

OILFIELD RESEARCH LABORATORIES

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

May 26, 1981

Global Oil, Inc.
166 Harbor Drive # 2
Key Biscayne, Florida 33149

Gentlemen:

Enclosed herewith is the report of the analysis of the rotary core taken from the Alexander Lease, Well No. EK-1, located in Leavenworth County, Kansas and submitted to our laboratory on May 11, 1981.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Sanford A. Michel

SAM/kas

4 c to Key Biscayne, Florida
1 c to Rantoul, Kansas

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GENERAL INFORMATION & SUMMARY

Company Global Oil, Inc. Lease Alexander Well No. EK-1

Location _____

Section 18 Twp. 8S Rge. 21E County Leavenworth State Kansas

Elevation, Feet

Name of Sand..... Burgess and Mississippi

Top of Core 1434.0

Bottom of Core 1443.7

Top of Sand 1434.0

Bottom of Sand 1443.7

Total Feet of Permeable Sand (Tested) 6.3

Total Feet of Floppable Sand 3.0

Distribution of Permeable Sand: Permeability Range Millidarcys

Feet

Cum. Ft.

0 - 40

1.6

1.6

165 - 270

3.0

4.6

415 - 420

1.0

5.6

1270 - 1280

0.7

6.3

Average Permeability Millidarcys 316.9

Average Percent Porosity 22.3

Average Percent Oil Saturation 49.1

Average Percent Water Saturation 25.6

Average Oil Content, Bbls./A. Ft. 813.

Total Oil Content, Bbls./Acre 5,852.

Average Percent Oil Recovery by Laboratory Flooding Tests 4.7

Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft. 94.

Total Oil Recovery by Laboratory Flooding Tests, Bbls./Acre 282.

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

Section

The core was sampled and the samples sealed in plastic bags by a representative of the client. Fresh water mud was used as a drilling fluid. The core was reported to be from a virgin area.

FORMATION CORED

The detailed log of the formation cored is as follows:

<u>Depth Interval, Feet</u>	<u>Description</u>
1434.0 - 1434.9	Grayish brown shaly sandstone.
1434.9 - 1439.8	Dark brown sandstone.
1439.8 - 1442.3	Hard gray sandy calcareous shale.
1442.3 - 1443.7	Dark brown calcareous sandstone.

LABORATORY FLOODING TESTS

The sand in this core responded to laboratory flooding tests, as a total recovery of 282 barrels of oil per acre was obtained from 3.0 feet of sand. The weighted average percent oil saturation was reduced from 39.0 to 34.3, or represents an average recovery of 4.7 percent. The weighted average effective permeability of the samples is 7.07 millidarcys, while the average initial fluid production pressure is 36.7 pounds per square inch (See Table V).

By observing the data given in Table IV, you will note that of the 8 samples tested, 3 produced water and oil, and 3 produced water only. This indicates that approximately 38 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 1,400 barrels of oil per acre. This is an average recovery of 465 barrels per acre foot from 3.0 feet of floodable sand analyzed in this core.

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

Original formation volume factor, estimated	1.05
Reservoir water saturation, percent, estimated	15.0
Average porosity, percent	25.7
Oil saturation after flooding, percent	34.3
Performance factor, percent, estimated	50.0
Net floodable sand, feet	3.0

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company Global Oil, Inc. Lease Alexander Well No. EK-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	1434.4	14.3	69	24	93	766	0.51	0.9	0.9	689	0.46
2	1435.5	21.5	24	43	67	400	169.	1.0	1.9	400	169.00
3	1436.5	24.5	35	33	68	665	266.	1.0	2.9	665	266.00
4	1437.5	23.9	42	33	75	779	226.	1.0	3.9	779	226.00
5	1438.5	28.2	41	19	60	897	415.	1.0	4.9	897	415.00
6	1439.6	29.2	56	27	83	1269	*	0.9	5.8	1142	*
7	1442.6	18.3	75	5	80	1065	1277.	0.7	6.5	746	893.90
8	1443.5	14.9	66	10	76	763	37.	0.7	7.2	534	25.90

NOTE: * PERMEABILITY SAMPLE UNOBTAINABLE.

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company	Global Oil, Inc.	Lease	Alexander	Well No.	EK-1	
	Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.		
	1434.0 - 1443.7	6.3	316.9	1996.26		
	Depth Interval, Feet	Feet of Core Analyzed	Average Percent Porosity	Average Percent Oil Saturation	Average Percent Water Saturation	Total Oil Content Bbls./Acre
	1434.0 - 1443.7	7.2	22.3	49.1	25.6	813
						5,852

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RESULTS OF LABORATORY FLOODING TESTS

TABLE IV

Company Global Oil, Inc. Lease Alexander Well No. EK-1

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	1434.4	14.4	69	771	0	0	69	25	771	8	0.35	45
2	1435.5	21.4	24	398	0	0	24	61	398	140	9.99	25
3	1436.5	24.6	35	668	4	76	31	56	592	257	9.40	35
4	1437.5	24.3	41	773	4	75	37	39	698	253	11.20	30
5	1438.5	28.1	41	894	6	131	35	53	763	14	0.60	45
6	1439.6	28.8	57	1274	0	0	57	27	1274	0	Imp.	-
7	1442.6	18.5	74	1062	0	0	74	21	1062	316	24.73	20
8	1443.5	15.0	66	768	0	0	66	11	768	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.

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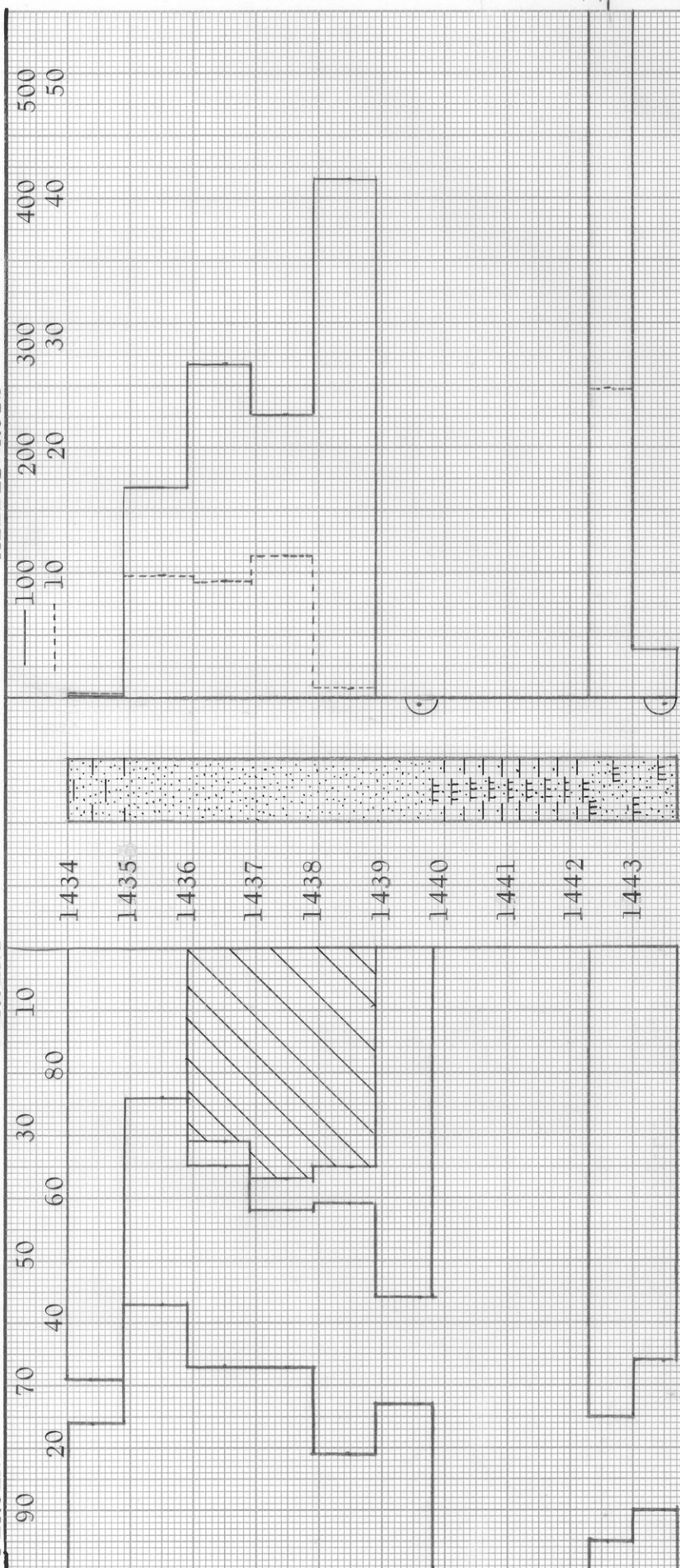
SUMMARY OF LABORATORY FLOODING TESTS

TABLE V

Company	Global Oil, Inc.	Lease	Alexander	Well No.	EK-1
Depth Interval, Feet	1434.0 - 1443.7				
Feet of Core Analyzed	3.0				
Average Percent Porosity	25.7				
Average Percent Original Oil Saturation	39.0				
Average Percent Oil Recovery	4.7				
Average Percent Residual Oil Saturation	34.3				
Average Percent Residual Water Saturation	49.3				
Average Percent Total Residual Fluid Saturation	83.6				
Average Original Oil Content, Bbls./A. Ft.	778.				
Average Oil Recovery, Bbls./A. Ft.	94.				
Average Residual Oil Content, Bbls./A. Ft.	684.				
Total Original Oil Content, Bbls./Acre	2,335.				
Total Oil Recovery, Bbls./Acre	282.				
Total Residual Oil Content, Bbls./Acre	2,053.				
Average Effective Permeability, MILLIDarcys	7.07				
Average Initial Fluid Production Pressure, p.s.i.	36.7				

NOTE: Only those samples which recovered oil were used in calculating the above averages.

WATER SAT., OIL SAT., PERMEABILITY, IN MILLIDARCYS
 PERCENT ———> <——— PERCENT
 ——— PERMEABILITY, IN MILLIDARCYS
 ---EFFECTIVE PERMEABILITY TO WATER, IN MILLIDARCYS



KEY:

SANDSTONE

SHALY SANDSTONE

CALCAREOUS SANDSTONE

SANDY CALCAREOUS SHALE

FLOODPOT RESIDUAL OIL SATURATION

IMPERMEABLE TO WATER

GLOBAL OIL, INCORPORATED

ALEXANDER LEASE

LEAVENWORTH COUNTY, KANSAS

WELL NO. EK-J

DEPTH INTERVAL, FEET	FEET OF CORE ANALYZED	AVERAGE POROSITY PERCENT	AVERAGE SATURATION PERCENT	AVERAGE WATER SATURATION PERCENT	AVERAGE PERMEABILITY, MILLIDARCYS	CALCULATED OIL RECOVERY BBLs. / ACRE

GLOBAL OIL, INCORPORATED

ALEXANDER LEASE

WELL NO. EK-1

LEAVENWORTH COUNTY, KANSAS

DEPTH INTERVAL, FEET	FEET OF CORE ANALYZED	AVERAGE PERCENT POROSITY	AVG. OIL SATURATION PERCENT	AVG. WATER SATURATION PERCENT	AVERAGE PERMEABILITY, MILLIDARCS	CALCULATED OIL RECOVERY BBLs. / ACRE
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1434.0 - 1443.7	7.2	22.3	49.1	25.6	316.9	1400 (PRIMARY AND WATERFLOODING)
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CHANUTE, KANSAS
MAY, 1981

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