

25-18-8W

EARLOUGHER ENGINEERING

PETROLEUM CONSULTANTS - CORE ANALYSIS

319 EAST FOURTH STREET

TULSA 3, OKLAHOMA

June 2, 1948

Continental Oil Company
Ponca City, Oklahoma

Attention - Mr. Charles C. Frye

Re - Core Analysis

Sam Ainsworth Well No. 10

Sec. 25, T.18-S., R.8-W.

Rice County, Kansas

Gentlemen:

Attached are results of analysis, together with core-graph and summary, covering core received from your above well.

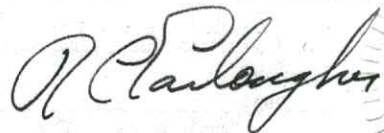
The Kansas City lime section was cored between 2772.0 and 2980.0 feet, however only 26.0 feet of core was received for analysis. Net feet of probable oil pay analyzed is 11.5 feet located in four zones between 2851.0 and 2980.0 feet. Possible gas and water production is indicated in three zones between 2774.0 and 2859.0 feet.

Net feet of oil pay analyzed in the Arbuckle lime is 33.7 feet located between 3125.0 and 3197.0 feet. This does not include 13.0 feet of core loss in the section.

Estimated oil recovery from the Arbuckle lime by gas expansion to zero psi reservoir pressure is 145 barrels per acre-foot. An additional oil recovery of 90 barrels per acre-foot should result from an effective water flood following primary depletion. If reservoir pressure is maintained by an efficient water drive the ultimate oil recovery should be 320 barrels per acre-foot.

Yours very truly

EARLOUGHER ENGINEERING



R. C. Earlougher, Engineer

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EARLOUGHER ENGINEERING
CORE SUMMARY

Page 2

Company Continental Oil Company Lease Sam Ainsworth Well No. 10

Location _____

Section 25 Twp. 18-S Rge. 8-W County Rice State Kansas

Formation Cored Kansas City & Arbuckle Lime Type Core Rotary, 3-inch

Date Cored _____ Date Shot _____ Date Completed _____

Depths: Started coring, Kansas City lime 2772.0 ft.
Bottom of Kansas City, section analyzed 2980.0 "
Feet of Kansas City lime analyzed 26.0 "
Top of Arbuckle analyzed 3123.0 "
Top of Arbuckle oil pay 3125.0 "
Bottom of Arbuckle oil pay 3197.0 "
Net feet of Arbuckle oil pay analyzed 33.7 "
Bottom of Arbuckle analyzed 3198.0 "
Feet of Arbuckle analyzed 62.0 "
Number of samples analyzed in Kansas City
and Arbuckle sections 165

Shot Record:

Set Packer _____ Feet

Depth, Feet	From	To	Feet	Shell Diameter	Quarts Per Foot	Quarts Total
1-7.5					16 percent	

Completion Data:

Hrs. well stood after coring _____; Feet Fluid in Hole _____ (Oil _____ Water _____)

Clean-out time, hrs. _____; Initial production, bbls. day _____ (Oil _____ Water _____)

Remarks: This core was sampled by Continental Oil Company. Because of relatively poor core recovery it was reported that very nearly all core recovered was sealed in cans at the well and shipped to our laboratory in Tulsa for analysis.

The Kansas City section was cored between 2772.0 and 2980.0 feet. Thirty seven samples, representing 26.0 feet of cored section were received in our laboratory for analysis. Results of analysis for these samples are summarized in sections 1 through 7. Section 1 through 5 are vesicular limestone occurring between depths 2774.0

and 2871.0 feet. Sections 6-A through 7 are brown and grey, dense limestone between 2945.0 and 2980.0 feet. Probable gas production is indicated from sections 1 and 3-A. Probable oil production is indicated from sections 3,5,6-A and 7.

SECTION 1 (2774.0 - 2781.0 feet) consists of 7.0 net feet of vesicular limestone with spotted oil staining. Average porosity is 16.4 percent, average permeability 11 millidarcys, average oil saturation 8.5 percent and average core water saturation 33 percent. Although these test results may indicate probable gas production it was noted that the samples bled salt water into the sample cans. Chloride content of this brine varied from 85,000 ppm to 149,000 ppm indicating that this water may be formation brine rather than drilling water contamination. If such is the case a relatively high connate water saturation may exist and possibly the formation may be water productive.

SECTION 2 (2805.0 - 2806.0 feet) consists of 1.0 feet of impermeable shaly lime believed to be non-productive of oil water or gas. Average porosity is 7.3 percent, average oil saturation 16 percent and average core water saturation 35 percent.

SECTION 3-A (2850.0 - 2851.0 feet) consists of 1.0 feet of grey, vesicular lime and may represent a gas zone. Average porosity is 21.8 percent, average permeability 3.2 millidarcys, average oil saturation 3.5 percent and average core water saturation 51 percent.

SECTION 3 (2851.0 - 2857.0 feet) consists of 6.0 net feet of brown, vesicular limestone which may be oil productive. The porosity is uniformly high averaging 28.3 percent. Average permeability is 70 millidarcys, average oil saturation 13 percent and average core water saturation 32 percent.

SECTION 4 (2857.0 - 2859.0 feet) consists of 2.0 feet of vesicular limestone and may represent a water zone. Average porosity is 28.0 percent, average permeability 48 millidarcys, average oil saturation 6.4 percent and average core water saturation 38 percent. The results of analysis of sections 3-A, 3 and 4 may indicate gravity segregation in this relatively thin zone.

SECTION 5 (2870.0 - 2871.0 feet) consists of 1.0 net feet of probable oil pay. Average porosity is 26.1 percent, average permeability 52 millidarcys, average oil saturation 15 percent and average core water saturation 39 percent.

SECTION 6-A (2945.0 - 2947.0 feet) consists of 2.0 net feet of probable oil pay. Average porosity is 17.8 percent, average permeability 16 millidarcys, average oil saturation 19 percent and average core water saturation 46 percent.

SECTION 6 (2947.0 - 2949.0 feet) consists of 2.0 feet of probable non-productive limestone. The average porosity is 15.8 percent, average permeability 0.6 millidarcys, average oil saturation 7.3 percent and average core water saturation 56 percent.

SECTION 7 (2977.0 - 2980.0 feet) consists of 2.5 net feet of probable oil pay although permeability is low averaging only 1.8 millidarcys. The average porosity is 14.0 percent, average oil saturation 17.5 percent and average core water saturation 46 percent.

ARBUCKLE LIME Net feet of Arbuckle oil pay analyzed is 33.7 feet located between depths 3125.0 and 3197.0 feet. Core loss of 13.0 feet in this section is not included in the 33.7 net feet of oil pay although it is probable that at least 7.0 feet of this loss may be oil productive.

PERMEABILITY Average permeability of the 33.7 net feet of Arbuckle oil pay analyzed is 269 millidarcys; however, individual permeabilities vary widely from impermeable to 5,300 millidarcys. Permeability capacity is 1,056 foot-millidarcys.

POROSITY Average porosity of the Arbuckle oil pay section is 12.8 percent. Values range from 4.2 to 30.1 percent but lie for the most part between 6 and 20 percent.

PERCENT SATURATION Average oil saturation of the Arbuckle oil pay section is 25 percent and average core water saturation 40 percent. Estimated average connate water saturation is 28 percent.

OIL CONTENT Average oil content is 247 barrels per acre-foot and values range from 70 to 490 barrels per acre-foot.

CONCLUSIONS:

1. Net feet of probable oil pay analyzed in the Kansas City lime is 11.5 feet located in four separate zones between depths 2851.0 and 2980.0 feet. Possible gas and water production is indicated in three zones between 2774.0 and 2859.0 feet.
2. Net feet of oil pay analyzed in the Arbuckle lime is 33.7 net feet located between 3125.0 and 3197.0 feet. This does not include 13.0 feet of core loss in this section.
3. Estimated oil recoveries from the Arbuckle lime in the area of which this core is representative are as follows:

(a) Primary recovery by gas expansion to zero
psi reservoir pressure 145 bbl/ac. ft.

- (b) Effective water drive following
primary depletion by gas expansion 90 bbl/ac. ft.
- (c) Pressure maintenance by an efficient
water drive from the beginning 320 bbl/ac. ft.

These estimates assume a formation volume factor of 1.30 and an estimated average connate water saturation of 28 percent.

Respectfully submitted

EARLOUGHER ENGINEERING



J. M. Robinson, Engineer

CONTINENTAL OIL COMPANY

SAM AINSWORTH WELL NO. 10

SUMMARY SHEET

Sec No.	Depth, Feet		Net Feet Analyzed	Avg. % Por.	Avg. Sat.		Oil Cont B/A.ft	Average Perm, Md.
	From	To			% Oil	% Water		
<u>KANSAS CITY LIME</u>								
1	2774.0	2781.0	7.0	16.4	8.5	33.	96.	11.
2	2805.0	2806.0	1.0	7.3	16.	35.	89.	Imp.
3-A	2850.0	2851.0	1.0	21.8	3.5	51.	60.	3.2
3	2851.0	2857.0	6.0	28.3	13.	32.	283.	70.
4	2857.0	2859.0	2.0	28.0	6.4	38.	135.	48.
5	2870.0	2871.0	1.0	26.1	15.	39.	300.	52.
6-A	2945.0	2947.0	2.0	17.8	19.	46.	264.	16.
6	2947.0	2949.0	2.0	15.8	7.3	56.	90.	0.6
7	2977.0	2980.0	2.5	14.0	17.5	46.	185.	1.8
1 & 3-A	2774.0	2851.0	8.0	17.1	6.9	35.	92.	10.
3,5,6A,7	2851.0	2980.0	11.5	23.2	14.	38.	260.	44.
4	2857.0	2859.0	2.0	28.0	6.4	38.	135.	48.
<u>ARBUCKLE LIME</u>								
8	3123.0	3125.0	1.5	6.2	31.	39.	137.	4.1
9	3125.0	3129.0	3.7	12.1	29.	36.	251.	197.
10	3132.0	3139.0	4.0	9.9	35.	44.	248.	54.
11	3139.0	3140.0	1.0	21.5	24.	34.	378.	1,460.
12	3140.0	3147.0	4.0	12.0	24.	40.	206.	55.
13	3147.8	3154.0	3.7	9.8	19.	51.	126.	8.6
14	3154.0	3160.0	6.0	11.7	25.	46.	214.	50.
15	3165.5	3183.0	11.5	14.0	27.	40.	280.	235.
16	3183.0	3193.0	10.0	5.9	28.	54.	97.	0.6
17	3193.0	3197.0	3.5	13.0	20.	35.	202.	980.
Sections 9,10,11,12,								
14,15,17	3125.0	3197.0	33.7	12.8	25.	40.	247.	269.

FORMATION LOG

<u>Sample No.</u>	<u>Depth, Feet</u>	<u>Description</u>
1	2772.-2773.	Vesicular limestone
2	2772.-2774.	Vesicular limestone
3	2774.-2775.	Vesicular limestone
4	2775.-2776.	Vesicular limestone
5	2776.-2777.	Vesicular limestone
6	2777.-2778.	Vesicular limestone
7	2778.-2779.	Vesicular limestone
8	2779.-2780.	Vesicular limestone
9	2780.-2781.	Vesicular limestone
10	2805.-2806.	Light gray dense sandy lime, some very fine shale streaks present.
11	2850.-2851.	Vesicular limestone
12	2851.-2852.	Vesicular limestone
13	2852.-2853.	Vesicular limestone
14	2853.-2854.	Vesicular limestone
15	2854.-2855.	Vesicular limestone
16	2855.-2856.	Vesicular limestone
17	2856.-2857.	Vesicular limestone
18	2857.-2858.	Vesicular limestone
19	2858.-2859.	Vesicular limestone
20	2860.-2861.	One-half vesicular, one-half dense limestone
21	2870.-2871.	Vesicular limestone, carbonaceous
22	2945.0	Limestone
23	2945.5	Limestone, brown
24	2946.0	Limestone, brown
25	2946.5	Limestone, brown
26	2947.0	Limestone, brown
27	2948.0	Limestone, gray
28	2949.0	Limestone, brown
29	2950.0	Limestone, hard dense gray
30	2951.0	Limestone, hard dense gray
31	2977.0	Limestone, hard dense gray
32	2977.5	Limestone, hard dense gray
33	2978.0	Limestone, dense
34	2978.5	Limestone, dense
35	2979.0	Limestone, gray white
36	2979.5	Limestone
37	2980.0	Limestone
38	3123.0	Sandy lime, predominately lime, few small vugs.
39	3124.0	Limey sand
40	3124.3	Limey sand
41	3124.8	Limey sand
42	3125.0	Sand, calcareous
43	3125.3	Sand, calcareous
44	3125.8	Sand, calcareous
45	3126.0	Sand, calcareous
46	3126.3	Sand, gray dense calcareous
47	3126.8	Sand, calcareous

FORMATION LOG

<u>Sample No.</u>	<u>Depth, Feet</u>	<u>Description</u>
48	3127.0	Sand, calcareous
49	3127.3	Sand, calcareous
50	3127.8	Sand, calcareous
51	3128.0	Sand, calcareous
52	3129.0	Limey sand
53	3132.3	Sand, calcareous
54	3132.8	Sandy lime, gray white, hard, dense
55	3133.0	Limey sand
56	3133.5	Limey sand
57	3134.0	Sandy shale, predominately shale
58	3134.3	Limey sand
59	3134.8	Sand and lime
60	3135.0	Limey sand
61	3137.0	Limey sand
62	3137.4	Sand, calcareous
63	3137.8	Sand, calcareous
64	3138.0	Limey sand
65	3138.4	Sandy lime
66	3138.8	Sandy lime, dense hard
67	3139.0	Sand, calcareous
68	3139.4	Limey sand
69	3139.8	Limey sand
70	3140.0	Coarse grained sand, calcareous
71	3140.5	Limey sand
72	3141.0	Limey sand
73	3141.5	Sand, calcareous
74	3142.0	Limey sand
75	3142.4	Limey sand
76	3142.8	Limey sand
77	3143.0	Limey sand
78	3143.5	Limey sand, thin shale streak, dense
79	3144.0	Sandy lime
80	3146.0	Sandy lime
81	3146.4	Limey sand
82	3146.8	Sand, calcareous
83	3147.0	Limey sand
84	3147.4	Sandy lime
85	3147.8	Sandy lime
86	3148.0	Limey sand
87	3148.4	Limey sand
88	3148.8	Sandy lime
89	3149.0	Limey sand
90	3149.4	Sandy lime
91	3149.8	Sandy lime
92	3150.0	Sandy lime
93	3150.4	Limey sand
94	3150.8	Limey sand
95	3151.4	Limey sand, light gray
96	3151.8	Limey sand, light gray
97	3151.0	Sand, gray brown

FORMATION LOG

<u>Sample No.</u>	<u>Depth, Feet</u>	<u>Description</u>
98	3152.0	Limey sand
99	3152.4	Limey sand, gray
100	3152.8	Limey sand, gray
101	3153.0	Limey sand
102	3153.4	Limey sand
103	3153.8	Limey sand
104	3154.0	Limey sand
105	3154.4	Limey sand
106	3154.8	Limey sand
107	3157.0	Limey sand
108	3159.0	Limey sand
109	3160.0	Limey sand, coarse grained
110	3162.0	Limey sand
111	3164.0	Limey sand
112	3165.0	Limey sand
113	3165.6	Limey sand
114	3166.0	Limey sand
115	3167.0	Limey sand
116	3167.6	Limey sand
117	3168.0	Limey sand
118	3168.6	Sandy lime
119	3172.6	Sandy lime
120	3173.0	Limey sand
121	3173.6	Sandy lime
122	3174.0	Sandy lime
123	3174.6	Limey sand
124	3175.0	Limey sand
125	3177.0	Limey sand
126	3177.6	Limey sand
127	3178.0	Limey sand
128	3178.6	Limey sand
129	3179.0	Limey sand, coarse grained
130	3179.6	Sandy lime
131	3180.0	Limey sand
132	3180.6	Limey sand
133	3181.0	Sandy lime, dense hard
134	3181.6	Limey sand
135	3182.0	Limey sand
136	3182.6	Limey sand
137	3183.0	Limey sand
138	3184.0	Sandy lime
140	3184.6	Sandy lime
141	3185.0	Sandy lime
142	3185.6	Sandy lime
143	3186.0	Sandy lime
144	3186.6	Sandy lime
145	3187.0	Sandy lime
146	3188.0	Sandy lime
147	3188.6	Sandy lime
148	3189.0	Predominately shale

FORMATION LOG

<u>Sample No.</u>	<u>Depth, Feet</u>	<u>Description</u>
149	3189.6	Limestone, white
150	3190.0	Sandy lime
151	3190.6	Sandy lime
152	3191.0	Sandy lime
153	3191.6	Sandy lime
154	3192.0	Sandy lime
155	3192.6	Sandy lime
156	3193.0	Sandy lime, coarse
157	3193.6	Sandy lime
158	3194.0	Sandy lime
159	3194.6	Sandy lime
160	3195.0	Sandy lime
161	3195.6	Sandy lime, vesicular
162	3196.0	Sandy lime
163	3196.6	Sandy lime
164	3197.0	Sandy lime
165	3197.6	Sandy lime

EARLOUGHER ENGINEERING

RESULTS OF SATURATION TESTS

COMPANY Continental Oil Company

WELL Sam Ainsworth Well No. 10

Sat. No.	Depth Feet	Porosity Per Cent	PER CENT SAT.			Avg. Oil Content Bbls./A. Ft.	FT. OF SAND		Total Oil Content Bbls./Acre
			Oil	Water	Total		Ft.	Cum.	
									<u>Perm., Mds.</u>
1	2772.-								
	2773.	3.5	16.	84.	100.	42.	*		Imp.
2	2773.-								
	2774.	5.2	15.	85.	100.	62.	*		Imp.
3	2774.-								
	2775.	15.1	7.0	41.	48.	82.			Imp.
4	2775.-								
	2776.	20.2	5.4	17.	22.	85.			Imp.
5	2776.-								
	2777.	25.4	5.3	18.	23.	110.		B	5.0
6	2777.-								
	2778.	10.3	18.	52.	70.	140.			Imp.
7	2778.-								
	2779.	10.1	11.	42.	53.	82.			Imp.
8	2779.-								
	2780.	11.2	6.0	41.	47.	52.			11.
9	2780.-								
	2781.	22.6	7.0	19.	26.	120.			64.
10	2805.-								
	2806.	7.3	16.	35.	51.	89.			Imp.
11	2850.-								
	2851.	21.8	3.5	51.	55.	60.			3.2
12	2851.-								
	2852.	25.7	14.	28.	42.	280.			6.3
13	2852.-								
	2853.	26.4	18.	23.	41.	360.			25.
14	2853.-								
	2854.	34.0	10.	27.	37.	270.		G	70.
15	2854.-								
	2855.	30.7	8.5	30.	39.	200.			224.
16	2855.-								
	2856.	29.4	12.	32.	44.	280.			67.
17	2856.-								
	2857.	23.6	17.	49.	66.	310.			25.

Not included in average.

SUMMARY

(continued following page)

FEET OF SAND	AVG. POROSITY	AVG. OIL SAT.	AVG. WATER SAT.	AVG. OIL CONTENT BBLs./A. FT.	TOTAL OIL CONTENT BBLs./ACRE
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EARLOUGHER ENGINEERING

- Page 2 -

RESULTS OF SATURATION TESTS

COMPANY Continental Oil Company

WELL Sam Ainsworth Well No. 10

Depth Feet	Sat. No.	Depth Feet	Porosity Per Cent	PER CENT SAT.			Avg. Oil Content Bbls./A. Ft.	FT. OF SAND		Total Oil Content Bbls./Acre
				Oil	Water	Total		Ft.	Cum.	
										Perm., Mds.
2857.0	I 18	2857.0								
2858.0		2858.0	31.8	5.6	33.0	39.0	140.0			58.
2859.0	S 19	2859.0								
2860.0		2860.0	24.2	7.2	44.0	51.0	130.0			38.
2861.0	E 20	2861.0								
2870.0		2870.0	3.2	Trace	11.0	11.0	Trace	*		Imp.
2871.0	4 21	2871.0								
2945.0		2945.0	26.1	15.0	39.0	54.0	300.0			52.
2945.5	22	2945.5	14.2	17.0	56.0	73.0	190.0			68.
2946.0	23	2946.0	19.1	10.0	53.0	63.0	150.0			2.1
2946.5	24	2946.5	22.2	28.0	29.0	57.0	480.0	I		6.7
2947.0	25	2947.0	16.2	19.0	46.0	65.0	240.0			3.2
2948.0	26	2948.0	17.2	20.0	47.0	67.0	260.0			0.9
2949.0	27	2949.0	14.3	6.9	63.0	70.0	80.0			0.4
2950.0	28	2950.0	17.2	7.7	49.0	57.0	100.0			0.8
2951.0	29	2951.0	2.1	31.0	69.0	100.0	50.0	*		Imp.
2977.0	30	2977.0	8.0	12.0	70.0	82.0	70.0	*		0.1
2977.5	31	2977.5	11.2	12.0	51.0	63.0	110.0			0.4
2978.0	32	2978.0	17.2	20.0	31.0	51.0	260.0			1.2
2978.5	33	2978.5	19.1	18.0	29.0	47.0	260.0	K		4.4
2979.0	34	2979.0	10.7	32.0	53.0	85.0	270.0			1.1
2979.5	35	2979.5	10.4	6.4	76.0	82.0	50.0	*		Imp.
2980.0	36	2980.0	16.4	7.6	46.0	54.0	100.0			3.7
3123.0	37	3123.0	9.3	15.0	63.0	78.0	110.0			0.2
3124.0	38	3124.0	7.2	21.0	32.0	53.0	120.0			8.9
3124.3	39	3124.3	2.5	48.0	52.0	100.0	90.0	*		Imp.
3124.8	40	3124.8	7.2	25.0	31.0	56.0	140.0			3.5
3125.0	41	3125.0	4.2	47.0	53.0	100.0	150.0			Imp.
3125.3	42	3125.3	12.3	44.0	54.0	98.0	340.0			448.
3125.8	43	3125.8	19.0	26.0	35.0	61.0	390.0			827.
3126.0	44	3126.0	14.0	28.0	37.0	65.0	310.0			220.
3126.3	45	3126.3	6.2	32.0	36.0	68.0	150.0			18.
3126.8	46	3126.8	3.0	28.0	72.0	100.0	70.0	*		Imp.
	47	3126.8	13.4	20.0	26.0	46.0	210.0			45.

*-Not included in average.

SUMMARY

(continued following page)

DEPTH FEET	DEPTH FEET	FEET	AVG.	AVG. OIL	AVG. WATER	AVG. OIL CONTENT	TOTAL OIL CONTENT
FROM	TO	OF SAND	POROSITY	SAT.	SAT.	BBLs./A. FT.	BBLs./ACRE

EARLOUGHER ENGINEERING

- Page 3 -

RESULTS OF SATURATION TESTS

Continental Oil Company

WELL Sam Ainsworth Well No. 10

Depth Feet	Sat. No.	Depth Feet	Porosity Per Cent	PER CENT SAT.			Avg. Oil Content Bbls./A. Ft.	FT. OF SAND		Total Oil Content Bbls./Acre
				Oil	Water	Total		Ft.	Cum.	
		48	3127.0	10.7	33.	35.	68.	280.		Perm., Mds.
		49	3127.3	12.0	26.	34.	60.	240.		104.
		50	3127.8	6.5	42.	58.	100.	210.		64.
		51	3128.0	11.0	18.	22.	40.	160.		0.7
		52	3129.0	16.1	18.	20.	38.	220.		113.
		53	3132.3	10.4	18.	25.	43.	150.		127.
		54	3132.8	4.1	17.	83.	100.	50.	*	331.
		55	3133.0	5.1	15.	61.	76.	60.	*	Imp.
		56	3133.5	14.9	33.	33.	66.	380.	*	0.1
		57	3134.0	4.9	Trace	21.	21.	Trace	*	13.
		58	3134.3	19.9	27.	41.	68.	420.		Imp.
		59	3134.8	10.9	38.	59.	97.	320.		36.
		60	3135.0	7.1	22.	50.	72.	120.		Imp.
		61	3137.0	5.2	54.	46.	100.	220.		Imp.
		62	3137.4	11.6	23.	18.	41.	210.		0.2
		63	3137.8	5.1	41.	59.	100.	160.		163.
		64	3138.0	1.7	55.	45.	100.	70.	*	0.3
		65	3138.4	5.9	42.	58.	100.	190.		Imp.
		66	3138.8	8.4	48.	52.	100.	310.		0.1
		67	3139.0	15.9	32.	49.	81.	400.		Imp.
		68	3139.4	18.5	29.	39.	68.	410.		226.
		69	3139.8	21.6	19.	26.	45.	320.		172.
		70	3140.0	30.1	16.	21.	37.	380.		127.
		71	3140.5	7.0	33.	67.	100.	180.		5,300.
		72	3141.0	8.8	24.	59.	83.	160.		Imp.
		73	3141.5	17.0	21.	36.	57.	280.		0.7
		74	3142.0	20.8	16.	35.	51.	260.		27.
		75	3142.4	8.4	29.	61.	90.	190.		72.
		76	3142.8	6.9	42.	58.	100.	230.		0.4
		77	3143.0	14.4	19.	32.	51.	210.		1.8
		78	3143.5	12.3	2.9	46.	49.	20.	*	385.
		79	3144.0	5.3	20.	69.	89.	80.	*	Imp.
		80	3146.0	11.1	19.	17.	36.	160.		Imp.
		81	3146.4	10.5	16.	21.	37.	130.		23.
		82	3146.8	16.1	27.	27.	54.	340.		63.
		83	3147.0	11.5	13.	24.	37.	120.		28.
										5.1

* - Not included in average.

SUMMARY

(continued following page)

DEPTH FEET	DEPTH FEET	FEET	AVG.	AVG. OIL	AVG. WATER	AVG. OIL CONTENT	TOTAL OIL CONTENT
OT	FROM	TO	POROSITY	SAT.	SAT.	BBLS./A. FT.	BBLS./ACRE

EARLOUGHER ENGINEERING

- Page 5 -

RESULTS OF SATURATION TESTS

Continental Oil Company

WELL Sam Ainsworth Well No. 10

Depth Feet	Sat. No.	Depth Feet	Porosity Per Cent	PER CENT SAT.			Avg. Oil Content Bbls./A. Ft.	FT. OF SAND		Total Oil Content Bbls./Acre	Perm., Mds.
				Oil	Water	Total		Ft.	Cum.		
3172.6	19	3172.6	16.3	39.	61.	100.	490.			13.	
3173.0	20	3173.0	17.0	21.	43.	64.	280.			66.	
3173.6	21	3173.6	6.4	29.	71.	100.	140.	*		Imp.	
3174.0	22	3174.0	7.3	11.	24.	35.	60.	*		36.	
3174.6	23	3174.6	5.0	15.	44.	59.	60.	*		Imp.	
3175.0	24	3175.0	15.7	19.	29.	48.	230.			249.	
3177.0	25	3177.0	18.1	17.	28.	45.	240.			245.	
3177.6	26	3177.6	8.8	43.	54.	97.	290.			1.8	
3178.0	27	3178.0	15.1	25.	43.	68.	290.			58.	
3178.6	28	3178.6	8.6	25.	35.	60.	170.			16.	
3179.0	29	3179.0	15.2	32.	57.	89.	380.			1,042.	
3179.6	30	3179.6	4.2	44.	15.	59.	140.			0.2	
3180.0	31	3180.0	8.9	8.6	16.	25.	60.	*		4.2	
3180.6	32	3180.6	12.1	27.	43.	70.	250.			57.	
3181.0	33	3181.0	1.1	39.	61.	100.	34.	*		Imp.	
3181.6	34	3181.6	3.8	18.	11.	29.	52.	*		64.	
3182.0	35	3182.0	7.0	31.	69.	100.	170.	*		Imp.	
3182.6	36	3182.6	6.3	24.	20.	44.	120.			78.	
3183.0	37	3183.0	16.6	17.	9.0	26.	220.			1,890.	
3183.6	38	3183.6	3.8	35.	38.	73.	100.			Imp.	
3184.0	39	3184.0	4.4	13.	15.	28.	44.			6.0	
3184.6	40	3184.6	5.0	27.	48.	75.	100.			0.2	
3185.0	41	3185.0	1.5	42.	58.	100.	49.			Imp.	
3185.6	42	3185.6	2.7	28.	72.	100.	59.			Imp.	
3186.0	43	3186.0	5.1	13.	68.	81.	52.			Imp.	
3186.6	44	3186.6	1.1	71.	25.	96.	60.			Imp.	
3187.0	45	3187.0	9.5	14.	33.	47.	100.			2.3	
3188.0	46	3188.0	12.5	8.5	78.	87.	83.			0.2	
3188.6	47	3188.6	15.8	34.	66.	100.	420.			Imp.	
3189.0	48	3189.0	4.6	12.	88.	100.	43.			0.7	
3189.6	49	3189.6	17.1	5.9	21.	27.	77.			Imp.	
3190.0	50	3190.0	3.6	36.	64.	100.	100.			Imp.	
3190.6	51	3190.6	5.5	25.	35.	60.	110.			1.2	
3191.0	52	3191.0	2.6	31.	69.	100.	63.			Imp.	
3191.6	53	3191.6	1.2	59.	41.	100.	55.			Imp.	

- Not included in average.

SUMMARY

(continued following page)

DEPTH FEET	DEPTH FEET	FEET	AVG.	AVG. OIL	AVG. WATER	AVG. OIL CONTENT	TOTAL OIL CONTENT
OT	FROM	OF SAND	POROSITY	SAT.	SAT.	BBLs./A. FT.	BBLs./ACRE

EARLOUGHER ENGINEERING

- Page 6 -

RESULTS OF SATURATION TESTS

COMPANY Continental Oil Company

WELL Sam Ainsworth Well No. 10

Depth Feet	Sat. No.	Depth Feet	Porosity Per Cent	PER CENT SAT.			Avg. Oil Content Bbls./A. Ft.	FT. OF SAND		Total Oil Content Bbls./Acre
				Oil	Water	Total		Ft.	Cum.	
3154	154	3192.0	3.1	27.	73.	100.	66.			Imp.
3155	155	3192.6	7.6	27.	73.	100.	160.			Imp.
3156	156	3193.0	17.7	20.	31.	51.	270.			1,262.
3157	157	3193.6	8.6	16.	38.	54.	110.			3.9
3158	158	3194.0	10.9	22.	40.	62.	190.			99.
3159	159	3194.6	6.0	25.	75.	100.	120.	*		Imp.
3160	160	3195.0	10.1	23.	46.	69.	180.			2,740.
3161	161	3195.6	17.3	18.	27.	45.	250.			8.1
3162	162	3196.0	13.5	20.	29.	49.	210.			23.
3163	163	3196.6	16.5	16.	27.	43.	210.			2,094.
3164	164	3197.0	9.4	26.	38.	64.	190.			617.
3165	165	3197.6	7.1	17.	83.	100.	93.	*		Imp.
3166	166									
3167	167									
3168	168									
3169	169									
3170	170									
3171	171									
3172	172									
3173	173									
3174	174									
3175	175									
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3177	177									
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3180	180									
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3193	193									
3194	194									
3195	195									
3196	196									
3197	197									
3198	198									
3199	199									
3200	200									
3201	201									
3202	202									
3203	203									
3204	204									
3205	205									
3206	206									
3207	207									
3208	208									
3209	209									
3210	210									
3211	211									
3212	212									
3213	213									
3214	214									
3215	215									
3216	216									
3217	217									
3218	218									
3219	219									
3220	220									
3221	221									
3222	222									
3223	223									
3224	224									
3225	225									
3226	226									
3227	227									
3228	228									
3229	229									
3230	230									
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3250	250									
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3267	267									
3268	268									
3269	269									
3270	270									
3271	271									
3272	272									
3273	273									
3274	274									
3275	275									
3276	276									
3277	277									
3278	278									
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3280	280									
3281	281									
3282	282									
3283	283									
3284	284									
3285	285									
3286	286									
3287	287									
3288	288									
3289	289									
3290	290									
3291	291									
3292	292									
3293	293									
3294	294									
3295	295									
3296	296									
3297	297									
3298	298									
3299	299									
3300	300									

* - Not included in average.

SUMMARY

- Not included

DEPTH FEET	DEPTH FEET	FEET	AVG.	AVG. OIL	AVG. WATER	AVG. OIL CONTENT	TOTAL OIL CONTENT
TO	FROM	OF SAND	POROSITY	SAT.	SAT.	BBLs./A. FT.	BBLs./ACRE

(See Summary Sheet)

