INDIVIDUAL WELL REPORT
FROM THE PROGRAM ON

UGR FILE #234

CHARACTERIZATION AND ANALYSIS OF DEVONIAN SHALES AS RELATED TO RELEASE OF GASEOUS HYDROCARBONS

WELL T-1 EFFINGHAM, ILLINOIS

by

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INTRODUCTION AND SUMMARY

Partial data on characterization of shales from T-1 (Effingham County, Illinois) were presented in the Fifth Quarterly Technical Progress Report on the Characterization of Devonian Shales to DOE/METC (ORO-5205). This individual well report presents and discusses the total characterization data on the T-1 well.

Coring of T-1 shales was accomplished in February 1977. A total of 31 core samples were collected; 13 for Battelle and 18 for other DOE contractors. The coring was made between depths of 3006 and 3106 feet.

Gas analysis data show a striking difference from other wells in that nitrogen-to-oxygen ratios remain at values comparable to that of air. This observation may have an important bearing on the possible microbial activity in the shale, or lack of it.

Total carbon contents in the shale is higher than gas analysis might otherwise indicate. One-to-one relationships between hydrocarbon gas contents and chemical analysis are apparent.

Among the physical characterization data reported are densities (bulk and true), surface area, and porosities (both measured with Hg-intrusion technique and calculated from the density data). Bulk densities are inversely related to carbon and hydrogen contents.

Lithology of T-1 shales does not significantly differ from those of other locations. These shales exhibit moderate illite contents with detectable amounts of kaolin minerals. Total carbonate is very low with shortite being

the only significant carbonate mineral. Although no pyrite was observed with XRD studies appreciable amounts of pyrite grains were observed in the powdered samples under the petrographic microscope.

OBJECTIVE AND SCOPE

The objective of this program is to determine the relationships between shale characteristic, hydrocarbon gas content, and well location to provide a sound basis for defining the productive capacity of the Eastern Devonian shale deposits and for guiding research, development, and demonstration projects to enhance the recovery of natural gas from the shale deposits. The program includes a number of elemental tasks as a part of the Resource Inventory and Shale Characterization subprojects of DOE's Eastern Gas Shales Project and is designed to provide a wide variety of support data for that project.

A large number of core samples of gas bearing Eastern Devonian shale will have been examined by the end of the program. After the characterization data for individual wells have been compiled, attempts will be made to establish the interrelationships between the shale characteristics, the hydrocarbon gas content, and well locations from which the samples were obtained, employing the Automatic Interaction Detection (AID) Analysis.

The following tasks comprise the total efforts in this research program:

Task	Descriptive Title
1	Core Sampling
2	Gas Content and Gas Release Kinetics
3	Chemical Characterization of Shale
4	Physical Characterization of Shale
5	Lithology of Shale
6	Data Interpretation and Correlation

Task 1. Core Sampling

Well T-1 (Effingham County, Illinois) shales were cored in February 1977. A total of 31 core samples were collected; 13 for Battelle and 18 for other DOE contractors. Six barrels of shale core were obtained. The coring was made between depths of 3006 and 3106 feet. Additional well and field sampling data on T-1 shales are summarized in Tables 1 and 2. Figure 1 depicts on-surface times for the T-1 shales.

Task 2. Gas Contents and Release Rates

The initial gas release data on T-1 shales are summarized in Table 3. Data include hydrocarbon gases, C_1 through C_5, nitrogen, oxygen and carbondioxide, all of which accumulate in the free space surrounding the shale samples inside the canisters. Table 4 shows statistical parameters on data in Table 3.

The most significant feature of Table 3, other than low hydrocarbon gas content, is the very high oxygen content compared to all the other wells examined to-date. It should be pointed out once again that a potential significance was attached to high nitrogen-to-oxygen ratios as determined by the gas analysis.

There is sufficient evidence from the initial gas data to believe that oxygen disappearance is more significant in the presence of higher hydrocarbon gas contents.

Possible explanations, such as preferential adsorption of oxygen, microbial activity, etc., were given for the disappearance of oxygen. The phenomenon/or phenomena giving rise to oxygen consumption in the sealed canisters may have potential significance in assessing the potential gas content of the Devonian shales in the present or in the future. This question should be addressed in detail.

Task 3. Chemical Characterization

Total carbon, hydrogen, and nitrogen values are summarized in Table 5. Carbon values are characterized by a large scatter, ranging from 1.1 to 9.5 percent by weight of shale. The scatter in hydrogen values is not as great with values between 0.4 and 1.4 percent by weight of shale.

Figures 3 and 4 demonstrate the change in carbon and hydrogen contents with shale depth. In both cases, two distinct zones of increasing carbon (and hydrogen) contents with depth can be identified. H/C atomic ratios remain relatively constant as illustrated in Figure 5. An increase in hydrocarbon gas content with increasing carbon and hydrogen contents is quite apparent in Figures 6 and 7.

Task 4. Physical Characterization Data

Some of the physical characterization data determined are summarized in Table 6. These are bulk density, open and total porosities, and surface areas. Statistical parameters on these data are presented in Table 7. The bulk density values range from 2.39 to 2.60 with a mean value of 2.49 g/cc. Total porosity values, calculated from the density data, vary from 1.0 tp 8.7 percent with a mean value of 4.64 percent. The surface areas range between 2.1 and 10.1 m^2/g with 5.6 m^2/g mean value.

The porosities of T-1 shales were also measured employing the mercury intrusion technique. Values obtained with this method are presented in Table 8. The porosity data from two different means (calculated from the density data and measured with mercury intrusion technique) agree reasonably well.

Helium permeability measurements were made on all T-1 shale samples. Table 9 depicts the findings. Zero permeabilites were recorded after no measurable quantity of gas permeated through 1/4-inch-thick cylindrical shale specimens in 15 hours at 1 atmosphere pressure gradient.

Several one-to-one correlations between the bulk densities and various other data are depicted in Figures 8 through 10. The inverse relationship between bulk density and chemical characterization data (carbon and hydrogen contents) are especially pronounced.

Total mercury intrusion porosity data on T-1 shales are presented in Appendix A.

Task 5. Shale Lithology

X-ray diffraction patterns were obtained of five T-1 shale specimens. These shales exhibit moderate illite contents with detectable amounts of kaolin minerals. Large quartz contents are apparent. Shortite is the major carbonate minerals but the total amount of carbonate minerals is minor. No pyrite has been observed in T-1 shales through X-ray diffraction analysis. Relative mineral analysis as determined from the XRD data are summarized in Table 10.

SEM/EDAX studies were made of two T-1 shale samples. Both of the samples examined contain siginficant amounts of illite, quartz, and carbonate minerals. Also appreciable numbers of pyrite grains were observed in the powdered samples which went undetected in X-ray diffraction analysis. EDAX data on two samples and illite, pyrite, and quartz grains are summarized in Table 11.

Figures 11 and 12 present SEM microphotographs of two T-1 shales examined.

Task 6. Data Interpretation and Correlation

Due to very low gas contents in these shales no significant interpretation of the characterization data could be made in terms of hydrocarbon gas contents.

TABLE I. WELL DATA FOR I- 1

LOCATION: EFFINGHAM COUNTY, IL

ALTITUDE: 612 FEET

COORDINATES: 0.00 (DEGREES.MINUTES) LATITUDE
0.00 (DEGREES.MINUTES) LONGITUDE

CORING BEGAN AT 3006 FEET AND STOPPED AT 3107 FEET. IT TOOK 6 BARRELS TO COMPLETE.

SAMPLES WERE RETURNED TO BATTELLE ON 2/22/77.

THERE WERE 13 SAMPLES COLLECTED FOR BATTELLE AND 18 SAMPLES COLLECTED FOR OTHERS.

RUN INFORMATION FROM WELL I- 1

RUN NO. 1 CORING BEGAN AT 3006 FEET AND CORING STOPPED AT 3038 FEET. THE AVERAGE CORING RATE IS 26.19 MINUTES PER FOOT. THE SAMPLES WERE ON THE SURFACE IN 3.12 HOURS

RUN NO. 2 CORING BEGAN AT 3038 FEET AND CORING STOPPED AT 3053 FEET. THE AVERAGE CORING RATE IS 25.00 MINUTES PER FOOT. THE SAMPLES WERE ON THE SURFACE IN 4.78 HOURS

RUN NO. 3 CORING BEGAN AT 3053 FEET AND CORING STOPPED AT 3070 FEET. THE AVERAGE CORING RATE IS 33.00 MINUTES PER FOOT. THE SAMPLES WERE ON THE SURFACE IN 3.20 HOURS

RUN NO. 4 CORING BEGAN AT 3070 FEET AND CORING STOPPED AT 3081 FEET. THE AVERAGE CORING RATE IS 35.64 MINUTES PER FOOT. THE SAMPLES WERE ON THE SURFACE IN 3.07 HOURS

RUN NO. 5 CORING BEGAN AT 3081 FEET AND CORING STOPPED AT 3094 FEET. THE AVERAGE CORING RATE IS 26.08 MINUTES PER FOOT. THE SAMPLES WERE ON THE SURFACE IN 8.27 HOURS

RUN NO. 6 CORING BEGAN AT 3094 FEET AND CORING STOPPED AT 3017 FEET. THE AVERAGE CORING RATE IS 18.23 MINUTES PER FOOT. THE SAMPLES WERE ON THE SURFACE IN 2.37 HOURS

TABLE 2. FIELD SAMPLING DATA FOR WELL T 1

SAMPLE ID.	COLOR	ON SURFACE TIME	BARREL NO	SEQ NO.
T 1-3012.	N3	1.10	1	1
T 1-3022.	N2	1.52	1	2
T 1-3043.	5YR2/1	1.07	2	3
T 1-3051.0	5YR2/1	.23	2	4
T 1-3056.	5YR2/1	.97	3	5
T 1-3063.	5YR2/1	1.27	3	6
T 1-3067.0	5YR2/1	.20	3	7
T 1-3074.	5YR2/1	1.18	4	8
T 1-3080.	5YR2/1	1.63	4	9
T 1-3080.0	5YR2/1	.70	4	10
T 1-3086.	5YR2/1	2.13	5	11
T 1-3094.0	5GY4/1	1.60	5	12
T 1-3099.	5YR2/1	.85	6	13
	MEAN EXPOSURE TIME	1.11		
STANDARD DEVIATION OF EXPOSURE TIME		.55		

TABLE 3. INITIAL GAS RELEASE DATA: WELL T 1

SAMPLE ID	PRESSURE TORR	FREE VOLUME CC	CORE VOLUME CC	OPEN POROSITY PCT.	GAS COMPOSITION, VOLUME PERCENT METHANE	ETHANE	PROPANE	BUTANE	PENTANE	TOTAL HYDROC.	NITROGEN	OXYGEN	CARBON DIOXIDE	GAS RELEASED/ UNIT VOLUME OF SHALE	SEQ NO.
T 1-3012.	750.	2333.	726.	8.69	2.36	.81	.40	.20	0.00	3.77	79.01	16.62	.61	.12	1
T 1-3022.	750.	2388.	671.	6.33	9.73	2.90	1.24	.66	.08	14.61	71.61	13.70	.11	.51	2
T 1-3043.	825.	2584.	475.	6.20	4.39	1.35	.50	.21	.02	6.47	76.88	14.65	1.99	.38	3
T 1-3051.0	750.	2802.	257.	3.83	2.09	.56	.23	.06	0.00	2.94	77.48	19.25	.32	.32	4
T 1-3056.	750.	2244.	815.	6.18	7.01	1.26	.84	.13	.04	9.28	73.77	16.17	.78	.25	5
T 1-3063.	925.	1962.	1097.	2.71	11.15	1.62	.67	.18	.16	13.78	70.96	14.59	.82	.30	6
T 1-3067.0	833.	2624.	435.	2.28	5.60	.89	.60	.15	0.00	7.24	74.90	17.30	.52	.48	7
T 1-3074.	900.	2082.	1057.	2.49	13.47	1.69	.84	.47	0.00	16.47	68.34	14.42	.76	.37	8
T 1-3080.	775.	2312.	747.	3.90	4.64	1.31	.92	.45	.15	7.47	74.94	16.61	.98	.24	9
T 1-3080.0	950.	2730.	329.	5.85	12.83	3.32	1.62	.66	0.00	18.43	69.04	11.01	1.55	1.91	10
T 1-3086.	750.	1677.	1382.	5.95	23.01	6.38	4.07	2.40	.30	36.16	56.91	5.92	1.05	.43	11
T 1-3094.0	800.	2759.	300.	6.91	4.43	.93	.31	.12	0.00	5.79	77.25	16.64	.29	.56	12
T 1-3099.	750.	2328.	731.	2.61	11.10	1.69	.86	.31	0.00	13.96	69.60	15.90	.58	.44	13
T 1-3106.0	750.	2911.	148.	1.04	4.05	.70	.19	.34	0.00	5.28	78.95	15.65	.09	1.02	14

TABLE 4. STATISTICAL ANALYSES OF OFF GAS DATA

WELL T 1

	MEAN	STANDARD DEVIATION	VARIENCE	COEFFICIENT OF DEVIATION	95 PCT. CONFIDENCE INTERVAL LOWER LIMIT	UPPER LIMIT	NO OF SAMPLES
ETHANE, PERCENT	1.815	1.53	2.35	.85	.929	2.701	14
PROPANE, PERCENT	.949	.98	.96	1.03	.383	1.516	14
BUTANE, PERCENT	.453	.59	.35	1.31	.111	.795	14
PENTANE, PERCENT	.054	.09	.01	1.69	.001	.106	14
TOTAL HYDROCARBONS, PCT	11.546	8.64	74.67	.75	6.558	16.535	14
NITROGEN, PERCENT	72.931	5.86	34.32	.08	69.449	76.214	14
OXYGEN, PERCENT	14.888	3.21	10.34	.22	13.032	16.744	14
CARBON DIOXIDE, PERCENT	.746	.53	.28	.71	.440	1.053	14

GAS VOLUME/BOILS VOLUME

*1 IS INSIGNIFICANT

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TABLE 5. CHEMICAL CHARACTERIZATION DATA, 12/77

SAMPLE ID	TOTAL, PERCENT CARBON	HYDROGEN	NITROGEN	LOW TEMPERATURE ASH, % 200 C	100 C	CARD CODE	SEQ NO.
1 1-5012.	1.1	.4	.2			5	1
1 1-5022.	2.3	.6	.1			5	2
1 1-5045.	7.6	.9	.4			5	3
1 1-5051.0	6.6	.8	.2			5	4
1 1-5056.	7.3	.9	.2			5	5
1 1-5063.	8.4	1.1	.2			5	6
1 1-5067.	8.6	1.1	.2			5	7
1 1-5074.	7.6	1.1	.2			5	8
1 1-5080.	3.9	.7	.2			5	9
1 1-5080.b	2.7	.6	.1			5	10
1 1-5086.	2.6	.6	.1			5	11
1 1-5094.0	5.3	.9	.1			5	12
1 1-5099.	8.7	1.2	.1			5	13
1 1-5106.0	9.5	1.4	.3			5	14

TABLE 6. SUMMARY OF PHYSICAL CHARACTERIZATION DATA

		BULK DENSTY G/CC	OPEN PORSTY PCT	CLOSED PORSTY PCT	TOTAL PORSTY PCT	SURFACE AREA M2/G	SLO
1	1-3012.	2.559	6.551	2.134	8.685	8.410	1
1	1-3022.	2.547	3.106	3.228	6.334	2.360	2
1	1-3043.	2.464	.730	5.472	6.202	3.600	3
1	1-3051.0	2.484	.695	3.137	3.832	7.850	4
1	1-3056.	2.464	.592	5.587	6.179	7.210	5
1	1-3063.	2.436	.519	2.192	2.712	8.670	6
1	1-3067.0	2.425	.591	1.684	2.275	1.350	7
1	1-3074.	2.435	.672	1.816	2.488	5.370	8
1	1-3080.	2.520	1.048	2.850	3.898	3.140	9
1	1-3080.0	2.559	2.144	3.705	5.848	7.290	10
1	1-3086.	2.600	2.898	3.054	5.952	10.110	11
1	1-3094.0	2.487	.961	5.953	6.914	7.970	12
1	1-3099.	2.428	.607	2.007	2.614	3.320	13
1	1-3106.0	2.385	1.037	0.000	1.037	2.120	14

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TABLE 7. STATISTISTICAL ANALYSES OF PHYSICAL CHARACTERIZATION DATA

WELL 1- 1

	MEAN	STANDARD DEVIATION	VARIENCE	COEFFICIENT OF DEVIATION	95 PCT. CONFIDENCE INTERVAL LOWER LIMIT	UPPER LIMIT	NO OF SAMPLES
BULK DENSITY, G/CC	2.485	.06	.00	.03	2.449	2.522	14
APPARENT DENSITY, G/CC	2.527	.10	.01	.04	2.469	2.584	14
TRUE DENSITY, G/CC	2.552	.25	.06	.10	2.407	2.696	14
OPEN POROSITY, PCT	1.582	1.67	2.80	1.06	.616	2.548	14
CLOSED POROSITY, PCT	3.059	1.68	2.81	.55	2.090	4.027	14
TOTAL POROSITY, PCT	4.641	2.23	4.97	.48	3.354	5.928	14
WEIGHT LOSS INITIAL, G/KG	11.461	2.16	4.67	.19	10.214	12.709	14
WEIGHT LOSS FINAL, G/KG	6.515	24.03	577.58	3.69	0.000	20.389	14
TOTAL WEIGHT LOSS, G/KG	17.976	23.66	559.65	1.32	4.319	31.633	14
SURFACE AREA, M2/G	5.626	2.91	8.44	.52	3.949	7.304	14

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TABLE 8. MERCURY INTRUSION POROSITY VALUES FOR WELL T-1

Sequence Number	Sample I. D. Number	Porosity, Percent
1	T-1-3012	3.25
2	-3022	3.50
3	-3043	3.25
4	-3051	3.50
5	-3056	3.75
6	-3063	4.25
7	-30673	4.50
8	-3074	4.00
9	-3080	4.00
10	-30803	4.50
11	-3086	4.50
12	-30943	3.00
13	-3099	3.25
14	-31063	3.50

TABLE 9. PERMEABILITY VALUES IN MILLIDARCY

Sample I. D. Number	Direction of Flow Relative to Bedding Planes	Permeabilities, md	Comments
T-1-3012	vert.	0	
T-1-3043	vert.	0	
T-1-3051	vert.	0	
T-1-3056	vert.	1.8×10^{-7}	
T-1-3063	vert.	1.4×10^{-5}	Surface fractures
T-1-3067	vert.	0	
T-1-3074	vert.	0	
T-1-3080	vert.	0	
T-1-3086	vert.	1.1×10^{-6}	
T-1-3094	vert.	4.6×10^{-6}	
T-1-3099	vert.	0	
T-1-3100	vert.	0	

TABLE 10. SUMMARY OF XRD DATA ON T-1 SHALES

Sample No.	Quartz	Illite	Kaolin	Pyrite	Nahcolite	Shortite	Siderite	Calcite	Mica	Others
T-1-3051	M	m	d	m	d	m	d	m	–	–
T-1-3067	M	m	d	–	m	m	–	m	–	–
T-1-3080X	M	m	m	d	m	m	m	m	–	–
T-1-3099	M	m	d	m	m	m	–	m	–	–
T-1-3106	M	M	m	d	–	m	–	d	–	–

LEGEND

M - Major
m - Minor
d - Detectable
D - Minor - Detectable

TABLE 11. ENERGY-DISPERSIVE ANALYSIS OF SHALES

	Element Count Per 100 Counts													
Shale Sample	Na	K	Ca	Mg	Al	Si	Fe	S	Ti	P	Fe/S	K/Al	K/Si	Al/Si
T-1-3012	-	7.5	-	Tr	18.3	62.7	5.8	5.0	0.6	-	1.2	0.41	0.12	0.29
T-1-3106B	-	11.1	-	Tr	21.4	58.4	5.3	2.9	0.9	-	1.8	0.52	0.19	0.37
Illite Grain	-	17.2	-	-	25.5	57.3	-	-	-	-	-	0.67	0.30	0.45
Pyrite Grain	-	-	-	-	-	-	27.5	72.5	-	-	0.38	-	-	-
Quartz Grain	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-

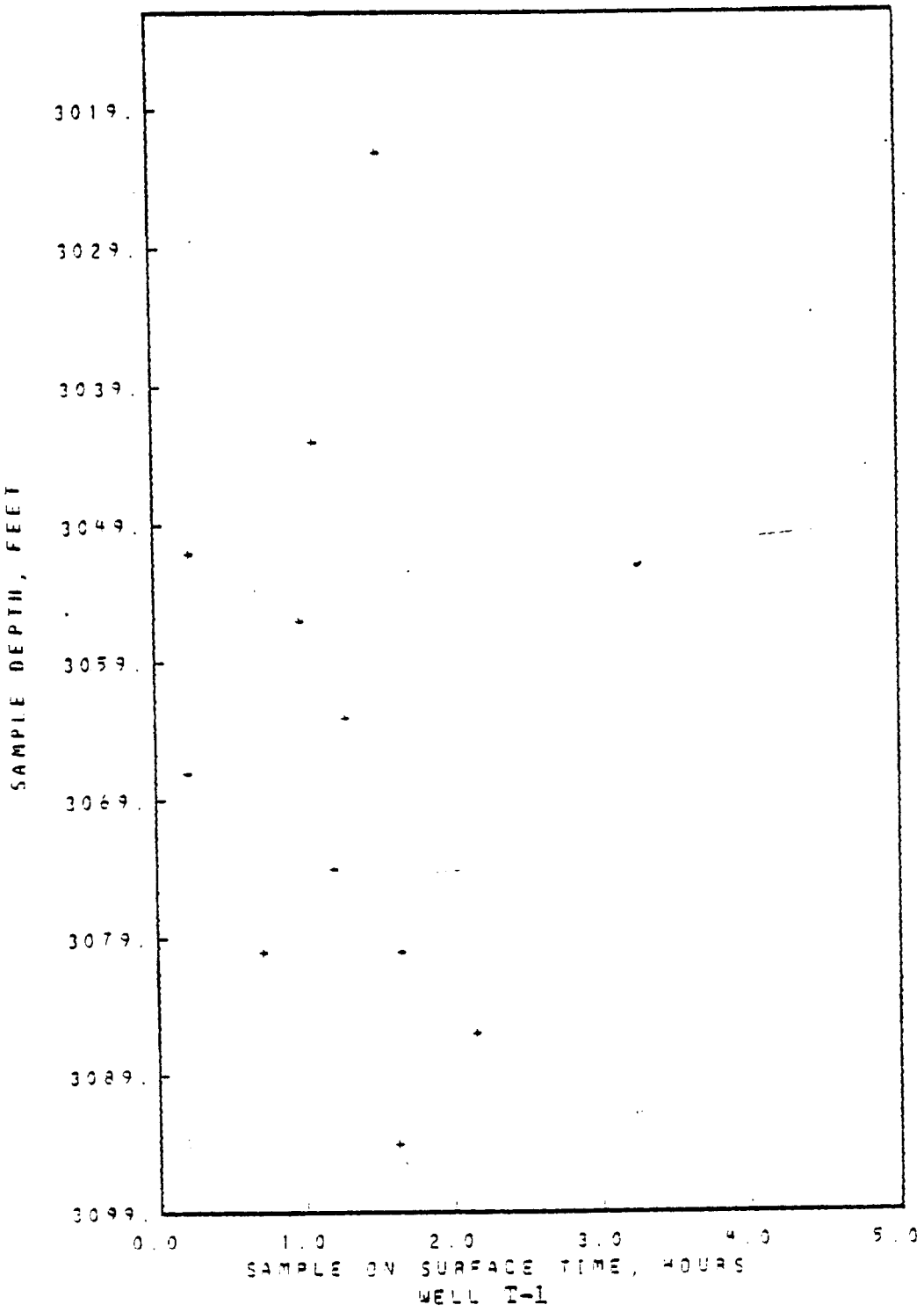

FIGURE 1. ON-SURFACE TIMES FOR WELL T-1

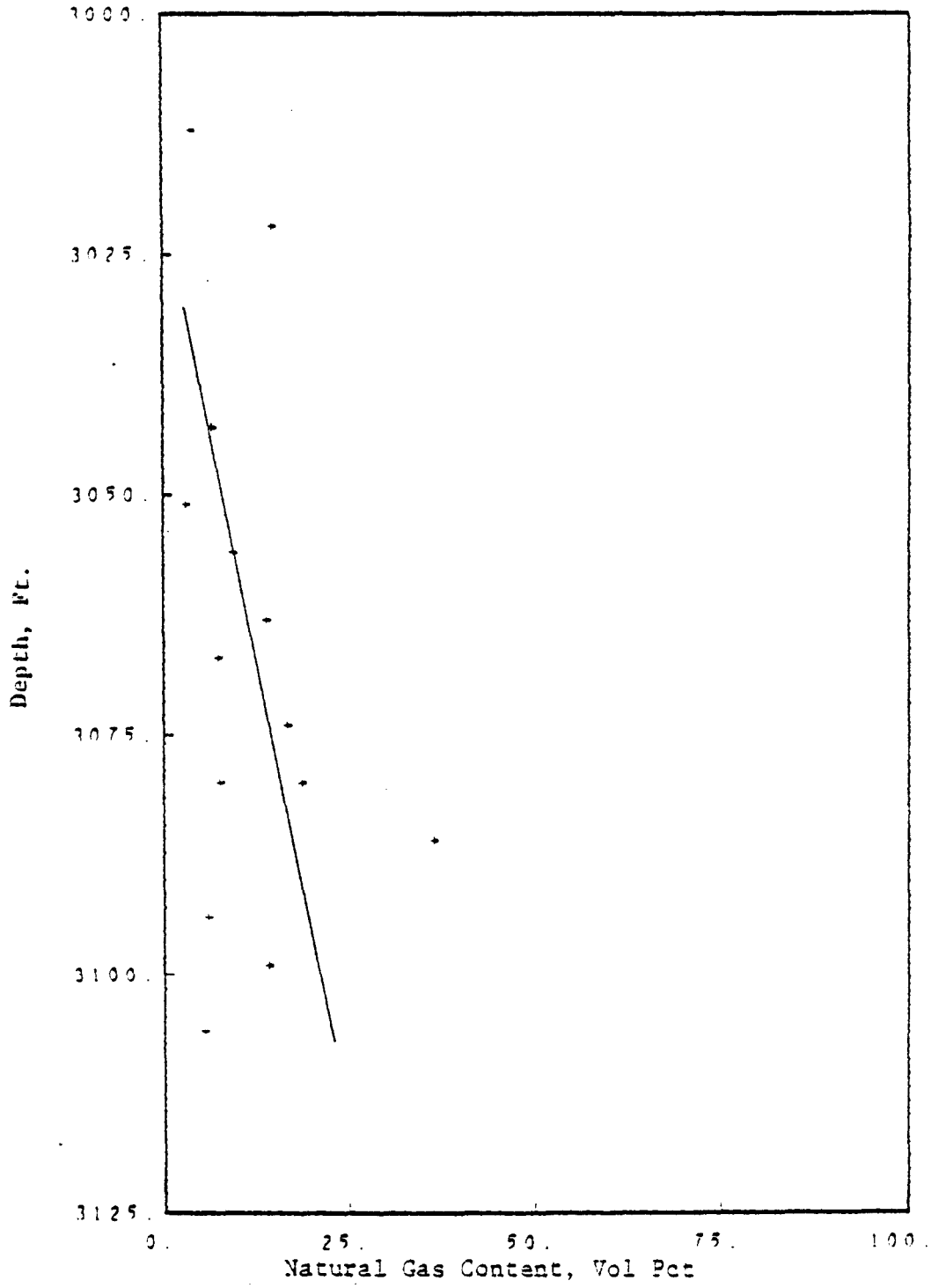

FIGURE 2. GAS CONTENT AS A FUNCTION OF SAMPLE DEPTH FOR WELL T-1

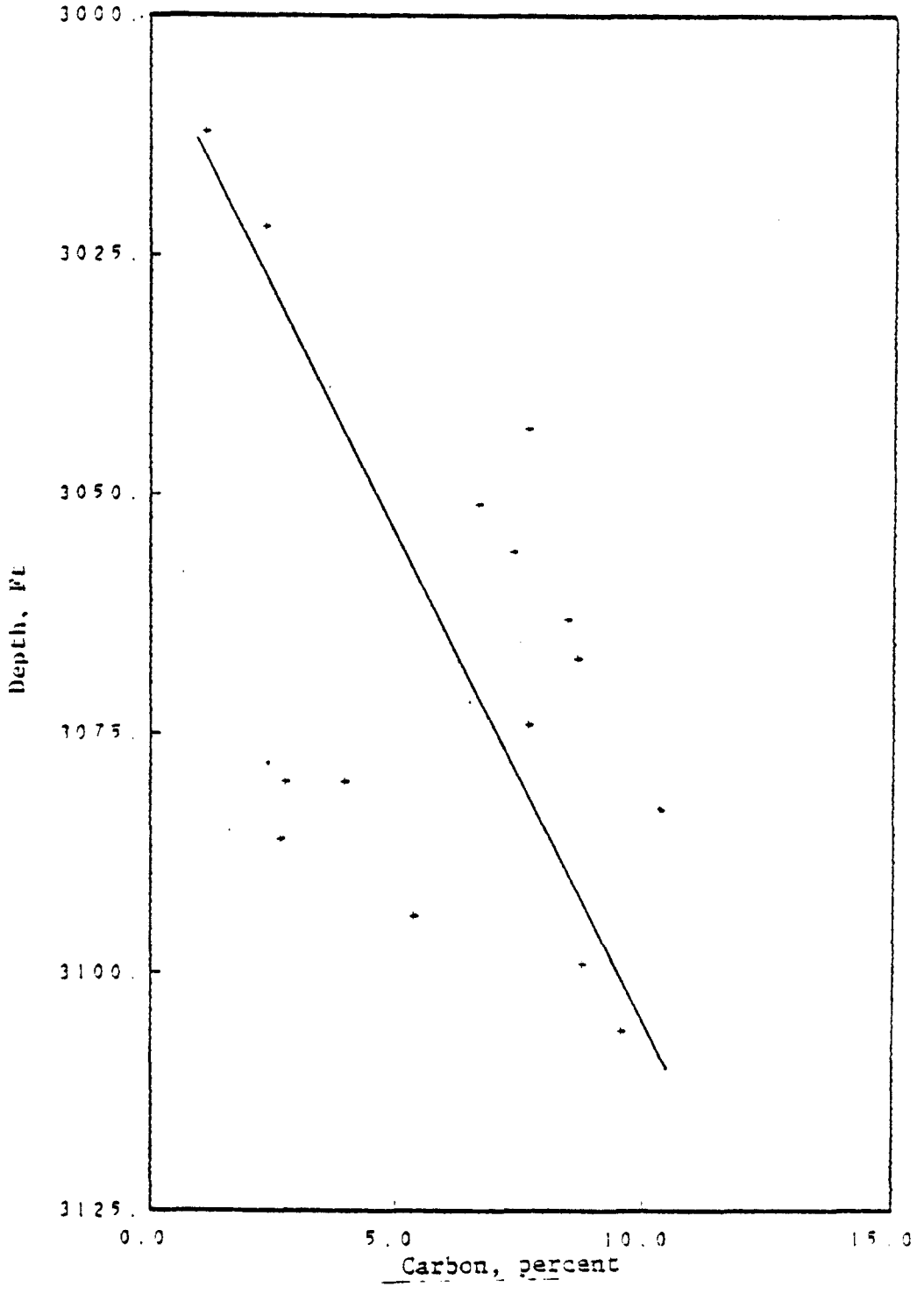

FIGURE 3. CARBON CONTENT AS A FUNCTION OF SAMPLE DEPTH FOR WELL T-1

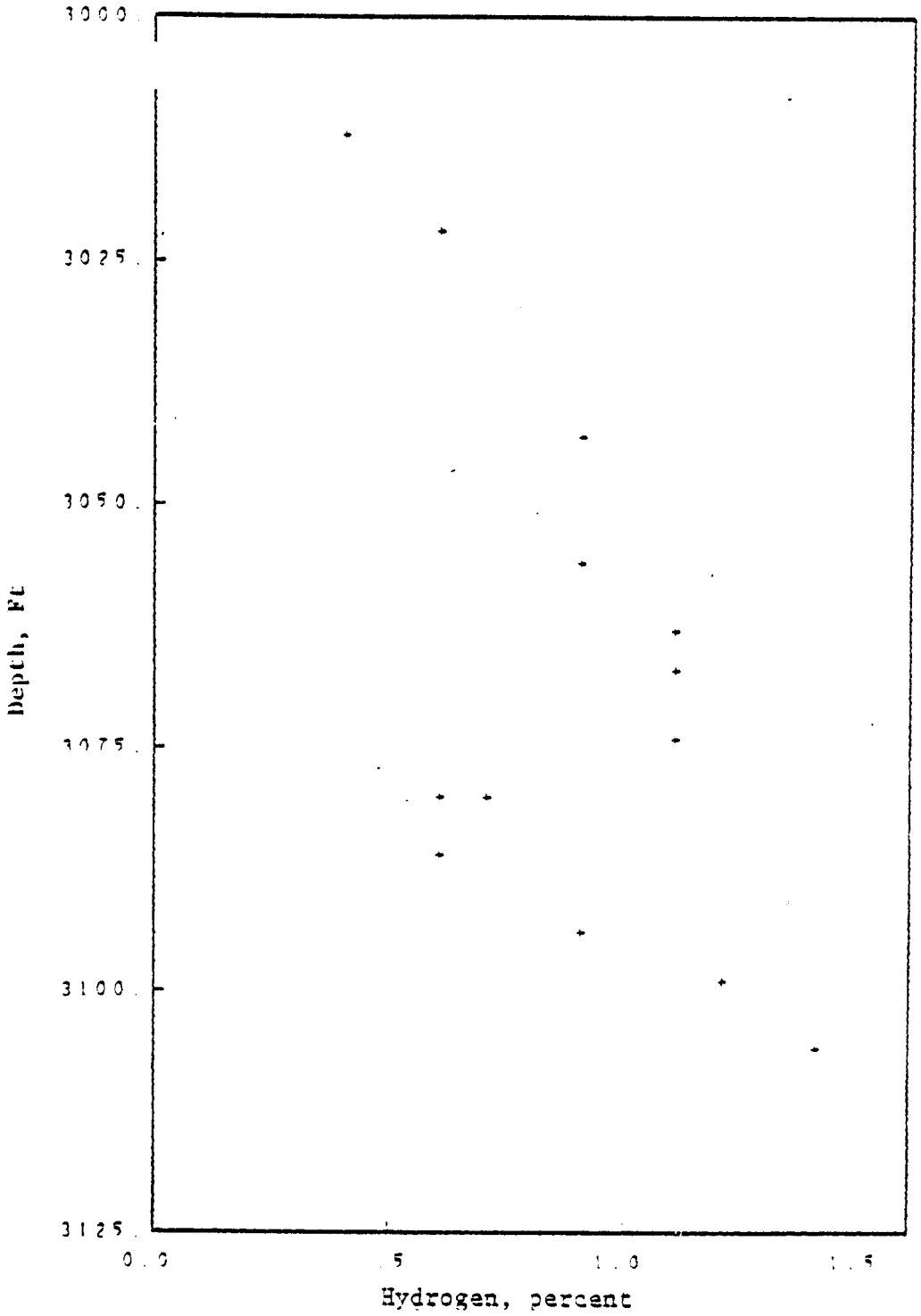

FIGURE 4. HYDROGEN CONTENT AS A FUNCTION OF SAMPLE DEPTH FOR WELL T-1

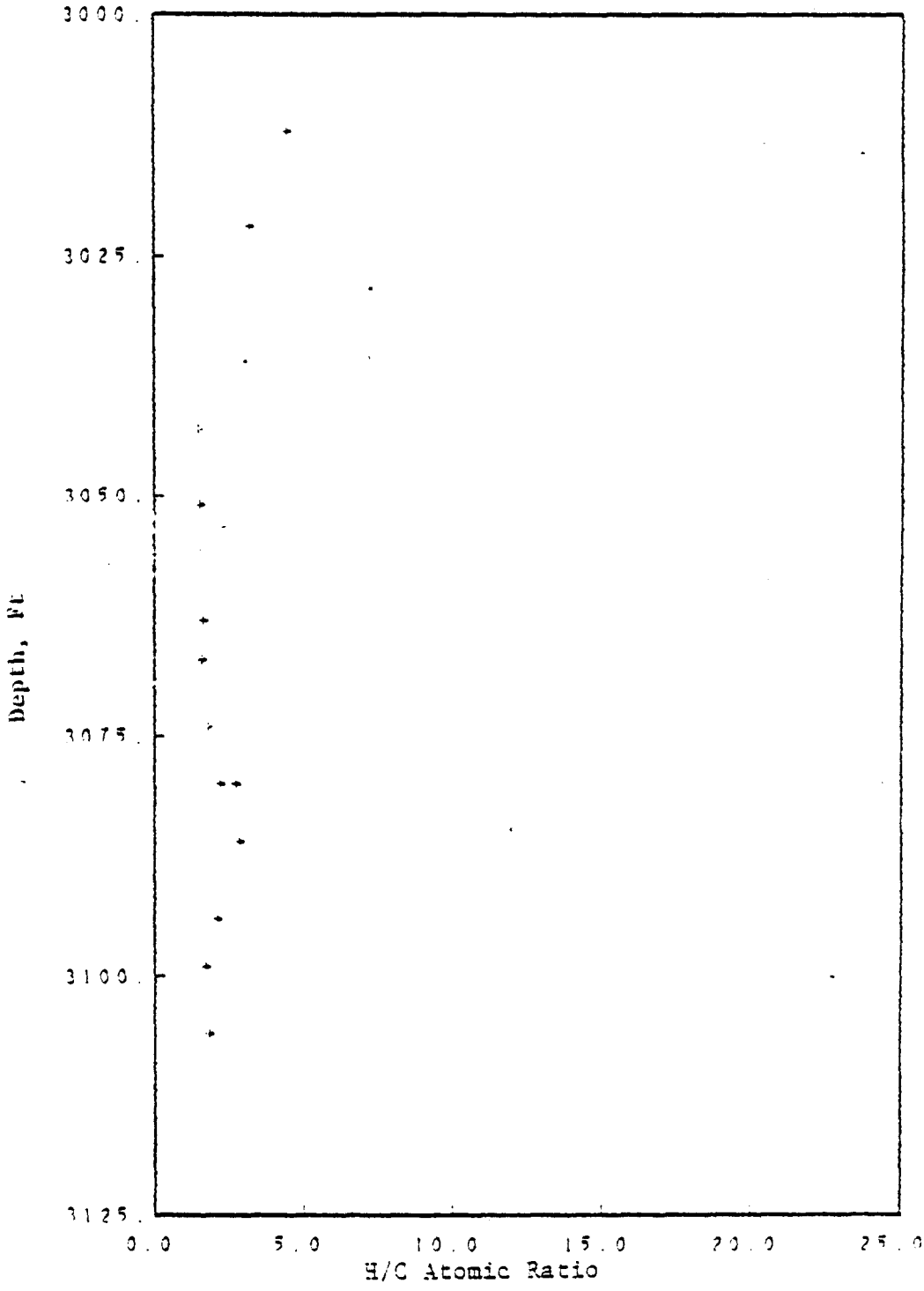

FIGURE 5. H/C ATOMIC RATIO AS A FUNCTION OF SAMPLE DEPTH FOR WELL T-1

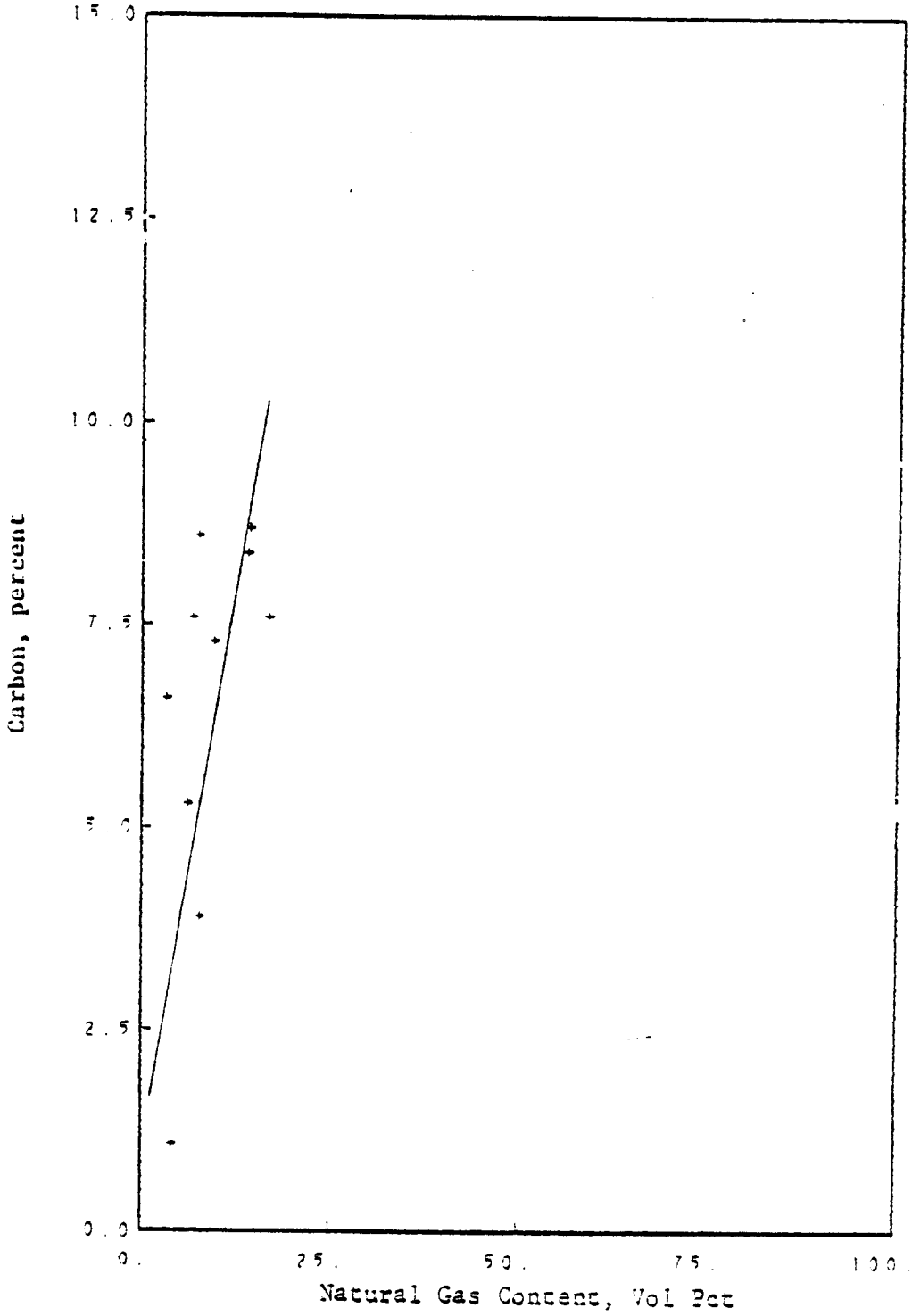

FIGURE 6. GAS CONTENT AS A FUNCTION OF CARBON CONTENT FOR WELL T-1

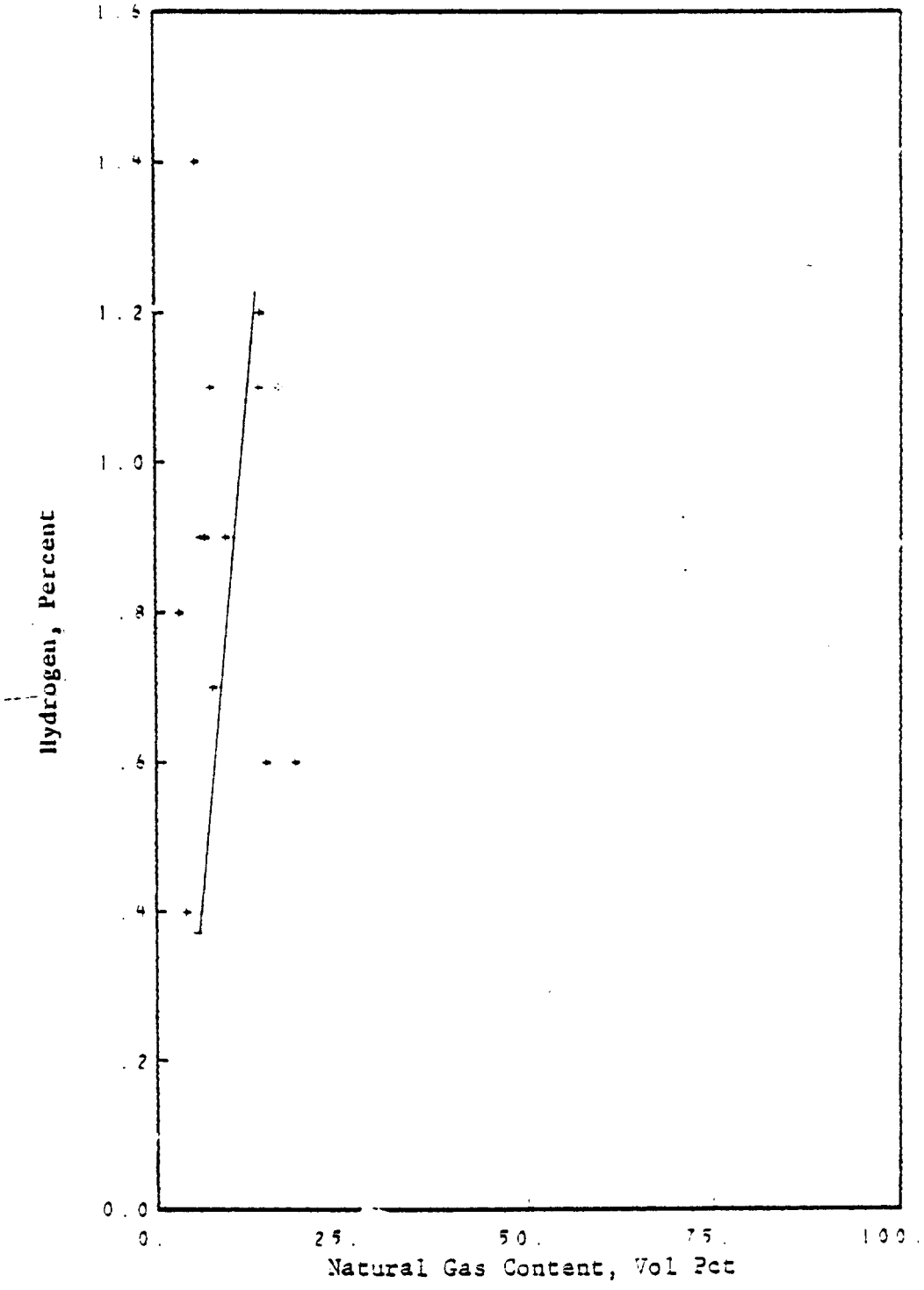

FIGURE 7. GAS CONTENT AS A FUNCTION OF HYDROGEN CONTENT FOR WELL T-1

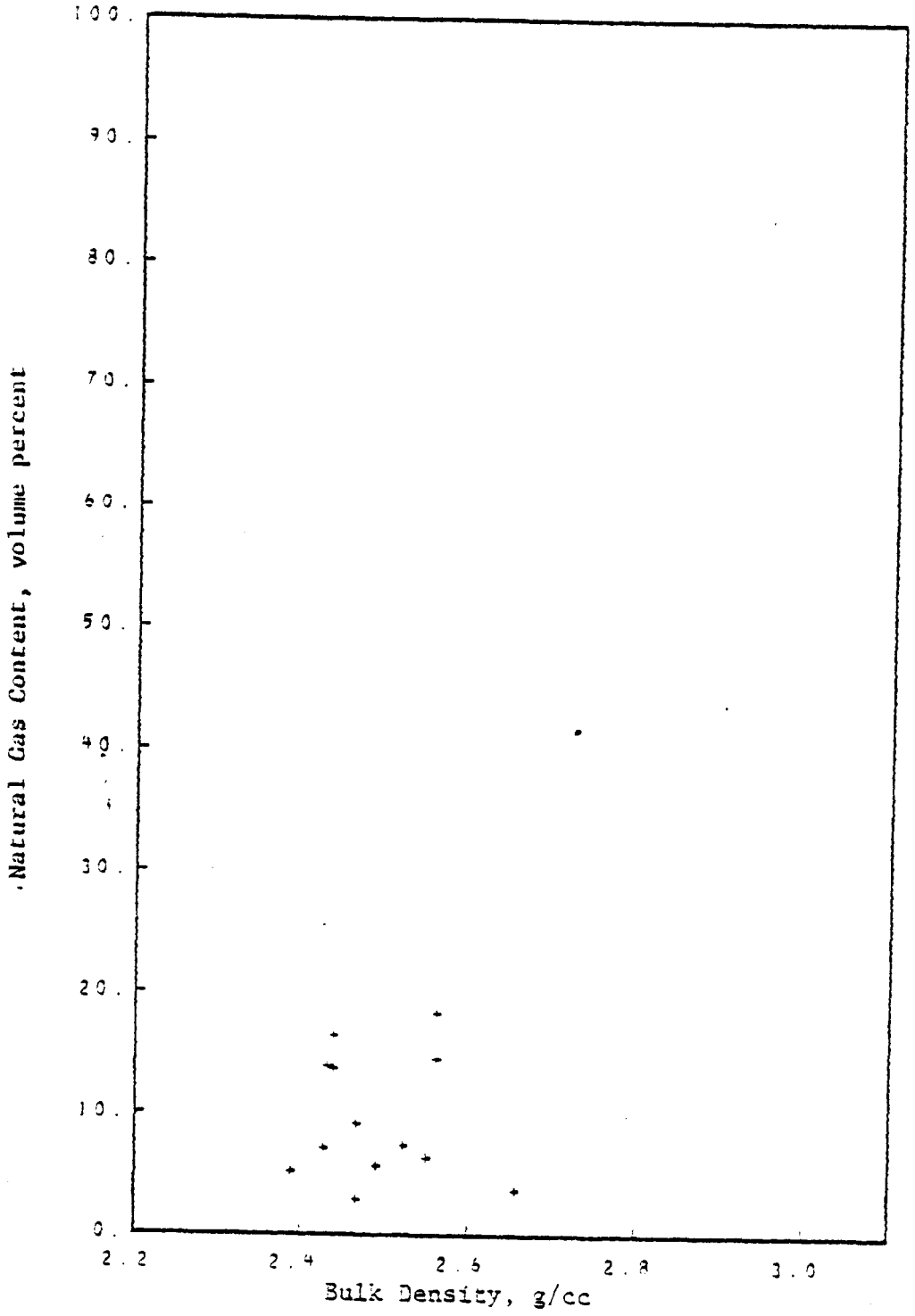

FIGURE 8. GAS CONTENT AS A FUNCTION OF BULK DENSITY FOR WELL T-1

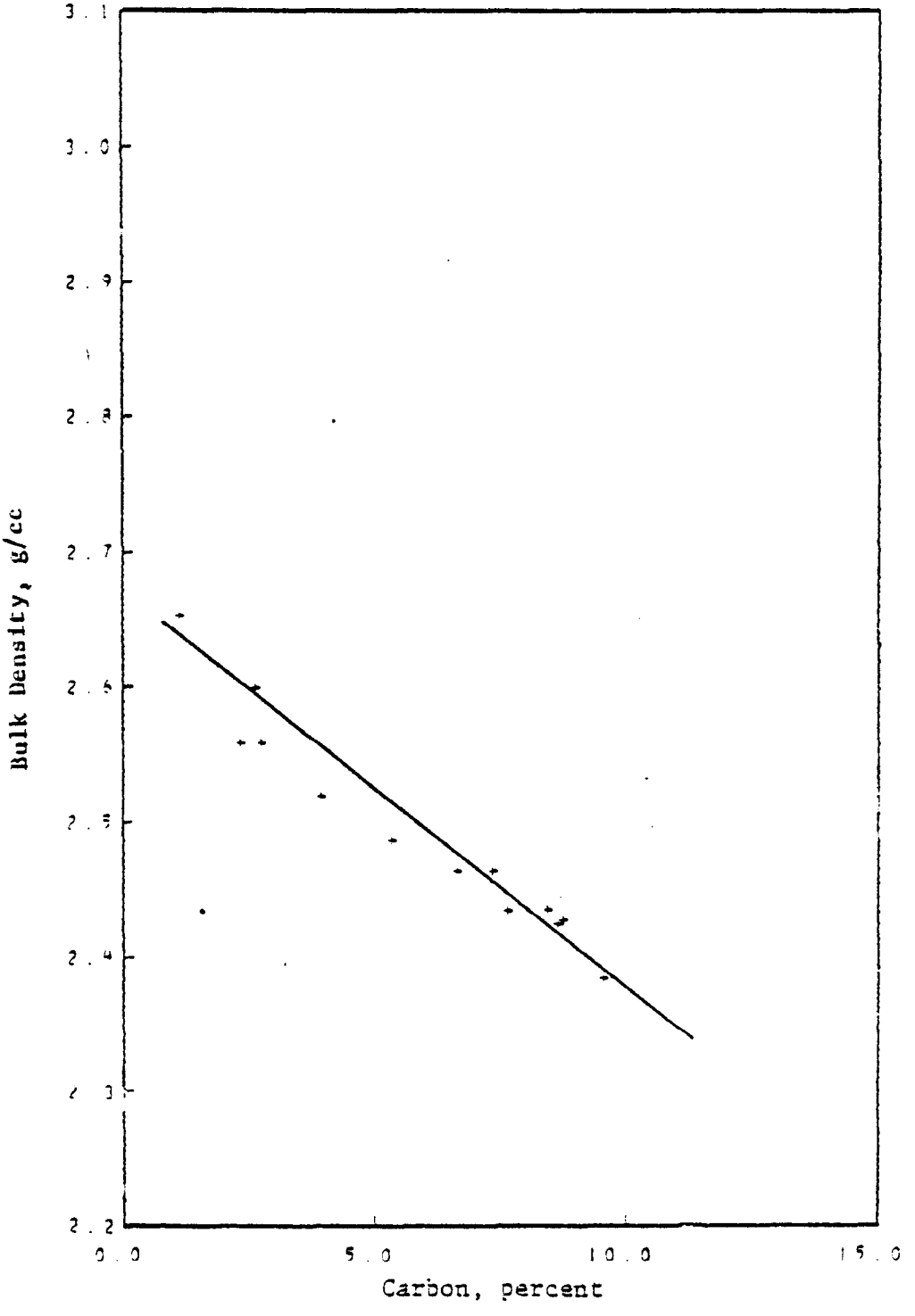

FIGURE 9. CARBON CONTENT AS A FUNCTION OF BULK DENSITY FOR WELL T-1

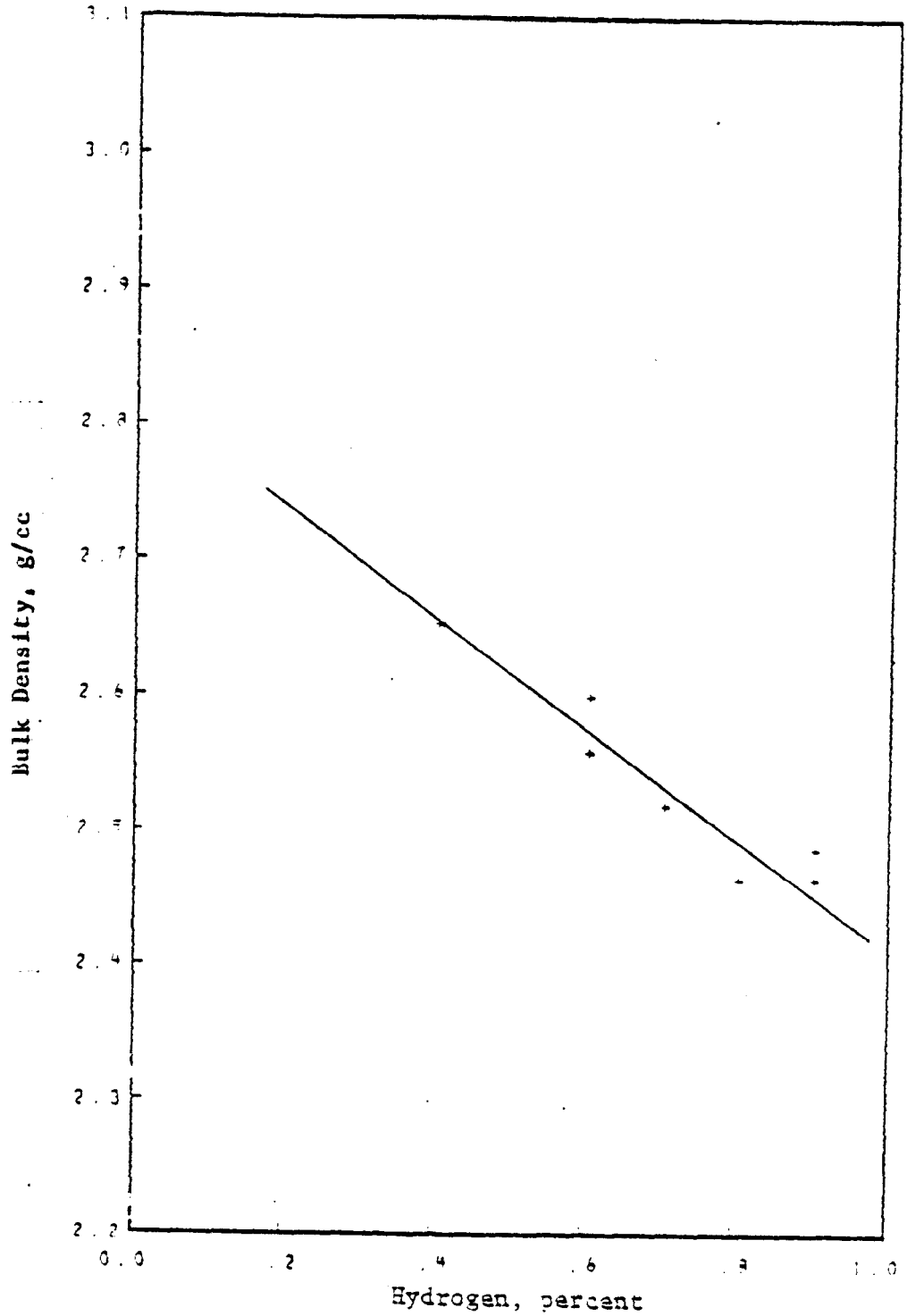

FIGURE 10. HYDROGEN CONTENT AS A FUNCTION OF BULK DENSITY FOR WELL T-1

700 X

FIGURE 11. SEM MICROPHOTOGRAPH OF SAMPLE T-1-3012

APPENDIX A

MERCURY INTRUSION POROSITY DATA FOR WELL T-1

POROSITY DATA FOR SAMPLE 1 1-3012.

SEQUENCE NUMBER 1
PORE VOLUME .013 CC/G

PRESSURE ATMS	PRESSURE PSI	PORE DIAMETER MICRON	PORE VOLUME CC/G	CHANGE IN PORE VOLUME CC/G	PCT. PORES GREATER THAN DIA INDICATED
1.	14.696	15.000	.0000	.0131	.0
2.	29.392	7.500	.0009	.0121	7.2
3.	44.088	5.000	.0012	.0119	9.0
4.	58.784	3.700	.0012	.0119	9.0
5.	73.480	3.000	.0014	.0116	10.8
6.	88.176	2.500	.0015	.0115	11.7
7.	102.872	2.100	.0019	.0112	14.4
8.	117.568	1.800	.0021	.0109	16.2
9.	132.264	1.600	.0022	.0108	17.1
10.	146.960	1.500	.0024	.0107	18.0
11.	161.656	1.400	.0025	.0106	18.9
12.	176.352	1.300	.0026	.0105	19.8
13.	191.048	1.200	.0027	.0104	20.7
14.	205.744	1.100	.0031	.0100	23.4
15.	220.440	1.000	.0031	.0100	23.4
16.	235.136	.930	.0032	.0099	24.3
17.	249.832	.880	.0033	.0098	25.2
18.	264.528	.830	.0034	.0096	26.1
19.	279.224	.790	.0034	.0096	26.1
20.	293.920	.750	.0035	.0095	27.0
25.	367.400	.600	.0035	.0095	27.0
30.	440.880	.500	.0035	.0095	27.0
35.	514.360	.430	.0036	.0094	27.9
40.	587.840	.370	.0038	.0093	28.8
45.	661.320	.330	.0040	.0091	30.6
50.	734.800	.300	.0042	.0088	32.4
55.	808.280	.270	.0044	.0087	33.3
60.	881.760	.250	.0046	.0085	35.1
65.	955.240	.230	.0047	.0084	36.0
70.	1028.720	.210	.0049	.0081	37.8
75.	1102.200	.200	.0051	.0080	38.7
80.	1175.680	.180	.0052	.0079	39.6
85.	1249.160	.170	.0054	.0076	41.4

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POROSITY DATA FOR SAMPLE T 1-3012.

PRESSURE ATMS	PRESSURE PSI	PORE DIAMETER MICRON	PORE VOLUME CC/G	CHANGE IN PORE VOLUME CC/G	PCT. PORES GREATER THAN DIA INDICATED
90.	1322.640	.160	.0056	.0074	43.2
100.	1469.600	.150	.0058	.0073	44.1
110.	1616.560	.140	.0059	.0072	45.0
120.	1763.520	.130	.0060	.0071	45.9
130.	1910.480	.120	.0062	.0068	47.7
140.	2057.440	.110	.0066	.0065	50.5
150.	2204.400	.100	.0068	.0062	52.3
170.	2498.320	.088	.0069	.0061	53.2
180.	2645.280	.083	.0071	.0060	54.1
190.	2792.240	.079	.0071	.0060	54.1
200.	2939.200	.075	.0073	.0058	55.9
220.	3233.120	.068	.0075	.0055	57.7
240.	3527.040	.062	.0078	.0053	59.5
260.	3820.960	.057	.0080	.0051	61.3
280.	4114.880	.053	.0081	.0049	62.2
300.	4408.800	.050	.0084	.0047	64.0
330.	4849.680	.045	.0085	.0046	64.9
360.	5290.560	.041	.0087	.0044	66.7
390.	5731.440	.038	.0092	.0039	70.3
420.	6172.320	.035	.0095	.0035	73.0
450.	6613.200	.033	.0095	.0035	73.0
490.	7201.040	.030	.0096	.0034	73.9
510.	7494.960	.029	.0099	.0032	75.7
540.	7935.840	.027	.0099	.0032	75.7
590.	8670.640	.025	.0104	.0027	79.3
610.	8964.560	.024	.0105	.0026	80.2
640.	9405.440	.023	.0107	.0024	82.0
700.	10287.200	.021	.0111	.0020	84.7
740.	10875.040	.020	.0113	.0018	86.5
770.	11315.920	.019	.0115	.0015	88.3
800.	11756.800	.019	.0116	.0014	89.2
830.	12197.680	.018	.0119	.0012	91.0
860.	12638.560	.017	.0121	.0009	92.8
900.	13226.400	.017	.0125	.0006	95.5
930.	13667.280	.016	.0126	.0005	96.4
960.	13961.200	.016	.0131	.0000	100.0
1000.	14696.000	.014	.0131	.0000	100.0

POROSITY DATA FOR SAMPLE 1 1-3022.

SEQUENCE NUMBER 2
PORE VOLUME .014 CC/G

PRESSURE ATMS	PRESSURE PSI	PORE DIAMETER MICRON	PORE VOLUME CC/G	CHANGE IN PORE VOLUME CC/G	PCT. PORES GREATER THAN DIA INDICATED
1.	14.696	15.000	.0000	.0142	.0
2.	29.392	7.500	.0006	.0136	4.1
3.	44.088	5.000	.0013	.0129	9.0
4.	58.784	3.700	.0017	.0125	12.3
5.	73.480	3.000	.0021	.0121	14.8
6.	88.176	2.500	.0024	.0118	17.2
7.	102.872	2.100	.0027	.0115	18.9
8.	117.568	1.800	.0029	.0113	20.5
9.	132.264	1.600	.0031	.0111	22.1
10.	146.960	1.500	.0034	.0108	23.8
11.	161.656	1.400	.0036	.0106	25.4
12.	176.352	1.300	.0036	.0106	25.4
13.	191.048	1.200	.0040	.0102	27.9
14.	205.744	1.100	.0040	.0102	27.9
15.	220.440	1.000	.0042	.0100	29.5
16.	235.136	.930	.0042	.0100	29.5
17.	249.832	.880	.0044	.0098	31.1
18.	264.528	.830	.0044	.0098	31.1
19.	279.224	.790	.0044	.0098	31.1
20.	293.920	.750	.0048	.0094	33.6
25.	367.400	.600	.0050	.0092	35.2
30.	440.880	.500	.0052	.0090	36.9
35.	514.360	.430	.0055	.0087	38.5
40.	587.840	.370	.0058	.0084	41.0
45.	661.320	.330	.0061	.0081	42.6
50.	734.800	.300	.0063	.0079	44.3
55.	808.280	.270	.0065	.0077	45.9
60.	881.760	.250	.0068	.0074	47.5
65.	955.240	.230	.0069	.0073	48.4
70.	1028.720	.210	.0070	.0072	49.2
75.	1102.200	.200	.0071	.0071	50.0
80.	1175.680	.180	.0073	.0069	51.6
85.	1249.160	.170	.0074	.0068	52.5

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POROSITY DATA FOR SAMPLE I 1-3022.

PRESSURE ATMS	PRESSURE PSI	PORE DIAMETER MICRON	PORE VOLUME CC/G	CHANGE IN PORE VOLUME CC/G	PCT. PORES GREATER THAN DIA INDICATED
90.	1322.640	.160	.0076	.0066	53.3
100.	1469.600	.150	.0076	.0066	53.3
110.	1616.560	.140	.0078	.0064	54.9
120.	1763.520	.130	.0080	.0062	56.6
130.	1910.480	.120	.0081	.0061	57.4
140.	2057.440	.110	.0083	.0059	58.2
150.	2204.400	.100	.0084	.0058	59.0
170.	2498.320	.088	.0086	.0056	60.7
180.	2645.280	.083	.0086	.0056	60.7
190.	2792.240	.079	.0088	.0054	62.3
200.	2939.200	.075	.0088	.0054	62.3
220.	3233.120	.068	.0093	.0049	65.6
240.	3527.040	.062	.0095	.0047	67.2
260.	3820.960	.057	.0097	.0045	68.0
280.	4114.880	.053	.0098	.0044	68.9
300.	4408.800	.050	.0100	.0042	70.5
330.	4849.680	.045	.0101	.0041	71.3
360.	5290.560	.041	.0104	.0038	73.0
390.	5731.440	.038	.0106	.0036	74.6
420.	6172.320	.035	.0108	.0034	76.2
450.	6613.200	.033	.0109	.0033	77.0
490.	7201.040	.030	.0112	.0030	78.7
510.	7494.960	.029	.0114	.0028	80.3
540.	7935.840	.027	.0116	.0026	82.0
590.	8670.640	.025	.0119	.0023	83.6
610.	8968.560	.024	.0119	.0023	83.6
640.	9405.440	.023	.0121	.0021	85.2
700.	10287.200	.021	.0125	.0017	87.7
740.	10875.040	.020	.0127	.0015	89.3
770.	11315.920	.019	.0129	.0013	91.0
800.	11756.800	.019	.0129	.0013	91.0
830.	12197.680	.018	.0132	.0010	92.6
860.	12638.560	.017	.0133	.0009	93.4
900.	13226.400	.017	.0135	.0007	95.1
930.	13667.280	.016	.0137	.0005	96.7
960.	13961.200	.016	.0140	.0002	98.4
1000.	14696.000	.014	.0142	.0000	100.0

POROSITY DATA FOR SAMPLE I 1-3043.

SEQUENCE NUMBER 3
PORE VOLUME .013 CC/G

PRESSURE ATMS	PRESSURE PSI	PORE DIAMETER MICRON	PORE VOLUME CC/G	CHANGE IN PORE VOLUME CC/G	PCT. PORES GREATER THAN DIA INDICATED
1.	14.696	15.000	.0000	.0127	.0
2.	29.392	7.500	.0008	.0119	6.5
3.	44.088	5.000	.0011	.0116	8.3
4.	58.784	3.700	.0014	.0113	11.1
5.	73.480	3.000	.0020	.0107	15.7
6.	88.176	2.500	.0020	.0107	15.7
7.	102.872	2.100	.0026	.0101	20.4
8.	117.568	1.800	.0027	.0100	21.3
9.	132.264	1.600	.0028	.0099	22.2
10.	146.960	1.500	.0029	.0097	23.1
11.	161.656	1.400	.0032	.0095	25.0
12.	176.352	1.300	.0032	.0095	25.0
13.	191.048	1.200	.0034	.0093	26.9
14.	205.744	1.100	.0035	.0092	27.8
15.	220.440	1.000	.0035	.0092	27.8
16.	235.136	.930	.0038	.0089	29.6
17.	249.832	.880	.0038	.0089	29.6
18.	264.528	.830	.0038	.0089	29.6
19.	279.224	.790	.0040	.0087	31.5
20.	293.920	.750	.0040	.0087	31.5
25.	367.400	.600	.0045	.0082	35.2
30.	440.880	.500	.0047	.0080	37.0
35.	514.360	.430	.0049	.0078	38.9
40.	587.840	.370	.0052	.0075	40.7
45.	661.320	.330	.0054	.0073	42.6
50.	734.800	.300	.0056	.0070	44.4
55.	808.280	.270	.0056	.0070	44.4
60.	881.760	.250	.0058	.0069	45.4
65.	955.240	.230	.0058	.0069	45.4
70.	1028.720	.210	.0059	.0068	46.3
75.	1102.200	.200	.0060	.0067	47.2
80.	1175.680	.180	.0062	.0065	49.1
85.	1249.160	.170	.0062	.0065	49.1

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POROSITY DATA FOR SAMPLE I 1-3043.

PRESSURE ATMS	PRESSURE PSI	PORE DIAMETER MICRON	PORE VOLUME CC/G	CHANGE IN PORE VOLUME CC/G	PCT. PORES GREATER THAN DIA INDICATED
90.	1322.640	.160	.0063	.0063	50.0
100.	1469.600	.150	.0063	.0063	50.0
110.	1616.560	.140	.0066	.0061	51.9
120.	1763.520	.130	.0066	.0061	51.9
130.	1910.480	.120	.0068	.0059	53.7
140.	2057.440	.110	.0070	.0056	55.6
150.	2204.400	.100	.0070	.0056	55.6
170.	2498.320	.088	.0074	.0053	58.3
180.	2645.280	.083	.0074	.0053	58.3
190.	2792.240	.079	.0074	.0053	58.3
200.	2939.200	.075	.0074	.0053	58.3
220.	3233.120	.068	.0079	.0048	62.0
240.	3527.040	.062	.0079	.0048	62.0
260.	3820.960	.057	.0081	.0046	63.9
280.	4114.880	.053	.0081	.0046	63.9
300.	4408.800	.050	.0086	.0041	67.6
330.	4849.680	.045	.0086	.0041	67.6
360.	5290.560	.041	.0087	.0040	68.5
390.	5731.440	.038	.0089	.0038	70.4
420.	6172.320	.035	.0092	.0035	72.2
450.	6613.200	.033	.0093	.0034	73.1
490.	7201.040	.030	.0097	.0029	76.9
510.	7494.960	.029	.0097	.0029	76.9
540.	7935.840	.027	.0100	.0027	78.7
590.	8670.640	.025	.0102	.0025	80.6
610.	8964.560	.024	.0103	.0023	81.5
640.	9405.440	.023	.0107	.0020	84.3
700.	10287.200	.021	.0109	.0018	86.1
740.	10875.040	.020	.0110	.0016	87.0
770.	11315.920	.019	.0113	.0014	88.9
800.	11756.800	.019	.0115	.0012	90.7
830.	12197.680	.018	.0115	.0012	90.7
860.	12638.560	.017	.0117	.0009	92.6
900.	13226.400	.017	.0120	.0007	94.4
930.	13667.280	.016	.0122	.0005	96.3
960.	13961.200	.016	.0125	.0002	98.1
1000.	14696.000	.014	.0127	.0000	100.0

MAR 1

POROSITY DATA FOR SAMPLE # 1-3051.8

SEQUENCE NUMBER 4
PORE VOLUME .014 CC/G

PRESSURE ATMS	PRESSURE PSI	PORE DIAMETER MICRON	PORE VOLUME CC/G	CHANGE IN PORE VOLUME CC/G	PCT. PORES GREATER THAN DIA INDICATED
1.	14.696	15.000	.0005	.0136	5.3
2.	29.392	7.500	.0016	.0125	11.7
3.	44.088	5.000	.0022	.0119	15.8
4.	58.784	3.700	.0026	.0115	18.3
5.	73.480	3.000	.0029	.0112	20.8
6.	88.176	2.500	.0033	.0108	23.3
7.	102.872	2.100	.0036	.0105	25.8
8.	117.568	1.800	.0039	.0102	27.5
9.	132.264	1.600	.0042	.0099	30.0
10.	146.960	1.500	.0043	.0098	30.8
11.	161.656	1.400	.0046	.0095	32.5
12.	176.352	1.300	.0046	.0093	34.2
13.	191.048	1.200	.0046	.0093	34.2
14.	205.744	1.100	.0046	.0093	34.2
15.	220.440	1.000	.0049	.0092	35.0
16.	235.136	.930	.0051	.0091	35.8
17.	249.832	.880	.0053	.0088	37.5
18.	264.528	.830	.0053	.0088	37.5
19.	279.224	.790	.0054	.0087	38.3
20.	293.920	.750	.0054	.0087	38.3
25.	367.400	.600	.0059	.0082	41.7
30.	440.880	.500	.0059	.0082	41.7
35.	514.360	.430	.0062	.0079	44.2
40.	587.840	.370	.0066	.0075	46.7
45.	661.320	.330	.0068	.0073	48.3
50.	734.800	.300	.0071	.0071	50.0
55.	808.280	.270	.0072	.0069	50.8
60.	881.760	.250	.0073	.0068	51.7
65.	955.240	.230	.0074	.0067	52.5
70.	1028.720	.210	.0076	.0065	54.2
75.	1102.200	.200	.0078	.0063	55.0
80.	1175.680	.180	.0079	.0062	55.8
85.	1249.160	.170	.0080	.0061	56.7

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POROSITY DATA FOR SAMPLE # 1-3051.0

PRESSURE ATMS	PRESSURE PSI	PORE DIAMETER MICRON	PORE VOLUME CC/G	CHANGE IN PORE VOLUME CC/G	PCT. PORES GREATER THAN DIA INDICATED
90.	1322.640	.160	.0081	.0060	57.5
100.	1469.600	.150	.0082	.0059	58.3
110.	1616.560	.140	.0082	.0059	58.3
120.	1763.520	.130	.0085	.0056	60.0
130.	1910.480	.120	.0087	.0054	61.7
140.	2057.440	.110	.0087	.0054	61.7
150.	2204.400	.100	.0089	.0052	63.3
170.	2498.320	.080	.0092	.0049	65.0
180.	2645.280	.083	.0092	.0049	65.0
190.	2792.240	.079	.0093	.0048	65.8
200.	2939.200	.075	.0095	.0046	67.5
220.	3233.120	.068	.0095	.0046	67.5
240.	3527.040	.062	.0099	.0042	70.0
260.	3820.960	.057	.0101	.0040	71.7
280.	4114.880	.053	.0106	.0035	75.0
300.	4408.800	.050	.0106	.0035	75.0
330.	4849.680	.045	.0108	.0033	76.7
360.	5290.560	.041	.0109	.0032	77.5
390.	5731.440	.038	.0112	.0029	79.2
420.	6172.320	.035	.0112	.0029	79.2
450.	6613.200	.033	.0114	.0027	80.8
490.	7201.040	.030	.0116	.0025	82.5
510.	7494.960	.029	.0116	.0025	82.5
540.	7935.840	.027	.0116	.0025	82.5
590.	8670.640	.025	.0121	.0020	85.8
610.	8964.560	.024	.0121	.0020	85.8
640.	9405.440	.023	.0121	.0020	85.8
700.	10287.200	.021	.0125	.0016	88.3
740.	10875.040	.020	.0127	.0014	90.0
770.	11315.920	.019	.0129	.0012	91.7
800.	11756.800	.019	.0132	.0009	93.3
830.	12197.680	.018	.0133	.0008	94.2
860.	12638.560	.017	.0135	.0006	95.8
900.	13226.400	.017	.0136	.0005	96.7
930.	13667.280	.016	.0139	.0002	98.3
960.	13961.200	.016	.0141	.0000	100.0
1000.	14696.000	.014	.0141	.0000	100.0

MAR 1

POROSITY DATA FOR SAMPLE I 1-3056.

SEQUENCE NUMBER 5
PORE VOLUME .015 CC/G

PRESSURE ATMS	PRESSURE PSI	PORE DIAMETER MICRON	PORE VOLUME CC/G	CHANGE IN PORE VOLUME CC/G	PCT. PORES GREATER THAN DIA INDICATED
1.	14.696	15.000	.0000	.0154	.0
2.	29.392	7.500	.0018	.0137	11.5
3.	44.088	5.000	.0025	.0130	16.0
4.	58.784	3.700	.0031	.0124	19.8
5.	73.480	3.000	.0032	.0122	20.6
6.	88.176	2.500	.0035	.0119	22.9
7.	102.872	2.100	.0040	.0114	26.0
8.	117.568	1.800	.0042	.0112	27.5
9.	132.264	1.600	.0044	.0111	28.2
10.	146.960	1.500	.0046	.0108	29.8
11.	161.656	1.400	.0048	.0106	31.3
12.	176.352	1.300	.0048	.0106	31.3
13.	191.048	1.200	.0052	.0102	33.6
14.	205.744	1.100	.0052	.0102	33.6
15.	220.440	1.000	.0054	.0100	35.1
16.	235.136	.930	.0054	.0100	35.1
17.	249.832	.880	.0057	.0098	36.6
18.	264.528	.830	.0057	.0098	36.6
19.	279.224	.790	.0057	.0098	36.6
20.	293.920	.750	.0059	.0095	38.2
25.	367.400	.600	.0064	.0091	41.2
30.	440.880	.500	.0068	.0086	44.3
35.	514.360	.430	.0069	.0085	45.0
40.	587.840	.370	.0072	.0082	46.6
45.	661.320	.330	.0072	.0082	46.6
50.	734.800	.300	.0072	.0082	46.6
55.	808.280	.270	.0075	.0079	48.9
60.	881.760	.250	.0079	.0075	51.1
65.	955.240	.230	.0080	.0074	51.9
70.	1028.720	.210	.0081	.0073	52.7
75.	1102.200	.200	.0081	.0073	52.7
80.	1175.680	.180	.0081	.0073	52.7
85.	1249.160	.170	.0084	.0071	54.2

MAR 5 1 1978

POROSITY DATA FOR SAMPLE I I-3056.

PRESSURE ATMS	PRESSURE PSI	PORE DIAMETER MICRON	PORE VOLUME CC/G	CHANGE IN PORE VOLUME CC/G	PCT. PORES GREATER THAN DIA INDICATED
90.	1322.640	.160	.0086	.0068	55.7
100.	1469.600	.150	.0086	.0068	55.7
110.	1616.560	.140	.0087	.0067	56.5
120.	1763.520	.130	.0089	.0065	58.0
130.	1910.480	.120	.0089	.0065	58.0
140.	2057.440	.110	.0092	.0062	59.5
150.	2204.400	.100	.0092	.0062	59.5
170.	2498.320	.088	.0097	.0058	62.6
180.	2645.280	.083	.0097	.0058	62.6
190.	2792.240	.079	.0099	.0055	64.1
200.	2939.200	.075	.0099	.0055	64.1
220.	3233.120	.068	.0104	.0051	67.2
240.	3527.040	.062	.0106	.0048	68.7
260.	3820.960	.057	.0108	.0046	70.2
280.	4114.880	.053	.0108	.0046	70.2
300.	4408.800	.050	.0108	.0046	70.2
330.	4849.680	.045	.0112	.0042	72.5
360.	5290.560	.041	.0112	.0042	72.5
390.	5731.440	.038	.0119	.0035	77.1
420.	6172.320	.035	.0120	.0034	77.9
450.	6613.200	.033	.0122	.0032	79.4
490.	7201.040	.030	.0125	.0029	80.9
510.	7494.960	.029	.0126	.0028	81.7
540.	7935.840	.027	.0128	.0026	83.2
590.	8670.640	.025	.0132	.0022	85.5
610.	8964.560	.024	.0132	.0022	85.5
640.	9405.440	.023	.0132	.0022	85.5
700.	10287.200	.021	.0132	.0022	85.5
740.	10875.040	.020	.0132	.0022	85.5
770.	11315.920	.019	.0132	.0022	85.5
800.	11756.800	.019	.0145	.0009	93.9
830.	12197.660	.018	.0145	.0009	93.9
860.	12638.560	.017	.0147	.0007	95.4
900.	13226.400	.017	.0150	.0005	96.9
930.	13667.280	.016	.0152	.0002	98.5
960.	13961.200	.016	.0152	.0002	98.5
1000.	14656.000	.014	.0154	.0000	100.0

MAR 5 1973

POROSITY DATA FOR SAMPLE [illegible] 1-5063.

SAMPLE [illegible] 0
TOTAL VOLUME .017 CC/G

PRESSURE ATMS	PRESSURE PSI	PORE DIAMETER MICRONS	PORE VOLUME CC/G	CHANGE IN PORE VOLUME CC/G	PCT. PORES GREATER THAN DIA INDICATED
1.	14.696	15.000	.0000	.0172	.0
2.	29.392	7.500	.0024	.0148	13.7
3.	44.088	5.000	.0024	.0148	13.7
4.	58.784	3.700	.0038	.0134	21.9
5.	73.480	3.000	.0038	.0134	21.9
6.	88.176	2.500	.0049	.0122	28.8
7.	102.872	2.100	.0052	.0120	30.1
8.	117.568	1.800	.0052	.0120	30.1
9.	132.264	1.600	.0052	.0120	30.1
10.	146.960	1.500	.0055	.0117	32.2
11.	161.656	1.400	.0058	.0114	33.6
12.	176.352	1.300	.0060	.0112	34.9
13.	191.048	1.200	.0060	.0112	34.9
14.	205.744	1.100	.0062	.0110	36.3
15.	220.440	1.000	.0062	.0110	36.3
16.	235.136	.930	.0064	.0108	37.0
17.	249.832	.880	.0066	.0106	38.4
18.	264.528	.830	.0066	.0106	38.4
19.	279.224	.790	.0066	.0106	38.4
20.	293.920	.750	.0066	.0106	38.4
25.	367.400	.600	.0072	.0100	41.8
30.	440.880	.500	.0075	.0097	43.8
35.	514.360	.430	.0077	.0095	44.5
40.	587.840	.370	.0079	.0093	45.9
45.	661.320	.330	.0081	.0091	47.3
50.	734.800	.300	.0085	.0087	49.3
55.	808.280	.270	.0086	.0086	50.0
60.	881.760	.250	.0087	.0085	50.7
65.	955.240	.230	.0088	.0084	51.4
70.	1028.720	.210	.0091	.0081	52.7
75.	1102.200	.200	.0092	.0080	53.4
80.	1175.680	.180	.0093	.0079	54.1
85.	1249.160	.170	.0093	.0079	54.1

MAR 5 1 1978

POROSITY DATA FOR SAMPLE # 1-5063.

PRESSURE ATM	PRESSURE PSI	PORE DIAMETER MICRON	PORE VOLUME CC/G	CHANGE IN PORE VOLUME CC/G	PCT. PORES GREATER THAN DIA INDICATED
90.	1322.640	.160	.0093	.0079	54.1
100.	1469.600	.150	.0098	.0074	56.8
110.	1616.560	.140	.0098	.0074	56.8
120.	1763.520	.130	.0100	.0072	58.2
130.	1910.480	.120	.0102	.0069	59.6
140.	2057.440	.110	.0102	.0069	59.6
150.	2204.400	.100	.0102	.0069	59.6
170.	2498.320	.088	.0105	.0067	61.0
180.	2645.280	.083	.0107	.0065	62.3
190.	2792.240	.079	.0107	.0065	62.3
200.	2939.200	.075	.0112	.0060	65.1
220.	3233.120	.068	.0112	.0060	65.1
240.	3527.040	.062	.0112	.0060	65.1
260.	3820.960	.057	.0118	.0054	68.5
280.	4114.880	.053	.0118	.0054	68.5
300.	4408.800	.050	.0118	.0054	68.5
330.	4849.680	.045	.0118	.0054	68.5
360.	5290.560	.041	.0132	.0040	76.7
390.	5731.440	.038	.0132	.0040	76.7
420.	6172.320	.035	.0132	.0040	76.7
450.	6613.200	.033	.0132	.0040	76.7
490.	7201.040	.030	.0142	.0029	82.9
510.	7494.960	.029	.0142	.0029	82.9
540.	7935.840	.027	.0142	.0029	82.9
570.	8370.640	.025	.0142	.0029	82.9
610.	8964.560	.024	.0142	.0029	82.9
640.	9405.440	.023	.0142	.0029	82.9
700.	10267.200	.021	.0147	.0025	85.6
740.	10875.040	.020	.0151	.0021	87.7
770.	11315.920	.019	.0151	.0021	87.7
800.	11756.800	.019	.0160	.0012	93.2
830.	12197.680	.018	.0160	.0012	93.2
860.	12638.560	.017	.0160	.0012	93.2
900.	13226.400	.017	.0160	.0012	93.2
930.	13667.200	.016	.0160	.0012	93.2
960.	13961.200	.016	.0172	.0000	100.0
1000.	14696.000	.014	.0172	.0000	100.0

POROSITY DATA FOR SAMPLE I 1-3067.0

SEQUENCE NUMBER 1
PORE VOLUME .018 CC/G

PRESSURE ATOS	PRESSURE PSI	PORE DIAMETER MICRON	PORE VOLUME CC/G	CHANGE IN PORE VOLUME CC/G	PCT. PORES GREATER THAN DIA INDICATED
1.	14.696	15.000	.0000	.0177	.0
2.	29.392	7.500	.0016	.0161	9.3
3.	44.088	5.000	.0026	.0151	14.6
4.	58.784	3.700	.0031	.0147	17.2
5.	73.480	3.000	.0038	.0140	21.2
6.	88.176	2.500	.0041	.0136	23.2
7.	102.872	2.100	.0045	.0133	25.2
8.	117.568	1.800	.0047	.0130	26.5
9.	132.264	1.600	.0049	.0128	27.8
10.	146.960	1.500	.0053	.0124	29.8
11.	161.656	1.400	.0054	.0123	30.5
12.	176.352	1.300	.0056	.0121	31.8
13.	191.048	1.200	.0059	.0119	33.1
14.	205.744	1.100	.0059	.0119	33.1
15.	220.440	1.000	.0063	.0114	35.8
16.	235.136	.930	.0063	.0114	35.8
17.	249.832	.880	.0066	.0112	37.1
18.	264.528	.830	.0067	.0110	37.7
19.	279.224	.790	.0067	.0110	37.7
20.	293.920	.750	.0068	.0109	38.4
25.	367.400	.600	.0073	.0105	41.1
30.	440.880	.500	.0076	.0101	43.0
35.	514.360	.430	.0080	.0097	45.0
40.	587.840	.370	.0085	.0093	47.7
45.	661.320	.330	.0087	.0090	49.0
50.	734.800	.300	.0090	.0087	51.0
55.	808.280	.270	.0093	.0085	52.3
60.	881.760	.250	.0095	.0082	53.6
65.	955.240	.230	.0096	.0081	54.3
70.	1028.720	.210	.0097	.0079	55.6
75.	1102.200	.200	.0100	.0078	56.3
80.	1175.680	.180	.0101	.0076	57.0
85.	1249.160	.170	.0102	.0075	57.6

MAR 5 1 1978

POROSITY DATA FOR SAMPLE 1 1-3067.8

PRESSURE ATMS	PRESSURE PSI	PORE DIAMETER MICRON	PORE VOLUME CC/G	CHANGE IN PORE VOLUME CC/G	PCT. PORES GREATER THAN DIA INDICATED
90.	1322.640	.160	.0103	.0074	58.3
100.	1469.600	.150	.0106	.0072	59.6
110.	1616.560	.140	.0108	.0069	60.9
120.	1763.520	.130	.0110	.0067	62.3
130.	1910.480	.120	.0110	.0067	62.3
140.	2057.440	.110	.0113	.0065	63.6
150.	2204.400	.100	.0115	.0062	64.9
170.	2498.326	.088	.0117	.0060	66.2
180.	2645.280	.083	.0120	.0058	67.5
190.	2792.240	.079	.0120	.0058	67.5
200.	2939.200	.075	.0122	.0055	68.9
220.	3233.120	.068	.0123	.0054	69.5
240.	3527.040	.062	.0126	.0052	70.9
260.	3820.960	.057	.0128	.0049	72.2
280.	4114.880	.053	.0130	.0047	73.5
300.	4408.800	.050	.0132	.0046	74.2
330.	4849.680	.045	.0137	.0040	77.5
360.	5290.560	.041	.0137	.0040	77.5
390.	5731.440	.038	.0137	.0040	77.5
420.	6172.320	.035	.0143	.0034	80.8
450.	6613.200	.033	.0143	.0034	80.8
480.	7201.040	.030	.0147	.0031	82.8
510.	7494.960	.029	.0149	.0028	84.1
540.	7935.840	.027	.0151	.0026	85.4
570.	8670.640	.025	.0154	.0023	86.8
610.	8964.560	.024	.0156	.0021	88.1
640.	9405.440	.023	.0157	.0020	88.7
700.	10287.200	.021	.0160	.0018	90.1
740.	10875.040	.020	.0163	.0014	92.1
770.	11315.920	.019	.0163	.0014	92.1
800.	11756.800	.019	.0167	.0011	94.0
830.	12197.680	.018	.0169	.0008	95.4
860.	12638.560	.017	.0169	.0008	95.4
900.	13226.400	.017	.0173	.0005	97.4
930.	13667.280	.016	.0173	.0005	97.4
960.	13961.200	.016	.0177	.0000	100.0
1000.	14696.000	.014	.0177	.0000	100.0

SEP 1 1979

POROSITY DATA FOR SAMPLE I 1-3074.

SEQUENCE NUMBER 6
PORE VOLUME .016 CC/G

PRESSURE ATMS	PRESSURE PSI	PORE DIAMETER MICRON	PORE VOLUME CC/G	CHANGE IN PORE VOLUME CC/G	PCT. PORES GREATER THAN DIA INDICATED
1.	14.696	15.000	.0000	.0165	.0
2.	29.392	7.500	.0024	.0141	14.3
3.	44.088	5.000	.0035	.0129	21.4
4.	58.784	3.700	.0041	.0123	25.0
5.	73.480	3.000	.0047	.0118	28.6
6.	88.176	2.500	.0051	.0114	30.7
7.	102.872	2.100	.0056	.0108	34.3
8.	117.568	1.800	.0059	.0106	35.7
9.	132.264	1.600	.0062	.0102	37.9
10.	146.960	1.500	.0063	.0100	39.3
11.	161.656	1.400	.0065	.0100	39.3
12.	176.352	1.300	.0067	.0098	40.7
13.	191.048	1.200	.0069	.0095	42.1
14.	205.744	1.100	.0072	.0093	43.6
15.	220.440	1.000	.0072	.0093	43.6
16.	235.136	.930	.0075	.0089	45.7
17.	249.832	.880	.0076	.0088	46.4
18.	264.528	.830	.0076	.0088	46.4
19.	279.224	.790	.0078	.0087	47.1
20.	293.920	.750	.0080	.0085	48.6
25.	367.400	.600	.0080	.0085	48.6
30.	440.880	.500	.0080	.0085	48.6
35.	514.360	.430	.0081	.0083	49.3
40.	587.840	.370	.0083	.0081	50.7
45.	661.320	.330	.0086	.0079	52.1
50.	734.800	.300	.0088	.0076	53.6
55.	808.280	.270	.0091	.0074	55.0
60.	881.760	.250	.0094	.0071	57.1
65.	955.240	.230	.0094	.0071	57.1
70.	1028.720	.210	.0094	.0071	57.1
75.	1102.200	.200	.0095	.0069	57.9
80.	1175.680	.180	.0096	.0068	58.6
85.	1249.160	.170	.0099	.0066	60.0

MAR 5 1 1978

POROSITY DATA FOR SAMPLE I 1-3080.

SEQUENCE NUMBER 9
PORE VOLUME .016 CC/G

PRESSURE ATMS	PRESSURE PSI	PORE DIAMETER MICRONS	PORE VOLUME CC/G	CHANGE IN PORE VOLUME CC/G	PCT. PORES GREATER THAN DIA INDICATED
1.	14.696	15.000	.0000	.0160	.0
2.	29.392	7.500	.0009	.0151	5.8
3.	44.088	5.000	.0012	.0149	7.2
4.	58.784	3.700	.0014	.0146	8.7
5.	73.480	3.000	.0021	.0139	13.0
6.	88.176	2.500	.0021	.0139	13.0
7.	102.872	2.100	.0028	.0133	17.4
8.	117.568	1.800	.0028	.0133	17.4
9.	132.264	1.600	.0028	.0133	17.4
10.	146.960	1.500	.0028	.0133	17.4
11.	161.656	1.400	.0035	.0126	21.7
12.	176.352	1.300	.0036	.0124	22.5
13.	191.048	1.200	.0036	.0124	22.5
14.	205.744	1.100	.0042	.0119	26.1
15.	220.440	1.000	.0042	.0119	26.1
16.	235.136	.930	.0042	.0119	26.1
17.	249.832	.880	.0050	.0110	31.2
18.	264.528	.830	.0057	.0103	35.5
19.	279.224	.790	.0057	.0103	35.5
20.	293.920	.750	.0057	.0103	35.5
25.	367.400	.600	.0057	.0103	35.5
30.	440.880	.500	.0057	.0103	35.5
35.	514.360	.430	.0057	.0103	35.5
40.	587.840	.370	.0057	.0103	35.5
45.	661.320	.330	.0057	.0103	35.5
50.	734.800	.300	.0056	.0102	36.2
55.	808.280	.270	.0060	.0100	37.7
60.	881.760	.250	.0063	.0098	39.1
65.	955.240	.230	.0066	.0094	41.3
70.	1028.720	.210	.0070	.0091	43.5
75.	1102.200	.200	.0072	.0088	44.9
80.	1175.680	.180	.0074	.0086	46.4
85.	1249.160	.170	.0077	.0084	47.8

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POROSITY DATA FOR SAMPLE T 1-5080.

PRESSURE ATMS	PRESSURE PSI	PORE DIAMETER MICRON	PORE VOLUME CC/G	CHANGE IN PORE VOLUME CC/G	PCT. PORES GREATER THAN DIA INDICATED
90.	1322.640	.160	.0079	.0081	49.3
100.	1469.600	.150	.0083	.0078	51.4
110.	1616.560	.140	.0083	.0078	51.4
120.	1763.520	.130	.0083	.0078	51.4
130.	1910.480	.120	.0087	.0073	54.3
140.	2057.440	.110	.0088	.0072	55.1
150.	2204.400	.100	.0091	.0070	56.5
170.	2498.320	.088	.0093	.0067	58.0
180.	2645.280	.083	.0100	.0060	62.3
190.	2792.240	.079	.0100	.0060	62.3
200.	2939.200	.075	.0100	.0060	62.3
220.	3233.120	.068	.0105	.0056	65.2
240.	3527.040	.062	.0107	.0053	66.7
260.	3820.960	.057	.0109	.0051	68.1
280.	4114.880	.053	.0114	.0046	71.0
300.	4408.800	.050	.0114	.0046	71.0
330.	4849.680	.045	.0116	.0044	72.5
360.	5290.560	.041	.0117	.0043	73.2
390.	5731.440	.038	.0117	.0043	73.2
420.	6172.320	.035	.0120	.0041	74.6
450.	6613.200	.033	.0120	.0041	74.6
490.	7201.040	.030	.0126	.0035	78.3
510.	7494.960	.029	.0126	.0035	78.3
540.	7935.840	.027	.0129	.0031	80.4
590.	8670.640	.025	.0131	.0029	81.9
610.	8964.560	.024	.0131	.0029	81.9
640.	9405.440	.023	.0137	.0023	85.5
700.	10287.200	.021	.0138	.0022	86.2
740.	10875.040	.020	.0144	.0016	89.9
770.	11315.920	.019	.0144	.0016	89.9
800.	11756.800	.019	.0146	.0014	91.3
830.	12197.680	.018	.0146	.0014	91.3
860.	12638.560	.017	.0149	.0012	92.8
900.	13226.400	.017	.0149	.0012	92.8
930.	13667.280	.016	.0149	.0012	92.8
960.	13961.200	.016	.0160	.0000	100.0
1000.	14696.000	.014	.0160	.0000	100.0

POROSITY DATA FOR SAMPLE 1 1-5030.0

SPECIMEN NUMBER 10
PORE VOLUME .018 CC/G

PRESSURE ATMS	PRESSURE PSI	PORE DIAMETER MICRONS	PORE VOLUME CC/G	CHANGE IN PORE VOLUME CC/G	PCT. PORES GREATER THAN DIA INDICATED
1.	14.696	15.000	.0000	.0177	.0
2.	29.392	7.500	.0012	.0165	6.7
3.	44.088	5.000	.0021	.0155	12.0
4.	58.784	3.700	.0021	.0155	12.0
5.	73.480	3.000	.0035	.0141	20.0
6.	88.176	2.500	.0038	.0139	21.3
7.	102.872	2.100	.0042	.0134	24.0
8.	117.568	1.800	.0047	.0130	26.7
9.	132.264	1.600	.0048	.0128	27.3
10.	146.960	1.500	.0053	.0124	30.0
11.	161.656	1.400	.0058	.0119	32.7
12.	176.352	1.300	.0058	.0119	32.7
13.	191.048	1.200	.0060	.0117	34.0
14.	205.744	1.100	.0060	.0117	34.0
15.	220.440	1.000	.0064	.0113	36.0
16.	235.136	.950	.0064	.0113	36.0
17.	249.832	.850	.0068	.0108	38.7
18.	264.528	.830	.0068	.0108	38.7
19.	279.224	.790	.0071	.0106	40.0
20.	293.920	.750	.0071	.0106	40.0
25.	367.400	.600	.0071	.0106	40.0
30.	440.880	.500	.0071	.0106	40.0
35.	514.360	.430	.0072	.0105	40.7
40.	587.840	.370	.0073	.0104	41.3
45.	661.320	.330	.0078	.0099	44.0
50.	734.800	.300	.0082	.0094	46.7
55.	808.280	.270	.0085	.0092	48.0
60.	881.760	.250	.0087	.0089	49.3
65.	955.240	.230	.0092	.0085	52.0
70.	1028.720	.210	.0097	.0080	54.7
75.	1102.200	.200	.0097	.0080	54.7
80.	1175.680	.180	.0097	.0080	54.7
85.	1249.160	.170	.0098	.0079	55.3

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POROSITY DATA FOR SAMPLE I 1-3060.6

PRESSURE ATMS	PRESSURE PSI	PORE DIAMETER MICRON	PORE VOLUME CC/G	CHANGE IN PORE VOLUME CC/G	PCT. PORES GREATER THAN DIA INDICATED
90.	1322.640	.160	.0099	.0078	56.0
100.	1469.600	.150	.0104	.0073	58.7
110.	1616.560	.140	.0105	.0072	59.3
120.	1763.520	.130	.0106	.0071	60.0
130.	1910.480	.120	.0106	.0071	60.0
140.	2057.440	.110	.0111	.0066	62.7
150.	2204.400	.100	.0115	.0061	65.3
170.	2498.326	.088	.0117	.0060	66.0
180.	2645.280	.083	.0118	.0059	66.7
190.	2792.240	.079	.0118	.0059	66.7
200.	2939.200	.075	.0120	.0057	68.0
220.	3233.120	.068	.0126	.0051	71.3
240.	3527.040	.062	.0126	.0051	71.3
260.	3820.960	.057	.0130	.0047	73.3
280.	4114.880	.053	.0130	.0047	73.3
300.	4408.800	.050	.0131	.0046	74.0
330.	4849.680	.045	.0135	.0041	76.7
360.	5290.560	.041	.0135	.0041	76.7
390.	5731.440	.038	.0138	.0039	78.0
420.	6172.320	.035	.0138	.0039	78.0
450.	6613.200	.033	.0144	.0033	81.3
490.	7201.040	.030	.0144	.0033	81.3
510.	7494.960	.029	.0146	.0028	84.0
540.	7935.840	.027	.0151	.0026	85.3
590.	8670.640	.025	.0152	.0025	86.0
610.	8964.560	.024	.0152	.0025	86.0
640.	9405.440	.023	.0153	.0024	86.7
700.	10287.200	.021	.0157	.0020	88.7
740.	10875.040	.020	.0162	.0014	92.0
770.	11315.920	.019	.0162	.0014	92.0
800.	11756.800	.019	.0163	.0012	93.3
830.	12197.680	.018	.0170	.0007	96.0
860.	12638.560	.017	.0170	.0007	96.0
900.	13226.400	.017	.0177	.0000	100.0
930.	13667.280	.016	.0177	.0000	100.0
960.	13961.200	.016	.0177	.0000	100.0
1000.	14696.000	.014	.0177	.0000	100.0

POROSITY DATA FOR SAMPLE I 1-3086.

SPECIMEN NUMBER 11
PORE VOLUME .018 CC/G

PRESSURE ATMS	PRESSURE PSI	PORE DIAMETER MICRON	PORE VOLUME CC/G	CHANGE IN PORE VOLUME CC/G	PCT. PORES GREATER THAN DIA INDICATED
1.	14.696	15.000	.0000	.0175	.0
2.	29.392	7.500	.0021	.0154	12.1
3.	44.088	5.000	.0033	.0142	18.8
4.	58.784	3.700	.0042	.0133	24.2
5.	73.480	3.000	.0047	.0128	26.8
6.	88.176	2.500	.0047	.0128	26.8
7.	102.872	2.100	.0056	.0119	32.2
8.	117.568	1.800	.0058	.0117	32.9
9.	132.264	1.600	.0059	.0116	33.6
10.	146.960	1.500	.0059	.0116	33.6
11.	161.656	1.400	.0062	.0113	35.6
12.	176.352	1.300	.0065	.0110	36.9
13.	191.048	1.200	.0065	.0110	36.9
14.	205.744	1.100	.0065	.0110	36.9
15.	220.440	1.000	.0072	.0103	40.9
16.	235.136	.930	.0072	.0103	40.9
17.	249.832	.880	.0072	.0103	40.9
18.	264.528	.830	.0072	.0103	40.9
19.	279.224	.790	.0072	.0103	40.9
20.	293.920	.750	.0078	.0098	44.3
25.	367.400	.600	.0078	.0098	44.3
30.	440.880	.500	.0078	.0098	44.3
35.	514.360	.430	.0078	.0096	44.3
40.	587.840	.370	.0078	.0098	44.3
45.	661.320	.330	.0081	.0094	46.3
50.	734.800	.300	.0085	.0090	48.3
55.	808.280	.270	.0085	.0090	48.3
60.	881.760	.250	.0085	.0090	48.3
65.	955.240	.230	.0087	.0088	49.7
70.	1028.720	.210	.0089	.0086	51.0
75.	1102.200	.200	.0092	.0083	52.3
80.	1175.680	.180	.0094	.0081	53.7
85.	1249.160	.170	.0095	.0080	54.4

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POROSITY DATA FOR SAMPLE F 1-3086.

PRESSURE ATMS	PRESSURE PSI	PORE DIAMETER MICRON	PORE VOLUME CC/G	CHANGE IN PORE VOLUME CC/G	PCT. PORES GREATER THAN DIA INDICATED
90.	1322.640	.160	.0096	.0079	55.0
100.	1469.600	.150	.0096	.0079	55.0
110.	1616.560	.140	.0099	.0076	56.4
120.	1763.520	.130	.0099	.0076	56.4
130.	1910.480	.120	.0105	.0070	59.7
140.	2057.440	.110	.0105	.0070	59.7
150.	2204.400	.100	.0105	.0070	59.7
170.	2498.320	.090	.0106	.0067	61.7
180.	2645.280	.083	.0109	.0066	62.4
190.	2792.240	.079	.0114	.0061	65.1
200.	2939.200	.075	.0114	.0061	65.1
220.	3233.120	.068	.0114	.0061	65.1
240.	3527.040	.062	.0119	.0056	67.8
260.	3820.960	.057	.0120	.0055	68.5
280.	4114.880	.053	.0120	.0055	68.5
300.	4408.800	.050	.0126	.0049	71.8
330.	4849.600	.045	.0126	.0049	71.8
360.	5290.560	.041	.0130	.0045	74.5
390.	5731.440	.038	.0134	.0041	76.5
420.	6172.320	.035	.0134	.0041	76.5
450.	6613.200	.033	.0139	.0036	79.2
480.	7201.040	.030	.0139	.0036	79.2
510.	7494.960	.029	.0142	.0033	81.2
540.	7935.840	.027	.0142	.0033	81.2
590.	8670.640	.025	.0146	.0029	83.2
610.	8964.560	.024	.0146	.0029	83.2
640.	9405.440	.023	.0150	.0025	85.9
700.	10287.200	.021	.0150	.0025	85.9
740.	10875.040	.020	.0157	.0018	89.9
770.	11315.920	.019	.0157	.0018	89.9
800.	11756.800	.019	.0157	.0018	89.9
830.	12197.680	.018	.0157	.0018	89.9
860.	12638.560	.017	.0157	.0018	89.9
900.	13226.400	.017	.0169	.0006	96.6
930.	13667.280	.016	.0169	.0006	96.6
960.	13961.200	.016	.0169	.0006	96.6
1000.	14696.000	.014	.0175	.0000	100.0

MAR 1 1979

POROSITY DATA FOR SAMPLE I 1-3094.8

SEQUENCE NUMBER 12
PORE VOLUME .011 CC/G

PRESSURE ATMS	PRESSURE PSI	PORE DIAMETER MICRON	PORE VOLUME CC/G	CHANGE IN PORE VOLUME CC/G	PCT. PORES GREATER THAN DIA INDICATED
1.	14.696	15.000	.0000	.0108	.0
2.	29.392	7.500	.0009	.0099	8.7
3.	44.088	5.000	.0009	.0099	8.7
4.	58.784	3.700	.0009	.0099	8.7
5.	73.480	3.000	.0009	.0099	8.7
6.	88.176	2.500	.0009	.0099	8.7
7.	102.872	2.100	.0009	.0099	8.7
8.	117.568	1.800	.0021	.0087	19.6
9.	132.264	1.600	.0022	.0086	20.7
10.	146.960	1.500	.0024	.0085	21.7
11.	161.656	1.400	.0024	.0085	21.7
12.	176.352	1.300	.0033	.0075	30.4
13.	191.048	1.200	.0035	.0073	32.6
14.	205.744	1.100	.0035	.0073	32.6
15.	220.440	1.000	.0035	.0073	32.6
16.	235.136	.930	.0035	.0073	32.6
17.	249.832	.880	.0035	.0073	32.6
18.	264.528	.830	.0035	.0073	32.6
19.	279.224	.790	.0042	.0066	39.1
20.	293.920	.750	.0042	.0066	39.1
25.	367.400	.600	.0044	.0065	40.2
30.	440.880	.500	.0045	.0064	41.3
35.	514.360	.430	.0045	.0064	41.3
40.	587.840	.370	.0045	.0064	41.3
45.	661.320	.330	.0045	.0064	41.3
50.	734.800	.300	.0045	.0064	41.3
55.	808.280	.270	.0045	.0064	41.3
60.	881.760	.250	.0045	.0064	41.3
65.	955.240	.230	.0046	.0062	42.4
70.	1028.720	.210	.0047	.0061	43.5
75.	1102.200	.200	.0047	.0061	43.5
80.	1175.680	.180	.0048	.0060	44.6
85.	1249.160	.170	.0049	.0059	45.7

MAR 31 1978

POROSITY DATA FOR SAMPLE I 1-3094.6

PRESSURE ATMS	PRESSURE PSI	PORE DIAMETER MICRON	PORE VOLUME CC/G	CHANGE IN PORE VOLUME CC/G	PCT. PORES GREATER THAN DIA INDICATED
90.	1322.640	.160	.0052	.0056	47.8
100.	1469.600	.150	.0052	.0056	47.8
110.	1616.560	.140	.0052	.0056	47.8
120.	1763.520	.130	.0052	.0056	47.8
130.	1910.480	.120	.0060	.0048	55.4
140.	2057.440	.110	.0060	.0048	55.4
150.	2204.400	.100	.0060	.0048	55.4
170.	2498.320	.086	.0060	.0048	55.4
180.	2645.280	.083	.0060	.0048	55.4
190.	2792.240	.079	.0060	.0048	55.4
200.	2939.200	.075	.0060	.0048	55.4
220.	3233.120	.068	.0060	.0048	55.4
240.	3527.040	.062	.0072	.0036	66.3
260.	3820.960	.057	.0072	.0036	66.3
280.	4114.880	.053	.0072	.0036	66.3
300.	4408.800	.050	.0072	.0036	66.3
330.	4849.600	.045	.0072	.0036	66.3
360.	5290.560	.041	.0072	.0036	66.3
390.	5731.440	.038	.0107	.0001	98.9
420.	6172.320	.035	.0107	.0001	98.9
450.	6613.200	.033	.0107	.0001	98.9
480.	7201.040	.030	.0107	.0001	98.9
510.	7494.960	.029	.0107	.0001	98.9
540.	7935.840	.027	.0107	.0001	98.9
590.	8670.640	.025	.0107	.0001	98.9
610.	8964.560	.024	.0107	.0001	98.9
640.	9405.440	.023	.0107	.0001	98.9
700.	10287.200	.021	.0108	.0000	100.0
740.	10875.040	.020	.0108	.0000	100.0
770.	11315.920	.019	.0108	.0000	100.0
800.	11756.800	.019	.0108	.0000	100.0
830.	12197.680	.018	.0108	.0000	100.0
860.	12638.560	.017	.0108	.0000	100.0
900.	13226.400	.017	.0108	.0000	100.0
930.	13667.280	.016	.0108	.0000	100.0
960.	14061.200	.016	.0108	.0000	100.0
1000.	14696.000	.014	.0108	.0000	100.0

POROSITY DATA FOR SAMPLE I 1-3099.

SEQUENCE NUMBER 13
PORE VOLUME .013 CC/G

PRESSURE ATMS	PRESSURE PSI	PORE DIAMETER MICRON	PORE VOLUME CC/G	CHANGE IN PORE VOLUME CC/G	PCT. PORES GREATER THAN DIA INDICATED
1.	14.696	15.000	.0000	.0132	.0
2.	29.392	7.500	.0008	.0124	6.3
3.	44.088	5.000	.0008	.0124	6.3
4.	58.784	3.700	.0014	.0118	10.7
5.	73.480	3.000	.0018	.0114	13.4
6.	88.176	2.500	.0021	.0111	16.1
7.	102.872	2.100	.0028	.0104	21.4
8.	117.568	1.800	.0028	.0104	21.4
9.	132.264	1.600	.0031	.0101	23.2
10.	146.960	1.500	.0032	.0100	24.1
11.	161.656	1.400	.0033	.0099	25.0
12.	176.352	1.300	.0035	.0097	26.8
13.	191.048	1.200	.0035	.0097	26.8
14.	205.744	1.100	.0039	.0093	29.5
15.	220.440	1.000	.0039	.0093	29.5
16.	235.136	.930	.0041	.0091	31.3
17.	249.832	.880	.0041	.0091	31.3
18.	264.528	.830	.0041	.0091	31.3
19.	279.224	.790	.0045	.0087	33.9
20.	293.920	.750	.0045	.0087	33.9
25.	367.400	.600	.0047	.0085	35.7
30.	440.880	.500	.0049	.0082	37.5
35.	514.360	.430	.0053	.0079	40.2
40.	587.840	.370	.0057	.0075	42.9
45.	661.320	.330	.0058	.0074	43.8
50.	734.800	.300	.0059	.0073	44.6
55.	808.280	.270	.0060	.0072	45.5
60.	881.760	.250	.0062	.0069	47.3
65.	955.240	.230	.0064	.0068	48.2
70.	1028.720	.210	.0066	.0066	50.0
75.	1102.200	.200	.0067	.0065	50.9
80.	1175.680	.180	.0068	.0064	51.8
85.	1249.160	.170	.0069	.0062	52.7

MAR 5 1 1970

POROSITY DATA FOR SAMPLE I 1-3099.

PRESSURE ATMS	PRESSURE PSI	PORE DIAMETER MICRON	PORE VOLUME CC/G	CHANGE IN PORE VOLUME CC/G	PCT. PORES GREATER THAN DIA INDICATED
90.	1322.640	.160	.0071	.0061	53.6
100.	1469.600	.150	.0072	.0060	54.5
110.	1616.560	.140	.0072	.0060	54.5
120.	1763.520	.130	.0077	.0055	58.0
130.	1910.480	.120	.0077	.0055	58.0
140.	2057.440	.110	.0079	.0053	59.8
150.	2204.400	.100	.0079	.0053	59.8
170.	2498.320	.086	.0081	.0051	61.6
180.	2645.280	.083	.0081	.0051	61.6
190.	2792.240	.079	.0082	.0049	62.5
200.	2939.200	.075	.0082	.0049	62.5
220.	3233.120	.068	.0085	.0047	64.3
240.	3527.040	.062	.0085	.0047	64.3
260.	3820.960	.057	.0089	.0042	67.9
280.	4114.880	.053	.0092	.0040	69.6
300.	4408.800	.050	.0092	.0040	69.6
330.	4849.680	.045	.0093	.0039	70.5
360.	5290.560	.041	.0095	.0036	72.3
390.	5731.440	.038	.0098	.0034	74.1
420.	6172.320	.035	.0100	.0032	75.9
450.	6613.200	.033	.0101	.0031	76.8
480.	7201.040	.030	.0104	.0028	78.6
510.	7494.960	.029	.0106	.0026	80.4
540.	7935.840	.027	.0106	.0024	82.1
570.	8670.640	.025	.0108	.0024	82.1
610.	8964.560	.024	.0111	.0021	83.9
640.	9405.440	.023	.0114	.0018	86.6
700.	10287.200	.021	.0117	.0015	88.4
740.	10875.040	.020	.0119	.0013	90.2
770.	11315.920	.019	.0119	.0013	90.2
800.	11756.800	.019	.0122	.0009	92.9
830.	12197.680	.018	.0122	.0009	92.9
860.	12638.560	.017	.0124	.0008	93.8
900.	13226.400	.017	.0126	.0006	95.5
930.	13667.280	.016	.0128	.0004	97.3
960.	13961.200	.016	.0131	.0001	99.1
1000.	14696.000	.014	.0132	.0000	100.0

POROSITY DATA FOR SAMPLE 1 1-3106.0

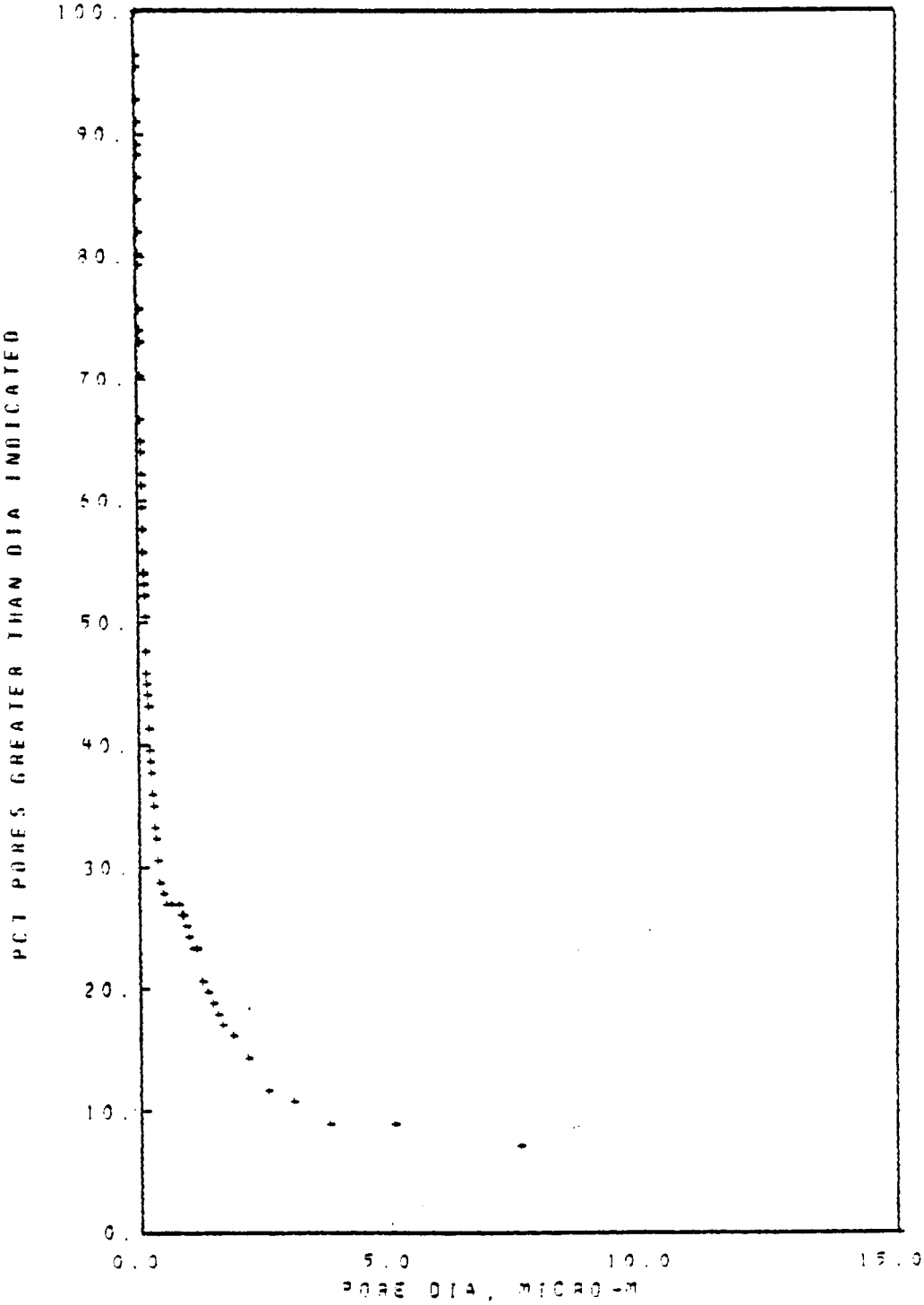
SEQUENCE NUMBER 14
PORE VOLUME .014 CC/G

PRESSURE ATMS	PRESSURE PSI	PORE DIAMETER MICRON	PORE VOLUME CC/G	CHANGE IN PORE VOLUME CC/G	PCT. PORES GREATER THAN DIA INDICATED
1.	14.696	15.000	.0000	.0145	.0
2.	29.392	7.500	.0008	.0134	5.8
3.	44.088	5.000	.0014	.0128	9.9
4.	58.784	3.700	.0021	.0121	14.9
5.	73.480	3.000	.0026	.0117	16.2
6.	88.176	2.500	.0028	.0114	19.8
7.	102.872	2.100	.0032	.0111	22.3
8.	117.568	1.800	.0035	.0107	24.8
9.	132.264	1.600	.0038	.0105	26.4
10.	146.960	1.500	.0040	.0102	28.1
11.	161.656	1.400	.0041	.0101	28.9
12.	176.352	1.300	.0044	.0099	30.6
13.	191.048	1.200	.0046	.0097	32.2
14.	205.744	1.100	.0046	.0097	32.2
15.	220.440	1.000	.0048	.0094	33.9
16.	235.136	.930	.0048	.0094	33.9
17.	249.832	.880	.0049	.0093	34.7
18.	264.528	.830	.0049	.0093	34.7
19.	279.224	.790	.0049	.0093	34.7
20.	293.920	.750	.0052	.0091	36.4
25.	367.400	.600	.0055	.0087	38.8
30.	440.880	.500	.0059	.0084	41.3
35.	514.360	.430	.0060	.0082	42.1
40.	587.840	.370	.0062	.0080	43.8
45.	661.320	.330	.0066	.0077	46.3
50.	734.800	.300	.0069	.0073	48.8
55.	808.280	.270	.0071	.0072	49.6
60.	881.760	.250	.0073	.0069	51.2
65.	955.240	.230	.0074	.0068	52.1
70.	1028.720	.210	.0075	.0067	52.9
75.	1102.200	.200	.0077	.0066	53.7
80.	1175.680	.180	.0078	.0065	54.5
85.	1249.160	.170	.0079	.0064	55.4

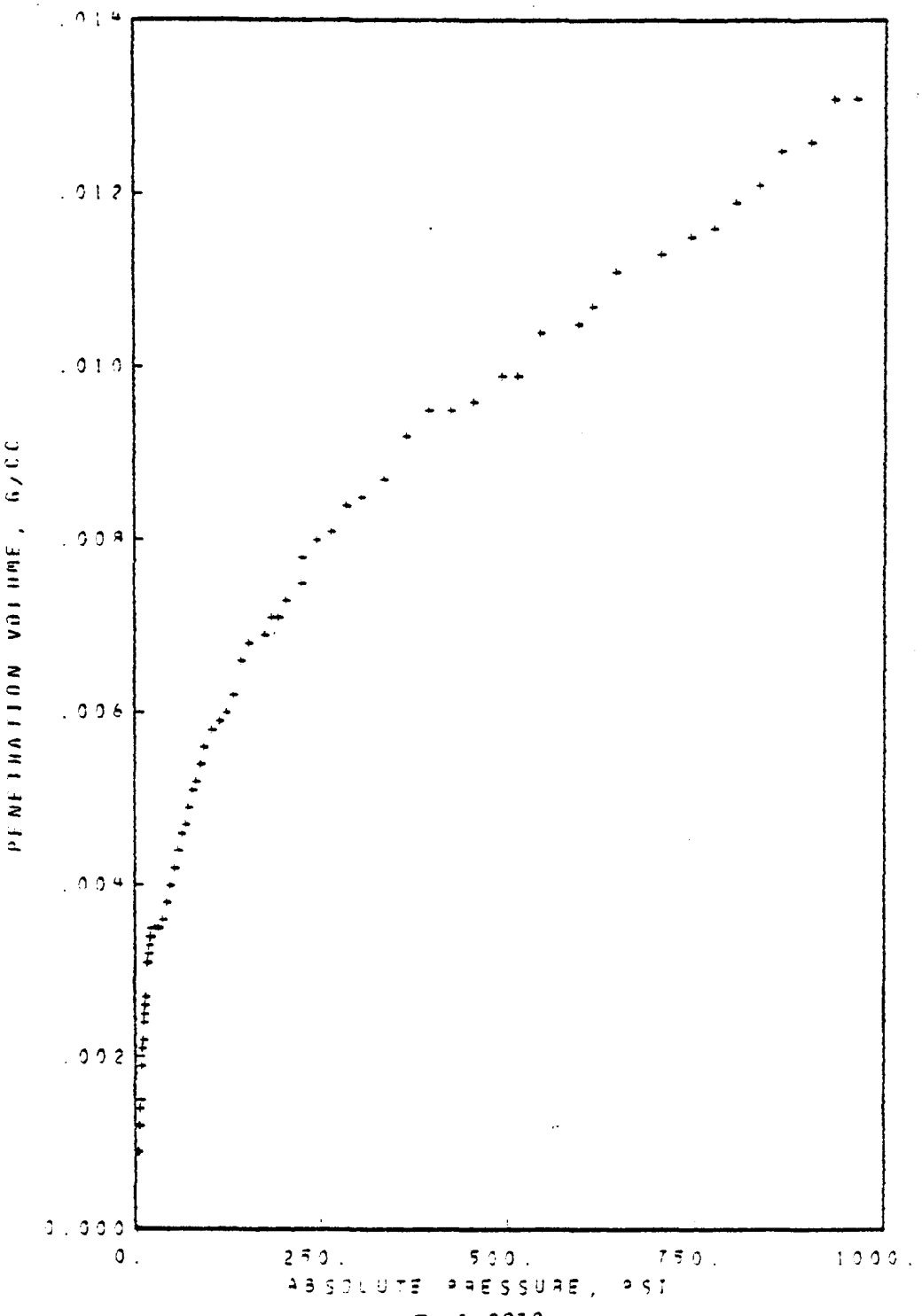
MAR 5 1978

POROSITY DATA FOR SAMPLE 1 1-5106.0

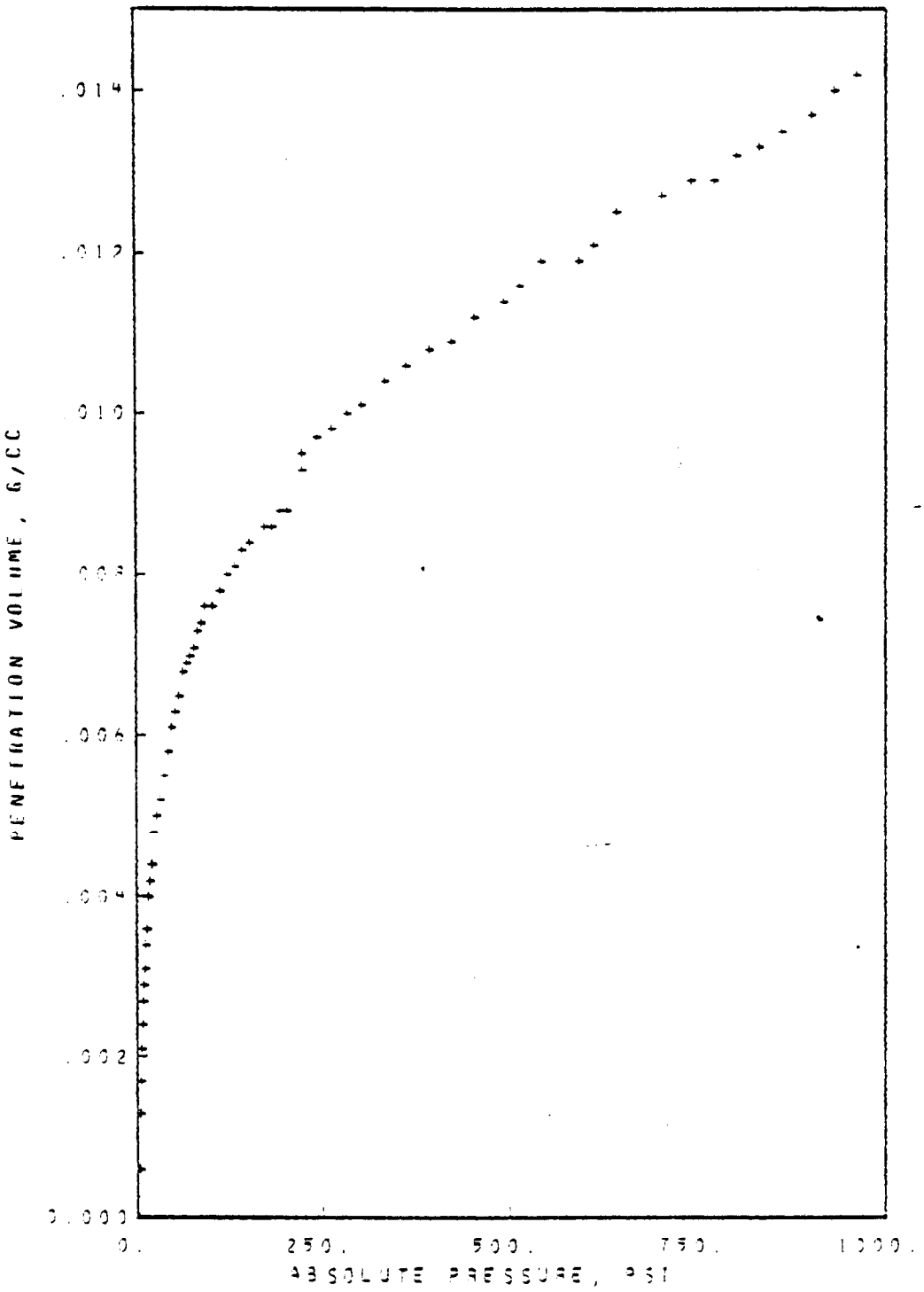
PRESSURE ATMS	PRESSURE PSI	PORE DIAMETER MICRON	PORE VOLUME CC/G	CHANGE IN PORE VOLUME CC/G	PCT. PORES GREATER THAN DIA INDICATED
90.	1322.640	.160	.0080	.0062	56.2
100.	1469.600	.150	.0082	.0060	57.9
110.	1616.560	.140	.0084	.0059	58.7
120.	1763.520	.130	.0084	.0059	58.7
130.	1910.480	.120	.0086	.0057	60.3
140.	2057.440	.110	.0086	.0057	60.3
150.	2204.400	.100	.0086	.0057	60.3
170.	2498.320	.088	.0091	.0052	63.6
180.	2645.280	.083	.0091	.0052	63.6
190.	2792.240	.079	.0091	.0052	63.6
200.	2939.200	.075	.0093	.0049	65.3
220.	3233.120	.068	.0093	.0049	65.3
240.	3527.040	.062	.0095	.0047	66.9
260.	3820.960	.057	.0097	.0046	67.8
280.	4114.880	.053	.0099	.0044	69.4
300.	4408.800	.050	.0099	.0044	69.4
330.	4849.680	.045	.0102	.0040	71.9
360.	5290.560	.041	.0105	.0038	73.6
390.	5731.440	.038	.0108	.0034	76.0
420.	6172.320	.035	.0110	.0033	76.9
450.	6613.200	.033	.0112	.0031	78.5
490.	7201.040	.030	.0112	.0031	78.5
510.	7494.960	.029	.0113	.0029	79.3
540.	7935.840	.027	.0113	.0029	79.3
590.	8670.640	.025	.0118	.0025	82.6
610.	8964.560	.024	.0120	.0022	84.3
640.	9405.440	.023	.0122	.0020	86.0
700.	10287.200	.021	.0125	.0018	87.6
740.	10875.040	.020	.0127	.0015	89.3
770.	11315.920	.019	.0127	.0015	89.3
800.	11756.800	.019	.0131	.0012	91.7
830.	12197.680	.018	.0133	.0009	93.4
860.	12638.560	.017	.0134	.0008	94.2
900.	13226.400	.017	.0137	.0006	95.9
930.	13667.280	.016	.0139	.0004	97.5
960.	13961.200	.016	.0141	.0001	99.2
1000.	14696.000	.014	.0143	.0000	100.0


100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
0.
PCT PORES GREATER THAN DIA INDICATED
0.0
5.0
10.0
15.0
PORE DIA, MICRO-M

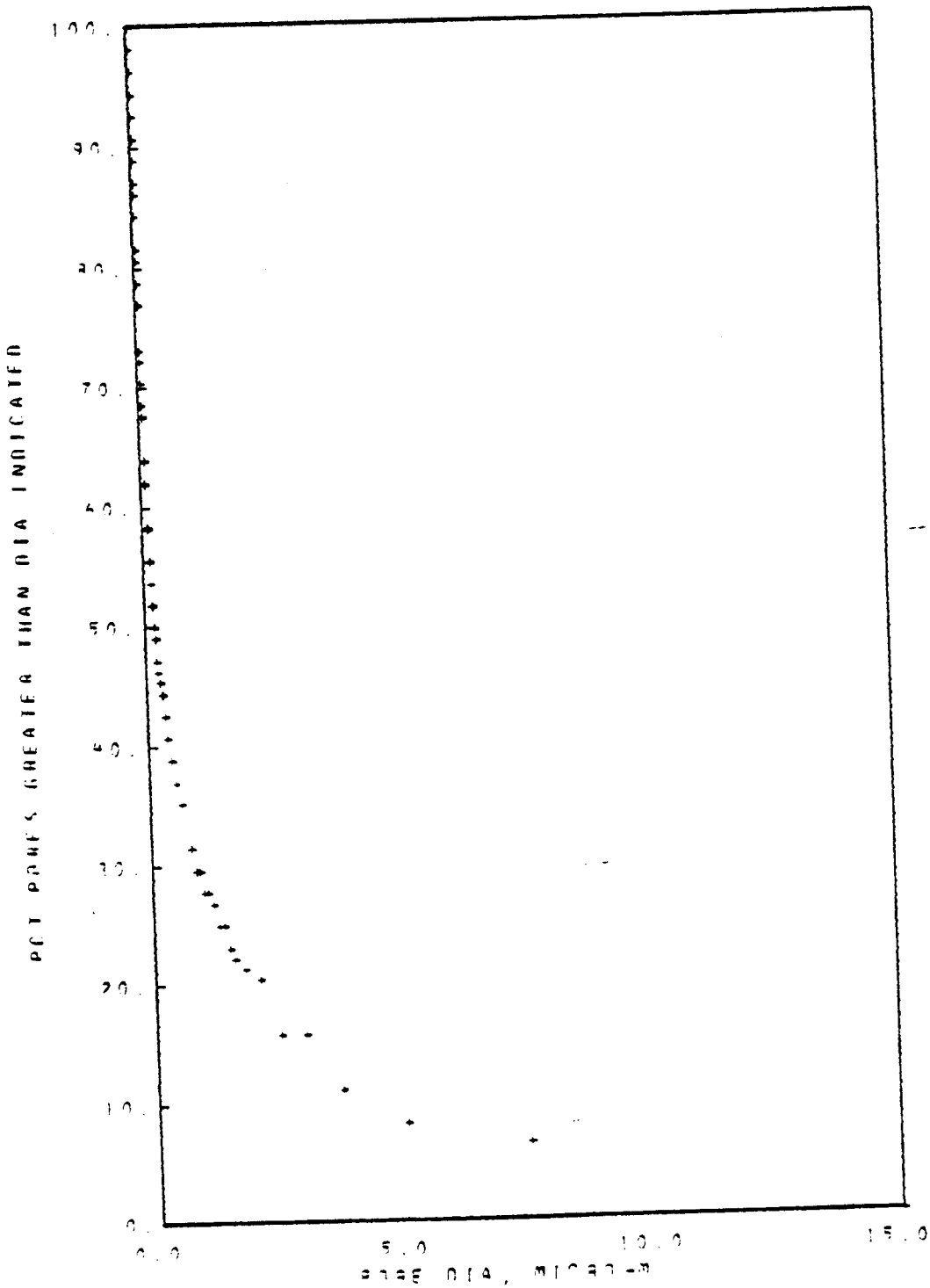
T 1-3012


.014
.012
.010
.008
.006
.004
.002
0.000
PENETRATION VOLUME, G/CC
0.
250.
500.
750.
1000.
ABSOLUTE PRESSURE, PSI

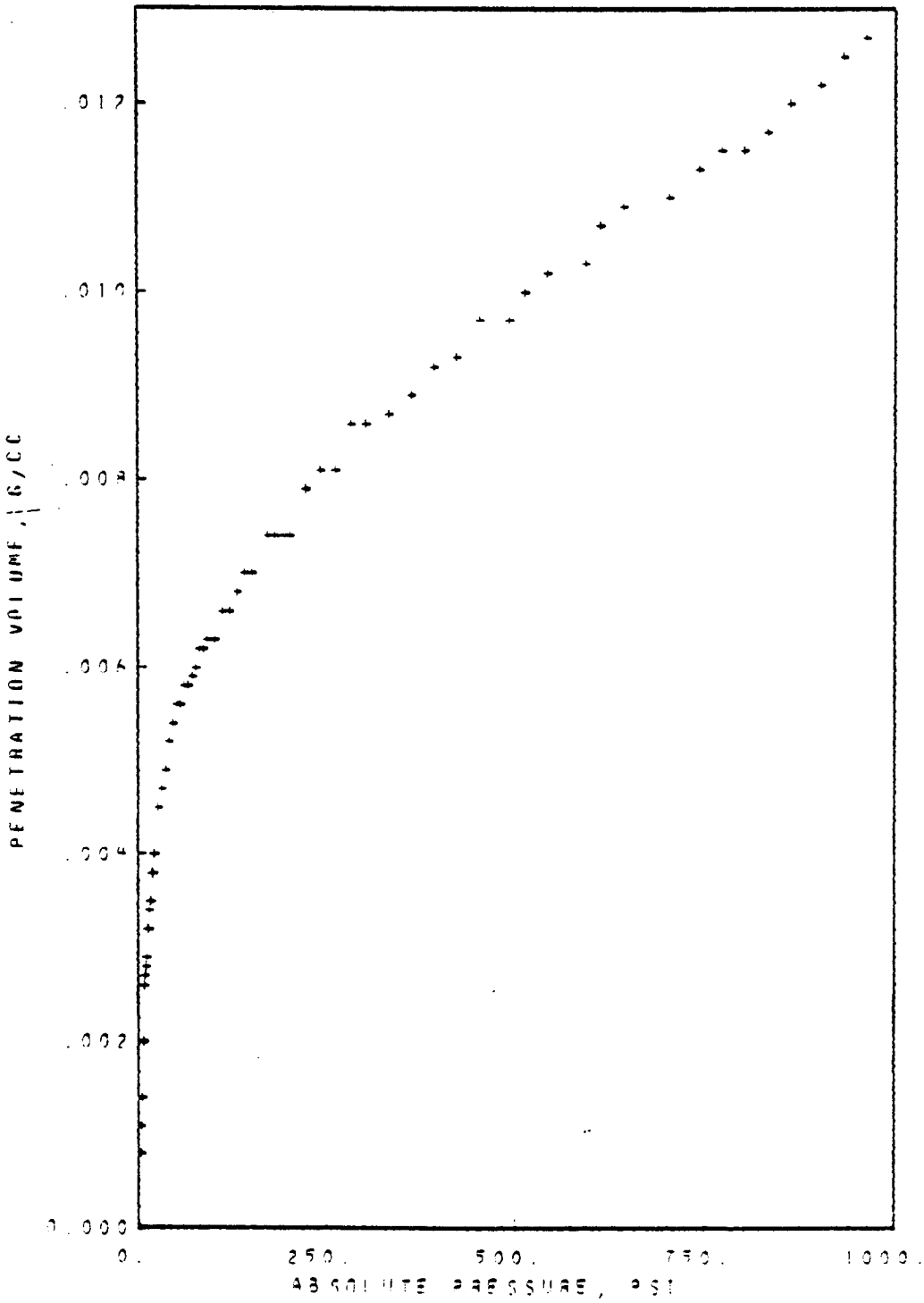
T 1-3012


.014
.012
.010
.008
.006
.004
.002
0.000
PENETRATION VOLUME, G/CC
0.
250.
500.
750.
1000.
ABSOLUTE PRESSURE, PSI

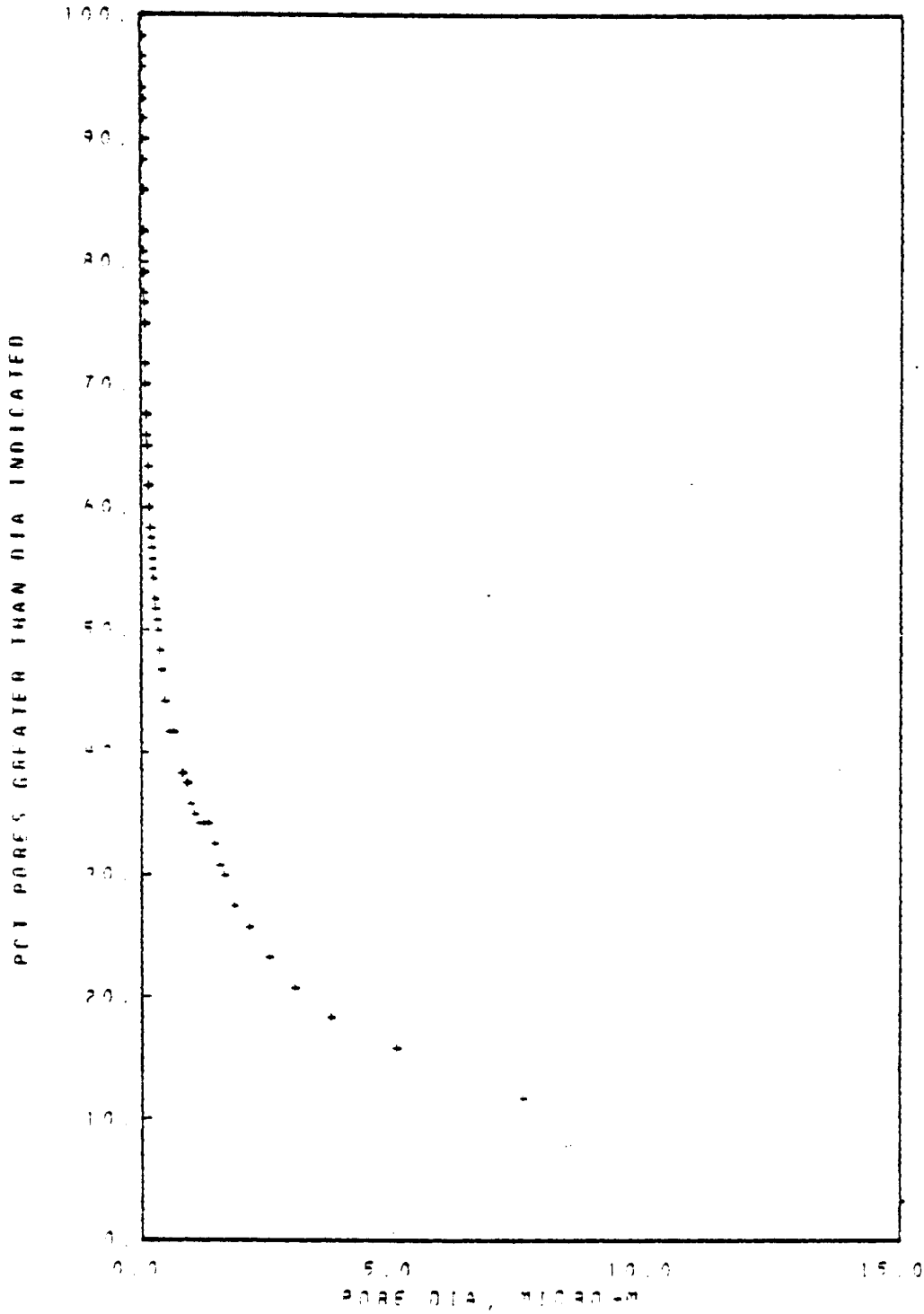
T 1-3022


PCT PARTS GREATER THAN DIA INDICATED
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
0.
0.0
5.0
10.0
15.0
SIZE DIA, MICRON

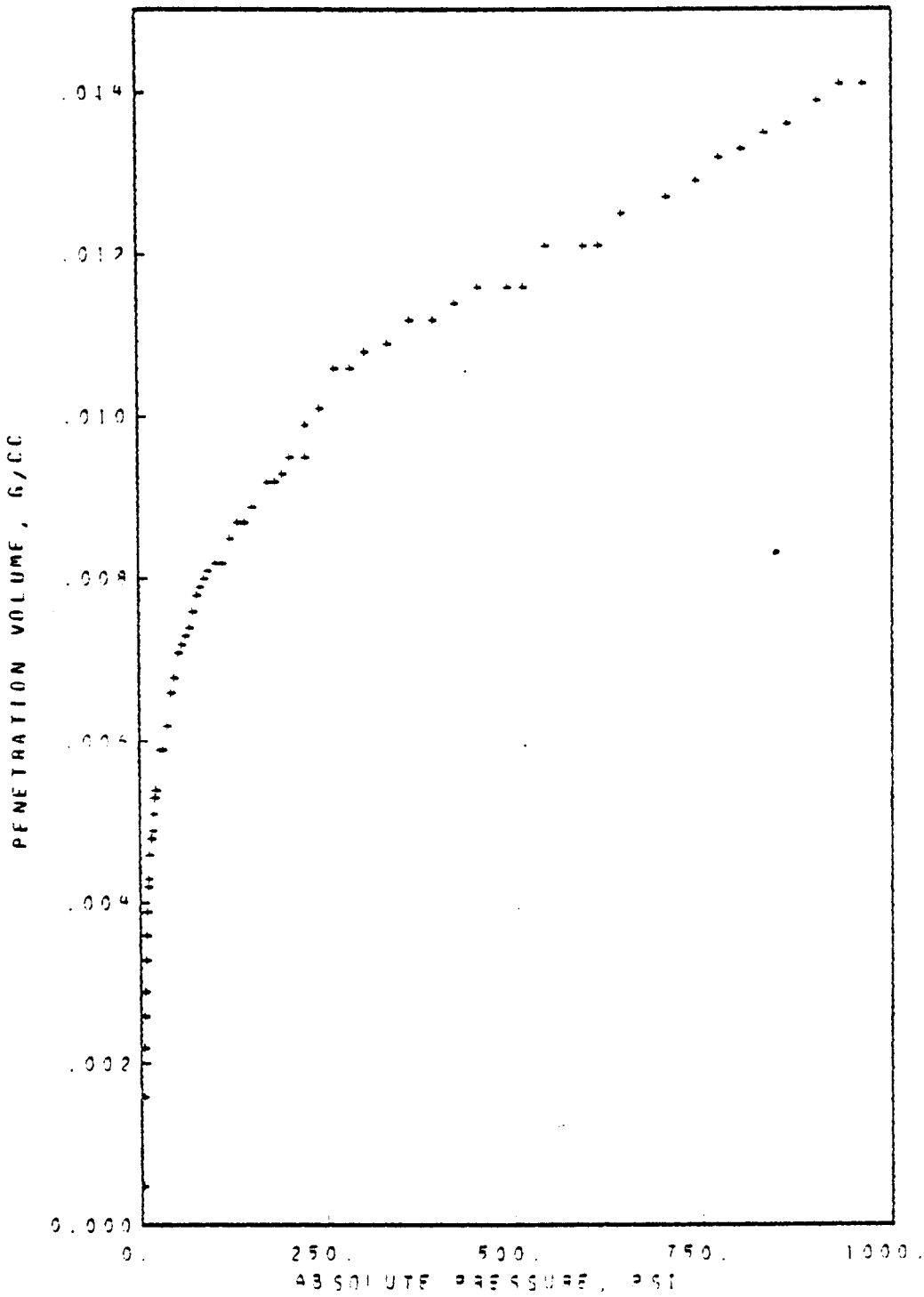
T 1-3043


.012
.010
.008
.006
.004
.002
0.000
PENETRATION VOLUME, G/CC
0.
250.
500.
750.
1000.
ABSOLUTE PRESSURE, PSI

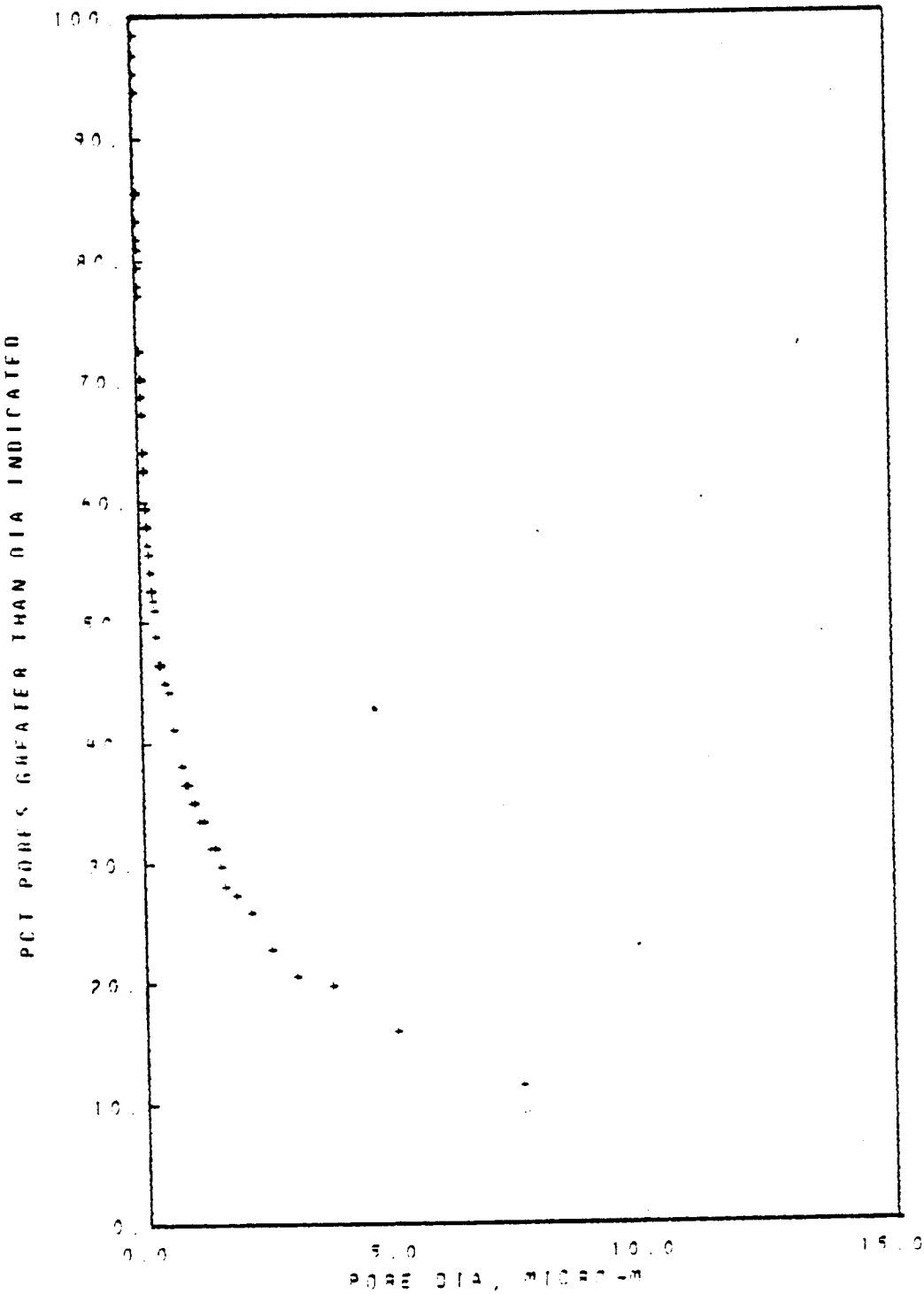
T 1-3043


PCT PORES GREATER THAN DIA INDICATED
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
0.
0.0
5.0
10.0
15.0
PORE DIA, MICRONS

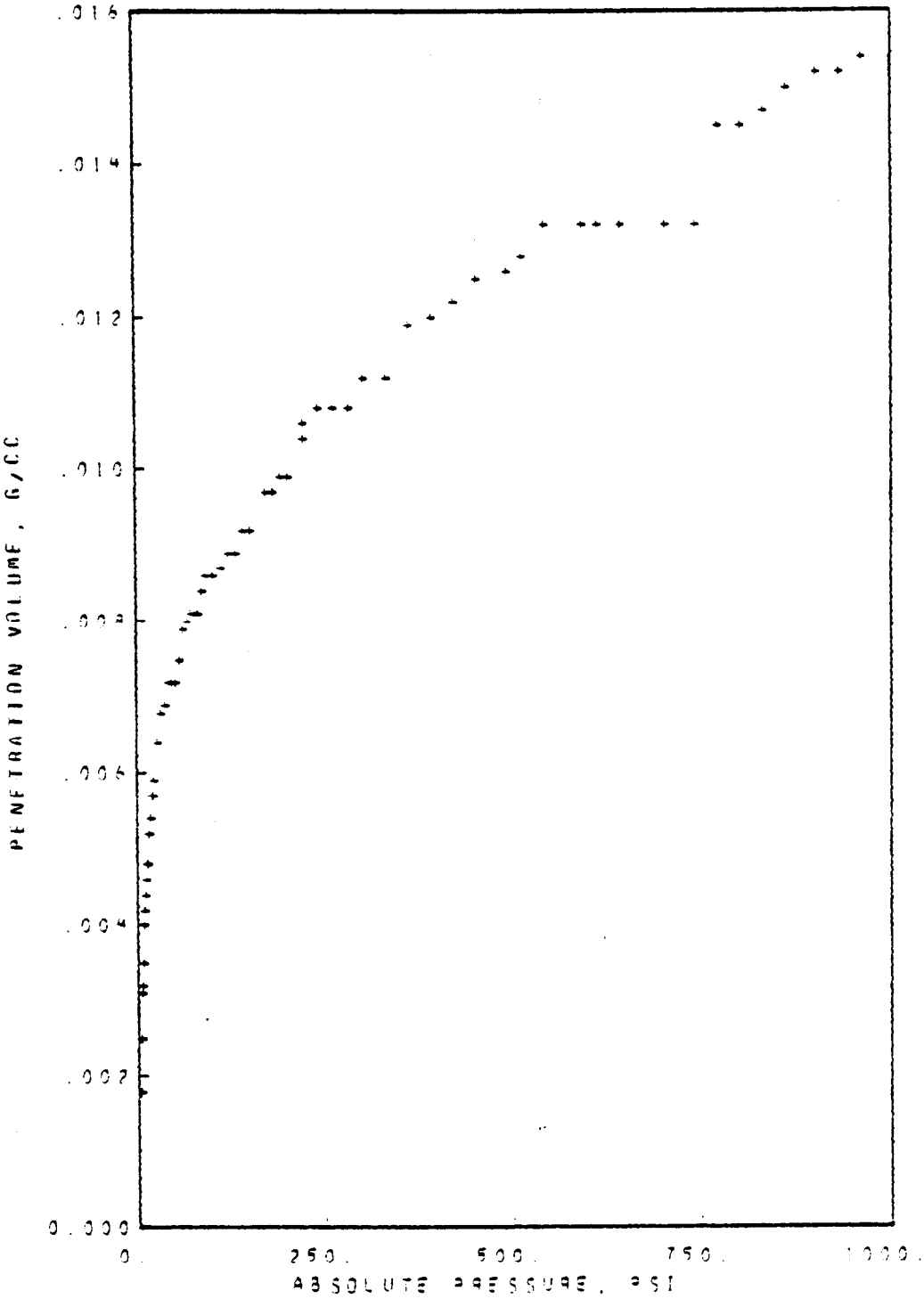
T 1-30513


.014
.012
.010
.008
.006
.004
.002
0.000
PENETRATION VOLUME, G/CC
0.
250.
500.
750.
1000.
ABSOLUTE PRESSURE, PSI

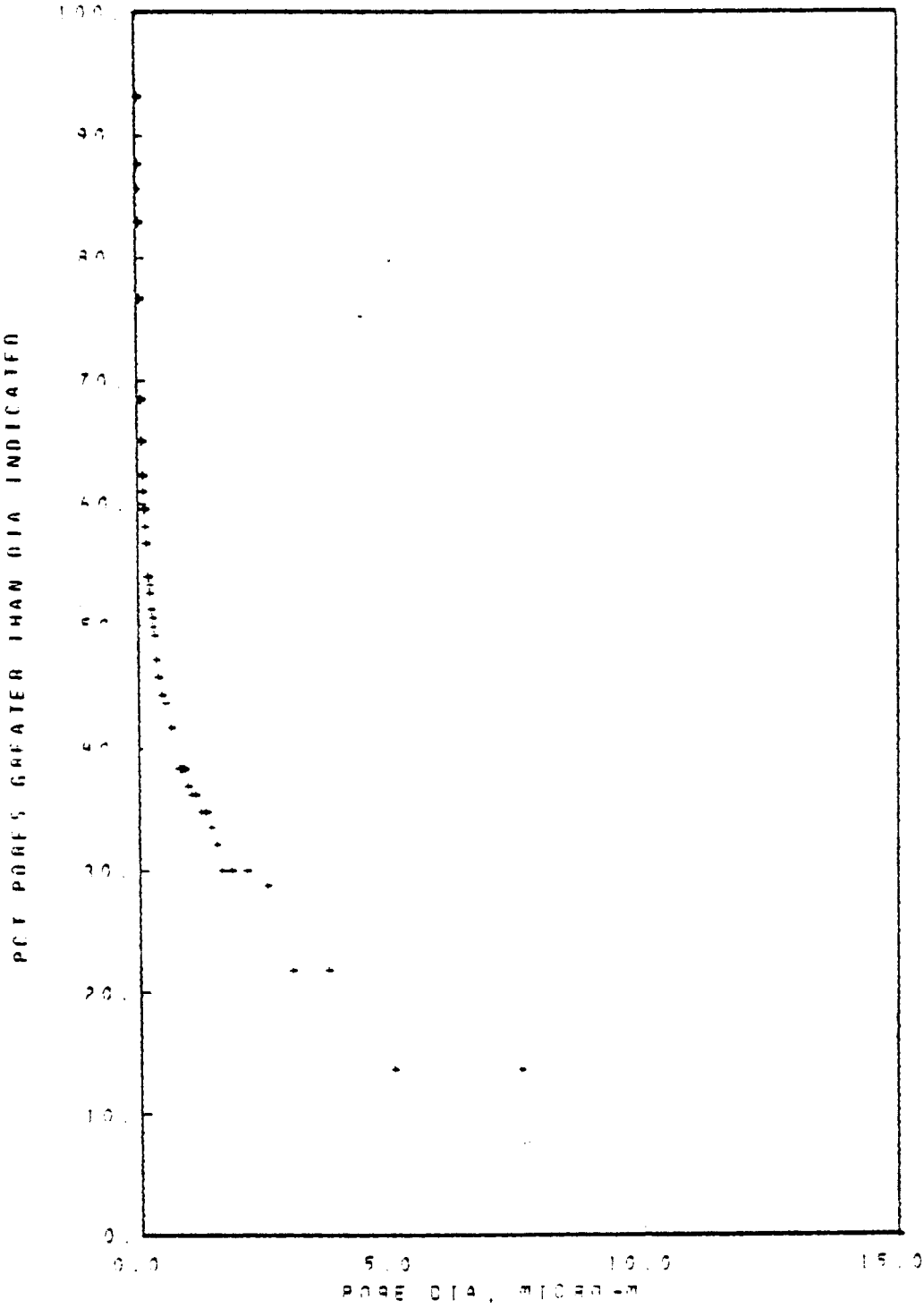
T 1-30513


PCT PORES GREATER THAN DIA INDICATED
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
0.
0.0
5.0
10.0
15.0
PORE DIA, MICRO-M

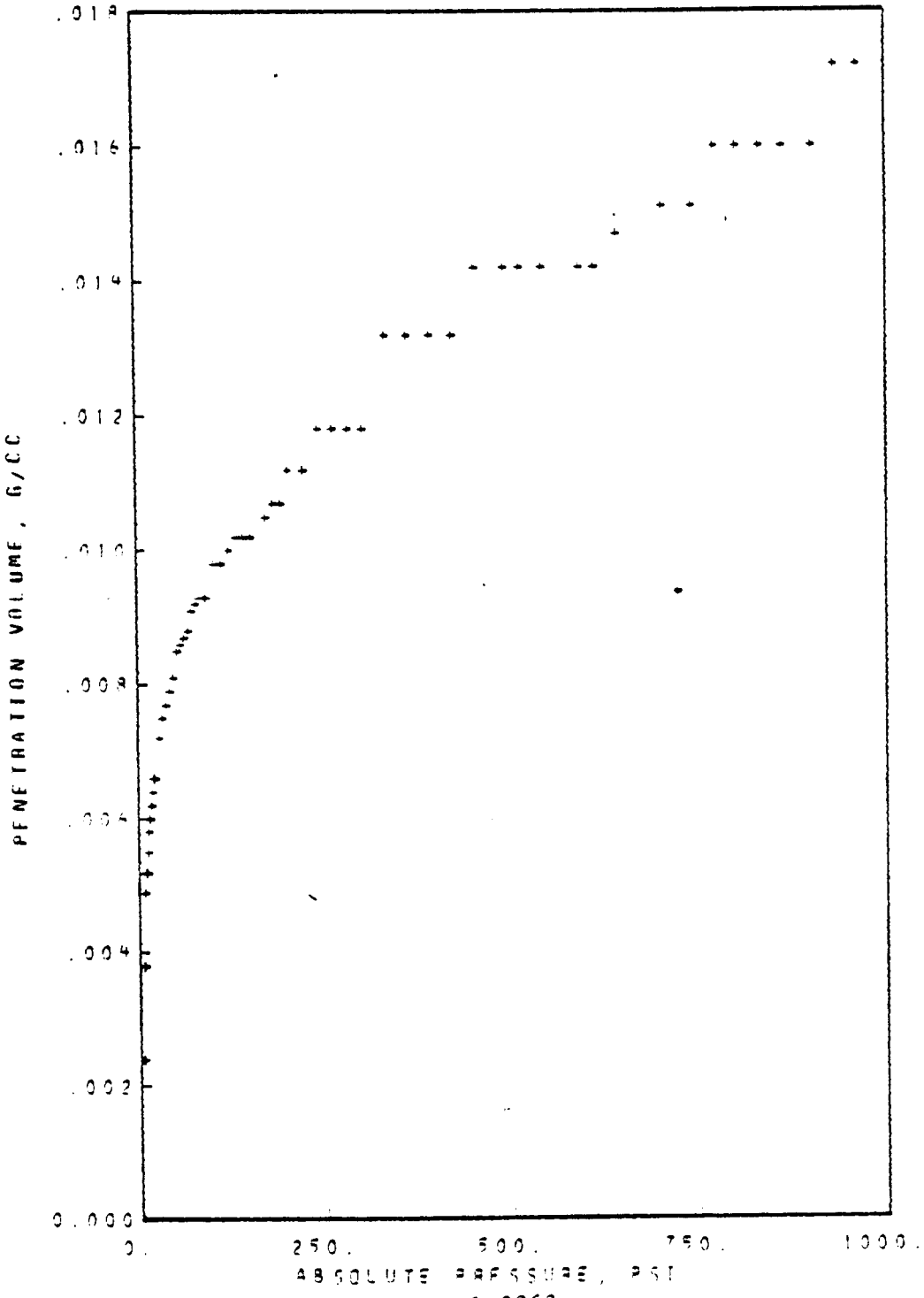
T 1-3056


.016
.014
.012
.010
.008
.006
.004
.002
0.000
PENETRATION VOLUME, G/CC
0.
250.
500.
750.
1000.
ABSOLUTE PRESSURE, PSI

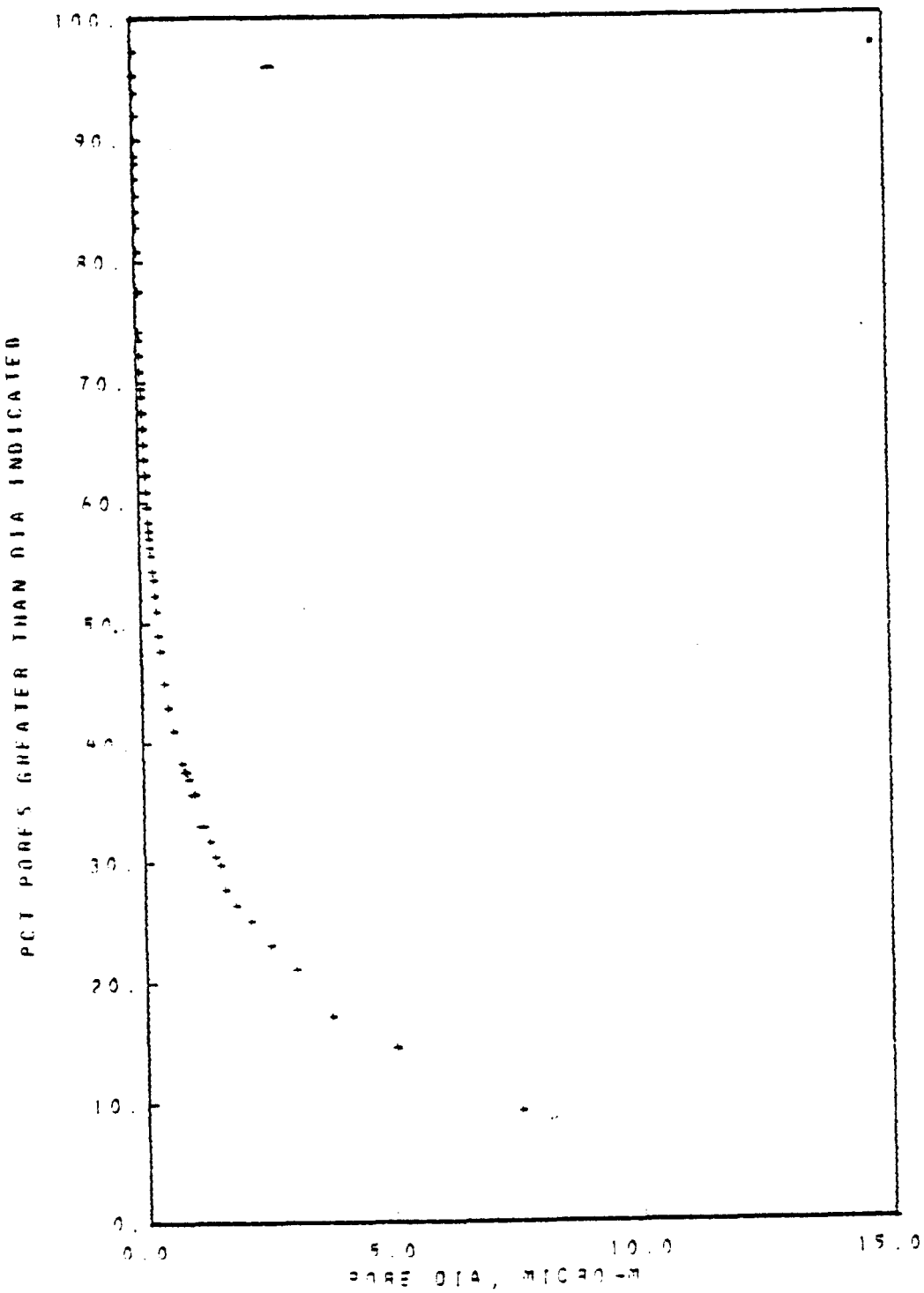
T 1-3056


PCT PORES GREATER THAN DIA INDICATED
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
0.
0.0
5.0
10.0
15.0
PORE DIA, MICRO-M

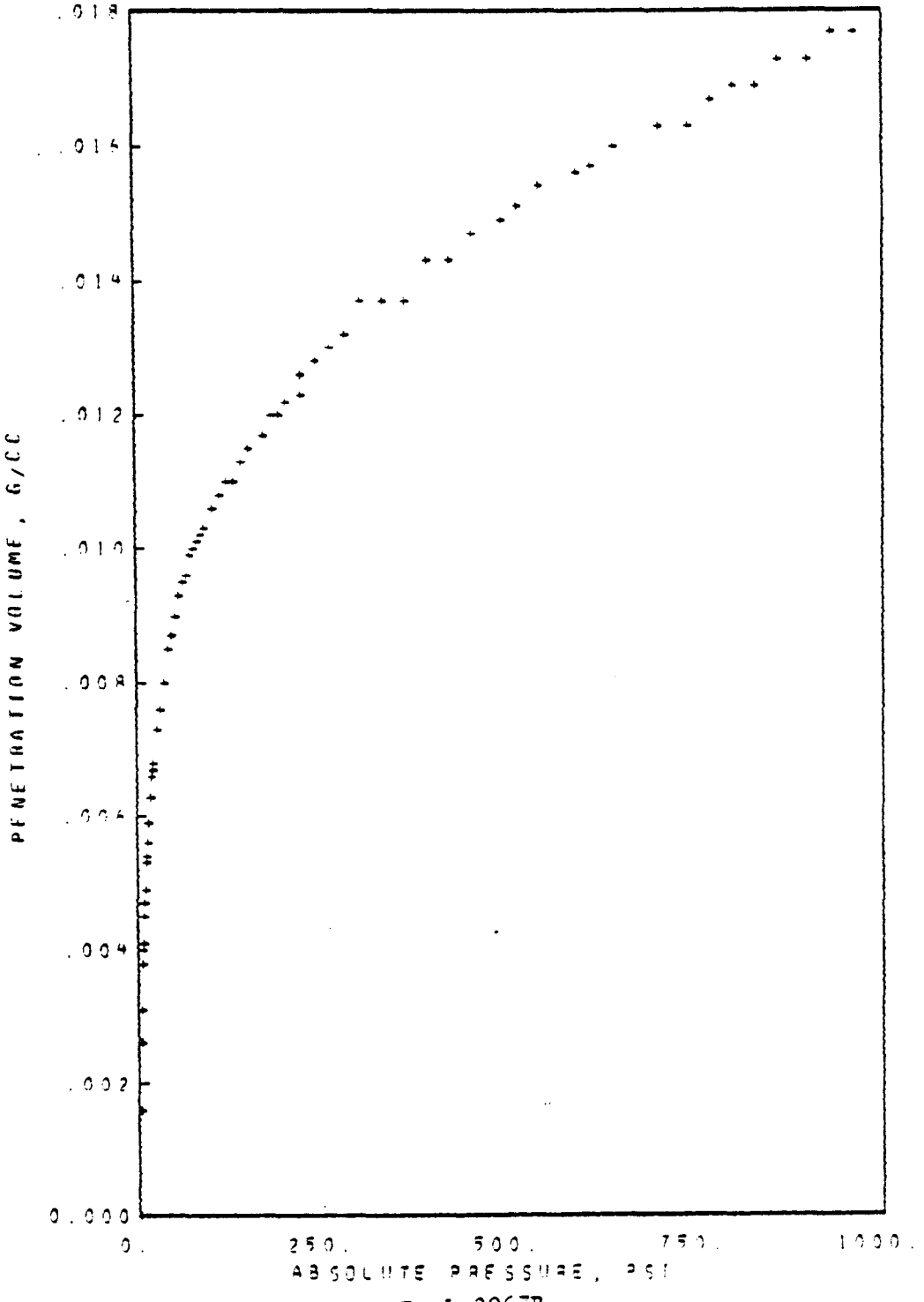
T 1-3063


.018
.016
.014
.012
.010
.008
.006
.004
.002
0.000
PENETRATION VOLUME, G/CC
0.
250.
500.
750.
1000.
ABSOLUTE PRESSURE, PSI

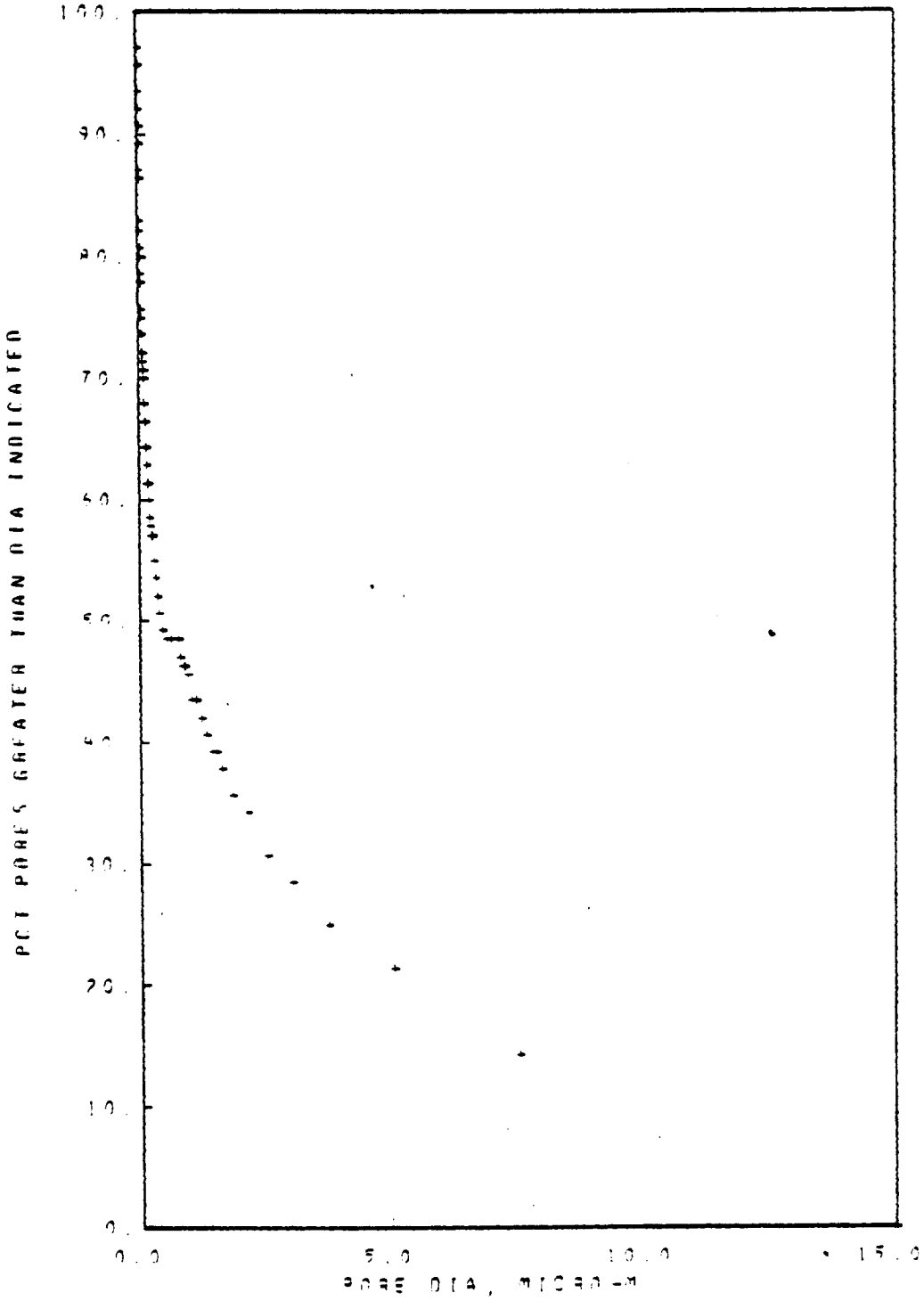
T 1-3063


PCT PORES GREATER THAN DIA INDICATED
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
0.
0.0
5.0
10.0
15.0
PORE DIA, MICRON-M

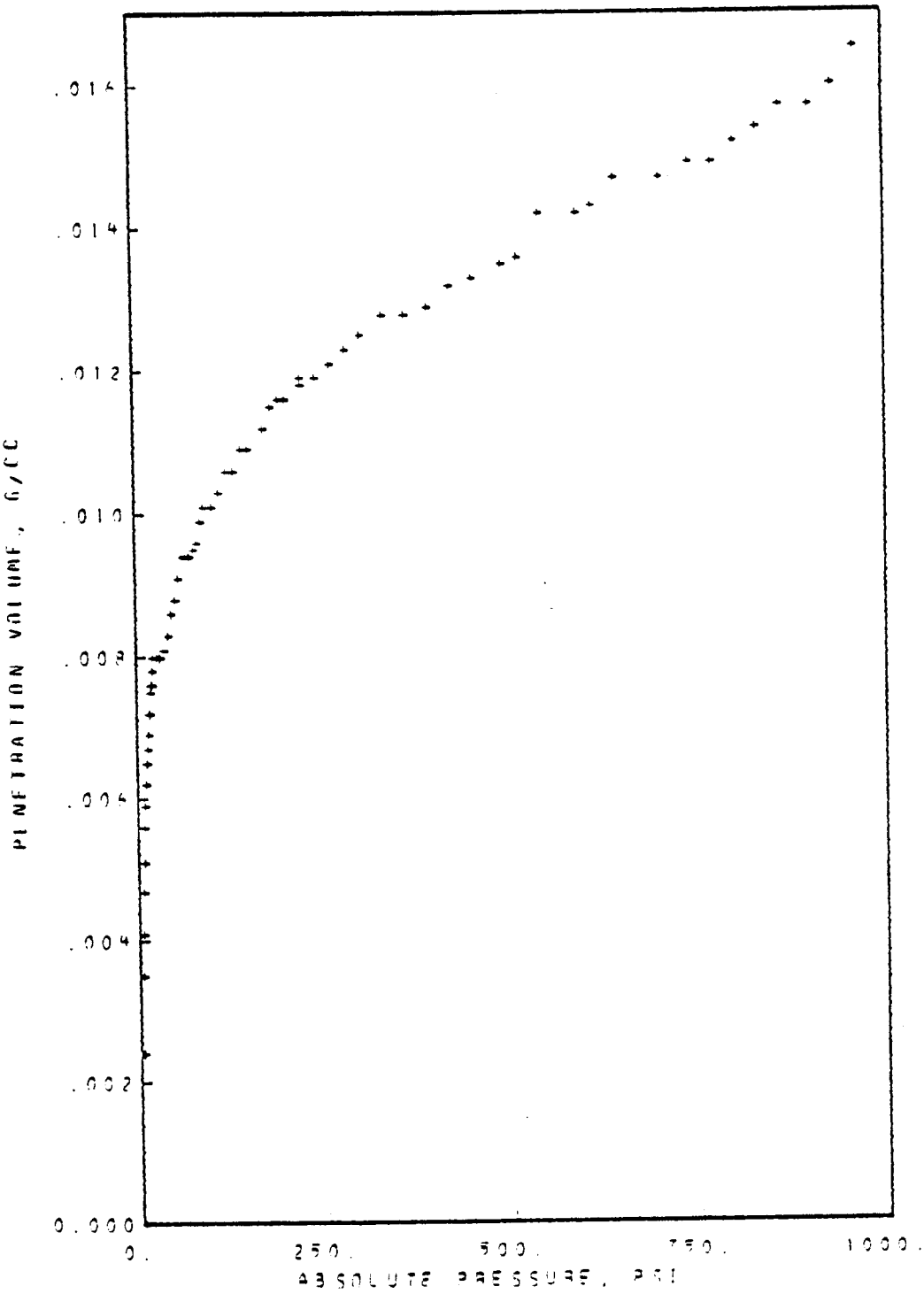
T 1-3067B


.018
.016
.014
.012
.010
.008
.006
.004
.002
0.000
PENETRATION VOLUME, G/CC
0.
250.
500.
750.
1000.
ABSOLUTE PRESSURE, PSI

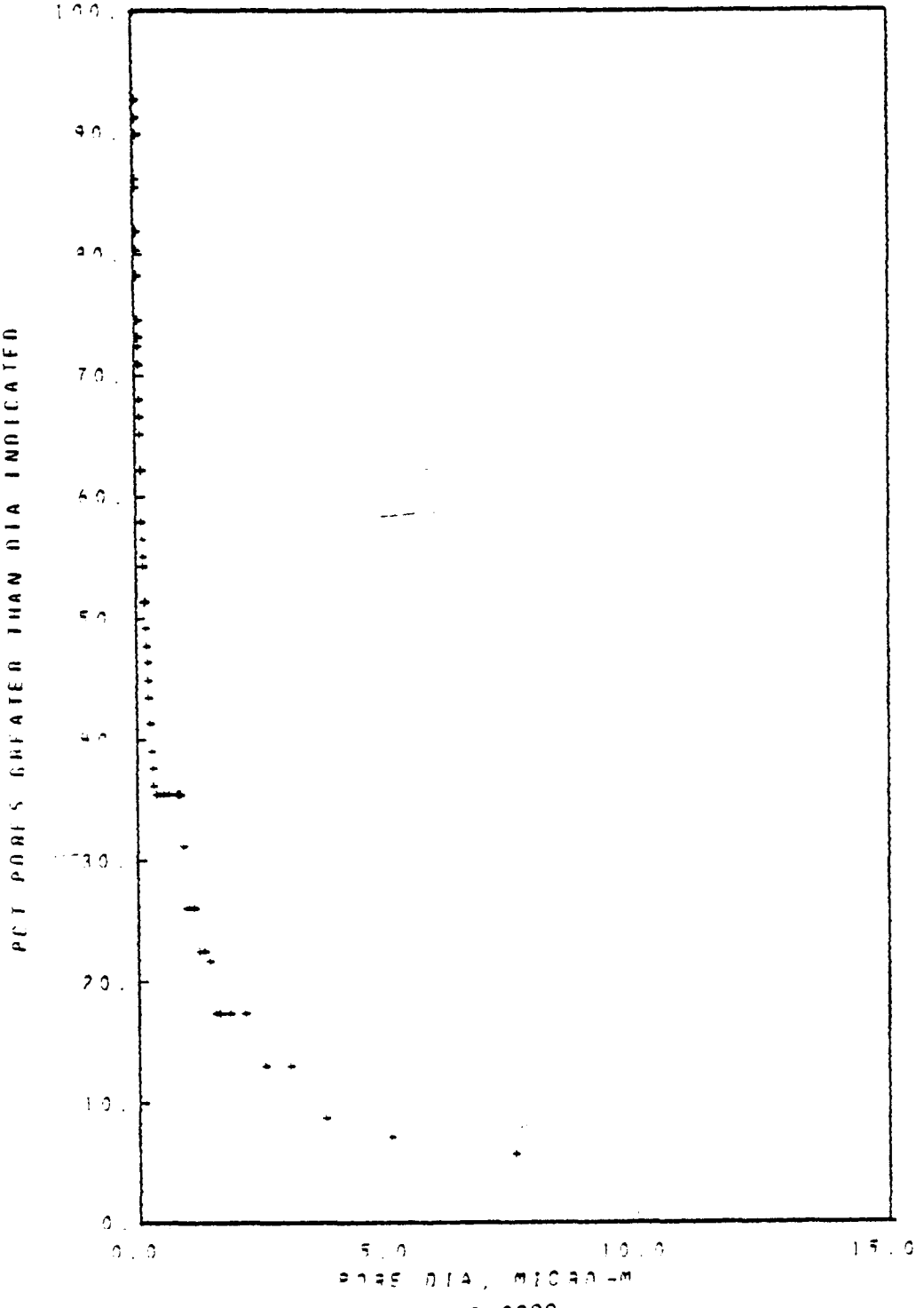
T 1-3067B


100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
0.
PCT PORES GREATER THAN DIA INDICATED
0.0
5.0
10.0
15.0
PORE DIA, MICRO-M

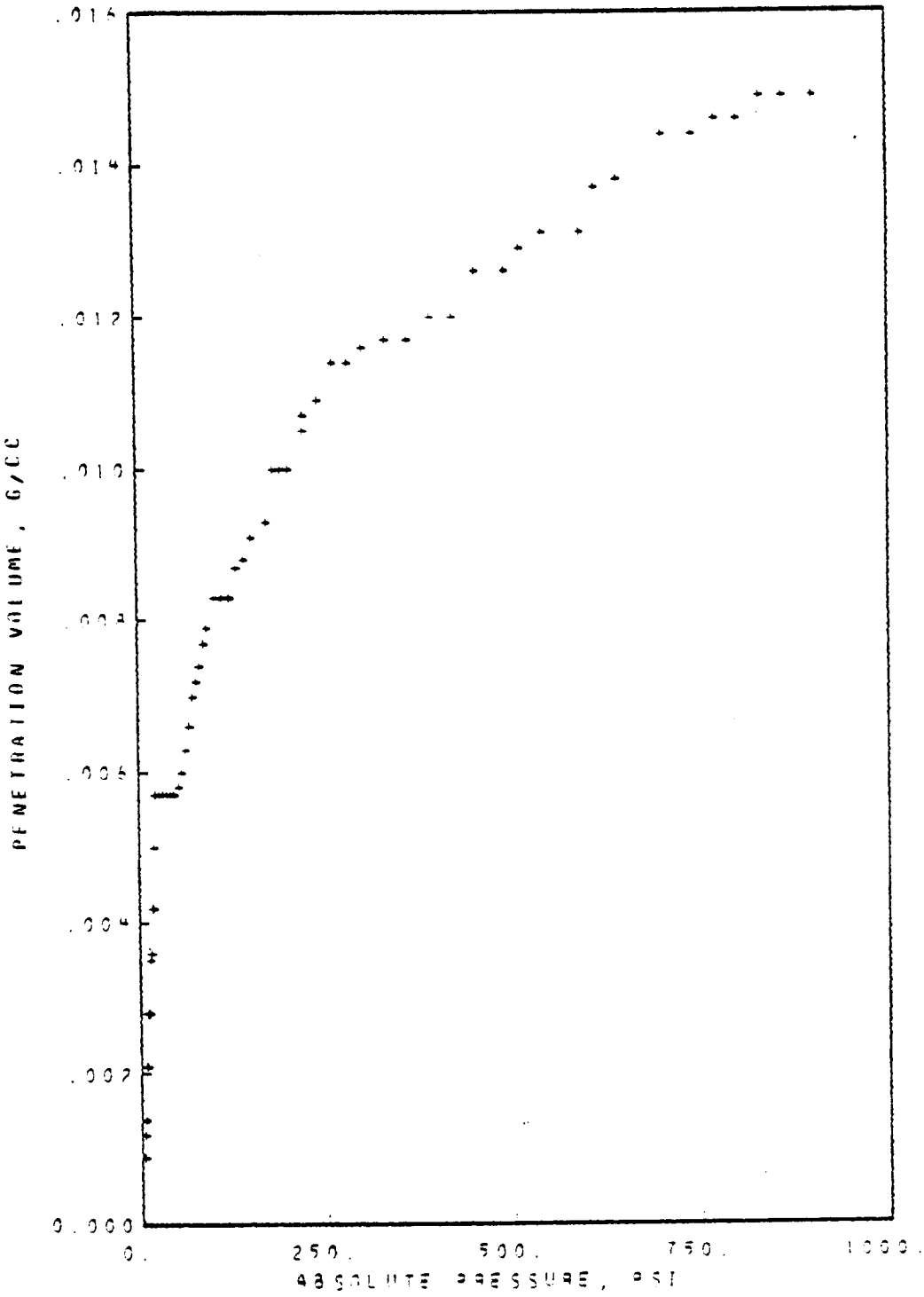
T 1-3074


.016
.014
.012
.010
.008
.006
.004
.002
0.000
PENETRATION VOLUME, G/CC
0.
250.
500.
750.
1000.
ABSOLUTE PRESSURE, PSI

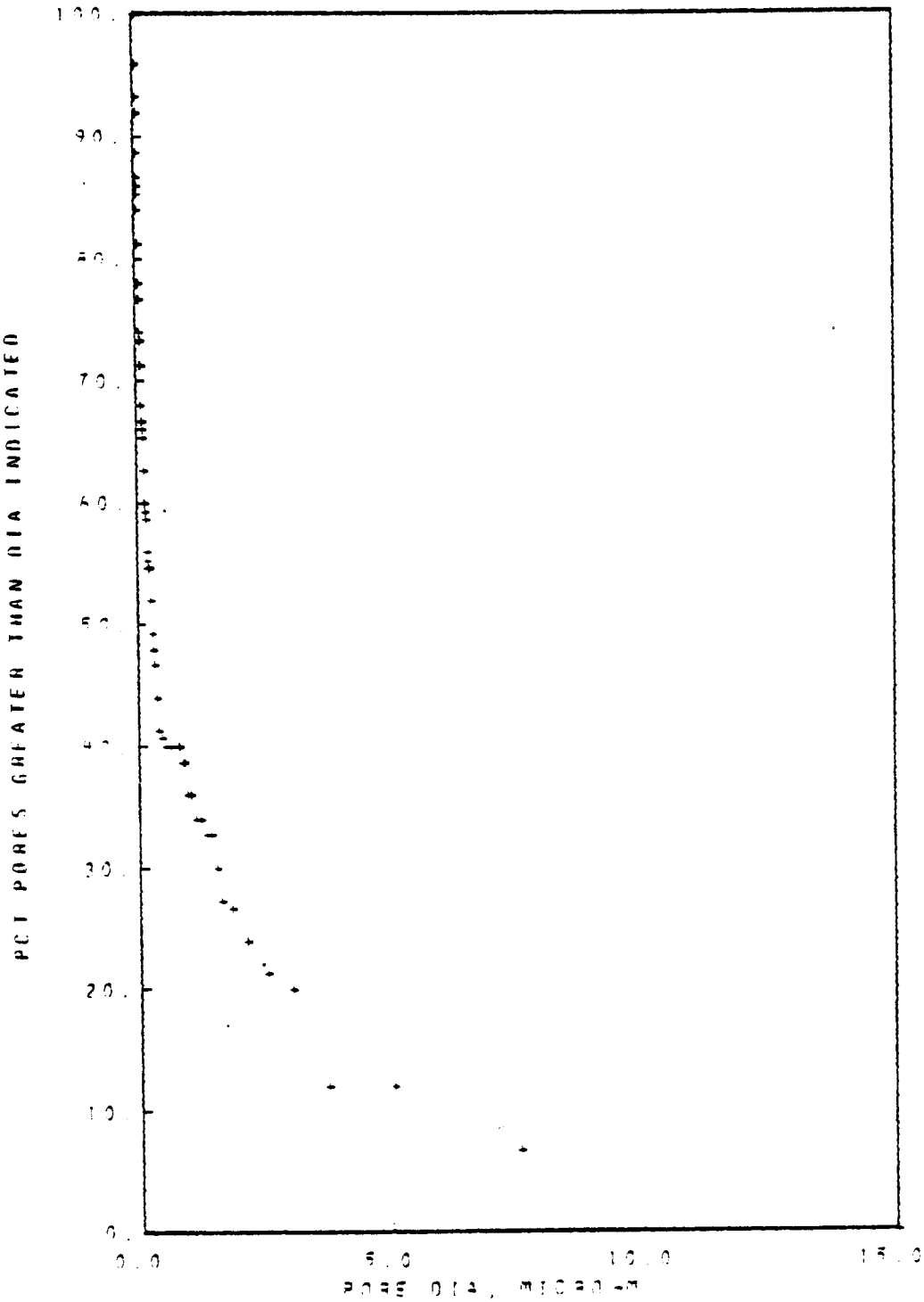
I 1-3074


PCT PORES GREATER THAN DIA INDICATED
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
0.
0.0
5.0
10.0
15.0
PORE DIA, MICRON-M

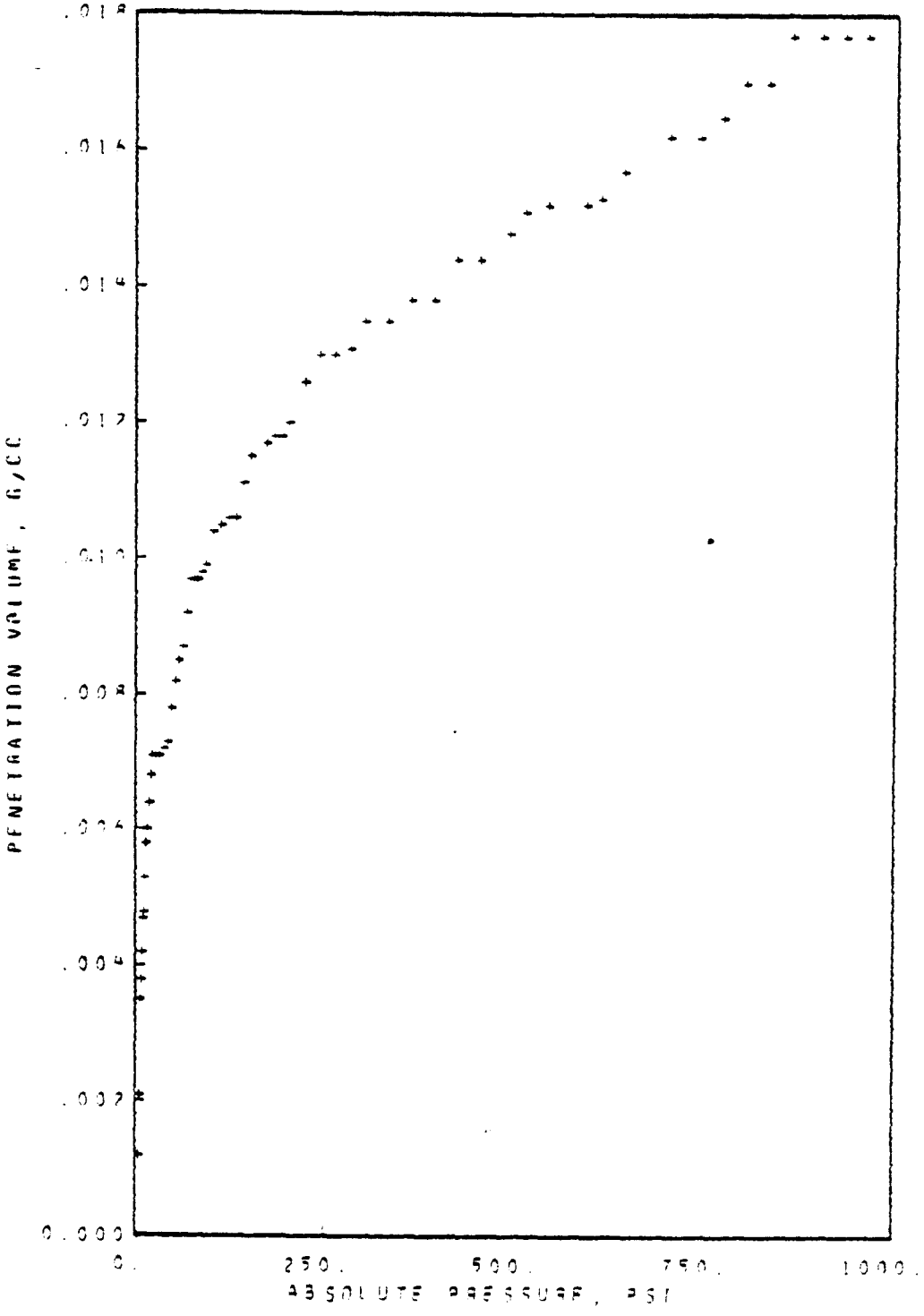
T 1-3080


.016
.014
.012
.010
.008
.006
.004
.002
0.000
PENETRATION VOLUME, G/CC
0.
250.
500.
750.
1000.
ABSOLUTE PRESSURE, PSI

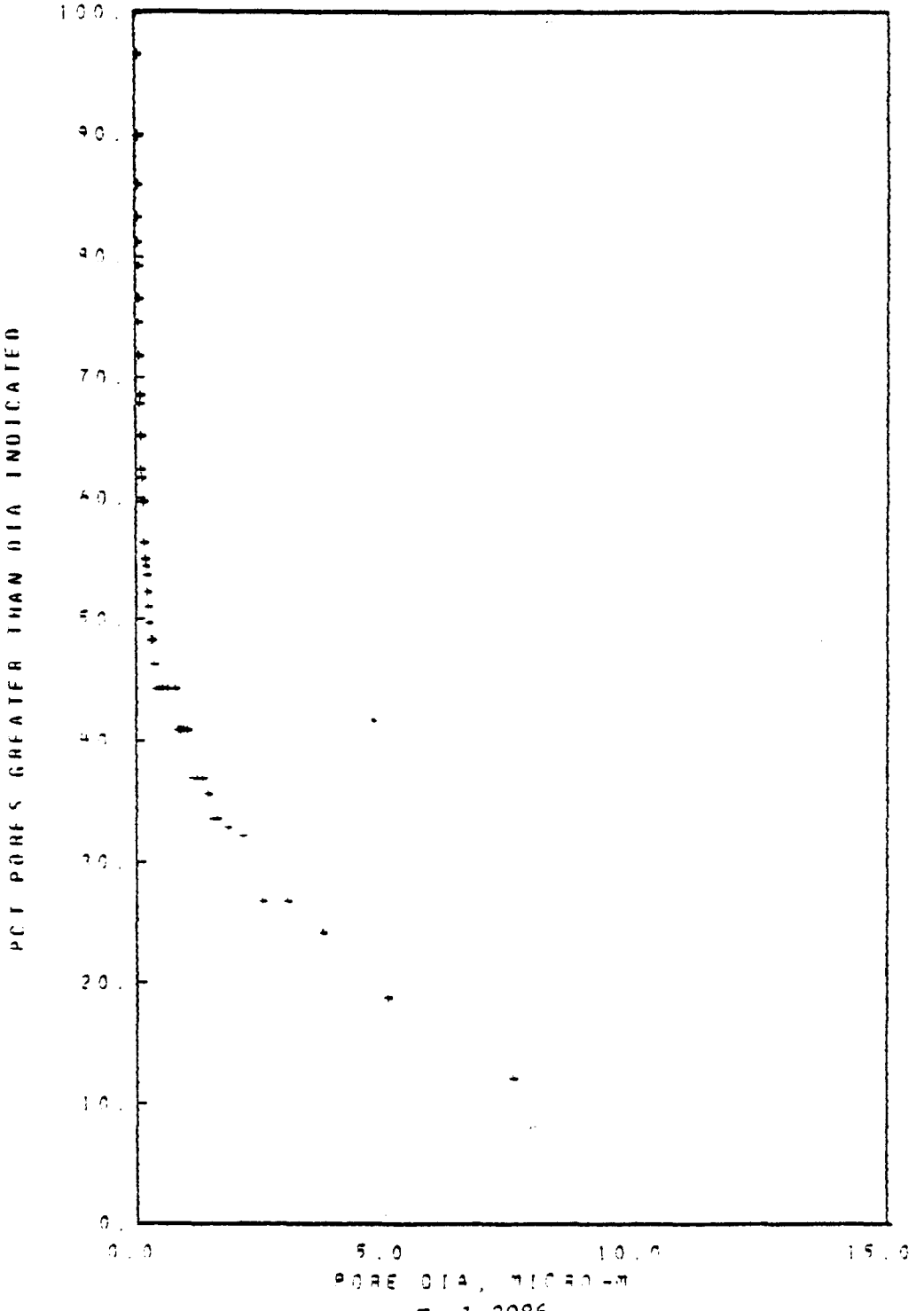
T 1-3080


PCT PORES GREATER THAN DIA INDICATED
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
0.
0.0
5.0
10.0
15.0
PORE DIA, MICRON

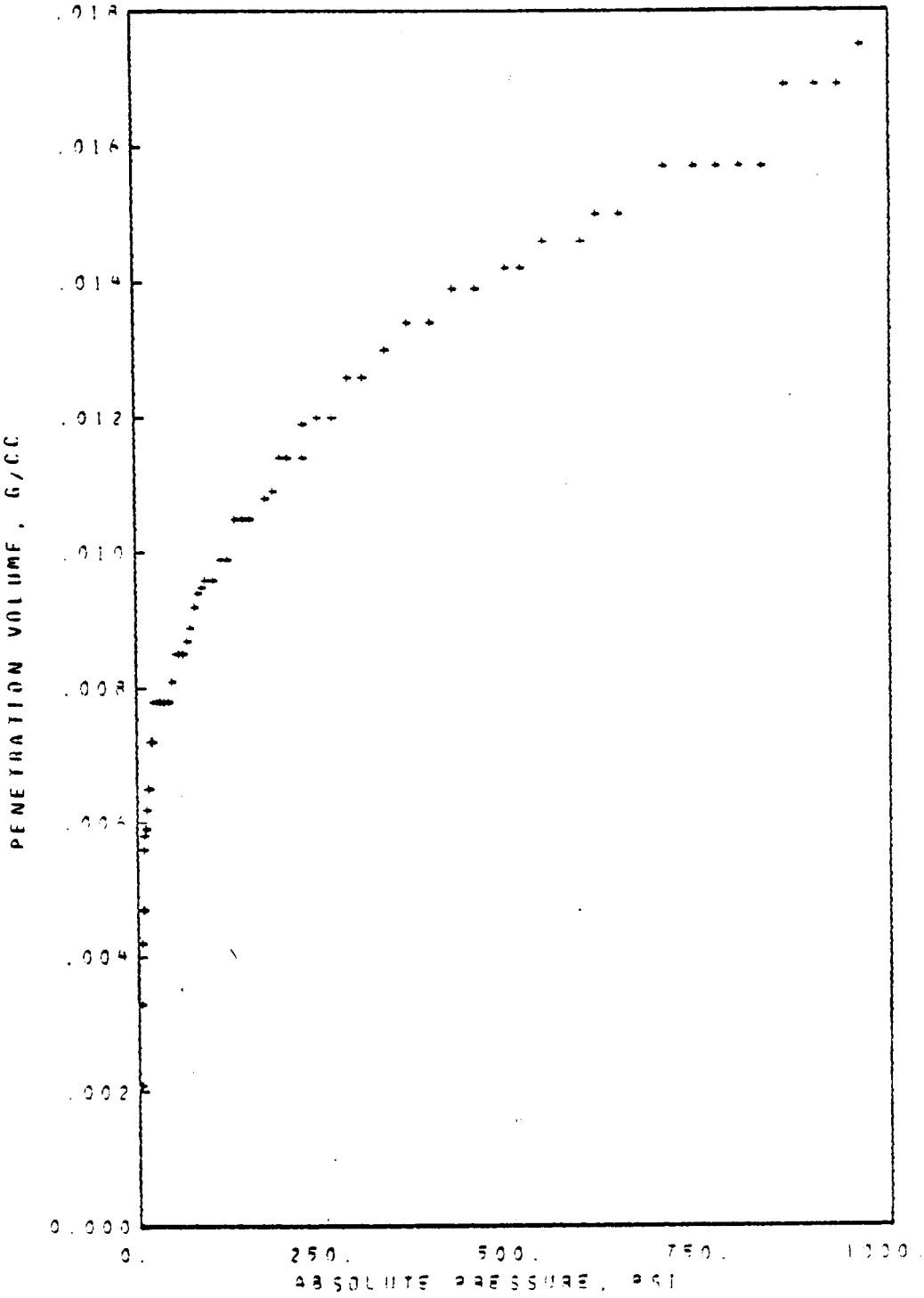
T 1-3080B


.018
.016
.014
.012
.010
.008
.006
.004
.002
0.000
PENETRATION VOLUME, G/CC
0.
250.
500.
750.
1000.
ABSOLUTE PRESSURE, PSI

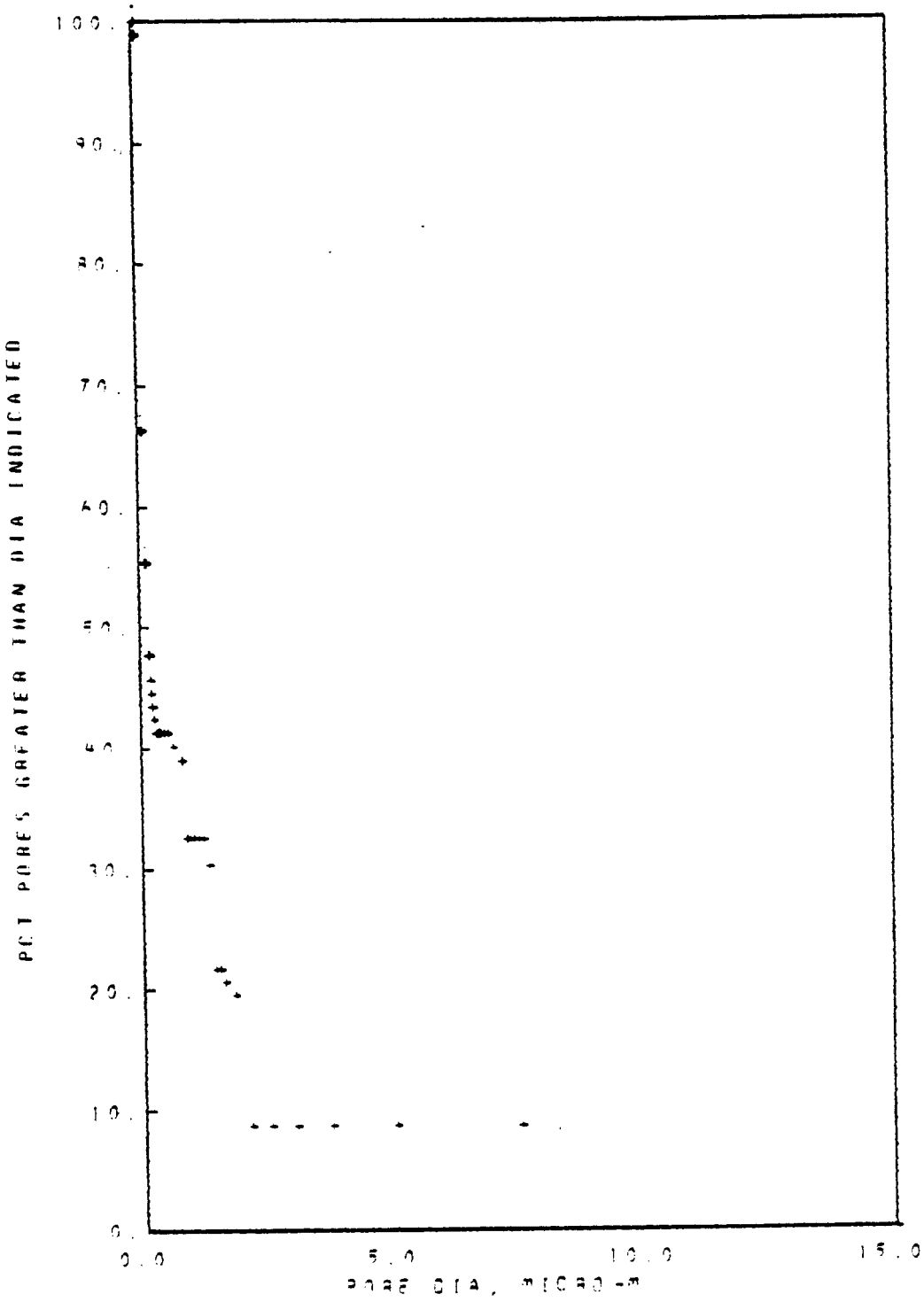
T 1-3080B


100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
0.
PCT PORES GREATER THAN DIA INDICATED
0.0
5.0
10.0
15.0
PORE DIA, MICRO-M

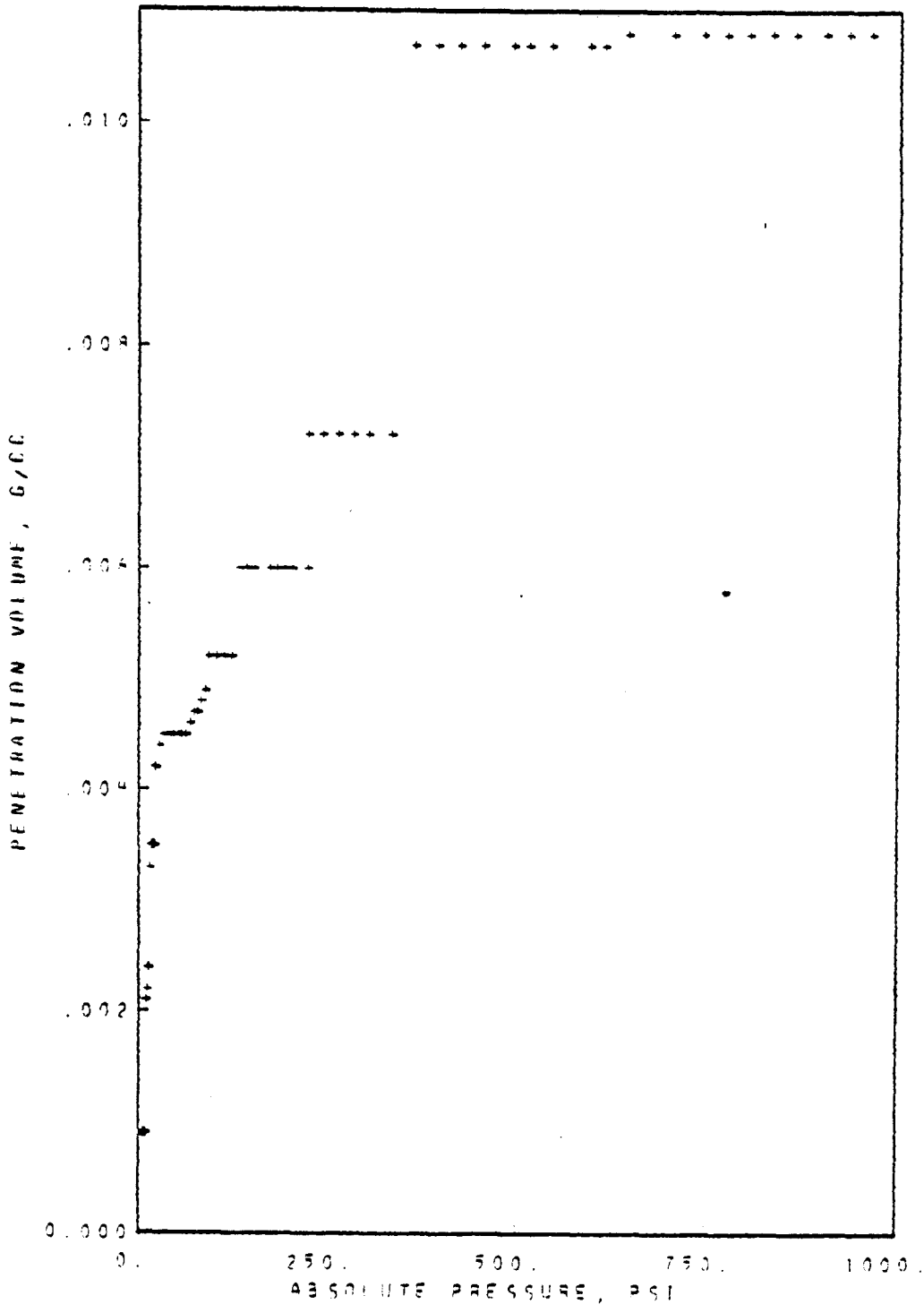
T 1-3086


.018
.016
.014
.012
.010
.008
.006
.004
.002
0.000
PENETRATION VOLUME, G/CC
0.
250.
500.
750.
1000.
ABSOLUTE PRESSURE, PSI

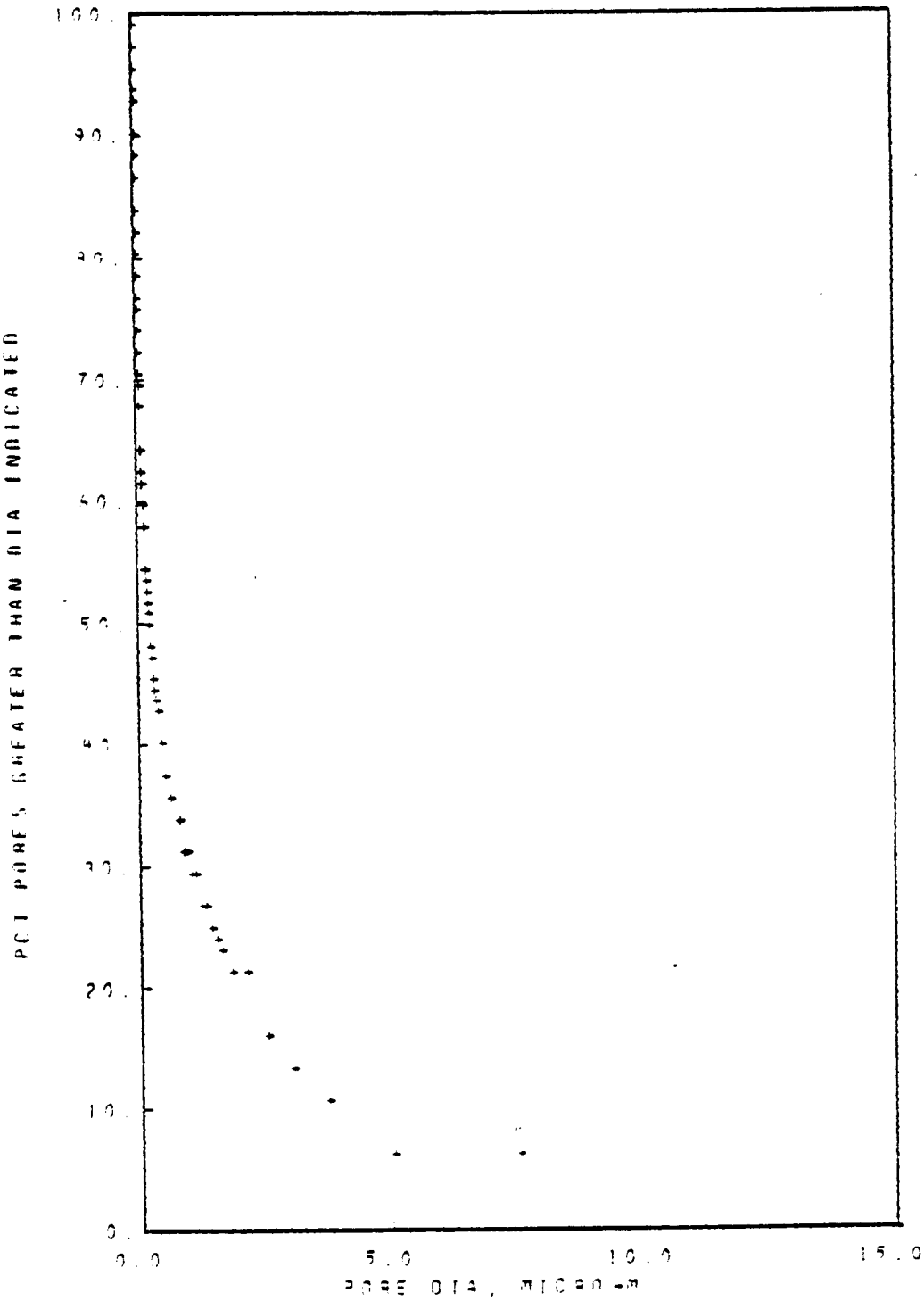
T 1-3086


PCT PORES GREATER THAN DIA INDICATED
100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
0.
0.0
5.0
10.0
15.0
PORE DIA, MICRO-M

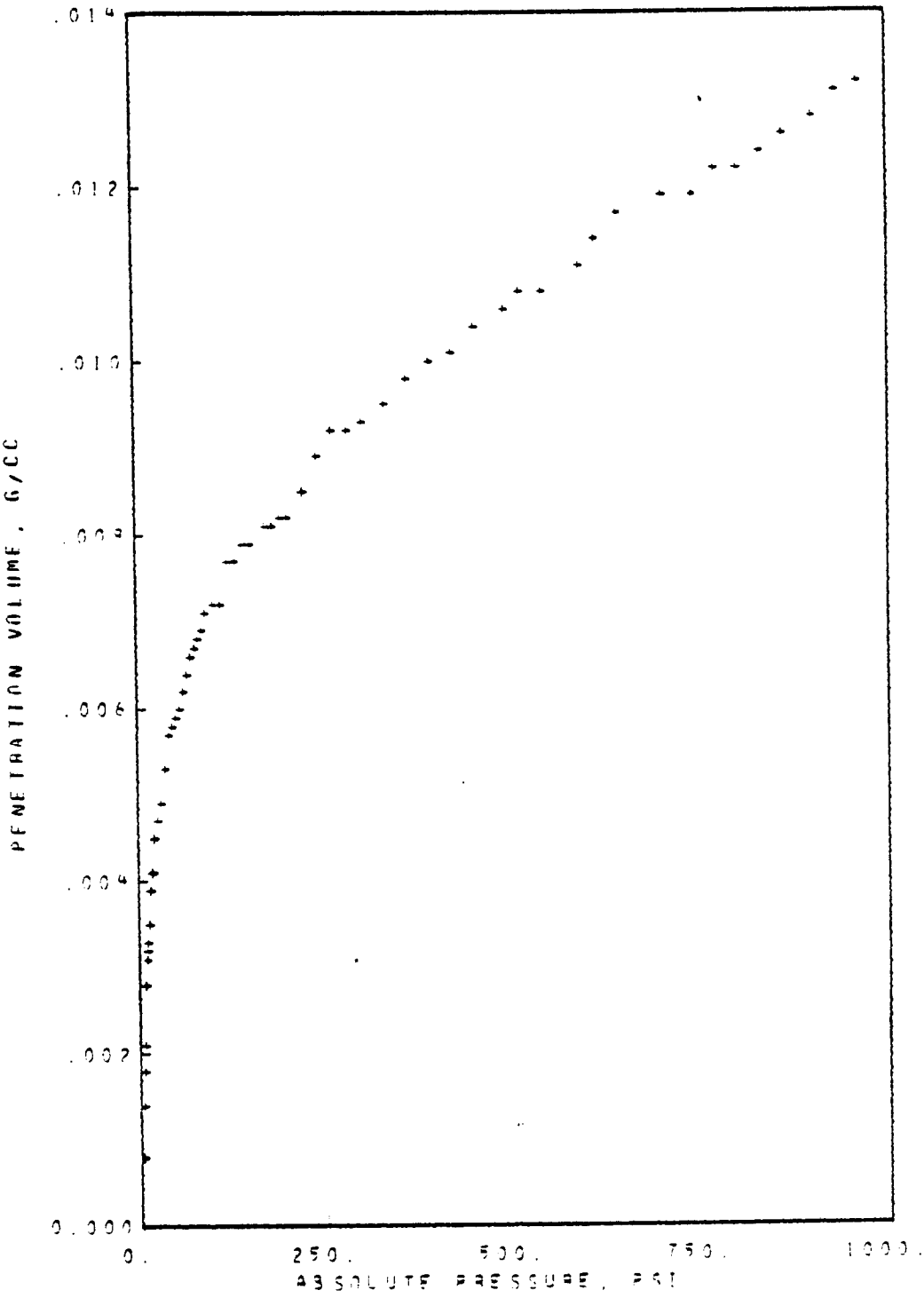
T 1-3094B


.010
.008
.006
.004
.002
0.000
PENETRATION VOLUME, G/CC
0.
250.
500.
750.
1000.
ABSOLUTE PRESSURE, PSI

T 1-3094B


100.
90.
80.
70.
60.
50.
40.
30.
20.
10.
0.
PCT PORES GREATER THAN DIA INDICATED
0.0
5.0
10.0
15.0
PORE DIA, MICRON-M

T 1-3099


.014
.012
.010
.008
.006
.004
.002
0.000
PENETRATION VOLUME, G/CC
0.
250.
500.
750.
1000.
ABSOLUTE PRESSURE, PSI

T 1-3099