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

September 25, 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 Moore Lease, Well No. 47, located in Chautauqua County, Kansas and submitted to our laboratory on September 8, 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 Moore Well No. 47

Location

Section 34 Twp. 33S Rge. 13E County Chautauqua State Kansas

Elevation, Feet	
Name of Sand	Redd
Top of Core	588.0
Bottom of Core	614.0
Top of Sand	588.0
Bottom of Sand	607.0
Total Feet of Permeable Sand	19.0
Total Feet of Floodable Sand	0.0

Distribution of Permeable Sand: Permeability Range Millidarcys	Feet	Cum. Ft.
0 - 5	8.0	8.0
5 - 10	3.0	11.0
18 - 30	5.0	16.0
42 - 48	3.0	19.0

Average Permeability Millidarcys	15.0
Average Percent Porosity	15.8
Average Percent Oil Saturation	19.4
Average Percent Water Saturation	59.9
Average Oil Content, Bbls./A. Ft.	246.
Total Oil Content, Bbls./Acre	4,665.
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 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:

Depth Interval, Feet	Description
588.0 - 594.7	Gray and brown laminated shale and sandstone.
594.7 - 600.7	Brown sandstone with fine shale partings.
600.7 - 607.0	Grayish light brown shaly sandstone with fine shale partings.
607.0 - 614.0	Gray shale.

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company Wells-Battelstein Oil & Gas, Inc. Lease Moore Well No. 47

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.	Vert. Perm.
			Oil	Water	Total			Ft.	Cum. Ft.			
1	588.6	15.4	4	78	82	48	0.36	1.0	1.0	48	0.36	*
2	589.6	16.8	15	63	78	196	28.	1.0	2.0	196	28.00	*
3	590.4	12.9	13	72	85	130	1.3	1.0	3.0	130	1.30	*
4	591.5	18.0	12	74	86	168	3.4	1.0	4.0	168	3.40	*
5	592.4	11.7	20	58	78	182	0.45	1.0	5.0	182	0.47	Imp.
6	593.4	18.5	37	47	84	531	22.	1.0	6.0	531	22.00	21.
7	594.5	13.8	25	62	87	268	2.2	0.7	6.7	188	1.54	Imp.
8	595.6	17.3	29	53	82	389	42.	1.3	8.0	506	54.60	8.3
9	596.7	18.1	20	51	71	281	19.	1.0	9.0	281	19.00	17.
10	597.6	18.8	23	47	70	336	24.	1.0	10.0	336	24.00	Imp.
11	598.5	17.9	27	45	72	375	43.	1.0	11.0	375	43.00	Imp.
12	599.7	17.1	29	43	72	385	25.	1.0	12.0	385	25.00	12.
13	600.6	18.5	26	54	80	373	47.	0.7	12.7	261	32.90	25.
14	601.4	14.5	22	64	86	247	2.7	1.3	14.0	321	3.51	Imp.
15	602.6	16.4	25	57	82	318	8.3	1.0	15.0	318	8.30	Imp.
16	603.5	15.2	14	62	76	165	8.9	1.0	16.0	165	8.90	0.21
17	604.5	11.3	8	61	69	70	3.4	1.0	17.0	70	3.40	Imp.
18	605.6	15.1	4	82	86	47	5.0	1.0	18.0	47	5.00	2.7
19	606.4	13.5	15	64	79	157	0.39	1.0	19.0	157	0.39	0.17

Note: * Vertical perm unobtainable.

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company Wells-Battelstein Oil & Gas, Inc. Lease Moore Well No. 47

Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.
588.0 - 594.7	6.7	8.5	57.05
594.7 - 600.7	6.0	33.1	198.50
600.7 - 607.0	6.3	4.7	29.50
588.0 - 607.0	19.0	15.0	285.05

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
588.0 - 594.7	6.7	15.4	17.7	65.0	215	1,443
594.7 - 600.7	6.0	17.9	25.8	48.8	357	2,144
600.7 - 607.0	6.3	14.4	15.0	65.0	171	1,078
588.0 - 607.0	19.0	15.8	19.4	59.9	246	4,665

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RESULTS OF LABORATORY FLOODING TESTS

TABLE IV

Company Wells-Battelstein Oil & Gas, Inc. Lease Moore Well No. 47

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	588.6											
2	589.6	16.9	15	197	0	0	15	64	197	0	Imp.	-
* 3	590.4											
4	591.5	18.1	12	169	0	0	12	75	169	0	Imp.	-
5	592.4	11.8	20	183	0	0	20	59	183	0	Imp.	-
6	593.4	18.4	37	528	0	0	37	48	528	179	3.60	20
7	594.5	13.9	25	270	0	0	25	63	270	79	1.80	30
8	595.6	17.4	29	391	0	0	29	54	391	81	7.35	25
9	596.7	18.2	20	282	0	0	20	75	282	91	1.05	25
10	597.6	18.7	23	334	0	0	23	67	334	18	0.30	40
11	598.5	18.0	27	377	0	0	27	53	377	69	1.20	25
12	599.7	17.2	29	387	0	0	29	59	387	408	8.25	15
13	600.6	18.6	26	375	0	0	26	59	375	299	6.45	20
14	601.4	14.6	22	249	0	0	22	65	249	368	9.15	15
15	602.6	16.5	25	320	0	0	25	61	320	281	5.70	20
16	603.5	15.3	14	166	0	0	14	74	166	87	1.80	25
17	604.7	11.3	8	70	0	0	8	79	70	0	Imp.	-
18	605.6	15.2	4	47	0	0	4	82	47	19	0.30	40
19	606.4	13.0	16	161	0	0	16	64	161	0	Imp.	-

Note: * Floodpot sample unobtainable.

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.