

# OILFIELD RESEARCH LABORATORIES

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

July 23, 1981

Lamco Energy, Inc.  
P. O. Box 776  
Chanute, Kansas 66720

Gentlemen:

Enclosed herewith is the report of the analysis of the rotary core taken from the Coover Lease, Well No. B-2, located in Neosho County, Kansas and submitted to our laboratory on July 15, 1981.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

*Sanford A. Michel*  
*by B.L.*

Sanford A. Michel

SAM/kas

4 c to Chanute, Kansas  
1 c to Topeka, Kansas

- REGISTERED ENGINEERS -

CORE ANALYSIS - WATER ANALYSIS - REPRESSURING ENGINEERING - SURVEYING & MAPPING - PROPERTY EVALUATION & OPERATION

**Oilfield Research Laboratories**  
**GENERAL INFORMATION & SUMMARY**

Company Lamco Energy, Inc. Lease Coover Well No. B-2  
 Location 3820' NSL & 1170' EWL NE $\frac{1}{4}$   
 Section 9 Twp. 28S Rge. 20E County Neosho State Kansas

Elevation, Feet .....	
Name of Sand.....	Bartlesville
Top of Core .....	590.0
Bottom of Core .....	608.7
Top of Sand .....	590.0
Bottom of Sand .....	597.9
Total Feet of Permeable Sand .....	3.6
Total Feet of Floodable Sand .....	0.0

Distribution of Permeable Sand: Permeability Range Millidarcys	Feet	Cum. Ft.
0 - 5	3.6	3.6

Average Permeability Millidarcys .....	1.0
Average Percent Porosity .....	12.1
Average Percent Oil Saturation .....	22.7
Average Percent Water Saturation.....	64.9
Average Oil Content, Bbls./A. Ft.....	229.
Total Oil Content, Bbls./Acre.....	1,646.
Average Percent Oil Recovery by Laboratory Flooding Tests.....	0.0
Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft. ....	0.0
Total Oil Recovery by Laboratory Flooding Tests, Bbls./Acre .....	0.0
Total Calculated Oil Recovery, Bbls./Acre.....	-----

The core was sampled by a representative of Oilfield Research Laboratories. Fresh water mud was used as a drilling fluid. 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>
590.0 - 590.7	Grayish brown slightly calcareous shaly sandstone.
590.7 - 591.4	Grayish light brown slightly calcareous very shaly sandstone.
591.4 - 592.3	Grayish brown slightly calcareous shaly sandstone.
592.3 - 593.0	Grayish light brown slightly calcareous very shaly sandstone.
593.0 - 594.3	Grayish dark brown slightly calcareous shaly sandstone.
594.3 - 595.7	Grayish very light brown slightly calcareous very shaly sandstone.
595.7 - 597.9	Gray slightly calcareous very shaly sandstone.
597.9 - 608.7	Dark gray shale.

# Oilfield Research Laboratories

## RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company Lamco Energy, Inc.

Lease Coover

Well No. B-2

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			Ft.	Cum. Ft.		
1	590.5	16.0	40	47	497	1.6	0.7	0.7	348	1.12
2	591.6	15.9	25	47	308	2.0	0.9	1.6	277	1.80
3	592.5	11.3	21	63	184	Imp.	0.7	2.3	129	0.00
4	593.6	12.6	46	48	450	0.32	1.3	3.6	585	0.42
5	594.5	11.5	15	67	134	0.58	0.7	4.3	94	0.41
6	595.6	10.0	20	72	155	Imp.	0.7	5.0	109	0.00
7	596.6	9.9	8	86	61	Imp.	1.2	6.2	73	0.00
8	597.5	10.0	4	85	31	Imp.	1.0	7.2	31	0.00

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## SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company	Lamco Energy, Inc.	Lease	Coover	Well No.	B-2	
	Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.		
	590.0 - 597.9	3.6	1.0	3.75		
	Depth Interval, Feet	Feet of Core Analyzed	Average Percent Oil Saturation	Average Percent Water Saturation	Average Oil Content Bbl./A. Ft.	Total Oil Content Bbls./Acre
	590.0 - 597.9	7.2	22.7	64.9	229	1,646

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## RESULTS OF LABORATORY FLOODING TESTS

TABLE IV

Company Lamco Energy, Inc.

Lease Coover

Well No. B-2

Sample No.	Depth, Feet	Effective Porosity Percent	Original Oil Saturation		Oil Recovery		Residual Saturation		Volume of Water Recovered cc's	Effective Permeability Millidarcys**	Initial Fluid Production Pressure Lbs./Sq./In.
			%	Bbls./A. Ft.	%	Bbls./A. Ft.	% Oil	% Water			
1	590.5	16.1	40	500	0	0	40	49	0	Imp.	-
2	591.6	15.4	26	311	0	0	26	48	0	Imp.	-
3	592.5	11.4	21	186	0	0	21	64	0	Imp.	-
4	593.6	12.5	46	446	0	0	46	47	0	Imp.	-
5	594.5	11.6	15	135	0	0	15	68	0	Imp.	-
6	595.6	10.5	19	155	0	0	19	74	0	Imp.	-
7	596.6	9.8	8	61	0	0	8	85	0	Imp.	-
8	597.5	10.1	4	31	0	0	4	86	0	Imp.	-

Notes: cc—cubic centimeter.

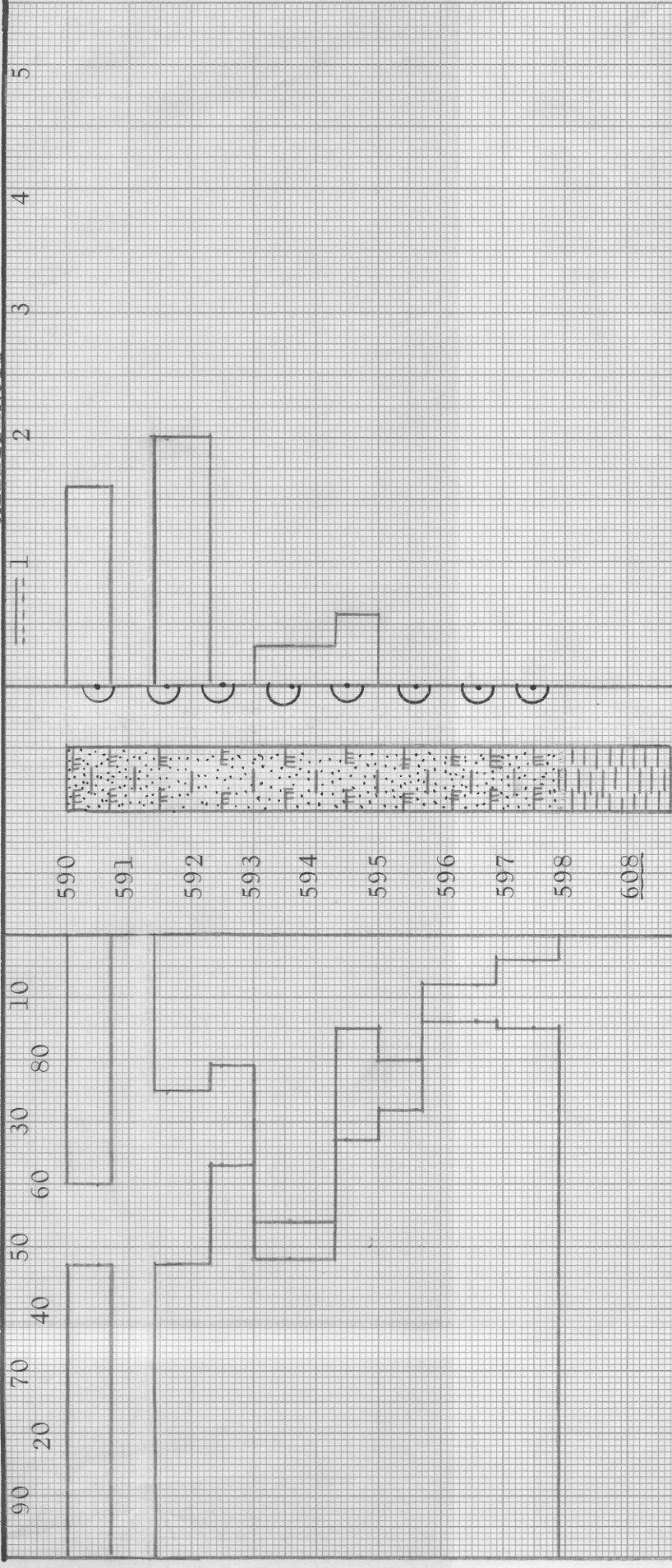
\*—Volume of water recovered at the time of maximum oil recovery.

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



WATER SAT., PERCENT → ← OIL SAT., PERCENT

PERMEABILITY IN MILLIDARCYS  
EFFECTIVE PERMEABILITY TO WATER, I  
MILLIDARCYS



KEY:

SHALE

SHALY CALCAREOUS SANDSTONE

IMPERMEABLE TO WATER

# LAMCO ENERGY, INC.

COOVER LEASE

NEOSHO COUNTY, KANSAS

WELL NO. B-2

DEPTH INTERVAL, FEET	FEET OF COKE ANALYZED	AVERAGE PERCENT POROSITY	AVG. OIL SATURATION PERCENT	AVG. WATER SATURATION PERCENT	AVERAGE PERMEABILITY, MILLIDARCYS	CALCULATED OIL RECOVERY BBLs. / ACRE
0 - 10						
10 - 20						
20 - 30						
30 - 40						
40 - 50						
50 - 60						
60 - 70						
70 - 80						
80 - 90						

# LAMCO ENERGY, INC.

COOVER LEASE

WELL NO. B-2

NEOSHO COUNTY, KANSAS

DEPTH INTERVAL, FEET	FEET OF CORE ANALYZED	AVERAGE PERCENT POROSITY	AVG. OIL SATURATION PERCENT	AVG. WATER SATURATION PERCENT	AVERAGE PERMEABILITY, MILLIDARCY	CALCULATED OIL RECOVERY BBL. / ACRE
590.0 - 597.9	7.2	12.1	22.7	64.9	1.0	-

OILFIELD RESEARCH LABORATORIES  
 CHANUTE, KANSAS  
 JULY, 1981

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