

# OILFIELD RESEARCH LABORATORIES

- REGISTERED ENGINEERS -

700 NORTH MISSION  
OKMULGEE, OKLAHOMA  
PHONE: 4444

Chanute, Kansas

536 N. HIGHLAND  
CHANUTE, KANSAS  
PHONE: HE 1-2650

January 6, 1962

Union Texas Natural Gas Corporation  
& Layton Oil Company  
P.O. Box 263  
Independence, Kansas

Gentlemen:

Enclosed herewith are the results of tests run on the Rotary core taken from the Wiggans Lease, Well No. 117-E, Allen County, Kansas, and submitted to our laboratory on December 30, 1961.

This core was brought in by a representative of the client and sampled after being received in the laboratory.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES

*Benjamin R. Pearman*  
Benjamin R. Pearman

BRP:rf

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# Oilfield Research Laboratories

## GENERAL INFORMATION & SUMMARY

Union Texas Natural Gas Corp.  
& Layton Oil Co.

Company \_\_\_\_\_ Lease Wiggins Well No. 117-E

Location NE

Section 10 Twp. 24S Rge. 18E County Allen State Kansas

Name of Sand	-	Bartlesville
Top of Core	-	854.0
Bottom of Core	-	903.0
Top of Sand	(Tested)	858.5
Bottom of Sand	(Tested)	903.0
Total Feet of Permeable Sand	-	41.1
Total Feet of Floodable Sand	-	

**Distribution of Permeable Sand:**  
Permeability Range  
Millidarcys

	Feet	Cum. Ft.
0 - 100	4.4	4.4
100 - 1000	8.5	12.9
1000 - 2000	4.8	17.7
2000 - 3000	8.1	25.8
3000 - 4000	5.9	31.7
4000 - 7000	6.4	38.1
7000 & above	3.0	41.1
Average Permeability Millidarcys	-	2,814.
Average Percent Porosity	-	25.7
Average Percent Oil Saturation	-	45.4
Average Percent Water Saturation	-	23.6
Average Oil Content, Bbls./A. Ft.	-	898.
Total Oil Content, Bbls./Acre	-	36,846.
Average Percent Oil Recovery by Laboratory Flooding Tests	-	
Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft.	-	
Total Oil Recovery by Laboratory Flooding Tests, Bbls./Acre	-	
Total Calculated Oil Recovery, Bbls./Acre	-	
Packer Setting, Feet	-	
Viscosity, Centipoises @	-	
A. P. I. Gravity, degrees @ 60 °F	-	
Elevation, Feet	-	

## OILFIELD RESEARCH LABORATORIES

LOG

Company Union Texas Natural Gas Corp.  
& Layton Oil Co. Lease Wiggins Well No. 117-E

Depth Interval, Description  
Feet

854.0 - 860.0 - Grayish light brown sandstone.

860.0 - 864.7 - Brown sandstone.

864.7 - 864.8 - Gray shaley sandstone.

864.8 - 873.4 - Brown sandstone.

873.4 - 874.0 - Brownish gray limestone.

874.0 - 874.4 - Brown calcareous sandstone.

874.4 - 875.0 - Brownish gray limestone.

875.0 - 876.8 - Brown sandstone.

876.8 - 877.0 - Gray shaley sandstone.

877.0 - 880.3 - Brown sandstone.

880.3 - 881.0 - Gray limestone.

881.0 - 883.8 - Brown sandstone.

883.8 - 885.0 - Gray limestone.

885.0 - 903.0 - Very soft brown sandstone.

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881.0 - 883.8 - Brown sandstone.  
883.8 - 885.0 - Gray limestone.  
885.0 - 903.0 - Very soft brown sandstone.

## RESULTS OF SATURATION &amp; PERMEABILITY TESTS

TABLE 1-B

Union Texas Natural Gas Corp.  
& Layton Oil Co.

Lease Wiggins

Well No. 117-E

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	859.1	20.8	13	60	73	210	928.	1.5	315	1392.00	
2	860.1	23.8	46	11	57	850	939.	0.6	510	563.40	
3	861.1	24.4	47	8	55	889	2483.	1.0	889	2483.00	
4	862.1	26.7	56	22	78	1159	2495.	1.0	1159	2495.00	
5	863.1	24.1	51	9	60	953	1370.	1.0	953	1370.00	
6	864.1	21.8	47	5	52	794	2174.	1.1	873	2391.40	
7	865.1	18.2	64	1	65	902	1280.	0.8	722	1024.00	
8	866.1	25.6	58	30	88	1151	1207.	1.0	1151	1207.00	
9	867.1	22.4	62	3	65	1077	939.	1.0	1077	939.00	
10	868.1	20.6	57	26	83	910	4.5	1.0	910	4.50	
11	869.1	18.2	52	14	66	733	339.	1.0	733	339.00	
12	870.1	19.7	37	18	55	565	42.	1.0	565	42.00	
13	871.1	24.3	58	6	64	1093	556	1.0	1093	556.00	
14	872.1	22.4	48	7	55	834	1362.	1.0	834	1362.00	
15	873.1	24.4	38	26	64	718	236.	0.8	574	188.80	
16	874.1	14.9	69	27	96	796	4.5	0.4	318	1.80	
17	875.1	27.1	35	32	67	735	919.	0.6	441	551.40	
18	876.1	20.2	61	33	94	954	5850.	1.2	1143	7020.00	
19	877.1	18.1	54	40	94	757	3540.	0.6	454	2124.00	
20	878.1	20.4	61	32	93	964	2042.	1.0	964	2042.00	
21	879.1	22.6	54	31	85	945	3140.	1.0	945	3140.00	
22	880.1	27.0	51	24	75	1069	3685.	0.7	748	2579.50	
23	881.1	23.9	56	32	88	1039	3850.	0.6	623	2310.00	
24	882.1	27.8	42	23	65	906	32.	1.0	906	32.00	
25	883.1	25.5	42	25	67	830	4980.	1.2	996	5976.00	
26	885.1	31.7	57	18	75	1400	6280.	0.6	840	3768.00	
27	886.1	30.1	62	16	78	1448	64.	1.0	1448	64.00	
28	887.1	30.9	53	15	68	1270	12100.	1.0	1270	12100.00	
29	888.1	32.2	49	12	61	1223	609.	1.0	1223	609.00	

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## RESULTS OF SATURATION & PERMEABILITY TESTS

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Union Texas Natural Gas Corp.  
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Lease Wiggins

Well No. 117-E

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			Ft.	Cum. Ft.			
30	889.1	28.9	51	23	1142	3030.	1.0	27.7	1142	3030.00	
31	890.1	17.7	48	30	658	2178.	1.0	28.7	658	2178.00	
32	891.1	30.0	53	18	1233	5660.	1.0	29.7	1233	5660.00	
33	892.1	29.0	44	16	988	2496.	1.0	30.7	988	2496.00	
34	893.1	29.8	46	23	1062	8940.	1.0	31.7	1062	8940.00	
35	894.1	30.6	31	35	735	1516.	1.0	32.7	735	1516.00	
36	895.1	30.4	34	30	801	10600.	1.0	33.7	801	10600.00	
37	896.1	31.4	31	22	755	4040.	1.0	34.7	755	4040.00	
38	897.1	30.7	31	22	738	940.	1.0	35.7	738	940.00	
39	898.1	29.1	47	28	1061	2819.	1.0	36.7	1061	2819.00	
40	899.1	31.9	31	34	766	3250.	1.0	37.7	766	3250.00	
41	900.1	27.3	42	20	888	3020.	1.0	38.7	888	3020.00	
42	901.1	30.8	23	34	549	2117.	1.0	39.7	549	2117.00	
43	902.1	31.8	23	43	566	4450.	1.4	41.1	793	6225.00	
Total										36,846	

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## SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Union Texas Natural Gas Corp.  
& Layton Oil Co.

Well No. 117-E

Lease Wiggins

Company

Depth Interval, Feet	Feet of Core Analyzed	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.
858.5 - 874.4	15.2	1,077	16,358.90
875.0 - 883.8	7.9	3,259	25,774.90
885.0 - 903.0	18.0	4,068	73,372.00
858.5 - 903.0	41.1	2,814	115,505.80

  

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
858.5 - 874.4	15.2	22.2	47.1	18.2	834	12,676
875.0 - 883.8	7.9	23.6	51.0	29.8	915	7,220
885.0 - 903.0	18.0	29.6	41.2	25.0	942	16,950
858.5 - 903.0	41.1	25.7	45.4	23.6	898	36,846