

# OILFIELD RESEARCH LABORATORIES

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

September 2, 1981

Allen Energy Corporation  
2601 Northwest Express Way  
Suite 1101 West  
Oklahoma City, Oklahoma 73112

Gentlemen:

Enclosed herewith is the report of the analysis of the rotary core taken from the Lister Lease, Well No. 1, located in Chautauqua County, Kansas and submitted to our laboratory on August 25, 1981.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

A handwritten signature in cursive script, reading "Sanford A. Michel". The signature is written in black ink and is positioned above the printed name.

Sanford A. Michel

SAM/kas

4 c to Oklahoma City, Oklahoma  
1 c to McCann's  
215 East Main  
Sedan, Kansas 67361

- REGISTERED ENGINEERS -

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

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

Company Allen Energy Corporation Lease Lister Well No. 1  
 Location 660' SNL & 220' EWL SE¼  
 Section 4 Twp. 33S Rge. 11E County Chautauqua State Kansas

Elevation, Feet .....  
 Name of Sand ..... Peru  
 Top of Core ..... 1141.0  
 Bottom of Core ..... 1149.0  
 Top of Sand ..... 1141.0  
 Bottom of Sand ..... 1149.0  
 Total Feet of Permeable Sand ..... 8.0  
 Total Feet of Floodable Sand ..... 0.0

Distribution of Permeable Sand: Permeability Range Millidarcys	Feet	Cum. Ft.
0 - 10	2.9	2.9
10 - 19	5.1	8.0

Average Permeability Millidarcys ..... 12.0  
 Average Percent Porosity ..... 15.3  
 Average Percent Oil Saturation ..... 28.7  
 Average Percent Water Saturation ..... 56.5  
 Average Oil Content, Bbls./A. Ft. .... 342.  
 Total Oil Content, Bbls./Acre ..... 2,734.  
 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 non-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>
1141.0 - 1146.2	Grayish brown sandstone.
1146.2 - 1146.9	Grayish light brown shaly sandstone.
1146.9 - 1148.0	Grayish light brown sandstone.
1148.0 - 1149.0	Grayish light brown shaly sandstone.

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company Allen Energy Corporation Lease Lister Well No. 1

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	1141.6	15.9	31	53	84	382	18.	1.0	1.0	382	18.00
2	1142.6	15.5	33	54	87	397	18.	1.0	2.0	397	18.00
3	1143.5	14.6	25	56	81	283	10.	1.0	3.0	283	10.00
4	1144.7	15.4	26	52	78	311	15.	1.0	4.0	311	15.00
5	1145.6	15.7	37	50	87	451	9.9	1.2	5.2	541	11.88
6	1146.7	14.8	14	70	84	161	3.1	0.7	5.9	113	2.17
7	1147.9	15.8	33	58	91	405	15.	1.1	7.0	446	16.50
8	1148.4	14.0	24	64	88	261	4.5	1.0	8.0	261	4.50

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## SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company	Lease	Lister	Well No.		
Allen Energy Corporation			1		
Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.		
1141.0 - 1146.2	5.2	14.0	72.88		
1146.2 - 1149.0	2.8	8.3	23.17		
1141.0 - 1149.0	8.0	12.0	96.05		
Depth Interval, Feet	Feet of Core Analyzed	Average Percent Porosity	Average Percent Water Saturation	Average Oil Content Bbl./A. Ft.	Total Oil Content Bbls./Acre
1141.0 - 1146.2	5.2	15.4	30.7	368	1,914
1146.2 - 1149.0	2.8	14.9	25.0	293	820
1141.0 - 1149.0	8.0	15.3	28.7	342	2,734

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## RESULTS OF LABORATORY FLOODING TESTS

TABLE IV

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				Bbls./A. Ft.
1	1141.6	16.0	31	385	0	0	31	65	170	3.22	25	
2	1142.6	15.6	33	399	0	0	33	62	130	2.32	25	
3	1143.5	14.7	25	285	0	0	25	64	134	2.55	25	
4	1144.7	15.0	27	314	0	0	27	61	62	0.90	30	
5	1145.6	15.8	37	454	0	0	37	52	50	1.00	30	
6	1146.7	14.3	15	166	0	0	15	80	28	0.50	35	
7	1147.9	15.9	33	407	0	0	33	59	70	1.12	30	
8	1148.4	14.1	24	263	0	0	24	65	28	0.67	40	

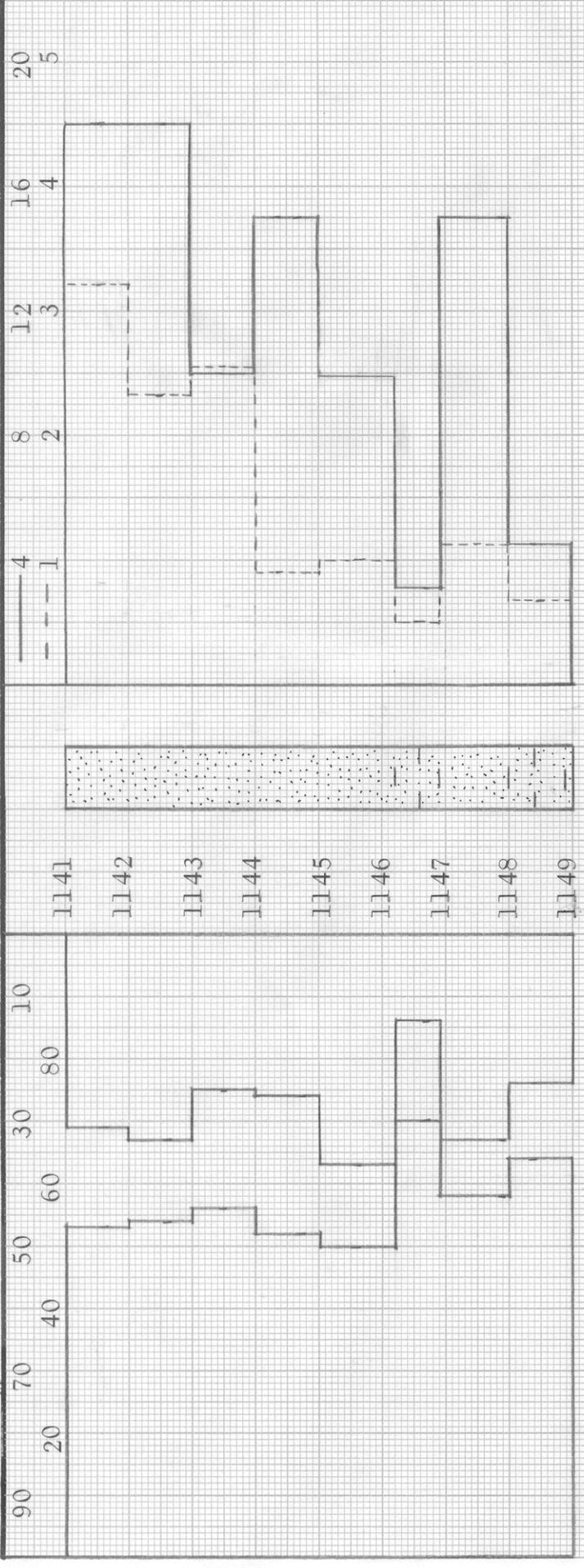
Company Allen Energy Corporation Lease Lister Well No. 1

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:



SANDSTONE



SHALY SANDSTONE

# ALLEN ENERGY CORPORATION

LISTER LEASE

WELL NO. 1

CHAUTAUQUA COUNTY, KANSAS

DEPTH INTERVAL, FEET	FEET OF CORE ANALYZED	AVERAGE POROSITY PERCENT	AVG. OIL SATURATION PERCENT	AVG. WATER SATURATION PERCENT	AVERAGE PERMEABILITY, MILLIDARCYS	CALCULATED OIL RECOVERY BBLs. / ACRE
1141.0 - 1146.2	5.2	15.4	30.7	52.9	14.0	

1148

1149

KEY:

SANDSTONE

SHALY SANDSTONE

# ALLEN ENERGY CORPORATION

LISTER LEASE

WELL NO. J

CHAUTAUQUA 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
1141.0 - 1146.2	5.2	15.4	30.7	52.9	14.0	
1146.2 - 1149.0	2.8	14.9	25.0	63.1	8.3	
1141.0 - 1149.0	8.0	15.3	28.7	56.5	12.0	-

OILFIELD RESEARCH LABORATORIES  
CHANUTE, KANSAS  
SEPTEMBER, 1981

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