

618
819

CORE LABORATORIES, INC.
Petroleum Reservoir Engineering
DALLAS, TEXAS

July 14, 1954

BSV

REPLY TO
710 NORTH BROADWAY
OKLAHOMA CITY, OKLAHOMA

Continental Oil Company
Route 4
Lyons, Kansas

Attention: Mr. Louis McGuire

Subject: Core Analysis
Sam Ainsworth No. 11 Well
Geneseo Field
Rice County, Kansas

Gentlemen:

The Sam Ainsworth No. 11 well was diamond cored between 3115 and 3202 feet in the Simpson and Arbuckle formations. Samples selected from this interval were transmitted to Oklahoma City for testing by the whole-core analysis procedure. In the whole-core analysis procedure, full diameter segments of core are tested for the various physical properties. The measured physical properties are reported in tabular and graphical form on the accompanying Coregraph.

Measured residual oil saturation is observed throughout the entire sampled interval; however, the first noticeable decrease in residual oil contents occurs at approximately 3150.6 feet. This decrease in residual oil contents is thought to be significant in determining a possible water-oil contact in the sampled interval. However, relatively high residual oil contents occurring in the interval, 3154.8 to 3179.5 feet, may warrant additional testing of this interval.

A complete summary of the intervals, 3129.6 to 3150.6, 3150.6 to 3154.8, 3154.8 to 3179.5 and 3179.5 to 3202.0 feet, has been given on page one for convenience in comparing the data. Unit estimates of recoverable oil have been calculated for the interval, 3129.6 to 3150.6 feet, using average reservoir fluid characteristics and assuming a connate water figure or 32 per cent.

Continental Oil Company
Sam Ainsworth No. 11 Well

Page Two

Several samples were badly broken and it was necessary to run plug-type permeability measurements on them. These samples are marked with asterisks in the permeability column. Vertical permeability measurements have been accomplished on all the samples submitted. These measurements are given in a special column on the accompanying Core-graph.

We are most pleased to have cooperated with the Continental Oil Company on this operation.

Very truly yours,

Core Laboratories, Inc.

R C Wilshusen (RC)

R. C. Wilshusen

RCW:ln

CORE LABORATORIES, INC.

Petroleum Reservoir Engineering
DALLASPage 1 of 1File OCL-1856 SWell Sam Ainsworth No. 11

CORE SUMMARY AND CALCULATED RECOVERABLE OIL

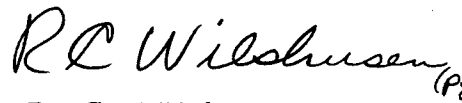
CORE SUMMARY

FORMATION NAME	Arbuckle	Arbuckle	Arbuckle	Arbuckle
DEPTH, FEET	3129.6-3150.6	3150.6-3154.8	3154.8-3179.5	3179.5-3202.0
% CORE RECOVERY	100	100	100	100
FEET OF PERMEABLE, PRODUCTIVE FORMATION RECOVERED	21.0	4.2	24.7	22.5
AVERAGE PERMEABILITY MILLIDARCYS	Max.: 53 90°: 28	Max.: 354 90°: 58	Max.: 94 90°: 35	Max.: 202 90°: 135
CAPACITY — AVERAGE PERMEABILITY X FEET PRODUCTIVE FORMATION	Max.: 1113 90°: 588	Max.: 1487 90°: 244	Max.: 2322 90°: 865	Max.: 4545 90°: 3038
AVERAGE POROSITY, PERCENT	10.1	10.1	10.1	8.0
AVERAGE RESIDUAL OIL SATURATION, % PORE SPACE	14.3	7.8	12.3	7.2
GRAVITY OF OIL, °A.P.I.	38			
AVERAGE TOTAL WATER SATURATION, % PORE SPACE	53.0	68.3	59.3	67.0
AVERAGE CALCULATED CONNATE WATER SATURATION, % PORE SPACE	32 (*)			
SOLUTION GAS-OIL RATIO, CUBIC FEET PER BARREL (1)	240			
FORMATION VOLUME FACTOR—VOLUME THAT ONE BARREL OF STOCK TANK OIL OCCUPIES IN RESERVOIR (1)	1.18			

CALCULATED RECOVERABLE OIL { Prediction dependent upon complete isolation of each division. Structural position of well, total permeable thickness of oil zone and drainage area of well should be considered.

BY NATURAL OR GAS EXPANSION, BBLs. PER ACRE FOOT (2)	115			
INCREASE DUE TO WATER DRIVE, BBLs. PER ACRE FOOT	224			
TOTAL AFTER COMPLETE WATER DRIVE, BBLs. PER ACRE FOOT (3)	339			

Core Laboratories, Inc.



R. C. Wilshusen

NOTE:

(*) REFER TO ATTACHED LETTER.

(1) REDUCTION IN PRESSURE FROM estimated SATURATION PRESSURE TO ATMOSPHERIC PRESSURE.

(2) AFTER REDUCTION FROM ORIGINAL RESERVOIR PRESSURE TO ZERO POUNDS PER SQUARE INCH.

(3) RESERVOIR PRESSURE MAINTAINED BY WATER DRIVE AT OR ABOVE estimated ORIGINAL SATURATION PRESSURE.

(4) NO ESTIMATE FOR GAS PHASE RESERVOIRS.

These analyses, opinions or interpretations are based on observations and materials supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted); but Core Laboratories, Inc. and its officers and employees assume no responsibility and make no warranty or representation, as to the productivity, proper operation, or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

Distribution of Final Reports

1 Copies	Continental Oil Company Route 4 Lyons, Kansas Attention: Mr. Louis McGuire
1 Copy	Continental Oil Company Box 2197 Houston, Texas Attention: Mr. E. W. Webb
1 Copy	Continental Oil Company Box 795 Oklahoma City, Oklahoma Attention: Mr. R. G. Parker
1 Copy	Continental Oil Company 335 West Lewis Wichita, Kansas Attention: Mr. R. F. Darrow
1 Copy	Continental Oil Company Box 795 Oklahoma City, Oklahoma Attention: Mr. C. L. Arnett
1 Copy	Continental Oil Company Drawer 1267 Ponca City, Oklahoma Attention: Mr. J. R. Spencer
1 Copy	Continental Oil Company Drawer 1267 Ponca City, Oklahoma Attention: Mr. F. R. Conley
1 Copy	Shell Oil Company 434 North Oliver Wichita, Kansas
1 Copy	Cities Service Oil Company 1020 Central Building Wichita, Kansas

$10 \rightarrow 3$ 

Petroleum Reservoir Engineering

11-12 $\Rightarrow 38$

Special Analysis

CORE REPORT

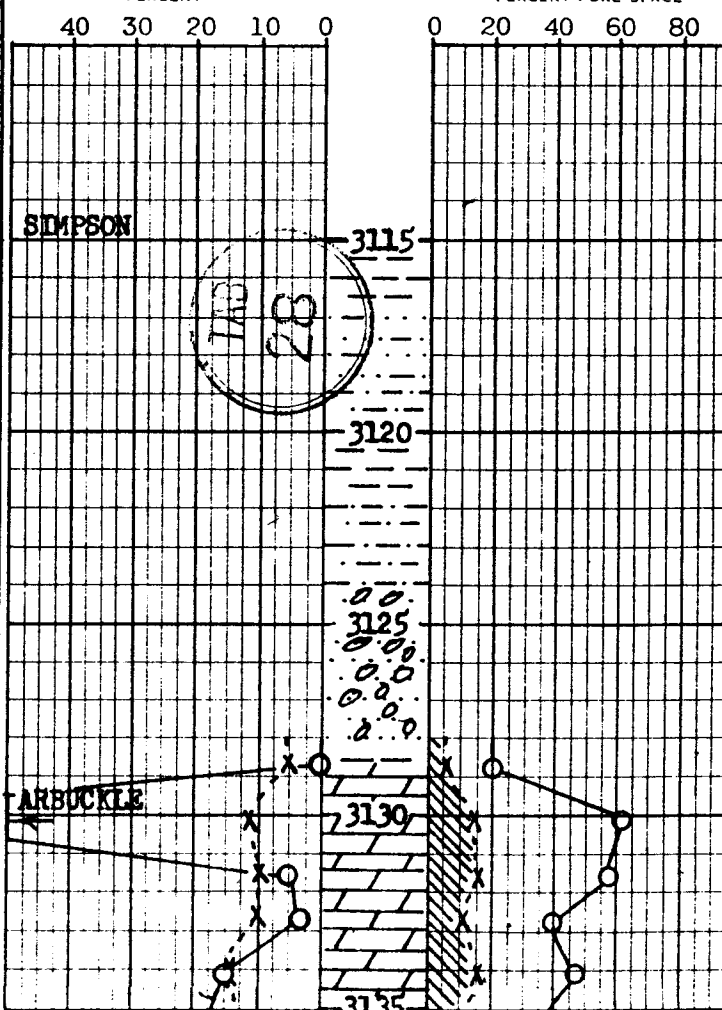
These analyses, opinions or interpretations are based on observations and use of data supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted). The use of this report by anyone other than the client to whom this report was submitted is prohibited. Core Laboratories, Inc. and its officers and employees accept no responsibility for the use of this report by anyone other than the client to whom this report was submitted. The use of this report by anyone other than the client to whom this report was submitted is prohibited. Core Laboratories, Inc. and its officers and employees accept no responsibility for the use of this report by anyone other than the client to whom this report was submitted.

TOTAL WATER ○—○
PERCENT PORE SPACE

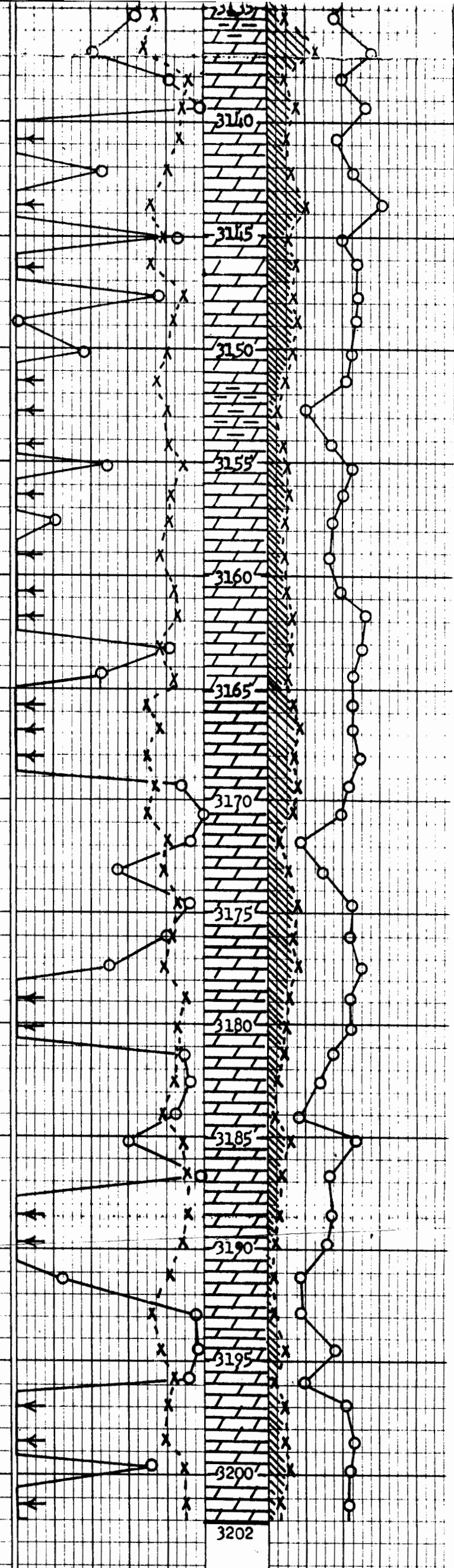
80 60 40 20

POROSITY X---X
PERCENT

OIL SATURATION X---X
PERCENT PORE SPACE



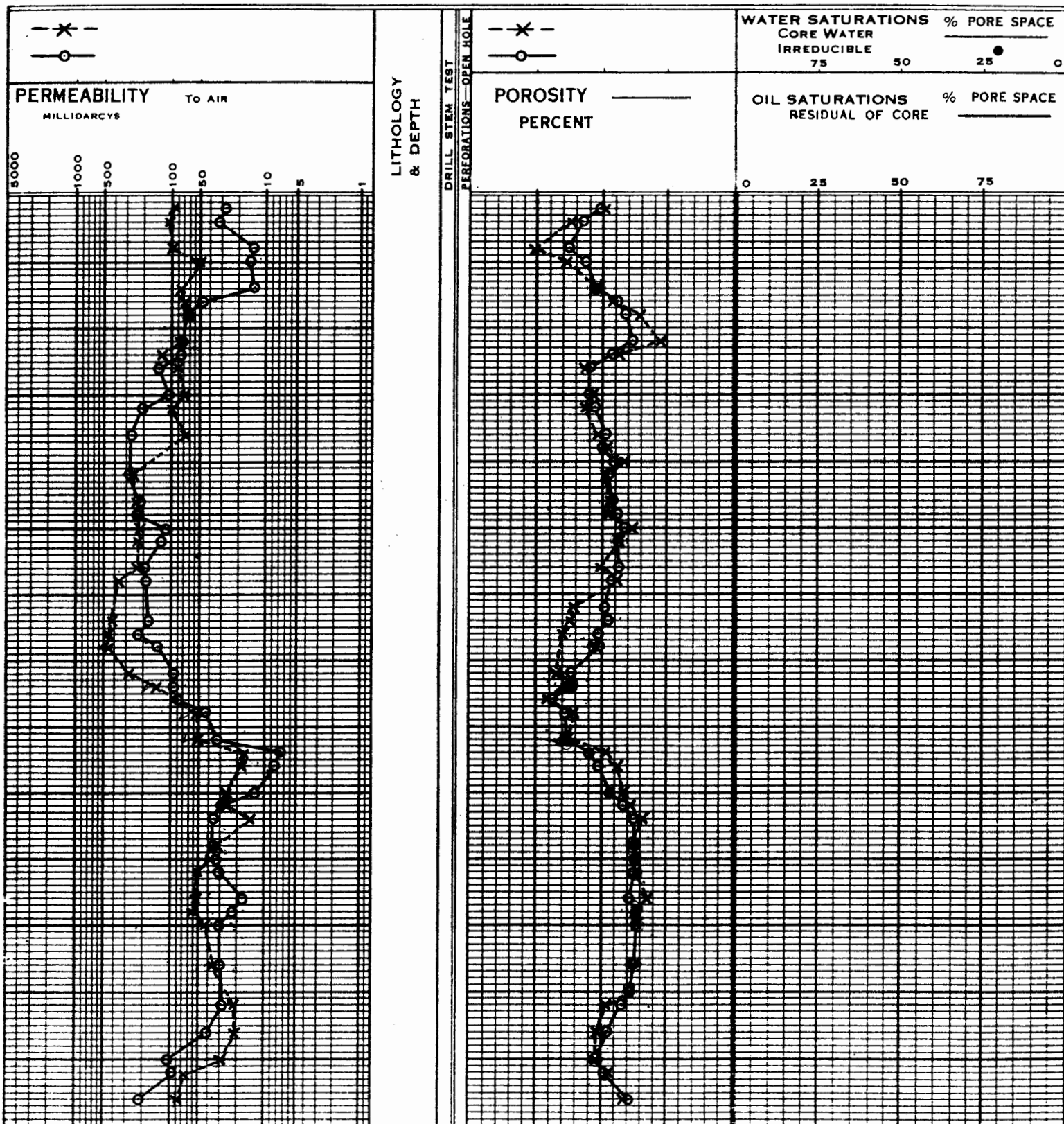
6	3134.7-34.9	18	5.5	13.3	9.9	45.5	16
7	3136.0-37.4	29	13	15.7	25.7	45.3	12
8	3137.4-38.7	8.8	8.6	4.0	9.3	61.6	4.6
9	3138.7-40.0	1.5	1.4	5.8	15.0	47.2	0.4
10	3140.0-42.5	180	55	6.0	10.9	63.7	2.4
11	3141.5-43.0	27	10	9.7	12.3	53.8	2.0
12	3143.0-44.3	66	62	13.6	20.7	39.9	3.4
13	3144.3-45.7	6.9	2.8	11.2	12.1	60.8	13
14	3145.7-47.0	288	185	14.4	14.9	52.4	2.2
15	3147.0-48.3	12	9.5	5.8	13.7	52.3	3.4
16	3148.3-49.6	49	44	7.9	15.0	53.6	2.4
17	3149.6-50.9	32	18	9.7	12.6	55.3	39
18	3150.6-52.1	633	95	12.4	9.1	58.4	9.0
19	3152.1-53.4	268	60	9.7	5.5	79.9	2.2
20	3153.4-54.8	60	19	8.2	8.7	66.7	<0.1
21	3154.8-55.9	26	1.4	5.6	10.9	55.2	3.0
22	3155.9-57.3	96	23	8.4	11.5	61.5	3.5
23	3157.3-58.5	39	24	9.4	9.7	66.6	1.6
24	3158.5-60.0	450	70	11.9	8.9	68.0	18
25	3160.0-61.2	150	68	8.2	9.7	60.7	16
26	3161.2-62.5	382	68	8.1	12.5	48.4	1.1
27	3162.5-63.8	8.7	6.1	12.0	11.6	50.0	5.3
28	3163.8-65.0	27	5.4	7.6	10.9	56.0	1.8
29	3165.0-66.3	238	170	15.1	13.5	56.1	41
30	3166.3-67.5	76	40	11.5	16.5	56.5	11
31	3167.5-68.7	130	121	15.4	14.7	50.4	141
32	3168.7-70.2	6.4	1.4	12.5	16.1	58.6	1.3
33	3170.2-71.3	0.2	0.1	14.7	13.2	61.1	0.4
34	3171.3-72.6	4.4	0.3	9.6	6.6	83.2	0.5
35	3172.6-74.1	23	23	11.2	10.3	71.9	2.2
36	3174.1-75.2	4.5	3.0	6.9	15.9	56.6	0.4
37	3175.2-76.8	10	4.2	8.4	13.5	57.6	3.4
38	3176.8-78.0	25	5.9	10.6	15.8	50.9	15
39	3178.0-79.5	84	36	4.4	11.1	56.9	5.0
40	3179.5-80.8	53	21	7.3	9.9	56.2	0.9
41	3180.8-82.0	5.1*		6.8	8.1	65.4	12
42	3182.0-83.4	3.2	2.0	7.4	5.3	73.6	20
43	3183.4-84.7	7.3	4.9	11.7	4.3	83.5	2.1
44	3184.7-86.0	20	10	6.1	11.8	53.4	25
45	3186.0-87.8	0.8*		4.1	7.6	67.5	<0.1
46	3187.8-89.3	83	1.7	4.4	6.8	66.9	3.3
47	3189.3-90.6	2020	150	6.0	4.6	68.7	7.3
48	3190.6-92.3	38	16	9.3	3.5	83.5	3.5
49	3192.3-93.8	2.0	0.7	14.1	3.6	82.2	33
50	3193.8-95.1	2.2*		11.9	9.3	63.3	2.9
51	3195.1-96.4	3.7	<0.1	8.2	3.2	80.4	1.0
52	3196.4-97.8	76	67	9.9	9.5	59.2	11
53	3197.8-99.1	402	95	10.5	9.5	54.2	40
54	3199.1-00.5	14	3.1	5.7	11.5	55.8	2.0
55	3200.5-02.0	517	21	5.3	6.1	57.7	7.9



CONTINENTAL OIL COMPANY

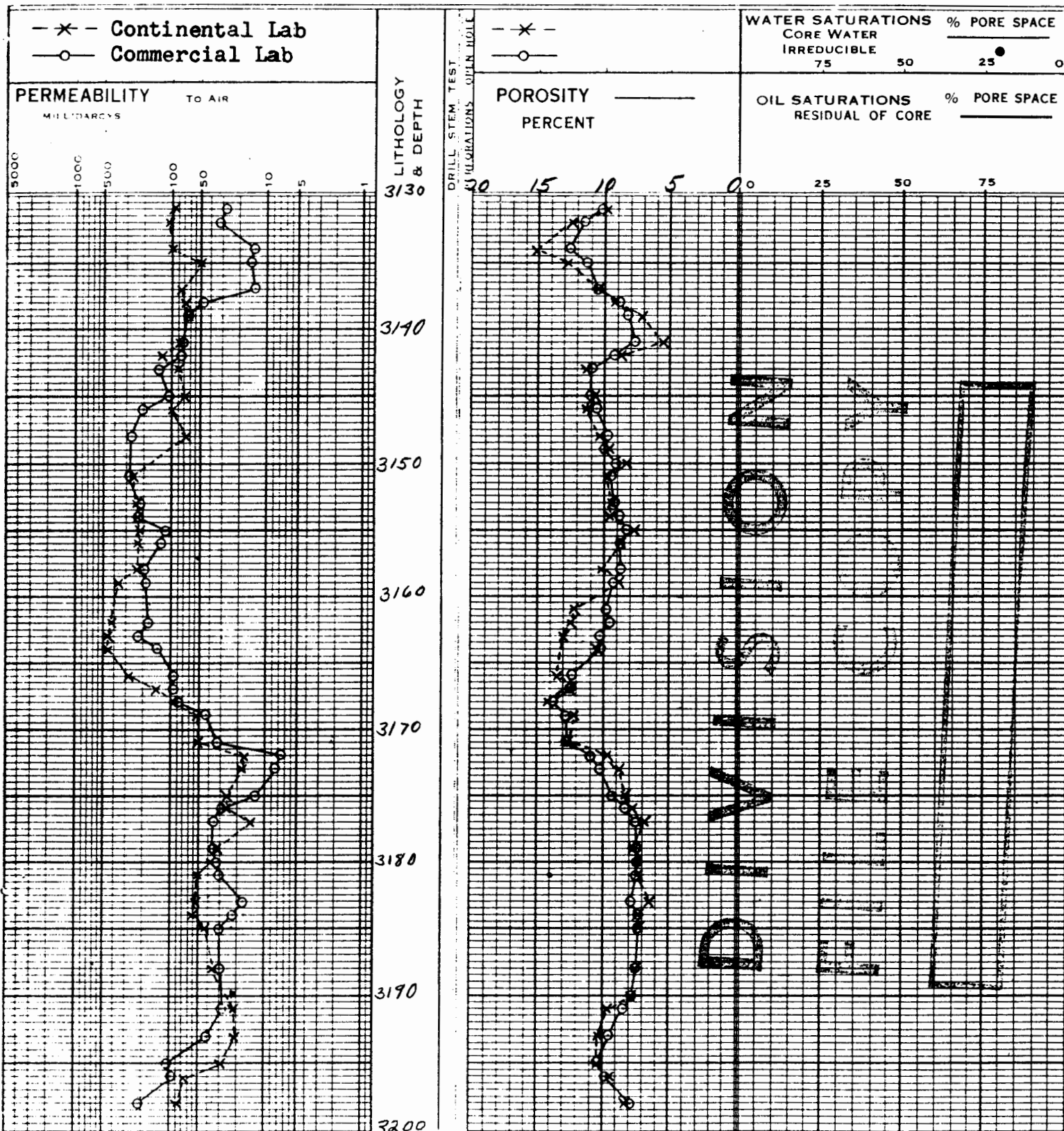
COREGRAPH

OPERATOR _____ WELL _____ LABORATORY No. _____
 FIELD _____ REFERENCE ELEVATION _____ MUD _____
 FORMATION _____

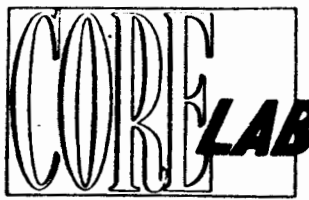


Comparison of Permeability and Porosity Determinations
By Commercial Laboratory and Continental Laboratory
~~Using a Sliding Scale Average Method~~
DATA AVERAGED OVER 3 FEET INTERVALS
CONTINENTAL OIL COMPANY
COREGRAPH

OPERATOR Continental WELL Ainsworth No. 11 LABORATORY No. BSV
FIELD _____ REFERENCE ELEVATION _____ MUD Oil Emulsion
FORMATION _____



CORE LABORATORIES, INC.



PRELIMINARY REPORT
Form No. 1
Rev. 1-2-53
Petroleum Reservoir Engineering

COMPANY CONTINENTAL OIL COMPANY DATE ON 6/30/54 FILE NO. OCL-1856 S
WELL SAM AINSWORTH NO. 11 DATE OFF _____ ENGRS. PUGH
FIELD GENESEO FORMATION AS NOTED ELEV. 1728' RB
COUNTY RICE STATE KANSAS DRLG. FLD. OIL EMULSION CORES DIAMOND
LOCATION 2310'N, 1650'E, SEC. 25-18S-8W REMARKS SERVICE NO. 9

Special Analysis

CORE REPORT

SAND 	LIMESTONE 	CONGLOMERATE 	CHERT 
SHALE 	DOLOMITE 		

These analyses, opinions or interpretations are based on observations and material supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted); but Core Laboratories, Inc. and its officers and employees, assume no responsibility and make no warranty or representations as to the productivity, proper operation, or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

REFRIGERATE

CONTINENTAL OIL COMPANY

DEVELOPMENT AND RESEARCH DEPARTMENT

PRODUCTION RESEARCH DIVISION

BSV

TECHNICAL SERVICE REPORT

ADDRESS INQUIRY TO:
J. J. REYNOLDS, DIRECTOR

REPORT NO.: 430-54

January 7, 1955

SUBJECT: CORE ANALYSIS REPORT, CONTINENTAL OIL COMPANY, SAM
AINSWORTH NO. 11 WELL, GENESEO FIELD, RICE COUNTY,
KANSAS

Core analysis results in this report cover only the Lansing-Kansas City Lime. The Arbuckle Lime was analyzed by Core Laboratories, Inc., under their file No. OCL 1856-S.

The main interest in the Lansing-Kansas City Lime at this date was porosity data for correlation with the Neutron Log. Reasonable correlation was obtained between core analysis data and neutron derived porosities for both the Lansing-Kansas City Lime (Fig. 1) and Arbuckle Lime (Fig. 2). These correlations were obtained by the Well Logging group and reported in detail under Report No. 750-54, "Neutron-Porosity Correlation, Arbuckle Lime and Lansing-Kansas City Lime, Geneseo Pool, Rice County, Kansas," by A. J. deWitte.

Selected samples of the Lansing-Kansas City Lime were analyzed by the large core analysis techniques. Results are tabulated in Table No. I. Permeabilities by the two methods show extreme variation.

Completion of this well was at a TD of 3141 feet in the Arbuckle Lime for an initial potential pumping of 81 barrels of oil.



F. R. Conley
Senior Research Engineer

FRC-ARW

Distribution:

1. E. W. Webb
2. R. G. Parker
3. R. F. Darrow
4. Lewis McGuire
5. John A. Queen
6. C. L. Arnett
7. S. R. Cross
8. J. R. Spencer
9. Cities Service Oil Co., Bartlesville, Okla.
10. Shell Oil Company, Wichita, Kansas
- ✓11. File

TABLE I

Comparison of Large Core and Small Plug Analysis

Ainsworth No. 11 Well

Geneseo Field

Rice County, Kansas

Lansing Formation

<u>Sample No.</u>	<u>Depth</u>	<u>Plug Analysis</u>		<u>Large Core Analysis</u>		
		<u>Porosity %</u>	<u>Perm. Md</u>	<u>Porosity %</u>	<u>Perm. Md</u>	
					<u>Max.</u>	<u>Min.</u>
2	2782	14.1	-.2	24.6	34	18
5	2785	22.3	-.2	20.0	177	112
9	2789	22.7	9.4	30.6	52	39
38	2833	8.0	-.2	4.6	1.8	1.4
61	2859	18.6	258	19.5	65	64
63	2861	18.5	243	19.0	28	19

CONTINENTAL OIL COMPANY

CORE ANALYSIS REPORT

RESULTS OF LABORATORY TESTS

Table II

OPERATOR Continental Oil Co. WELL Sam Ainsworth No. 11 LABORATORY No. BSV

SAMPLE NO.	DEPTH FEET	POROSITY %	PERMEABILITY TO AIR MILLIDARCY (1)		SATURATION % PORE SPACE				SALINITY OF CORE WATER 1000 PPM (4)	PROBABLE PRODUCTION (2)	
			HORIZONTAL	VERTICAL	OIL	WATER	VACANT	I.W.S. (3)			
	<u>Lansing</u>	<u>K. C.</u>	<u>Lime</u>								
1	2781	1.5	-.2								
2	2782	14.1	-.2								
3	2783	15.3	6.6		2	24	74				
4	2784	24.5	4.9								
5	2785	22.3	-.2								
6	2786	8.8	3.0		16	22	62				
7	2787	5.6	2.1								
8	2788	6.0	-.2								
9	2789	22.7	9.4		9	6	85				
10	2794	2.5	-.2								
11	2796	3.5	-.2								
12	2798	3.9	-.2								
13	2800	5.2	-.2								
14	2802	5.0	-.2								
15	2804	3.5	-.2								
16	2806	12.0	-.2								
17	2808	1.9	-.2								
18	2809	6.4	-.2								
19	2810	3.5	-.2								
20	2811	7.7	-.2								
21	2812	3.3	-.2								
22	2813	5.7	-.2								
23	2814	3.5	-.2								
24	2815	1.0	-.2								
25	2816	3.8	-.2								
26	2817	5.0	-.2								
27	2818	4.8	0.9								
28	2819	7.0	-.2								
29	2820	8.8	-.2								
30	2821	1.3	-.2								
31	2822	2.6	-.2								
32	2823	6.1	-.2								
33	2828	7.4	-.2								
34	2829	1.2	-.2								

- (1) " - " INDICATES 'LESS THAN'
 (2) PROBABLE PRODUCTION IF COMPLETELY ISOLATED
 (3) IRREDUCIBLE INTERSTITIAL WATER SATURATION. VALUES MARKED BY AN ASTERISK (*) ARE LABORATORY DETERMINATIONS.
 (4) EQUIVALENT SODIUM CHLORIDE.

- (D) DISINTEGRATED
 (NF) NO FLOW
 (NCF) NO COMMERCIAL FLOW
 (NS) NO SAMPLE OR NO SEALED SAMPLE
 (NA) NO ANALYSIS

CONTINENTAL OIL COMPANY

CORE ANALYSIS REPORT

RESULTS OF LABORATORY TESTS

Table II

OPERATOR Continental Oil Co. WELL Sam Ainsworth No. 11 LABORATORY No. BSV

SAMPLE NO.	DEPTH FEET	POROSITY %	PERMEABILITY TO AIR MILLIDARREYS (1)		SATURATION % PORE SPACE				SALINITY OF CORE WATER 1000 PPM (4)	PROBABLE PRODUCTION (2)	
			HORIZONTAL	VERTICAL	OIL	WATER	VACANT	I.W.S. (3)			
35	2830	11.2	-.2								
36	2831	1.4	-.2								
37	2832	6.7	-.2								
38	2833	8.0	-.2								
39	2834	10.5	2.1								
40	2835	3.5	-.2								
41	2836	5.9	-.2								
42	2837	5.7	-.2								
43	2840	11.5	-.2								
44	2841										
45	2842	12.2	1.0								
46	2843	15.5	4.0								
47	2844	10.6	-.2								
48	2846	4.5	-.2								
49	2847	6.1	-.2								
50	2848	6.4	-.2								
51	2849	5.7	-.2								
52	2850	6.5	-.2								
53	2851	2.3	-.2								
54	2852	1.7	-.2								
55	2853	6.0	D								
56	2854	4.2	-.2								
57	2855	1.6	-.2								
58	2856	9.5	0.8								
59	2857	3.1	-.2								
60	2858	13.5	2.1		9	72	19				
61	2859	18.6	258		29	41	30				
62	2860	18.8	211					24*			
63	2861	18.5	243		17	29	54	19*			
64	2862	19.0	10					31*			
65	2863	23.8	19					23*			
66	2864	23.3	11		12	20	68				
67	2865	24.4	18								
68	2866	27.4	2.3		10	25	65				
69	2867	27.6	3.5		11	21	68				
70	2868	28.1	20								
71	2869	27.5	15		10	34	56				
72	2870	16.4	29					20*			
73	2871	16.4	4.4		9	35	56				
74	2872	15.5	-.2								
75	2873	20.6	2.5		2	78	20				
76	2874	24.0	16								

- (1) " - " INDICATES 'LESS THAN'
 (2) PROBABLE PRODUCTION IF COMPLETELY ISOLATED
 (3) IRREDUCIBLE INTERSTITIAL WATER SATURATION. VALUES MARKED BY AN ASTERISK (*) ARE LABORATORY DETERMINATIONS.
 (4) EQUIVALENT SODIUM CHLORIDE.

- (D) DISINTEGRATED
 (NF) NO FLOW
 (NCF) NO COMMERCIAL FLOW
 (NS) NO SAMPLE OR NO SEALED SAMPLE
 (NA) NO ANALYSIS

CONTINENTAL OIL COMPANY

CORE ANALYSIS REPORT

RESULTS OF LABORATORY TESTS

Table II

OPERATOR Continental Oil Co. WELL Sam Ainsworth No. 11 LABORATORY No. BSV

SAMPLE NO.	DEPTH FEET	POROSITY %	PERMEABILITY TO AIR MILLIDARCS (1)		SATURATION % PORE SPACE				SALINITY OF CORE WATER 1000 PPM (4)	PROBABLE PRODUCTION (2)	
			HORIZONTAL	VERTICAL	OIL	WATER	VACANT	I.W.S. (3)			
77	2875	30.6	54					23*			
78	2876	20.6	18		5	46	49				
79	2877	30.5	2.1								
80	2878	22.8	6.8								
81	2879	17.2	1.9								
82	2880	28.4	4.4								
83	2881	19.8	2.6								
84	2882	5.3	-.2								
85	2883	17.1	3.5								
86	2884	20.0	3.4								
87	2885	14.3	2.2								
88	2886	9.7	0.5								
89	2887	10.6	0.5								
90	2888	5.5	0.8								
91	2889	11.1	0.6								
92	2890	3.0	-.2								
93	2891	5.8	-.2								
94	2893	4.5	-.2								
95	2897	1.3	-.2								
96	2899	4.5	-.2								
97	2901	1.0	-.2								
98	2903	4.5	-.2								
99	2904	1.1	-.2								
100	2906	0.6	-.2								
101	2912	1.3	-.2								
102	2914	3.4	-.2								
103	2916	11.5	-.2								
104	2918	1.2	-.2								
105	2920	3.2	-.2								
106	2922	3.5	-.2								
107	2924	5.6	-.2								
108	2926	1.2	-.2								

(1) " - " INDICATES 'LESS THAN'

(2) PROBABLE PRODUCTION IF COMPLETELY ISOLATED

(3) IRREDUCIBLE INTERSTITIAL WATER SATURATION. VALUES MARKED BY AN ASTERISK (*) ARE LABORATORY DETERMINATIONS.

(4) EQUIVALENT SODIUM CHLORIDE.

(D) DISINTEGRATED

(NF) NO FLOW

(NCF) NO COMMERCIAL FLOW

(NS) NO SAMPLE OR NO SEALED SAMPLE

(NA) NO ANALYSIS

CONTINENTAL OIL COMPANY

CORE ANALYSIS REPORT

RESULTS OF LABORATORY TESTS

Table II

OPERATOR Continental Oil Co. WELL Sam Ainsworth No. 11 LABORATORY No. BSV

SAMPLE NO.	DEPTH FEET	POROSITY %	PERMEABILITY TO AIR MILLIDARCY (1)		SATURATION % PORE SPACE				SALINITY OF CORE WATER 1000 PPM (4)	PROBABLE PRODUCTION (2)	
			HORIZONTAL	VERTICAL	OIL	WATER	VACANT	I.W.S. (3)			
109	2928	4.6	0.6								
110	2930	3.8	D								
111	2932	1.0	D								
112	2934	2.4	D								
113	2936	7.0	D								
114	2938	0.4	D								
115	2940	9.7	-.2								
116	2942	5.8	-.2								
117	2944	1.2	-.2								
118	2946	4.9	-.2								
119	2949	2.3	-.2								
120	2951	1.3	-.2								
121	2953	3.0	2.3								
122	2955	1.4	-.2								
123	2957	6.8	D								
124	2959	1.4	-.2								
125	2964	0.9	-.2								
126	2966	1.4	-.2								
127	2968	4.6	1.8								
128	2970	2.8	D								
129	2972	1.7	-.2								
130	2974	2.3	-.2								
131	2976	1.9	-.2								

- (1) "-" INDICATES 'LESS THAN'
 (2) PROBABLE PRODUCTION IF COMPLETELY ISOLATED
 (3) IRREDUCIBLE INTERSTITIAL WATER SATURATION. VALUES MARKED BY AN ASTERISK (*) ARE LABORATORY DETERMINATIONS.
 (4) EQUIVALENT SODIUM CHLORIDE.

- (D) DISINTEGRATED
 (NF) NO FLOW
 (NCF) NO COMMERCIAL FLOW
 (NS) NO SAMPLE OR NO SEALED SAMPLE
 (NA) NO ANALYSIS

CONTINENTAL OIL COMPANY

CORE ANALYSIS REPORT

RESULTS OF LABORATORY TESTS

Table II

OPERATOR Continental Oil Co. WELL Sam Ainsworth No. 11 LABORATORY No. BSV

SAMPLE NO.	DEPTH FEET	POROSITY %	PERMEABILITY TO AIR MILLIDARCS (1)		SATURATION % PORE SPACE				SALINITY OF CORE WATER 1000 PPM (4)	PROBABLE PRODUCTION (2)	
			HORIZONTAL	VERTICAL	OIL	WATER	VACANT	I.W.S. (3)			
132	2978	2.4	-.2								
133	2980	2.4	-.2								
134	2982	2.2	-.2								
135	2984	2.1	-.2								
136	2986	6.6	-.2								
137	2988	6.8	-.2								
138	2989	12.5	1.4		18	31	51				
139	2990	8.3	-.2								
140	2991	11.4	-.2								
141	2993	1.1	-.2								
142	2995	0.7	-.2								

(1) " - " INDICATES 'LESS THAN'

(2) PROBABLE PRODUCTION IF COMPLETELY ISOLATED

(3) IRREDUCIBLE INTERSTITIAL WATER SATURATION. VALUES MARKED BY AN ASTERISK (*) ARE LABORATORY DETERMINATIONS.

(4) EQUIVALENT SODIUM CHLORIDE.

(D) DISINTEGRATED

(NF) NO FLOW

(NCF) NO COMMERCIAL FLOW

(NS) NO SAMPLE OR NO SEALED SAMPLE

(NA) NO ANALYSIS

CONTINENTAL OIL COMPANY
COREGRAPH

OPERATOR Continental Oil Company WELL Sam Ainsworth No. 11 LABORATORY No. BSV
FIELD Geneseo REFERENCE ELEVATION 1728' RB MUD Oil Emulsion
FORMATION Lansing-Kansas City Lime

PERMEABILITY MILLIDARCYs TO AIR _____ TO WATER ●	LITHOLOGY & DEPTH	DRILL STEM TEST PERFORATIONS—OPEN HOLE	POROSITY PERCENT _____	WATER SATURATIONS CORE WATER IRREDUCIBLE 75 50 25 ●	% PORE SPACE _____
				OIL SATURATIONS RESIDUAL OF CORE _____	% PORE SPACE _____
5000 1000 500 100 50 10 5 1			40 30 20 10 0	25 50 75	

1,000 F 13-152-S

CODER BOOK COMPANY, INC. NORWOOD, MASSACHUSETTS.
PRINTED IN U.S.A.

NO. 31,288. 10 DIVISIONS PER INCH (70 DIVISIONS) BY FOUR 2 1/2-INCH CYCLES RATIO RULING.



CONTINENTAL OIL COMPANY
PRODUCTION LABORATORY

IRREDUCIBLE WATER — PERMEABILITY

FIELD Geneseo STATE Kansas
FORMATION Lansing-Kansas City Lime

WELL
Ainsworth No. 11

LAB. NO.
BSV

PERMEABILITY (MILLIDARCYS)

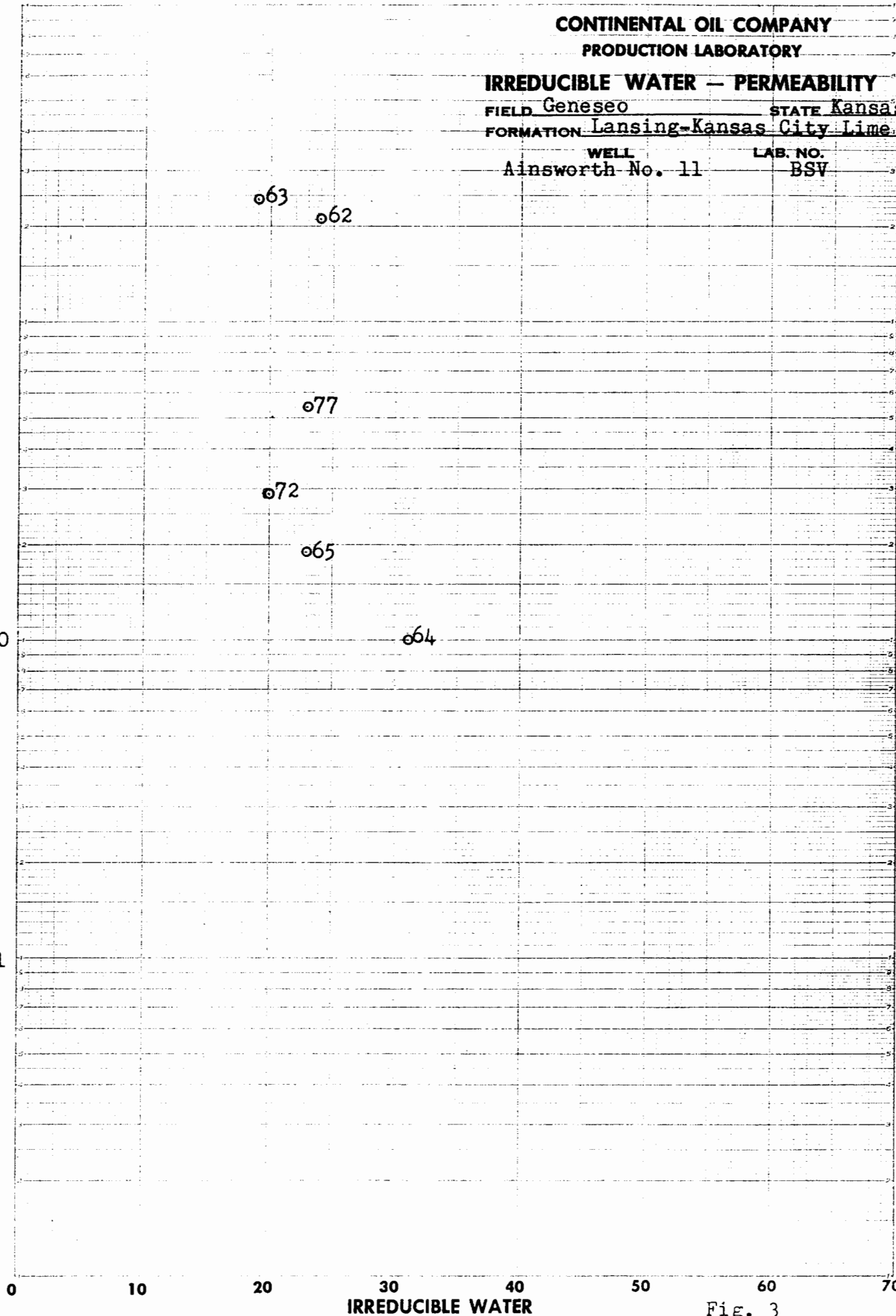
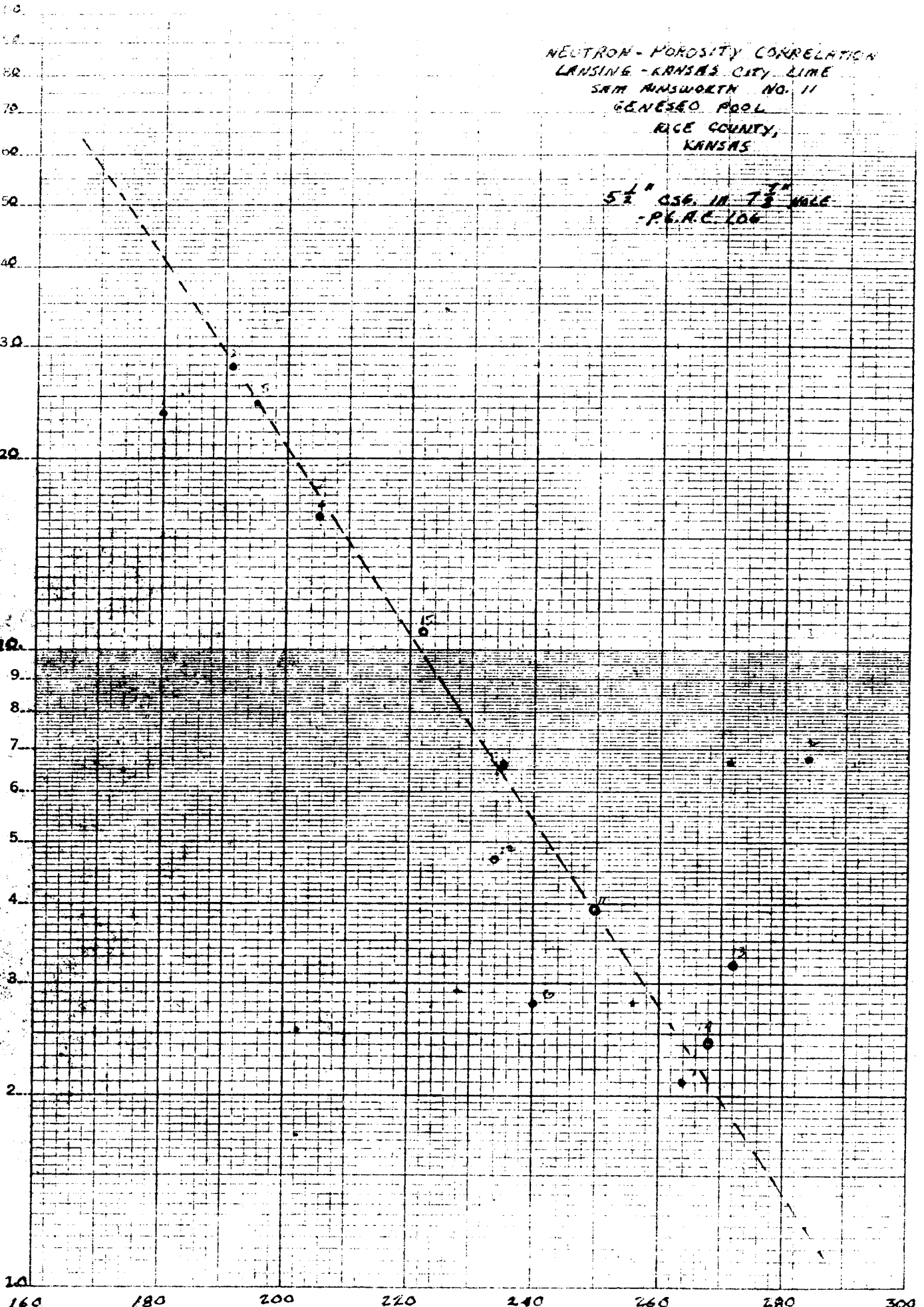


Fig. 3

NEUTRON-POROSITY CORRELATION
 LANSING-KANSAS CITY LIME
 SAM ANSWORTH NO. 11
 GENESIO POOL
 RICE COUNTY,
 KANSAS

5 1/2" GSE. IN 7 1/2" HOLE
 -P.L.A.C. 106

POROSITY IN PERCENT



NEUTRON DEFLECTION IN STANDARD UNITS

Fig 1

300-54 KUPPER & ESSER CO.
 Semi-Logarithmic, 2 Cycles X 10 to the Inch,
 5th line accounted.
 MADE IN U.S.A.

K&E SEMI-LOGARITHMIC 359-61
KEUFFEL & ESSER CO. MADE IN U.S.A.
2 CYCLES X 70 DIVISIONS

NEUTRON DEFLECTION IN STANDARD UNITS

POROSITY (%)

NEUTRON-POROSITY CORRELATION
ARBUCLE LIME
SAM ANSWORTH NO. 11
GENESSEO POOL, RICE COUNTY,
KANSAS
5 1/2" 2.5G. IN 3 1/2" HOLE
RG-AC-400

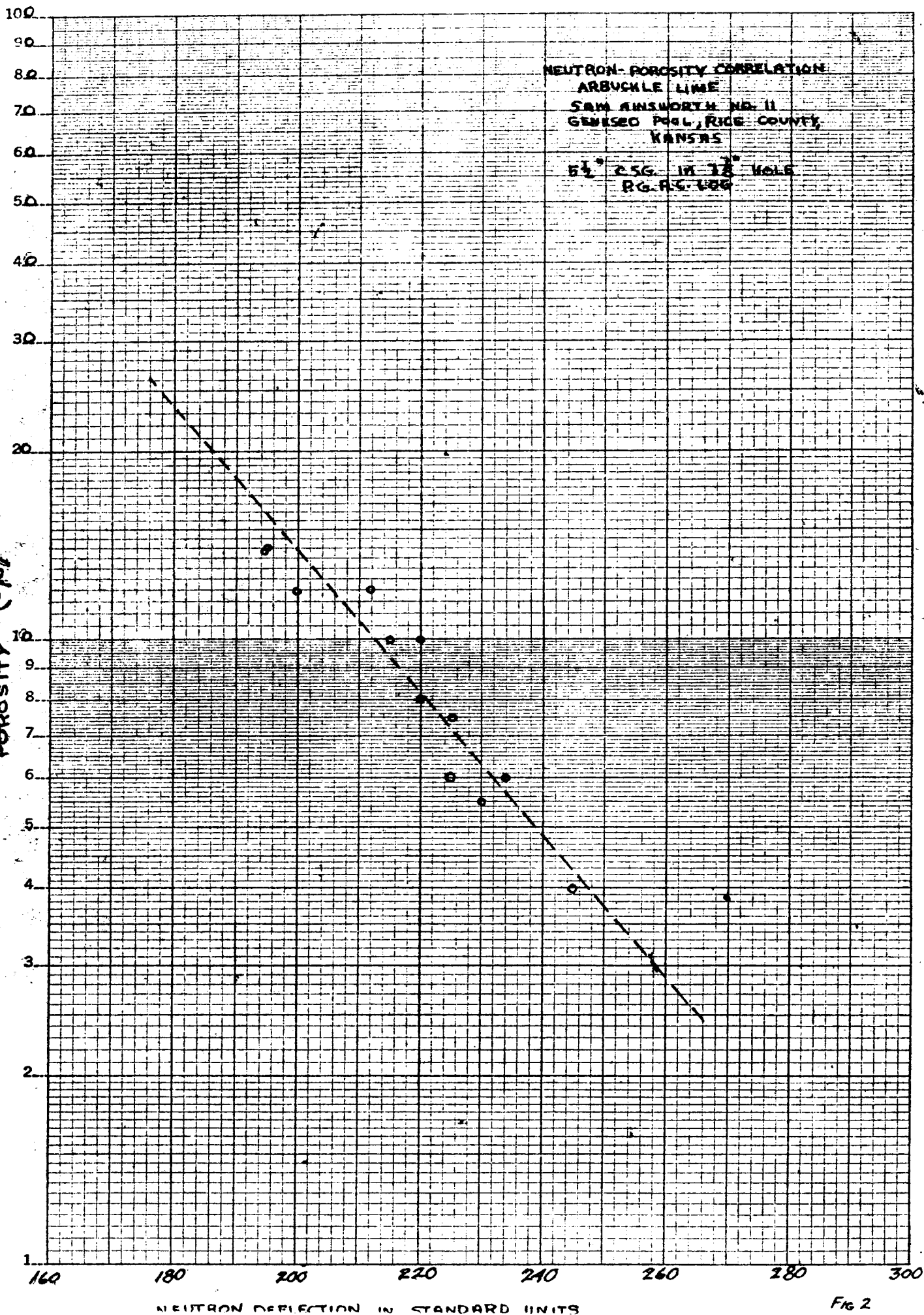


Fig 2

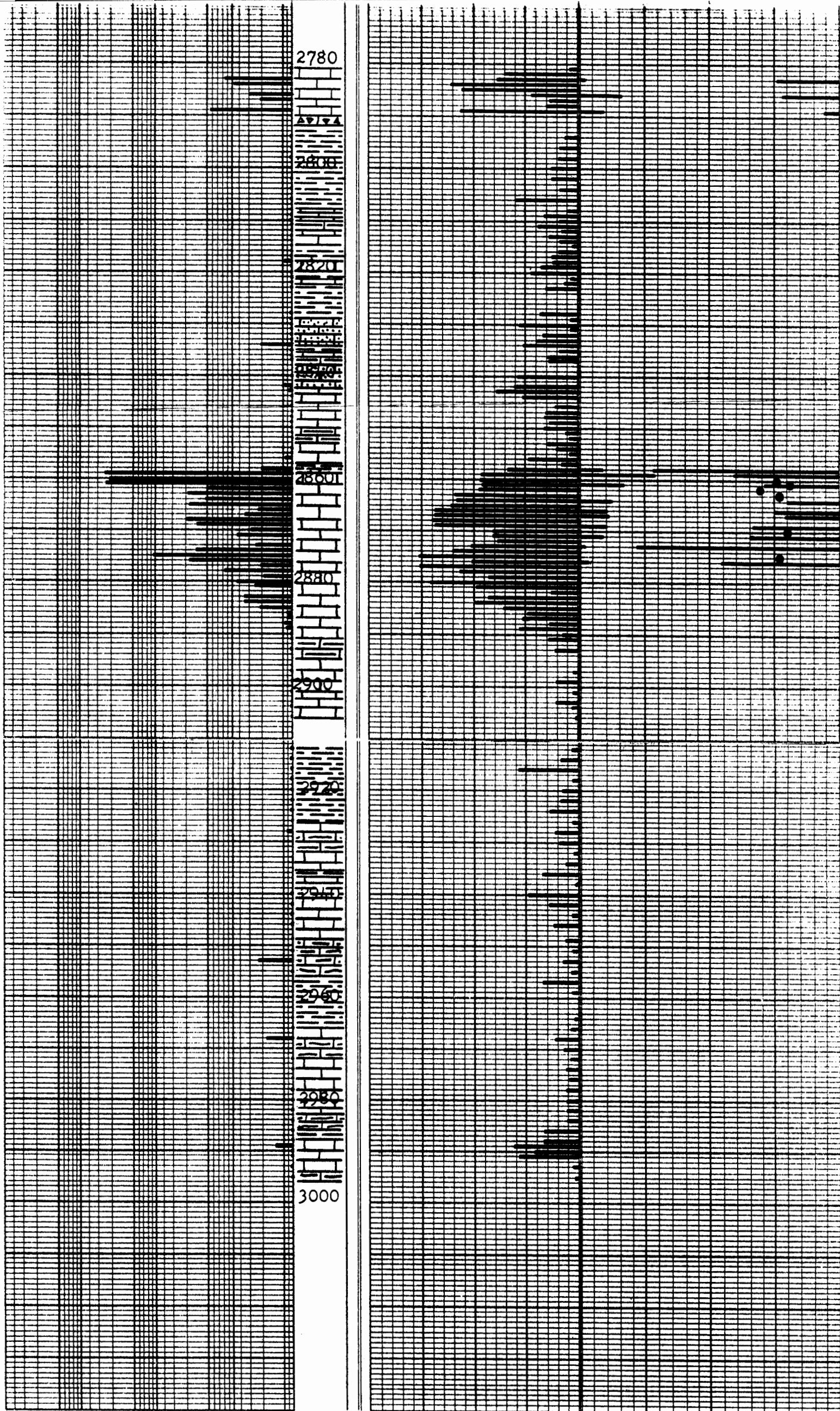


Fig. 4

SAND Limestone CONGLOMERATE CHERT
SHALE DOLOMITE

These analyses, opinions or interpretations are based on observations and material supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted); but Core Laboratories, Inc. and its officers and employees, assume no responsibility and make no warranty or representations as to the productivity, proper operation, or profitability of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.

PERMEABILITY, Maximum 0-0
MILLIDARCY
40 30 20 10 0

TOTAL WATER 0-0
PERCENT PORE SPACE
80 60 40 20 0

POROSITY X---X
PERCENT
40 30 20 10 0

OIL SATURATION X---X
PERCENT PORE SPACE
0 20 40 60 80

