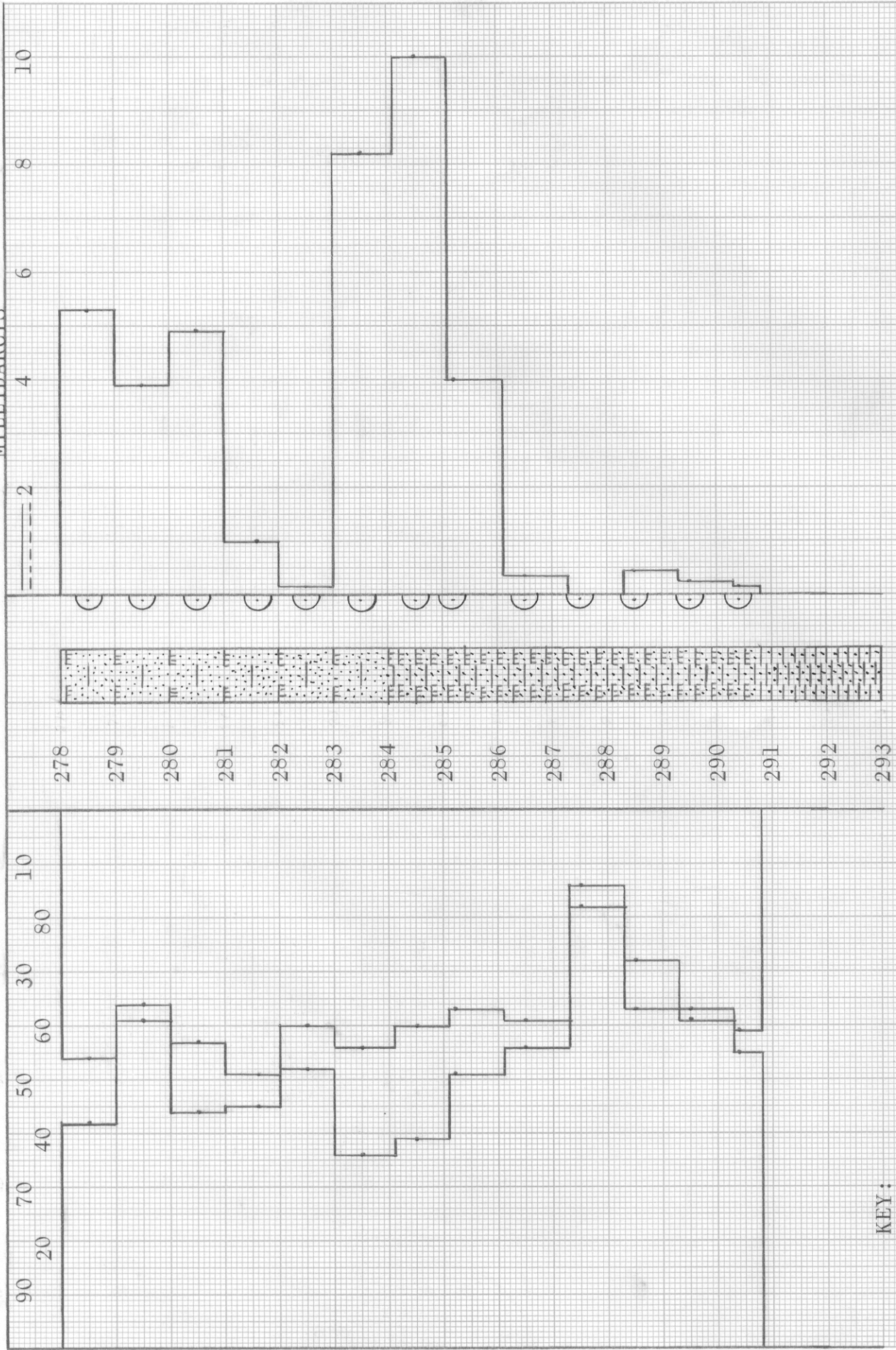
\*—Volume of water recovered at the time of maximum oil recovery.

\*\*—Determined by passing water through sample which still contains residual oil.

WATER SAT.,  
PERCENT

OIL SAT.,  
PERCENT

PERMEABILITY, IN MILLIDARCYS  
EFFECTIVE PERMEABILITY TO WATER, IN  
MILLIDARCYS



KEY:



SANDY SHALE



SHALY CALCAREOUS SANDSTONE



LAMINATED CALCAREOUS SANDSTONE AND SHALE



IMPERMEABLE TO WATER

# L & B LEASING, INC.

McGUIRE LEASE

WELL NO. 6

MIAMI COUNTY, KANSAS

DEPTH INTERVAL, FEET	FEET OF CORE ANALYZED	AVERAGE PERCENT POROSITY	AVG. OIL SATURATION PERCENT	AVG. WATER SATURATION PERCENT	AVERAGE PERMEABILITY, MILLIDARCYS	CALCULATED OIL RECOVERY BBLs./ ACRE
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278.0 - 290.8	12.8	16.2	37.9	52.7	3.3	-----
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OILFIELD RESEARCH LABORATORIES  
 CHANUTE, KANSAS  
 FEBRUARY, 1981