

803
808

CJK

CONTINENTAL OIL COMPANY
DEVELOPMENT AND RESEARCH DEPARTMENT
PRODUCTION RESEARCH DIVISION

TECHNICAL SERVICE REPORT

ADDRESS INQUIRY TO:
J. J. REYNOLDS, DIRECTOR

REPORT NO.: 264-55

AUGUST 17, 1955

SUBJECT: CORE ANALYSIS REPORT - J. P. HUXMAN NO. 12 WELL, GRABER FIELD,
McPHERSON COUNTY, KANSAS

BOTH THE HUNTON LIME AND THE SIMPSON SAND WERE ANALYZED FROM THIS WELL. THE HUNTON LIME CORE IS THE FIRST ONE OBTAINED FROM THIS WATER FLOOD PROJECT. POROSITY DEVELOPMENT IS SUCH THAT THIS FORMATION COULD MORE PROPERLY BE CLASSIFIED AS A SAND IN CONTRAST TO THE GENERAL CONCEPT OF LIMESTONES. THIS POINT IS WELL ILLUSTRATED BY THE ACCOMPANYING PHOTOGRAPHS. FIGURE NO. 1 SHOWS THE UNIFORM NATURE OF THE PORE DISTRIBUTION. A FURTHER MAGNIFICATION (20X) OF THE SAME SAMPLE, FIGURE NO. 2, ILLUSTRATES THE GRANULAR CHARACTER OF THIS MATERIAL.

THE ONLY NATURAL FRACTURES OBSERVED IN THIS SECTION WERE IN CONNECTION WITH THE STYOLITES FOUND AT 3292 FEET. FIGURE 3 SHOWS THESE FRACTURES TO BE VERY SMALL, BOTH IN LENGTH AND WIDTH. MAGNIFICATION OF THIS FIGURE IS APPROXIMATELY 1.4X.

FLOOD POT DATA ARE SUMMARIZED IN TABLE NO. 1. UNEXTRACTED CORES TO BE SUBJECTED TO FLOOD TESTS WERE FIRST FLUSHED WITH CRUDE OIL TO REMOVE DRILLING FLUIDS AND SUBSEQUENTLY WATER FLOODED. NO SIGNIFICANT DIFFERENCE IS APPARENT BETWEEN THE RESIDUAL OIL BY FLOOD POT TEST AND THAT FOUND BY ROUTINE ANALYSIS.

NO CONCLUSIONS CAN BE DRAWN FROM THE DATA AVAILABLE AS TO THE AMOUNT OF "WATERED-OUT" FORMATION PRESENT AT THIS WELL. BASED ON APPEARANCE AND EXPERIENCE IN OTHER AREAS, IT APPEARS THAT THE UPPER ZONE IS WATERED OUT WHILE THE LOWER ZONE CONTAINS PRODUCIBLE OIL. A PRODUCTION TEST ON EACH ZONE, HOWEVER, IS THE ONLY MEANS NOW AVAILABLE FOR ESTABLISHING THE VALIDITY OF THIS ASSUMPTION.

THE HUNTON LIME, AS DETERMINED BY IMBIBITION TESTS, IS WATER WET.

THE ENTIRE CORED SECTION OF BOTH THE HUNTON AND SIMPSON FORMATIONS IS SHOWN IN FIGURES NO. 4 AND NO. 5.

F. R. CONLEY
CORE ANALYSIS GROUP SUPERVISOR

FRC-VS

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. FILE

TABLE NO. 1

LABORATORY WATER FLOOD TESTS

OPERATOR CONTINENTAL OIL COMPANY LAB No. CJK
 WELL J. P. HUXMAN No. 12 FIELD GRABER
 COUNTY MCPHERSON STATE KANSAS
 FORMATION HUNTON LIME CORING FLUID WATER BASE MUD

FLOOD POT DATA

SAMPLE No.	DEPTH FEET	AIR PERMEABILITY MD.*	POROSITY %	THEORETICAL IWS %*	OIL SATURATION	
					BEFORE FLOOD %	AFTER FLOOD %
4F	3275.5	11	17.2	28	76	30
5F	3276.0	43	21.1	13	72	25
6F	3277.5	62	20.1	20	64	31
7F	3279.5	202	25.9	8	69	20
8F	3280.5	73	20.9	12	80	26
10F	3281.5	197	27.4	13	72	22
17F	3292.5	67	23.7	17	72	23
22F	3297.5	9.9	15.0	37	71	36
23F	3298.5	2.0	16.4	44	61	39

UNEXTRACTED CORES FLUSHED WITH CRUDE OIL TO REMOVE DRILLING FLUID, THEN WATER FLOODED.

* BASED ON PLUG ANALYSIS.

9/19/71
 18
 12

9/25/71 | 280
 18
 72

CONTINENTAL OIL COMPANY

CORE ANALYSIS REPORT

CORE SUMMARY

REPORT No. 264-55
 OPERATOR CONTINENTAL OIL COMPANY REPORT DATE 8-17-55 LABORATORY No. CJK
 WELL J. P. HUXMAN No. 12 PRELIMINARY REPORT TO JOHN A. QUEEN
 FIELD GRABER ON 7-5-55
 COUNTY MCPHERSON STATE KANSAS REFERENCE ELEVATION 1485' RB
 LOCATION Sec. 29 - T21S - R1W

CORE RECORDS

		6-13-55	6-13-55	6-15-55	6-16-55		
DATE CORED		2	3	4	5		
CORE NO.							
TYPE OF CORE		DIAMOND	DIAMOND	DIAMOND	DIAMOND		
FORMATION		-----HUNTON Ls.-----			SIMPSON Sd.		
INTERVAL CORED: FROM	FEET	3272	3285	3291	3404		
TO	FEET	3284	3291	3300	3421		
RECOVERED	FEET	12	6	9	17		
ANALYZED	FEET	11	4	9	9		
TYPE DRILLING MUD		WATER Bs.	WATER Bs.	WATER Bs.	WATER Bs.		
WEIGHT	#/ GAL.	9.4	9.8	9.8	9.8		
VISCOSITY	MARSH SEC.	40	40	40	39		
WATER LOSS	cc/ 30 MIN.	8	8	8.8	8.8		
PH							
CHLORIDES	PPM						
REPORTED OIL GRAVITY	°API	43	43	43	28		

AVERAGES (PERMEABLE FOOTAGE ONLY)

		HUNTON Ls.	SIMPSON Sd.				
FORMATION							
INTERVAL AVGD.: FROM	FEET	3274	3405				
TO	FEET	3300	3420				
PRODUCTIVE (2)	FEET						
NON-PRODUCTIVE	FEET						
CORE LOSS	FEET						
PROBABLE PRODUCTION							
POROSITY	%	16.2	12.8				
PERMEABILITY - HORZ.	MD.	54	709				
SATURATION:							
RESIDUAL OIL	% PORE SP.	24	27				
RESIDUAL WATER	% PORE SP.	61	64				
VACANT	% PORE SP.	15	9				
I.W.S. (3)	% PORE SP.	17	18				

WELL COMPLETION DATA

COMPLETED AT TD 3437'. (5 1/2" CASING AT 3437'. PERFORATED 3403'-3415' IN SIMPSON). IPP 62 BARRELS OIL.

CONTINENTAL OIL COMPANY

CORE ANALYSIS REPORT

RESULTS OF LABORATORY TESTS

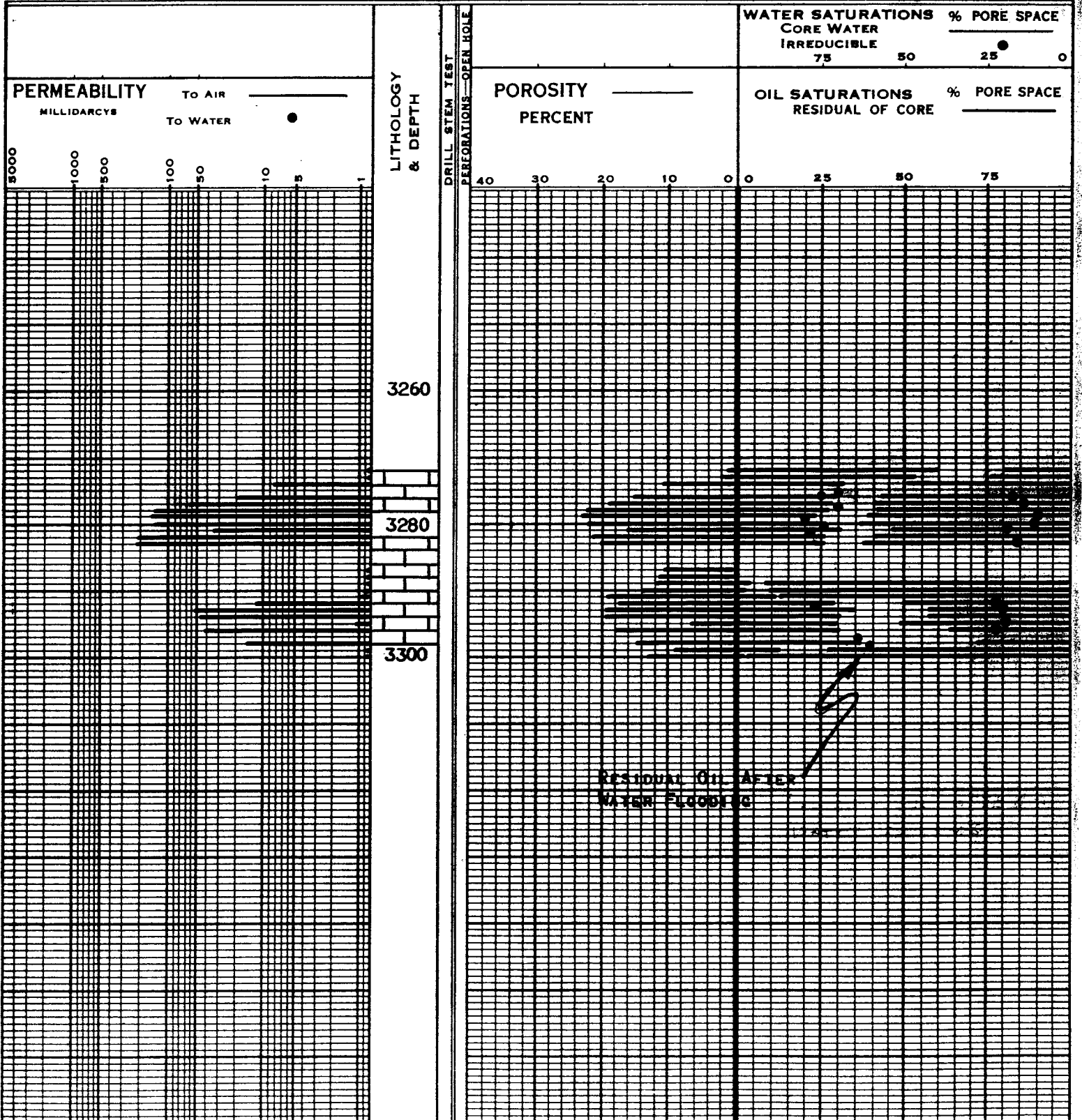
OPERATOR CONTINENTAL OIL COMPANY WELL J. P. HUXMAN No. 12 LABORATORY No. CJK

SAMPLE NO.	DEPTH FEET	POROSITY %	PERMEABILITY TO AIR MILLIDARCY (1)		SATURATION % PORE SPACE				PROBABLE PRODUCTION (2)	REMARKS	
			HORIZONTAL	VERTICAL	OIL	WATER	VACANT	I.W.S. (3)			
HUNTON LIME											
1	3272	1.2	-.1		60	20	20			FINE GRAINED LIME	
2	3273	2.1	-.1		53	24	23			" " "	
3	3274	10.7	8.4		32	49	19			" " "	
4	3276	15.3	20		30	58	12	17	PROBABLY WATERED OUT	" " "	
5	3277	19.1	67		28	60	12	14		" " "	
6	3278	22.5	150		27	59	14			" " "	
7	3279	23.4	161		23	62	15	10		" " "	
8	3280	22.2	149		25	64	11	11		" " "	
9	3281	16.2	35		31	54	15	19		" " "	
10	3282	21.8	207		26	60	14			" " "	
11	3283	20.2	217		26	63	11	16		VUGGY LIME	
12	3287	10.4	0.2								SHALY LIME
13	3288	11.5	0.3								" "
14	3289	12.0	0.2		4	92	4				" "
15	3290	14.0	0.5		2	91	7			" "	
16	3291	19.3	0.8		12	88	0			" "	
17	3292	17.7	13		29	50	21	22	LIME OIL	W/SMALL VUGS & SH	
18	3293	19.6	53		35	43	22	20		" " "	
19	3294	19.8	47		31	43	26			" " "	
20	3295	6.6	1.1		30	51	19	19		" " "	
21	3296	18.0	42		31	37	32	22		" " "	
22	3298	14.8	16		36	28	36			" " "	
23	3299	9.0	0.3		12	73	15			" " "	
24	3300	13.1	0.4		2	98	0				SHALY LIME
SIMPSON SAND											
25	3404	4.2	-.1								SANDY SHALE
26	3405	11.7	449		42	41	17	23			COARSE SAND
27	3406	13.9	757		20	76	4			" "	
28	3407	14.4	1040		19	78	3	15		" "	
29	3408	15.7	1106		22	74	4			" "	
30	3409	13.7	569		33	61	6	19		" "	
31	3410	15.5	1405		34	52	14	11		" "	
32	3412	13.4	345		36	42	22	22		" "	
33	3420	4.2	0.2		11	89	0			FINE WHITE SAND	

(1) "-" INDICATES 'LESS THAN'
 (2) PROBABLE PRODUCTION IF COMPLETELY ISOLATED
 (3) IRREDUCIBLE INTERSTITIAL WATER SATURATION.
 (4) EQUIVALENT SODIUM CHLORIDE.
 (D) DISINTEGRATED
 (NF) NO FLOW
 (NCF) NO COMMERCIAL FLOW
 (NS) NO SAMPLE OR NO SEALED SAMPLE
 (NA) NO ANALYSIS

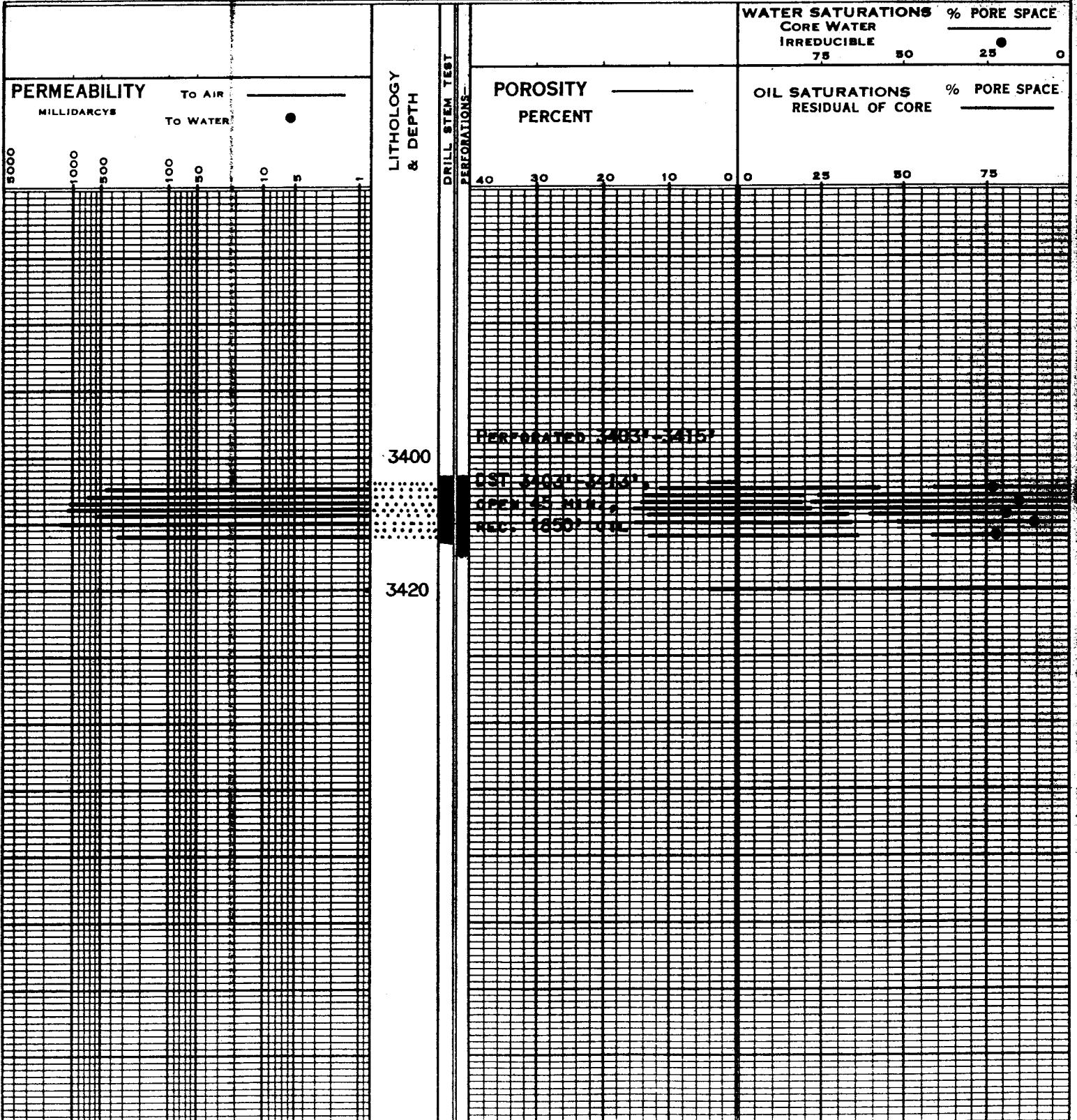
CONTINENTAL OIL COMPANY COREGRAPH

OPERATOR CONTINENTAL OIL COMPANY WELL J. P. HUXMAN No. 12 LABORATORY No. CJK
 FIELD GRABER REFERENCE ELEVATION 1485' RB MUD WATER BASE
 FORMATION HUNTON LIME



CONTINENTAL OIL COMPANY COREGRAPH

OPERATOR CONTINENTAL OIL COMPANY WELL J. P. HUXMAN No. 12 LABORATORY No. CJK
 FIELD GRABER REFERENCE ELEVATION 1485' RB MUD WATER BASE
 FORMATION SIMPSON SAND



CONTINENTAL OIL COMPANY
PRODUCTION LABORATORY

IRREDUCIBLE WATER - PERMEABILITY

FIELD CRABER STATE KANSAS
FORMATION HUNTON L.A.

WELL J. P. HUNAW NO. 12

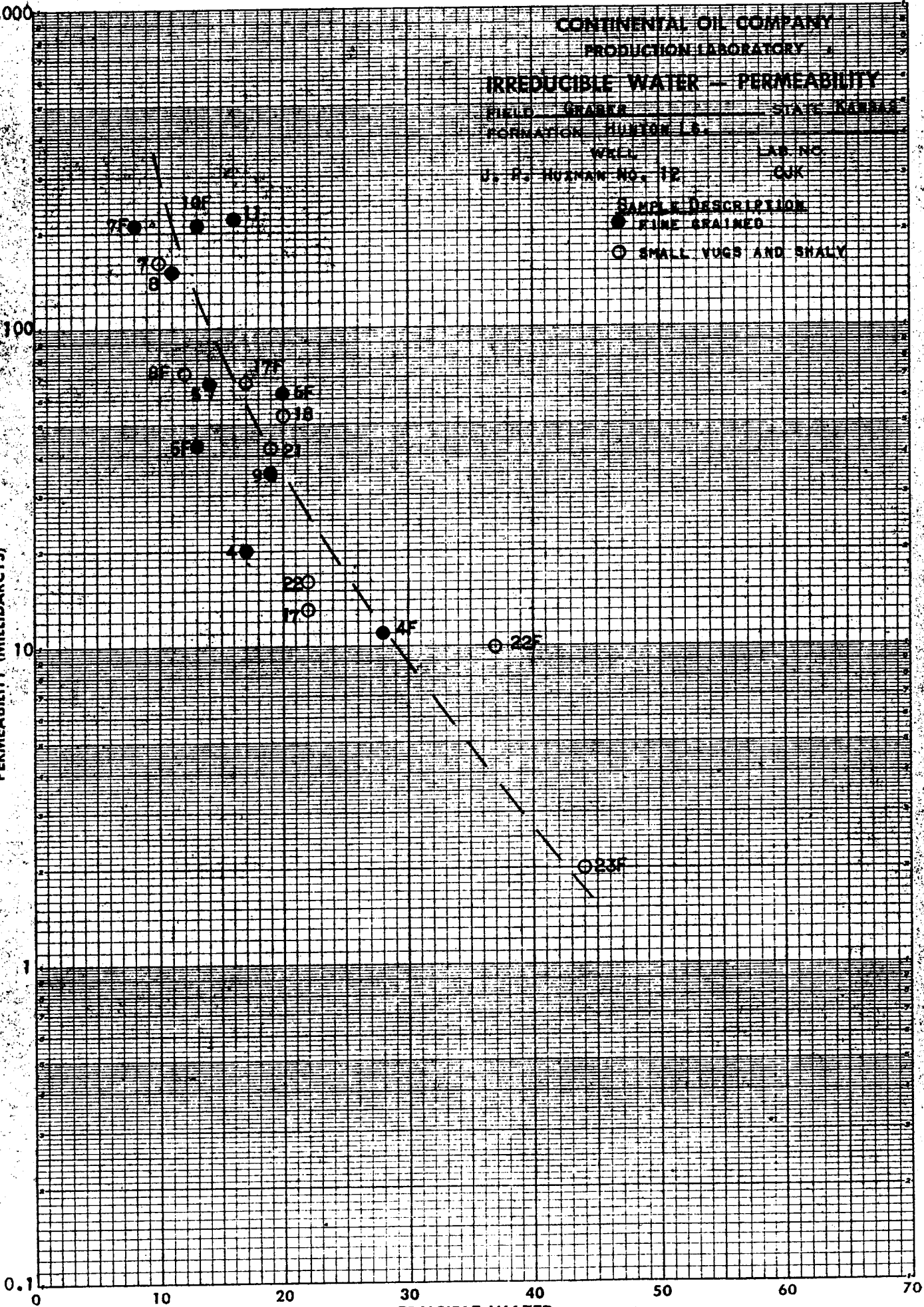
LAB. NO. QJK

SAMPLE DESCRIPTION

- FINE GRAINED
- SMALL VUGS AND SHALY

PERMEABILITY (MILLIDARCS)

IRREDUCIBLE WATER
% PORE SPACE



NO. 31188. © DIVISIONS PER inch (1/6 DIVISIONS) BY FOUR A 7/8 INCH CYCLES MATO GULING.

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10,000

CONTINENTAL OIL COMPANY
PRODUCTION LABORATORY

IRREDUCIBLE WATER — PERMEABILITY

FIELD GRABER STATE KANSAS

FORMATION SIMPSON 30.

WELL J. P. HUXMAN No. 12

LAB. NO. GJK

1,000

PERMEABILITY (MILLIDARCYS)

100

10

1

31

28

30

26

32

IRREDUCIBLE WATER

10

20

30

40

50

60

70

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PRINTED IN U.S.A.



NO. 31-258. 10 DIVISIONS PER INCH (70 DIVISIONS) BY FOUR 1/2-INCH CYCLES RATIO RULING.

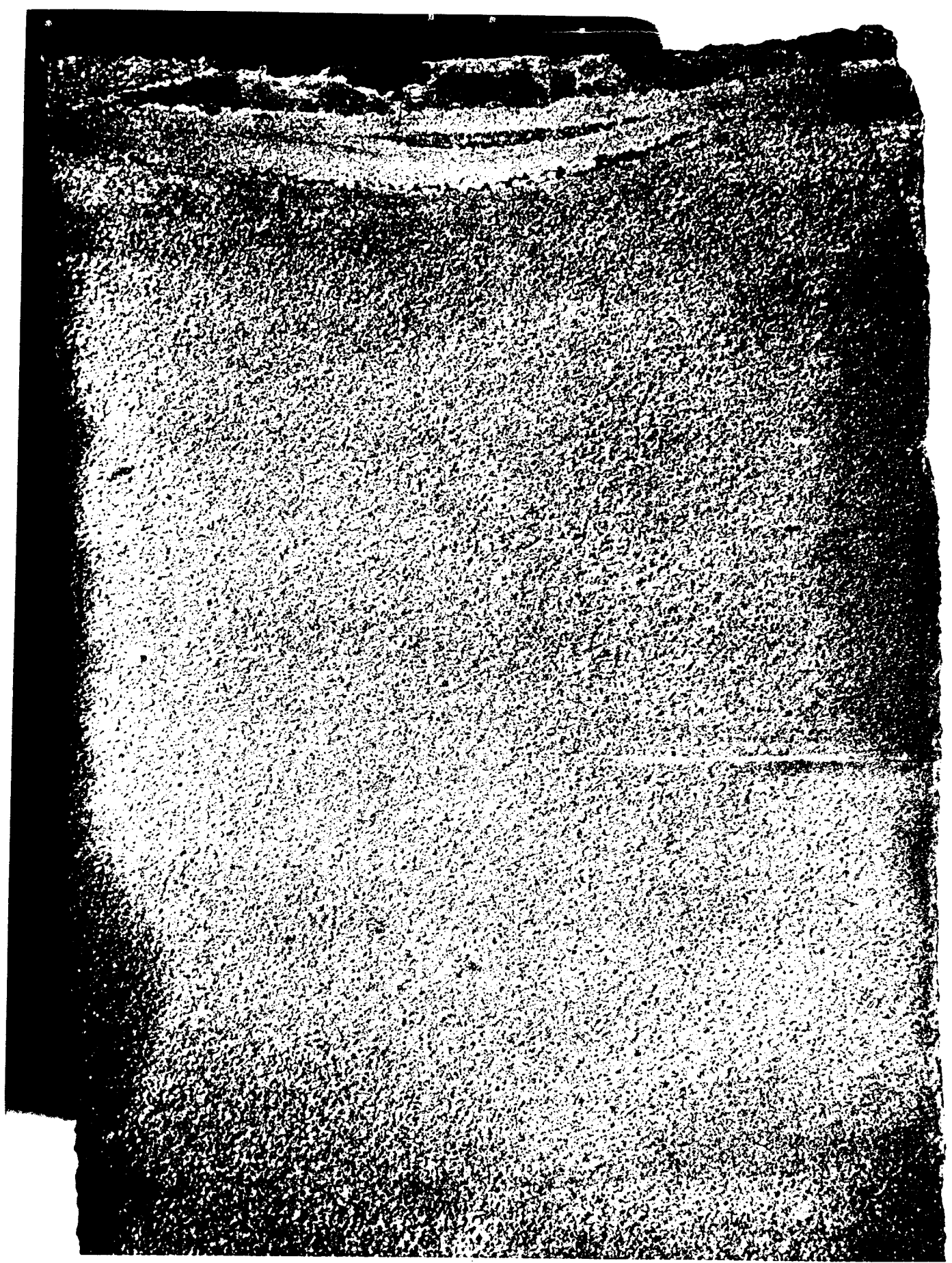
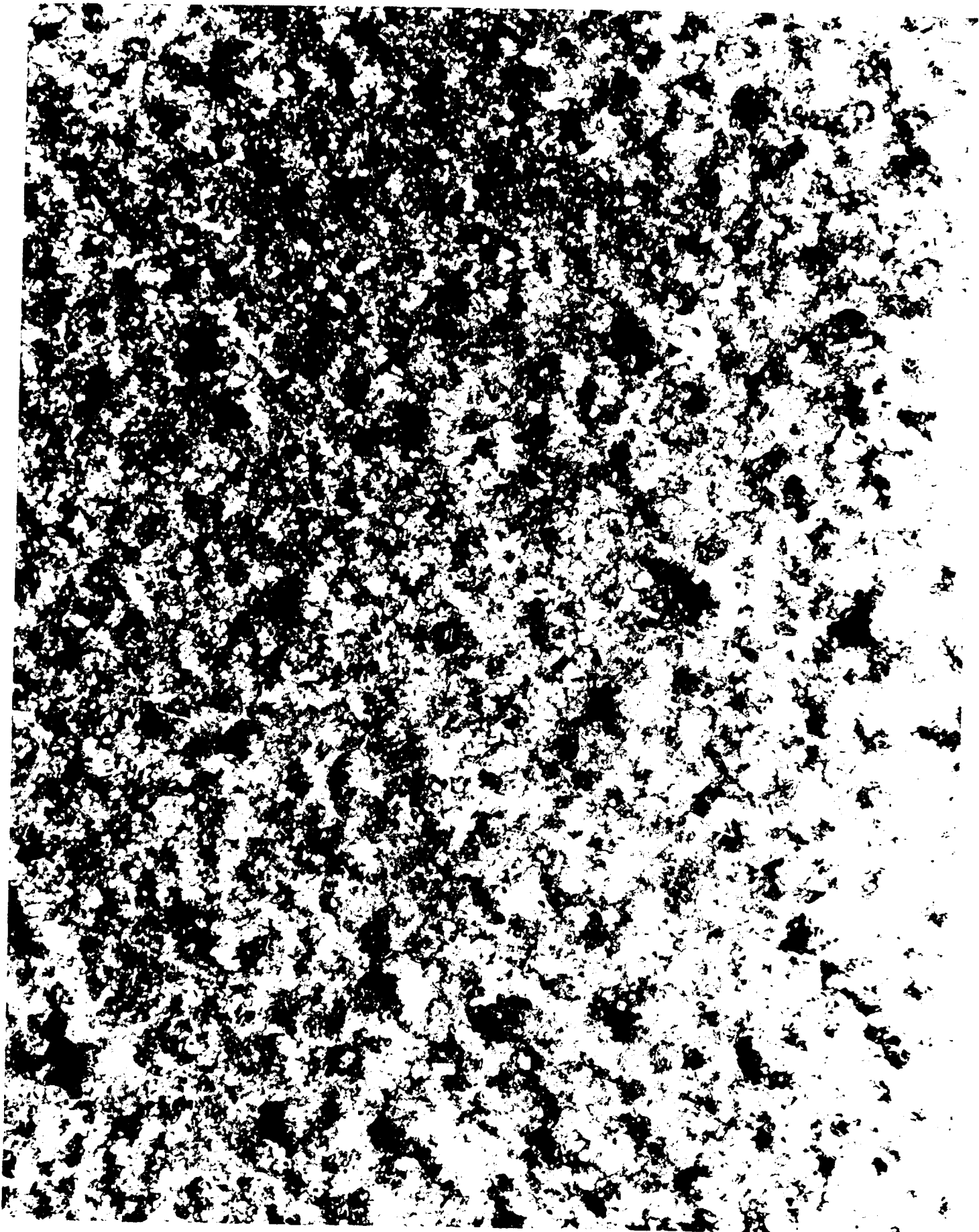


FIGURE 1



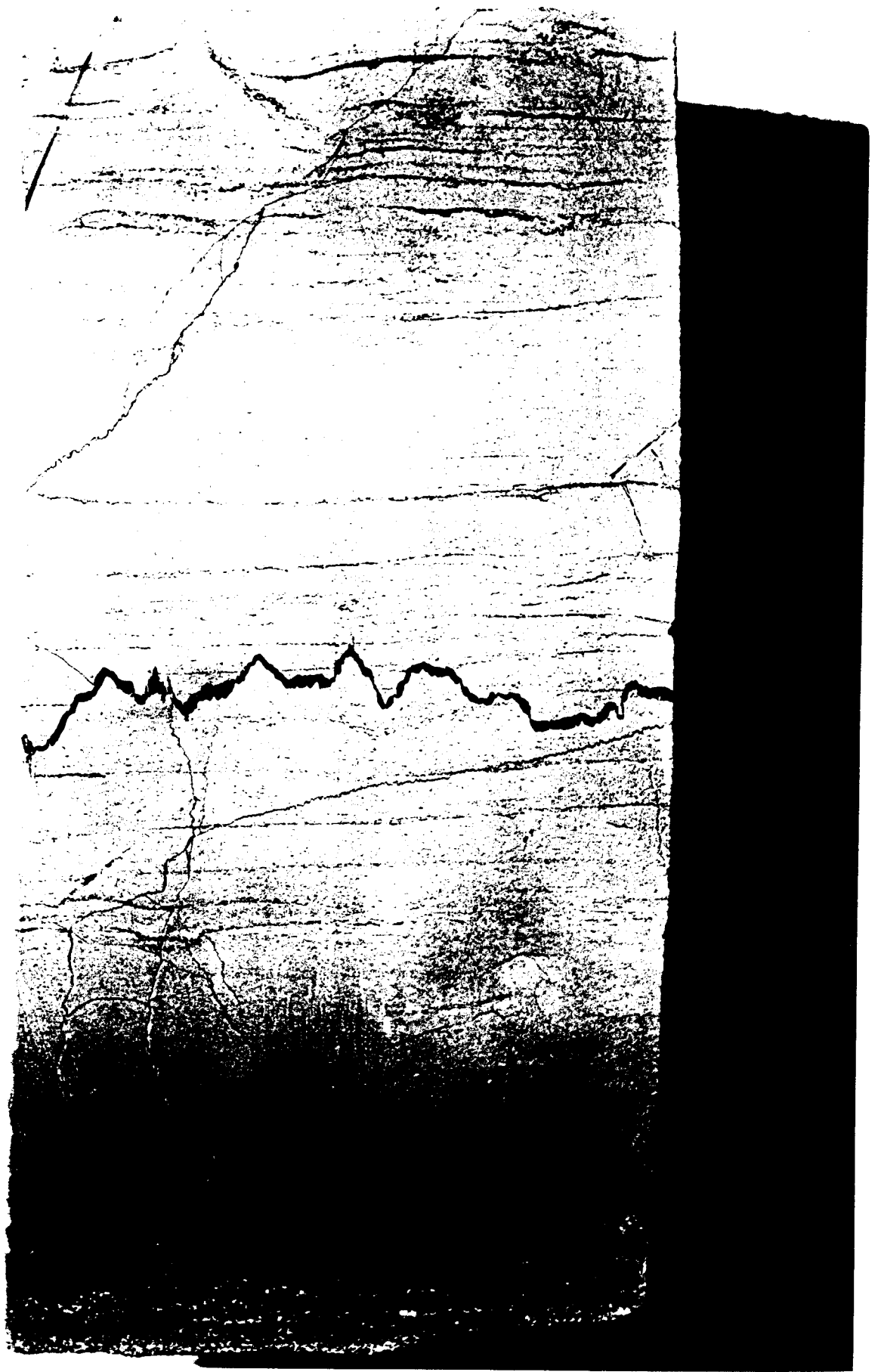
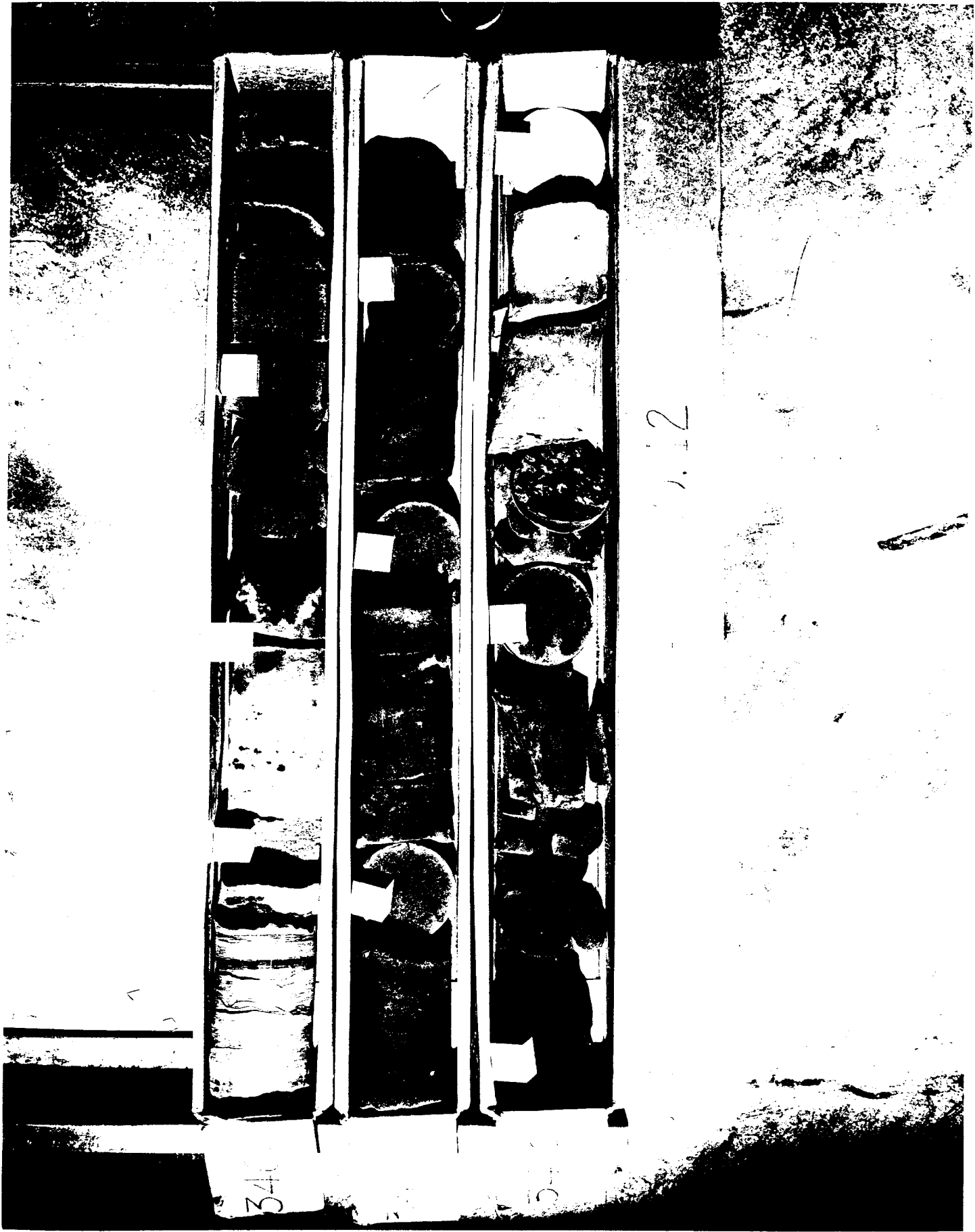


FIGURE 7



HUXMAN No. 12



12

34

50

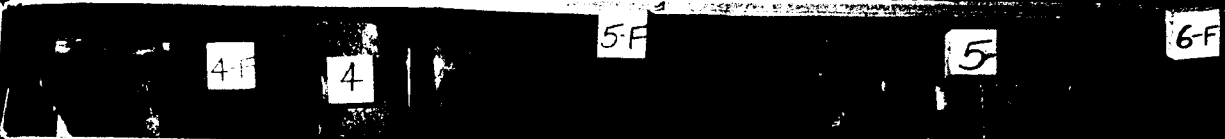
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2

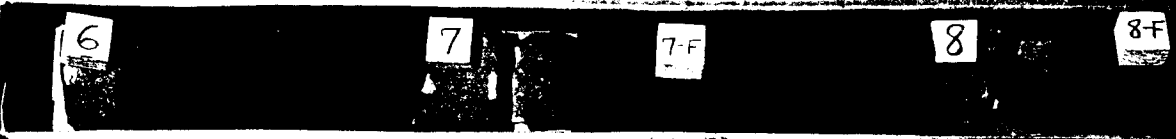
3272
to
3275



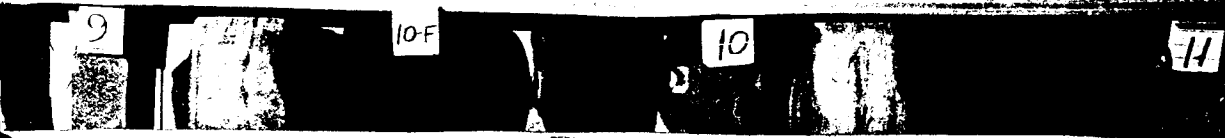
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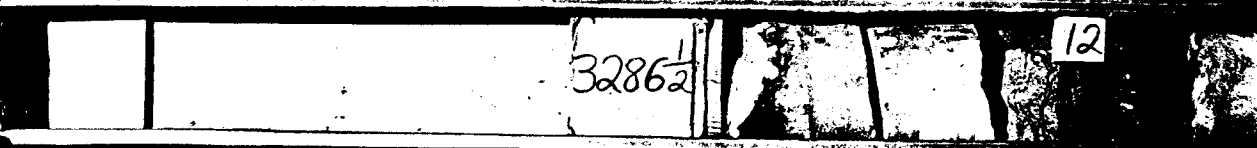
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3281



3286



3288



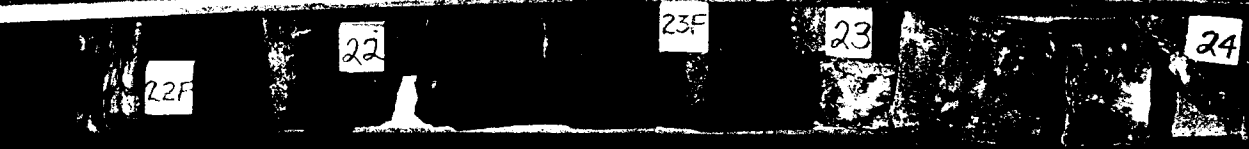
3291



3294



3297



HUXMAN No 10

