OIL FIELD RESEARCH LABORATORIES

CHANUTE, KANSAS

January 22, 1952

Oko Oil & Gas Company
Atlas Life Building
Tulsa, Oklahoma

Gentlemen:

Enclosed herewith is the report of the partial analysis of the 3" Rotary core taken from the Weiss Lease, Well No. A-17, Anderson County, Kansas, and submitted to our laboratory on January 7, 1952.

In calculating the recovery for the area represented by this core, an allowance was made for oil lost during coring, and it was assumed that the primary production and the true water saturation of the sand are 10 and 38 percent respectively.

Very truly yours,

OIL FIELD RESEARCH LABORATORIES

Carl L. Pate

CLP:bl
c.c.

OKO OIL & GAS COMPANY

CORE ANALYSIS REPORT

WEISS LEASE WELL NO. A-17

ANDERSON COUNTY, KANSAS

OIL FIELD RESEARCH LABORATORIES

CHANUTE, KANSAS

JANUARY 21, 1952

Oil Field Research Laboratories

GENERAL INFORMATION & SUMMARY

Company Oko Oil & Gas Company Lease Weiss Well No. A-17

Location West ½ of the North West ¼

Section 15 Twp. 21S Rge. 20E County Anderson State Kansas

Name of Sand		Squirrel
Top of Core		792.00
Bottom of Core		843.50
Top of Pay Sand		802.85
Bottom of Sand		838.80
Total Feet of Permeable Sand	(Analyzed)	11.69
Total Feet of Floodable Sand	(Analyzed)	11.01

Distribution of Permeable Sand: Permeability Range Millidarcys	Feet	Cum. Ft.

Average Effective Permeability Millidarcys	1.49
Average Percent Porosity	16.59
Average Percent Oil Saturation	36.49
Average Percent Water Saturation	-
Average Oil Content, Bbls./A. Ft.	483.
Total Oil Content, Bbls./Acre	12,784.
Average Percent Oil Recovery by Laboratory Flooding Tests	9.61
Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft.	141.
Total Oil Recovery by Laboratory Flooding Tests, Bbls./Acre	1,802.
Total Calculated Oil Recovery, Bbls./Acre	2,250.
Packer Setting, Feet	
Viscosity, Centipoises @	
A. P. I. Gravity, degrees @ 60 °F	
Elevation, Feet	

OIL FIELD RESEARCH LABORATORIES
CHANUTE, KANSAS

LOG

Company Oko Oil & Gas Company Lease Weiss Well No. A-17

Depth Interval, Feet	Description
792.00 - 792.45	Brown fine grained micaceous shaley sandstone.
792.45 - 793.25	Gray shale.
793.25 - 793.55	Laminated sandstone and shale.
793.55 - 797.70	Gray shale.
797.70 - 798.00	Gray sandy shale.
798.00 - 798.50	Gray shale.
798.50 - 798.90	Gray sandy shale.
798.90 - 799.60	Hard shaley sandstone.
799.60 - 801.45	Gray shale containing a sand streak.
801.45 - 801.64	Brown fine grained micaceous sandstone.
801.64 - 801.80	Gray shale.
801.80 - 802.48	Brown fine grained micaceous slightly shaley sandstone.
802.48 - 802.85	Gray shale.
802.85 - 803.20	Brown fine grained micaceous sandstone.
803.20 - 804.85	Finely laminated sandy shale.
804.85 - 805.50	Brown fine grained finely laminated micaceous shaley sandstone.
805.50 - 806.00	Gray shale.
806.00 - 806.50	Finely laminated sandy shale.
806.50 - 807.72	Gray shale.
807.72 - 808.10	Hard shaley sandstone.
808.10 - 808.55	Gray shale.
808.55 - 809.30	Brown fine grained finely laminated micaceous shaley sandstone.
809.30 - 809.45	Gray sandy shale.

809.45 - 809.80 - Brown fine grained slightly laminated micaceous shaley sandstone.

809.80 - 810.75 - Gray shale.

810.75 - 811.10 - Alternate layers of sandstone and shale.

811.10 - 811.40 - Brown fine grained micaceous sandstone.

811.40 - 811.65 - Brown fine grained finely laminated micaceous shaley sandstone.

811.65 - 811.77 - Gray shale.

811.77 - 811.95 - Brown fine grained micaceous sandstone.

811.95 - 812.60 - Brown fine grained laminated micaceous shaley sandstone.

812.60 - 812.75 - Finely laminated sandy shale.

812.75 - 813.05 - Brown fine grained finely laminated micaceous shaley sandstone.

813.05 - 813.40 - Finely laminated sandy shale.

813.40 - 813.95 - Brown fine grained micaceous sandstone.

813.95 - 814.20 - Gray shale.

814.20 - 814.50 - Brown fine grained micaceous slightly shaley sandstone.

814.50 - 814.85 - Brown fine grained laminated micaceous shaley sandstone.

814.85 - 816.03 - Finely laminated sandy shale.

816.03 - 817.50 - Brown fine grained micaceous sandstone.

817.50 - 818.40 - Finely laminated sandy shale.

818.40 - 818.70 - Brown fine grained finely laminated micaceous shaley sandstone.

818.70 - 819.65 - Brown fine grained micaceous slightly shaley sandstone.

819.65 - 821.55 - Finely laminated sandy shale.

821.55 - 821.85 - Brown fine grained laminated micaceous shaley sandstone.

821.85 - 824.70 - Finely laminated sandy shale.

824.70 - 825.07 - Brown fine grained laminated micaceous shaley sandstone.

825.07 - 826.65 - Brown fine grained micaceous sandstone.

826.65 - 827.15 - Brown fine grained slightly laminated micaceous shaley sandstone.

827.15 - 827.37 - Finely laminated sandy shale.

827.37 - 827.50 - Brown fine grained laminated micaceous shaley sandstone.

827.50 - 829.40 - Finely laminated sandy shale.

829.40 - 829.85 - Brown fine grained laminated micaceous shaley sandstone.

829.85 - 832.70 - Finely laminated sandy shale.

832.70 - 833.00 - Brown fine grained laminated micaceous shaley sandstone.

833.00 - 833.45 - Finely laminated sandy shale.

833.45 - 834.40 - Brown fine grained micaceous sandstone.

834.40 - 834.65 - Gray sandy shale.

834.65 - 835.60 - Brown fine grained micaceous sandstone.

835.60 - 836.20 - Gray shale.

836.20 - 836.85 - Brown fine grained micaceous carbonaceous sandstone.

836.85 - 838.33 - Gray shale.

838.33 - 838.60 - Brown fine grained micaceous slightly carbonaceous sandstone.

838.60 - 838.80 - Brown fine grained micaceous carbonaceous sandstone.

838.80 - 839.65 - Gray calcareous sandy shale.

839.65 - 839.95 - Gray shale.

839.95 - 840.50 - Gray calcareous shale.

840.50 - 843.50 - Discarded at well.

Oil Field Research Laboratories

RESULTS OF SATURATION TESTS

TABLE III

Company Oko Oil & Gas Company Lease Weiss Well No. A-17

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.	
2	799.05	13.9	43.1	-	-	464	0.70	0.70	325
3	802.11	16.8	40.7	-	-	530	0.68	1.38	360
4	803.04	18.3	27.9	-	-	396	0.35	1.73	139
5	803.74	13.8	25.1	-	-	270	0.90	2.63	243
6	804.42	14.1	29.7	-	-	325	0.75	3.38	244
7	805.00	16.3	44.2	-	-	560	0.65	4.03	364
8	806.35	13.4	20.6	-	-	214	0.50	4.53	107
10	809.04	16.2	38.1	-	-	479	0.75	5.28	359
11	809.65	17.8	44.6	-	-	616	0.35	5.63	216
12	811.31	18.2	45.5	-	-	643	0.55	6.18	354
13	812.10	16.4	43.8	-	-	557	0.65	6.83	362
14	812.90	16.2	34.5	-	-	434	0.30	7.13	130
15	813.76	19.7	48.6	-	-	743	0.55	7.68	408
16	814.70	16.3	45.5	-	-	575	0.35	8.03	201
17	815.74	13.1	27.4	-	-	278	1.18	9.21	328
18	816.29	19.5	42.3	-	-	641	0.63	9.84	404
19	817.02	19.7	40.4	-	-	617	0.85	10.69	525

Oil Field Research Laboratories

RESULTS OF SATURATION TESTS

TABLE III

Company Oko Oil & Gas Company Lease Weiss Well No. A-17

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.	
21	818.54	14.8	48.4	-	-	556	0.30	10.99	167
22	819.50	19.3	39.9	-	-	598	0.95	11.94	568
23	820.83	15.6	41.3	-	-	501	1.90	13.84	951
24	821.70	18.0	46.1	-	-	645	0.30	14.14	194
25	822.80	14.5	34.2	-	-	384	1.35	15.49	518
27	824.84	16.4	41.5	-	-	529	0.37	15.86	196
28	825.81	20.4	32.9	-	-	521	1.58	17.44	824
29	826.84	18.7	46.7	-	-	678	0.50	17.94	340
30	827.91	15.3	38.0	-	-	452	0.80	18.74	362
31	828.83	14.5	36.4	-	-	410	1.10	19.84	451
32	829.71	19.5	42.3	-	-	641	0.45	20.29	288
33	830.67	13.6	33.8	-	-	357	1.25	21.54	446
34	831.59	14.7	37.9	-	-	433	1.60	23.14	692
35	832.85	17.3	47.3	-	-	635	0.30	23.44	191
36	833.60	19.2	29.5	-	-	454	0.45	23.89	204
37	834.38	20.8	34.9	-	-	563	0.50	24.39	282
38	835.12	18.5	33.2	-	-	478	0.95	25.34	455
38A	836.56	18.5	34.7	-	-	499	0.65	25.99	324
39A	838.53	20.3	35.3	-	-	556	0.47	26.46	262
							Total - - - - - -		12,784

Note: "A" - Samples were taken from core after it was received in the laboratory.

Oil Field Research Laboratories

SUMMARY OF SATURATION TESTS

TABLE IV

Company Oko Oil & Gas Company Lease Weiss Well No. A-17

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
798.90-813.05	7.13	15.68	36.41	-	449	3,203
813.40-833.00	16.31	16.48	37.04	-	493	8,054
833.45-838.80	3.02	19.37	33.64	-	506	1,527
798.90-838.80	26.46	16.59	36.49	-	483	12,784

Oil Field Research Laboratories

RESULTS OF LABORATORY FLOODING TESTS

TABLE V

Company Oko Oil & Gas Company Lease Weiss Well No. A-17

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.
			Percent	Bbls./A. Ft.	Percent	Bbls./A. Ft.	% Oil	% Water	Bbls./A. Ft.			
2	799.05	13.9	43.1	464	0.0	0	43.1	44.8	464	0	Imp.	50#
3	802.11	16.8	40.7	530	1.3	17	39.4	52.9	513	0	0.005	50
4	803.04	18.3	27.9	396	2.0	28	25.9	56.3	368	21	0.509	50
5	803.74	13.8	25.1	270	0.0	0	25.1	64.7	270	0	Imp.	50#
6	804.42	14.1	29.7	325	0.0	0	29.7	60.5	325	0	Imp.	50#
7	805.00	16.3	44.2	560	0.0	0	44.2	47.9	560	0	Imp.	50#
8	806.35	13.4	20.6	214	0.0	0	20.6	64.7	214	0	Imp.	50#
10	809.04	16.2	38.1	479	7.9	99	30.2	57.5	380	0	0.020	50
11	809.65	17.6	44.6	616	13.7	189	30.9	67.6	427	2	0.102	30
12	811.31	16.2	45.5	645	15.9	225	29.6	58.2	418	5	0.305	30
13	812.10	16.4	45.8	657	10.1	129	35.7	59.3	422	0	0.011	50
14	812.90	16.2	34.3	434	0.0	0	34.3	55.1	434	0	Imp.	50#
15	813.76	19.7	48.6	743	19.6	300	29.0	67.0	445	65	1.64	15
16	814.70	16.3	45.5	573	15.1	191	30.4	61.7	384	11	0.443	15
17	815.74	13.1	27.4	278	0.0	0	27.4	71.8	278	0	Imp.	50#
18	816.29	19.5	42.3	641	14.3	215	28.1	66.1	426	72	2.07	15
19	817.02	19.7	40.4	617	14.6	223	25.8	70.5	394	127	3.26	15
21	818.54	14.8	48.4	556	0.0	0	48.4	44.7	556	0	Imp.	50#
22	819.50	19.3	39.9	598	9.4	141	30.5	56.8	457	27	0.516	20
23	820.83	15.6	41.3	501	0.0	0	41.3	54.6	501	0	Imp.	50#
24	821.70	18.0	46.1	645	11.6	162	34.5	56.2	483	6	0.185	30
25	822.80	14.5	34.2	384	0.0	0	34.2	61.3	384	0	Imp.	50#
27	824.84	16.4	41.5	529	0.0	0	41.5	57.4	529	0	Imp.	50#
28	825.81	20.4	32.9	521	10.8	171	22.1	71.3	350	72	1.63	20
29	826.64	18.7	46.7	678	18.1	263	28.6	56.0	415	6	0.280	25
30	827.91	15.3	38.0	452	0.0	0	38.0	58.4	452	0	Imp.	50#
31	828.63	14.5	36.4	410	0.0	0	36.4	59.6	410	0	Imp.	50#
32	829.71	19.5	42.3	641	11.5	174	30.8	64.3	467	11	0.300	25
33	830.67	15.6	33.6	357	0.0	0	33.6	61.7	397	0	Imp.	60#
34	831.59	14.7	37.9	433	0.0	0	37.9	61.3	433	0	Imp.	50#
35	832.85	17.3	47.3	635	8.5	114	38.8	56.9	551	1	0.102	50

Oil Field Research Laboratories

RESULTS OF LABORATORY FLOODING TESTS

TABLE V

Company Oko Oil & Gas Company Lease Weiss Well No. A-17

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.
			Percent	Bbls./A. Ft.	Percent	Bbls./A. Ft.	% Oil	% Water	Bbls./A. Ft.			
36	833.60	19.8	29.5	454	2.2	34	27.3	61.2	420	21	0.340	30
37	834.38	20.8	34.9	563	5.4	87	29.5	66.6	476	22	0.504	30
38	835.12	18.5	33.2	476	5.4	78	27.8	60.0	400	12	0.278	50
38A	836.56	18.5	34.7	499	1.5	22	33.2	54.0	477	99	11.20	10
39A	838.53	20.3	35.3	556	4.0	63	31.3	60.0	493	155	4.84	15

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.
"A" - Sample was taken from core after it was received in the laboratory.

Oil Field Research Laboratories

SUMMARY OF LABORATORY FLOODING TESTS

TABLE VI

Company Oko Oil & Gas Company Lease Weiss Well No. A-17

Depth Interval Feet	801.80-812.60	813.40-833.45	833.45-838.80	801.80-838.80
Feet of Core Analyzed	3.33	6.46	3.02	12.81
Average Percent Porosity	17.09	19.33	19.37	18.76
Average Percent Original Oil Saturation	40.60	40.90	33.54	39.09
Average Percent Oil Recovery	8.32	12.97	3.84	9.61
Average Percent Residual Oil Saturation	32.28	27.93	29.70	29.48
Average Percent Residual Water Saturation	58.17	65.15	60.00	62.12
Average Percent Total Residual Fluid Saturation	90.45	93.08	89.70	91.60
Average Original Oil Content, Bbls./A. Ft.	537.	610.	506.	567.
Average Oil Recovery, Bbls./A. Ft.	111.	194.	59.	141.
Average Residual Oil Content, Bbls./A. Ft.	426.	416.	447.	426.
Total Original Oil Content, Bbls./Acre	1,790.	3,944.	1,526.	7,260.
Total Oil Recovery, Bbls./Acre	370.	1,255.	177.	1,802.
Total Residual Oil Content, Bbls./Acre	1,420.	2,689.	1,349.	5,458.
Average Effective Permeability, Millidarcys	0.106	1.33	3.38	1.49
Average Initial Fluid Production Pressure, p.s.i.	40.0	23.0	27.0	28.8

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