

OILFIELD RESEARCH LABORATORIES

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

December 8, 1980

Eastern Kansas Gas & Oil
202 East 23Rd Street
Ft Scott, Kansas 66071

Gentlemen:

Enclosed herewith are the results of tests run on the rotary core taken from the Cox Ranch Lease, Well No. 4-N, Linn County, Kansas.

The core was sampled and sealed in plastic bags by a representative of the client and submitted to our laboratory on November 17, 1980.

Your business is greatly appreciated.

Very truly yours,

OILFIELD RESEARCH LABORATORIES



Sanford A. Michel

SAM/tem

4 c to Ft. Scott, Kansas
1 c to Tulsa, Oklahoma

Oilfield Research Laboratories
GENERAL INFORMATION & SUMMARY

Company Eastern Kansas Gas & Oil Lease Cox Ranch Well No. 4-N

Location -

Section - Twp. - Rge. - County Linn State Kansas

Elevation, Feet	
Name of Sand	Squirrel
Top of Core	355.0
Bottom of Core	398.0
Top of Sand	355.0
Bottom of Sand	398.0
Total Feet of Permeable Sand	38.1

Distribution of Permeable Sand: Permeability Range Millidarcys	Feet	Cum. Ft.
0 - 5	18.2	18.2
5 - 10	8.1	26.3
10 - 20	5.0	31.3
20 - 50	4.9	36.2
50 & Above	1.9	38.1

Average Permeability Millidarcys	10.6
Average Percent Porosity	17.5
Average Percent Oil Saturation	39.4
Average Percent Water Saturation	52.4
Average Oil Content, Bbls./A. Ft.	543.
Total Oil Content, Bbls./Acre	21864.

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LOGName Eastern Kansas Gas & Oil Lease Cox Ranch Well No. 4-N

<u>Depth Interval, Feet</u>	<u>Description</u>
355.0 - 361.2	Brown and gray laminated sandstone and shale.
361.2 - 362.6	Brown slightly calcareous sandstone.
362.6 - 364.4	Grayish light brown shaly sandstone.
364.4 - 367.2	Brown and gray laminated sandstone and shale.
367.2 - 368.7	Brown sandstone.
368.7 - 370.1	Brown and gray laminated sandstone and shale.
370.1 - 373.3	Grayish brown very shaly sandstone.
373.3 - 374.0	No Core.
374.0 - 376.0	Brown shaly sandstone.
376.0 - 378.0	No Core.
378.0 - 396.9	Brown and gray laminated sandstone and shale.
396.9 - 398.0	Brown sandstone.

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company Eastern Kansas Gas & Oil Lease Cox Ranch Well No. 4-N

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	355.4	16.6	38	50	88	489	6.3	1.0	1.0	489	6.30
2	356.5	19.4	40	42	82	602	11.	1.0	2.0	602	11.00
3	357.5	17.8	34	50	84	470	10.	1.0	3.0	470	10.00
4	358.5	16.0	27	69	96	335	9.4	1.0	4.0	335	9.40
5	359.5	15.7	41	58	99	499	3.1	1.0	5.0	499	3.10
6	360.5	16.5	59	40	99	755	6.0	1.2	6.2	906	7.20
7	361.5	19.0	78	21	99	1150	50.	1.0	7.2	1150	50.00
8	362.5	16.6	41	51	92	528	54.	0.4	7.6	211	21.60
9	363.6	16.3	42	53	95	531	0.98	1.8	9.4	956	1.76
10	364.7	18.6	46	42	88	664	20.	1.0	10.4	664	20.00
11	365.5	19.6	44	41	85	669	10.	1.0	11.4	669	10.00
12	366.5	19.5	48	36	84	726	25.	0.8	12.2	581	20.00
13	367.5	18.6	40	46	86	577	43.	1.0	13.2	577	43.00
14	368.5	23.2	47	28	75	846	105.	0.5	13.7	423	52.50
15	369.5	16.0	41	53	94	509	0.37	1.4	15.1	713	0.52
16	370.5	16.0	21	70	91	261	0.42	1.0	16.1	261	0.42
17	371.5	13.9	18	81	99	194	Imp.	1.0	17.1	194	0.00
18	372.5	15.5	7	88	95	84	Imp.	1.2	18.3	101	0.00
19	374.5	16.5	37	59	96	474	1.0	1.0	19.3	474	1.00
20	375.5	16.7	35	57	92	454	2.2	1.0	20.3	454	2.20
21	378.5	17.4	40	56	96	540	6.0	1.0	21.3	540	6.00
22	379.5	17.2	37	60	97	494	7.2	1.0	22.3	494	7.20
23	380.5	18.0	49	47	96	684	0.53	1.0	23.3	684	0.53
24	381.5	17.6	33	63	96	451	1.3	1.0	24.3	451	1.30
25	382.5	16.8	33	60	93	430	1.4	1.0	25.3	430	1.40
26	383.5	19.4	37	49	86	557	2.1	1.0	26.3	557	2.10
27	384.5	19.0	34	56	90	501	0.28	1.0	27.3	501	0.28
28	385.5	17.9	37	53	90	514	3.0	1.0	28.3	514	3.00
29	386.4	19.2	52	34	86	775	12.	1.0	29.3	775	12.00
30	387.5	17.3	38	56	94	510	4.3	1.0	30.3	510	4.30

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RESULTS OF SATURATION & PERMEABILITY TESTS

TABLE 1-B

Company Eastern Kansas Gas & Oil Lease Cox Ranch Well No. 4-N

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.		
31	388.5	17.2	36	56	92	480	4.9	1.0	31.3	480	4.90
32	389.6	16.4	36	60	96	458	2.0	1.0	32.3	458	2.00
33	390.5	18.3	38	49	87	540	3.9	1.0	33.3	540	3.90
34	391.5	17.8	38	52	90	525	7.5	1.0	34.3	525	7.50
35	392.4	18.1	34	54	88	477	4.4	1.0	35.3	477	4.40
36	393.5	16.5	38	60	98	486	10.	1.0	36.3	486	10.00
37	394.5	16.4	34	63	97	433	5.2	1.0	37.3	433	5.20
38	395.5	16.7	47	51	98	609	29.	1.0	38.3	609	29.00
39	396.5	20.3	53	29	82	835	6.8	0.9	39.2	752	6.12
40	397.5	20.3	53	30	83	835	22.	1.1	40.3	919	24.20

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SUMMARY OF PERMEABILITY & SATURATION TESTS

TABLE III

Company	Eastern Kansas Gas & Oil		Lease	Cox Ranch		Well No.	4-N
Depth Interval, Feet	Feet of Core Analyzed	Average Percent Porosity	Average Percent Oil Saturation	Average Permeability, Millidarcys	Permeability Capacity Ft. x Md.	Average Oil Content Bbl./A. Ft.	Total Oil Content Bbls./Acre
355.0 - 373.3	18.3	17.2	39.2	16.6	266.78	535	9,801
374.0 - 398.0	22.0	17.8	39.5	6.3	138.53	548	12,063
355.0 - 398.0	40.3	17.5	39.4	10.6	405.31	543	21,864

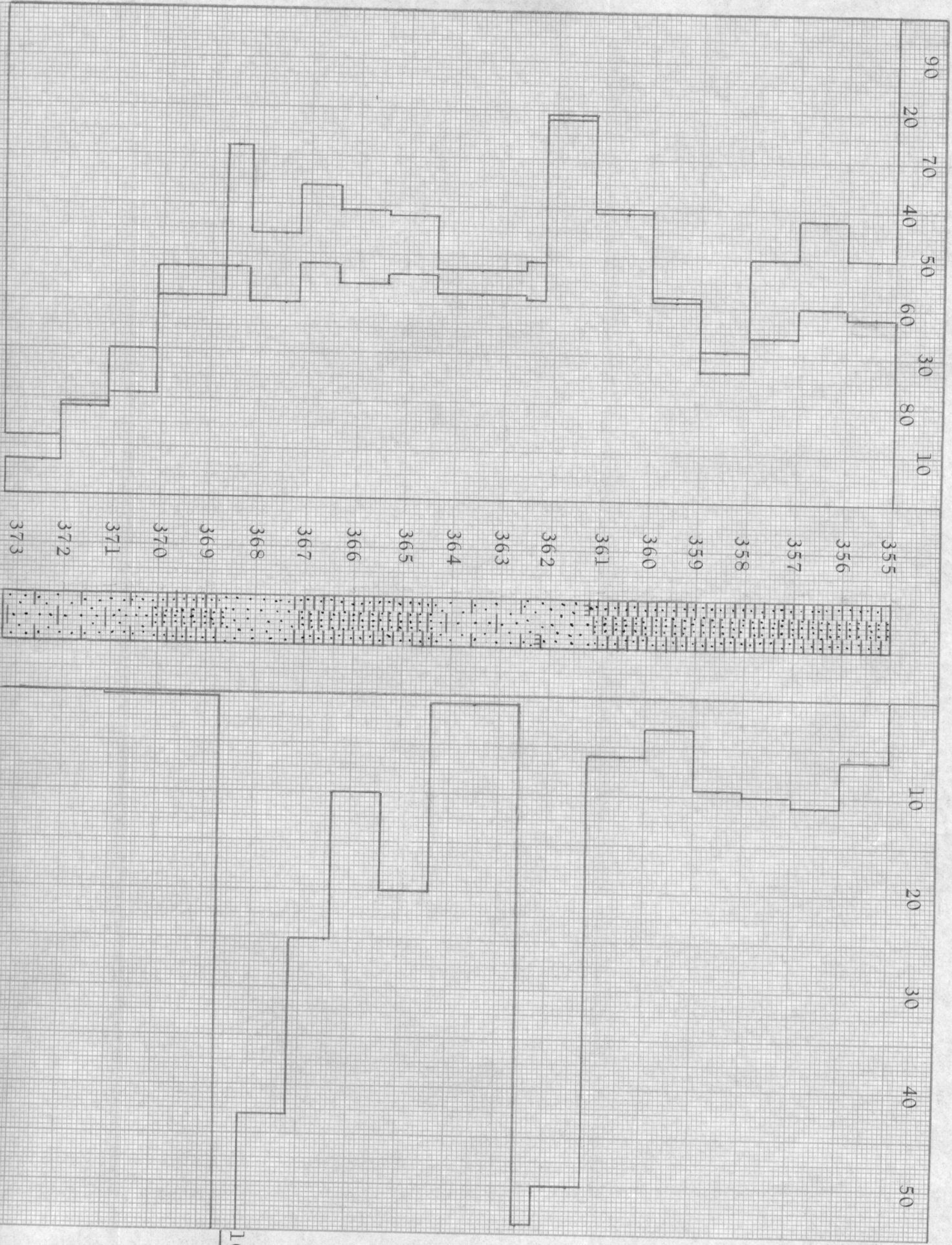
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OIL SAT., PERCENT

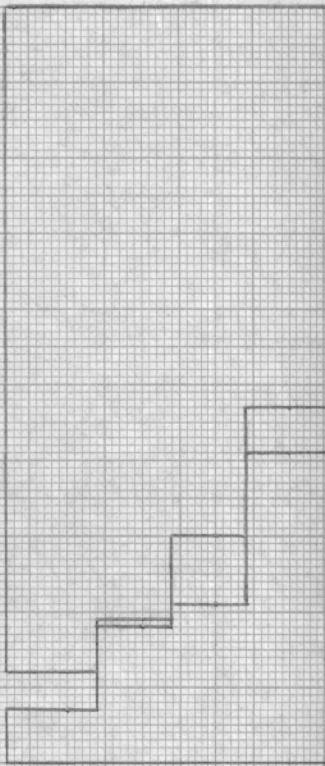
PERMEABILITY, IN MILLIDARCYS

KEUFFEL & ESSER CO. MADE IN U.S.A.

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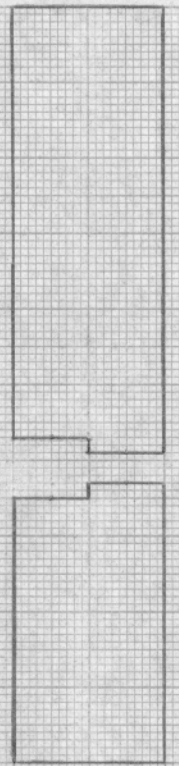
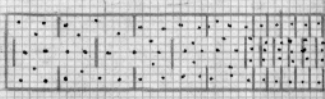


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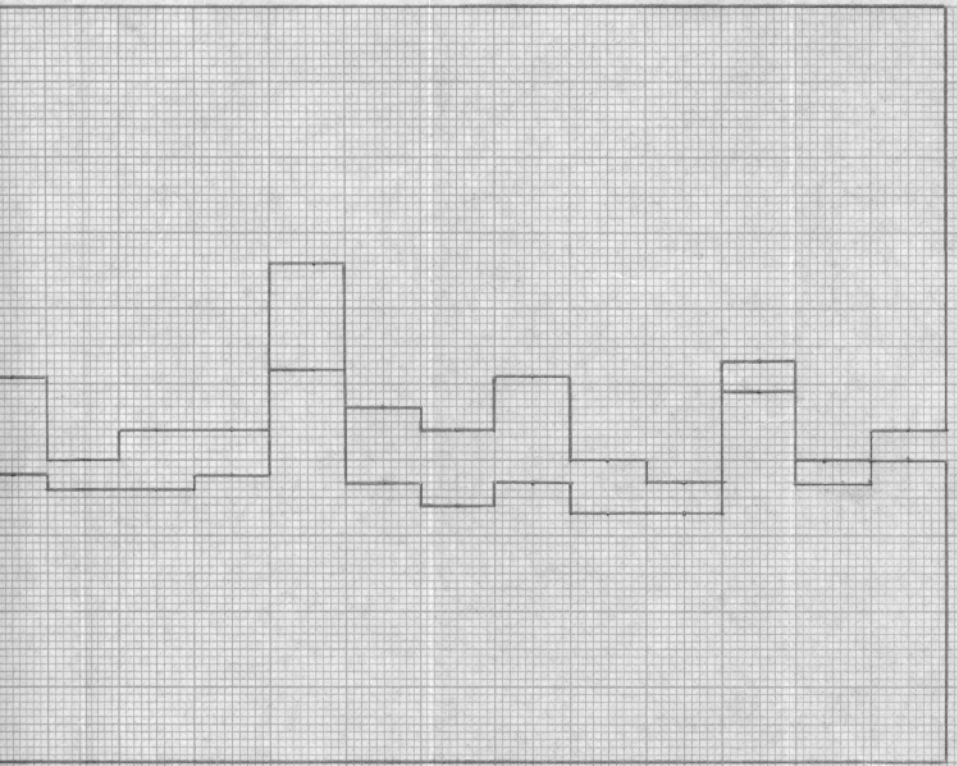
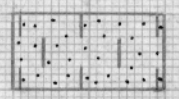
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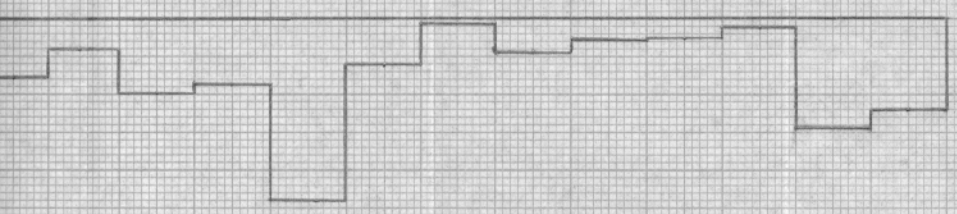
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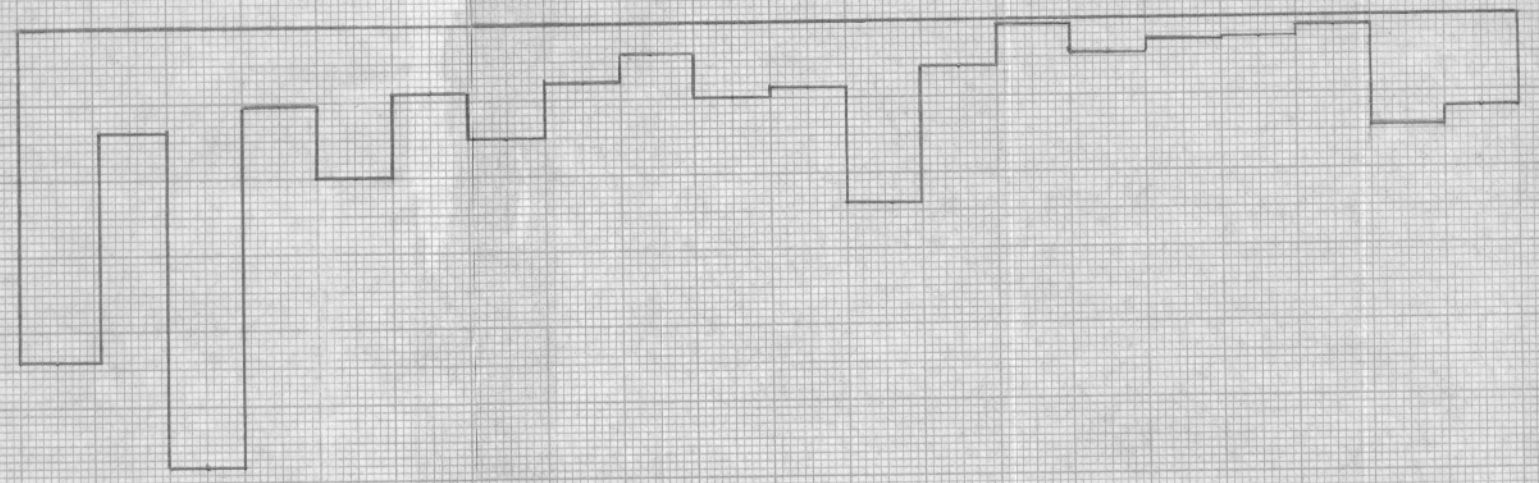
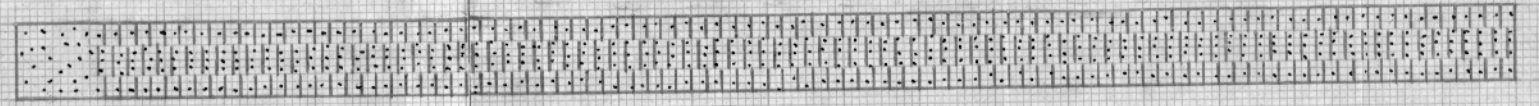
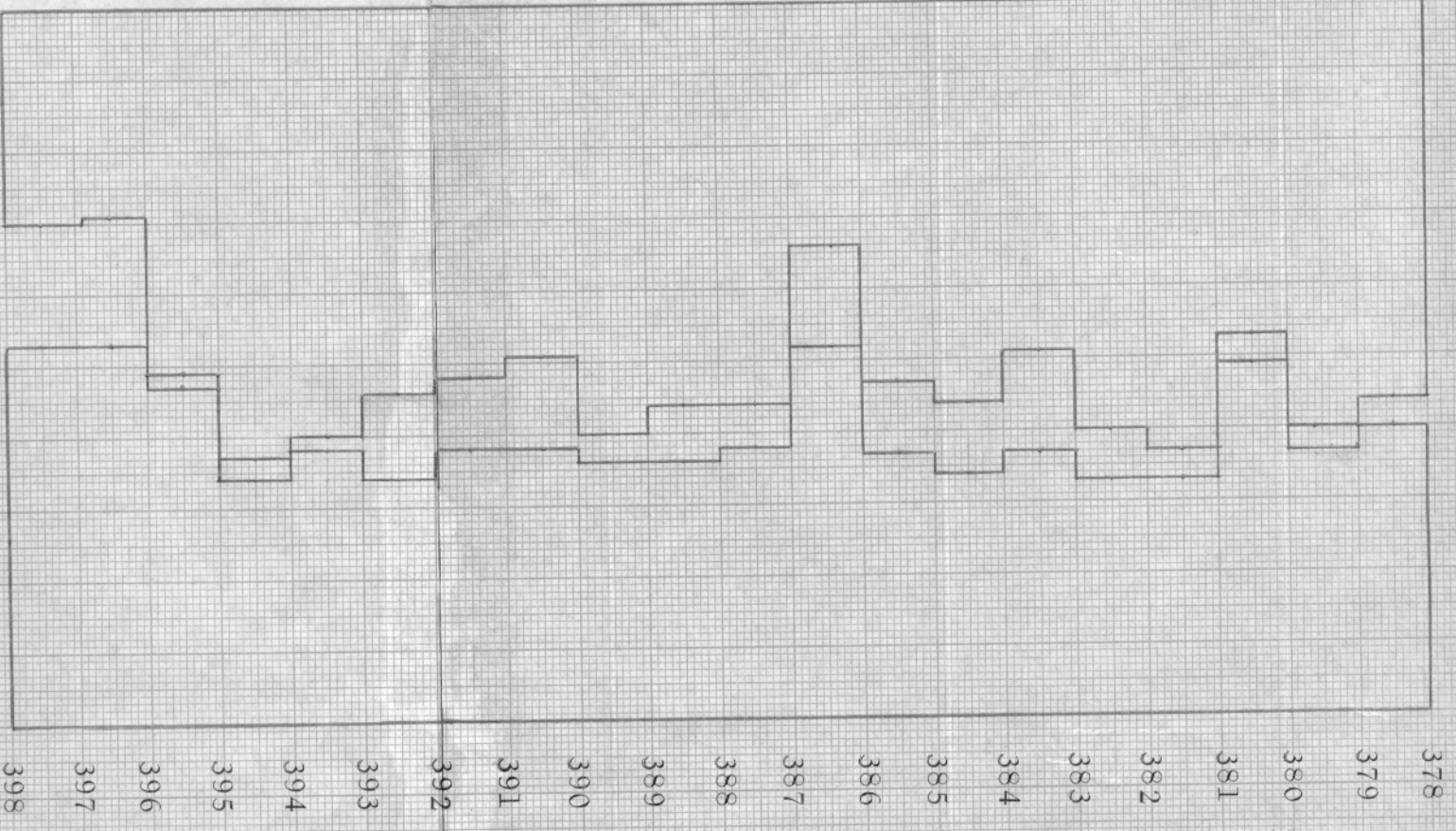
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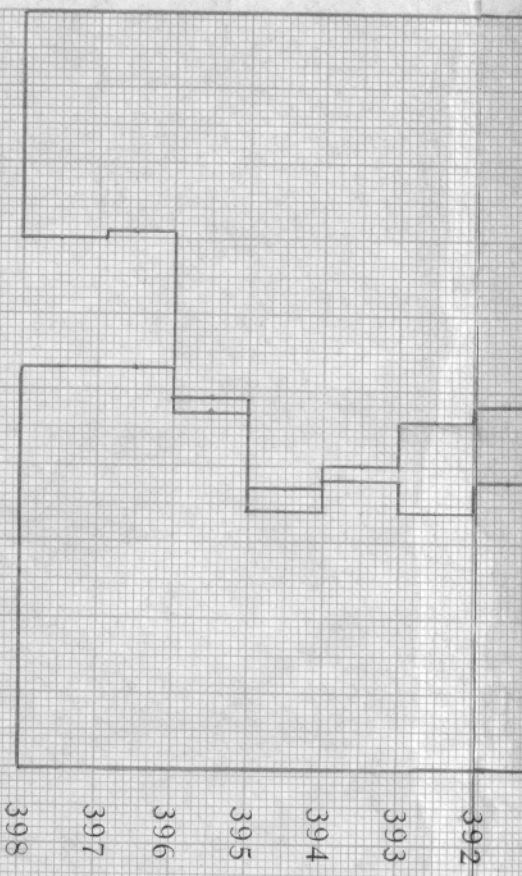
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






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


KEY:

 LAMINATED SANDSTONE & SHALE

 CALCAREOUS SANDSTONE

 SHALY SANDSTONE

 SANDSTONE

EASTERN KANSAS GAS & OIL

COX RANCH LEASE

LINN COUNTY, KANSAS

WELL NO. 4-N

DEPTH INTERVAL, FEET	FEET OF CORE ANALYZED	AVERAGE POROSITY PERCENT	AVG. OIL SATURATION PERCENT	AVG. WATER SATURATION PERCENT	AVERAGE PERMEABILITY MILLIDARCS
355.0 - 373.3	18.3	17.2	39.2	52.3	16.6
374.0 - 398.0	22.0	17.8	39.5	52.5	16.3
355.0 - 398.0	40.3	17.5	39.4	52.4	10.6

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 CHANUTE, KANSAS
 DECEMBER, 1980