

September 18, 1952

Mr. Ira C. Houston
McCune, Kansas

Dear Sir:

Included herewith is the report of the partial analysis of the Cable Tool core samples taken from the Houston Lease, Well No. 48, Crawford County, Kansas, and submitted to our laboratory on September 13, 1952.

It is understood that the core barrel broke and as a result it was necessary to drill the remainder of the sand section extending from a depth of 296.00 to 318.00 feet.

On the basis of the sand analysed, it is evident that the sand is too tight for its depth for a satisfactory flood. In other words, it is very questionable whether the sand analysed will take sufficient water at a well-head pressure of approximately 300 p.s.i., which is the maximum pressure that should be used on this property.

It is unfortunate that you had trouble with the core barrel for the chances are that the better part of the cored section was drilled with the cable tools.

Very truly yours,

OILFIELD RESEARCH LABORATORIES



Carl L. Pate

CLP:mm

4 c.c.

IRA C. HOUSTON

CORE ANALYSIS REPORT

HOUSTON LEASE

WELL NO. 48

CRAWFORD COUNTY, KANSAS

OILFIELD RESEARCH LABORATORIES

CHANUTE, KANSAS

SEPTEMBER 18, 1952

Oilfield Research Laboratories

GENERAL INFORMATION & SUMMARY

Company Ira C. Houston Lease Houston Well No. 48

Location _____

Section 3 Twp. 31S Rge. 22E County Crawford State Kansas

Name of Sand **Bartlesville**

Top of Core **273.00**

Bottom of Core **296.00**

Top of Sand **285.00**

Bottom of Sand **(According to driller)** **318.00**

Total Feet of Permeable Sand **(Analyzed)** **6.80**

Total Feet of Floodable Sand **-**

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

Average ~~Permeability~~ Effective Millidarcys	0.107
Average Percent Porosity	16.75
Average Percent Oil Saturation	32.23
Average Percent Water Saturation	-
Average Oil Content, Bbls./A. Ft.	420.
Total Oil Content, Bbls./Acre	4,616.
Average Percent Oil Recovery by Laboratory Flooding Tests	3.71
Average Oil Recovery by Laboratory Flooding Tests, Bbls./A. Ft.	48.
Total Oil Recovery by Laboratory Flooding Tests, Bbls./Acre	202.
Total Calculated Oil Recovery, Bbls./Acre	-
Packer Setting, Feet	
Viscosity, Centipoises @ 65° F	34.0
A. P. I. Gravity, degrees @ 60 °F	29.3
Elevation, Feet	

LOGCompany Ira C. Houston Lease Houston Well No. 48

<u>Depth Interval,</u> <u>Feet</u>	<u>Description</u>
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273.00 - 273.20 - Shale.

273.20 - 275.00 - Gray micaceous sandstone.

275.00 - 275.60 - Dark gray shale.

275.60 - 285.00 - Gray shale.

285.00 - 286.00 - Brown fine grained micaceous slightly shaley sandstone.

286.00 - 286.60 - Brown fine grained micaceous sandstone.

286.60 - 287.60 - Brown fine grained micaceous slightly shaley sandstone.

287.60 - 291.60 - Brown fine grained micaceous sandstone.

291.60 - 292.60 - Brown fine grained micaceous calcareous sandstone.

292.60 - 296.00 - Brown fine grained micaceous sandstone.

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RESULTS OF SATURATION TESTS

TABLE III

Company Ira C. Houston Lease Houston Well No. 48

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	285.30	16.3	26.4	-	-	334	0.80	0.80	267
2	286.30	15.8	21.4	-	-	263	0.80	1.60	210
3	287.30	17.0	38.8	-	-	512	1.00	2.60	512
4	288.30	17.6	33.2	-	-	453	1.20	3.80	543
5	289.30	17.2	23.2	-	-	310	1.00	4.80	310
6	290.30	17.2	39.0	-	-	520	1.00	5.80	520
7	291.30	16.9	29.6	-	-	388	0.80	6.60	311
8	292.30	16.2	38.0	-	-	478	1.00	7.60	478
9	293.30	16.6	30.3	-	-	390	1.20	8.80	468
10	294.30	16.6	41.9	-	-	540	1.00	9.80	540
11	295.30	16.6	29.6	-	-	382	1.20	11.00	452
						Total	Total	- - - -	4,616

Oil Field Research Laboratories

SUMMARY OF SATURATION TESTS

TABLE IV

Company	Ira C. Houston		Houston		Well No. 48	
Depth Interval, Feet	Feet of Core Analyzed	Average Percent Porosity	Average Percent Oil Saturation	Average Percent Water Saturation	Average Oil Content Bbls./A. Ft.	Total Oil Content Bbls./Acre
285.00 - 289.80	4.80	16.85	29.17	-	384	1,842
289.80 - 296.00	6.20	16.66	34.60	-	447	2,774
285.00 - 296.00	11.00	16.75	32.23	-	420	4,616

Oilfield Research Laboratories

SUMMARY OF LABORATORY FLOODING TESTS

TABLE VI

Company	Ira C. Houston	Lease	Houston	Well No.	48
Depth Interval, Feet	289.80 - 294.80				
Feet of Core Analyzed	4.20				
Average Percent Porosity	16.64				
Average Percent Original Oil Saturation	36.98				
Average Percent Oil Recovery	3.71				
Average Percent Residual Oil Saturation	33.26				
Average Percent Residual Water Saturation	61.05				
Average Percent Total Residual Fluid Saturation	94.31				
Average Original Oil Content, Bbls./A. Ft.	478.				
Average Oil Recovery, Bbls./A. Ft.	48.				
Average Residual Oil Content, Bbls./A. Ft.	430.				
Total Original Oil Content, Bbls./Acre	2,006.				
Total Oil Recovery, Bbls./Acre	202.				
Total Residual Oil Content, Bbls./Acre	1,804.				
Average Effective Permeability, Millidarcys	0.107				
Average Initial Fluid Production Pressure, p.s.i.	50.0				

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

RESULTS OF LABORATORY FLOODING TESTS

Company Ira C. Houston Lease Houston Well No. 40

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.			
1	285.30	16.3	26.4	334	0.0	0	26.4	70.5	334	0	Imp.	50
2	286.30	15.8	21.4	263	0.0	0	21.4	71.5	263	1	0.128	50
3	287.30	17.0	38.8	512	0.0	0	38.8	59.1	512	0	Imp.	50
4	288.30	17.6	33.2	453	0.0	0	33.2	63.7	453	2	0.131	50
5	289.30	17.2	23.2	310	0.0	0	23.2	68.0	310	0	Imp.	50
6	290.30	17.2	39.0	520	6.5	27	32.5	59.8	433	1	0.055	50
7	291.30	16.9	29.6	388	0.0	0	29.6	61.3	388	6	0.033	25
8	292.30	16.2	38.0	478	2.5	31	35.5	59.1	447	0.5	0.046	50
9	293.30	16.6	50.3	596	3.3	42	27.0	69.6	548	4	0.254	50
10	294.30	16.6	41.9	540	2.6	34	30.3	74.0	506	1	0.042	50
11	295.30	16.6	29.6	388	0.0	0	29.6	65.5	388	0	Imp.	50

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.