



OILFIELD RESEARCH LABORATORIES

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September 2, 1981

Wells-Battelstein Oil & Gas, Inc.
7700 San Felipe Blvd.
Houston, Texas 77002

Gentlemen:

Enclosed herewith is the report of the analysis of the rotary core taken from the L. Moore Lease, Well No. 32, located in Chautauqua County, Kansas and submitted to our laboratory on August 26, 1981.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

Sanford A. Michel

SAM/kas

6 c to Houston, Texas
1 c to Chanute, Kansas

Oilfield Research Laboratories
GENERAL INFORMATION & SUMMARY

Company Wells-Battelstein Oil & Gas, Inc., Lease L. Moore Well No. 32
 Location 1100' FWL & 660' FSL, SW $\frac{1}{4}$
 Section 34 Twp. 33S Rge. 13E County Chautauqua State Kansas

Elevation, Feet
 Name of Sand Redd
 Top of Core 607.0
 Bottom of Core 647.2
 Top of Sand 607.0
 Bottom of Sand (Tested) 637.8
 Total Feet of Permeable Sand 28.8
 Total Feet of Floodable Sand 0.0

Distribution of Permeable Sand: Permeability Range Millidarcys	Feet	Cum. Ft.
0 - 10	8.8	8.8
10 - 20	4.0	12.8
20 - 40	9.0	21.8
40 - 60	5.0	26.8
60 - 93	2.0	28.8

Average Permeability Millidarcys 25.5
 Average Percent Porosity 17.0
 Average Percent Oil Saturation 24.8
 Average Percent Water Saturation 58.5
 Average Oil Content, Bbls./A. Ft. 337.
 Total Oil Content, Bbls./Acre 10,393.
 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.

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>
607.0 - 616.7	Gray and light brown laminated shale and sandstone.
616.7 - 621.2	Light brown sandstone with fine shale partings.
621.2 - 622.3	Gray and light brown laminated shale and sandstone.
622.3 - 637.8	Grayish light brown sandstone with fine shale partings.
637.8 - 647.0	Gray shale.
647.0 - 647.2	Grayish brown shaly sandstone.

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company Wells-Battelstein Oil & Gas, Inc. Lease L. Moore Well No. 32

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	607.5	11.1	18	75	93	155	Imp.	1.0	1.0	155	0.00
2	608.6	13.3	11	75	86	114	4.9	1.0	2.0	114	4.90
3	609.4	15.1	8	77	85	94	Imp.	1.0	3.0	94	0.00
4	610.4	15.9	18	72	90	222	2.0	1.0	4.0	222	2.00
5	611.5	15.1	21	70	91	246	1.4	1.0	5.0	246	1.40
6	612.4	14.3	8	84	92	89	0.60	1.0	6.0	89	0.60
7	613.5	13.7	16	74	90	170	6.1	1.0	7.0	170	6.10
8	614.5	13.3	6	82	88	62	7.2	1.0	8.0	62	7.20
9	615.5	11.8	8	84	92	73	0.33	1.0	9.0	73	0.33
10	616.3	15.8	26	69	95	319	1.9	0.7	9.7	223	1.33
11	617.5	19.7	36	37	73	550	24.	1.5	11.2	825	36.00
12	618.4	18.5	57	26	83	818	24.	1.0	12.2	818	24.00
13	619.6	17.9	36	51	87	500	58.	1.0	13.2	500	58.00
14	620.5	19.0	30	51	81	442	38.	1.0	14.2	442	38.00
15	621.5	16.2	18	67	85	226	7.3	1.1	15.3	249	8.03
16	622.4	19.7	29	47	76	443	92.	1.0	16.3	443	92.00
17	623.4	20.0	23	48	71	357	40.	1.0	17.3	357	40.00
18	624.5	18.4	30	54	84	428	11.	1.0	18.3	428	11.00
19	625.5	20.0	20	54	74	310	44.	1.0	19.3	310	44.00
20	626.6	19.7	21	52	73	321	14.	1.0	20.3	321	14.00
21	627.5	19.4	18	56	74	271	31.	1.0	21.3	271	31.00
22	628.6	18.8	37	39	76	540	38.	1.0	22.3	540	38.00
23	629.6	19.1	30	44	74	445	48.	1.0	23.3	445	48.00
24	630.5	19.3	19	58	77	285	44.	1.0	24.3	285	44.00
25	631.5	18.4	31	50	81	443	20.	1.0	25.3	443	20.00
26	632.4	19.1	27	54	81	400	19.	1.0	26.3	400	19.00
27	633.5	19.2	30	54	84	447	61.	1.0	27.3	447	61.00
28	634.6	14.6	39	53	92	442	37.	1.0	28.3	442	37.00
29	635.5	15.5	30	59	89	361	20.	1.0	29.3	361	20.00
30	636.5	17.0	36	55	91	475	28.	0.5	29.8	238	14.00
31	637.6	15.3	32	55	87	380	13.	1.0	30.8	380	13.00

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company		Wells-Battelstein Oil & Gas, Inc.		Lease	L. Moore	Well No.	32
Depth Interval, Feet	Feet of Core Analyzed	Average Porosity	Average Percent Oil Saturation	Average Percent Water Saturation	Average Oil Content Bbl./A. Ft.	Total Oil Content Bbls./Acre	
607.0 - 616.7	9.7	13.9	13.6	76.4	149	1,448	
616.7 - 637.8	21.1	18.4	29.9	50.3	424	8,945	
607.0 - 637.8	30.8	17.0	24.8	58.5	337	10,393	

Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.
607.0 - 616.7	7.7	3.1	23.86
616.7 - 637.8	21.1	33.7	710.03
607.0 - 637.8	28.8	25.5	733.89

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RESULTS OF LABORATORY FLOODING TESTS

TABLE IV

Company		Wells-Battelstein Oil & Gas, Inc.		Lease		L. Moore		Well No.		32	
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.
			%	Bbbs./A. Ft.	%	Bbbs./A. Ft.	% Oil	% Water			
1	607.5	11.2	18	156	0	0	18	76	0	Imp.	-
2	608.6	13.4	11	114	0	0	11	76	0	Imp.	-
3	609.4	15.2	8	94	0	0	8	78	0	Imp.	-
4	610.4	15.8	18	221	0	0	18	73	10	0.37	50
5	611.5	15.2	21	248	0	0	21	71	8	0.30	50
6	612.4	14.4	8	89	0	0	8	86	0	Imp.	-
7	613.5	13.8	16	171	0	0	16	76	0	Imp.	-
8	614.5	13.4	6	62	0	0	6	83	0	Imp.	-
9	615.5	11.9	8	74	0	0	8	85	0	Imp.	-
10	616.3	15.3	27	320	0	0	27	69	0	Imp.	-
11	617.5	19.6	36	547	0	0	36	45	12	0.90	50
12	618.4	18.9	56	821	0	0	56	34	72	1.93	35
13	619.6	17.8	36	497	0	0	36	52	8	0.60	50
14	620.5	19.1	30	445	0	0	30	52	78	1.12	25
15	621.5	16.3	18	228	0	0	18	68	50	0.60	30
16	622.4	19.8	29	445	0	0	29	63	196	2.77	20
17	623.4	20.1	23	359	0	0	23	70	406	14.69	20
18	624.5	18.9	29	425	0	0	29	62	128	1.95	25
19	625.5	20.1	20	312	0	0	20	64	90	1.27	25
20	626.6	19.8	21	323	0	0	21	62	94	1.27	25
21	627.5	19.3	18	270	0	0	18	73	16	0.56	40
22	628.6	19.3	36	539	0	0	36	53	244	4.05	20
23	629.6	19.2	30	447	0	0	30	61	354	5.70	20
24	630.5	19.4	19	286	0	0	19	74	254	9.00	20
25	631.5	18.9	30	440	0	0	30	52	90	1.42	25
26	632.4	19.0	27	398	0	0	27	69	240	4.50	25
27	633.5	19.3	30	449	0	0	30	55	200	6.75	20
28	634.6	15.0	38	442	0	0	38	55	270	15.66	20
29	635.5	17.1	36	363	0	0	36	61	192	2.70	20
30	636.5	15.6	36	478	0	0	36	56	158	2.70	25
31	637.6	15.4	32	382	0	0	32	57	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.