Chanute, Kansas

December 20, 1955

Juan Petroleum Company
Box 693
Grayville, Illinois

Gentlemen:

Enclosed herewith is a report of the partial analysis on the 2 9/16" Rotary core taken from the Miller Lease, Well No. E-3, Anderson County, Kansas, and submitted to our laboratory on December 10, 1955.

On the basis of the enclosed data, we believe that an efficient water-flood, within the vicinity of this well, will recover approximately 525 barrels of oil per acre or an average of 146 barrels of oil per acre foot from the 3.60 feet of floodable pay sand analyzed. In calculating this recovery, an allowance was made for oil lost during coring and it was assumed that the primary production and true water saturation of the sand are 10 and 45 percent respectively.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Carl L. McElrea

CLM:wc

4 c.c.

Oilfield Research Laboratories

GENERAL INFORMATION & SUMMARY

Company Juan Petroleum Company Lease Miller Well No. B-3

Location 660' E. of W. Line & 660' S. of N. Line, N½, NW¼

Section 14 Twp. 20S Rge. 20E County Anderson State Kansas

Name of Sand	Squirrel
Top of Core	609.00
Bottom of Core	631.00
Top of Pay Sand	625.00
Bottom of Pay Sand	629.30
Total Feet of Permeable Sand	9.40
Total Feet of Floodable Sand	3.60

Distribution of Permeable Sand:

Permeability Range Millidarcys	Feet	Cum. Ft.

Average Effective Permeability Millidarcys	4.65
Average Percent Porosity	19.86
Average Percent Oil Saturation	27.28
Average Percent Water Saturation	-
Average Oil Content, Bbls./A. Ft.	403.
Total Oil Content, Bbls./Acre	4,196.
Average Percent Oil Recovery by Laboratory Flooding Tests	19.00
Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft.	286.
Total Oil Recovery by Laboratory Flooding Tests, Bbls./Acre	1,028.
Total Calculated Oil Recovery, Bbls./Acre	525.
Packer Setting, Feet	
Viscosity, Centipoises @	
A. P. I. Gravity, degrees @ 60 °F	
Elevation, Feet	

OILFIELD RESEARCH LABORATORIES

LOG

Company Juan Petroleum Company Lease Miller Well No. E-3

Depth Interval, Feet	Description
609.00 - 619.00	Shaley sandstone (Discarded at well).
619.00 - 620.80	Grayish light brown fine grained micaceous sandstone.
620.80 - 621.00	Grayish light brown fine grained micaceous carbonaceous sandstone.
621.00 - 622.00	Light brown fine grained micaceous sandstone.
622.00 - 622.30	Light brown fine grained laminated micaceous carbonaceous sandstone.
622.30 - 624.00	Light brown fine grained micaceous slightly carbonaceous sandstone.
624.00 - 625.00	Light brown fine grained micaceous sandstone.
625.00 - 626.70	Brown fine grained laminated micaceous carbonaceous sandstone.
626.70 - 628.30	Brown fine grained micaceous carbonaceous sandstone containing a coal streak.
628.30 - 629.00	Brown fine grained micaceous slightly carbonaceous sandstone.
629.00 - 629.30	Brown fine grained micaceous carbonaceous sandstone.
629.30 - 630.30	Brown and gray fine grained laminated micaceous carbonaceous shaley sandstone.
630.30 - 631.00	Shale.

Oil Field Research Laboratories

SHOT RECOMMENDATION

Company Juan Petroleum Company Lease Miller Well No. E-3

Depth Interval, Feet	Feet of Sand	Size of Shell Inches	Qts./Ft.	Total Quarts
628.0 - 630.0	2.0	4.5	3.1	6.2

Recommended Packer Setting 626.0 feet.

Note: Plug hole back to 630.0 feet.

Oilfield Research Laboratories

RESULTS OF SATURATION TESTS

TABLE II

Company Juan Petroleum Company Lease Miller Well No. E-3

Sat. No.	Depth, Feet	Effective Porosity Percent	Percent Saturation			Oil Content Bbls./A. Ft.	Feet of Core		Total Oil Content Bbls./Acre
			Oil	Water	Total		Ft.	Cum. Ft.	
1	619.15	20.3	15.4	-	-	242	0.65	0.65	157
2	620.15	22.5	15.7	-	-	274	1.15	1.80	315
3	621.15	22.1	18.6	-	-	319	1.00	2.80	319
4	622.15	21.9	16.9	-	-	287	0.30	3.10	86
5	623.15	20.8	14.2	-	-	229	1.70	4.80	390
6	624.15	22.1	12.8	-	-	220	1.00	5.80	220
7	625.15	17.1	32.8	-	-	436	0.65	6.45	284
8	626.15	18.4	45.4	-	-	650	1.05	7.50	682
9	627.15	22.4	45.8	-	-	797	0.95	8.45	757
10	628.15	17.1	49.7	-	-	661	0.65	9.10	430
11	629.15	17.9	46.7	-	-	650	0.30	9.40	195
12	630.15	12.9	36.0	-	-	361	1.00	10.40	361
							Total - - - - - -		4,196

Oilfield Research Laboratories

SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company Juan Petroleum Company Lease Miller Well No. E-3

Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.

Depth Interval, Feet	Feet of Core Analyzed	Average Percent Porosity	Average Percent Oil Saturation	Average Percent Water Saturation	Average Oil Content Bbl./A. Ft.	Total Oil Content Bbls./Acre
619.00-625.00	5.80	21.60	15.30	-	256	1,487
625.00-630.30	4.60	17.64	42.38	-	589	2,709
619.00-630.30	10.40	19.86	27.28	-	403	4,196

Oilfield Re

RESULTS OF LAB

Company [redacted]

Sample No.	Depth, Feet	Effective Porosity Percent	Original Oil Saturation		Oil Rec
			Percent	Bbls./A. Ft.	Percent
1	619.15	20.3	15.4	282	0.0
2	620.15	22.5	15.7	274	0.0
3	621.15	22.1	18.6	319	0.0
4	622.15	21.9	16.9	287	0.0
5	623.15	20.8	14.2	229	0.0
6	624.15	22.1	12.8	220	0.0
7	625.15	17.1	32.8	436	3.9
8	626.15	18.4	45.4	650	20.4
9	627.15	22.4	45.8	797	23.6
10	628.15	17.1	49.7	661	24.3
11	629.15	17.9	46.7	650	21.0
12	630.15	12.9	36.0	362	0.0

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.

earch Laboratories

RATORY FLOODING TESTS

TABLE IV

Lease [redacted] Well No. [redacted]

very	Residual Saturation			Volume of Water Recovered cc*	Effective Permeability, Millidarcys **	Initial Fluid Production Pressure Lbs./Sq. In.
Bbls./A. Ft.	% Oil	% Water	Bbls./A. Ft.			
0	15.4	75.5	242	66	9.39	10
0	15.7	75.0	274	110	30.50	5
0	18.6	73.8	319	142	14.74	5
0	16.9	75.0	287	267	11.78	5
0	14.2	69.0	229	166	8.92	5
0	12.8	68.5	220	86	27.10	5
52	26.9	63.4	384	10	0.293	35
292	25.0	66.0	356	39	1.14	85
411	22.2	70.5	386	174	14.72	10
323	25.4	66.0	358	53	1.51	20
292	25.7	67.4	358	47	1.23	25
0	36.0	44.6	361	0	Imp.	50+

Oilfield Research Laboratories

SUMMARY OF LABORATORY FLOODING TESTS

TABLE V

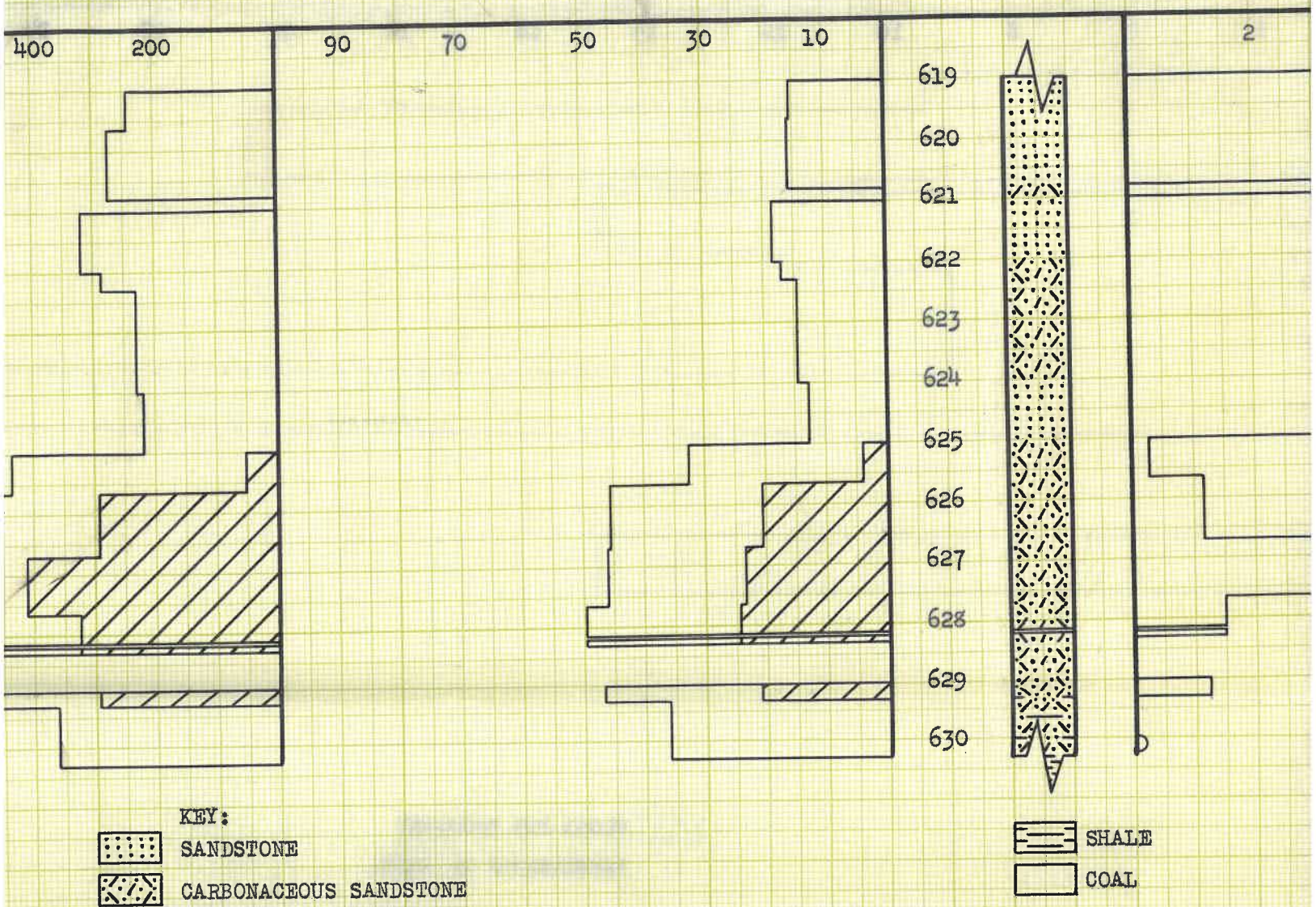
Company Juan Petroleum Company Lease Miller Well No. E-3

Depth Interval, Feet	625.00 - 629.30
Feet of Core Analyzed	3.60
Average Percent Porosity	18.95
Average Percent Original Oil Saturation	44.10
Average Percent Oil Recovery	19.00
Average Percent Residual Oil Saturation	25.10
Average Percent Residual Water Saturation	[illegible]
Average Percent Total Residual Fluid Saturation	[illegible]
Average Original Oil Content, Bbls./A. Ft.	653.
Average Oil Recovery, Bbls./A. Ft.	286.
Average Residual Oil Content, Bbls./A. Ft.	367.
Total Original Oil Content, Bbls./Acre	2,347.
Total Oil Recovery, Bbls./Acre	[illegible]
Total Residual Oil Content, Bbls./Acre	1,319.
Average Effective Permeability, Millidarcys	[illegible]
Average Initial Fluid Production Pressure, p.s.i.	[illegible]

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

L CONTENT,
LS./A. FT.

OIL SAT.,
PERCENT



KEY:

- SANDSTONE
- CARBONACEOUS SANDSTONE
- CARBONACEOUS SHALEY SANDSTONE
- SHALE
- COAL

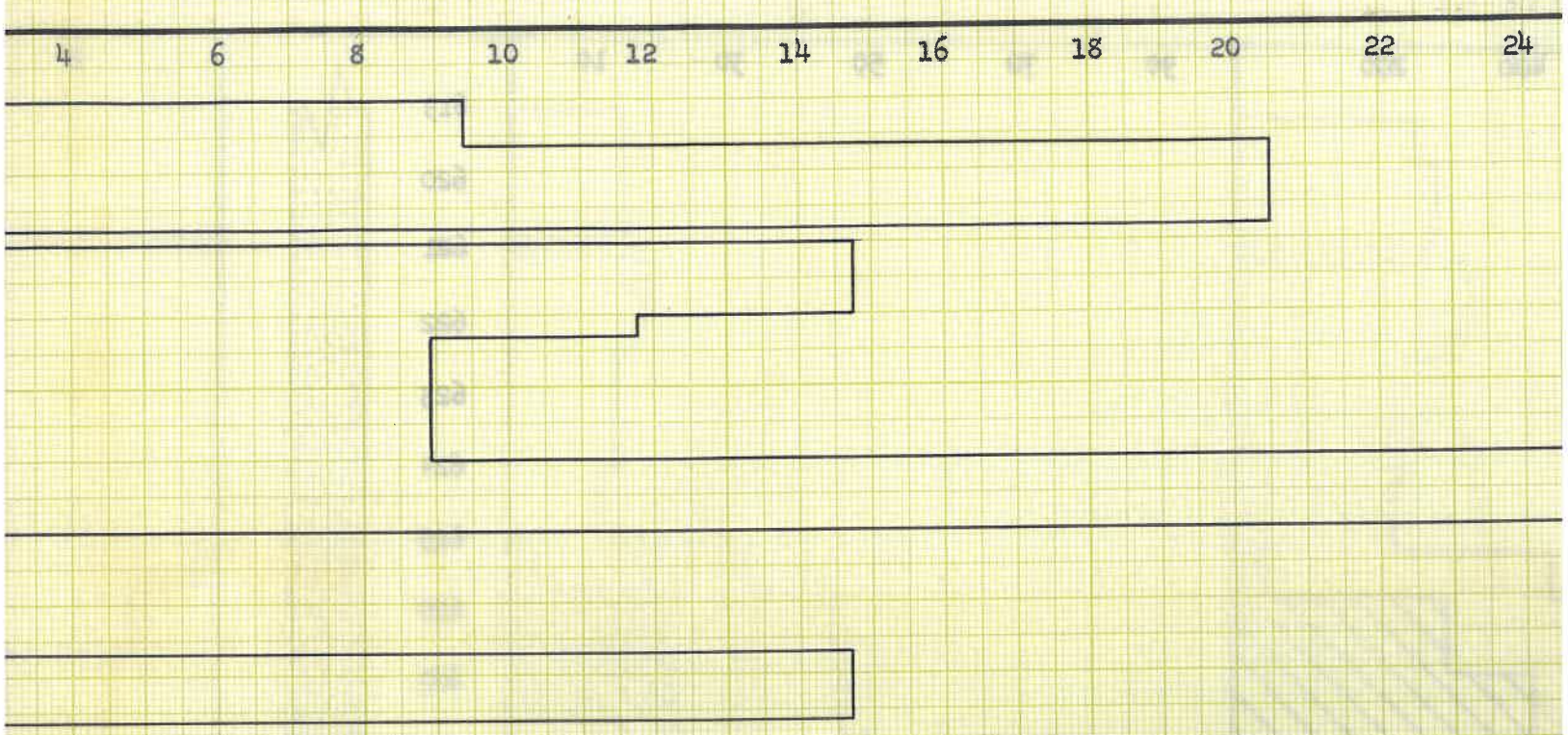
JUAN PETROL

MILLER LEASE

ANDERSON

DEPTH INTERVAL, FEET	FEET OF CORE ANALYZED	AVERAGE PERCENT POROSITY	AVG. O SATURAT PERCEN
619.00 - 625.00	5.80	21.60	15.30
625.00 - 630.30	4.60	17.64	42.38
619.00 - 630.30	10.40	19.86	27.28

EFFECTIVE PERMEABILITY, IN MILLIDARCYS



FLOOD POT RECOVERY

IMPERMEABLE TO WATER

EUM COMPANY

WELL NO. E-3

COUNTY, KANSAS

L ON	AVG. OIL CONTENT BBLS./A.FT.	TOTAL OIL CONTENT BBLS./ACRE	CALCULATED OIL RECOVERY BBLS./ACRE
	256	1,487	
	589	2,709	
	403	4,196	525

OILFIELD RESEARCH LABO
CHANUTE, KANSAS
DECEMBER 20, 1955.