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Nearshore Data From North Sea During MARSEN I September-December, 1979

by

Hsiang Wang, Hans H. Dette and Yun-Hai Chen

Technical Report No. 7
Contract No. N0014-76-C-0342
with the OFFICE OF NAVAL RESEARCH GEOGRAPHY PROGRAMS

Ocean Engineering Report No. 24

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Department of Civil Engineering
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1. Scope of Study

During the months of September and October of 1979, the MARSEN I experiment was conducted jointly between European and American Scientists to measure various oceanic characteristics--physical, chemical and biological--using in-situ apparatus and remote sensing techniques. The experiments were performed in the German Bight around the Island of Helgoland and Sylt.

In coordination with the MARSEN I experiment, shallow water measurements with emphasis on surf zone characteristics were carried out at the Island of Sylt. Figure 1 shows the location of the nearshore measurements and its relation to the MARSEN testing region.

The ultimate objective of the present study is to better understand the surf zone dynamics and its relationship to the deep water environment through field experience. This report is, however, restricted to data presentation. Most of the data presented here is stored on tape as will be explained in the next section. These data were edited and verified. For the convenience of future users, graphical presentations of most of the data is included in the Appendix for preliminary assessment.

2. Field Measurements and Data Handling

The Experiments

The locations of the nearshore site, the deep water gage and the pitch and role buoy are shown in Fig. 2. Figure 3, on the other hand shows the instrument arrangement in the nearshore zone. The topographies of the nearshore zone over a three-year period are plotted in Fig. 4.

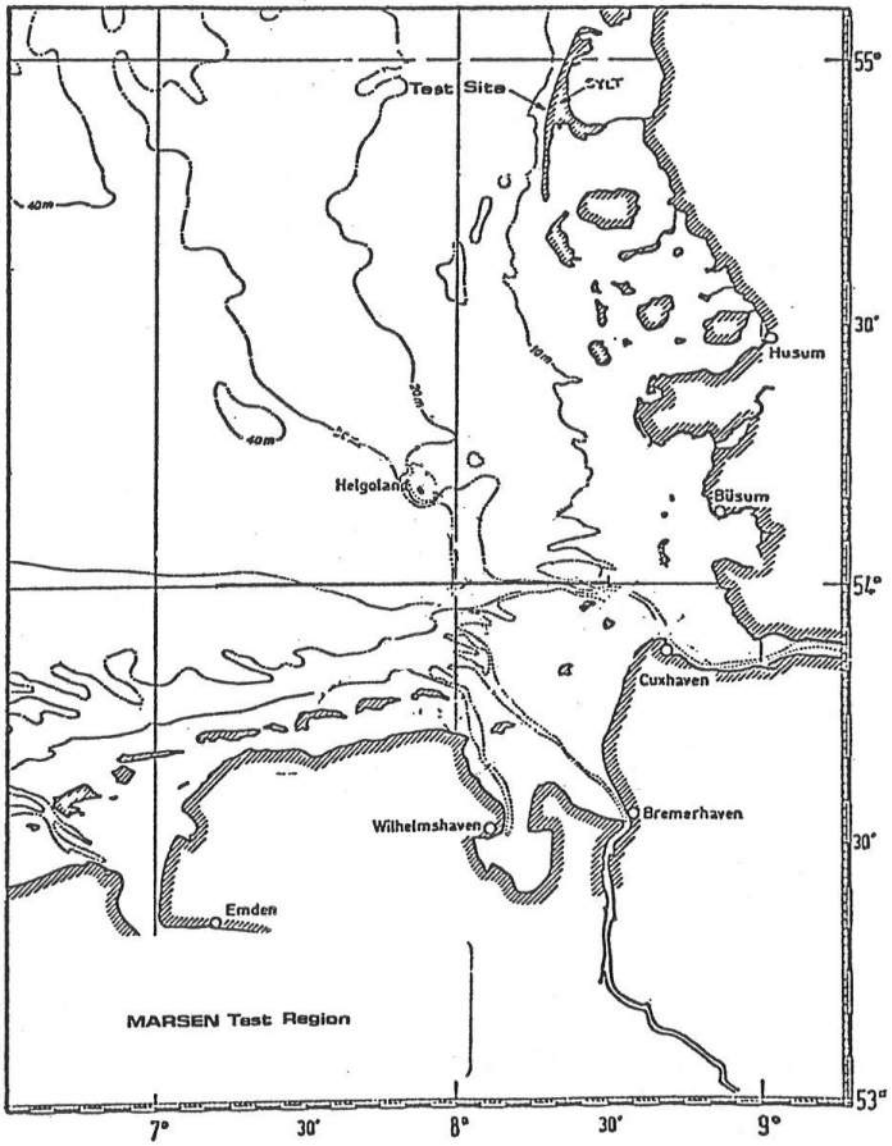


Figure 1 MARSEN test region and nearshore test site

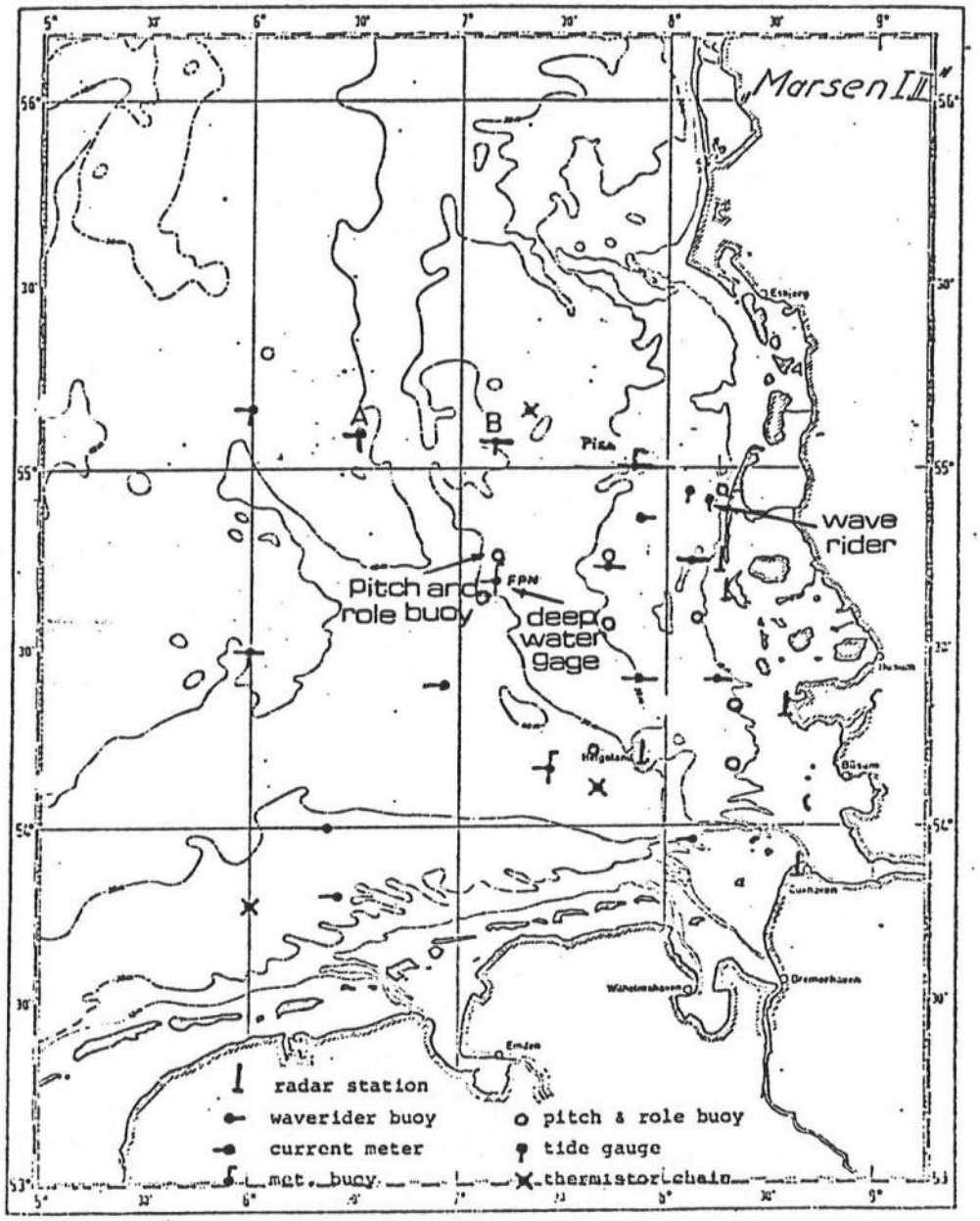


Figure 2 MARSEN wave measurement stations

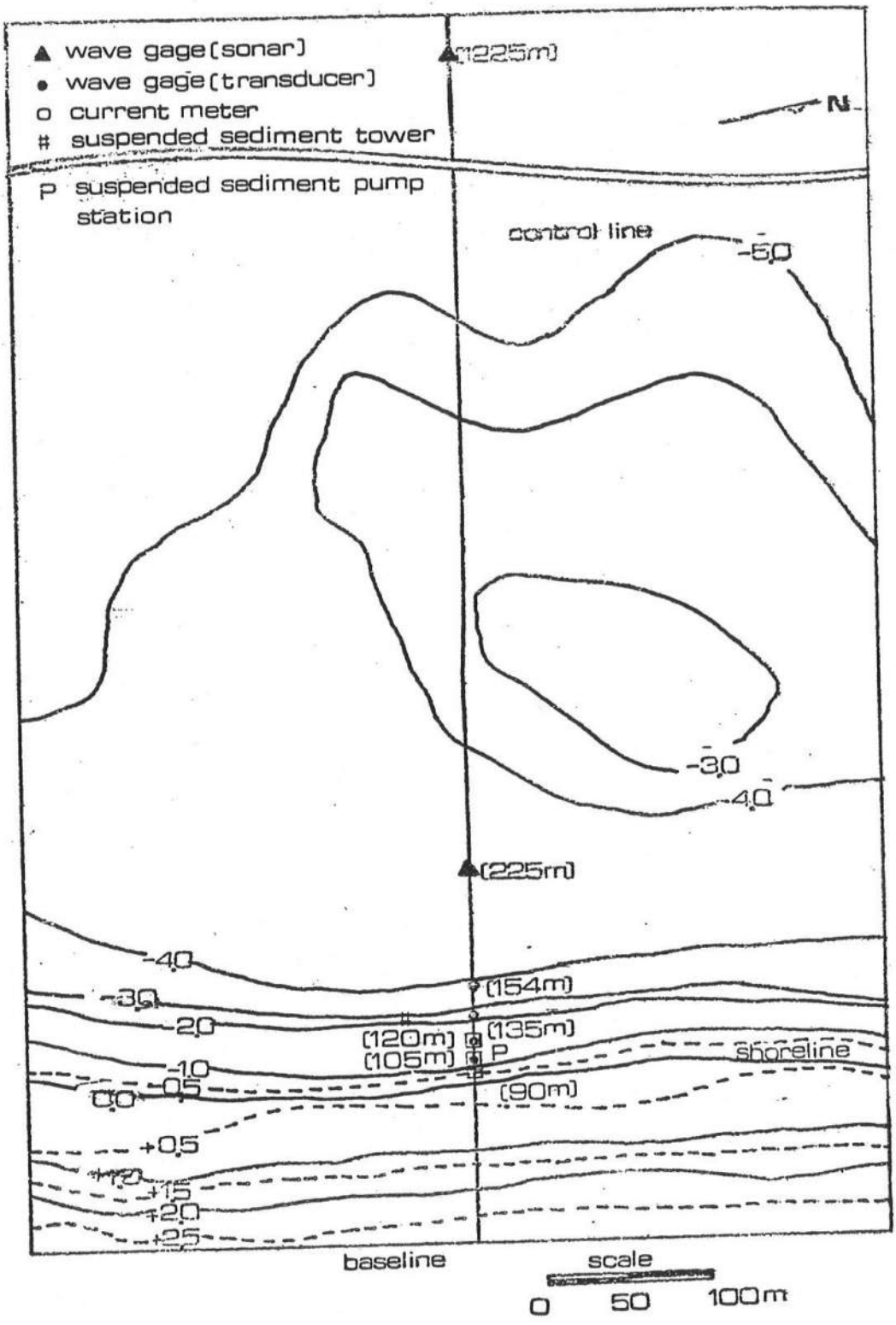


Figure 3 Nearshore field instrument arrangement

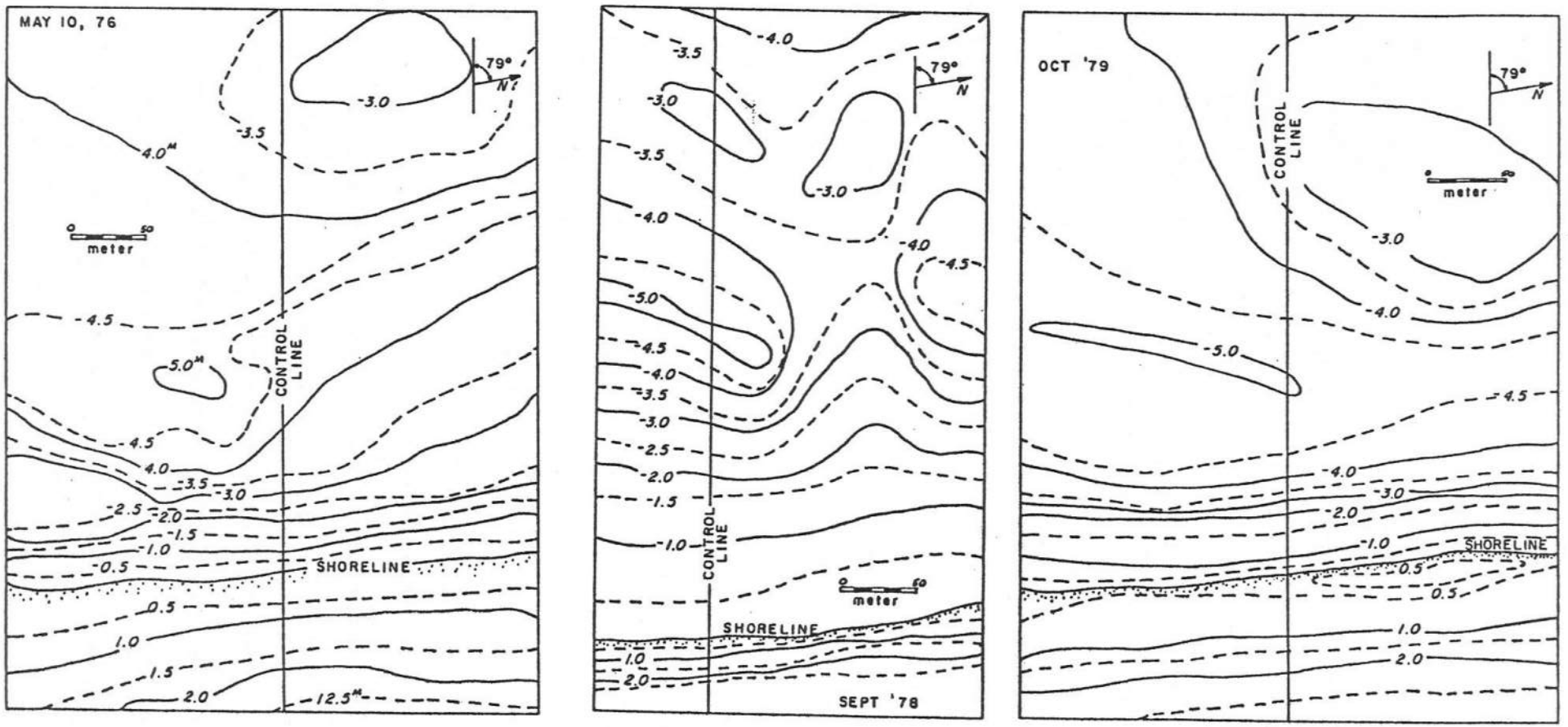


Figure 4. Nearshore Hydrographies of 1976, 1978 and 1979.

The wave gages at locations 1225 m, 940 m and 225 m are bottom-mounted echo-transceivers as developed by Fuhrentholz Laboratory. These echo sounders are capable of measuring water surface variations to ±0.5 cm for water depths up to 90 m. The shallow water gages are staff-mounted pressure transducers of Type MDS 76 as manufactured by H. Maihak AG, Hamburg with a pressure range of 0-1 kg/cm^2. The current meters are COMEX electromagnetic two-component type. Waves and currents were measured at two-hour intervals during most of the time in September and October. On September 26, 27 and 28, the height of the MARSEN experiment, data were taken at one-hour intervals with a recording length of approximately 20 minutes.

In addition to waves and currents, suspended sediment concentrations were measured by a continuous pumping technique and by instantaneous bottle sampling. The continuous pump sampler was designed in accordance with the specifications recommended by Watts (1953). It has four intake nozzles, mounted on a vertical rack at intervals of 50 cm. The sampler was supported by a vertical staff set at Station 112.5 m. The assembly is shown in Fig. 5. The nozzle opening was 2 cm in diameter and the pumping rate was approximately 8.5 liters per minute. Samples were collected at a constant volume of 34 liters per sample (4 to 5 minute sampling time) and were taken at roughly one-hour intervals on September 26, 27 and 28. The instantaneous samples were taken by a bottle sampling device modified from the one first used by Kana (1976). It consisted of a 2 m long mounting pole, support brackets and four 2 liter bottles closed off by hinged doors. The whole assembly was mounted on a pile with sliding tracks (Fig. 6) and the doors could be triggered to close remotely to enable instantaneous sampling. Sample collectors were

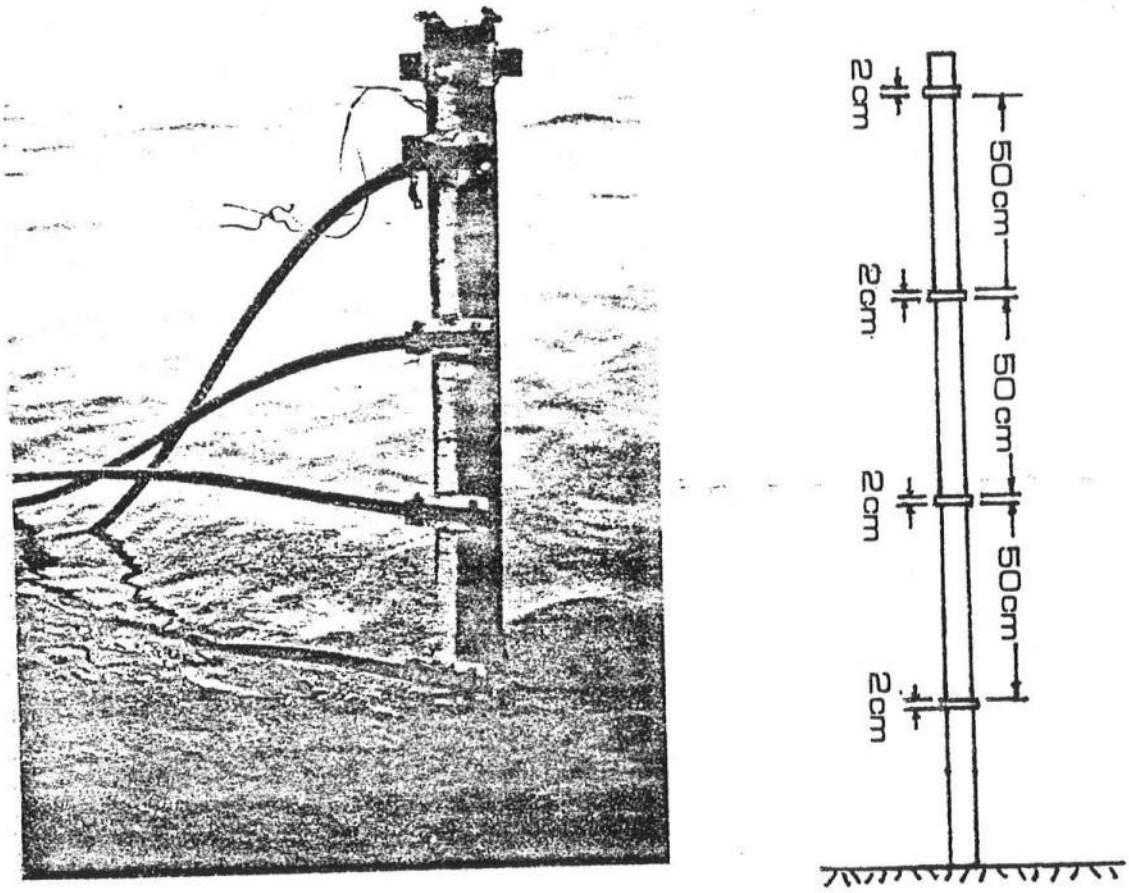


Figure 5. Suspended Sediment Sampling Assembly.

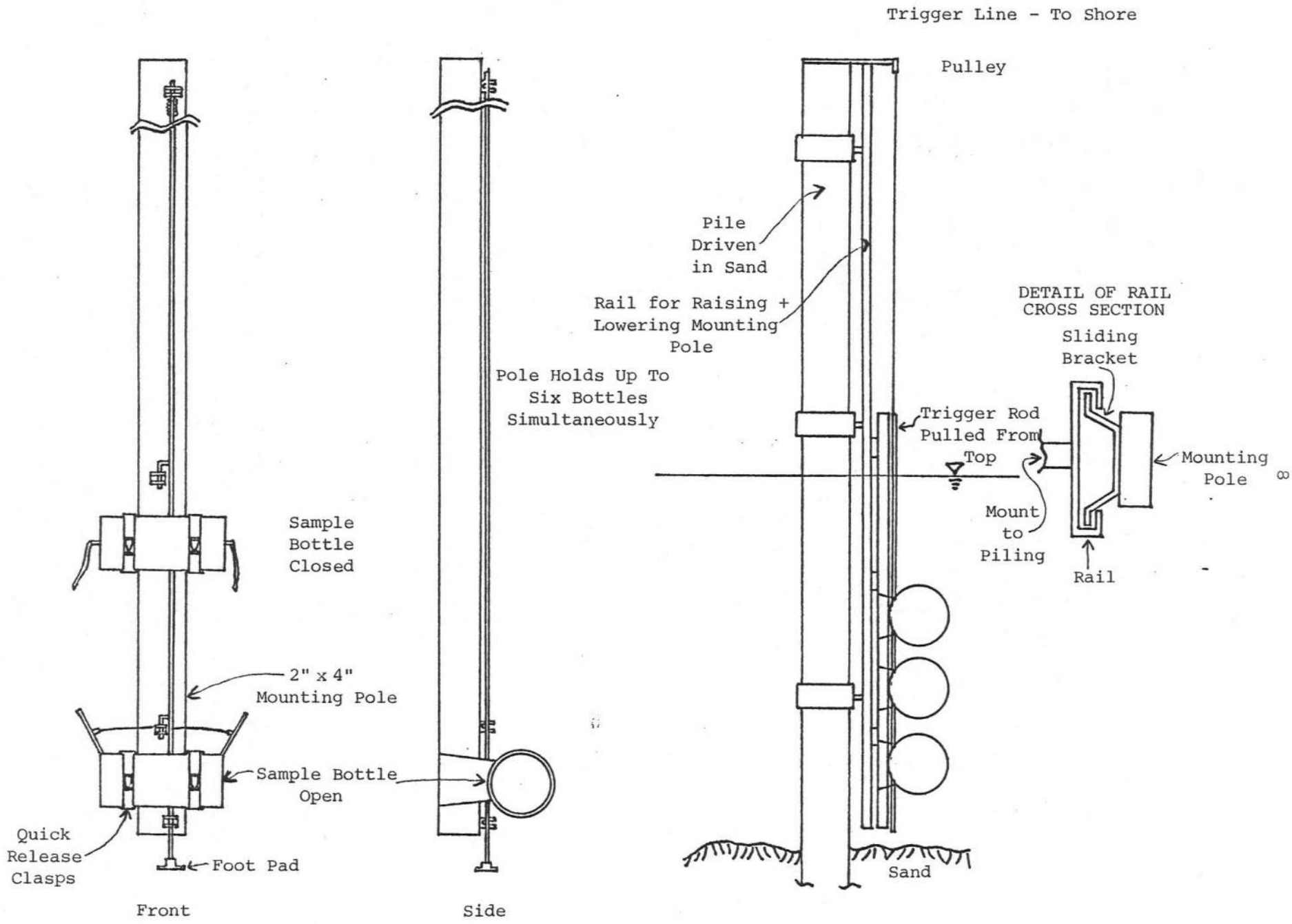


Figure 6 Suspended Sediment Sampler

mounted at 30, 70, 110 and 150 cm above the bottom. The complete assembly was tested out satisfactorily on September 26, 1979, one day ahead of the scheduled actual experiment. Unfortunately, an overnight storm broke the mounting pile. The original plan had to be abandoned. Instead, the instantaneous sampling had to be carried out by manually carrying the sampler into the surf zone and triggering the device at the desired instance. Because of the high surf condition, this manual operation was difficult to carry out; the samples had to be taken at much shallower water depths than planned; the sampling location and timing could not be controlled as accurately as from a stationary station. Despite this setback a total of sixteen runs were made at times synchronized with continuous samplings.

Data Handling

Wave and current data were originally recorded on analog tapes and strip charts. The analogy data were digitized at 0.5 second sample intervals. The data were then played back, edited and verified by comparing them with the strip chart output. These data were stored both at des Leichtweiss-Instituts für Wasserbau, der Technischen Universität Braunschweig, West Germany and at the University of Delaware, U.S.A. At Delaware the tape characteristics are as follows:

Characteristics	Options	Used at Delaware
Character Code	BCD, BCL, EBCDIC, ASCII, etc.	EBCDIC
Track	7, 9	9
Parity	Even, Odd	Odd
Density (BPI)	556**, 800, 1600, 6250	1600
Record size	Words or characters per logical record	----

There are a total of 32 files in the tape; each file consists of 14 channels. The first six channels are current data with Channels 1 and 2 at Sta. 90 m, 3 and 4 at Sta. 105 m, and 5 and 6 at Sta. 120 m, respectively. The odd number channels are current data in the x-direction (north-south, with north being positive) and the even number channels are current data in the y-direction (east-west, with west being positive). However, the current meter at Sta. 105 was turned upside down after September 23, 1979, thus reversing the sign of the east-west directions, making east positive.

Channels 7 to 11 are wave height data corresponding to Stations 1225 m, 940 m, 225 m, 154 m and 135 m in the right order. The last three channels are blank with no meaningful information other than noises.

The header and code name for each file are given as follows:

Header

1,2	3 6	7 12	13 16	17 21	22 25	26 29
PP	----	DDMMYY	----	HHMM	----	XXXX

Character

1 - 2	File No.	
3 - 6	Blank	
7 - 12	Date of Measurement	DD = Day MM = Month YY = Year
13 - 16	Blank	
17 - 21	Time of Measurement	HH = Hour MM = Minute
22 - 25	Blank	
26 - 29	Total Data Points	

All the information stored in the data tape are summarized in Table 1.

Table 1. Data Stored in Tape

File No.	Date	Hour	Counter	Tape Channel													
				1	2	3	4	5	6	7	8	9	10	11	12	13	14
				X90	Y90	X105	Y105	X120	Y120	1225	940	225	154	135			
3	18.9.79	10:45	100- 235100	X	X			X	X	X			X	X			
4	19.9.79	8:30	235200- 587100					X	X	X	X	X	X	X			
5	19.9.79	12:00	587200- 897200	X	X			X	X	X	X	X	X	X			
6	19.9.79	16:00	897300-1248500					X	X	X	X	X	X	X			
10	20.9.79	8:00	1248600-1496500					X	X	X			X	X			
11	20.9.79	12:00	1496600-1718100	X	X			X	X				X	X			
12	20.9.79	16:00	1718200-1856800			X	X						X	X			
16	21.9.79	8:00	1856900-2091400			X	X	X	X	X			X	X			
17	21.9.79	10:00	2091500-2208600	X	X	X	X	X	X	X			X	X			
18	21.9.79	12:00	2208700-2443700	X	X	X	X	X	X	X			X	X			
19	21.9.79	14:00	2443800-2561500	X	X	X	X	X	X	X			X	X			
20	21.9.79	16:00	2561600-2680000	X	X	X	X	X	X	X			X	X			
25	22.9.79	12:00	2680100-2806700	X	X			X	X	X	X		X	X			
37	24.9.79	14:00	2806800-2924200	X	X	X	X	X	X	X			X	X			
41	25.9.79	12:00	2924300-3041400					X	X	X			X	X			

Table 1. Data Stored In Tape (Continued)

File No.	Date	Hour	Counter	Tape Channel													
				1	2	3	4	5	6	7	8	9	10	11	12	13	14
				X90	Y90	X105	Y105	X120	Y120	1225	940	225	154	135			
42	25.9.79	16:00	3041500-3159200	X	X	X	X	X	X	X			X	X			
47	26.9.79	14:00	3159300-3276800	X	X	X	X	X	X	X		X	X	X			
48	26.9.79	15:00	3276900-3394600	X	X	X	X	X	X	X			X	X			
49	26.9.79	16:00	3394700-3535300	X	X	X	X	X	X	X			X	X			
53	27.9.79	8:00	3535400-3652600					X	X	X			X	X			
54	27.9.79	9:00	3652700-3770200					X	X	X			X	X			
56	27.9.79	11:00	3770300-3887900							X			X	X			
58	27.9.79	13:00	3888000-4005400					X	X	X			X	X			
59	27.9.79	14:00	4005500-4123200	X	X	X	X	X	X			X	X	X			
60	27.9.79	15:00	4123300-4358400	X	X	X	X	X	X	X		X	X	X			
61	27.9.79	16:00	4358500-4549500	X	X	X	X	X	X	X		X	X	X			
62	27.9.79	17:00	4549600-4784800	X	X	X	X	X	X	X		X	X	X			
66	28.9.79	8:00	4784900-4902200					X	X	X			X	X			
73	28.9.79	15:00	4902300-5019700					X	X	X			X	X			
74	28.9.79	16:00	5019800-5137700					X	X	X		X	X	X			
78	29.9.79	8:00	5137800-5254800			X	X	X	X	X		X	X	X			
80	29.9.79	16:00	5254900-5306100							X		X	X	X			

Wave Energy Spectra

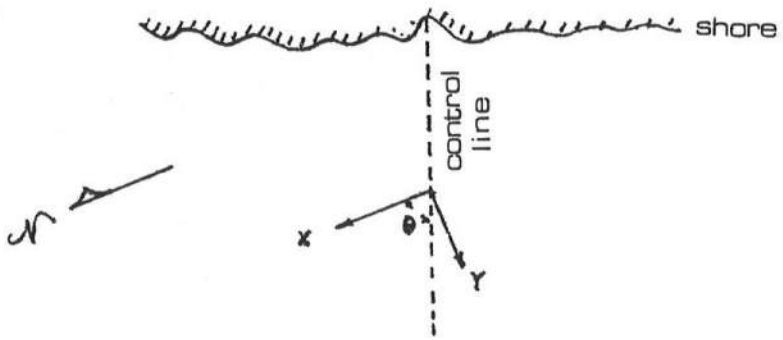
Spectral analysis was performed using the FFT technique developed by Cooley and Tukey (1965) with a Hanning Window (Black and Tukey, 1958) for data smoothing. All the data sets were sampled uniformly at a time interval Δt = 0.5 seconds to a total data point N=2048 or 1024. In order to maintain good resolution, a degree of freedom DF = 40 for N = 2048 and DF = 20 for N = 1024 was selected as the optimum.

Mean Current and Current Spectra

To calculate the on-offshore current and longshore current, the data from the current meter was converted by the following equations:

$$Ax(I) = x(I) \cos \theta + y(I) \sin \theta$$

$$Ay(I) = x(I) \sin \theta - y(I) \cos \theta$$



where x(I), y(I) are data from the current meter

θ is the angle between the north and the control line

Ax(I), Ay(I) are on-offshore and longshore current data, respectively.

The mean current in the on-offshore direction, $\overline{Cx}$, and longshore direction, $\overline{Cy}$, are, respectively

$$\overline{Cx} = \sum_{I=1}^{N} \frac{Ax(I)}{N}$$

$$\overline{Cy} = \sum_{I=1}^{N} \frac{Ay(I)}{N}$$

where N is total data points. The spectral analysis is the same as the wave energy spectra.

Suspended Sediment

The statistical properties of suspended sediment were analyzed by a Rapid Sediment Analyzer (RSA). The RSA is ideally suited for performing grain size determinations on small samples. Usually, subsamples of from 0.5 to 1.0 grams are run in triplicate to obtain the best results. Samples as small as 0.3 grams have produced satisfactory results.

The rapid sediment analyzer consists of a settling tube/microbalance which interfaces with a Hewlett Packard 9825A Desk Top Computer. The settling tube is patterned after the design of Gibbs (1974). The computer interface provides control for data collection and a convenient means for data interpretation and output. Statistical computations and cumulative grain size distribution plots are standard RSA outputs.

The settling tube was calibrated using a mixture of outer continental shelf sands. The sand particles were sieved into discrete fractions, and the specific gravity and shape factor of each fraction determined. The settling velocity of each size fraction was then determined at several known water temperatures. The results of the calibration runs matched the work of Zeigler and Gill (1959) for particles with the same shape factor.

Results

A selected set of data are presented in the Appendix to illustrate the types of data available. Table 2 summarizes the cases reported.

Table 2. Data Summary

Date	Wind Direction	Wind Speed (m/s)	Tide (m)	Wave Position	H_s (m)	E (10^{-2} m^2-sec)	T_s (sec)	Current Position	On-Offshore (m/sec)	Longshore (m/sec)	Remarks
9/18/79 10:45	WSW	13.7	+0.45	1225	1.241	9.624	5.7	90	-0.1268	0.2883	
				940				105			
				225				120			
				154	1.270	10.085	6.9		-0.0373	0.3235	
				135	1.315	10.804	7.5				
9/19/79 8:30	SW	6.3	-0.30	1225	0.651	2.652	4.6	90			
				940	0.657	2.700		105			
				225	0.594	2.205	4.9	120			
				154	0.803	4.028	5.8		-0.4505	-0.0168	
				135	0.850	4.520	6.1				
9/19/79 12:00	WSW	4.8	+0.50	1225	0.758	3.594	4.4	90	-0.1830	-0.2273	
				940	0.669	2.800		105			
				225	0.629	2.472	5.0	120			
				154	0.722	3.254	6.3		-0.2840	-0.0568	
				135	0.801	4.005	6.4				
9/19/79 16:00	WSW	6.6	+1.17	1225	0.499	1.557	4.4	90			
				940	0.657	2.700		105			
				225	0.524	1.715	4.6	120			
				154	0.655	2.685	5.0		-0.1308	-0.2420	
				135	0.697	3.033	4.9				
9/20/79 8:00	S	9.4	-0.65	1225	0.883	4.869	4.5	90			
				225				105			
				154	0.657	2.700	4.8	120	0.2625	0.4588	
				135	0.697	3.036	5.1				
9/20/79 12:00	SW	12.7	+0.20	1225				90	-0.0785	0.8130	
				225				105			
				154	1.023	6.543	6.3	120	-0.3241	0.8820	
				135	1.088	7.407	6.7				
9/20/79 16:00	WSW	12.8	+1.14	1225				90			
				225				105	-0.0930	-0.0658	
				154	0.915	5.227	5.8	120	-0.1978	0.6608	
				135	0.947	5.598	6.0				
9/21/79 8:00	W	14.3	-0.30	1225	1.862	21.659		90			
				225				105	-0.4578	-0.0838	
				154	0.852	4.533	5.1	120	-0.5493	-0.1778	
				135	0.961	5.776	5.5				

Table 2. Data Summary (Continued)

Date	Wind Direction	Wind Speed (m/s)	Tide (m)	Wave Position	H_s (m)	E (10^{-2} m^2-sec)	T_s (sec)	Current Position	On-Offshore (m/sec)	Longshore (m/sec)	Remarks
9/21/79 10:00	W	13.0	-0.05	1225	1.384	11.975	5.6	90	-0.1880	0.6325	
				225				105	-0.7193	0.5163	
				154	1.052	6.928	5.9	120	-0.6739	0.3150	
				135	1.279	10.219	6.5				
9/21/79 12:00	W	11.5	+0.50	1225	1.733	18.774		90	-0.3773	0.3688	
				225				105	-0.7130	0.1968	
				154	1.263	9.962	6.7	120	-0.4550	0.0243	
				135	1.433	12.831	6.7				
9/21/79 14:00	W	10.0	+1.05	1225	1.215	9.228		90	-0.3438	-0.0950	
				225				105	-0.6565	-0.0965	
				154	1.131	8.000	6.7	120	-0.5175	-0.3083	
				135	1.287	10.347	6.9				
9/21/79 16:00	WSW	9.3	+1.55	1225	1.176	8.646	5.0	90	-0.2268	0.1120	
				225				105	-0.6095	-0.0388	
				154	0.959	6.200	6.1	120	-0.8535	-0.3137	
				135	1.252	9.800	6.3				
9/22/79 12:00	WNW	6.6	-0.50	1225	0.983	6.038	4.6	90	-0.1900	-0.6693	
				940	0.903	5.100		105			
				225				120			
				154	0.749	3.507	5.8		-0.3070	-0.1150	
				135	0.865	4.681	5.6				
9/24/79 14:00	N	6.8	-0.30	1225	0.988	6.100	4.7	90	-0.1303	-0.5310	
				225				105	0.0838	-0.5963	
				154	0.669	2.801	5.7	120	-0.2498	-0.1498	
				135	0.769	3.701	6.1				
9/25/79 12:00	SW	6.1	0.220	1225	0.572	2.048	3.5	90			
				225				105			
				154	0.421	1.110	3.7	120	-0.2890	-0.1389	
				135	0.499	1.556	4.0				
9/25/79 16:00	SSW	8.1	0.830	1225	0.620	2.406	3.9	90	-0.1238	0.0930	
				225				105	-0.1043	-0.0775	
				154	0.513	1.649	5.0	120	-0.2395	0.1305	
				135	0.575	2.063	4.9				

Table 2. Data Summary (Continued)

Date	Wind Direction	Wind Speed (m/s)	Tide (m)	Wave Position	H_s (m)	E (10^{-2} m^2-sec)	T_s (sec)	Current Position	On-Offshore (m/sec)	Longshore (m/sec)	Remarks
9/26/79 14:00	SW	6.7	0.897	1225	0.856	4.584		90	0.2445	-0.1770	Suspended Sediment Sample
				225	0.528	1.742	4.5	105	-0.1403	-0.1488	
				154	0.781	3.808	6.0	120	-0.2270	0.0770	
				135	0.850	4.516	6.0				
9/26/79 15:00	SW	7.6	1.055	1225	0.686	2.939	4.5	90	-0.1530	-0.0748	Suspended Sediment Sample
				225				105	-0.0450	0.0625	
				154	0.749	3.513	5.9	120	-0.1208	0.1343	
				135	0.819	4.200	6.0				
9/26/79 16:00	SW	7.9	1.065	1225	0.749	3.505	4.5	90	-0.1083	0.0703	Suspended Sediment Sample
				225				105	-0.1153	0.1060	
				154	0.715	3.194	5.9	120	-0.1180	0.1781	
				135	0.799	3.993	6.0				
9/27/79 8:00	W	9.5	-0.100	1225	0.851	4.522	4.6	90			Suspended Sediment Sample
				225				105			
				154	0.891	4.961	5.5	120	-0.0805	0.4613	
				135	0.916	5.242	5.5				
9/27/79 9:00	W	10.1	-0.400	1225	0.768	3.689	4.5	90			Suspended Sediment Sample
				225				105			
				154	0.567	2.010	4.0	120	0.5218	-0.1160	
				135	0.470	1.381	3.8				
9/27/79 11:00	W	11.7	-0.290	1225	0.784	3.837	4.4	90			Suspended Sediment Sample
				225				105			
				154	0.413	1.067	3.7	120			
				135	0.284	0.505	3.0				
9/27/79 13:00	W	11.3	0.378	1225	1.026	6.576	5.1	90			Suspended Sediment Sample
				225				105			
				154	0.897	5.027	5.3	120	-0.3875	0.0363	
				135	0.879	4.829	5.5				
9/27/79 14:00	WNW	11.6	0.700	1225				90	0.0898	-0.1040	Suspended Sediment Sample
				225				105	0.3298	-0.1903	
				154	0.839	4.405	5.7	120	-0.3712	0.1390	
				135	0.877	4.815	5.8				

Table 2. Data Summary (Continued)

Date	Wind Direction	Wind Speed (m/s)	Tide (m)	Wave Position	H_s (m)	E (10^{-2} m^2-sec)	T_s (sec)	Current Position	On-Offshore (m/sec)	Longshore (m/sec)	Remarks
9/27/79 15:00	WNW	11.2	0.906	1225	1.078	7.262	4.8	90	-0.2453	-0.4543	Suspended Sediment Sample
				225	0.748	3.400	5.0	105	-0.0255	-0.4220	
				154	0.837	4.380	6.2	120	-0.4473	0.0053	
				135	0.951	5.648	5.9				
9/27/79 16:00	WNW	11.4	0.990	1225	0.923	5.325	5.3	90	-0.2498	-0.4560	Suspended Sediment Sample
				225	0.704	3.096	4.7	105	-0.0005	-0.4493	
				154	0.843	4.440	6.5	120	-0.2760	-0.0435	
				135	0.943	5.556	6.2				
9/27/79 17:00	WNW	11.0	0.887	1225	0.849	4.500	4.7	90	-0.2500	-0.5975	Suspended Sediment Sample
				225	0.629	2.475	4.9	105	0.0628	-0.7453	
				154	0.866	4.688	6.5	120	-0.3438	-0.1240	
				135	0.979	5.990	6.4				
9/28/79 8:00	WSW	6.2	-0.171	1225	0.609	2.315	4.3	90			
				225				105			
				154	0.661	2.735	5.4	120	-0.6230	-0.4653	
				135		3.200	5.4				
9/28/79 15:00	WNW	6.9	0.502	1225	0.666	2.769	4.4	90			
				225				105			
				154	0.623	2.422	5.4	120	-0.5145	-0.6228	
				135	0.716	3.400	5.2				
9/28/79 16:00	WNW	6.7	0.640	1225	0.755	3.600	4.3	90			
				225	0.491	1.509	4.2	105			
				154	0.633	2.506	5.6	120	-0.4500	-0.4703	
				135	0.715	3.200	5.7				
9/29/79 8:00	WNW	7.7	0.032	1225	0.581	2.107	4.3	90			
				225	0.506	1.600	3.9	105	0.0325	-0.0668	
				154	0.521	1.693	4.7	120	-0.5158	-0.6427	
				135	0.583	2.126	5.1				
9/29/79 16:00	NW	6.1	0.466	1225	0.616	2.373	4.4	90			
				225	0.484	1.463	4.5	105			
				154	0.599	2.245	5.4	120			
				135	0.703	3.092	5.5				

Acknowledgment

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Mr. Hans-J. Stephan led the field groups for data collection, and was assisted by Messrs. Niesel, Jensen and Kirby.

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APPENDIX - DATA

Magnitude of Significant Wave Height and Maximum Wave Height

Date	Hour	Significant wave height [m]		Maximum wave height [m]	
180979	0	1.9	XXXXXXX	2.9	XXXXXXXXXX
180979	1	1.9	XXXXXXX	2.9	XXXXXXXXXX
180979	2	2.0	XXXXXXXX	3.1	XXXXXXXXXXX
180979	3	2.2	XXXXXXXX	3.2	XXXXXXXXXXX
180979	4	2.2	XXXXXXXX	3.1	XXXXXXXXXXX
180979	5	2.4	XXXXXXXXX	3.4	XXXXXXXXXXXX
180979	6	2.5	XXXXXXXXXX	3.5	XXXXXXXXXXXX
180979	7	2.5	XXXXXXXXXX	3.5	XXXXXXXXXXXX
180979	8	2.3	XXXXXXXXX	3.2	XXXXXXXXXX
180979	9	2.5	XXXXXXXXXX	3.5	XXXXXXXXXXX
180979	10	2.4	XXXXXXXXX	3.4	XXXXXXXXXXX
180979	11	2.5	XXXXXXXXXX	3.5	XXXXXXXXXXX
180979	12	2.7	XXXXXXXXXX	3.9	XXXXXXXXXXXX
180979	13	3.3	XXXXXXXXXXXX	4.5	XXXXXXXXXXXXXXX
180979	14	2.3	XXXXXXXXX	3.3	XXXXXXXXXXX
180979	15	2.6	XXXXXXXXXX	3.7	XXXXXXXXXXX
180979	16	2.9	XXXXXXXXXX	4.0	XXXXXXXXXXXXX
180979	17	2.5	XXXXXXXXXX	3.6	XXXXXXXXXXX
180979	18	2.3	XXXXXXXXX	3.3	XXXXXXXXXXX
180979	19	2.2	XXXXXXXX	3.2	XXXXXXXXXX
180979	20	2.1	XXXXXXXX	3.0	XXXXXXXXXX
180979	21	1.8	XXXXXXX	2.7	XXXXXXXXX
180979	22	1.7	XXXXXX	2.6	XXXXXXXXX
180979	23	1.7	XXXXXX	2.5	XXXXXXXXX
190979	0	1.7	XXXXXX	2.5	XXXXXXXXX
190979	1	1.6	XXXXXX	2.4	XXXXXXXX
190979	2	1.6	XXXXXX	2.4	XXXXXXXX
190979	3	1.5	XXXXX	2.2	XXXXXXX
190979	4	1.4	XXXXX	2.1	XXXXXXX
190979	5	1.5	XXXXX	2.2	XXXXXXX
190979	6	1.3	XXXXX	2.0	XXXXXX
190979	7	0.8	XXX	1.4	XXXXX
190979	8	0.8	XXX	1.3	XXXXX
190979	9	1.2	XXXX	1.8	XXXXXX
190979	10	0.9	XXX	1.4	XXXXX
190979	11	0.8	XXX	1.4	XXXXX
190979	12	0.4	X	0.8	XXX
190979	13	0.3	X	0.7	XX
190979	14	0.8	XXX	1.4	XXXXX
190979	15	0.7	XX	1.2	XXXX
190979	16	0.8	XXX	1.3	XXXXX
190979	17	0.7	XX	1.2	XXXX
190979	18	0.6	XX	1.1	XXXX
190979	19	0.4	X	0.8	XXX
190979	20	0.3	X	0.3	X
190979	21	0.3	X	0.3	X
190979	22	0.3	X	0.3	X
190979	23	0.3	X	0.3	X

Date	Hour	Significant wave height [m]		Maximum wave height [m]	
200979	0	0.3	X	0.3	X
200979	1	0.3	X	0.3	X
200979	2	0.3	X	0.3	X
200979	3	0.3	X	0.4	X
200979	4	0.5	X	0.7	XX
200979	5	0.5	XX	0.7	XX
200979	6	1.0	XXX	1.4	XXXXX
200979	7	1.7	XXXXXX	2.4	XXXXXXXXX
200979	8	1.7	XXXXXX	2.5	XXXXXXXXXX
200979	9	1.7	XXXXXX	2.5	XXXXXXXXXX
200979	10	1.9	XXXXXXX	2.8	XXXXXXXXXXX
200979	11	2.2	XXXXXXXX	3.3	XXXXXXXXXXXXX
200979	12	2.4	XXXXXXXXX	3.6	XXXXXXXXXXXXXX
200979	13	1.7	XXXXXX	2.4	XXXXXXXXX
200979	14	2.1	XXXXXXXX	2.9	XXXXXXXXXX
200979	15	2.1	XXXXXXXX	3.0	XXXXXXXXXXX
200979	16	2.2	XXXXXXXX	3.1	XXXXXXXXXXX
200979	17	2.4	XXXXXXXXX	3.4	XXXXXXXXXXXX
200979	18	2.4	XXXXXXXXX	3.4	XXXXXXXXXXXX
200979	19	2.5	XXXXXXXXX	3.5	XXXXXXXXXXXX
200979	20	2.7	XXXXXXXXXX	3.7	XXXXXXXXXXXXX
200979	21	2.9	XXXXXXXXXX	4.0	XXXXXXXXXXXXXX
200979	22	3.0	XXXXXXXXXX	4.1	XXXXXXXXXXXXXX
200979	23	2.9	XXXXXXXXXX	3.9	XXXXXXXXXXXXX
210979	0	3.2	XXXXXXXXXXX	4.4	XXXXXXXXXXXXXX
210979	1	3.2	XXXXXXXXXXX	4.4	XXXXXXXXXXXXXX
210979	2	3.3	XXXXXXXXXXXX	4.5	XXXXXXXXXXXXXXX
210979	3	3.3	XXXXXXXXXXXX	4.5	XXXXXXXXXXXXXXX
210979	4	3.5	XXXXXXXXXXXXX	4.9	XXXXXXXXXXXXXXXX
210979	5	3.2	XXXXXXXXXXX	4.4	XXXXXXXXXXXXXX
210979	6	3.2	XXXXXXXXXXX	4.4	XXXXXXXXXXXXXX
210979	7	2.7	XXXXXXXXX	3.9	XXXXXXXXXXXX
210979	8	2.7	XXXXXXXXX	3.8	XXXXXXXXXXXX
210979	9	2.3	XXXXXXXX	3.3	XXXXXXXXXX
210979	10	2.4	XXXXXXXX	3.4	XXXXXXXXXX
210979	11	1.8	XXXXXX	2.7	XXXXXXXX
210979	12	1.9	XXXXXX	2.8	XXXXXXXXX
210979	13	1.2	XXX	1.9	XXXXX
210979	14	1.5	XXXXX	2.3	XXXXXXX
210979	15	1.8	XXXXXX	2.7	XXXXXXXX
210979	16	1.4	XXXX	2.1	XXXXXX
210979	17	1.2	XXX	1.8	XXXXX
210979	18	1.3	XXXX	2.1	XXXXXX
210979	19	1.2	XXX	1.9	XXXXX
210979	20	1.4	XXXX	2.2	XXXXXX
210979	21	0.6	XX	1.0	XXX
210979	22	0.3	X	0.5	X
210979	23	0.4	X	0.8	XX

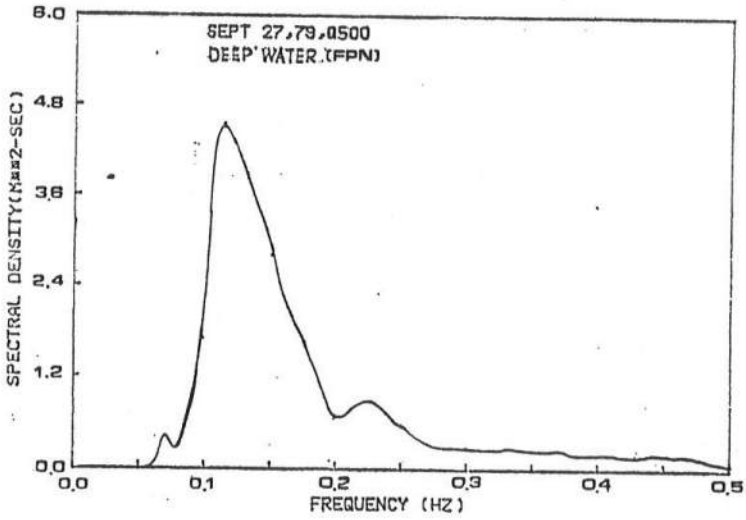
Date	Hour	Significant wave height [m]		Maximum wave height [m]	
220979	0	0.3	X	0.3	X
220979	1	0.3	X	0.3	X
220979	2	0.3	X	0.3	X
220979	3	0.3	X	0.3	X
220979	4	0.3	X	0.3	X
220979	5	0.3	X	0.5	XX
220979	6	0.3	X	0.6	XX
220979	7	0.8	XXX	1.2	XXXX
220979	8	1.2	XXXX	1.7	XXXXXX
220979	9	0.3	X	0.6	XX
220979	10	0.3	X	0.4	X
220979	11	0.4	X	0.7	XX
220979	12	0.4	X	0.7	XX
220979	13	0.3	X	0.6	XX
220979	14	0.6	XX	0.9	XXX
220979	15	0.6	XX	0.9	XXX
220979	16	0.7	XX	1.1	XXXX
220979	17	0.7	XX	1.0	XXXX
220979	18	1.0	XXXX	1.5	XXXXXX
220979	19	0.4	X	0.7	XX
220979	20	0.5	XX	0.8	XXX
220979	21	0.4	X	0.7	XX
220979	22	0.3	X	0.3	X
220979	23	0.3	X	0.4	X
240979	0	0.9	XXX	1.4	XXXXX
240979	1	1.2	XXXX	1.8	XXXXXXX
240979	2	1.6	XXXXXX	2.3	XXXXXXXXX
240979	3	1.4	XXXXX	2.1	XXXXXXXX
240979	4	1.3	XXXXX	1.9	XXXXXXX
240979	5	1.3	XXXXX	1.9	XXXXXXX
240979	6	1.1	XXXX	1.5	XXXXX
240979	7	1.2	XXXX	1.7	XXXXXX
240979	8	1.2	XXXX	1.8	XXXXXXX
240979	9	1.2	XXXX	1.8	XXXXXXX
240979	10	1.2	XXXX	1.8	XXXXXXX
240979	11	0.9	XXX	1.3	XXXXX
240979	12	0.6	XX	0.8	XXX
240979	13	0.7	XX	1.1	XXXX
240979	14	0.9	XXX	1.3	XXXXX
240979	15	1.1	XXXX	1.6	XXXXXX
240979	16	1.0	XXXX	1.6	XXXXXX
240979	17	1.0	XXXX	1.5	XXXXX
240979	18	0.8	XXX	1.2	XXXX
240979	19	0.7	XX	1.0	XXXX
240979	20	0.7	XX	0.9	XXX
240979	21	0.3	X	0.4	X
240979	22	0.3	X	0.3	X
240979	23	0.3	X	0.3	X

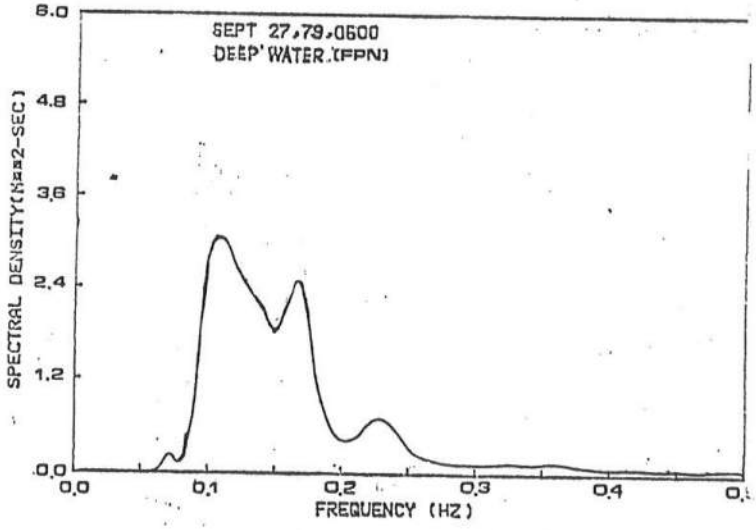
Date	Hour	Significant wave height [m]		Maximum wave height [m]	
250979	0	0.3	X	0.3	X
250979	1	0.3	X	0.3	X
250979	2	0.3	X	0.3	X
250979	3	0.3	X	0.3	X
250979	4	0.3	X	0.3	X
250979	5	0.3	X	0.3	X
250979	6	0.3	X	0.3	X
250979	7	0.3	X	0.3	X
250979	8	0.3	X	0.4	X
250979	9	0.5	XX	0.8	XXX
250979	10	0.5	X	0.7	XX
250979	11	0.9	XXX	1.4	XXXXX
250979	12	0.8	XXX	1.2	XXXX
250979	13	0.9	XXX	1.4	XXXXX
250979	14	1.1	XXXX	1.7	XXXXXX
250979	15	1.3	XXXXX	1.8	XXXXXXX
250979	16	1.5	XXXXX	2.1	XXXXXXXX
250979	17	1.5	XXXXXX	2.2	XXXXXXXX
250979	18	1.4	XXXXX	2.0	XXXXXXX
250979	19	1.4	XXXXX	2.0	XXXXXXXX
250979	20	1.6	XXXXXX	2.4	XXXXXXXXX
250979	21	1.8	XXXXXXX	2.6	XXXXXXXXXX
250979	22	1.8	XXXXXXX	2.6	XXXXXXXXXX
250979	23	1.8	XXXXXXX	2.6	XXXXXXXXXX
260979	0	1.7	XXXXXX	2.4	XXXXXXXX
260979	1	1.8	XXXXXXX	2.6	XXXXXXXXX
260979	2	1.9	XXXXXXX	2.7	XXXXXXXXX
260979	3	1.9	XXXXXXX	2.8	XXXXXXXXXX
260979	4	1.7	XXXXXX	2.6	XXXXXXXXX
260979	5	1.8	XXXXXXX	2.7	XXXXXXXXX
260979	6	1.6	XXXXXX	2.5	XXXXXXXX
260979	7	1.6	XXXXXX	2.4	XXXXXXXX
260979	8	1.5	XXXXXX	2.3	XXXXXXXX
260979	9	1.3	XXXXX	2.0	XXXXXX
260979	10	1.2	XXXX	1.9	XXXXXX
260979	11	1.2	XXXX	1.8	XXXXXX
260979	12	1.1	XXXX	1.7	XXXXX
260979	13	1.1	XXXX	1.7	XXXXX
260979	14	0.9	XXX	1.4	XXXX
260979	15	1.2	XXXX	1.8	XXXXXX
260979	16	1.2	XXXX	1.9	XXXXXX
260979	17	1.2	XXXX	1.8	XXXXXX
260979	18	1.2	XXXX	1.9	XXXXXX
260979	19	1.3	XXXXX	1.8	XXXXXX
260979	20	1.5	XXXXXX	2.2	XXXXXXX
260979	21	1.7	XXXXXX	2.4	XXXXXXXX
260979	22	1.9	XXXXXXX	2.8	XXXXXXXXXX
260979	23	2.1	XXXXXXXX	3.1	XXXXXXXXXXX

Date	Hour	Significant wave height [m]		Maximum wave height [m]	
270979	0	2.3	XXXXXXXXX	3.5	XXXXXXXXXXXX
270979	1	2.4	XXXXXXXXX	3.6	XXXXXXXXXXXXX
270979	2	2.3	XXXXXXXXX	3.5	XXXXXXXXXXXX
270979	3	2.5	XXXXXXXXXX	3.8	XXXXXXXXXXXXXX
270979	4	2.2	XXXXXXXX	3.3	XXXXXXXXXXXX
270979	5	1.6	XXXXXX	2.3	XXXXXXXXX
270979	6	1.8	XXXXXX	2.7	XXXXXXXXXX
270979	7	1.5	XXXXXX	2.3	XXXXXXXXX
270979	8	1.4	XXXXX	2.1	XXXXXXXX
270979	9	1.6	XXXXXX	2.4	XXXXXXXXX
270979	10	1.8	XXXXXXX	2.6	XXXXXXXXX
270979	11	2.0	XXXXXXXX	2.9	XXXXXXXXXX
270979	12	2.1	XXXXXXXX	3.0	XXXXXXXXXX
270979	13	1.9	XXXXXXX	2.8	XXXXXXXXXX
270979	14	1.7	XXXXXX	2.5	XXXXXXXX
270979	15	1.6	XXXXXX	2.3	XXXXXXXX
270979	16	1.4	XXXXX	2.0	XXXXXXX
270979	17	1.3	XXXXX	1.9	XXXXXXX
270979	18	1.1	XXXX	1.7	XXXXXX
270979	19	1.1	XXXX	1.7	XXXXXX
270979	20	1.0	XXXX	1.6	XXXXXX
270979	21	1.0	XXXX	1.5	XXXXXX
270979	22	1.0	XXX	1.5	XXXXX
270979	23	1.2	XXXX	1.8	XXXXXXX
280979	0	1.0	XXX	1.6	XXXXXX
280979	1	0.6	XX	1.0	XXXX
280979	2	0.9	XXX	1.5	XXXXX
280979	3	0.6	XX	0.9	XXX
280979	4	0.6	XX	0.9	XXX
280979	5	0.7	XX	1.2	XXXX
280979	6	0.5	XX	1.0	XXX
280979	7	0.3	X	0.8	XXX
280979	8	0.7	XX	1.2	XXXX
280979	9	0.8	XXX	1.3	XXXXX
280979	10	0.9	XXX	1.5	XXXXXX
280979	11	0.9	XXX	1.5	XXXXXX
280979	12	0.8	XXX	1.2	XXXX
280979	13	0.6	XX	0.9	XXX
280979	14	0.6	XX	1.0	XXXX
280979	15	0.5	X	0.8	XXX
280979	16	0.4	X	0.7	XX
280979	17	0.3	X	0.6	XX
280979	18	0.3	X	0.5	X
280979	19	0.3	X	0.6	XX
280979	20	0.5	XX	1.0	XXXX
280979	21	0.5	XX	1.0	XXXX
280979	22	0.6	XX	1.1	XXXX
280979	23	0.6	XX	1.0	XXXX

Date	Hour	Significant wave height (m)		Maximum wave height (m)	
290979	0	0.7	XX	1.3	XXXXX
290979	1	0.8	XXX	1.4	XXXXX
290979	2	0.9	XXX	1.4	XXXXX
290979	3	0.9	XXX	1.5	XXXXX
290979	4	0.9	XXX	1.5	XXXXXX
290979	5	1.2	XXXX	1.8	XXXXXXX
290979	6	0.7	XX	1.2	XXXX
290979	7	0.8	XXX	1.2	XXXX
290979	8	0.7	XX	1.1	XXXX
290979	9	0.9	XXX	1.3	XXXXX
290979	10	1.0	XXX	1.5	XXXXXX
290979	11	0.7	XX	1.2	XXXX
290979	12	0.8	XXX	1.3	XXXXX
290979	13	0.8	XXX	1.3	XXXXX
290979	14	0.8	XXX	1.2	XXXX
290979	15	0.8	XXX	1.3	XXXXX
290979	16	0.3	X	0.5	XX
290979	17	0.7	XX	1.2	XXXX
290979	18	0.5	XX	0.9	XXX
290979	19	0.4	X	0.7	XX
290979	20	0.3	X	0.4	X
290979	21	0.6	XX	0.8	XXX
290979	22	0.4	X	0.5	XX
290979	23	0.3	X	0.4	X

Wave Energy Spectra in Deep Water


SEPT 27,79,0500
DEEP WATER (FPN)
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)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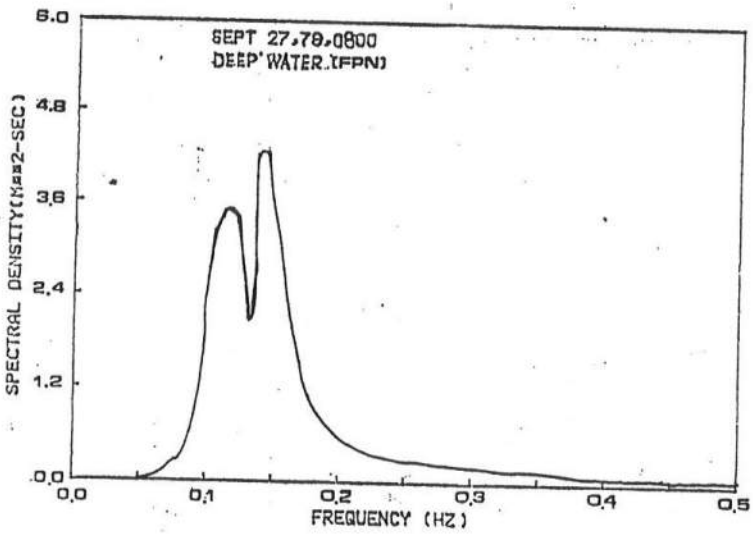
DEEP WATER (FPN)
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)


SEPT 27,79,0800
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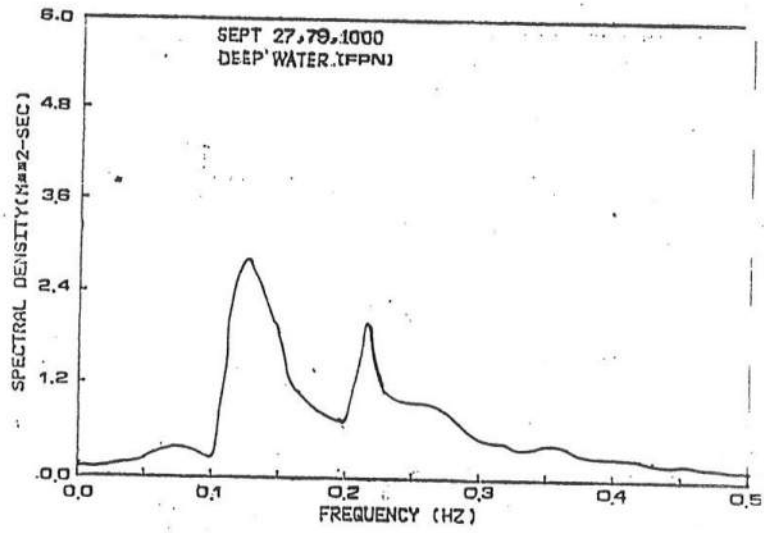
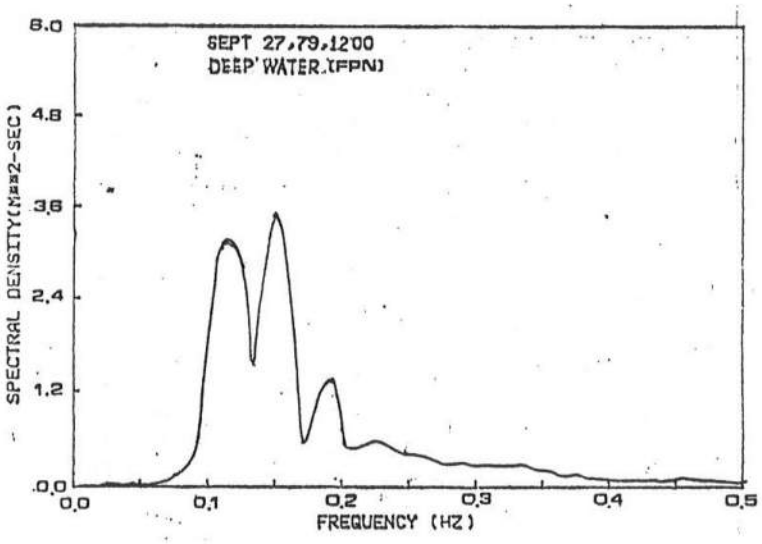
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)


SEPT 27,79,1000
DEEP WATER (FPN)
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)


SEPT 27,79,1200
DEEP WATER (FPN)
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)
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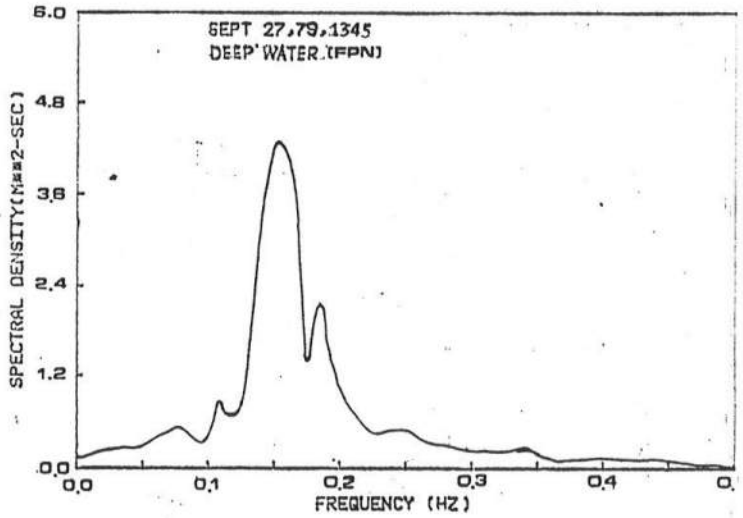
4.8
3.6
2.4
1.2
0.0
0.1
0.2
0.3
0.4
0.5


SEPT 27,79,1345
DEEP WATER (FPN)
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)
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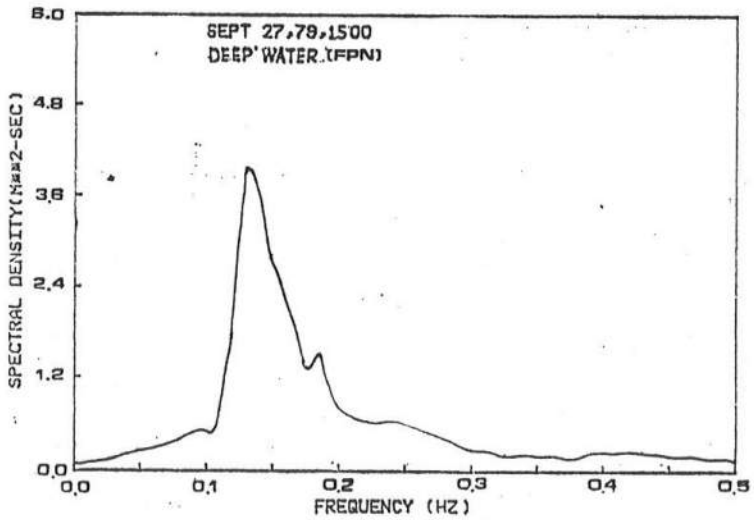
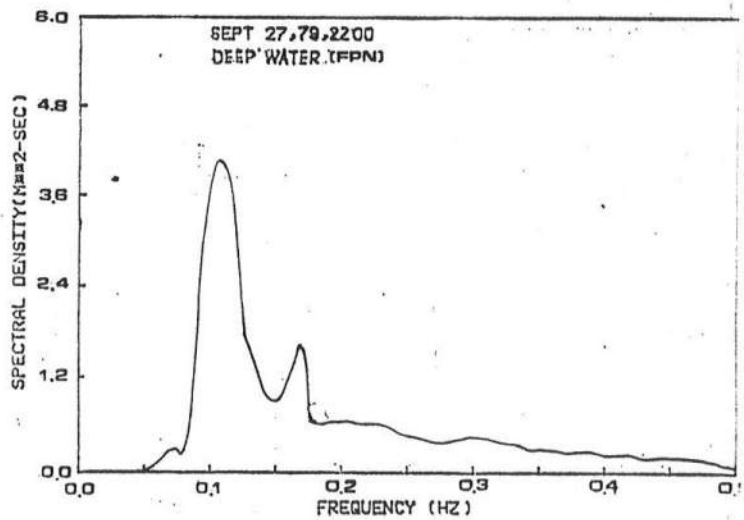
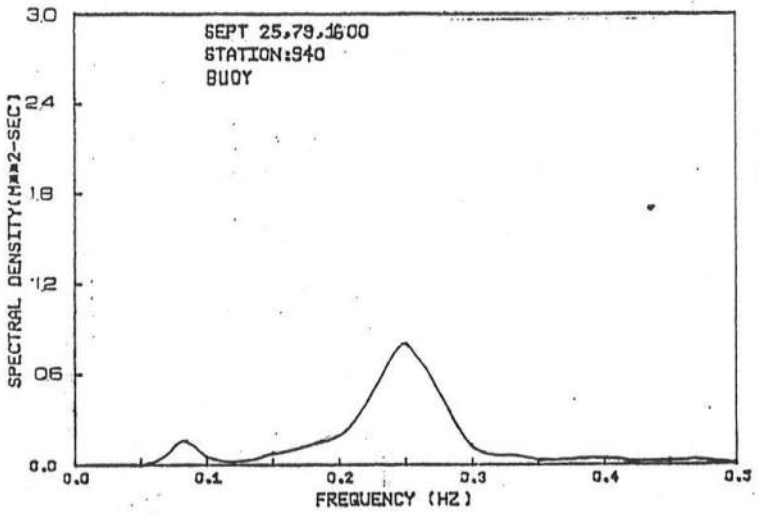
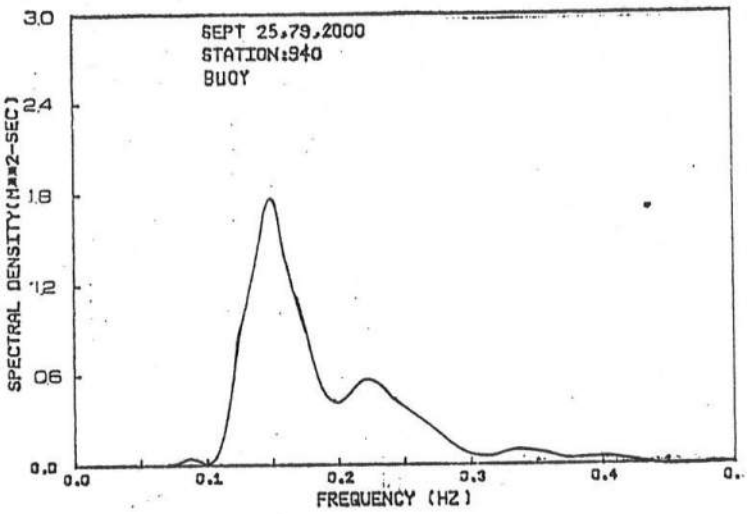
4.8
3.6
2.4
1.2
0.0
0.1
0.2
0.3
0.4

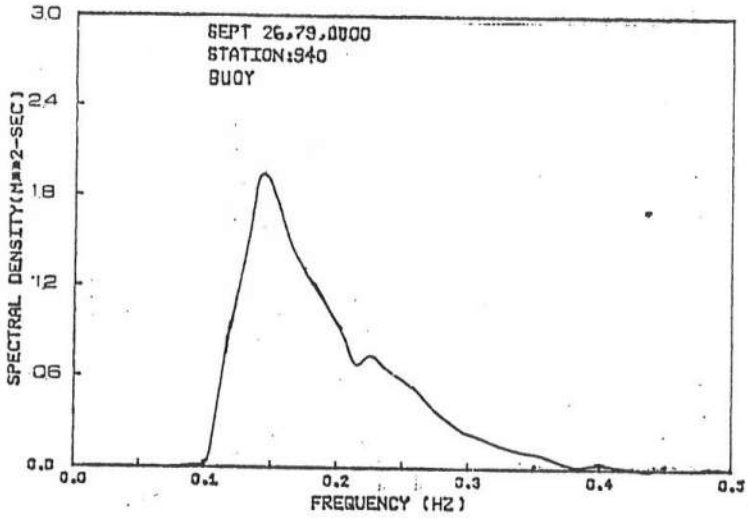

SEPT 27,79,1500
DEEP WATER (FPN)
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)
8.0
4.8
3.6
2.4
1.2
0.0
0.1
0.2
0.3
0.4
0.5

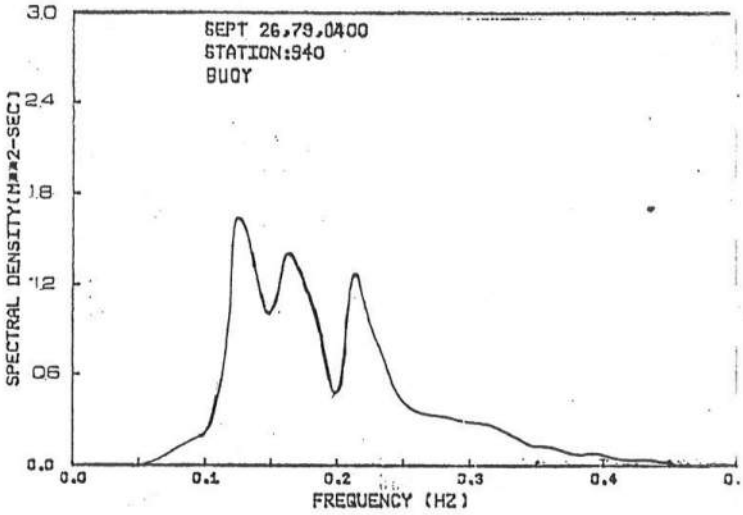

SEPT 27,79,2200
DEEP WATER (FPN)
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)
6.0
4.8
3.6
2.4
1.2
0.0
0.1
0.2
0.3
0.4

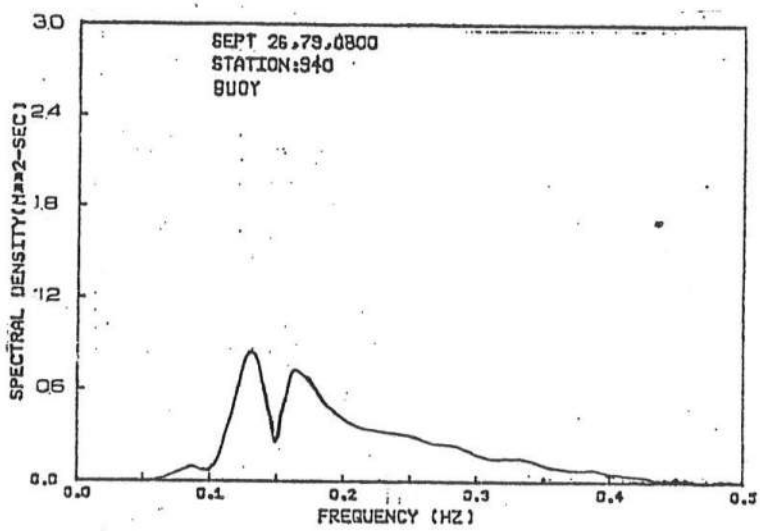
Wave Energy Spectra by Buoy in Shallow Water

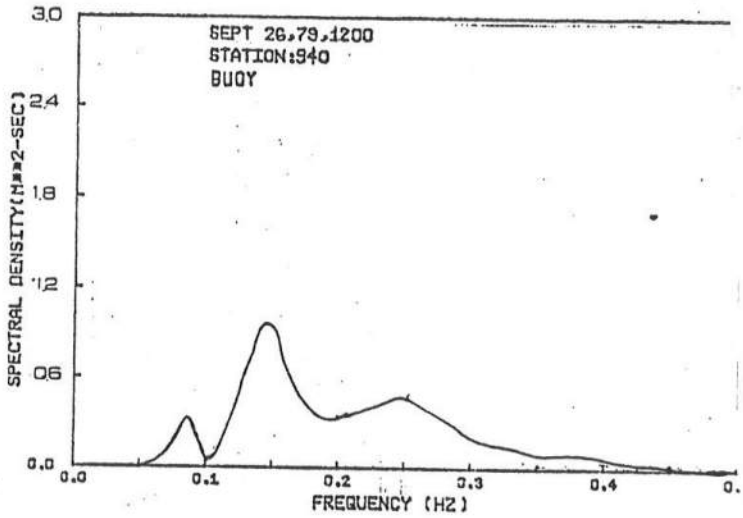

SEPT 25,79,1600
STATION:940
BUOY
SPECTRAL DENSITY(M**2-SEC)
3.0
2.4
1.8
1.2
0.6
0.0
0.0
0.1
0.2
0.3
0.4
0.5
FREQUENCY (HZ)

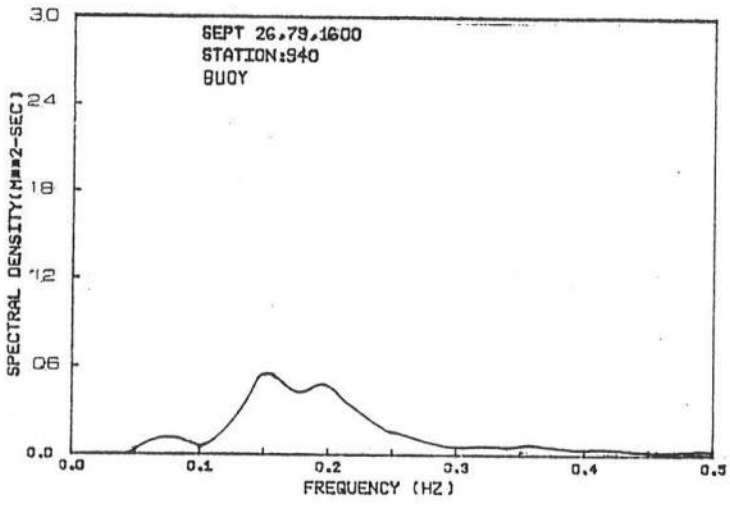

SEPT 25,79,2000
STATION:940
BUOY
SPECTRAL DENSITY(M**2-SEC)
3.0
2.4
1.8
1.2
0.6
0.0
0.0
0.1
0.2
0.3
0.4
FREQUENCY (HZ)

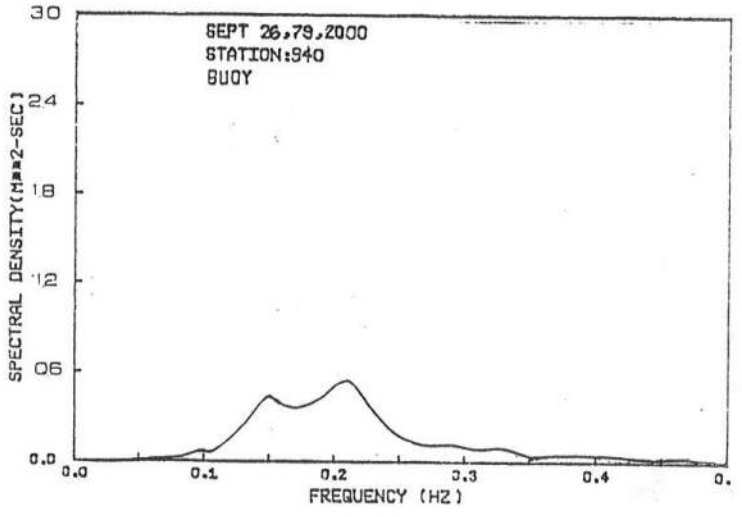

SEPT 26,79,0000
STATION:940
BUOY
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

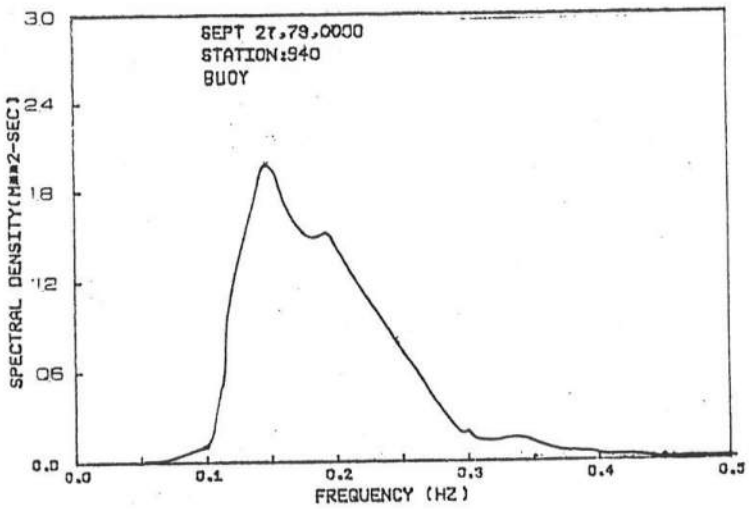

SEPT 26,79,0400
STATION:940
BUOY
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

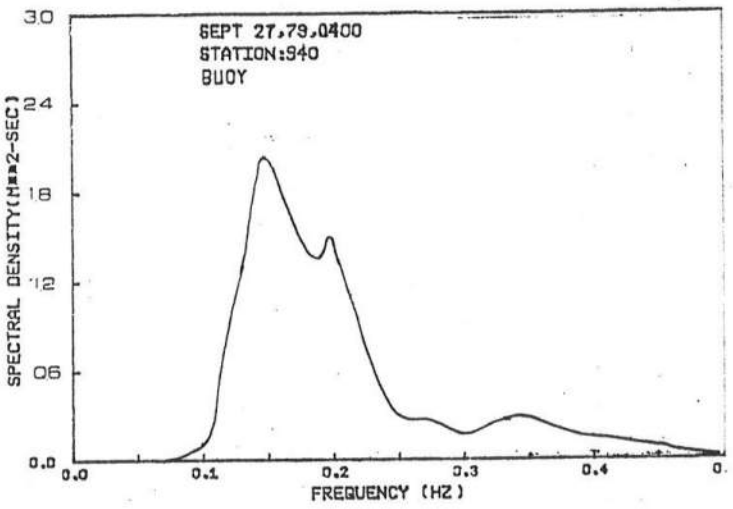

SEPT 26,79,0800
STATION:940
BUOY
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

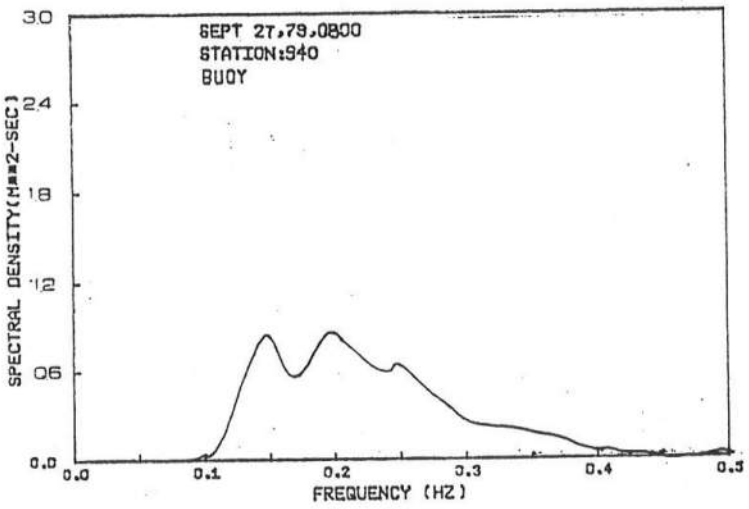

SEPT 26,79,1200
STATION:940
BUOY
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

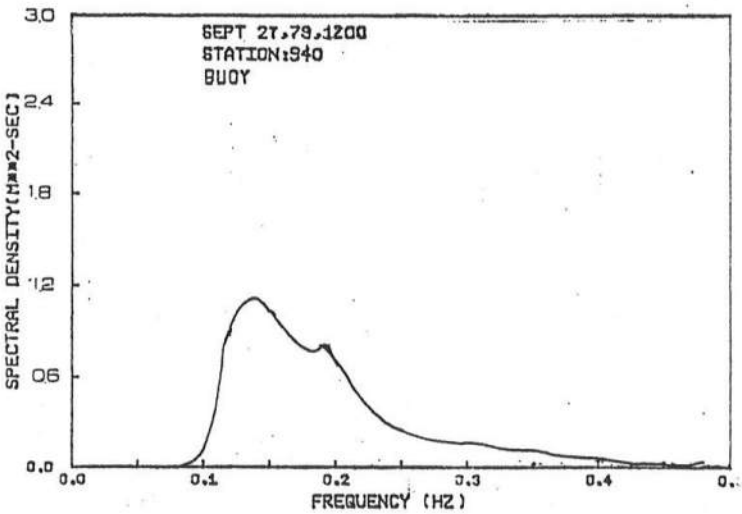

SEPT 26,79,1600
STATION:940
BUOY
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)


SEPT 26,79,2000
STATION:940
BUOY
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

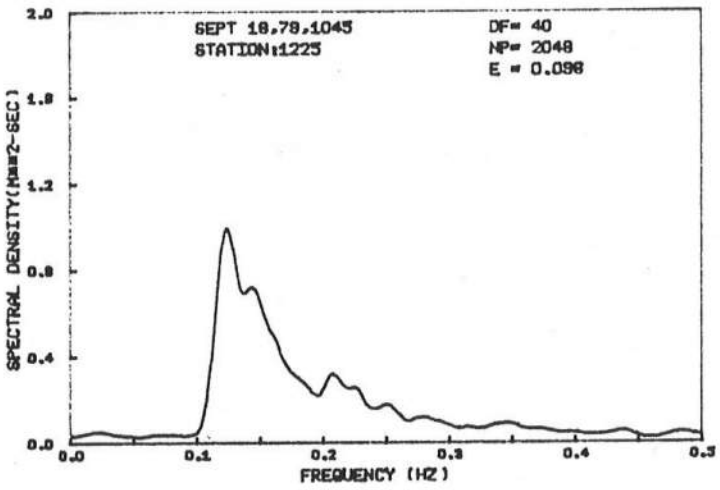

SEPT 27,79,0000
STATION:940
BUOY
SPECTRAL DENSITY(M**2-SEC)
3.0
2.4
1.8
.12
.06
0.0
0.0
0.1
0.2
0.3
0.4
FREQUENCY (HZ)

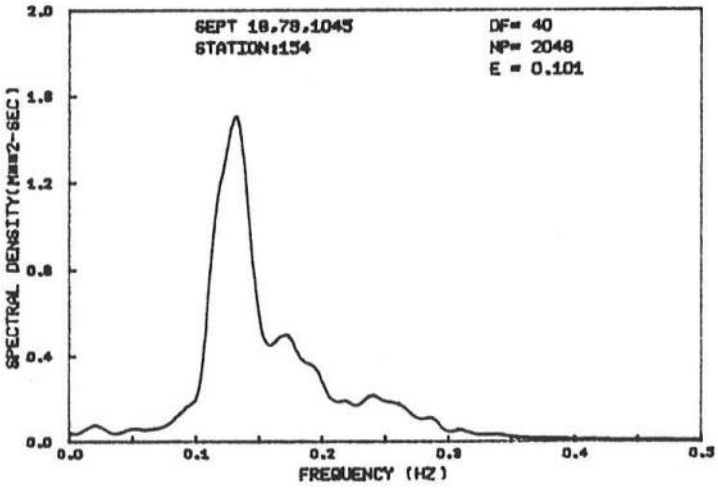

SEPT 27,79,0400
STATION:940
BUOY
SPECTRAL DENSITY(M**2-SEC)
3.0
2.4
1.8
.12
.06
0.0
0.0
0.1
0.2
0.3
0.4
FREQUENCY (HZ)

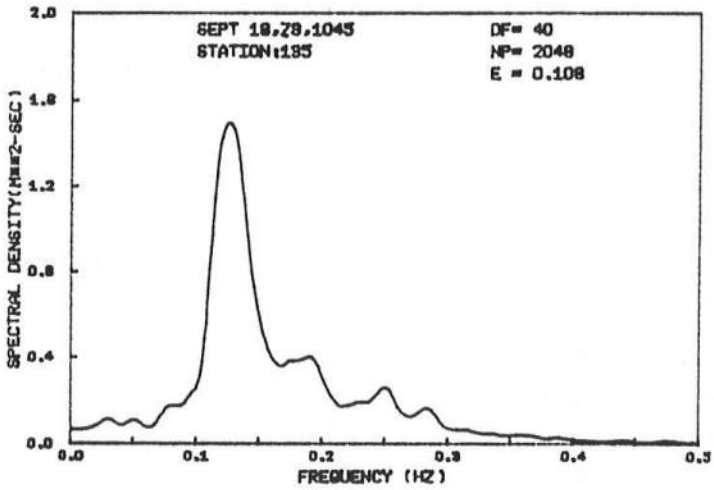

SEPT 27,79,0800
STATION:940
BUOY
SPECTRAL DENSITY(M**2-SEC)
3.0
2.4
1.8
.12
.06
0.0
0.0
0.1
0.2
0.3
0.4
FREQUENCY (HZ)

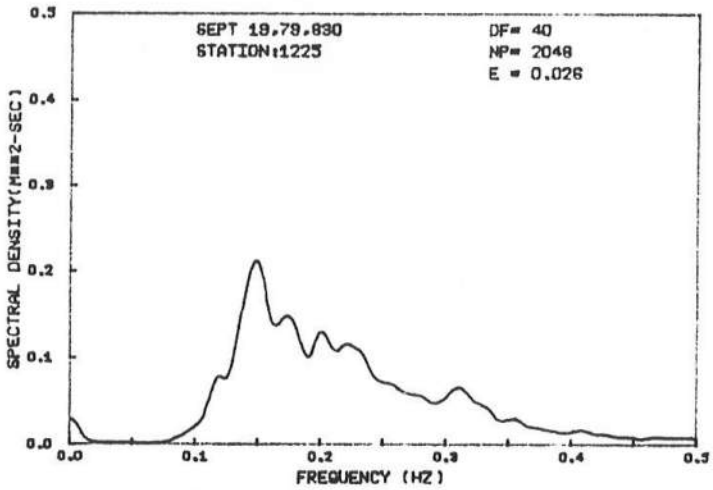

SEPT 27,79,1200
STATION:940
BUOY
SPECTRAL DENSITY(M**2-SEC)
3.0
2.4
1.8
.12
.06
0.0
0.0
0.1
0.2
0.3
0.4
FREQUENCY (HZ)

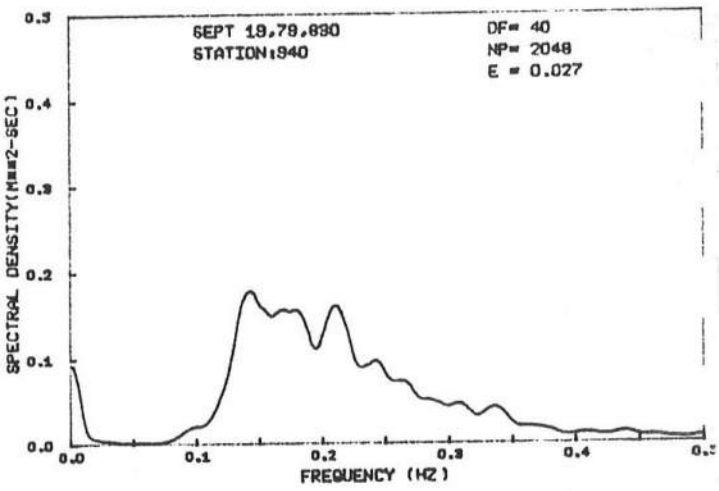
Wave Energy Spectra in Shallow Water

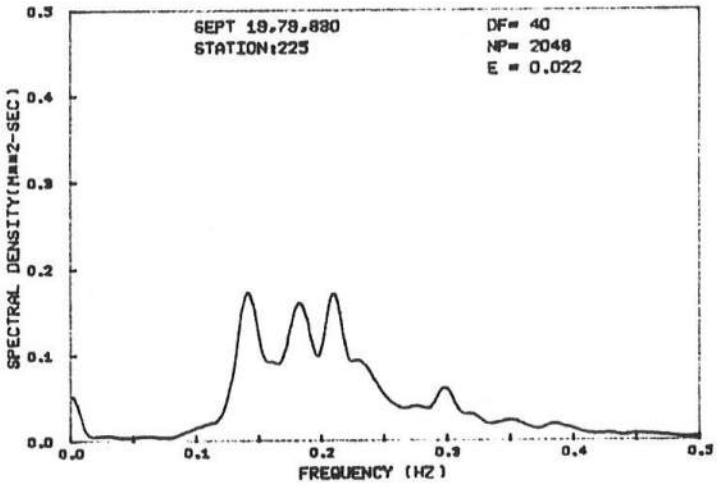

SEPT 18,78,1045
STATION:1225
DF= 40
NP= 2048
E = 0.098
SPECTRAL DENSITY(MM**2-SEC)
FREQUENCY (HZ)

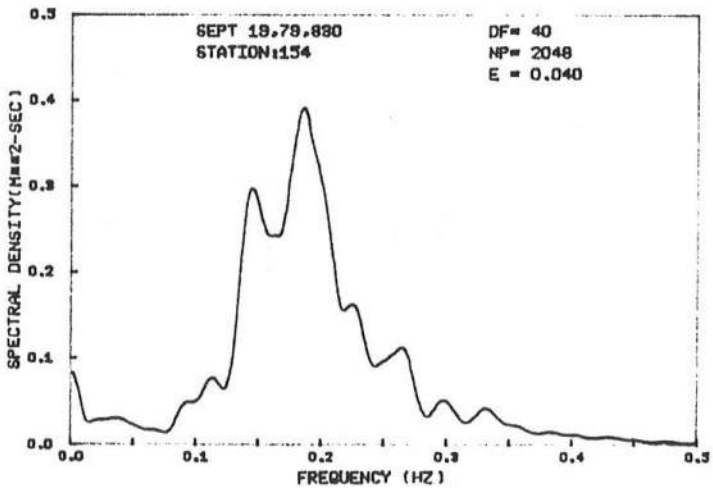

SEPT 18,78,1045
STATION:134
DF= 40
NP= 2048
E = 0.101
SPECTRAL DENSITY(MM**2-SEC)
FREQUENCY (HZ)

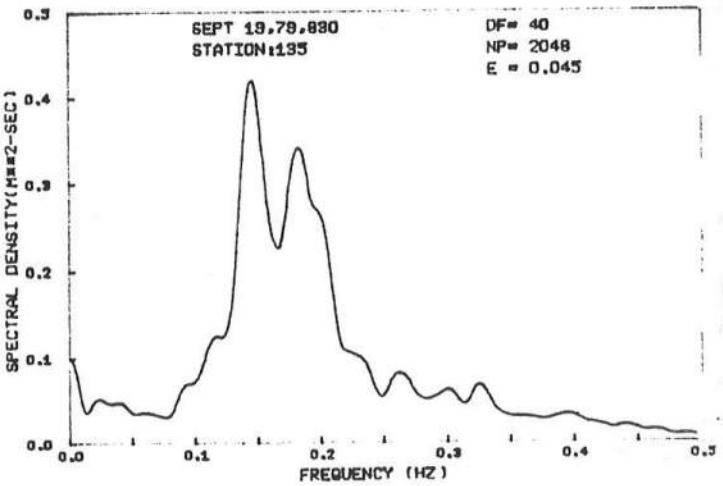

SEPT 18,78,1045
STATION:135
DF= 40
NP= 2048
E = 0.108
SPECTRAL DENSITY(MM**2-SEC)
FREQUENCY (HZ)

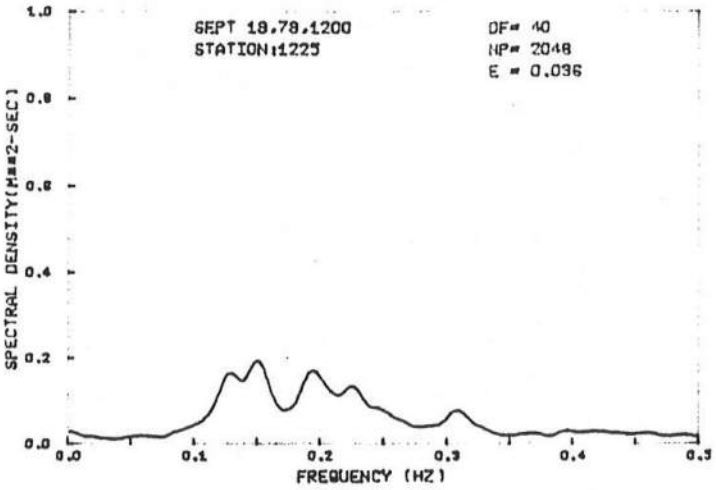

6SEPT 19,79,830
STATION:1225
DF= 40
NP= 2048
E = 0.026
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

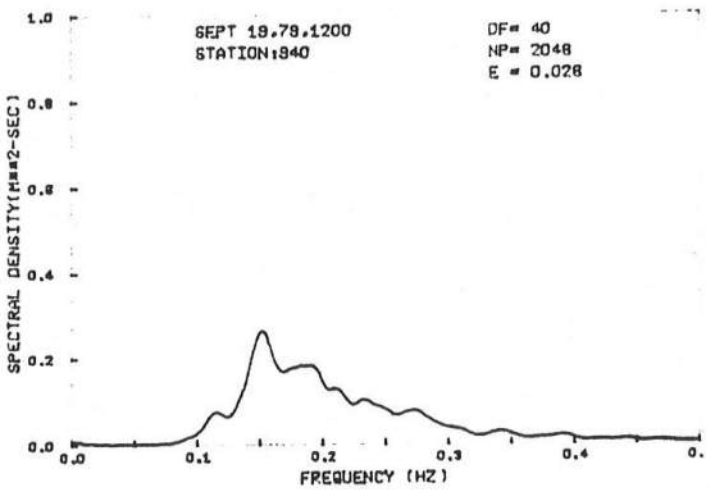

6SEPT 19,79,830
STATION:940
DF= 40
NP= 2048
E = 0.027
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

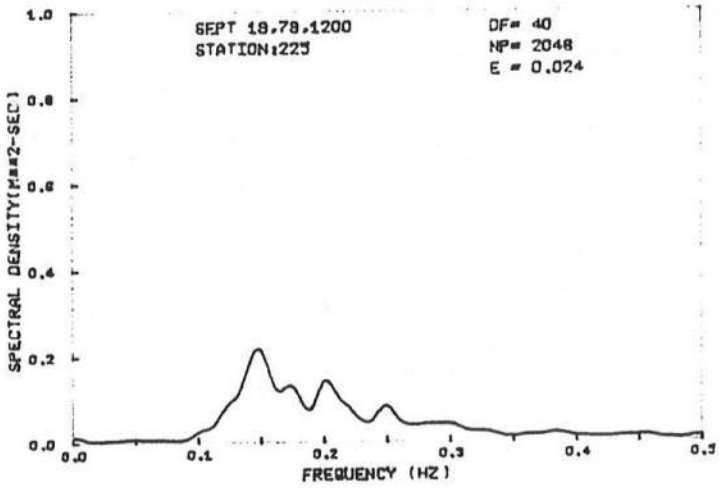

6SEPT 19,79,830
STATION:225
DF= 40
NP= 2048
E = 0.022
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

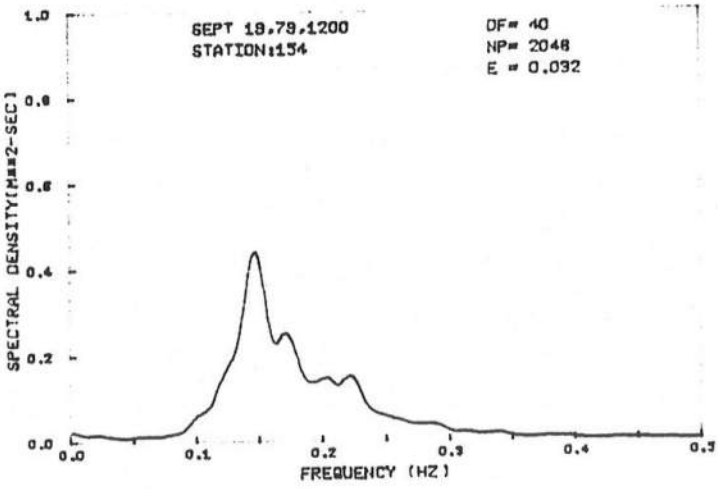

6SEPT 19,79,830
STATION:154
DF= 40
NP= 2048
E = 0.040
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

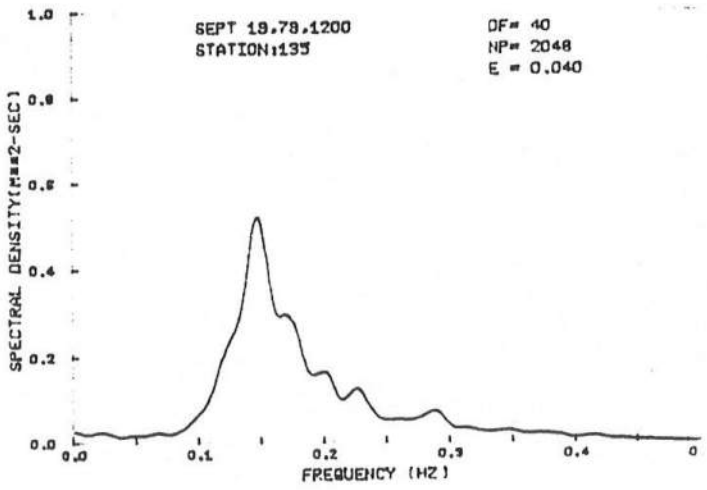

6SEPT 19,79,830
STATION:135
DF= 40
NP= 2048
E = 0.045
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

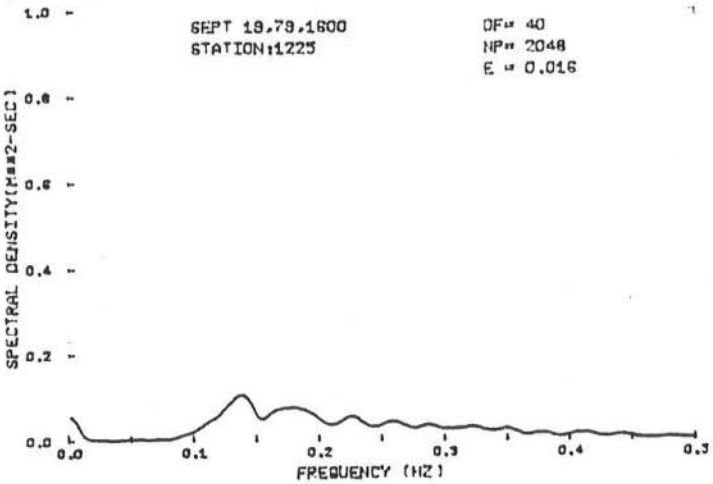

SEPT 18,78,1200
STATION:1225
DF= 40
NP= 2048
E = 0.036
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

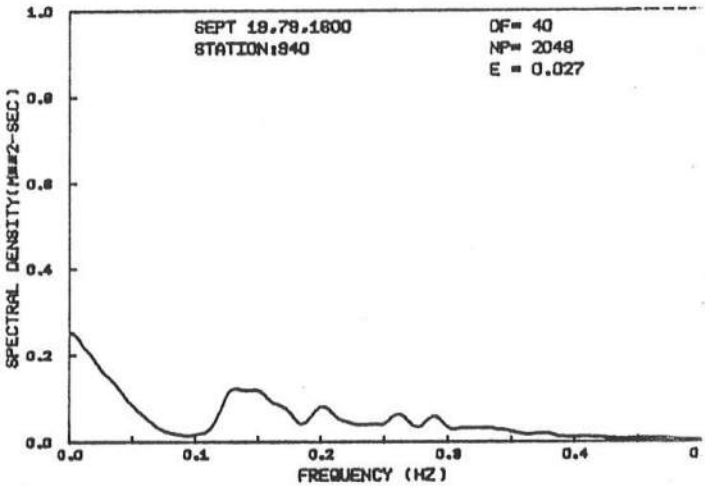

SEPT 18,78,1200
STATION:840
DF= 40
NP= 2048
E = 0.028
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

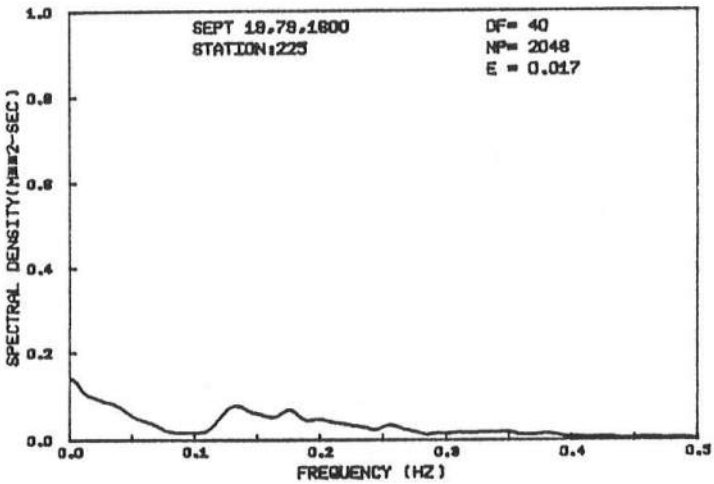

SEPT 18,78,1200
STATION:225
DF= 40
NP= 2048
E = 0.024
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

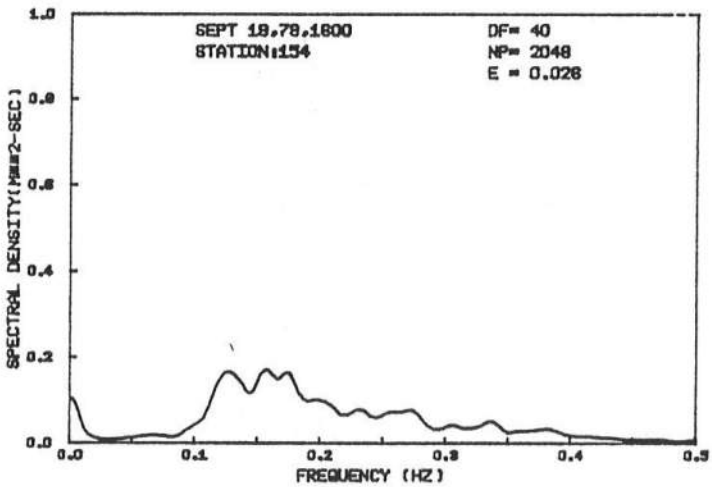

SEPT 18,78,1200
STATION:134
DF= 40
NP= 2048
E = 0.032
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

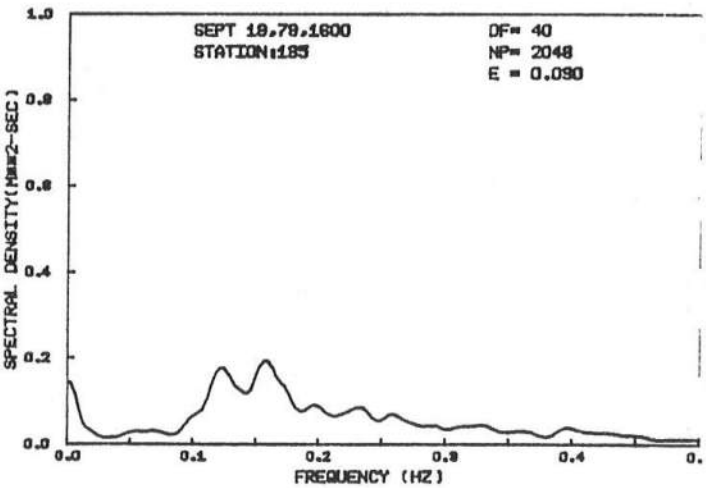

SEPT 18,78,1200
STATION:135
DF= 40
NP= 2048
E = 0.040
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

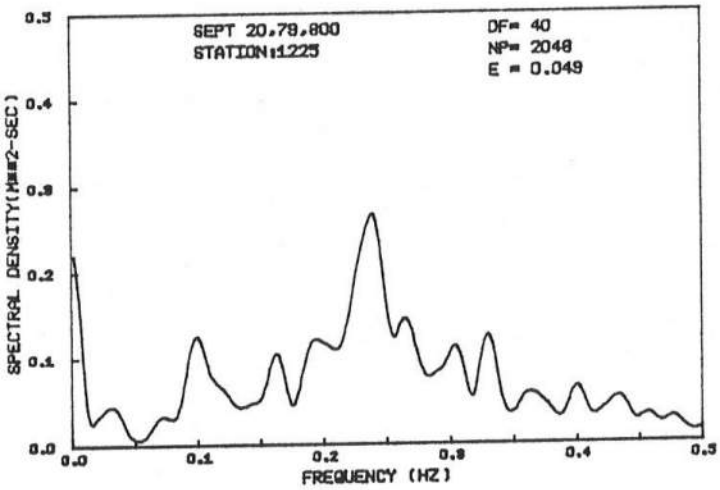

SEPT 19,78,1600
STATION:1225
DF= 40
NP= 2048
E = 0.016
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

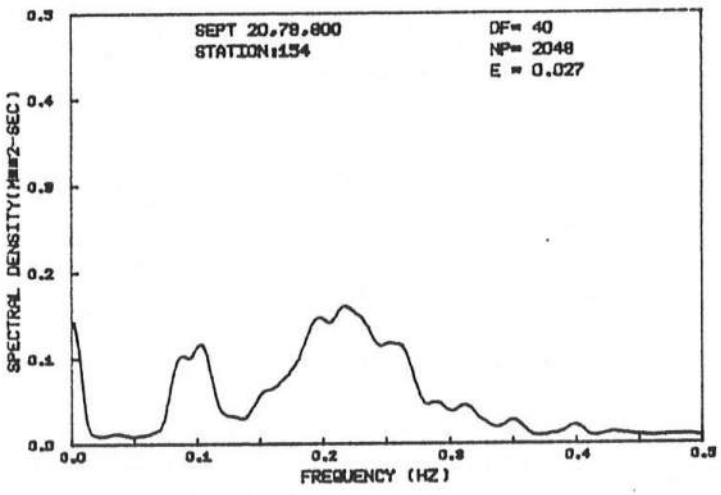

SEPT 19,78,1600
STATION:840
DF= 40
NP= 2048
E = 0.027
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

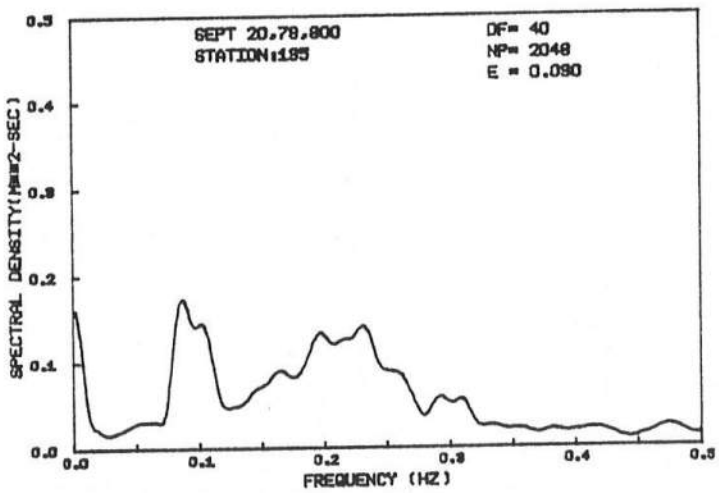

SEPT 19,78,1600
STATION:225
DF= 40
NP= 2048
E = 0.017
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

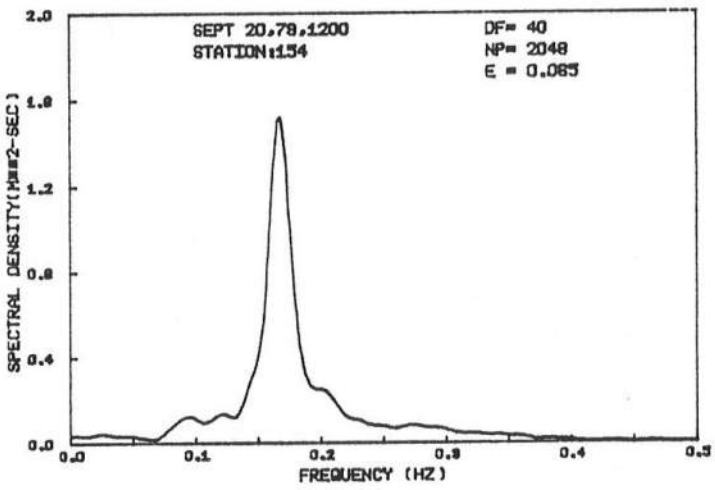

SEPT 19,78,1600
STATION:134
DF= 40
NP= 2048
E = 0.026
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

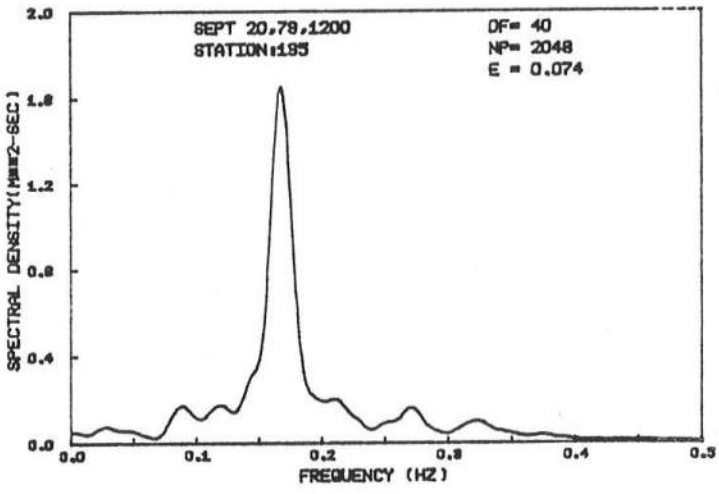

SEPT 19,78,1600
STATION:185
DF= 40
NP= 2048
E = 0.090
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

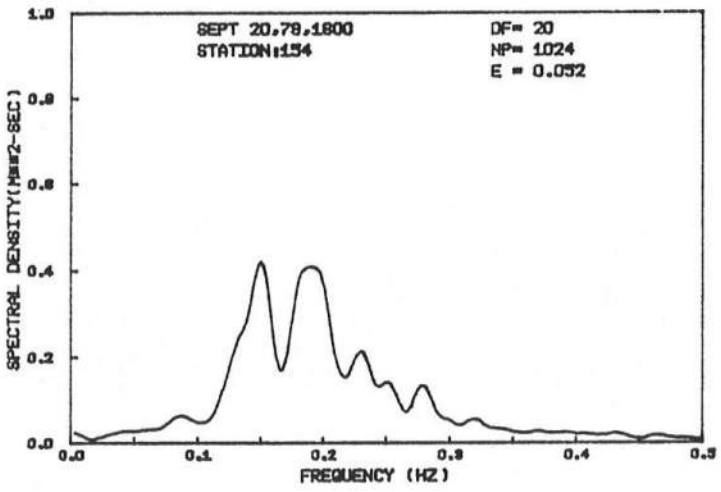

SEPT 20,78,800
STATION:1225
DF= 40
NP= 2048
E = 0.049
SPECTRAL DENSITY(MMM2-SEC)
FREQUENCY (HZ)

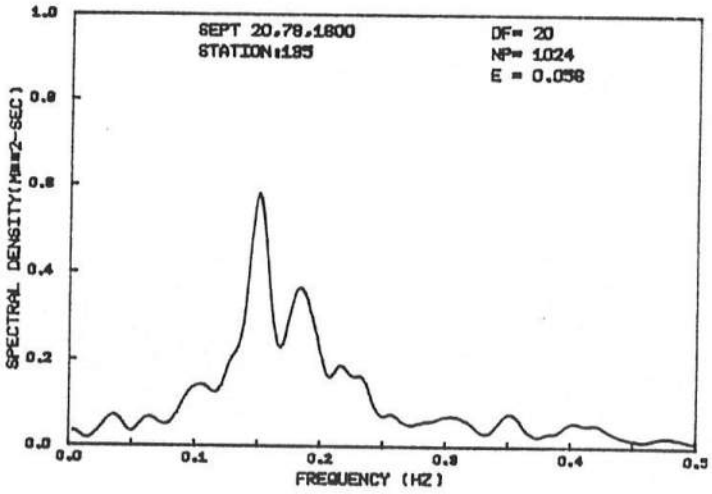

SEPT 20,78,800
STATION:154
DF= 40
NP= 2048
E = 0.027
SPECTRAL DENSITY(MMM2-SEC)
FREQUENCY (HZ)

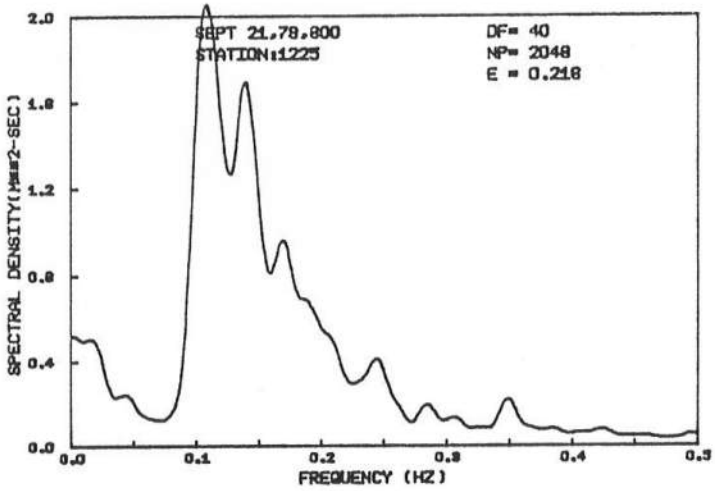

SEPT 20,78,800
STATION:185
DF= 40
NP= 2048
E = 0.090
SPECTRAL DENSITY(MMM2-SEC)
FREQUENCY (HZ)

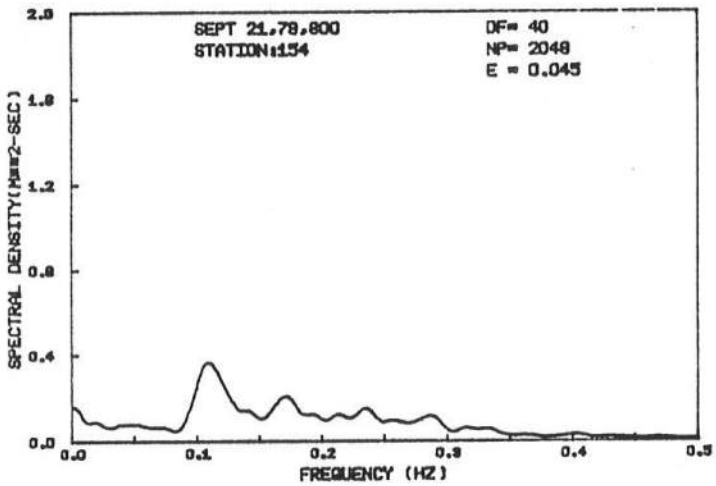

SEPT 20,78,1200
STATION:134
DF= 40
NP= 2048
E = 0.065
SPECTRAL DENSITY(MM**2-SEC)
FREQUENCY (HZ)
0.0
0.4
0.8
1.2
1.6
2.0
0.1
0.2
0.3
0.5

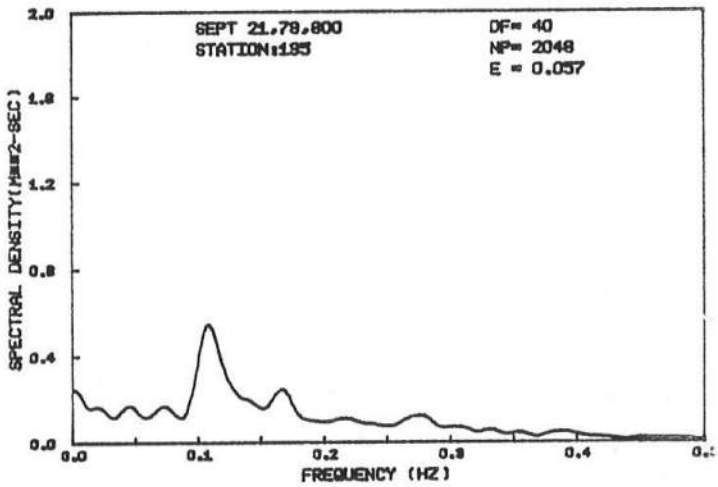

SEPT 20,78,1200
STATION:195
DF= 40
NP= 2048
E = 0.074
SPECTRAL DENSITY(MM**2-SEC)
FREQUENCY (HZ)
0.0
0.4
0.8
1.2
1.6
2.0
0.1
0.2
0.3
0.5

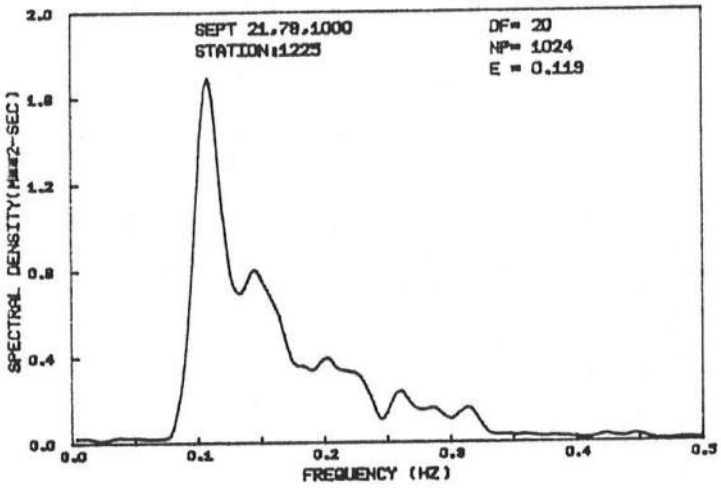

SEPT 20,78,1800
STATION:154
DF= 20
NP= 1024
E = 0.052
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)
0.0
0.2
0.4
0.6
0.8
1.0
0.1
0.3
0.5

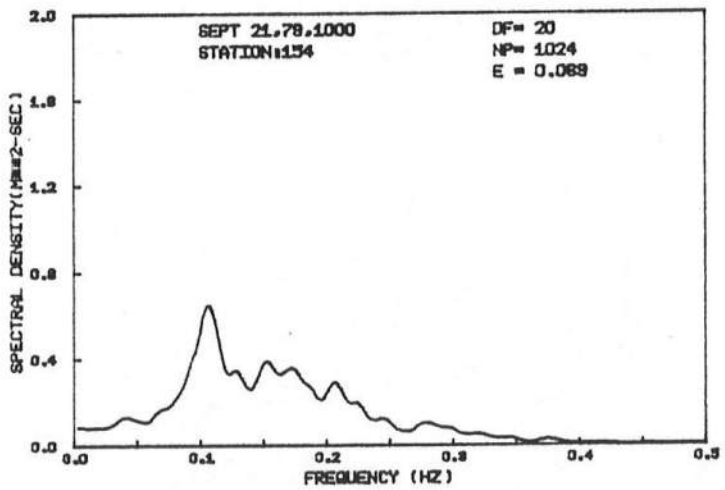

SEPT 20,78,1800
STATION:155
DF= 20
NP= 1024
E = 0.058
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)
0.0
0.2
0.4
0.6
0.8
1.0
0.1
0.3
0.5

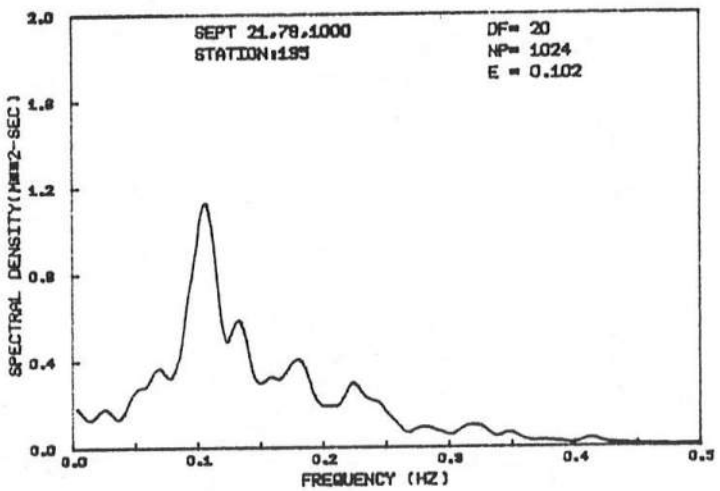

SEPT 21,78,800
STATION:1225
DF= 40
NP= 2048
E = 0.218
SPECTRAL DENSITY(MM**2-SEC)
FREQUENCY (HZ)

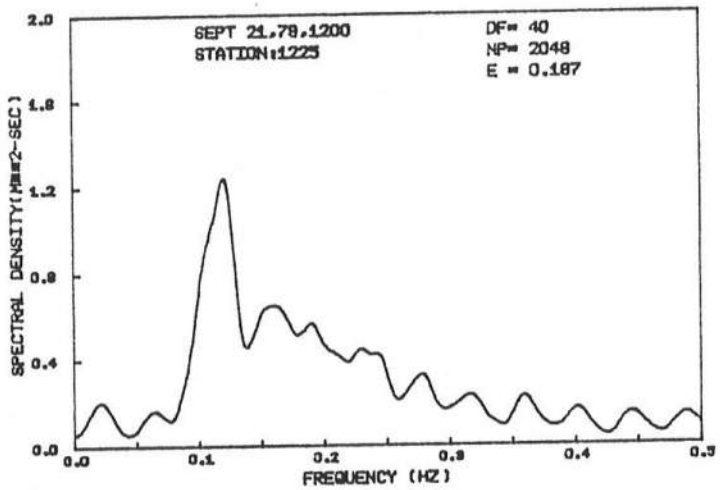

SEPT 21,78,800
STATION:154
DF= 40
NP= 2048
E = 0.045
SPECTRAL DENSITY(MM**2-SEC)
FREQUENCY (HZ)

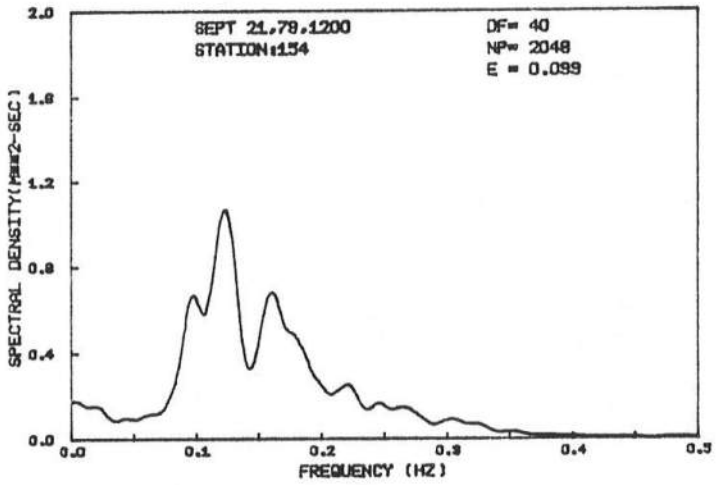

SEPT 21,78,800
STATION:195
DF= 40
NP= 2048
E = 0.057
SPECTRAL DENSITY(MM**2-SEC)
FREQUENCY (HZ)

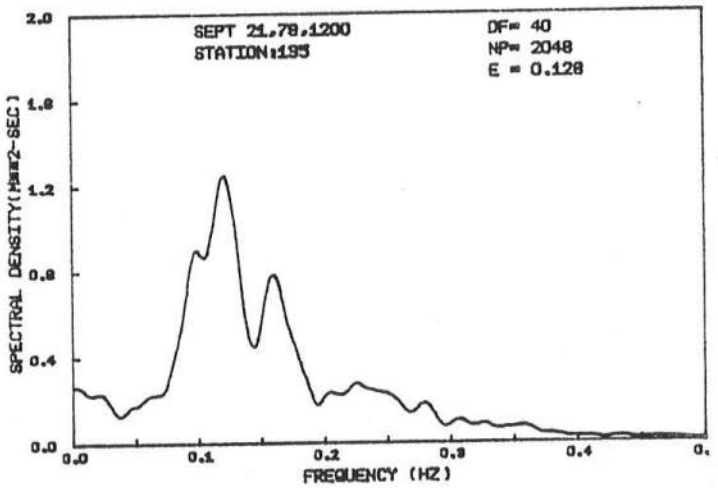

SEPT 21,78,1000
STATION:1225
DF= 20
NP= 1024
E = 0.119
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

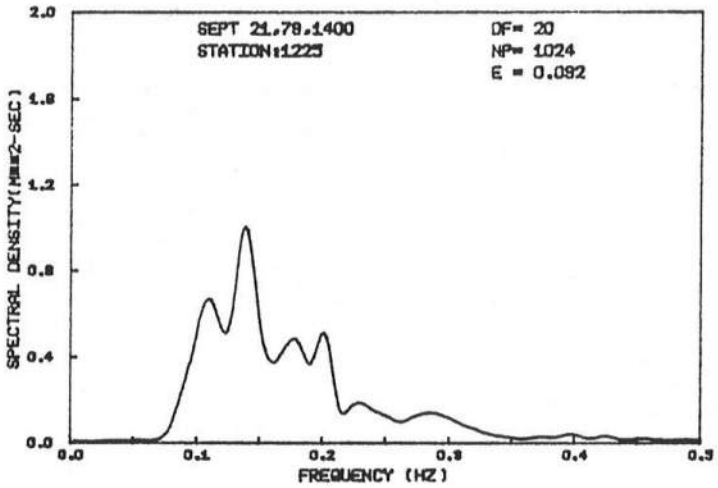

SEPT 21,78,1000
STATION:154
DF= 20
NP= 1024
E = 0.089
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

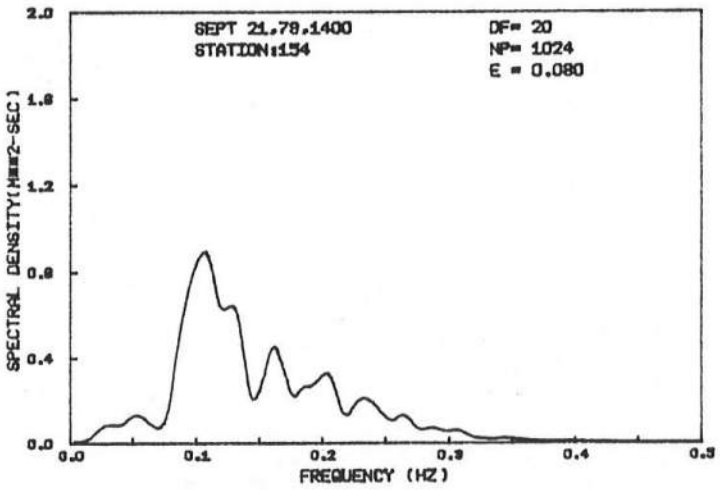

SEPT 21,78,1000
STATION:195
DF= 20
NP= 1024
E = 0.102
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

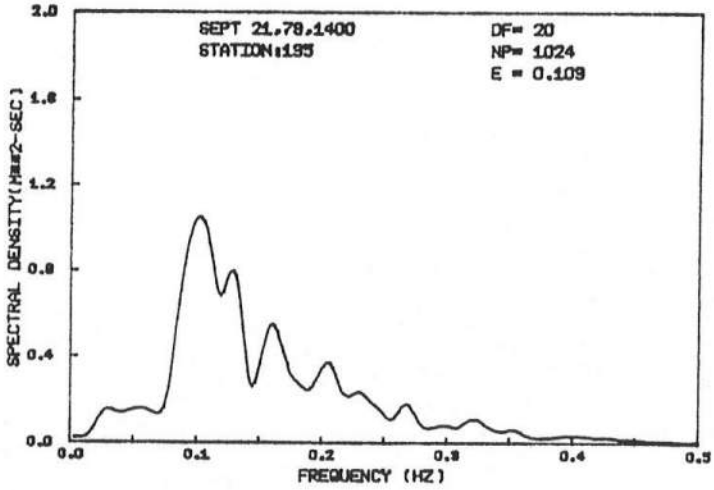

SEPT 21,78,1200
STATION:1225
DF= 40
NP= 2048
E = 0.187
SPECTRAL DENSITY(MM**2-SEC)
FREQUENCY (HZ)

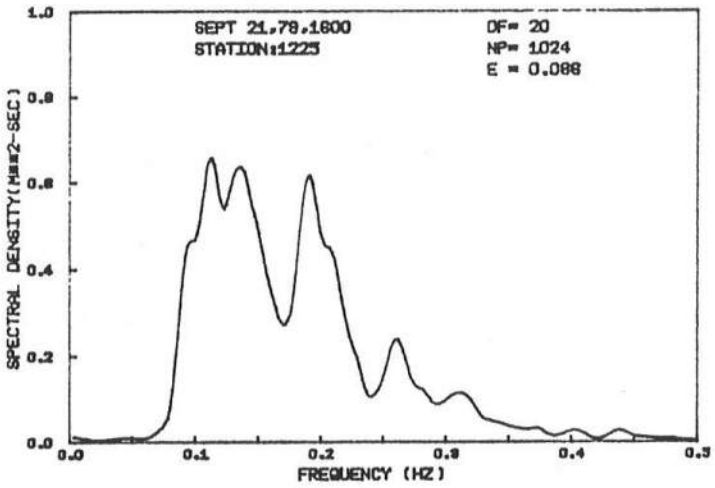

SEPT 21,78,1200
STATION:154
DF= 40
NP= 2048
E = 0.099
SPECTRAL DENSITY(MM**2-SEC)
FREQUENCY (HZ)

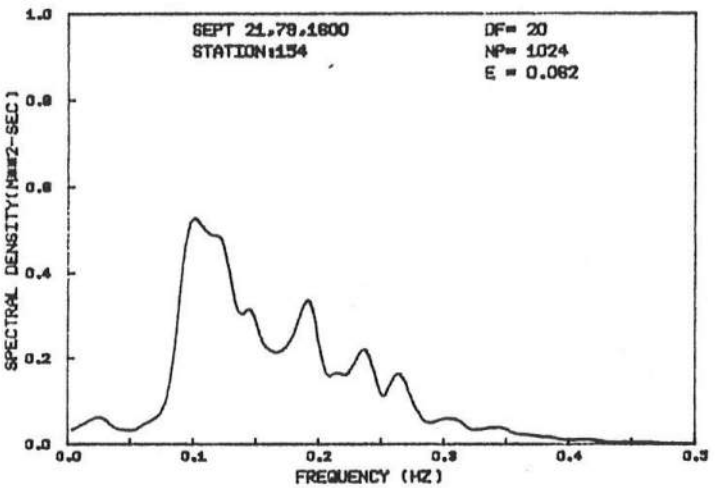

SEPT 21,78,1200
STATION:193
DF= 40
NP= 2048
E = 0.128
SPECTRAL DENSITY(MM**2-SEC)
FREQUENCY (HZ)

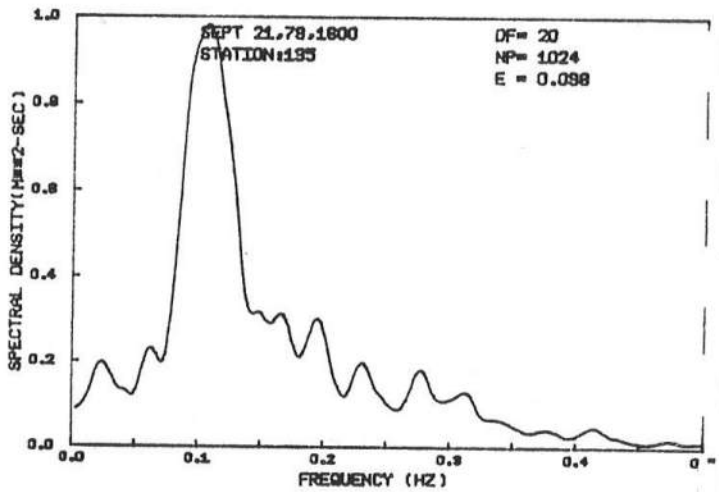

SEPT 21,78,1400
STATION:1225
DF= 20
NP= 1024
E = 0.092
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

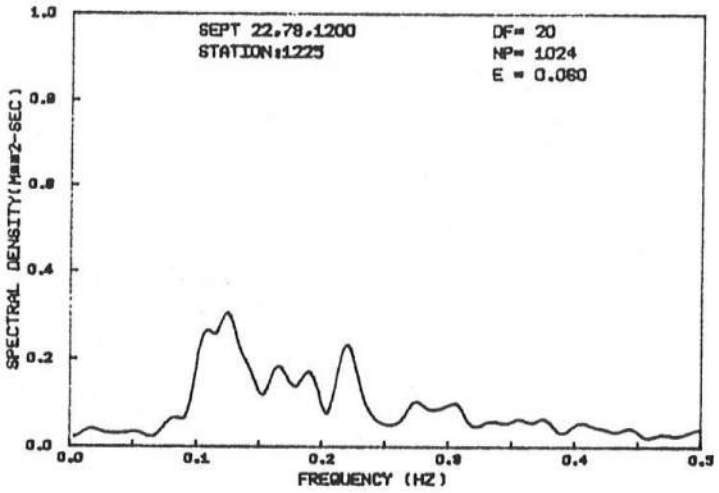

SEPT 21,78,1400
STATION:154
DF= 20
NP= 1024
E = 0.080
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

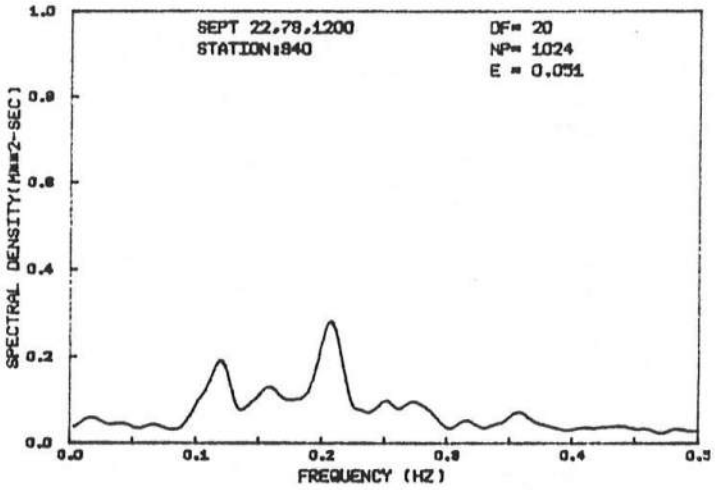

SEPT 21,78,1400
STATION:195
DF= 20
NP= 1024
E = 0.109
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

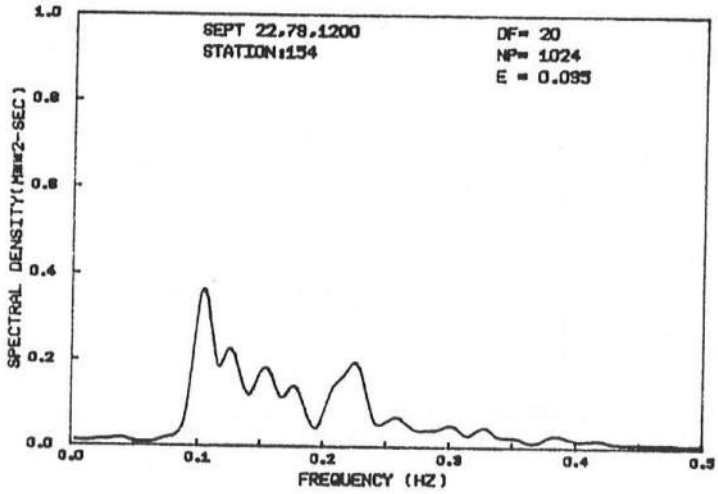

SEPT 21,78,1600
STATION:1225
DF= 20
NP= 1024
E = 0.088
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

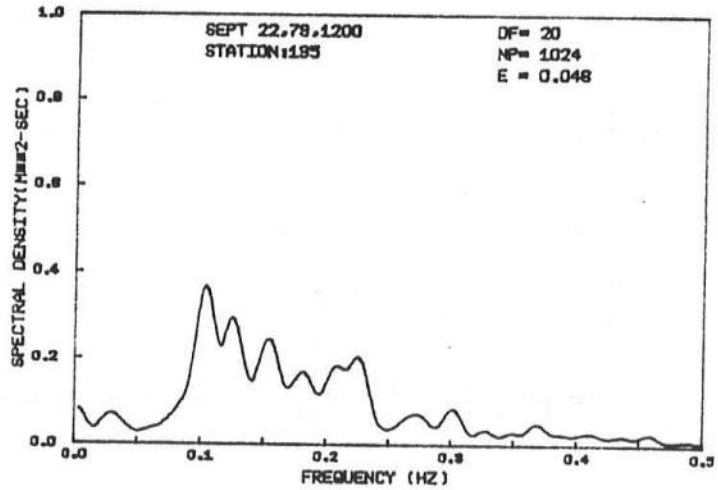

SEPT 21,78,1600
STATION:134
DF= 20
NP= 1024
E = 0.062
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

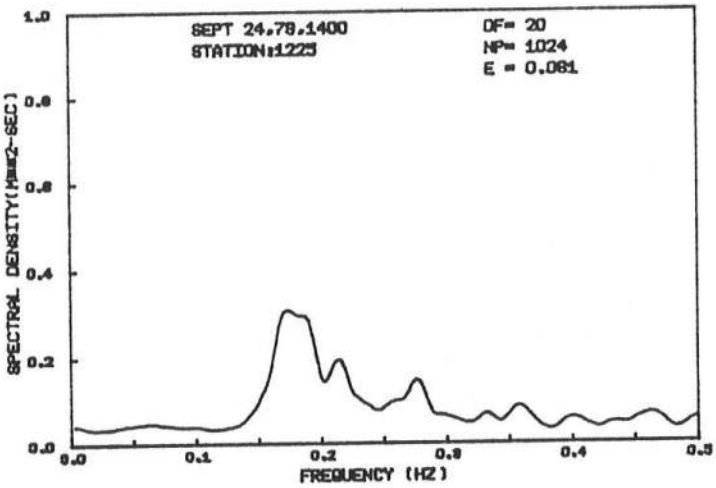

SEPT 21,78,1600
STATION:135
DF= 20
NP= 1024
E = 0.098
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

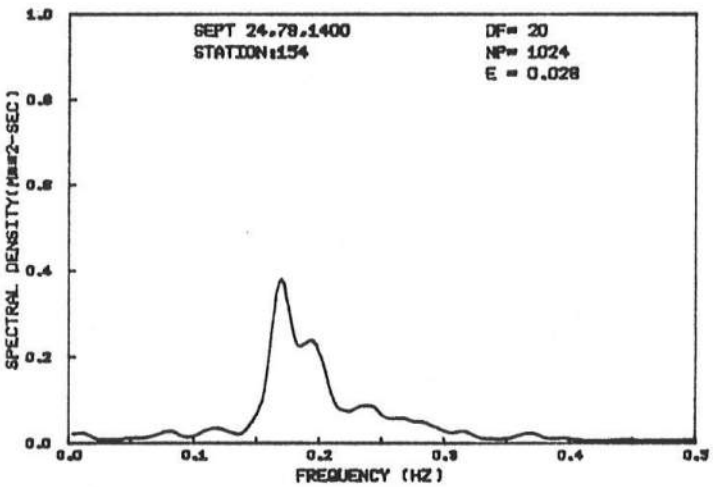

SEPT 22,78,1200
STATION:1225
DF= 20
NP= 1024
E = 0.060
SPECTRAL DENSITY(MM**2-SEC)
FREQUENCY (HZ)

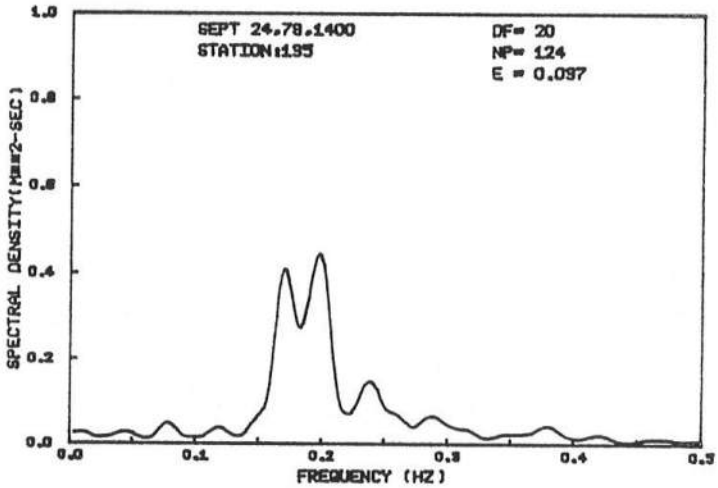

SEPT 22,78,1200
STATION:840
DF= 20
NP= 1024
E = 0.051
SPECTRAL DENSITY(MM**2-SEC)
FREQUENCY (HZ)

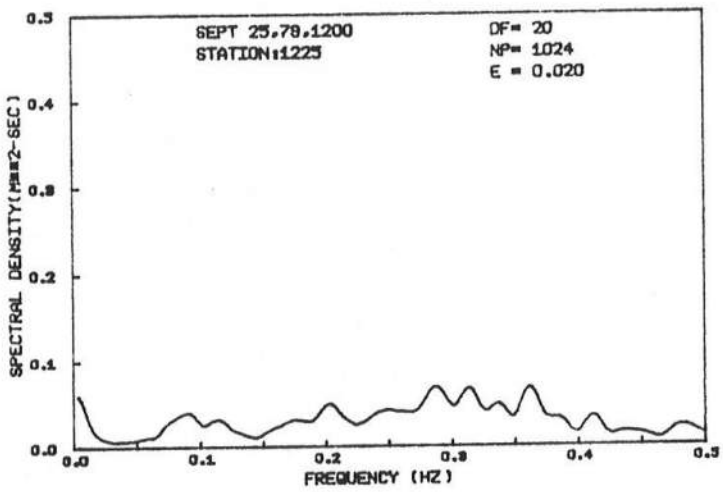

SEPT 22,78,1200
STATION:154
DF= 20
NP= 1024
E = 0.095
SPECTRAL DENSITY(MM**2-SEC)
FREQUENCY (HZ)

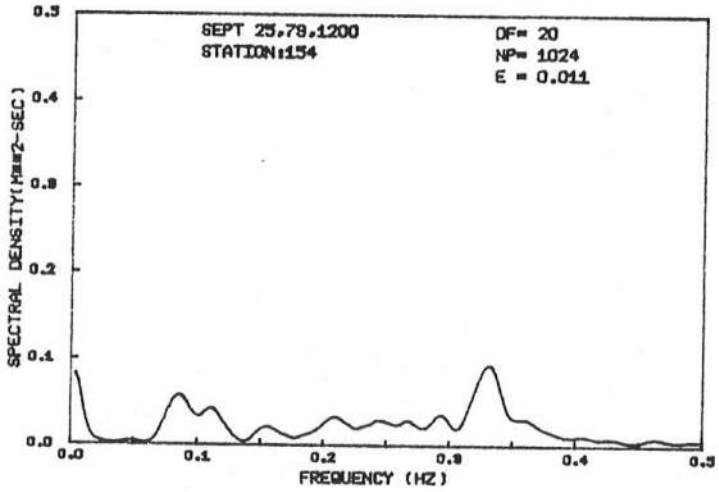

SEPT 22,78,1200
STATION:185
DF= 20
NP= 1024
E = 0.048
SPECTRAL DENSITY(MM**2-SEC)
FREQUENCY (HZ)

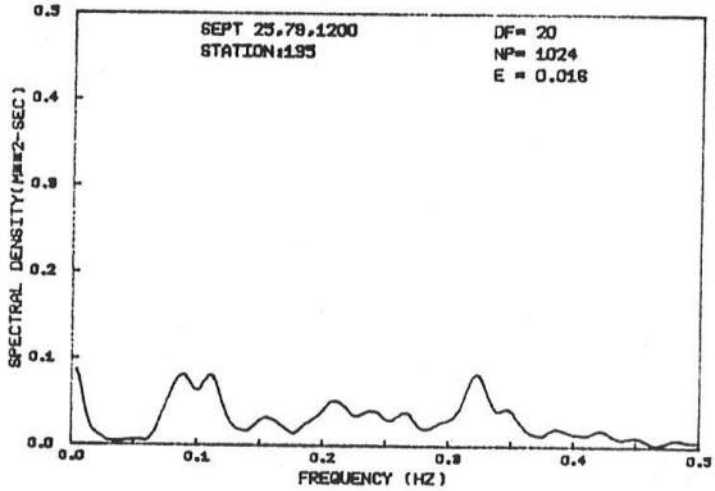

SEPT 24,78,1400
STATION:1225
DF= 20
NP= 1024
E = 0.081
SPECTRAL DENSITY(MM**2-SEC)
FREQUENCY (HZ)

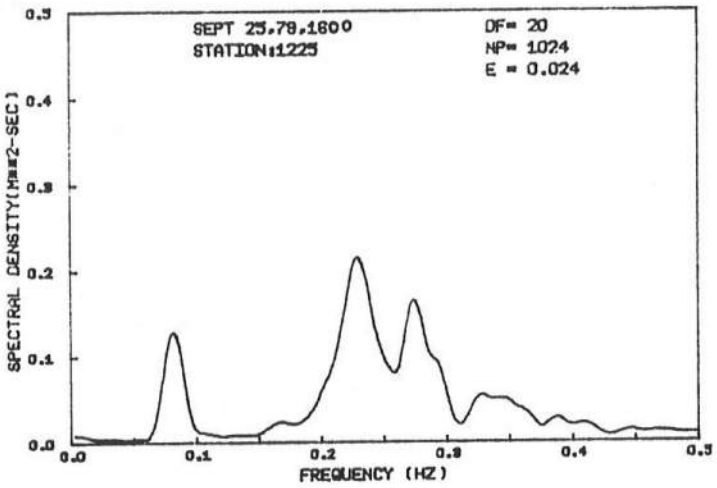

SEPT 24,78,1400
STATION:154
DF= 20
NP= 1024
E = 0.028
SPECTRAL DENSITY(MM**2-SEC)
FREQUENCY (HZ)

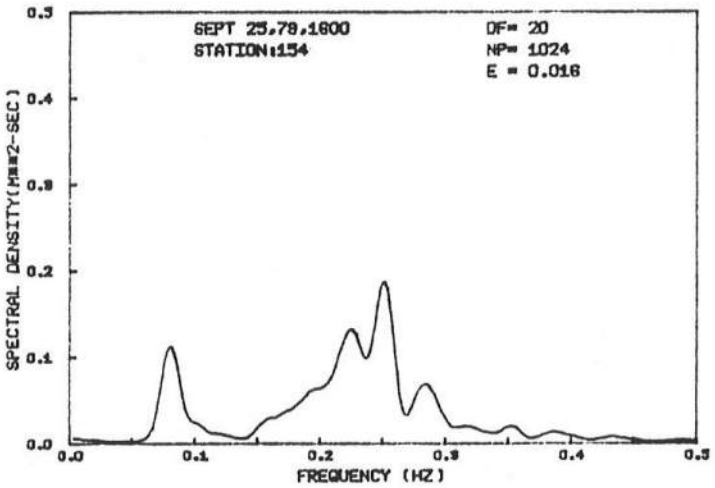

SEPT 24,78,1400
STATION:195
DF= 20
NP= 124
E = 0.097
SPECTRAL DENSITY(MM**2-SEC)
FREQUENCY (HZ)

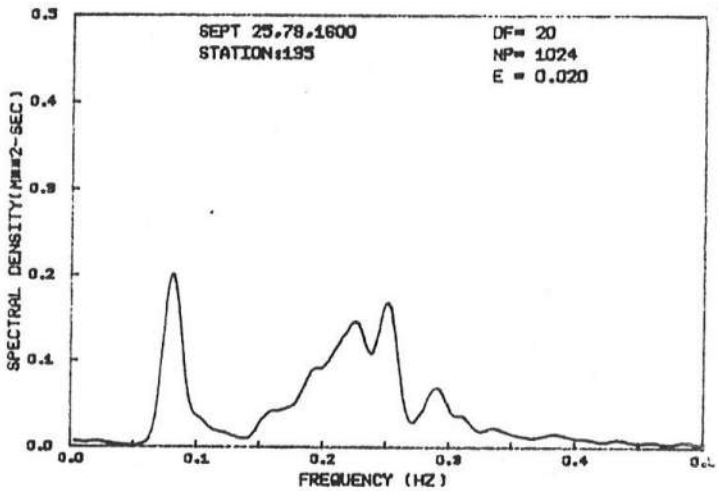

SEPT 25,78,1200
STATION:1225
DF= 20
NP= 1024
E = 0.020
SPECTRAL DENSITY(MM**2-SEC)
FREQUENCY (HZ)

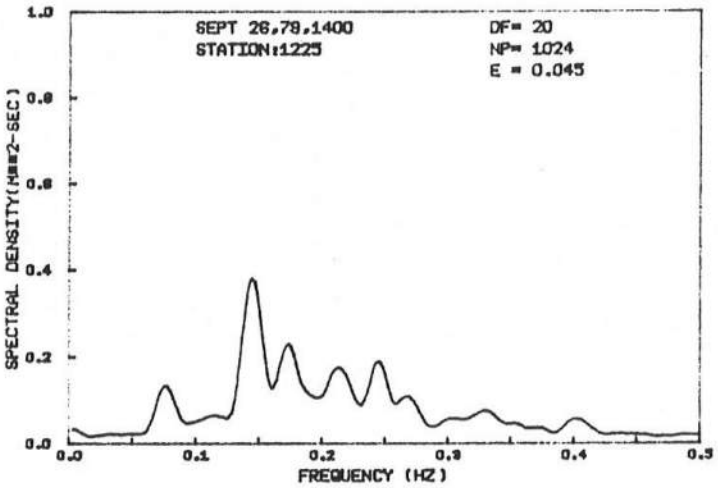

SEPT 25,78,1200
STATION:154
DF= 20
NP= 1024
E = 0.011
SPECTRAL DENSITY(MM**2-SEC)
FREQUENCY (HZ)

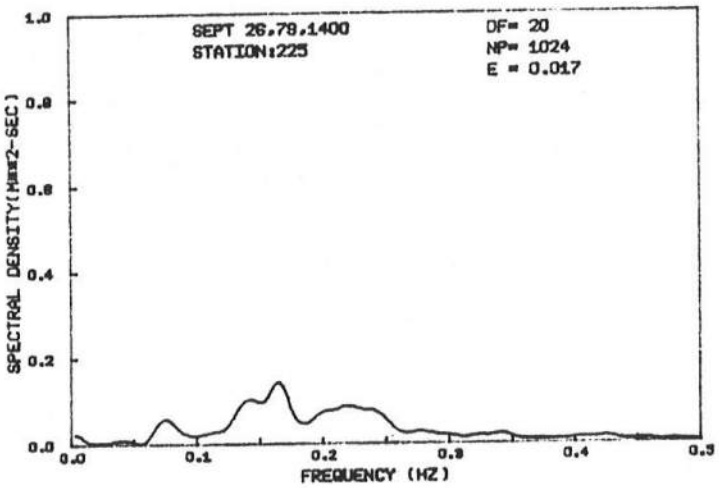

SEPT 25,78,1200
STATION:195
DF= 20
NP= 1024
E = 0.016
SPECTRAL DENSITY(MM**2-SEC)
FREQUENCY (HZ)

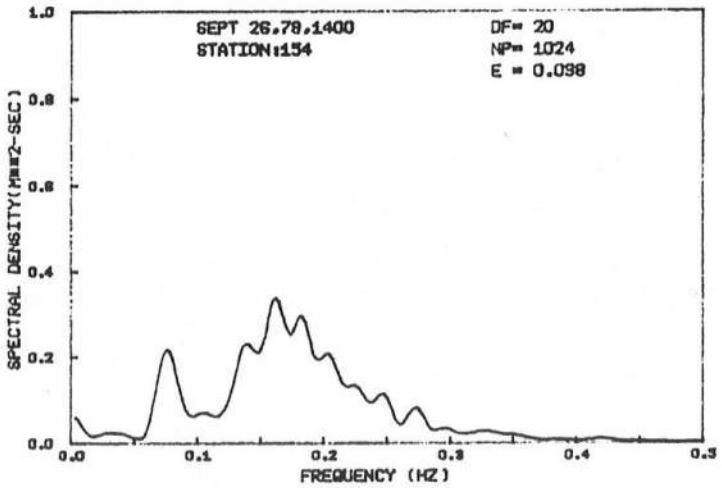

SEPT 25,78,1600
STATION:1225
DF= 20
NP= 1024
E = 0.024
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

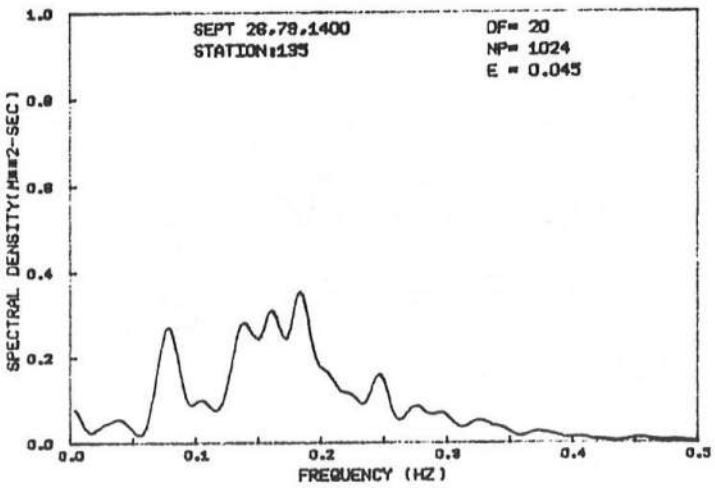

SEPT 25,78,1600
STATION:154
DF= 20
NP= 1024
E = 0.016
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

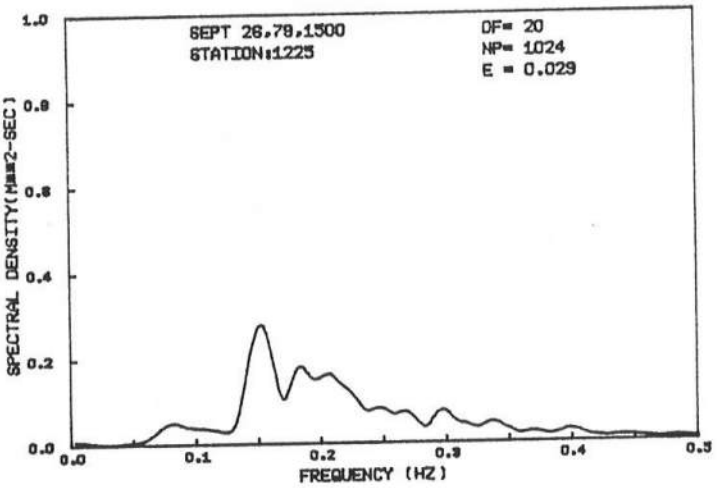

SEPT 25,78,1600
STATION:195
DF= 20
NP= 1024
E = 0.020
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

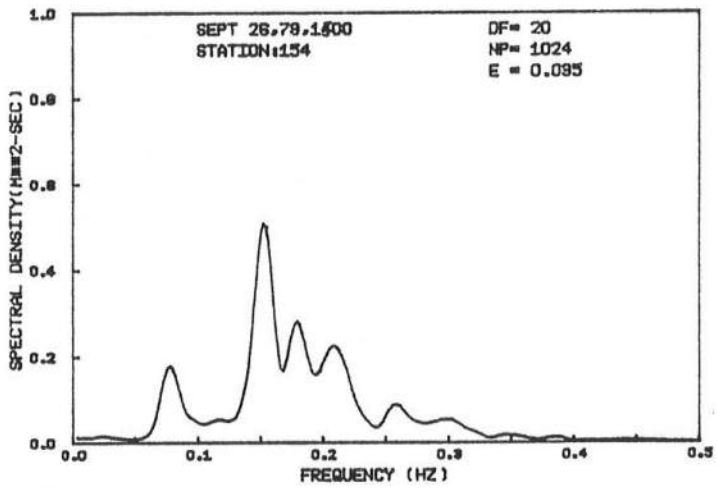

SEPT 26,78,1400
STATION:1225
DF= 20
NP= 1024
E = 0.045
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

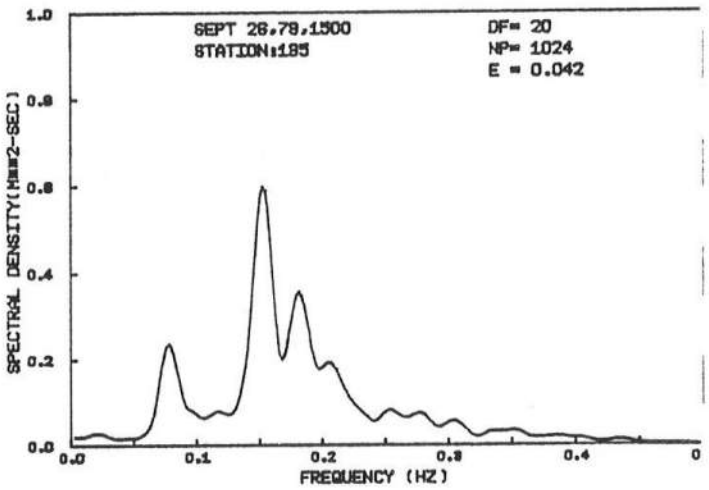

SEPT 26,78,1400
STATION:225
DF= 20
NP= 1024
E = 0.017
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

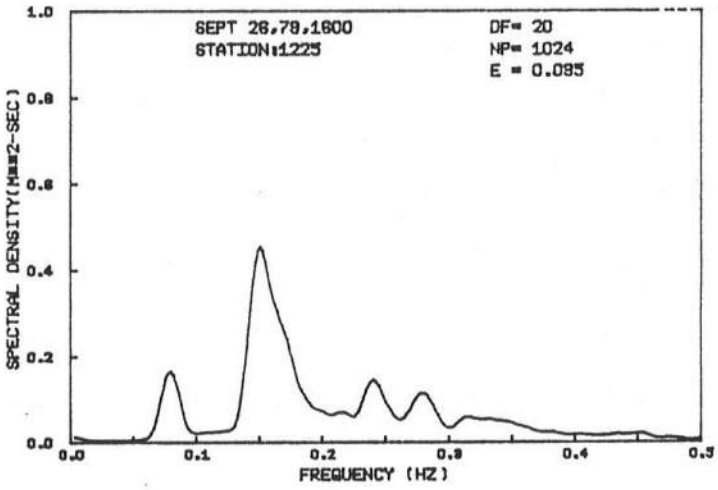

SEPT 26,78,1400
STATION:154
DF= 20
NP= 1024
E = 0.038
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

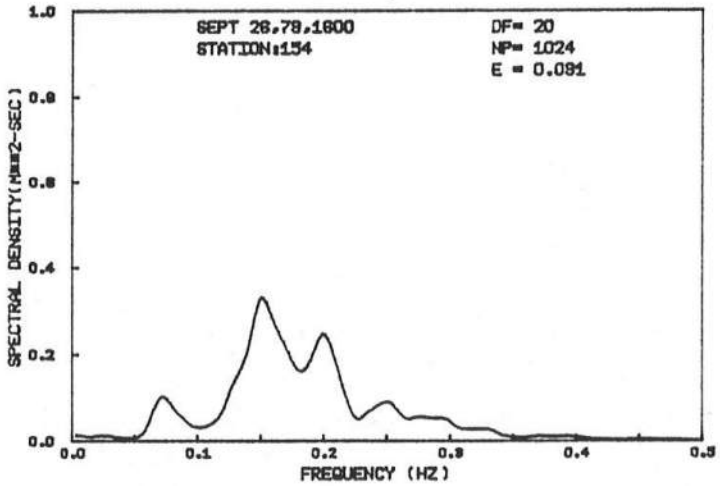

SEPT 26,78,1400
STATION:135
DF= 20
NP= 1024
E = 0.045
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

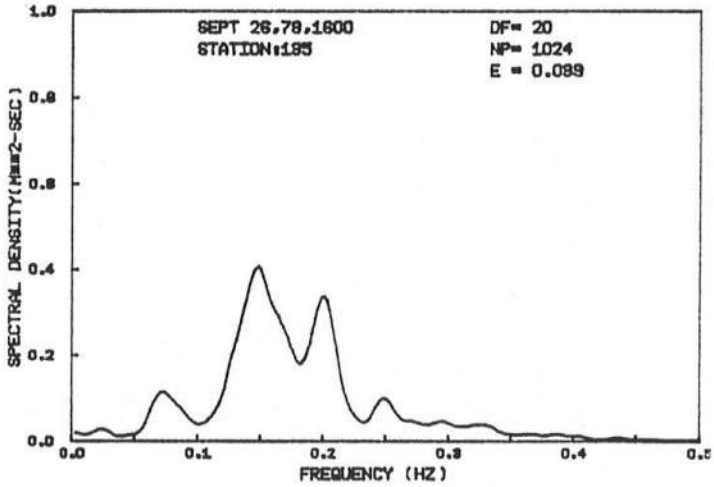

SEPT 26,78,1500
STATION:1225
DF= 20
NP= 1024
E = 0.029
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

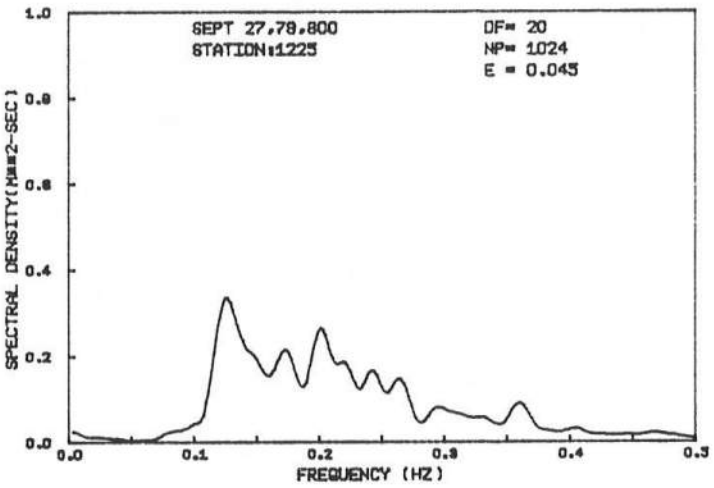

SEPT 26,78,1500
STATION:154
DF= 20
NP= 1024
E = 0.095
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

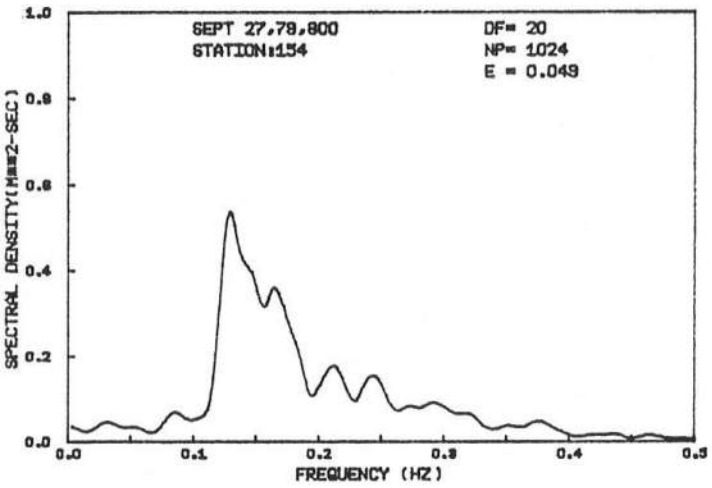

SEPT 26,78,1500
STATION:185
DF= 20
NP= 1024
E = 0.042
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

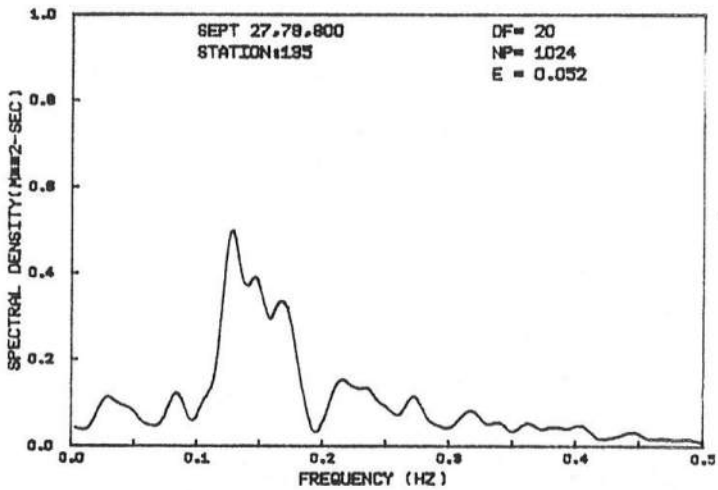

SEPT 26,78,1600
STATION:1225
DF= 20
NP= 1024
E = 0.095
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

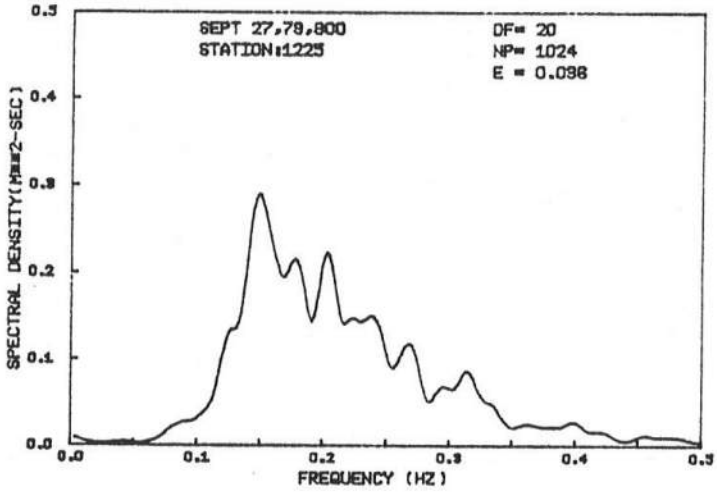

SEPT 26,78,1600
STATION:154
DF= 20
NP= 1024
E = 0.091
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

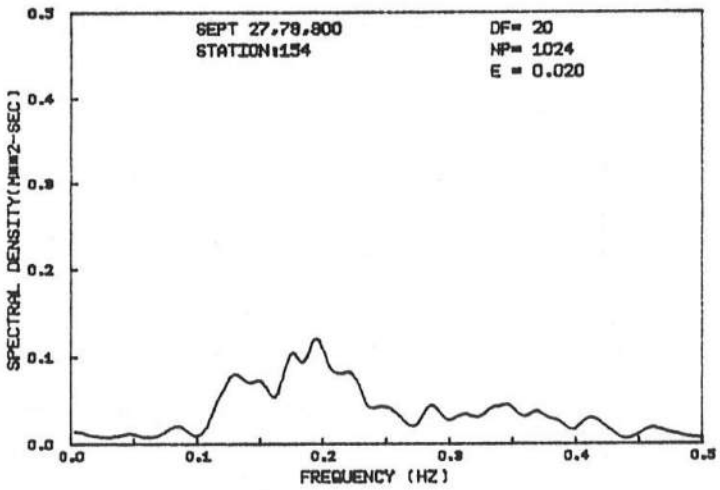

SEPT 26,78,1600
STATION:195
DF= 20
NP= 1024
E = 0.089
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

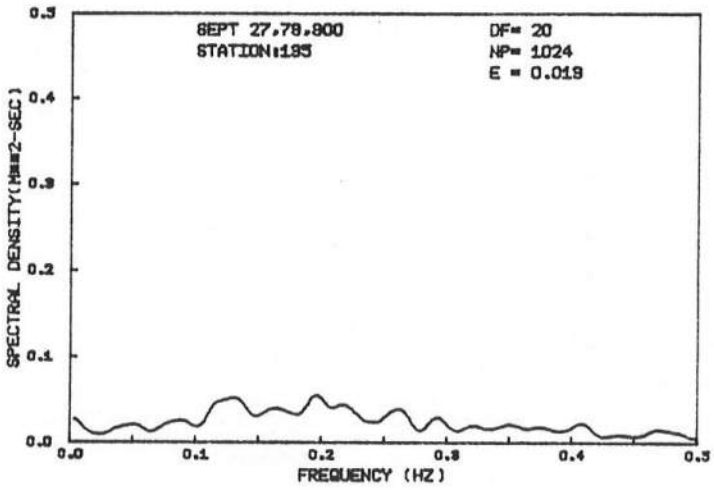

SEPT 27,78,800
STATION:1225
DF= 20
NP= 1024
E = 0.045
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

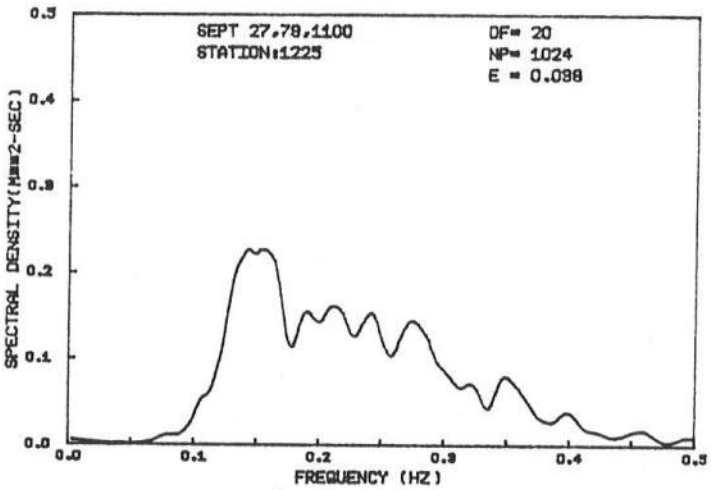

SEPT 27,78,800
STATION:154
DF= 20
NP= 1024
E = 0.049
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

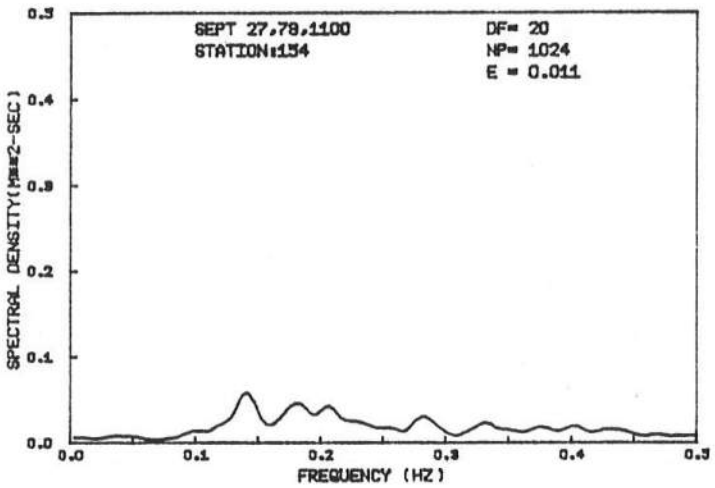

SEPT 27,78,800
STATION:135
DF= 20
NP= 1024
E = 0.052
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

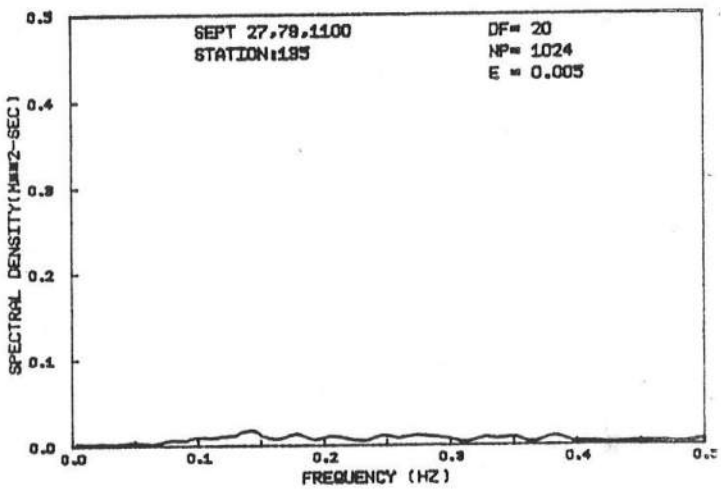

SEPT 27,78,800
STATION:1225
DF= 20
NP= 1024
E = 0.098
SPECTRAL DENSITY(MM**2-SEC)
FREQUENCY (HZ)

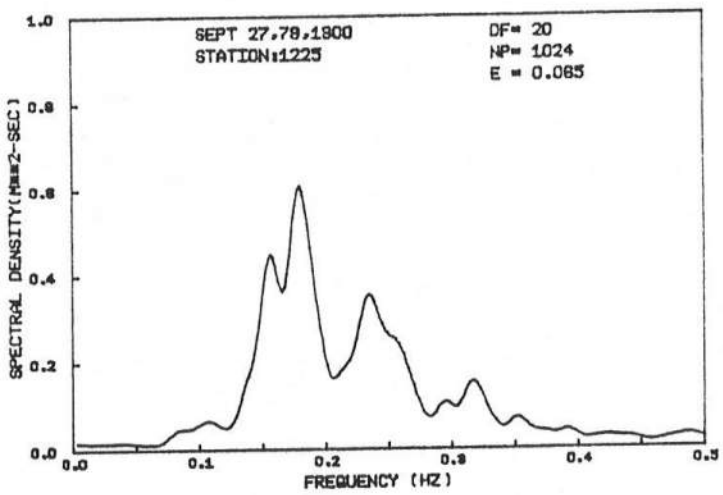

SEPT 27,78,800
STATION:154
DF= 20
NP= 1024
E = 0.020
SPECTRAL DENSITY(MM**2-SEC)
FREQUENCY (HZ)

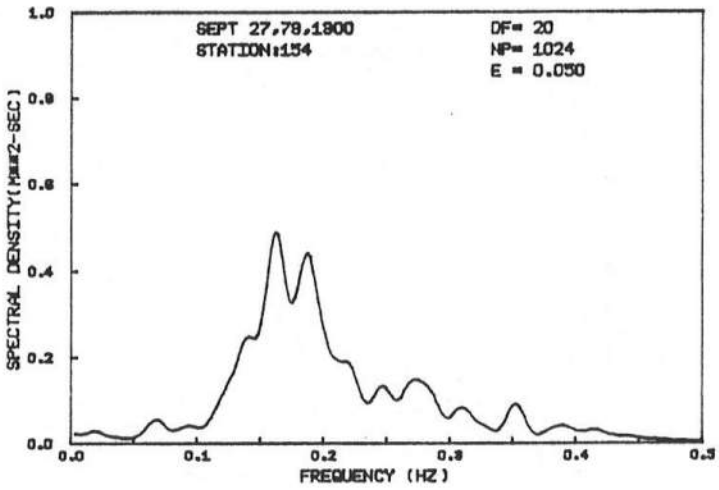

SEPT 27,78,800
STATION:195
DF= 20
NP= 1024
E = 0.019
SPECTRAL DENSITY(MM**2-SEC)
FREQUENCY (HZ)

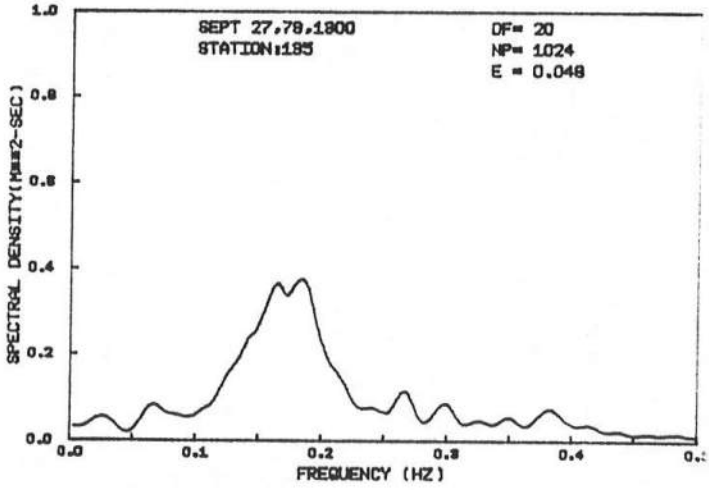

SEPT 27,78,1100
STATION:1225
DF= 20
NP= 1024
E = 0.098
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

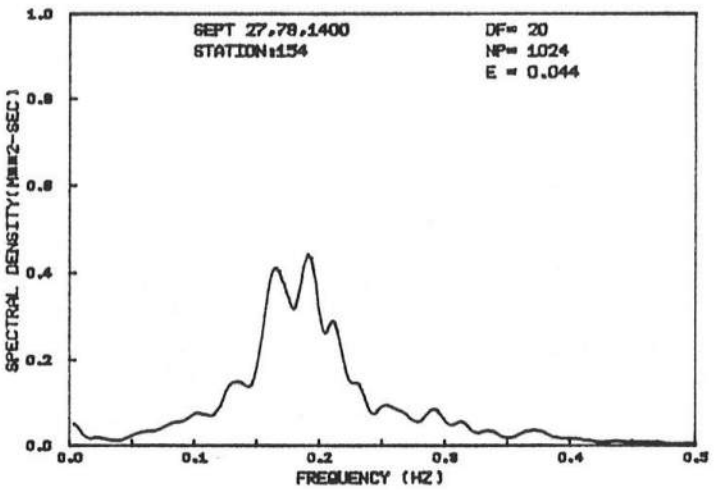

SEPT 27,78,1100
STATION:154
DF= 20
NP= 1024
E = 0.011
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

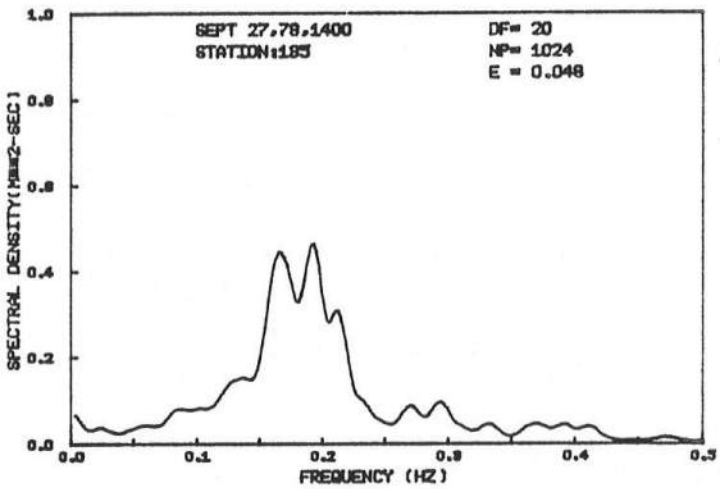

SEPT 27,78,1100
STATION:185
DF= 20
NP= 1024
E = 0.005
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

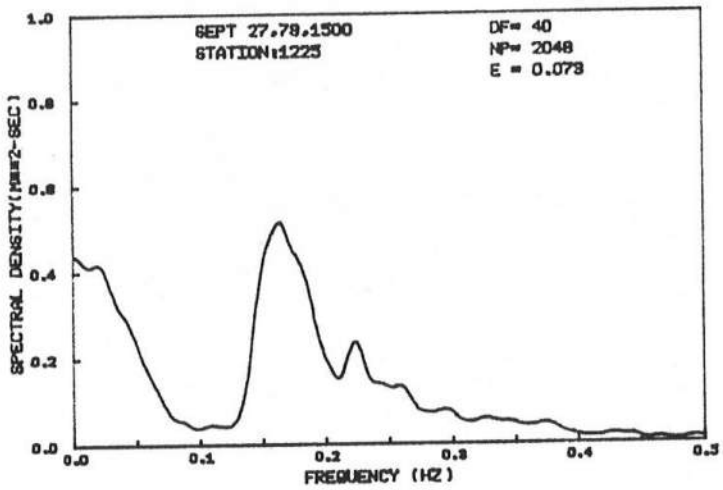

SEPT 27,78,1800
STATION:1225
DF= 20
NP= 1024
E = 0.085
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

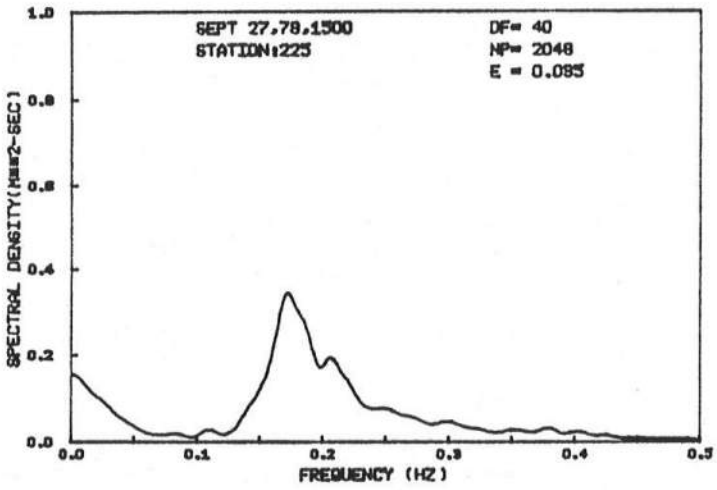

SEPT 27,78,1800
STATION:154
DF= 20
NP= 1024
E = 0.050
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

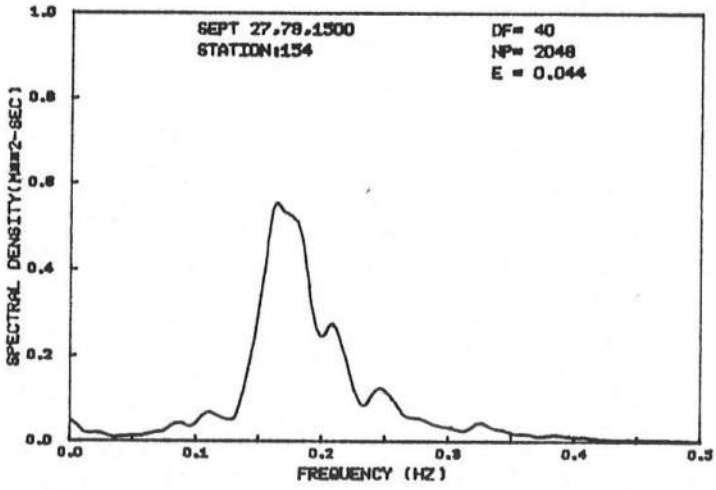

SEPT 27,78,1800
STATION:185
DF= 20
NP= 1024
E = 0.048
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

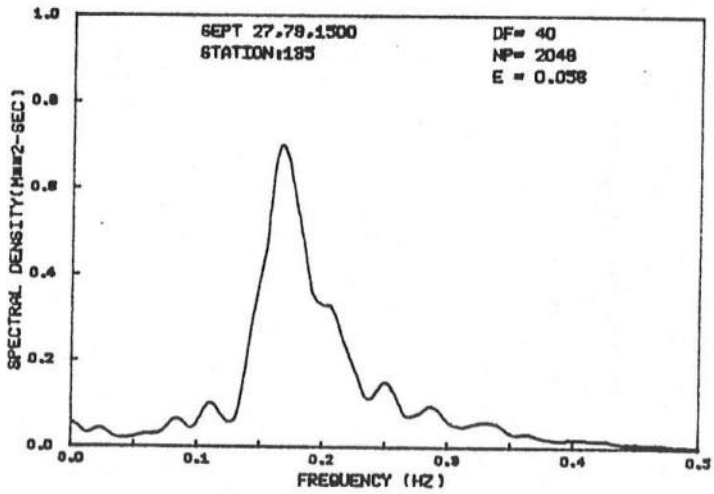

SEPT 27,78,1400
STATION:154
DF= 20
NP= 1024
E = 0.044
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)
0.0
0.2
0.4
0.6
0.8
1.0
0.1
0.3
0.5

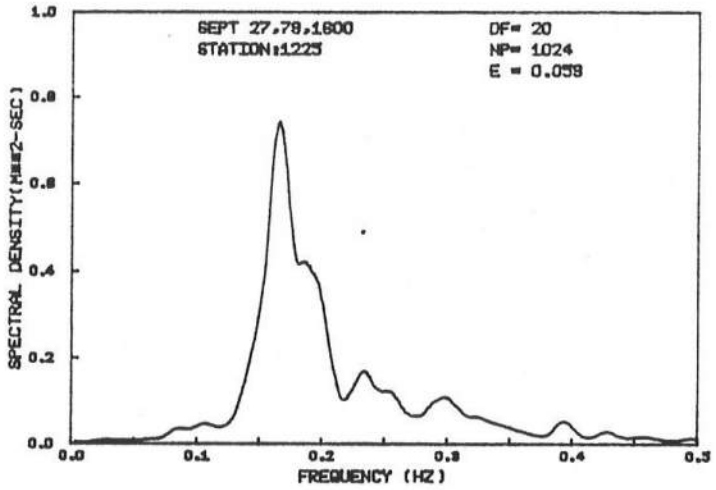

SEPT 27,78,1400
STATION:185
DF= 20
NP= 1024
E = 0.048
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)
0.0
0.2
0.4
0.6
0.8
1.0
0.1
0.3
0.5

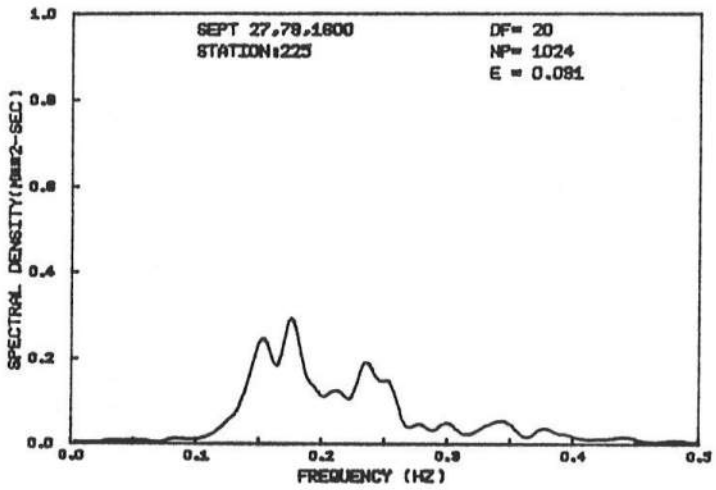

SEPT 27,78,1500
STATION:1225
DF= 40
NP= 2048
E = 0.079
SPECTRAL DENSITY(MM#2-SEC)
FREQUENCY (HZ)

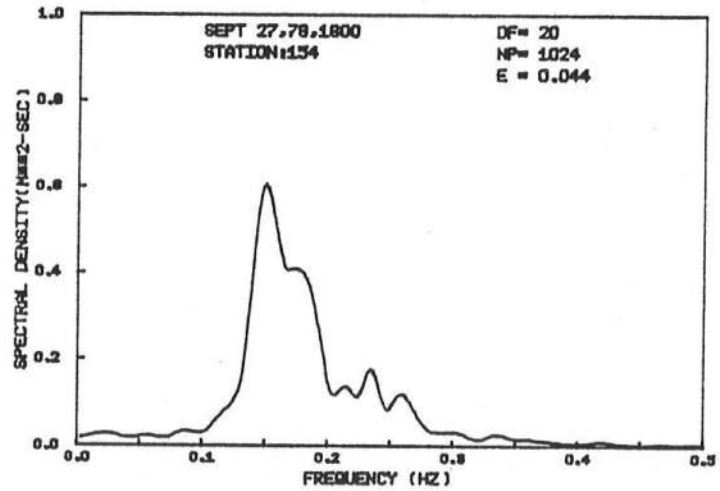

SEPT 27,78,1500
STATION:225
DF= 40
NP= 2048
E = 0.093
SPECTRAL DENSITY(MM#2-SEC)
FREQUENCY (HZ)

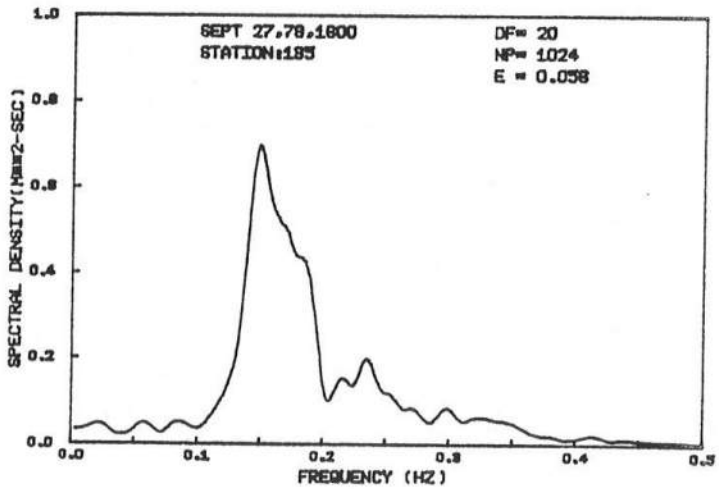

SEPT 27,78,1500
STATION:154
DF= 40
NP= 2048
E = 0.044
SPECTRAL DENSITY(MM#2-SEC)
FREQUENCY (HZ)

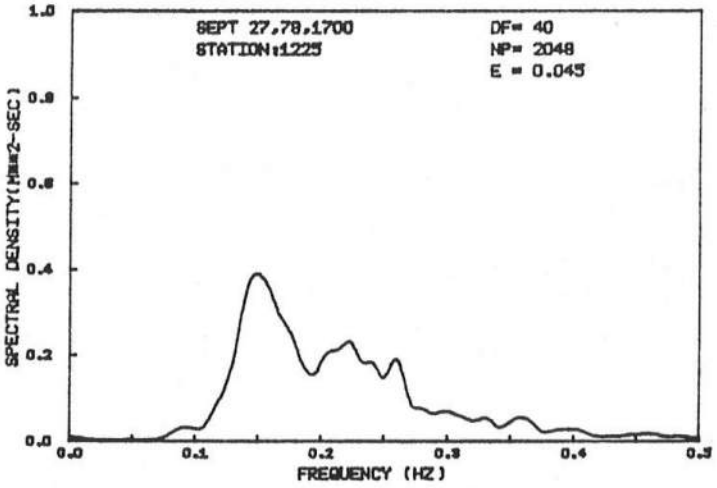

SEPT 27,78,1500
STATION:185
DF= 40
NP= 2048
E = 0.058
SPECTRAL DENSITY(MM#2-SEC)
FREQUENCY (HZ)

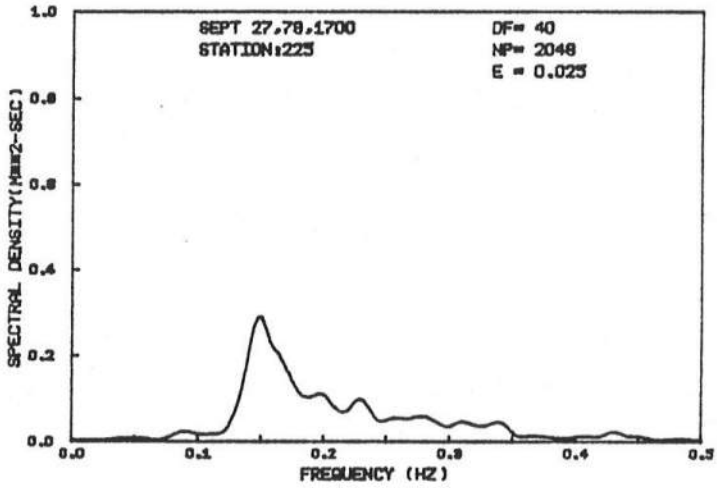

SEPT 27,78,1600
STATION:1225
DF= 20
NP= 1024
E = 0.059
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

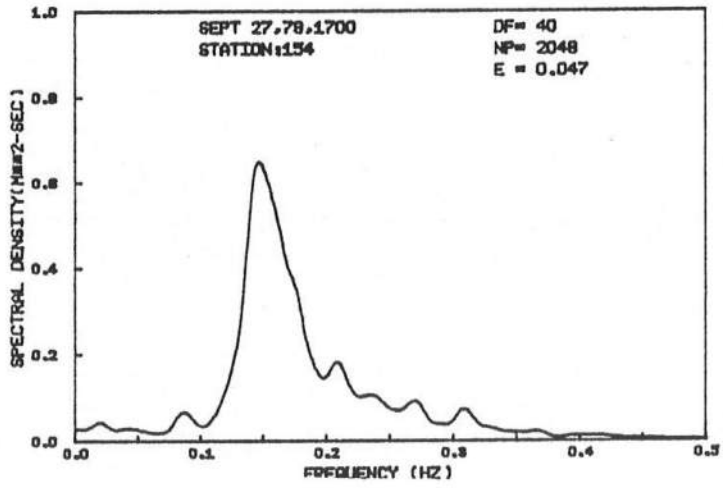

SEPT 27,78,1600
STATION:225
DF= 20
NP= 1024
E = 0.081
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

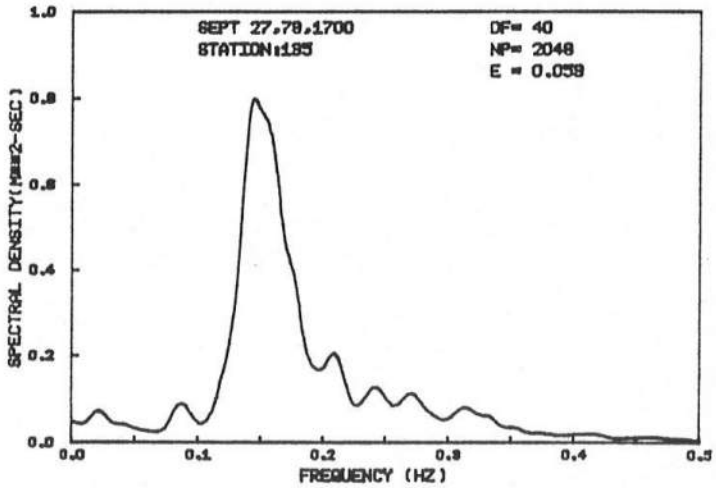

SEPT 27,78,1600
STATION:134
DF= 20
NP= 1024
E = 0.044
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

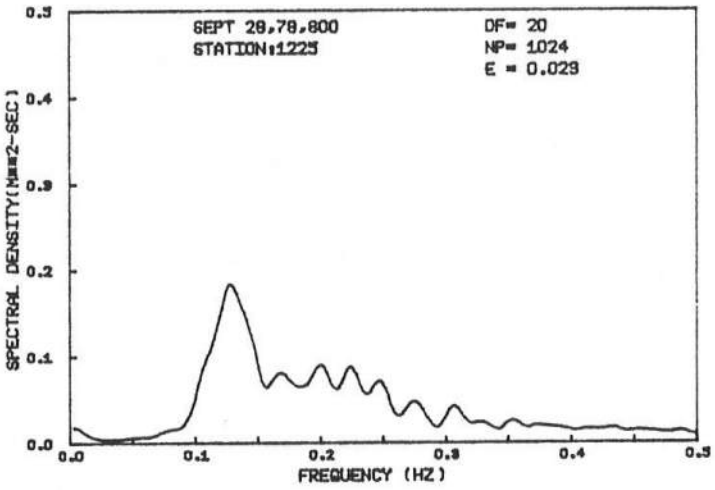

SEPT 27,78,1600
STATION:185
DF= 20
NP= 1024
E = 0.058
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

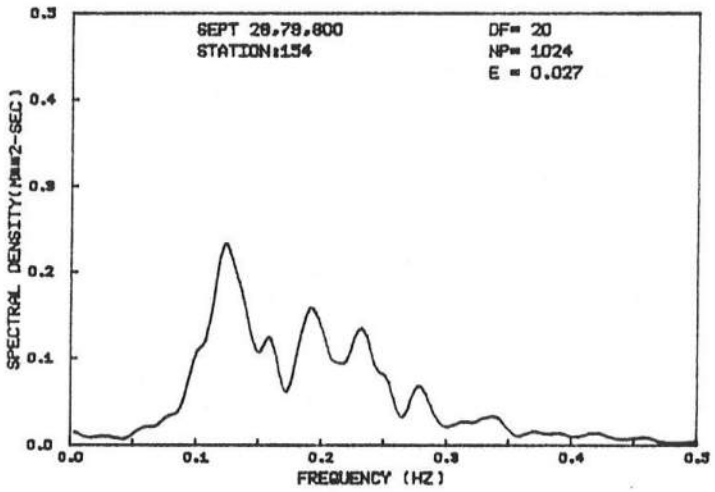

SEPT 27,78,1700
STATION:1225
DF= 40
NP= 2048
E = 0.045
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

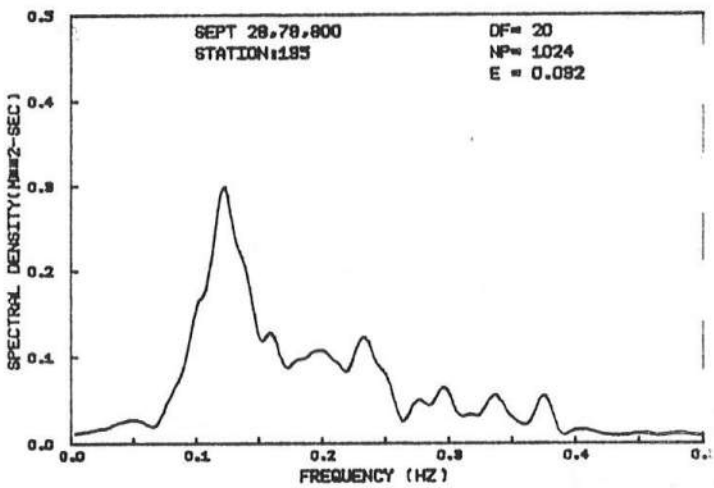

SEPT 27,78,1700
STATION:225
DF= 40
NP= 2048
E = 0.025
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

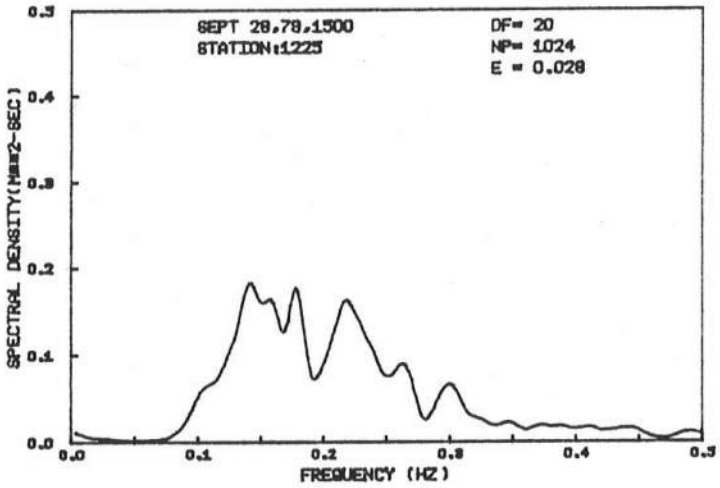

SEPT 27,78,1700
STATION:154
DF= 40
NP= 2048
E = 0.047
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

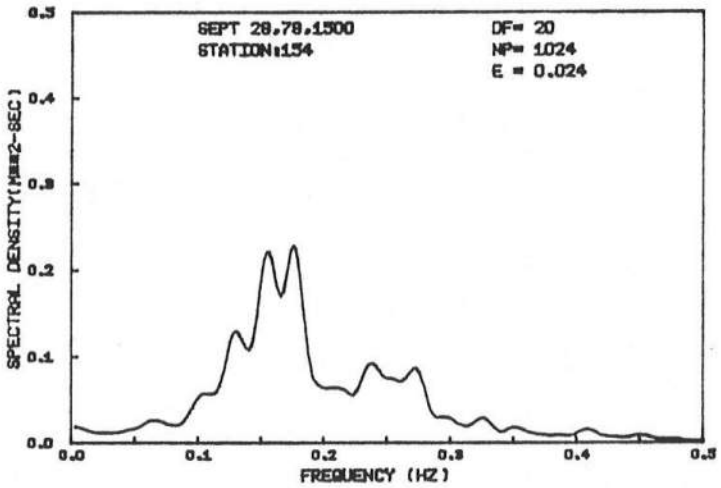

SEPT 27,78,1700
STATION:185
DF= 40
NP= 2048
E = 0.059
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

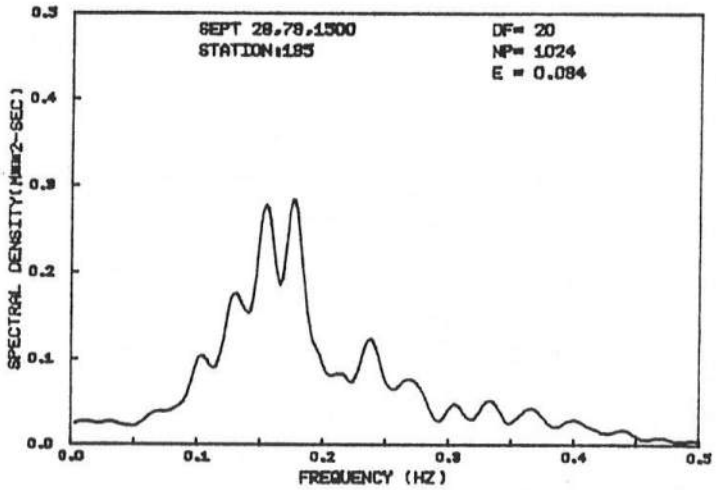

SEPT 28,78,800
STATION:1225
DF= 20
NP= 1024
E = 0.029
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

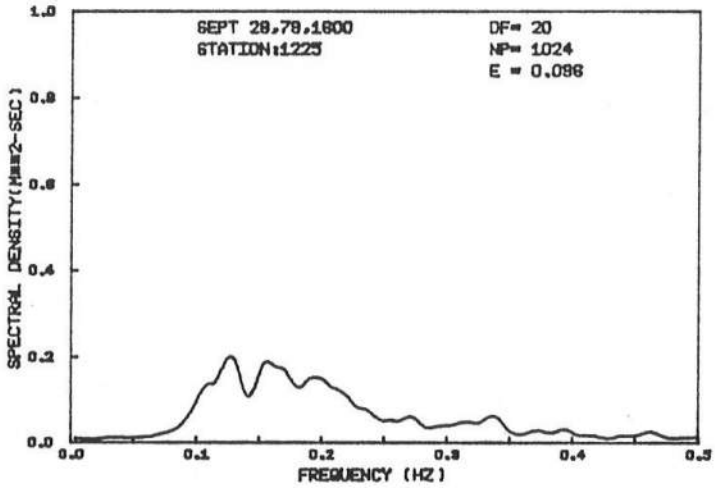

SEPT 28,78,800
STATION:154
DF= 20
NP= 1024
E = 0.027
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

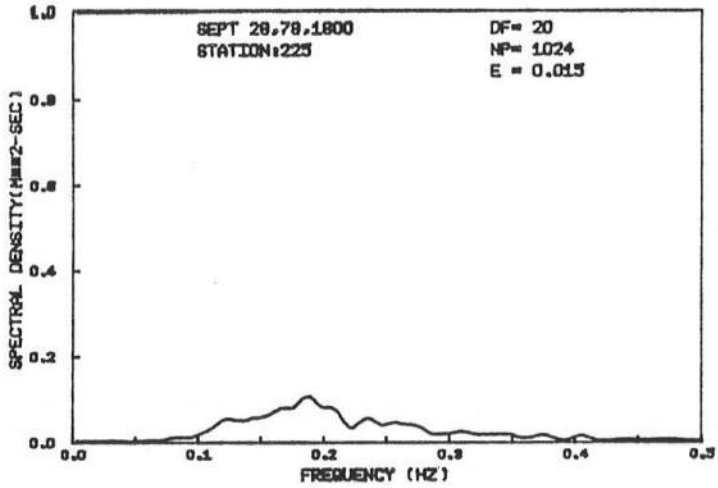

SEPT 28,78,800
STATION:195
DF= 20
NP= 1024
E = 0.082
SPECTRAL DENSITY(M**2-SEC)
FREQUENCY (HZ)

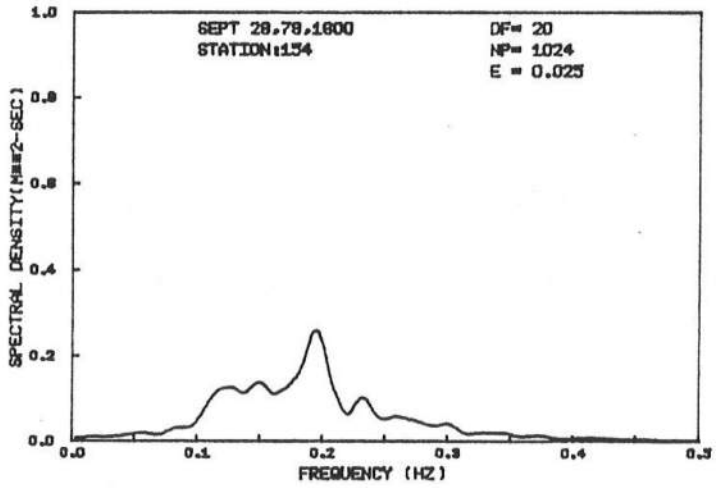

SEPT 28,78,1500
STATION:1225
DF= 20
NP= 1024
E = 0.028
SPECTRAL DENSITY(MM**2-SEC)
FREQUENCY (HZ)

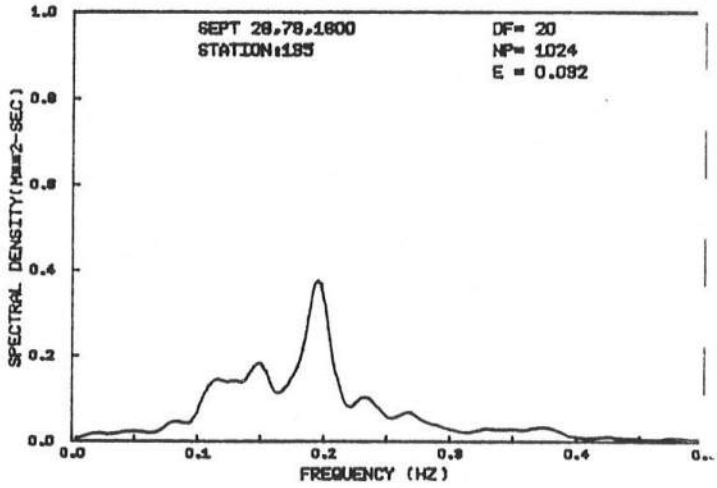

SEPT 28,78,1500
STATION:154
DF= 20
NP= 1024
E = 0.024
SPECTRAL DENSITY(MM**2-SEC)
FREQUENCY (HZ)

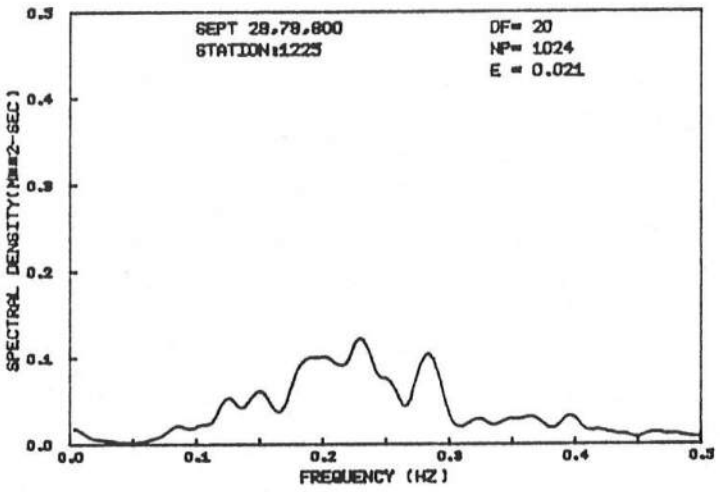

SEPT 28,78,1500
STATION:183
DF= 20
NP= 1024
E = 0.084
SPECTRAL DENSITY(MM**2-SEC)
FREQUENCY (HZ)

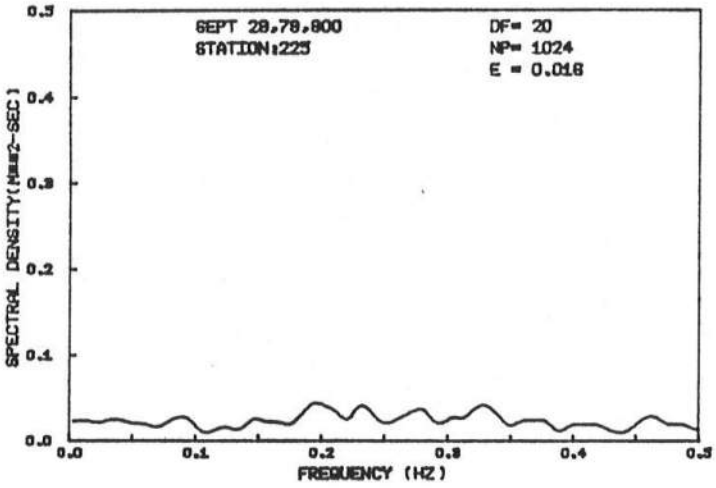

SEPT 28,78,1800
STATION:1225
DF= 20
NP= 1024
E = 0.096
SPECTRAL DENSITY(MM**2-SEC)
FREQUENCY (HZ)

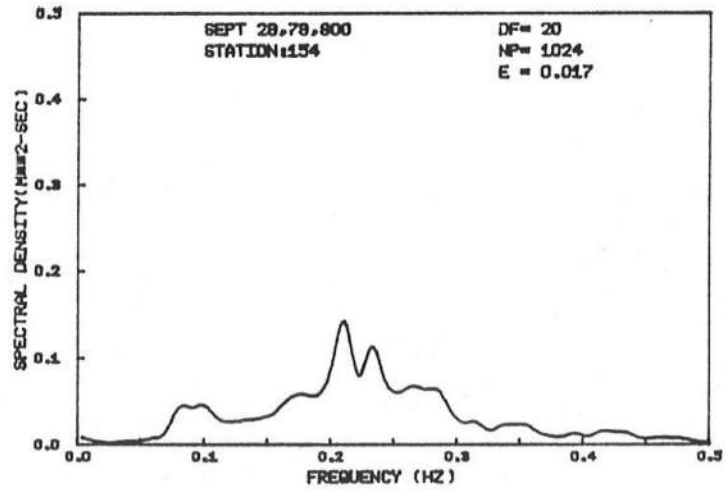

SEPT 28,78,1800
STATION:225
DF= 20
NP= 1024
E = 0.015
SPECTRAL DENSITY(MM**2-SEC)
FREQUENCY (HZ)

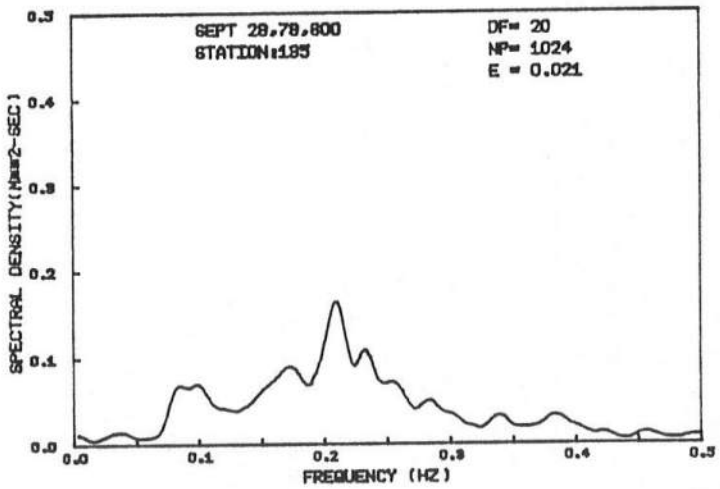

SEPT 28,78,1800
STATION:154
DF= 20
NP= 1024
E = 0.025
SPECTRAL DENSITY(MM**2-SEC)
FREQUENCY (HZ)

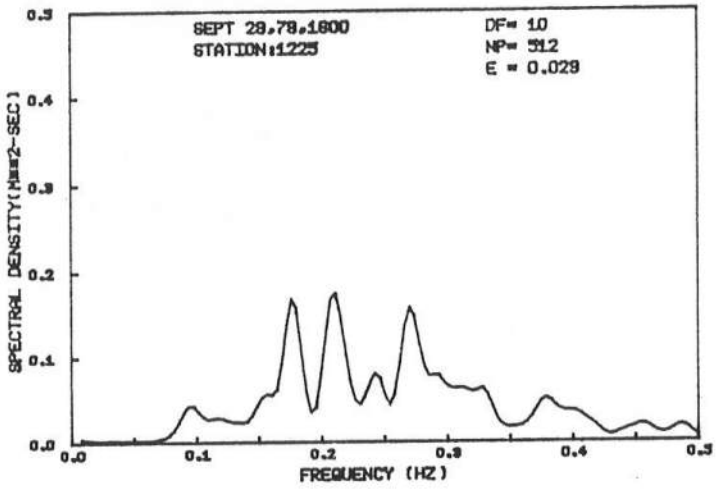

SEPT 28,78,1800
STATION:185
DF= 20
NP= 1024
E = 0.092
SPECTRAL DENSITY(MM**2-SEC)
FREQUENCY (HZ)

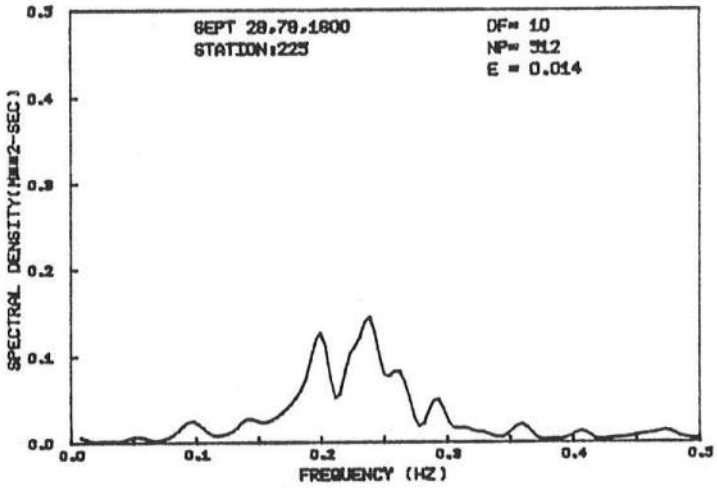

SEPT 28,78,800
STATION:1225
DF= 20
NP= 1024
E = 0.021
SPECTRAL DENSITY(MM**2-SEC)
FREQUENCY (HZ)

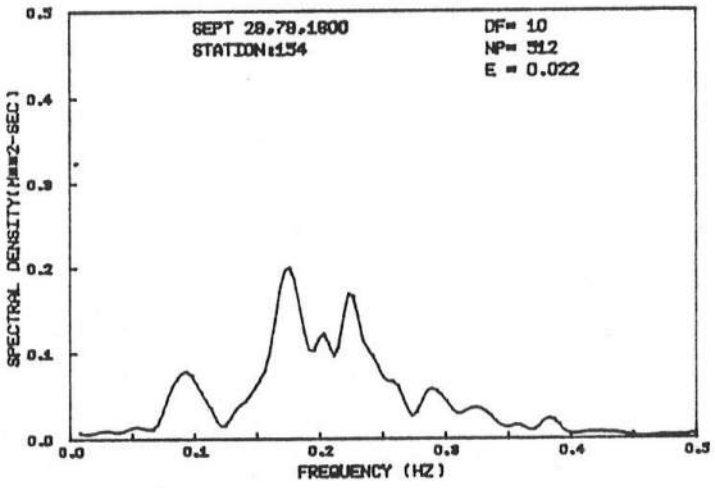

SEPT 28,78,800
STATION:225
DF= 20
NP= 1024
E = 0.018
SPECTRAL DENSITY(MM**2-SEC)
FREQUENCY (HZ)

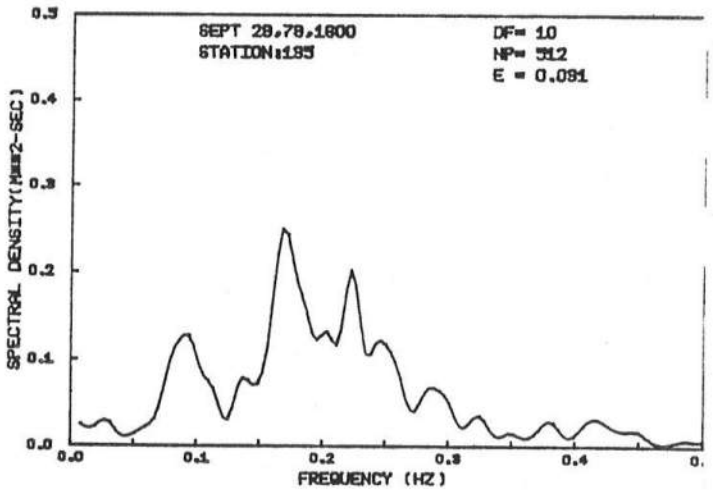

SEPT 28,78,800
STATION:154
DF= 20
NP= 1024
E = 0.017
SPECTRAL DENSITY(MM**2-SEC)
FREQUENCY (HZ)


SEPT 28,78,800
STATION:185
DF= 20
NP= 1024
E = 0.021
SPECTRAL DENSITY(MM**2-SEC)
FREQUENCY (HZ)


SEPT 28,78,1800
STATION:1225
DF= 10
NP= 512
E = 0.029
SPECTRAL DENSITY(MM**2-SEC)
FREQUENCY (HZ)


SEPT 28,78,1800
STATION:225
DF= 10
NP= 512
E = 0.014
SPECTRAL DENSITY(MM**2-SEC)
FREQUENCY (HZ)

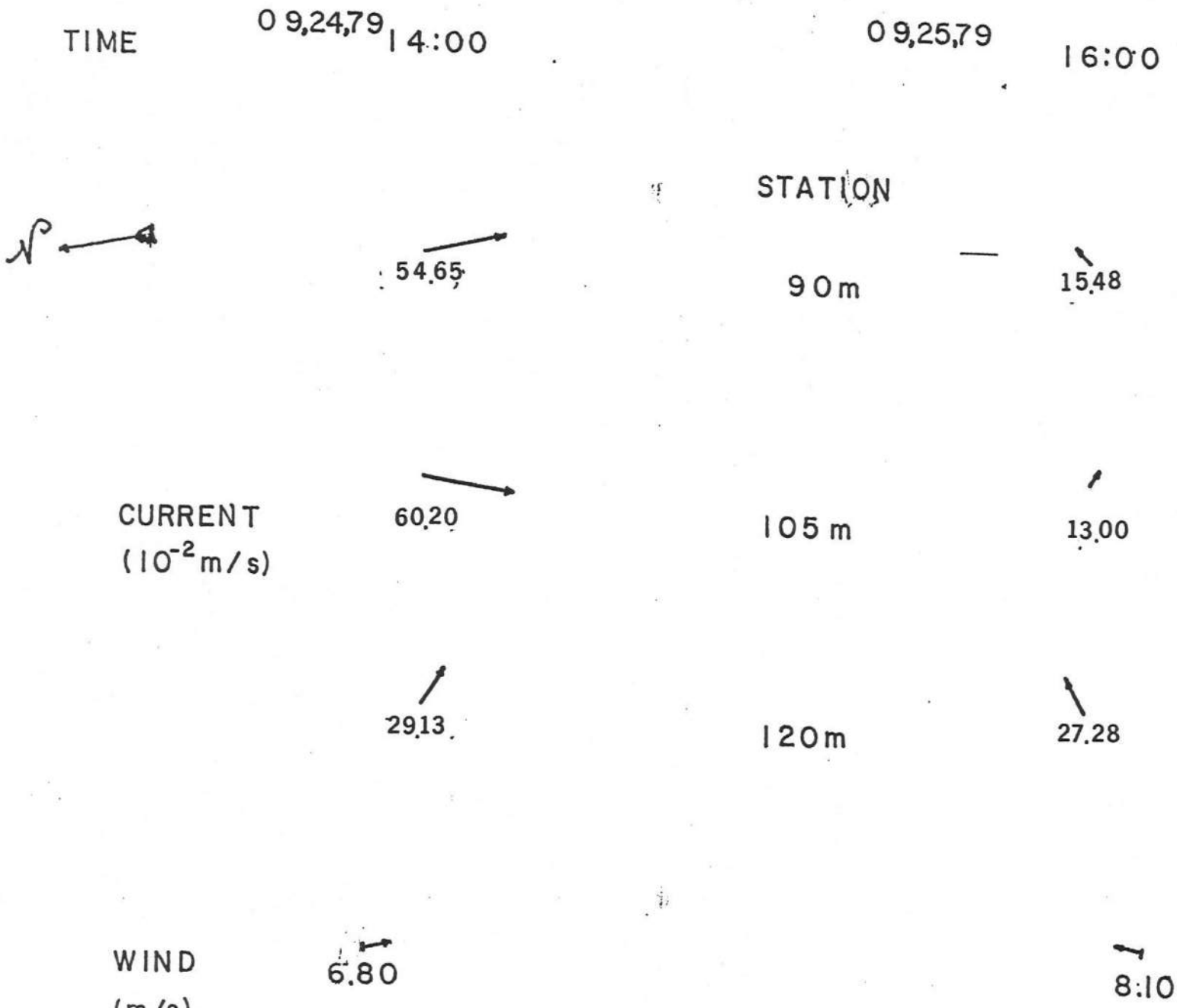

SEPT 28,78,1800
STATION:154
DF= 10
NP= 512
E = 0.022
SPECTRAL DENSITY(MM**2-SEC)
FREQUENCY (HZ)


SEPT 28,78,1800
STATION:185
DF= 10
NP= 512
E = 0.091
SPECTRAL DENSITY(MM**2-SEC)
FREQUENCY (HZ)

Mean Current in Shallow Water

09,21,79

TIME	10:00	12:00	14:00	16:00
STATION				
90 m	66.28	52.90	35.68	25.30
CURRENT (10^{-2}m/s) 105 m	87.03	73.63	64.08	61.08
120 m	77.33	45.58	60.23	92.40
WIND (m/s)	13.00	11.50	10.00	9.30

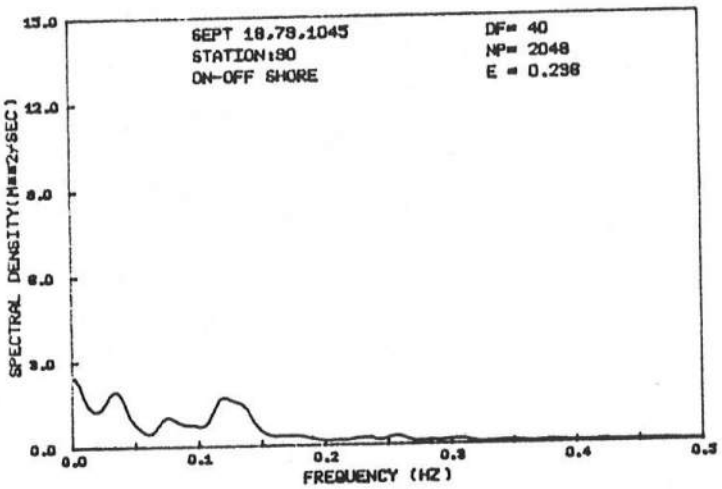

TIME
09,24,79 14:00
09,25,79 16:00
STATION
54.65
90m
15.48
CURRENT
(10⁻² m/s)
60.20
105 m
13.00
29.13
120m
27.28
WIND
(m/s)
6.80
8.10

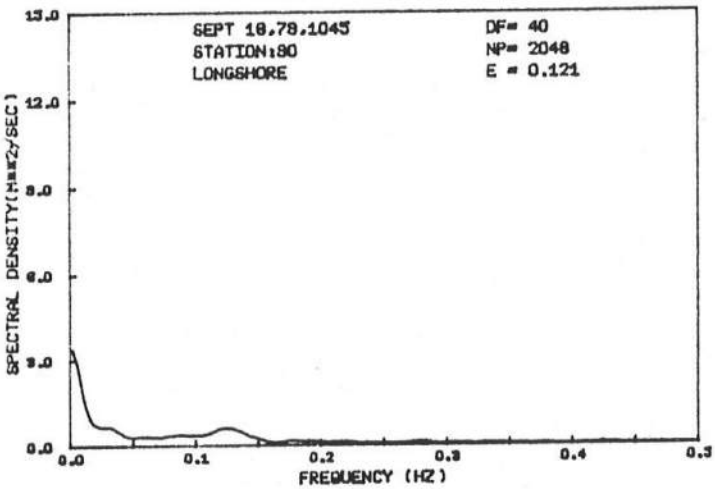
TIME	09,26,79	14:00	15:00	16:00
N	STATION			
	90 m	30.55	17.03	13.13
CURRENT (10^{-2}m/s)	105m	20.45	7.70	17.58
	120 m	23.98	18.05	22.45
WIND (m/s)		6.70	7.60	7.90

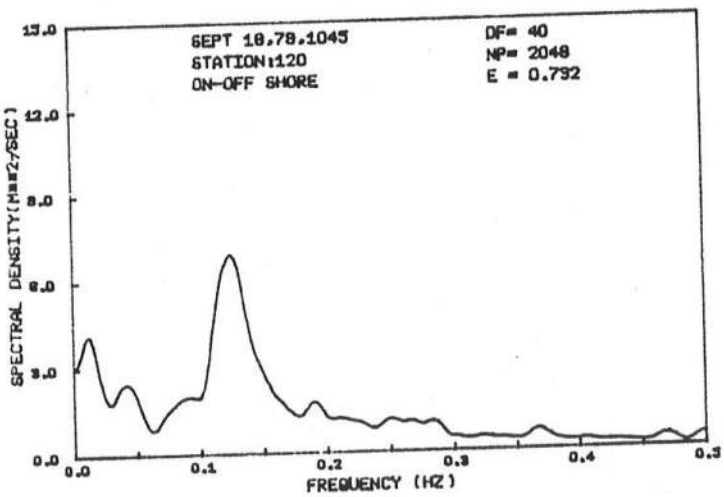
09,27,79

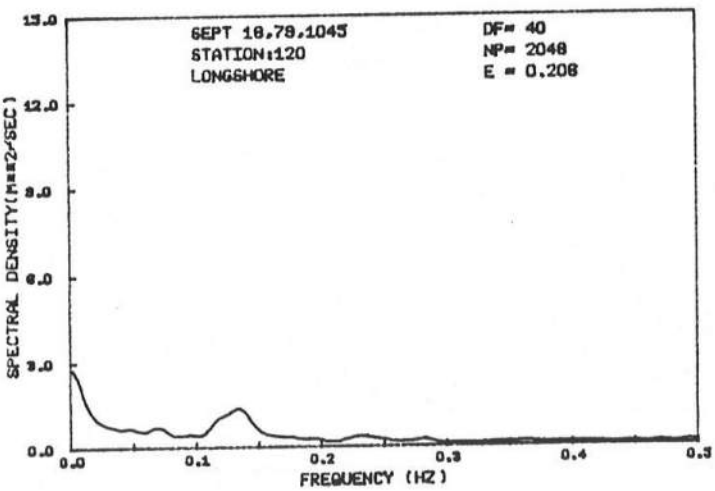
		14:00	15:00	16:00	17:00
TIME					
STATION					
	90 m	13.73	51.63	51.98	64.98
CURRENT (10^{-2} m/s)	105 m	38.08	42.25'	44.93	74.80
	120 m	37.68	44.73	27.95	36.55
WIND (m/s)		11.60	11.20	10.40	10.00

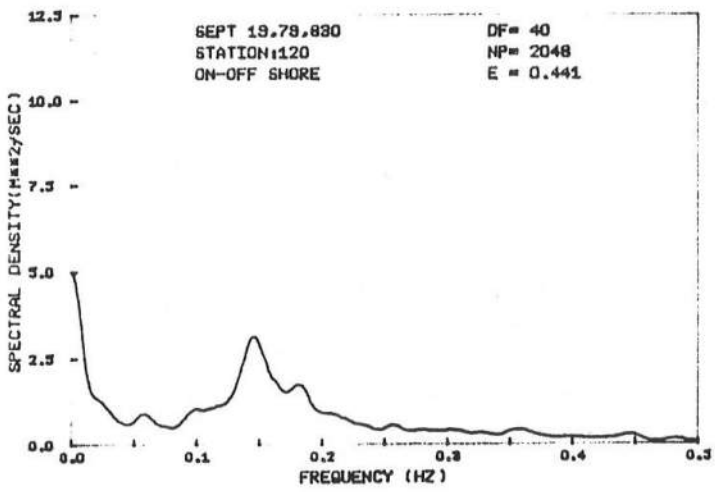
On-Offshore and Longshore Current Spectra in Shallow Water

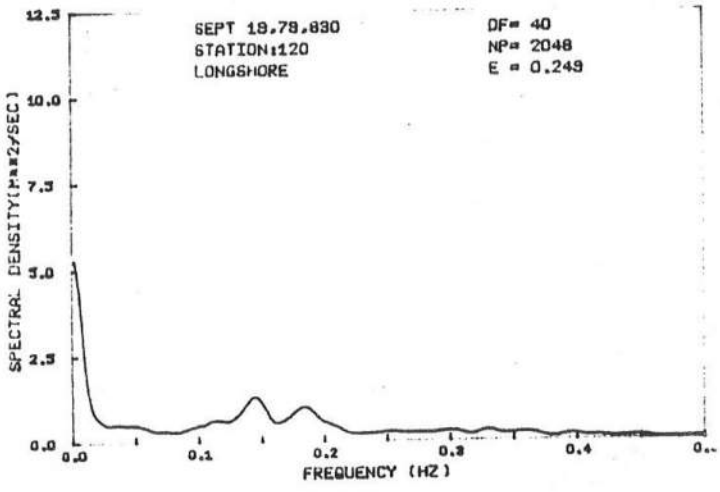

SEPT 18,78,1045
STATION:90
ON-OFF SHORE
DF= 40
NP= 2048
E = 0.298
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

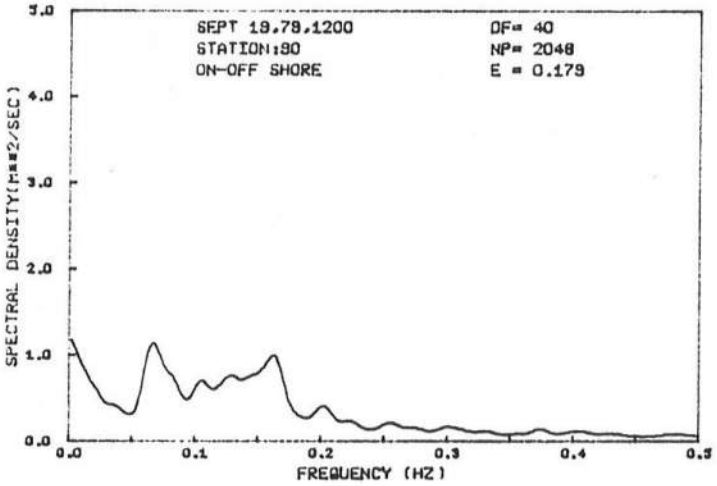

SEPT 18,78,1045
STATION:90
LONGSHORE
DF= 40
NP= 2048
E = 0.121
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

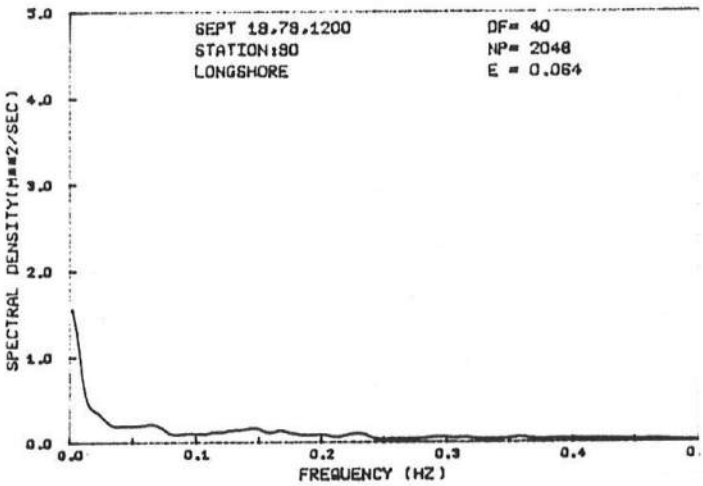

SEPT 18,78,1045
STATION:120
ON-OFF SHORE
DF= 40
NP= 2048
E = 0.792
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

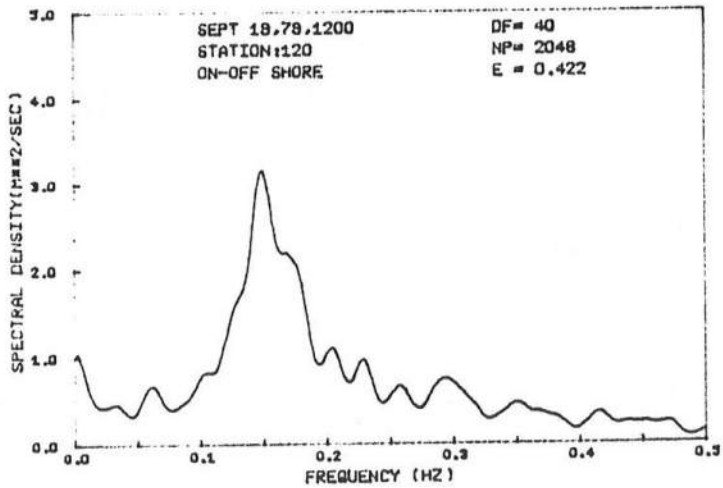

SEPT 18,78,1045
STATION:120
LONGSHORE
DF= 40
NP= 2048
E = 0.208
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

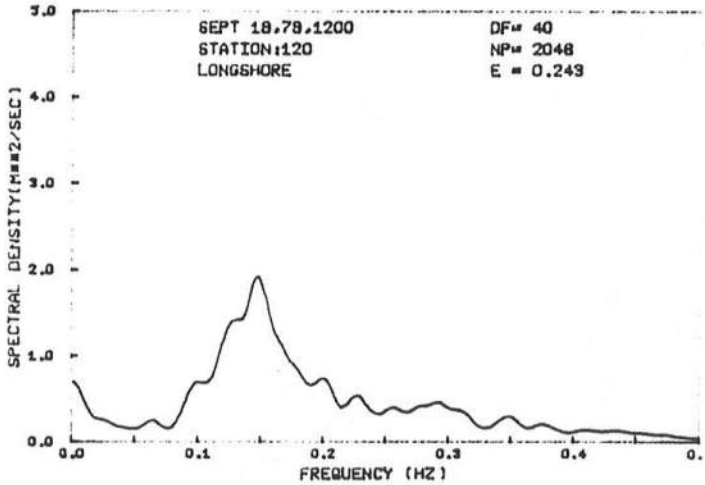

SEPT 19,78,830
STATION:120
ON-OFF SHORE
DF= 40
NP= 2048
E = 0.441
SPECTRAL DENSITY(M**2/SEC)
12.5
10.0
7.5
5.0
2.5
0.0
0.0
0.1
0.2
0.3
0.4
0.5
FREQUENCY (HZ)

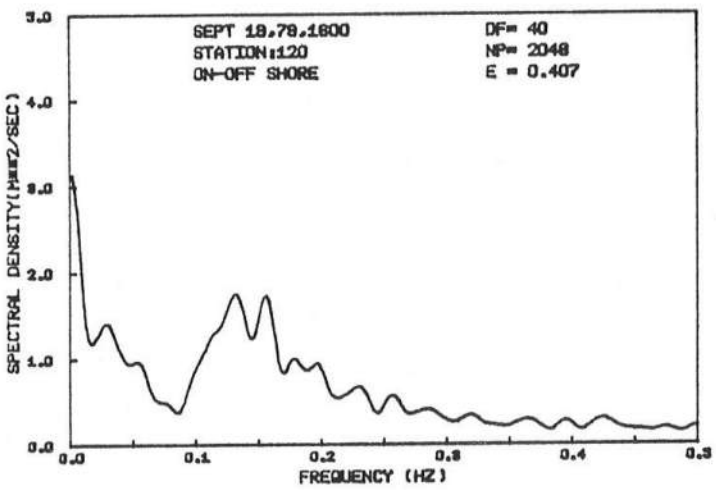

SEPT 19,78,830
STATION:120
LONGSHORE
DF= 40
NP= 2048
E = 0.249
SPECTRAL DENSITY(M**2/SEC)
12.5
10.0
7.5
5.0
2.5
0.0
0.0
0.1
0.2
0.3
0.4
FREQUENCY (HZ)

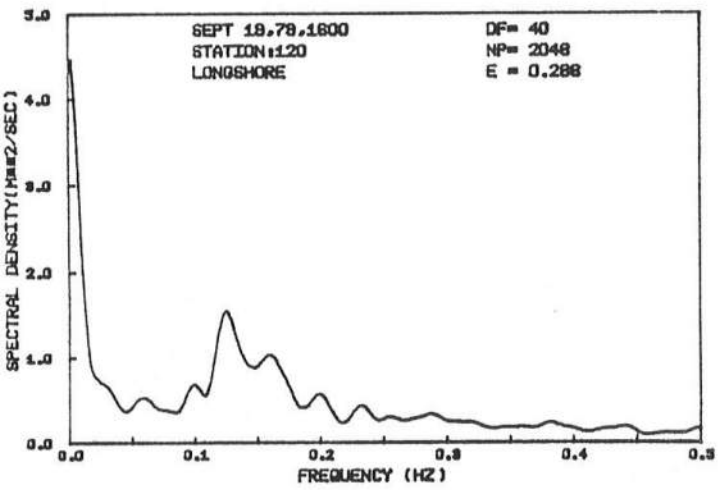

SEPT 18,78,1200
STATION:80
ON-OFF SHORE
DF= 40
NP= 2048
E = 0.179
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

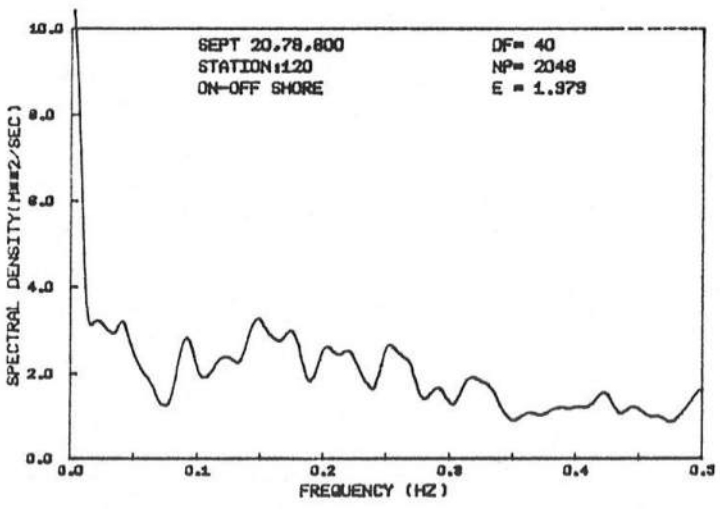

SEPT 18,78,1200
STATION:80
LONGSHORE
DF= 40
NP= 2048
E = 0.064
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

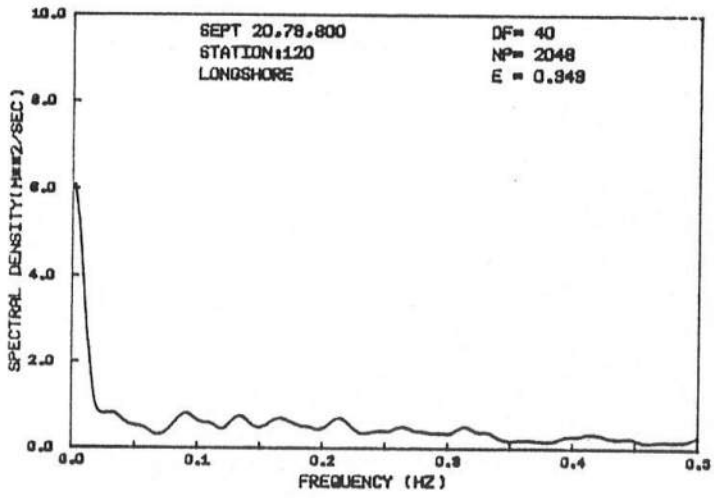

SEPT 18,78,1200
STATION:120
ON-OFF SHORE
DF= 40
NP= 2048
E = 0.422
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

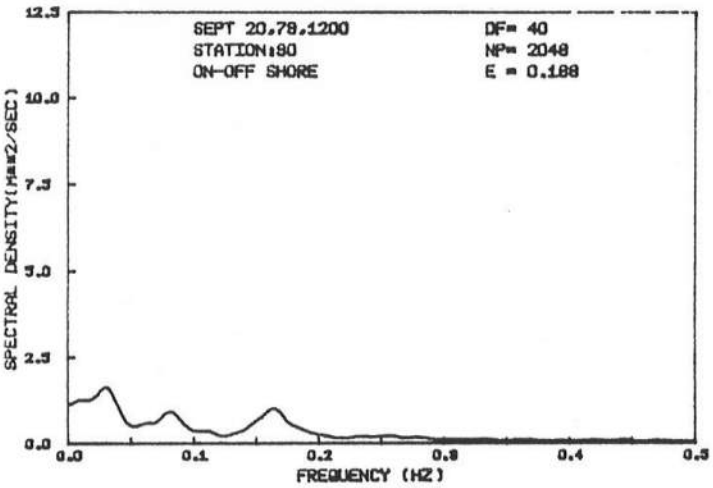

SEPT 18,78,1200
STATION:120
LONGSHORE
DF= 40
NP= 2048
E = 0.243
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

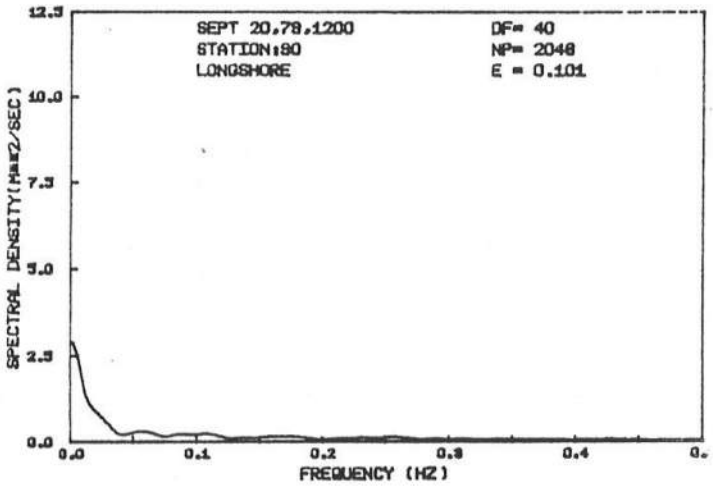

SEPT 18,78,1600
STATION:120
ON-OFF SHORE
DF= 40
NP= 2048
E = 0.407
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)
0.0
1.0
2.0
3.0
4.0
0.1
0.2
0.3
0.4

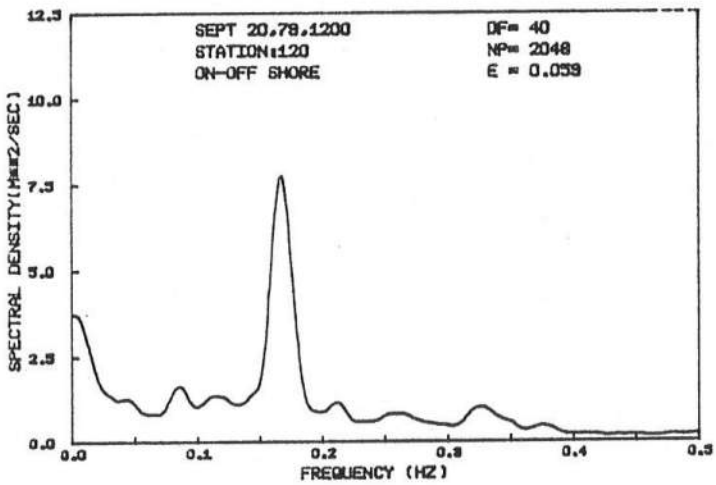

SEPT 18,78,1600
STATION:120
LONGSHORE
DF= 40
NP= 2048
E = 0.288
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)
0.0
1.0
2.0
3.0
4.0
0.1
0.2
0.3
0.4

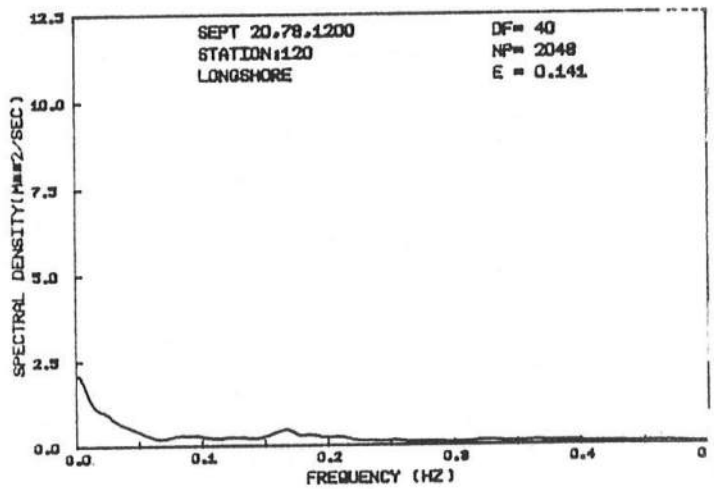

SEPT 20,78,800
STATION:120
ON-OFF SHORE
DF= 40
NP= 2048
E = 1.973
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)
0.0
2.0
4.0
6.0
8.0
10.0
0.1
0.2
0.3
0.4
0.5

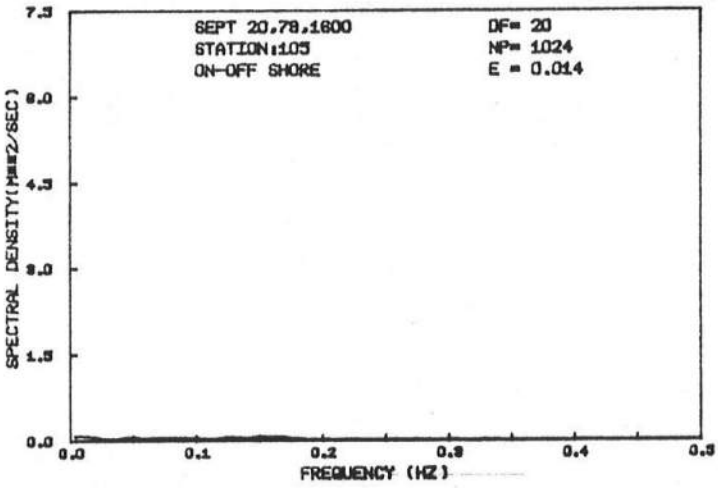

SEPT 20,78,800
STATION:120
LONGSHORE
DF= 40
NP= 2048
E = 0.349
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)
0.0
2.0
4.0
6.0
8.0
10.0
0.1
0.2
0.3
0.4
0.5

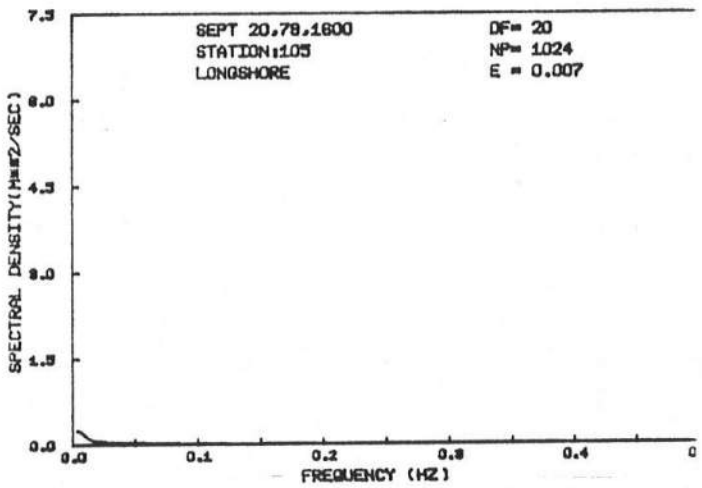

SEPT 20,78,1200
STATION:80
ON-OFF SHORE
DF= 40
NP= 2048
E = 0.188
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

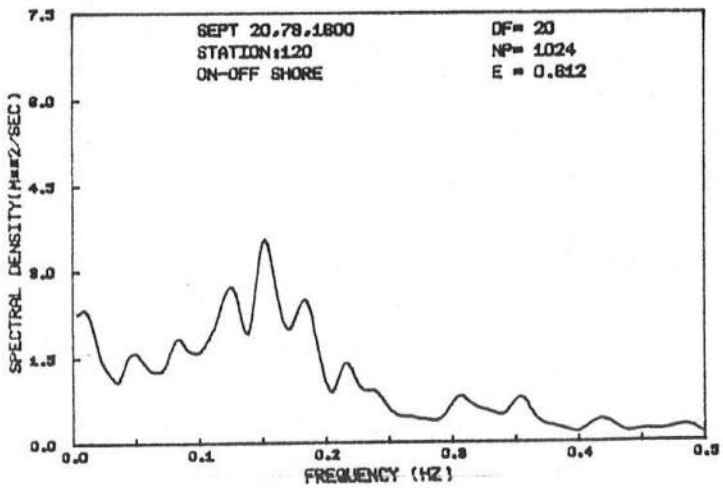

SEPT 20,78,1200
STATION:90
LONGSHORE
DF= 40
NP= 2048
E = 0.101
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

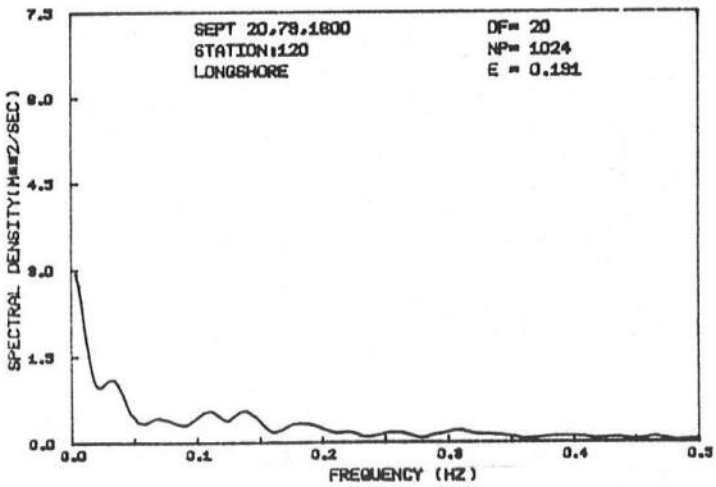

SEPT 20,78,1200
STATION:120
ON-OFF SHORE
DF= 40
NP= 2048
E = 0.059
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

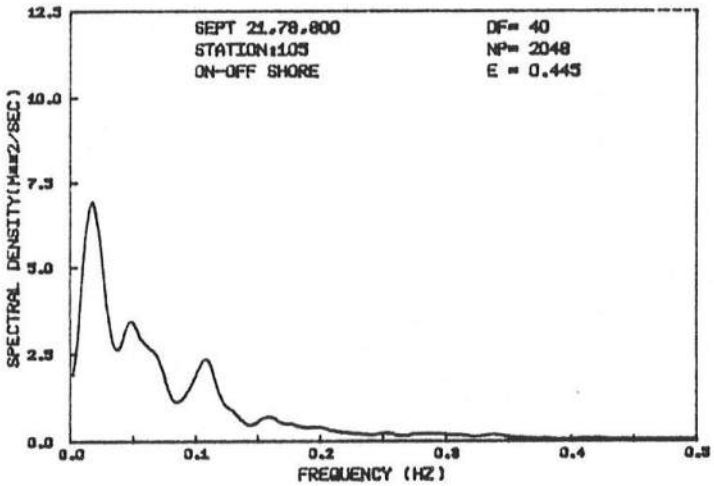

SEPT 20,78,1200
STATION:120
LONGSHORE
DF= 40
NP= 2048
E = 0.141
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

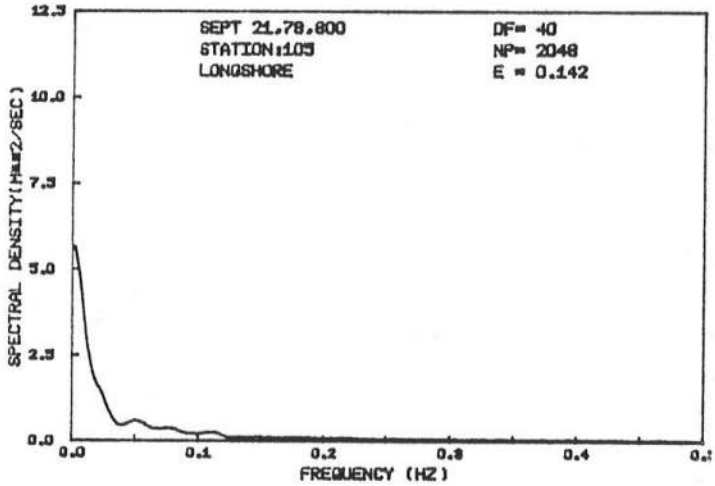

SEPT 20,78,1600
STATION:105
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.014
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

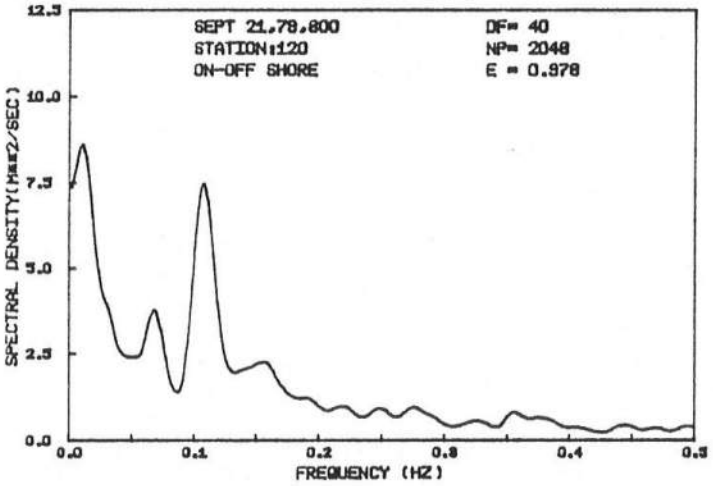

SEPT 20,78,1600
STATION:105
LONGSHORE
DF= 20
NP= 1024
E = 0.007
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

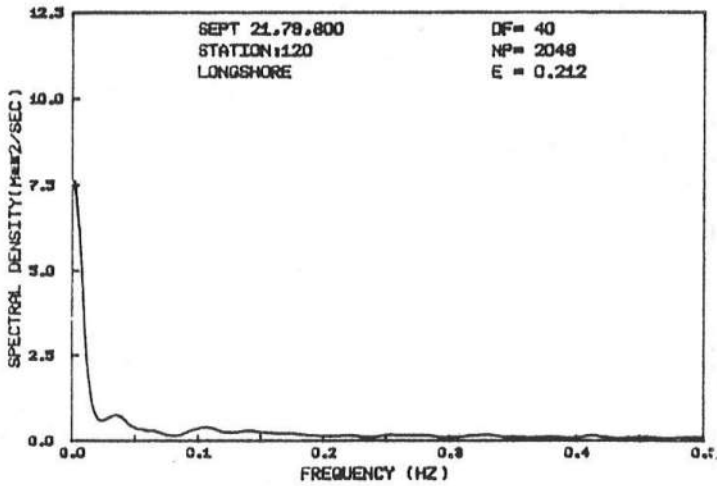

SEPT 20,78,1600
STATION:120
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.812
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

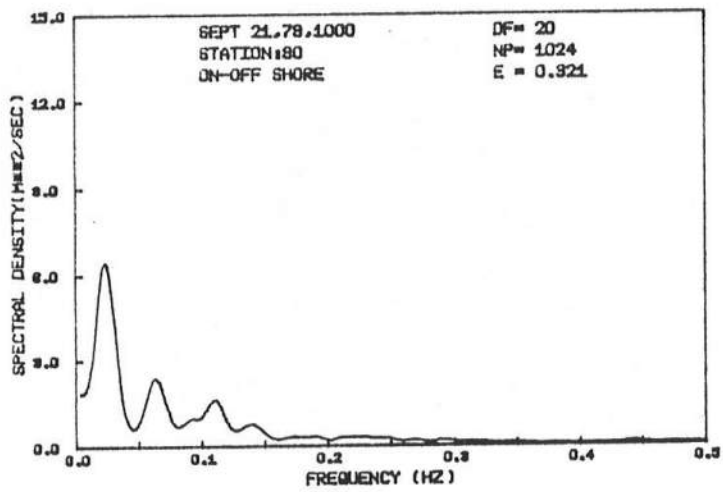

SEPT 20,78,1600
STATION:120
LONGSHORE
DF= 20
NP= 1024
E = 0.191
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

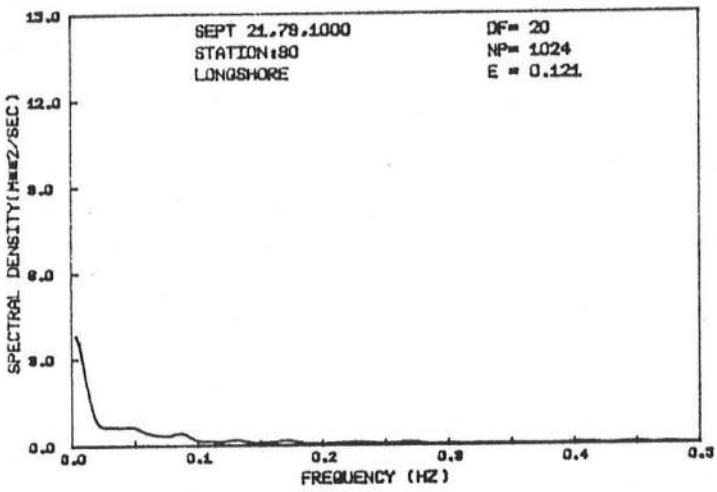

SEPT 21,78,800
STATION:105
ON-OFF SHORE
DF= 40
NP= 2048
E = 0.445
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

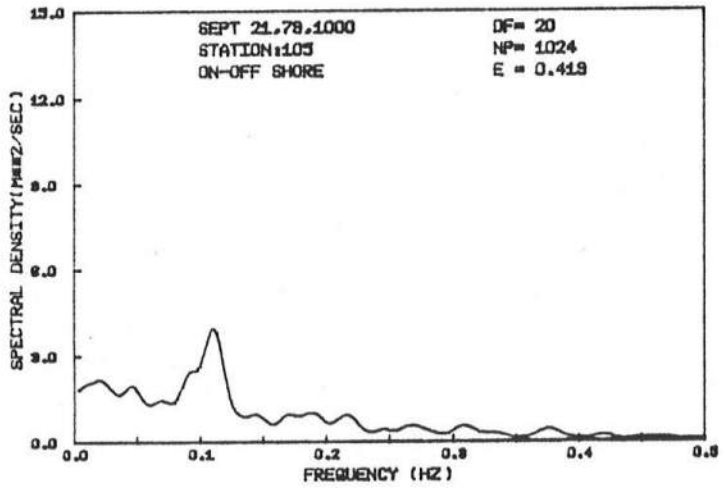

SEPT 21,78,800
STATION:105
LONGSHORE
DF= 40
NP= 2048
E = 0.142
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

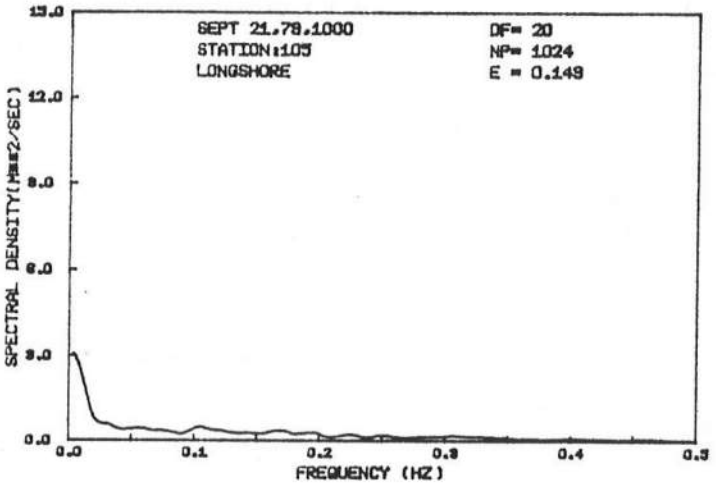

SEPT 21,78,800
STATION:120
ON-OFF SHORE
DF= 40
NP= 2048
E = 0.978
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

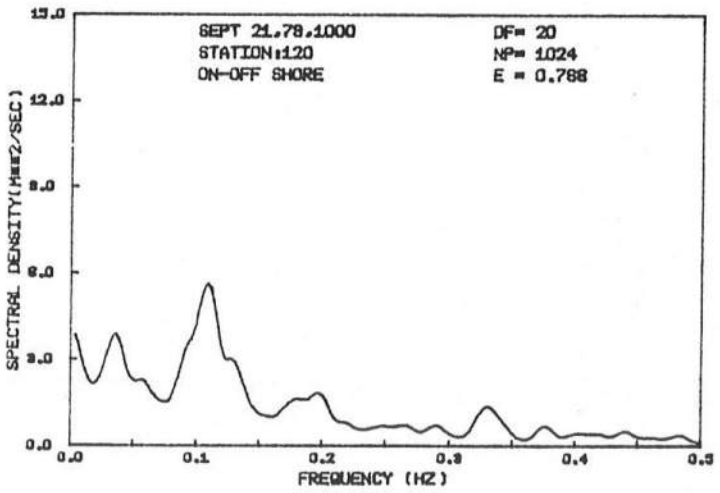

SEPT 21,78,800
STATION:120
LONGSHORE
DF= 40
NP= 2048
E = 0.212
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

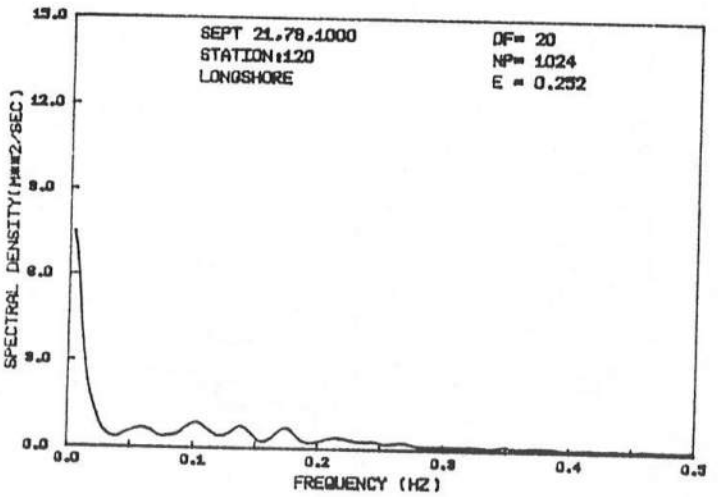

SEPT 21,78,1000
STATION:80
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.321
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

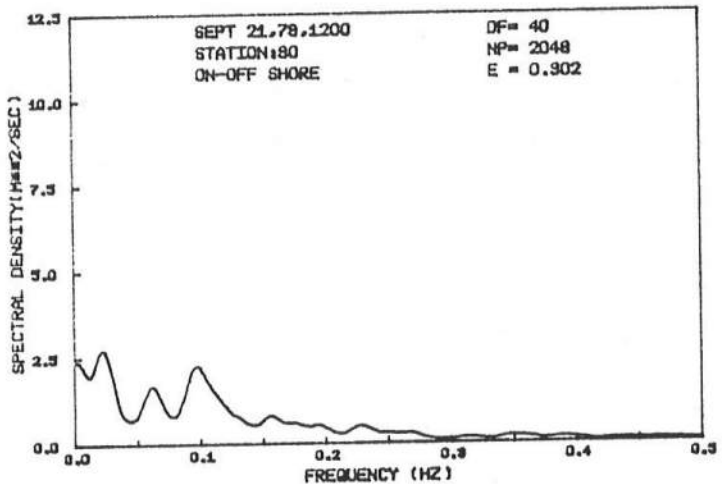

SEPT 21,78,1000
STATION:80
LONGSHORE
DF= 20
NP= 1024
E = 0.121
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

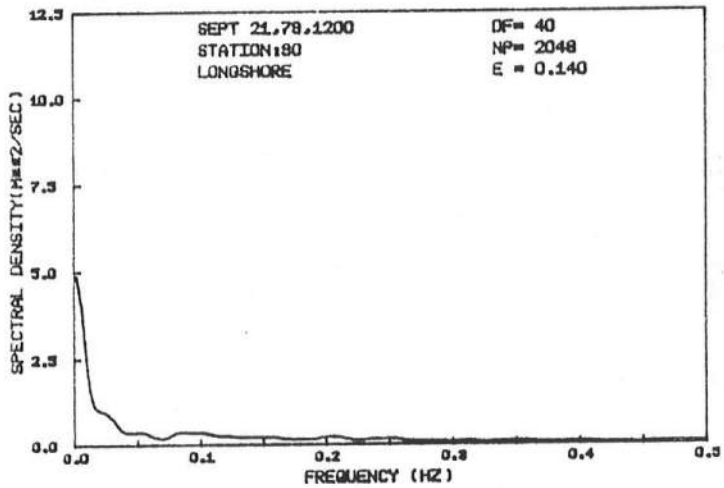

SEPT 21,78,1000
STATION:105
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.419
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

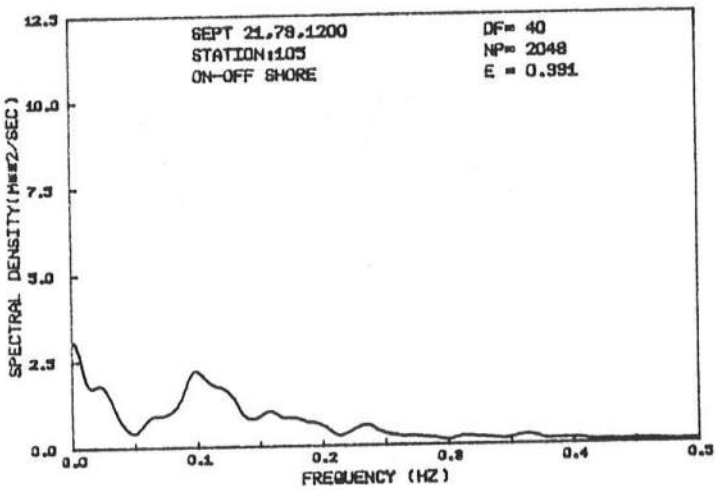

SEPT 21,78,1000
STATION:105
LONGSHORE
DF= 20
NP= 1024
E = 0.149
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

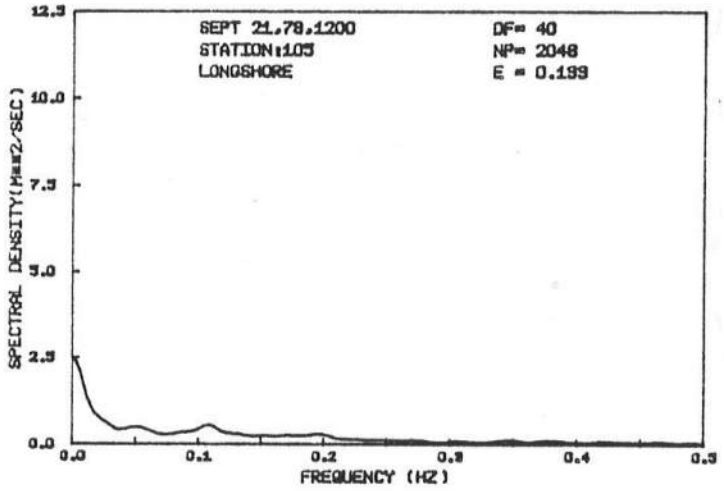

SEPT 21,78,1000
STATION:120
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.788
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

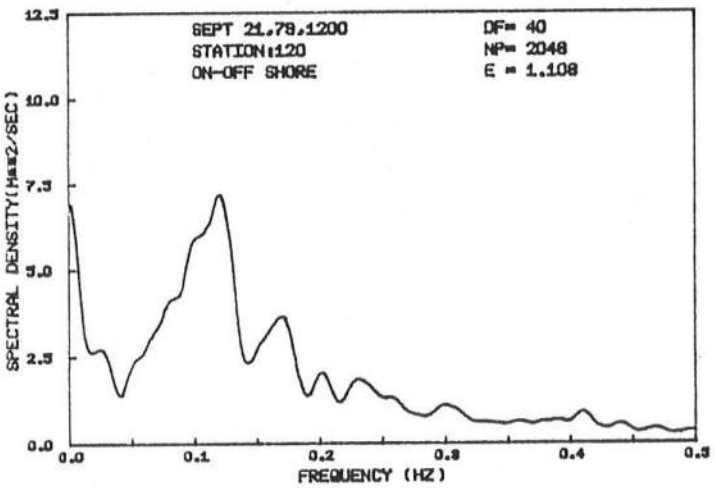

SEPT 21,78,1000
STATION:120
LONGSHORE
DF= 20
NP= 1024
E = 0.252
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

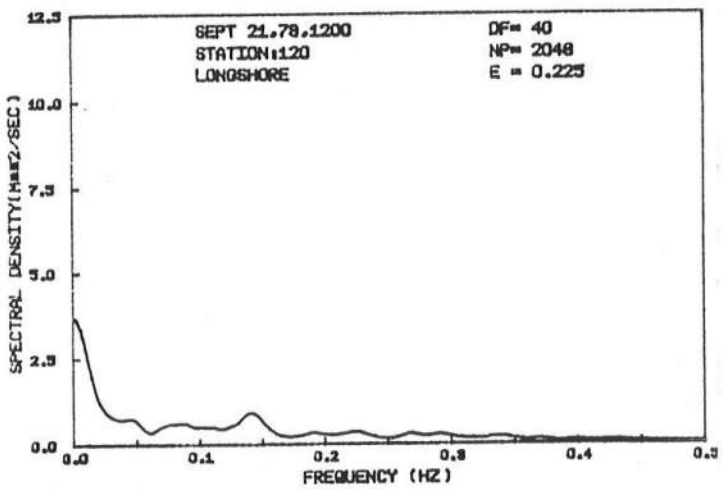

SEPT 21,78,1200
STATION:80
ON-OFF SHORE
DF= 40
NP= 2048
E = 0.302
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

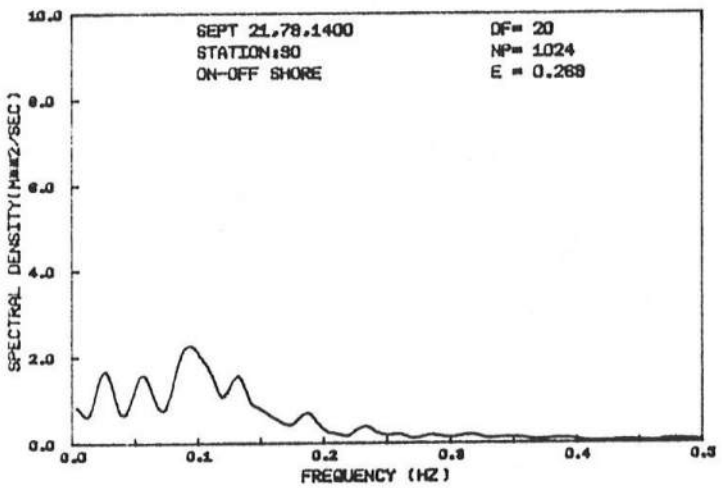

SEPT 21,78,1200
STATION:80
LONGSHORE
DF= 40
NP= 2048
E = 0.140
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

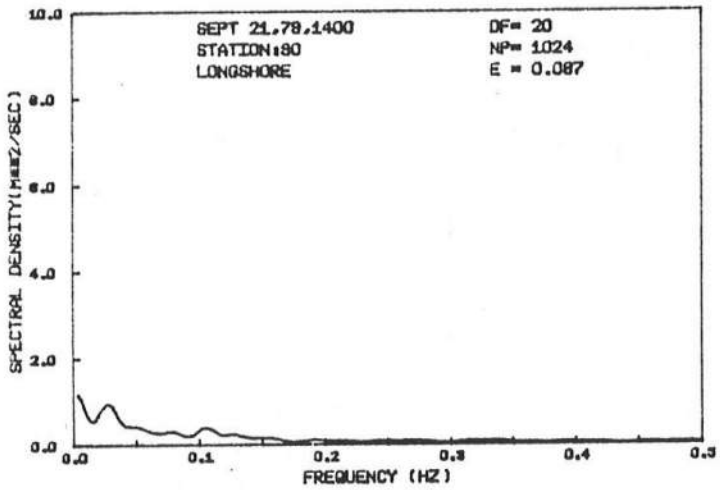

SEPT 21,78,1200
STATION:105
ON-OFF SHORE
DF= 40
NP= 2048
E = 0.991
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

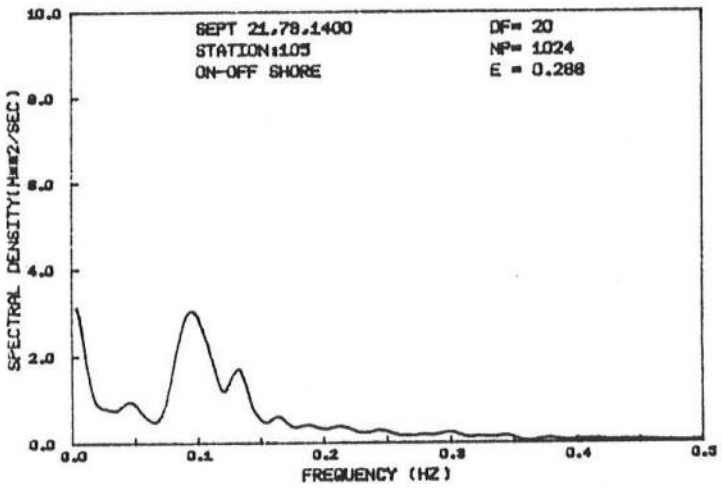

SEPT 21,78,1200
STATION:105
LONGSHORE
DF= 40
NP= 2048
E = 0.199
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

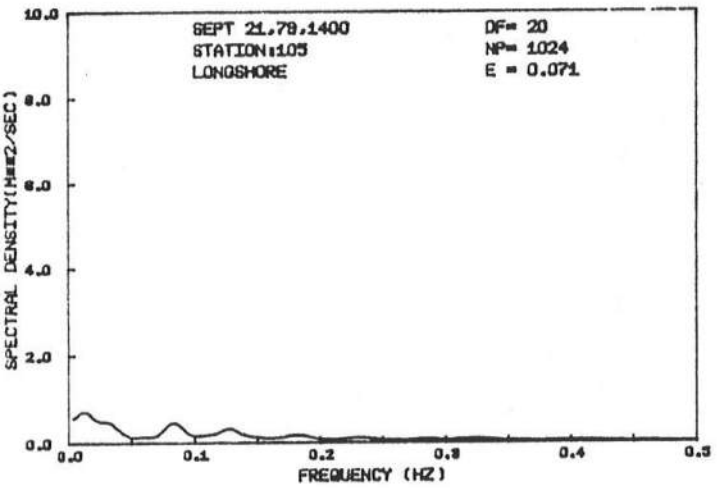

SEPT 21,78,1200
STATION:120
ON-OFF SHORE
DF= 40
NP= 2048
E = 1.108
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

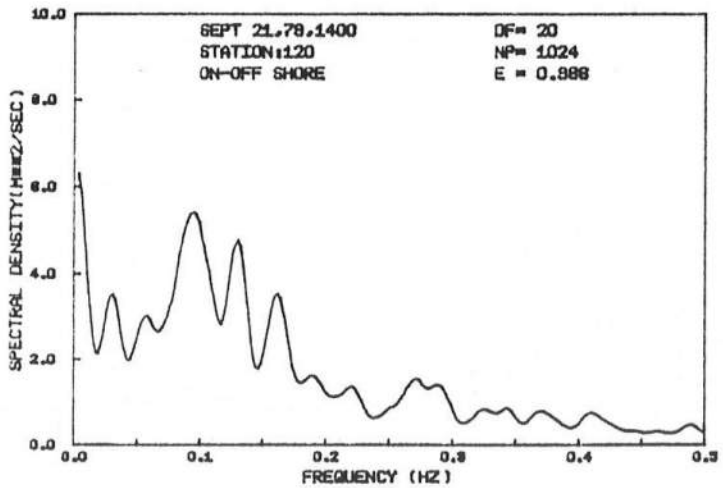

SEPT 21,78,1200
STATION:120
LONGSHORE
DF= 40
NP= 2048
E = 0.225
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

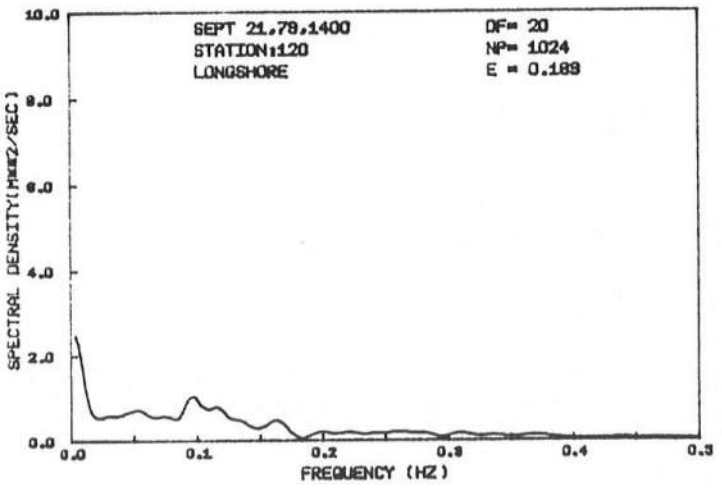

SEPT 21,78,1400
STATION:90
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.269
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

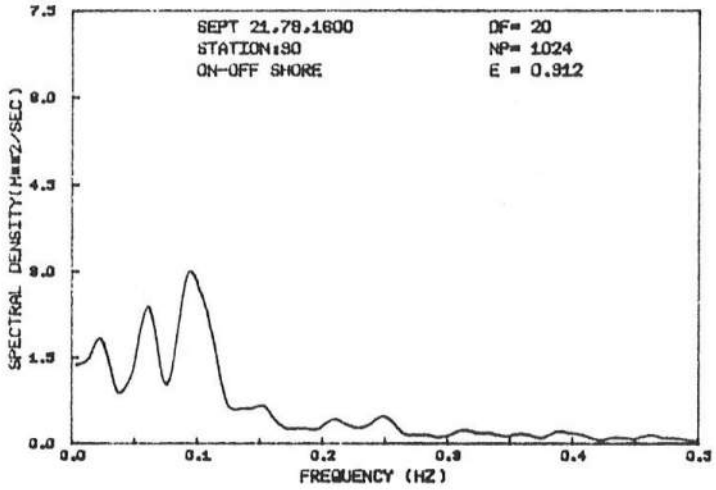

SEPT 21,78,1400
STATION:90
LONGSHORE
DF= 20
NP= 1024
E = 0.087
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

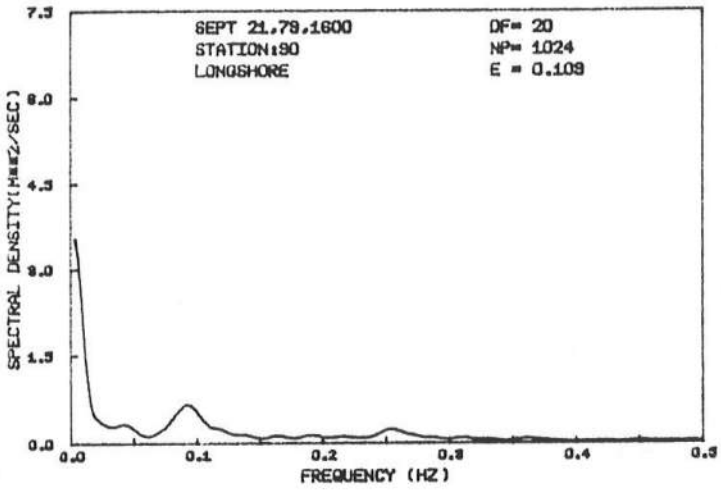

SEPT 21,78,1400
STATION:105
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.288
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

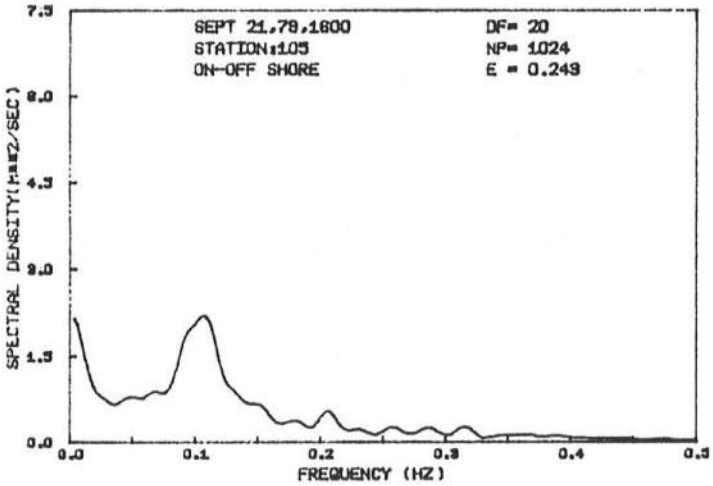

SEPT 21,78,1400
STATION:105
LONGSHORE
DF= 20
NP= 1024
E = 0.071
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

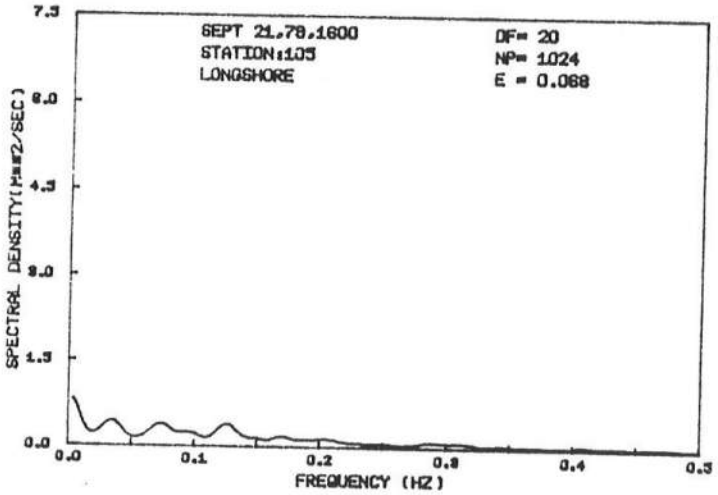

SEPT 21,78,1400
STATION:120
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.988
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

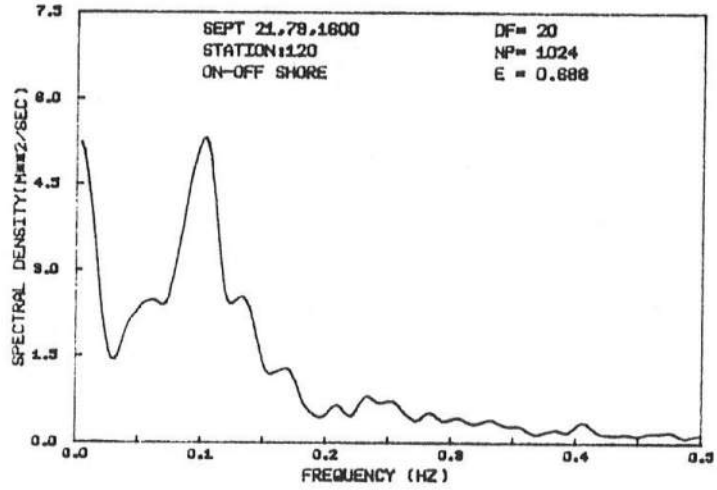

SEPT 21,78,1400
STATION:120
LONGSHORE
DF= 20
NP= 1024
E = 0.189
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

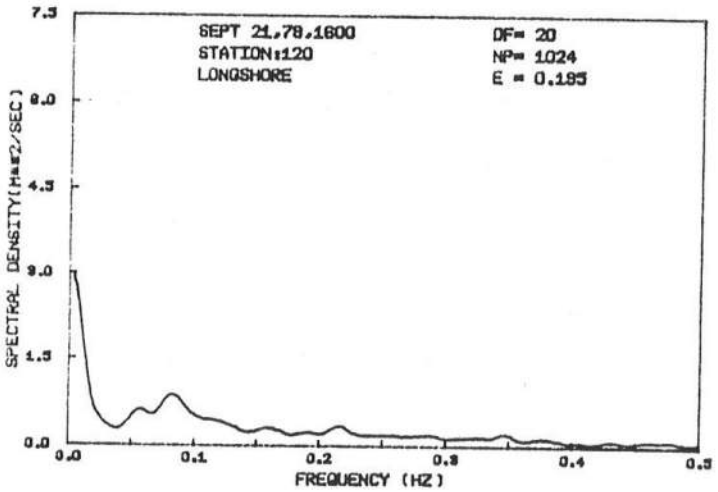

SEPT 21,78,1600
STATION:90
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.912
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

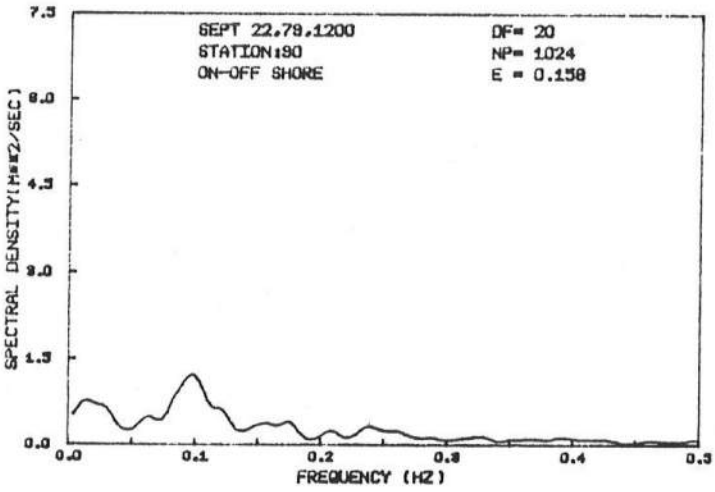

SEPT 21,78,1600
STATION:90
LONGSHORE
DF= 20
NP= 1024
E = 0.109
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

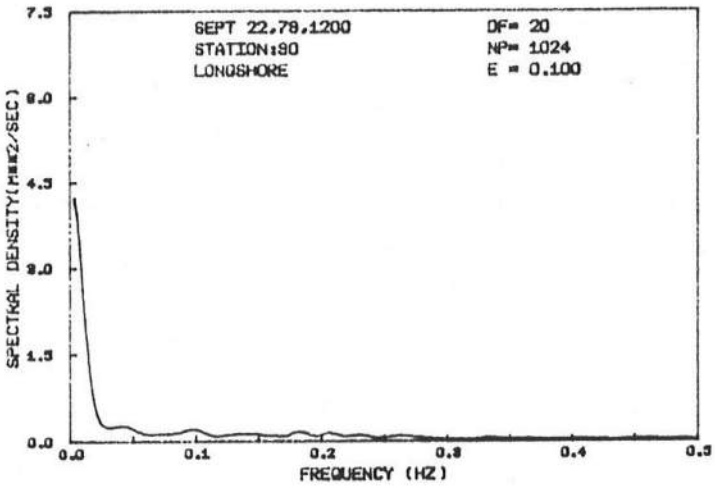

SEPT 21,78,1600
STATION:105
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.249
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

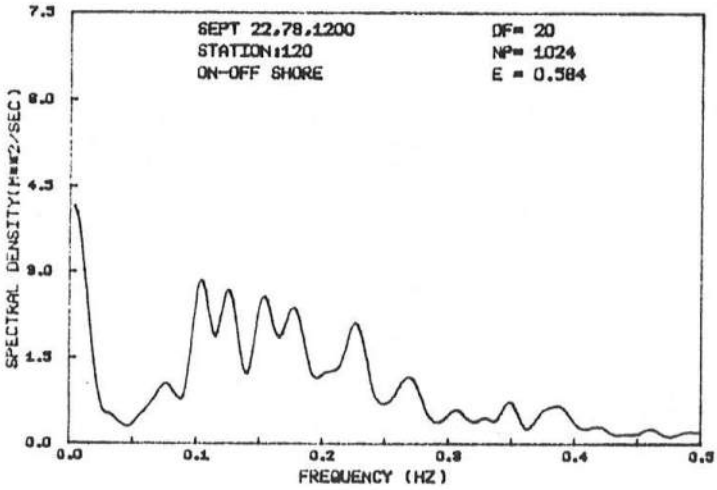

SEPT 21,78,1600
STATION:105
LONGSHORE
DF= 20
NP= 1024
E = 0.068
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

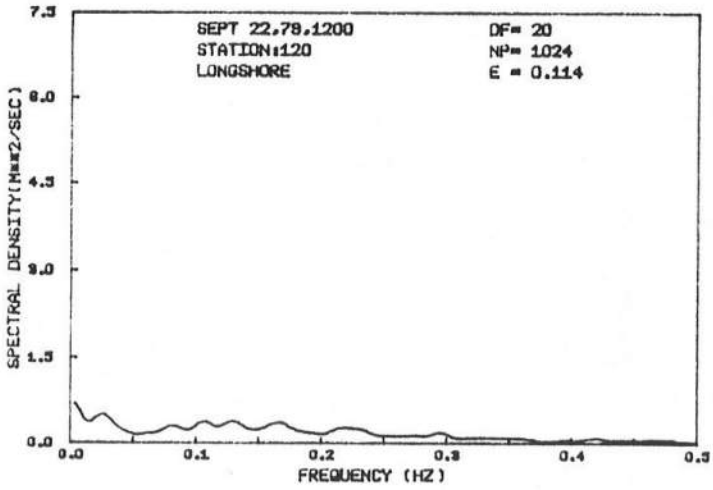

SEPT 21,78,1600
STATION:120
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.888
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

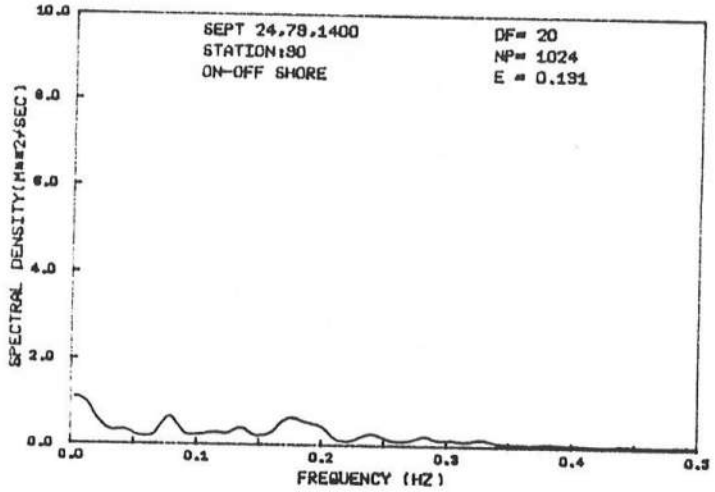

SEPT 21,78,1600
STATION:120
LONGSHORE
DF= 20
NP= 1024
E = 0.195
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

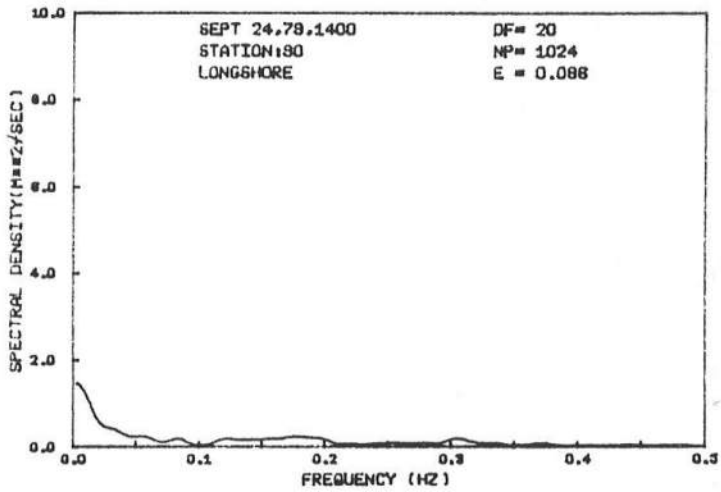

SEPT 22,78,1200
STATION:90
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.158
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

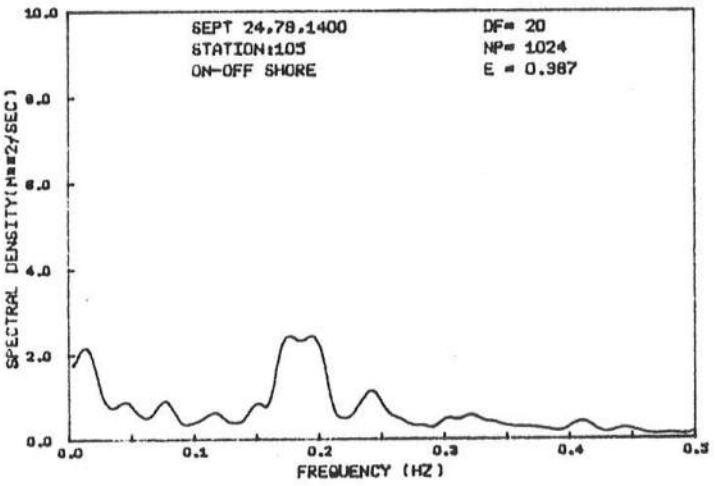

SEPT 22,78,1200
STATION:90
LONGSHORE
DF= 20
NP= 1024
E = 0.100
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

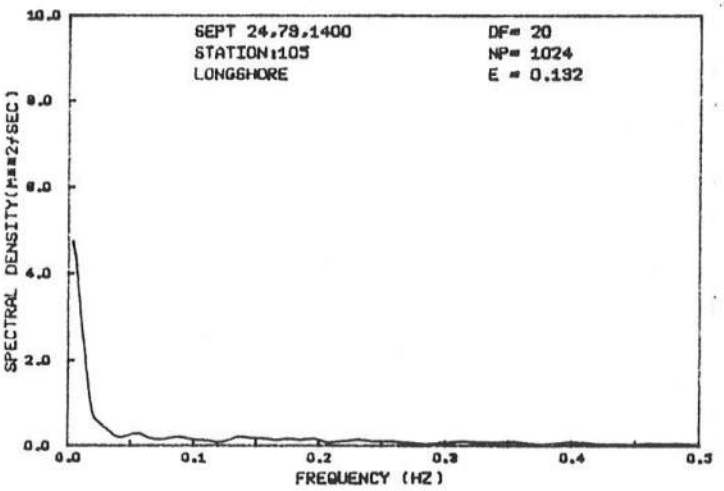

SEPT 22,78,1200
STATION:120
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.584
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

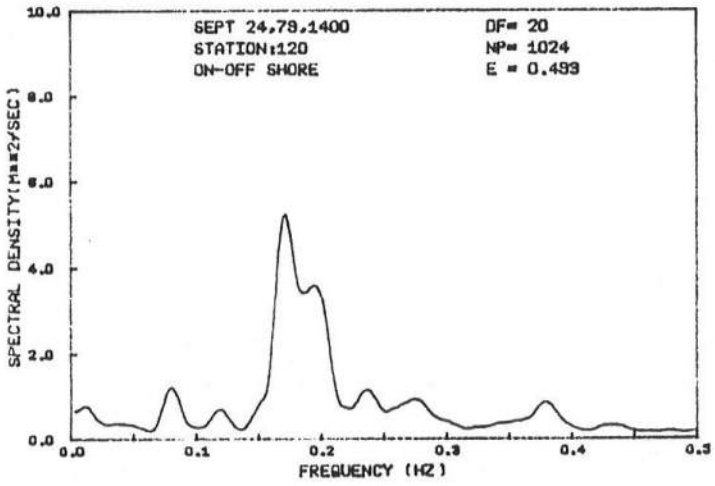

SEPT 22,78,1200
STATION:120
LONGSHORE
DF= 20
NP= 1024
E = 0.114
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

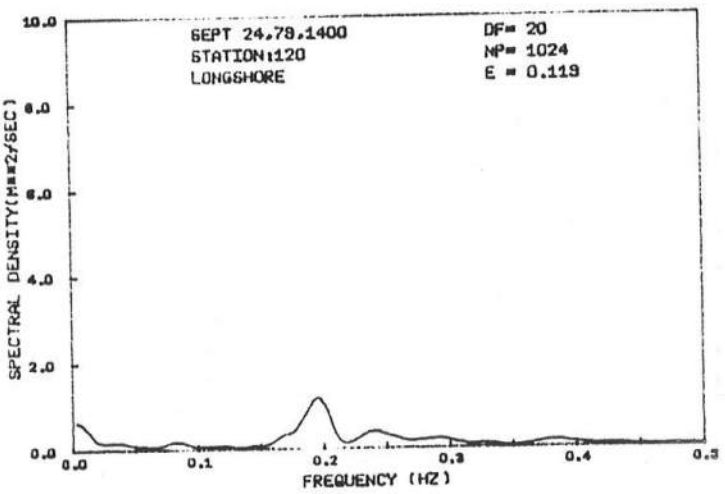

SEPT 24,78,1400
STATION:90
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.191
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

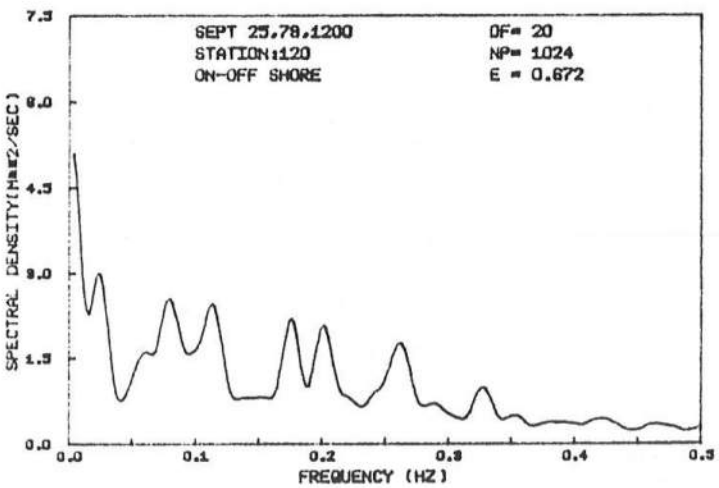

SEPT 24,78,1400
STATION:90
LONGSHORE
DF= 20
NP= 1024
E = 0.088
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

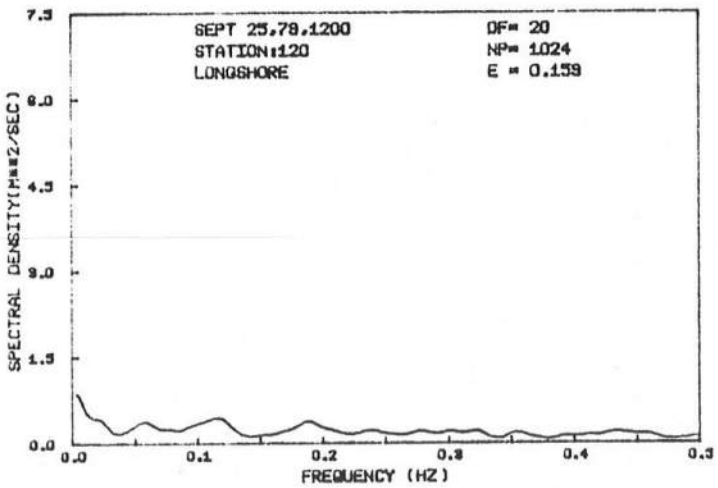

SEPT 24,78,1400
STATION:105
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.387
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

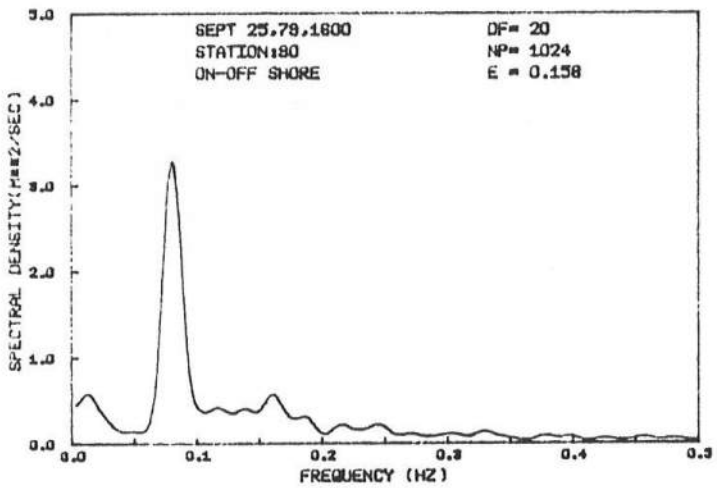

SEPT 24,78,1400
STATION:105
LONGSHORE
DF= 20
NP= 1024
E = 0.132
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

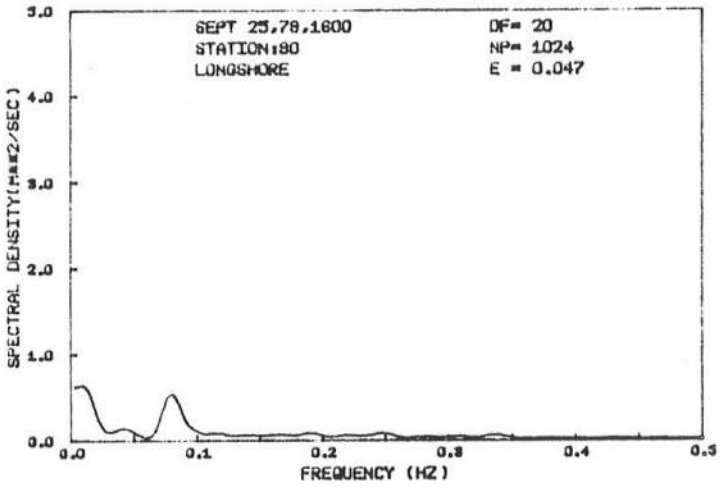

SEPT 24,78,1400
STATION:120
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.493
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

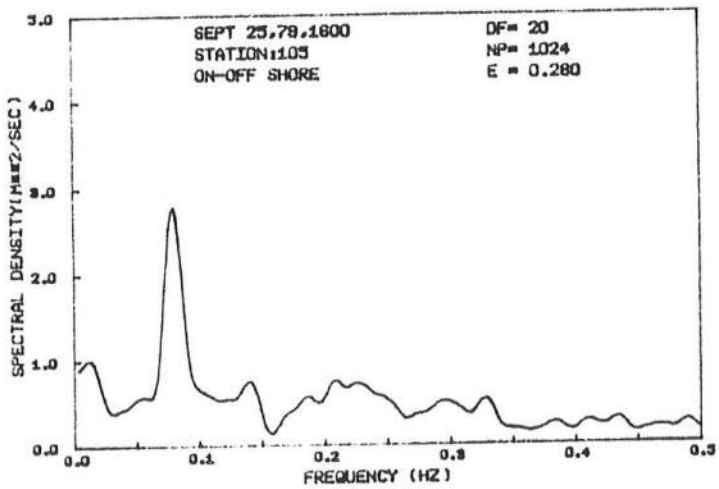

SEPT 24,78,1400
STATION:120
LONGSHORE
DF= 20
NP= 1024
E = 0.119
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

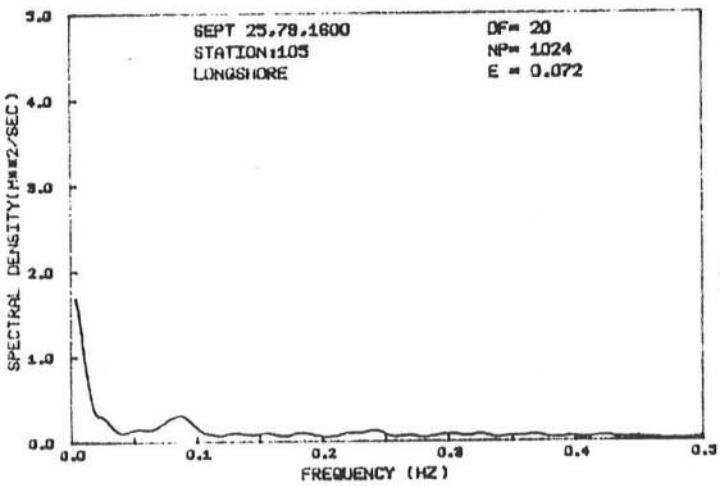

SEPT 25,78,1200
STATION:120
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.672
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)
0.0
1.5
3.0
4.5
6.0
7.5
0.1
0.2
0.3
0.4
0.5

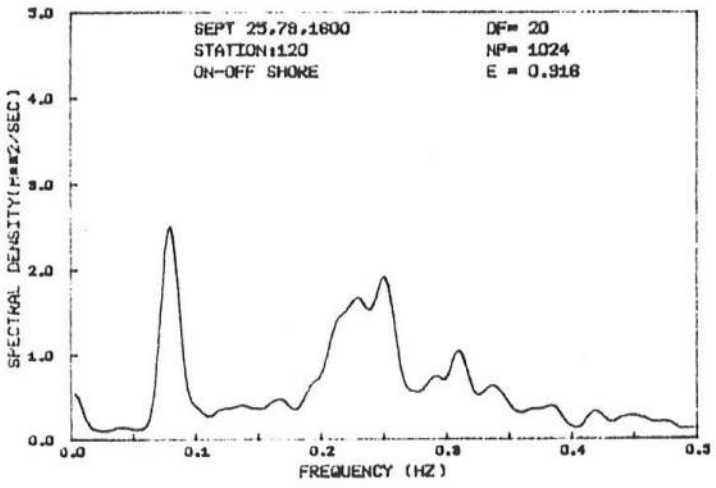

SEPT 25,78,1200
STATION:120
LONGSHORE
DF= 20
NP= 1024
E = 0.159
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)
0.0
1.5
3.0
4.5
6.0
7.5
0.1
0.2
0.3
0.4
0.5

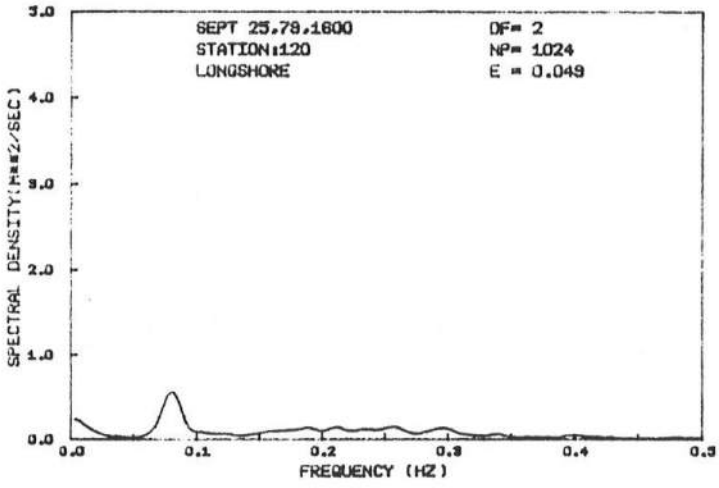

SEPT 25,78,1600
STATION:80
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.158
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

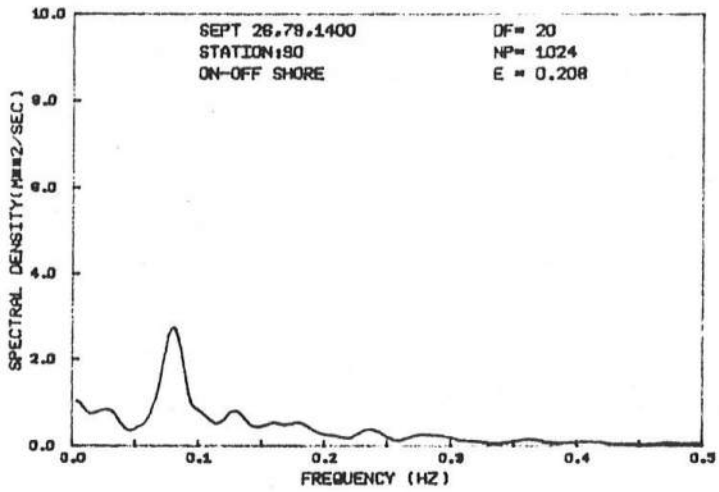

SEPT 25,78,1600
STATION:80
LONGSHORE
DF= 20
NP= 1024
E = 0.047
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

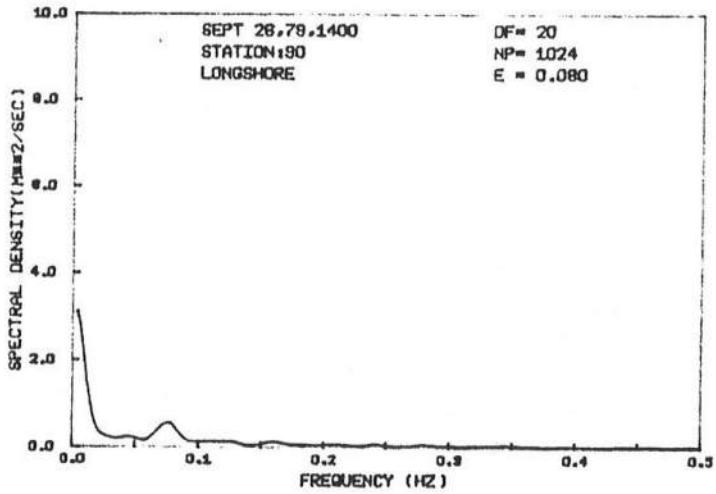

SEPT 25,78,1600
STATION:105
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.280
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

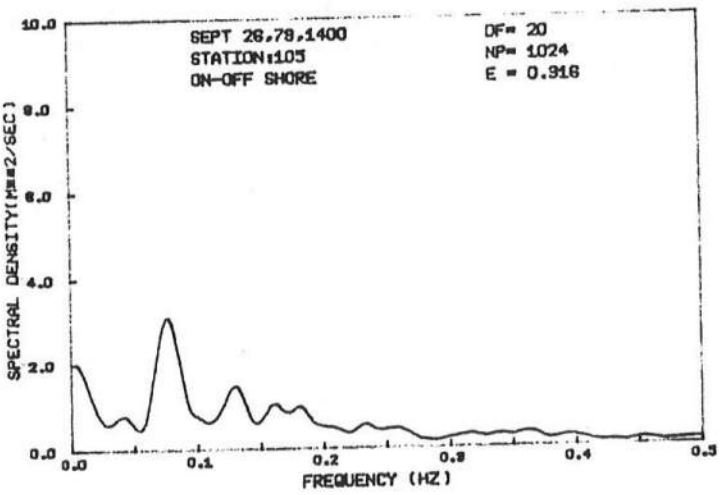

SEPT 25,78,1600
STATION:105
LONGSHORE
DF= 20
NP= 1024
E = 0.072
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

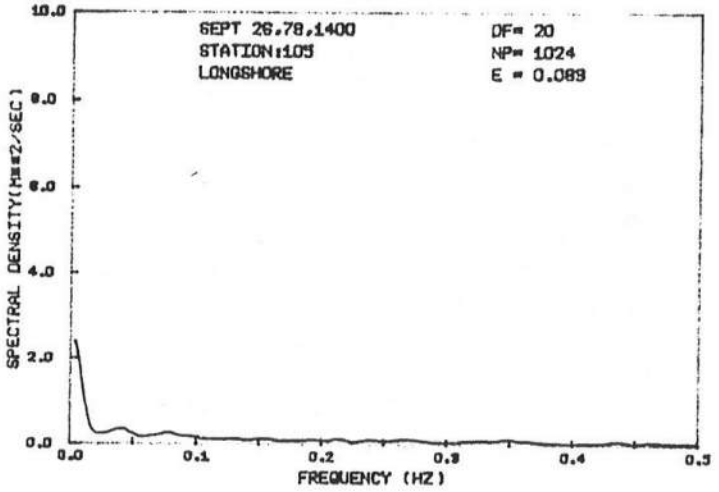

SEPT 25,78,1600
STATION:120
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.916
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

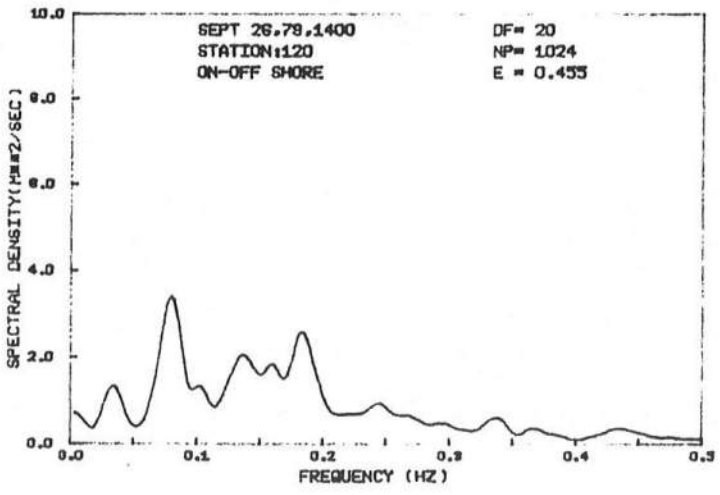

SEPT 25,78,1600
STATION:120
LONGSHORE
DF= 2
NP= 1024
E = 0.049
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

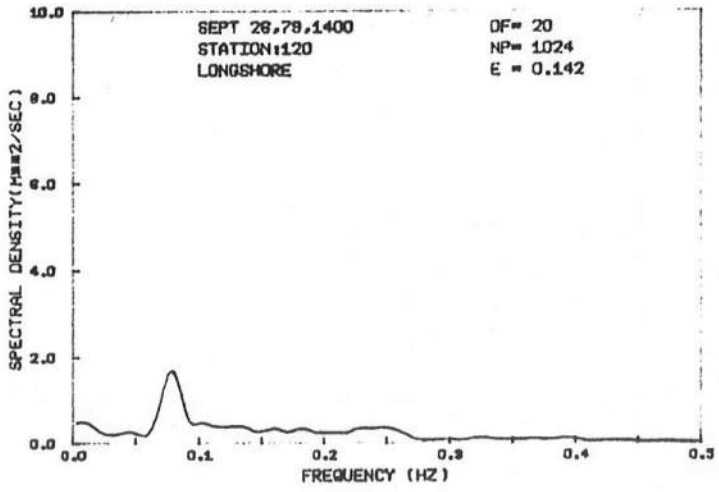

SEPT 26,78,1400
STATION:90
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.208
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

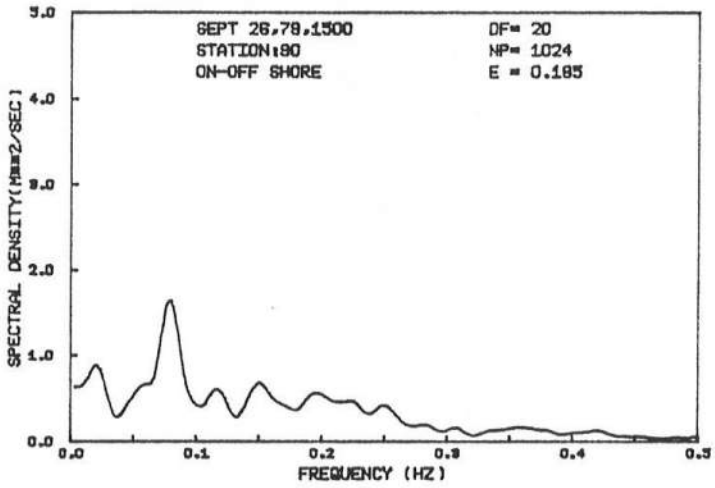

SEPT 26,78,1400
STATION:90
LONGSHORE
DF= 20
NP= 1024
E = 0.080
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

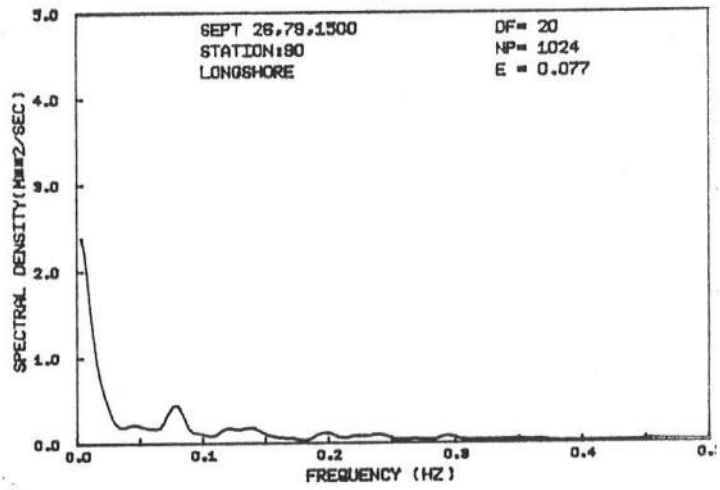

SEPT 26,78,1400
STATION:105
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.916
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

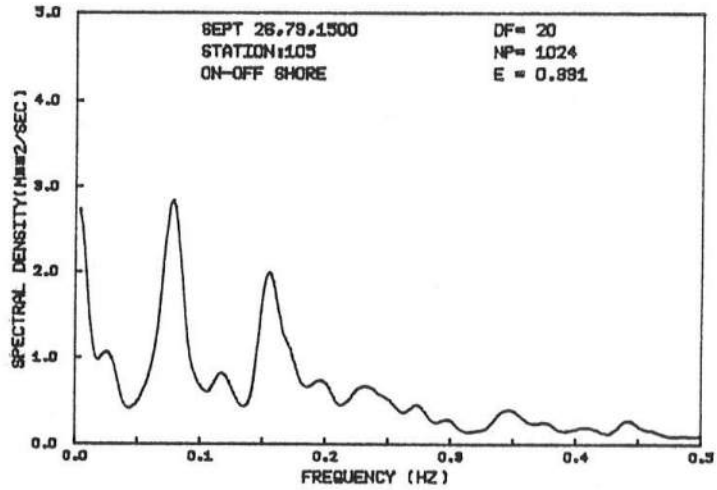

SEPT 26,78,1400
STATION:105
LONGSHORE
DF= 20
NP= 1024
E = 0.089
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

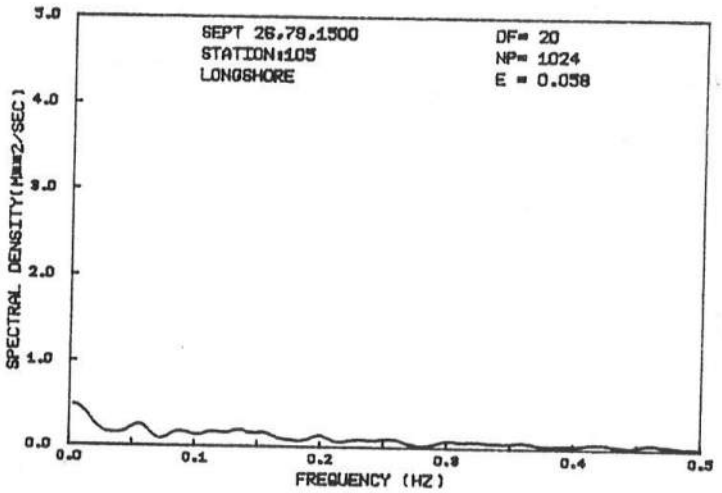

SEPT 26,78,1400
STATION:120
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.455
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

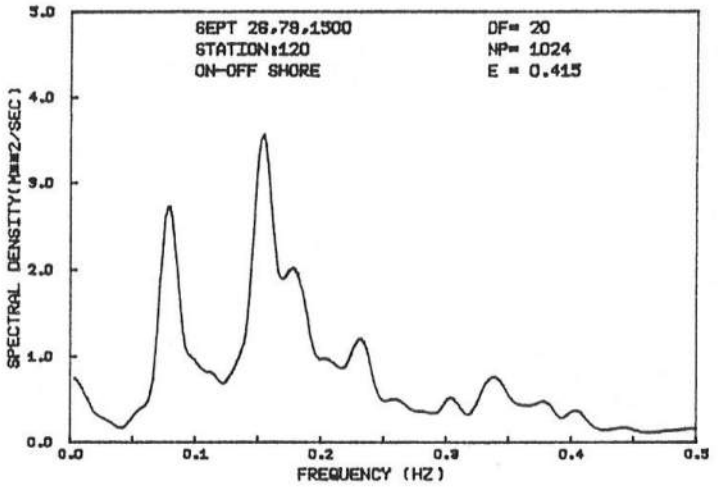

SEPT 26,78,1400
STATION:120
LONGSHORE
DF= 20
NP= 1024
E = 0.142
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

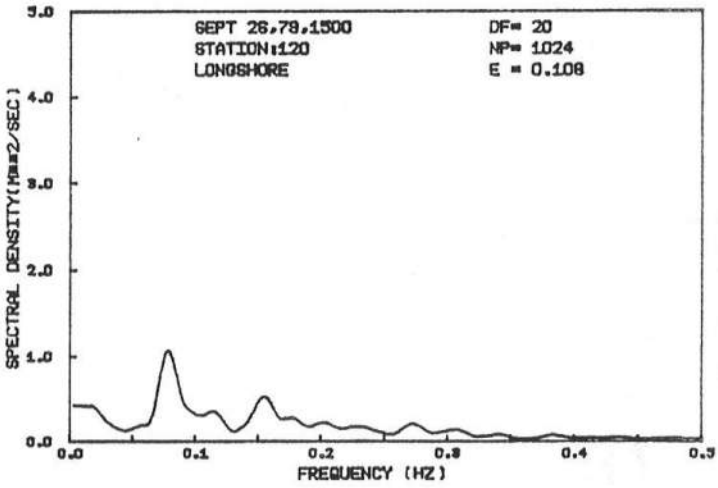

SEPT 26,79,1500
STATION:80
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.185
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

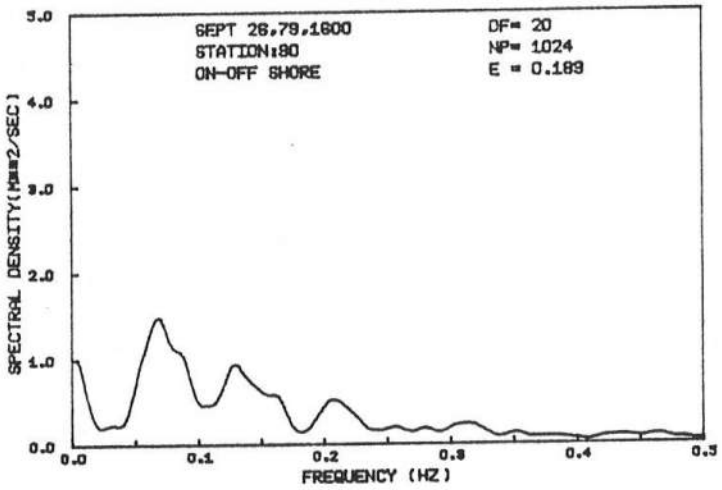

SEPT 26,79,1500
STATION:80
LONGSHORE
DF= 20
NP= 1024
E = 0.077
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

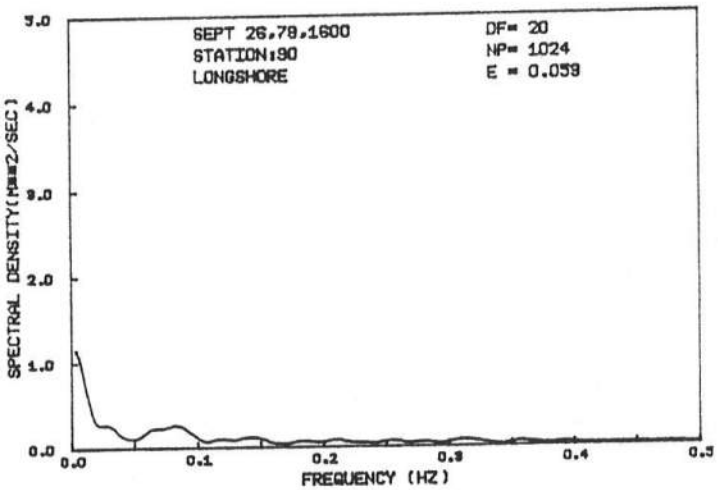

SEPT 26,79,1500
STATION:105
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.891
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

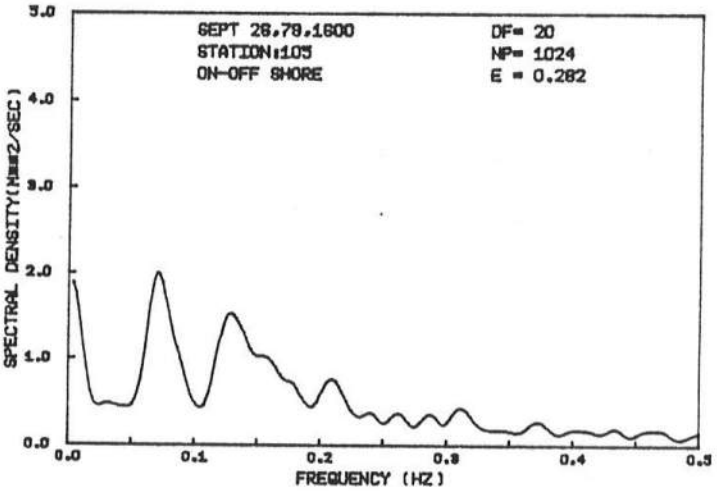

SEPT 26,79,1500
STATION:105
LONGSHORE
DF= 20
NP= 1024
E = 0.058
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

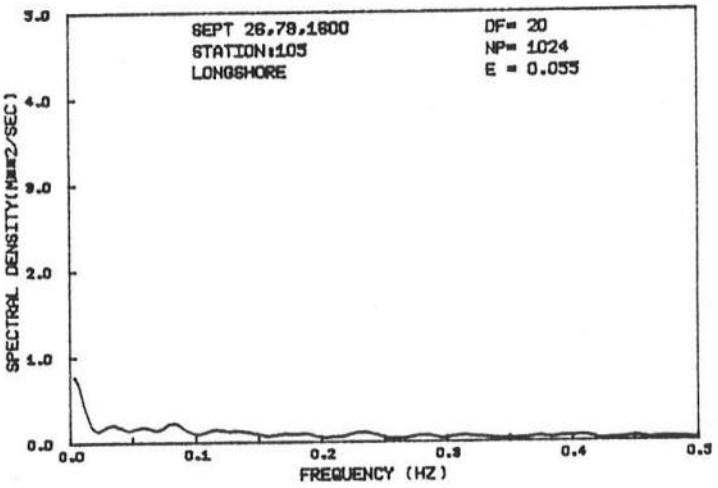

SEPT 26,79,1500
STATION:120
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.415
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

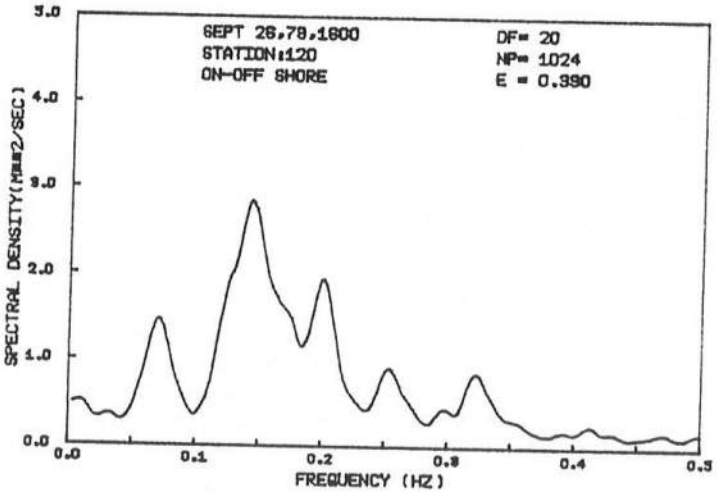

SEPT 26,79,1500
STATION:120
LONGSHORE
DF= 20
NP= 1024
E = 0.108
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

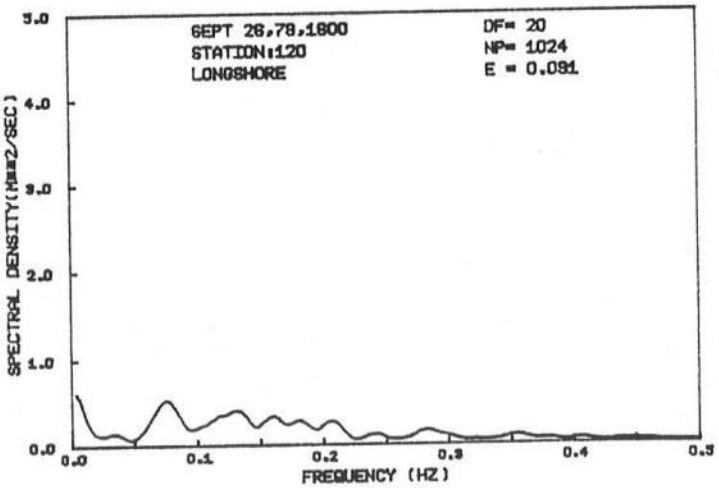

SEPT 26,78,1600
STATION:90
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.189
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

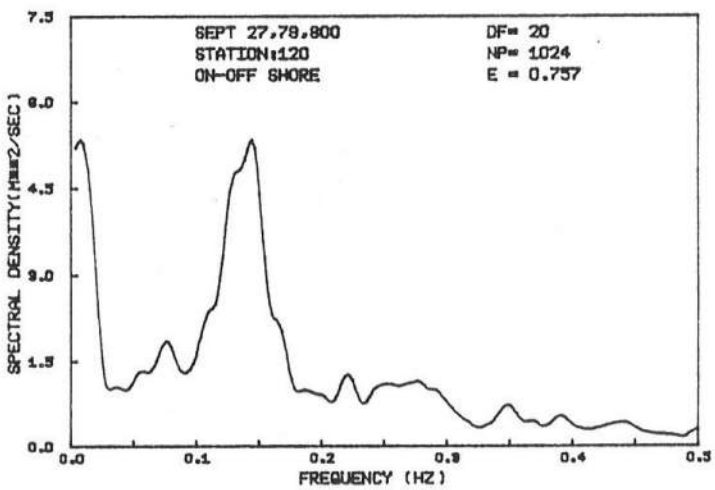

SEPT 26,78,1600
STATION:90
LONGSHORE
DF= 20
NP= 1024
E = 0.059
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

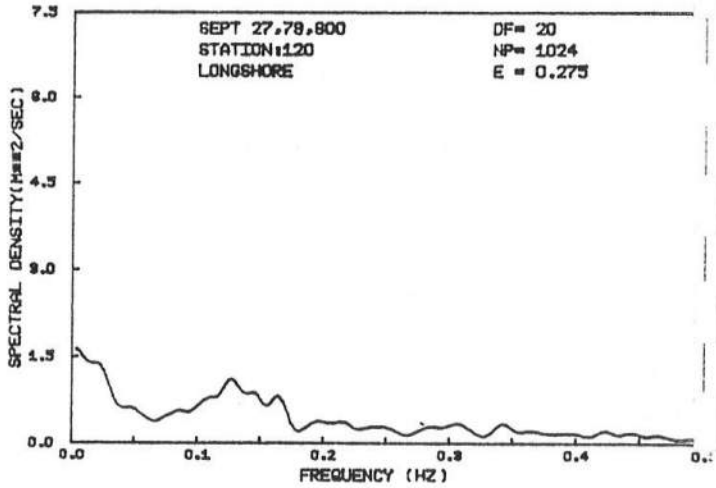

SEPT 26,78,1600
STATION:105
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.282
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

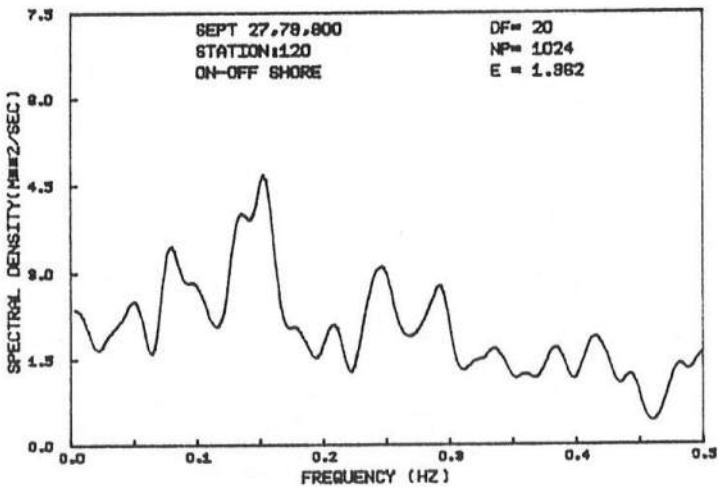

SEPT 26,78,1600
STATION:105
LONGSHORE
DF= 20
NP= 1024
E = 0.055
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

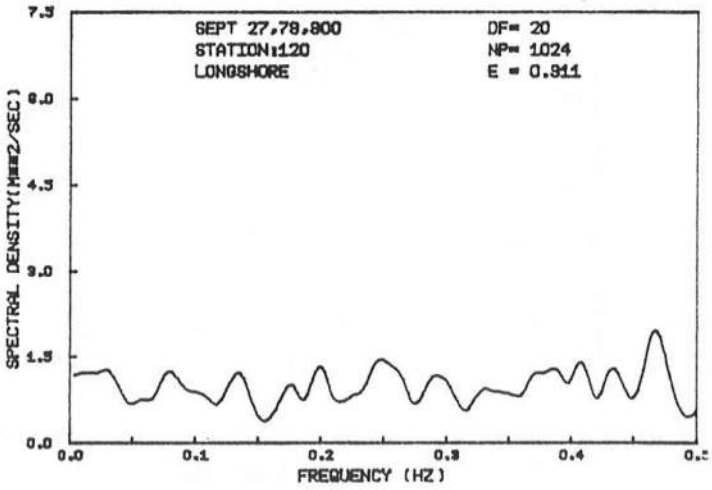

SEPT 26,78,1600
STATION:120
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.390
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

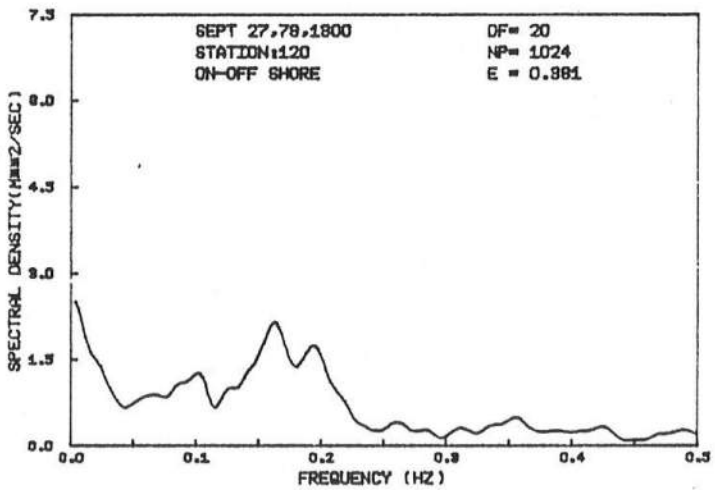

SEPT 26,78,1600
STATION:120
LONGSHORE
DF= 20
NP= 1024
E = 0.091
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

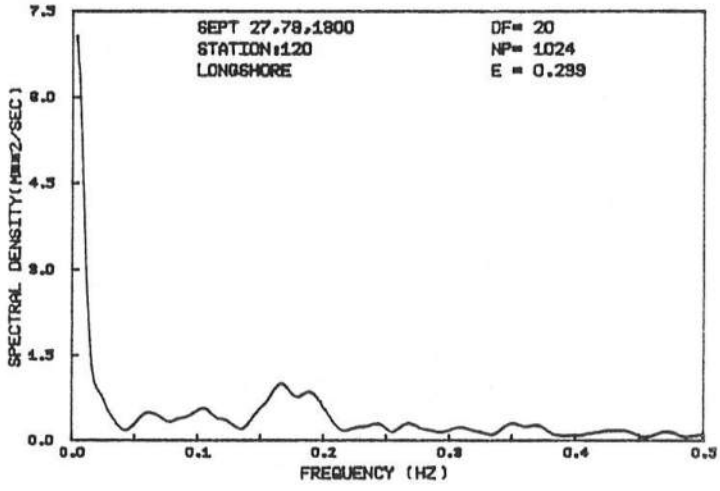

SEPT 27,78,800
STATION:120
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.757
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)
0.0
1.5
3.0
4.5
6.0
7.5
0.1
0.2
0.3
0.4
0.5

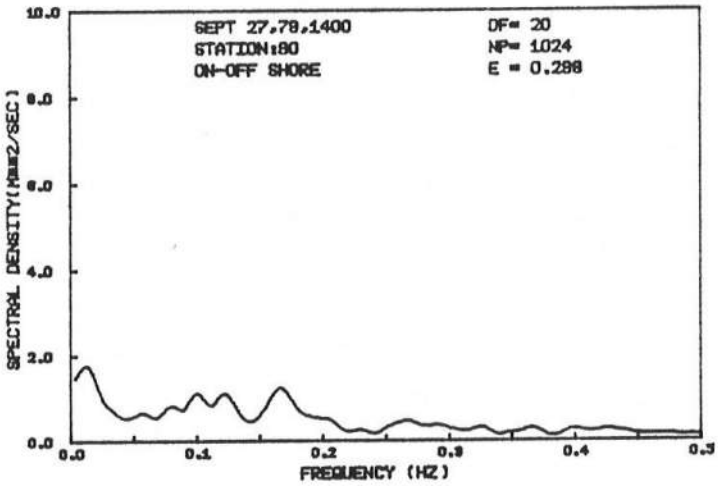

SEPT 27,78,800
STATION:120
LONGSHORE
DF= 20
NP= 1024
E = 0.275
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)
0.0
1.5
3.0
4.5
6.0
7.5
0.1
0.2
0.3
0.4

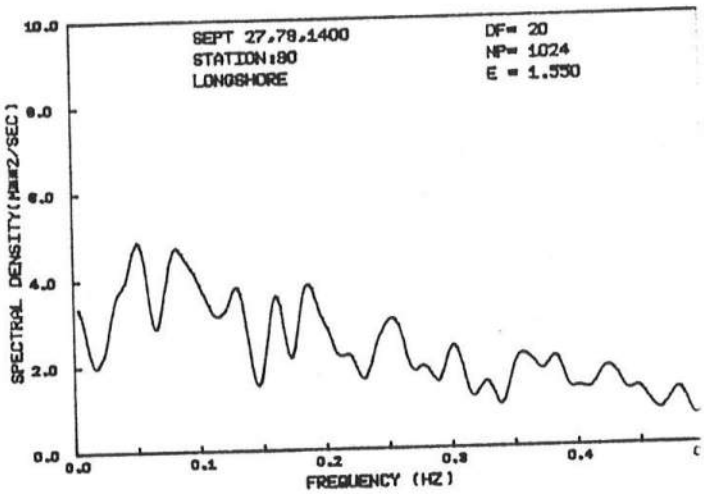

SEPT 27,78,800
STATION:120
ON-OFF SHORE
DF= 20
NP= 1024
E = 1.862
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

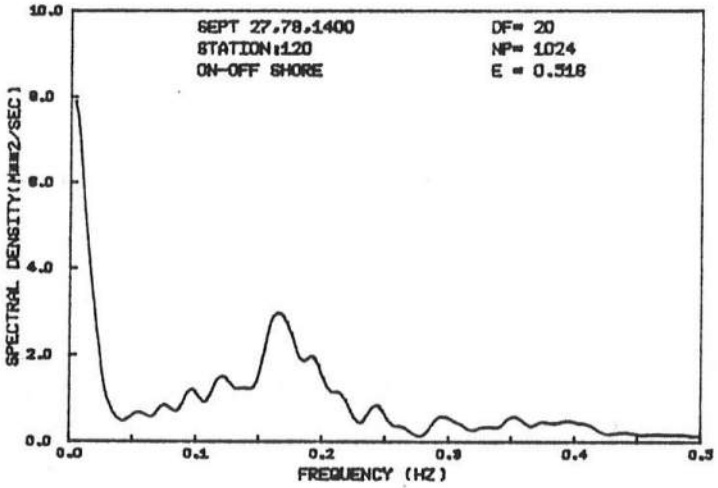

SEPT 27,78,800
STATION:120
LONGSHORE
DF= 20
NP= 1024
E = 0.911
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

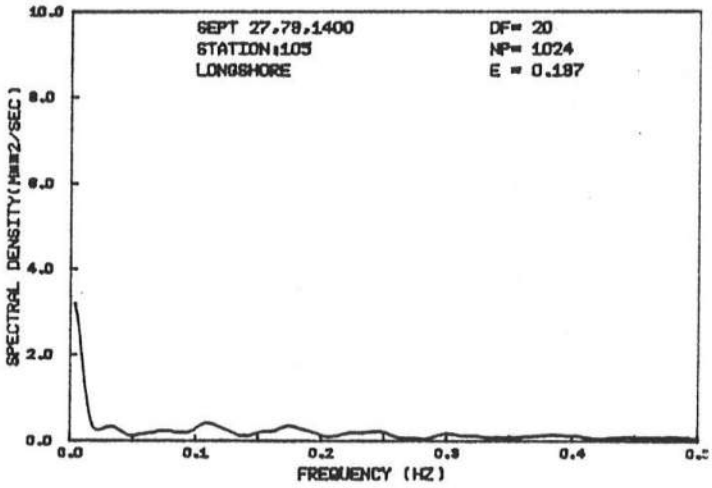

SEPT 27,78,1800
STATION:120
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.381
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)
0.0
0.1
0.2
0.3
0.4
0.5
1.5
3.0
4.5
6.0
7.5

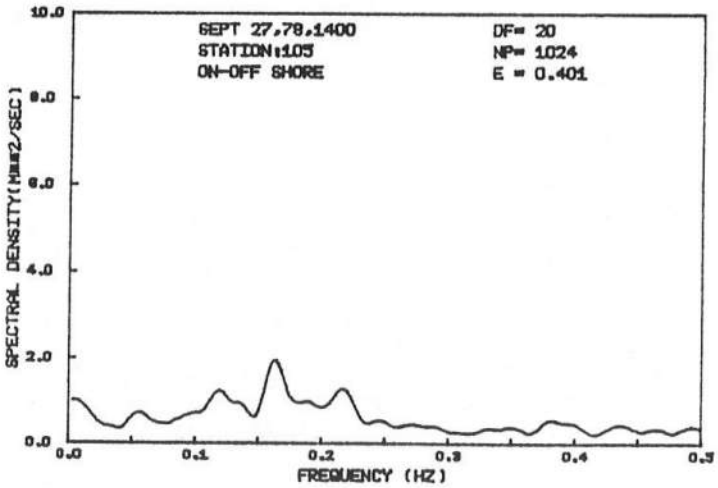

SEPT 27,78,1800
STATION:120
LONGSHORE
DF= 20
NP= 1024
E = 0.239
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)
0.0
0.1
0.2
0.3
0.4
0.5
1.5
3.0
4.5
6.0
7.5

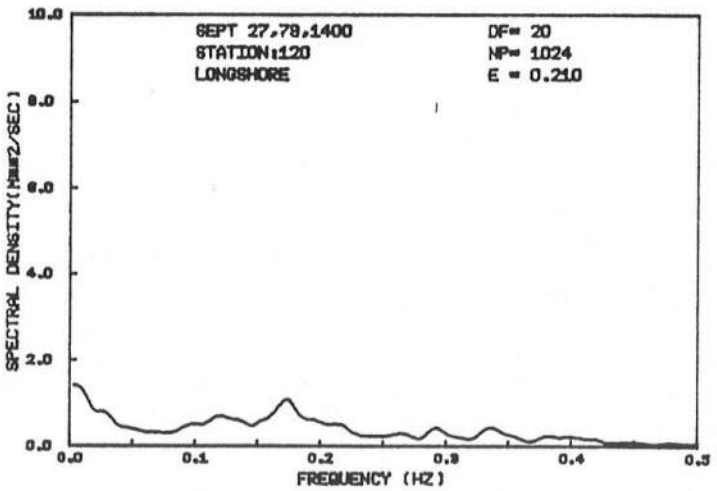

SEPT 27,78,1400
STATION:80
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.298
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

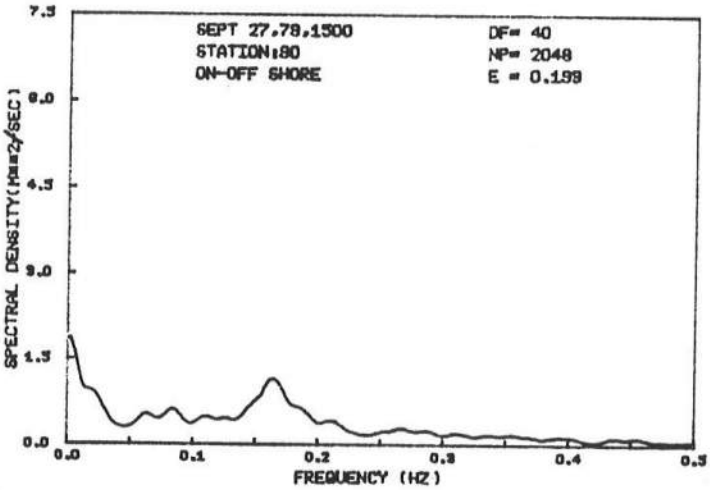

SEPT 27,78,1400
STATION:80
LONGSHORE
DF= 20
NP= 1024
E = 1.550
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

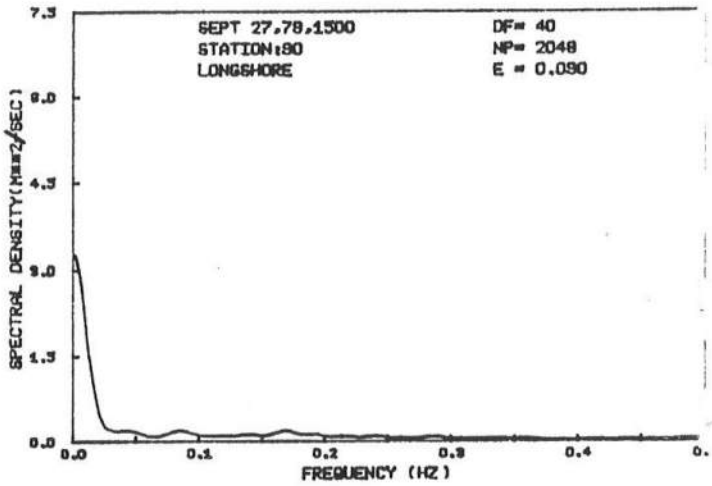

SEPT 27,78,1400
STATION:120
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.318
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

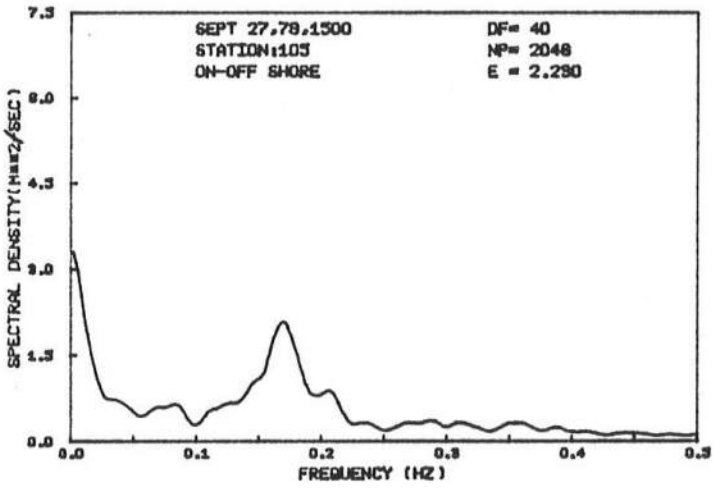

SEPT 27,78,1400
STATION:105
LONGSHORE
DF= 20
NP= 1024
E = 0.187
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

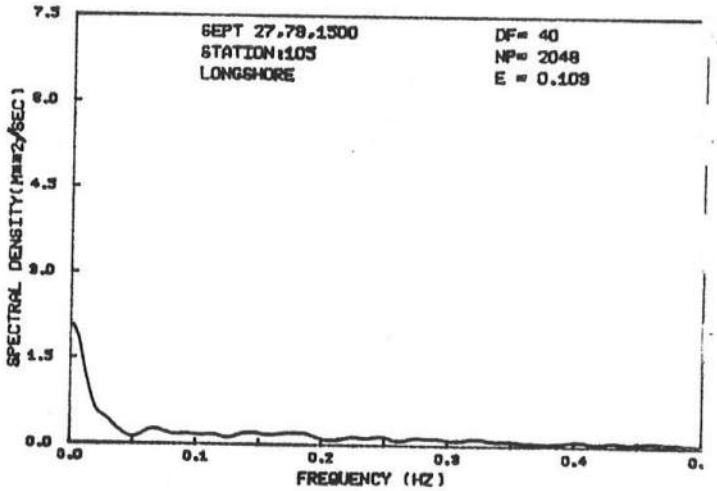

SEPT 27,78,1400
STATION:105
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.401
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

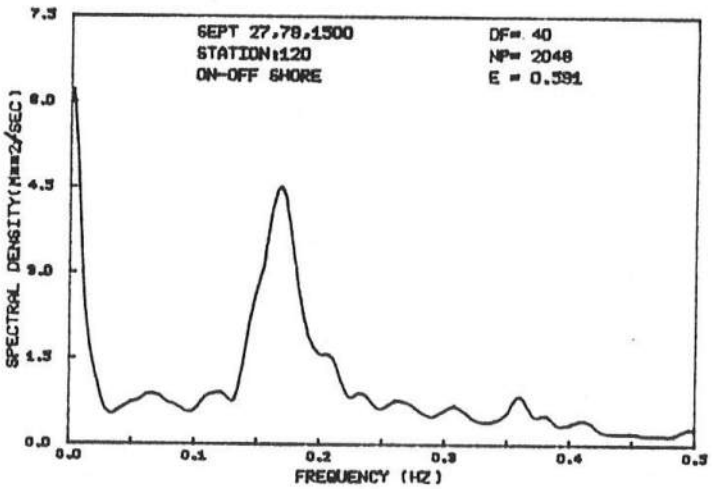

SEPT 27,78,1400
STATION:120
LONGSHORE
DF= 20
NP= 1024
E = 0.210
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

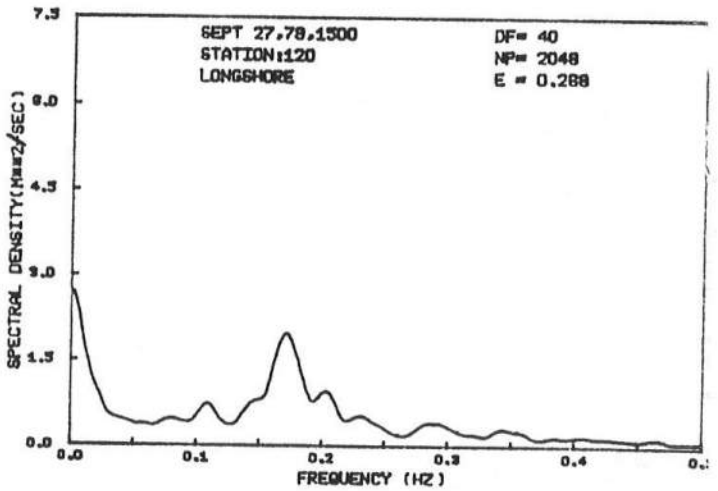

SEPT 27,78,1500
STATION:80
ON-OFF SHORE
DF= 40
NP= 2048
E = 0.199
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

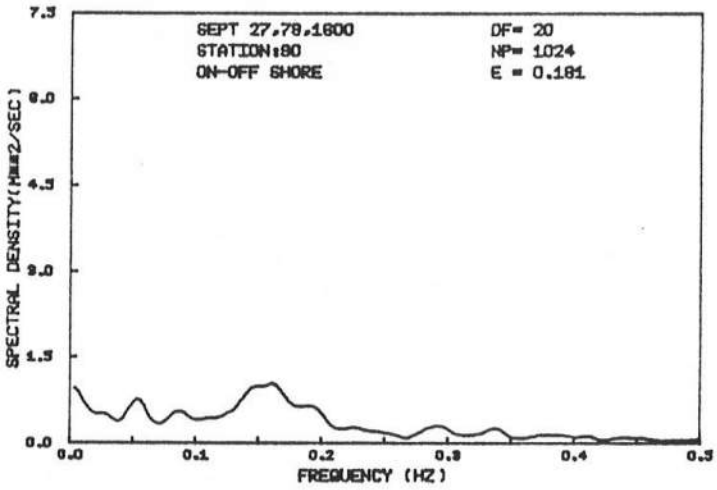

SEPT 27,78,1500
STATION:80
LONGSHORE
DF= 40
NP= 2048
E = 0.090
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

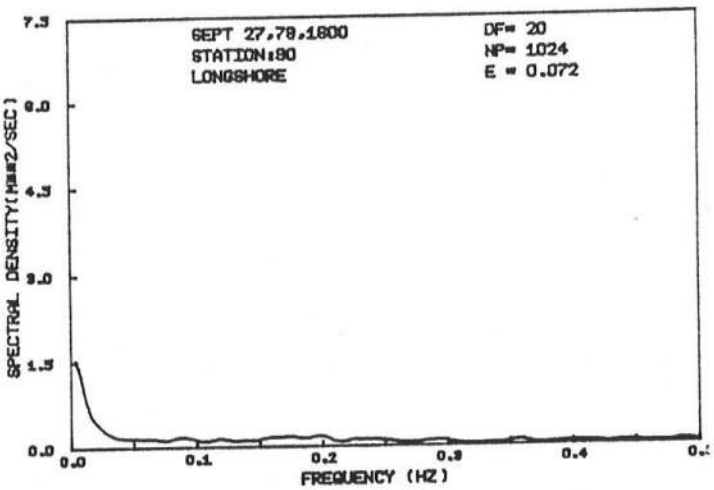

SEPT 27,78,1500
STATION:103
ON-OFF SHORE
DF= 40
NP= 2048
E = 2.290
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

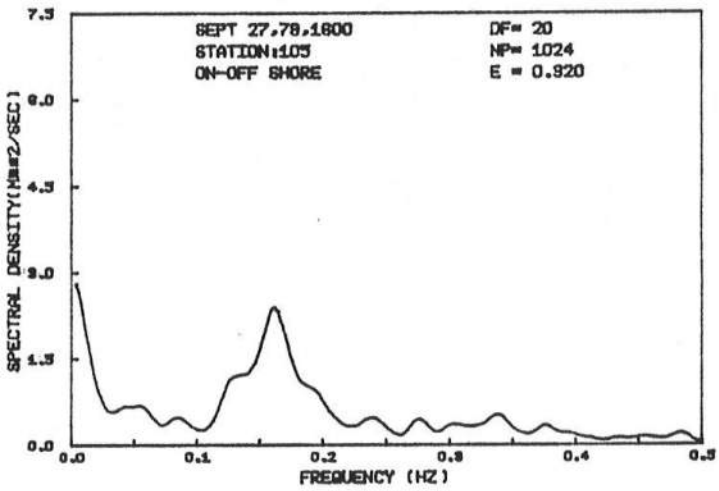

SEPT 27,78,1500
STATION:103
LONGSHORE
DF= 40
NP= 2048
E = 0.109
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

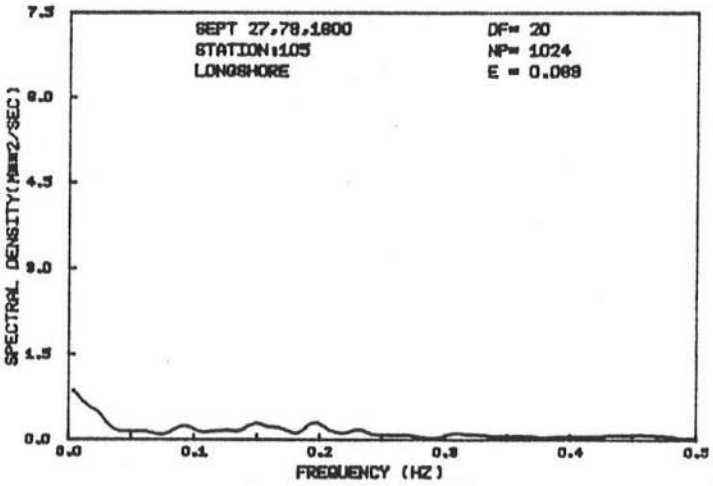

SEPT 27,78,1500
STATION:120
ON-OFF SHORE
DF= 40
NP= 2048
E = 0.391
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

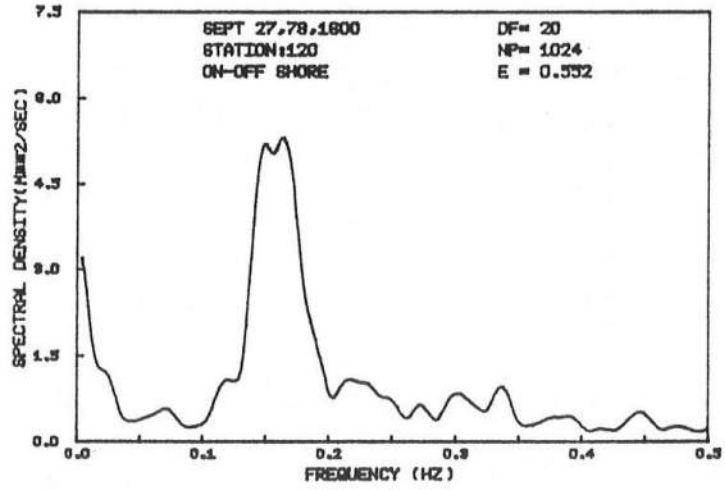

SEPT 27,78,1500
STATION:120
LONGSHORE
DF= 40
NP= 2048
E = 0.288
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

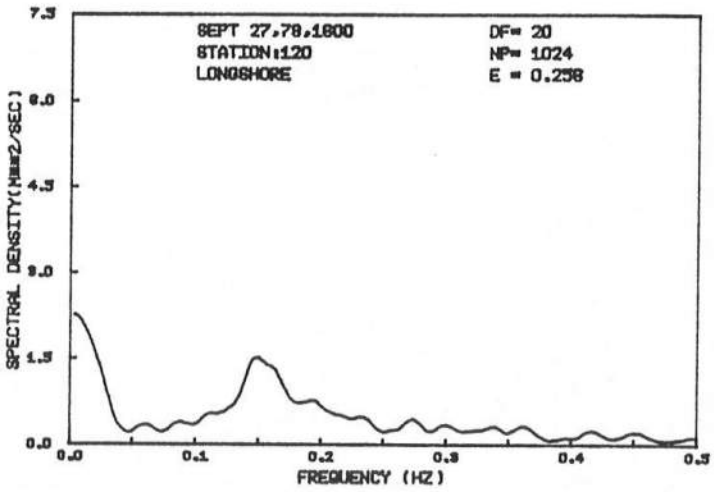

SEPT 27,78,1600
STATION:80
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.181
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

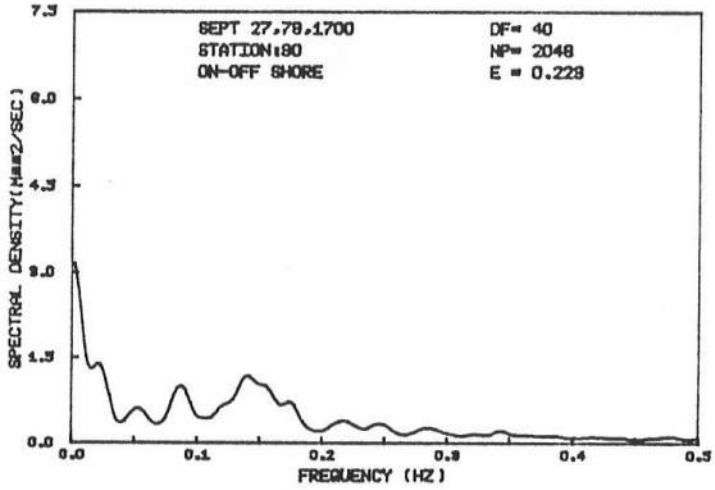

SEPT 27,78,1600
STATION:80
LONGSHORE
DF= 20
NP= 1024
E = 0.072
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

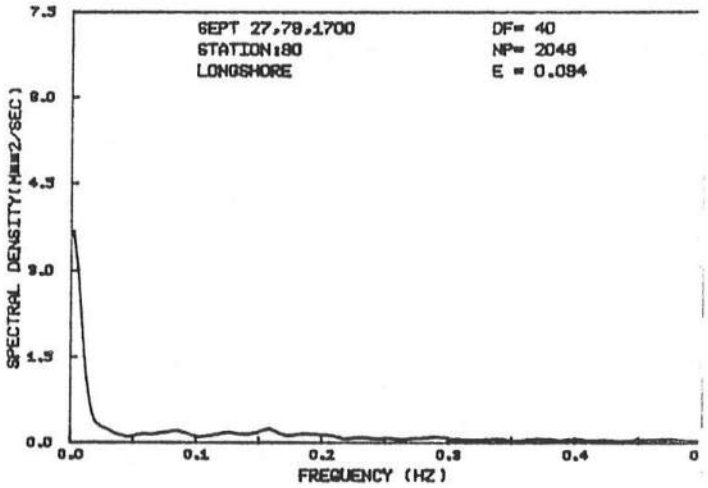

SEPT 27,78,1600
STATION:105
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.920
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

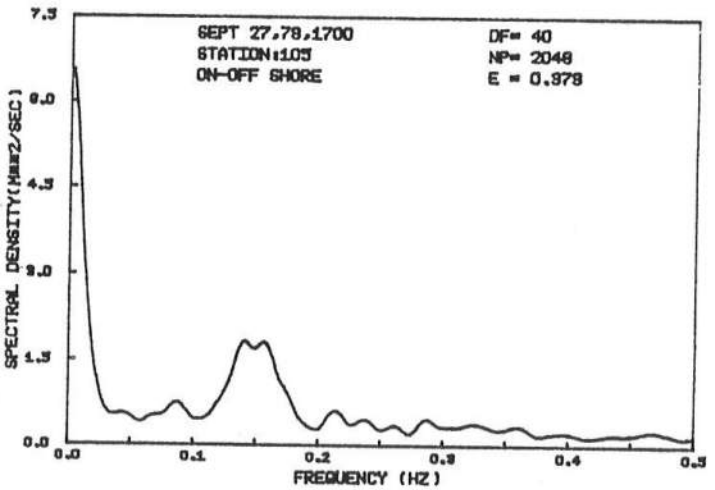

SEPT 27,78,1600
STATION:105
LONGSHORE
DF= 20
NP= 1024
E = 0.089
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

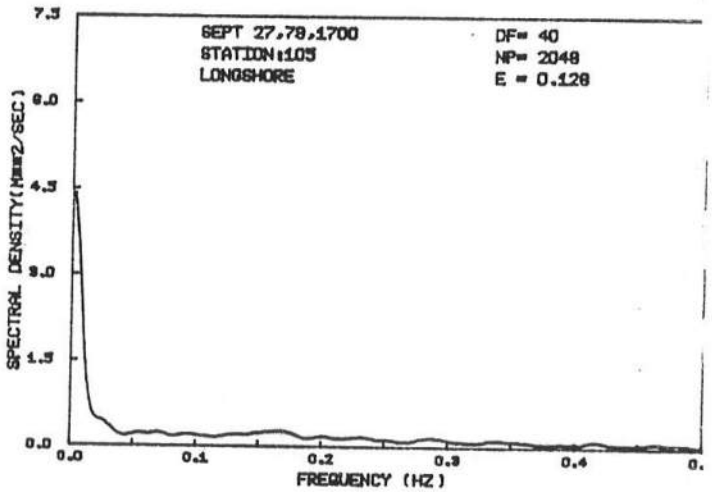

SEPT 27,78,1600
STATION:120
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.552
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

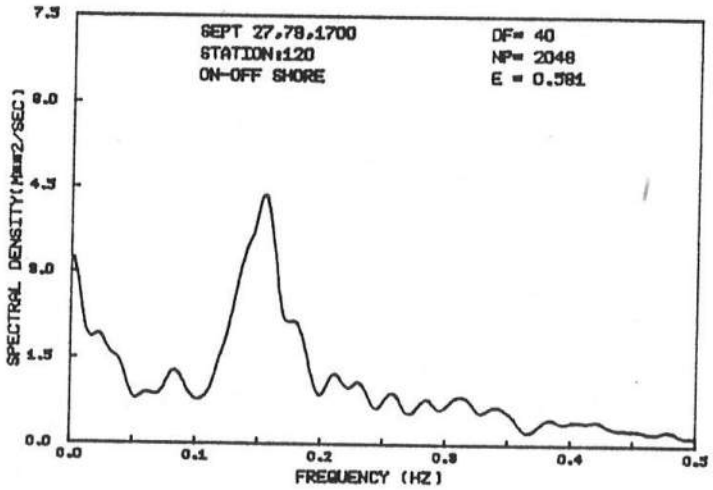

SEPT 27,78,1600
STATION:120
LONGSHORE
DF= 20
NP= 1024
E = 0.258
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

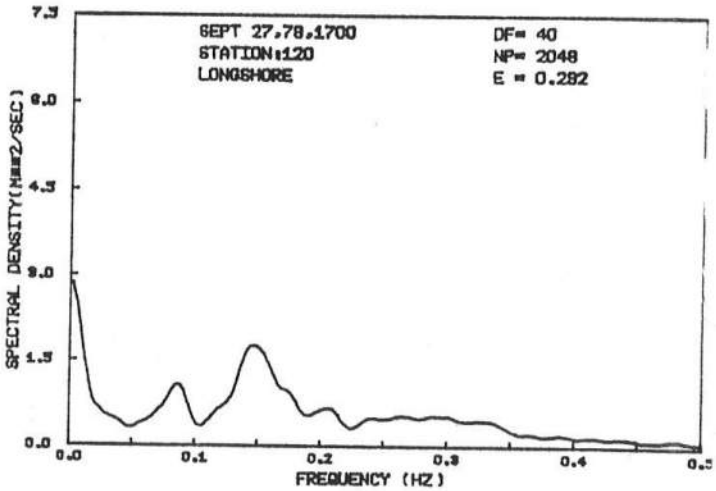

SEPT 27,78,1700
STATION:80
ON-OFF SHORE
DF= 40
NP= 2048
E = 0.228
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

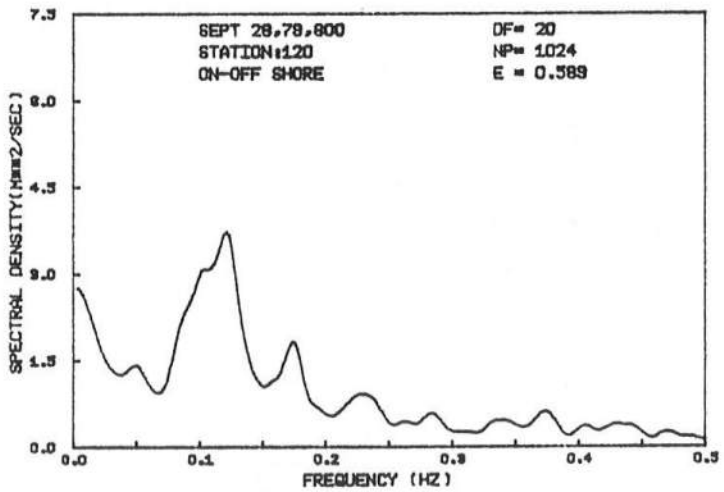

SEPT 27,78,1700
STATION:80
LONGSHORE
DF= 40
NP= 2048
E = 0.094
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

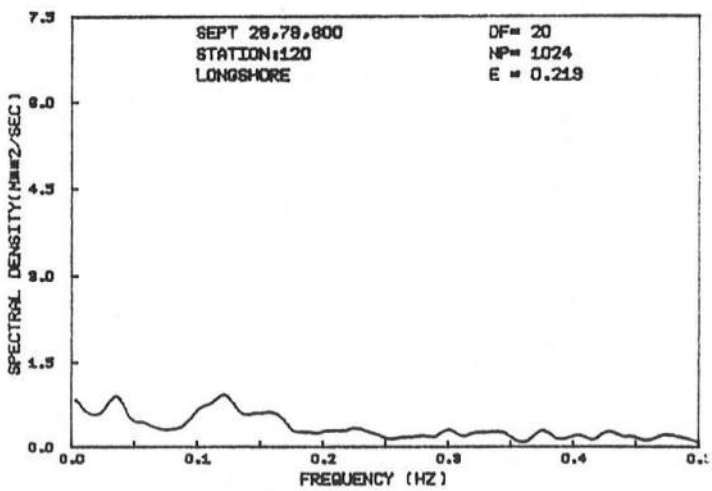

SEPT 27,78,1700
STATION:105
ON-OFF SHORE
DF= 40
NP= 2048
E = 0.378
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

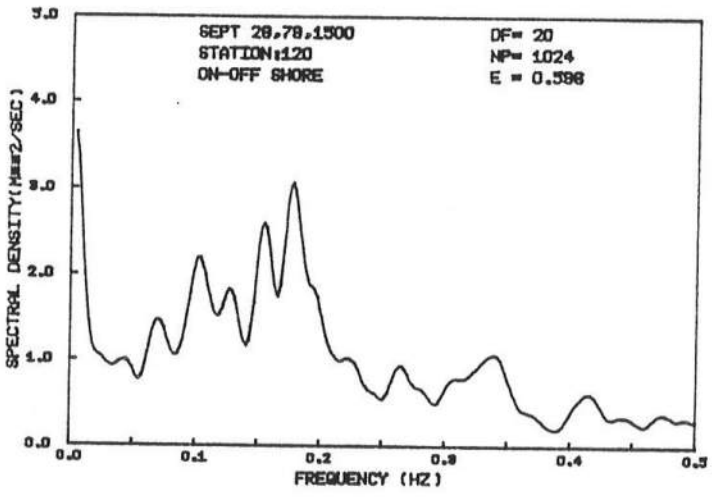

SEPT 27,78,1700
STATION:105
LONGSHORE
DF= 40
NP= 2048
E = 0.128
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

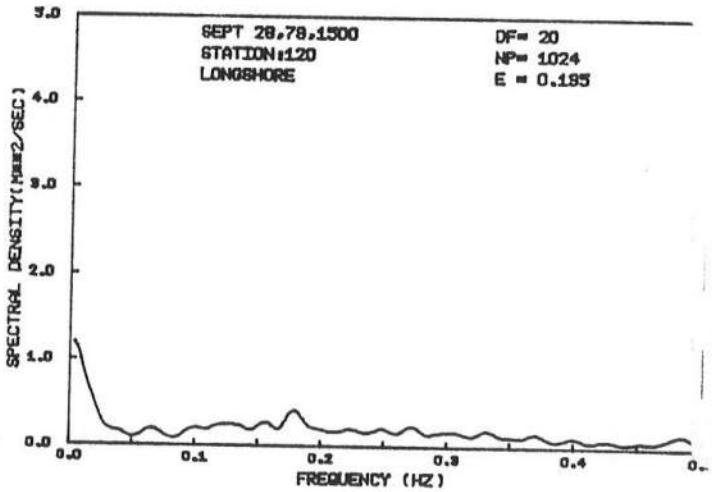

SEPT 27,78,1700
STATION:120
ON-OFF SHORE
DF= 40
NP= 2048
E = 0.581
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

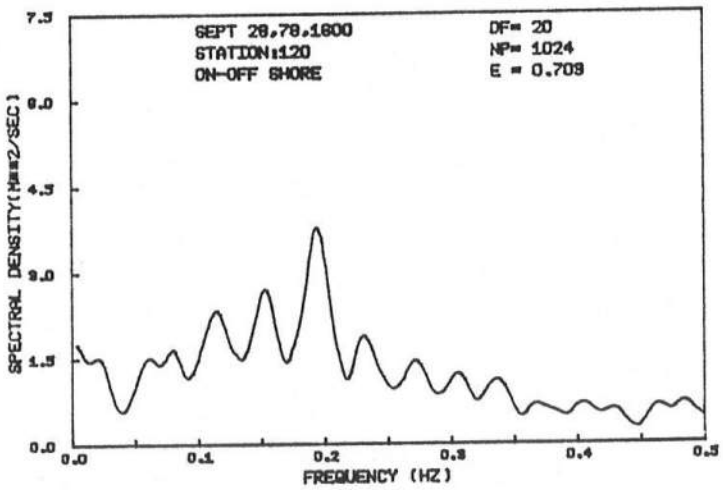

SEPT 27,78,1700
STATION:120
LONGSHORE
DF= 40
NP= 2048
E = 0.282
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

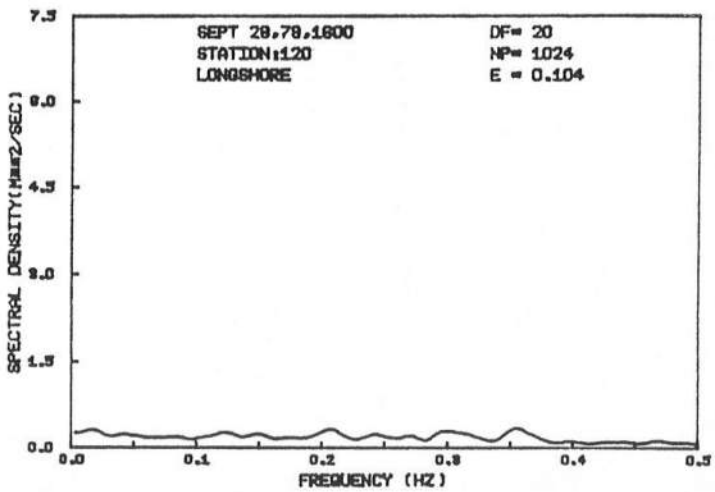

SEPT 28,78,800
STATION:120
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.589
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)
0.0
0.1
0.2
0.3
0.4
0.5
1.5
3.0
4.5
6.0
7.5

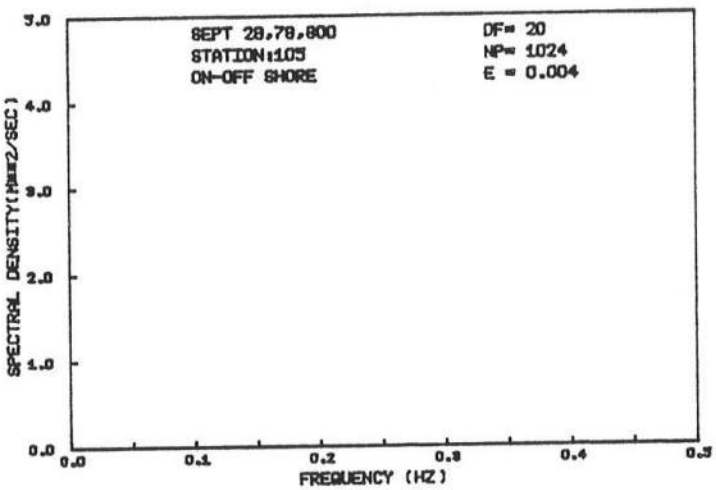

SEPT 28,78,800
STATION:120
LONGSHORE
DF= 20
NP= 1024
E = 0.219
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)
0.0
0.1
0.2
0.3
0.4
1.5
3.0
4.5
6.0
7.5

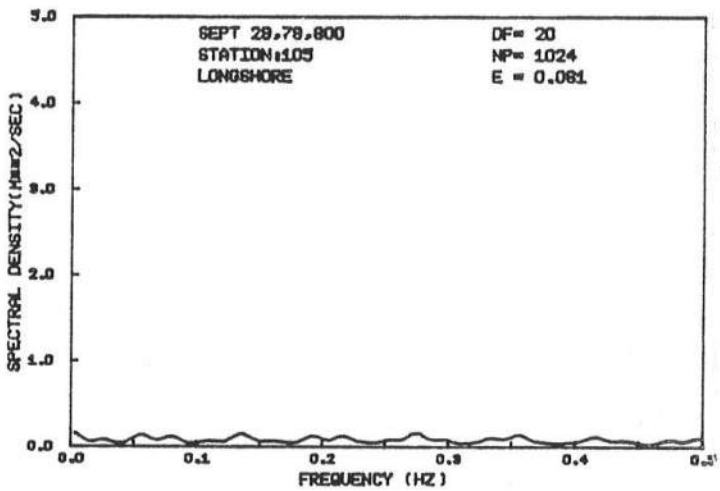

SEPT 28,78,1500
STATION:120
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.598
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)
0.0
1.0
2.0
3.0
4.0
0.1
0.2
0.3
0.4
0.5

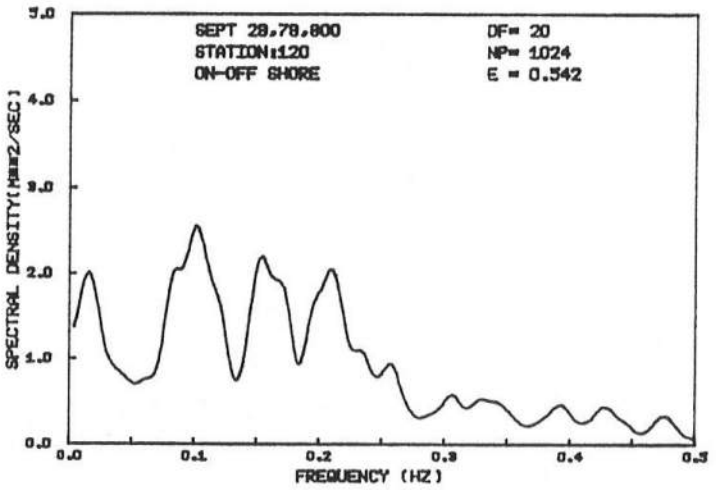

SEPT 28,78,1500
STATION:120
LONGSHORE
DF= 20
NP= 1024
E = 0.185
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)
0.0
1.0
2.0
3.0
4.0
0.1
0.2
0.3
0.4

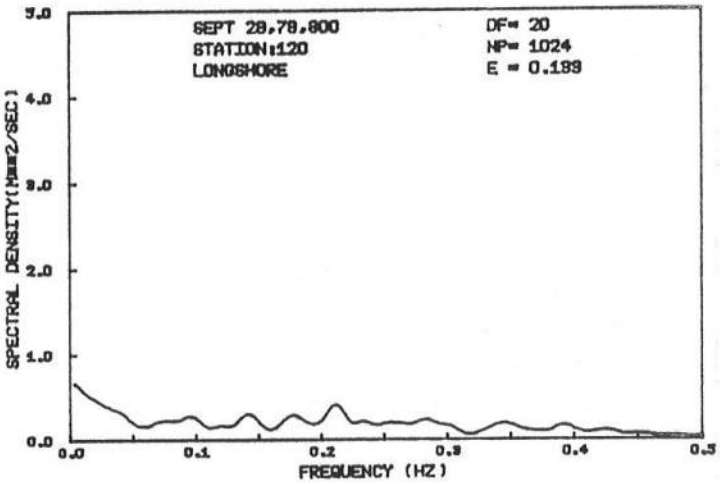

SEPT 28,78,1800
STATION:120
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.709
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)
0.0
1.5
3.0
4.5
6.0
7.5
0.1
0.2
0.3
0.4
0.5


SEPT 28,78,1800
STATION:120
LONGSHORE
DF= 20
NP= 1024
E = 0.104
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)
0.0
1.5
3.0
4.5
6.0
7.5
0.1
0.2
0.3
0.4
0.5

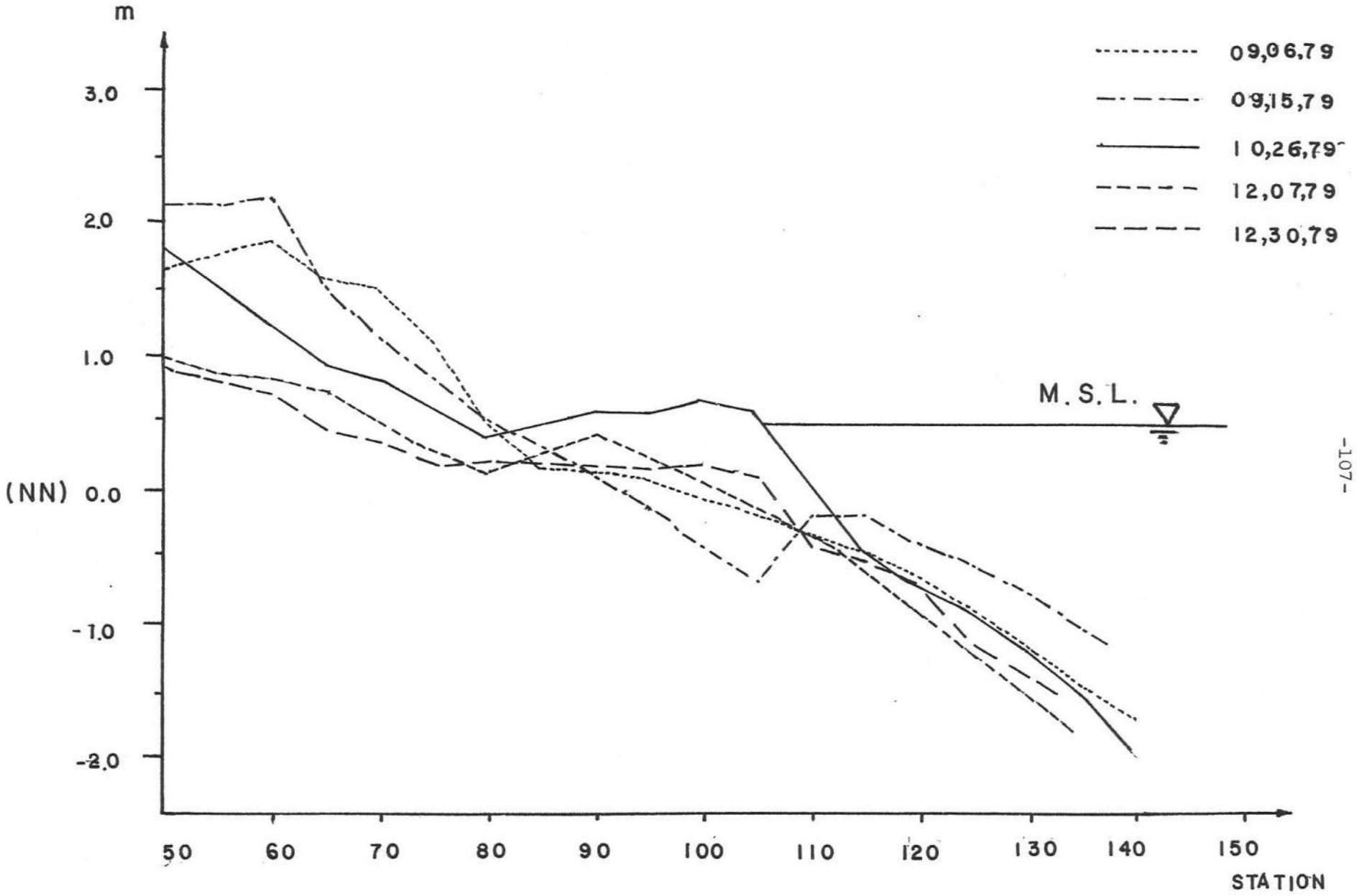

SEPT 28,78,800
STATION:105
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.004
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

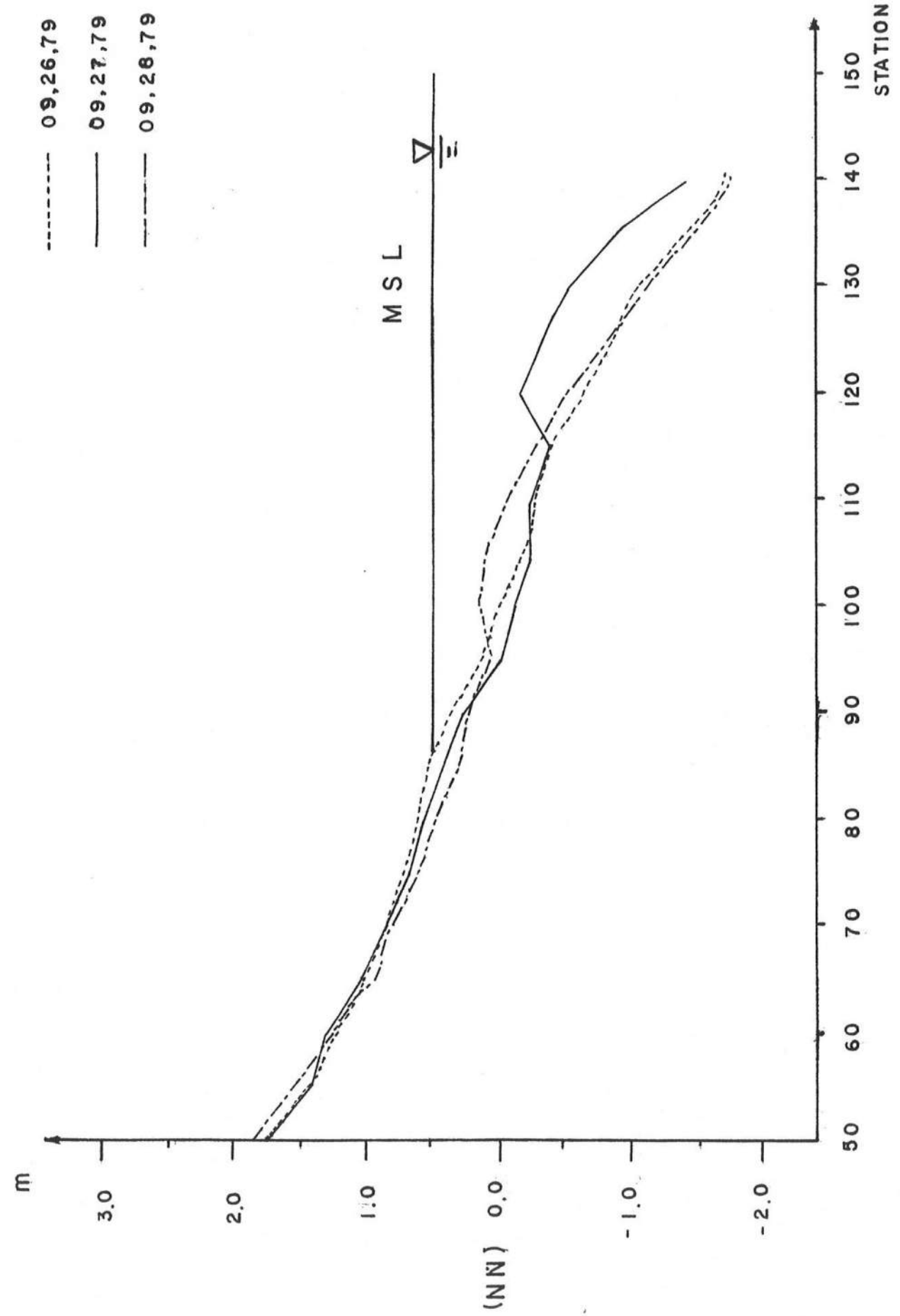

SEPT 28,78,800
STATION:105
LONGSHORE
DF= 20
NP= 1024
E = 0.081
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)


SEPT 28,78,800
STATION:120
ON-OFF SHORE
DF= 20
NP= 1024
E = 0.542
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)


SEPT 28,78,800
STATION:120
LONGSHORE
DF= 20
NP= 1024
E = 0.139
SPECTRAL DENSITY(M**2/SEC)
FREQUENCY (HZ)

Beach Profile Changes

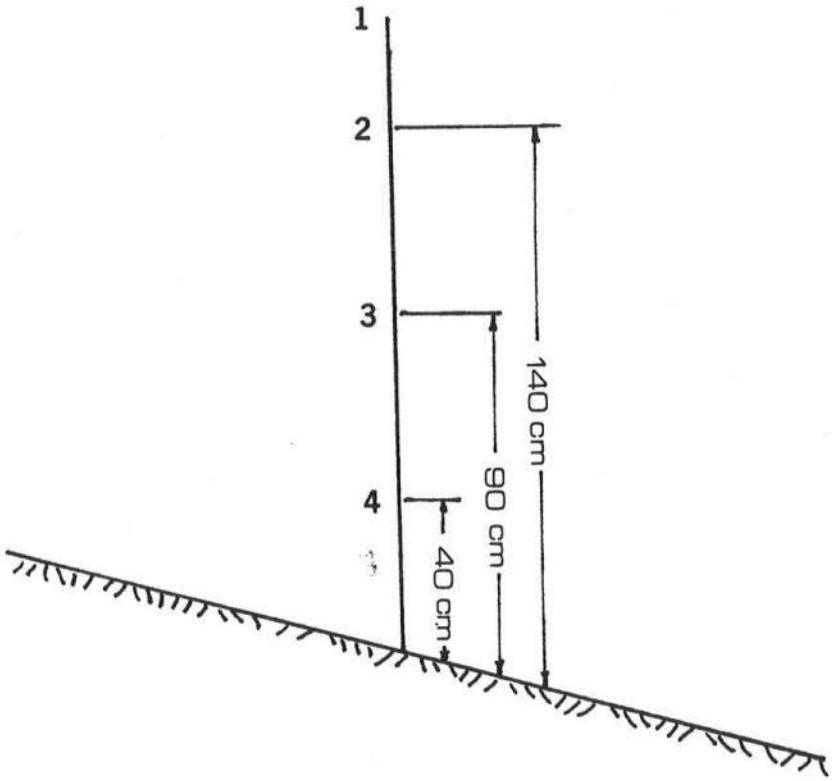

m
3.0
2.0
1.0
(NN) 0.0
-1.0
-2.0
09,06,79
09,15,79
10,26,79
12,07,79
12,30,79
M.S.L.
50
60
70
80
90
100
110
120
130
140
150
STATION


09,26,79
09,27,79
09,28,79
MSL
m
(NN)
3.0
2.0
1.0
0.0
-1.0
-2.0
50
60
70
80
90
100
110
120
130
140
150
STATION

Suspended Sediment

Pump Samples

September 26, 1979


1
2
3
4
140 cm
90 cm
40 cm

Sediment Pump Samples (September 26, 1979)

Elevation / Time	40 cm		90 cm		140 cm	
	c	dm	c	dm	c	dm
13:35					3940	0.253
14:20	558	0.261				
14:30			273	0.229		
15:20	550	0.237				
15:20			288	0.217		
15:30					1029	0.294
16:00		0.260				
16:15					687	0.281

c: concentration in mg/liter.
dm: medium grain size in mm.

GRAIN SIZE ANALYSIS

SAMPLE #2? 13:35 5:19 DATE 7/18/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
1.157	100.00	0.284	60.76	0.131	5.42
0.957	99.85	0.275	58.17	0.125	4.66
0.822	99.69	0.267	55.42	0.120	4.05
0.723	98.70	0.260	52.82	0.115	3.59
0.648	97.71	0.253	50.15	0.110	2.98
0.591	96.64	0.247	47.02	0.105	2.44
0.544	94.73	0.231	40.15	0.101	2.06
0.506	93.05	0.220	35.27	0.096	1.83
0.473	90.99	0.212	31.15	0.092	1.53
0.445	88.85	0.200	26.26	0.088	1.15
0.421	86.41	0.193	23.59	0.085	1.07
0.401	84.35	0.184	19.47	0.081	1.07
0.382	81.98	0.176	16.64	0.078	0.92
0.366	79.08	0.169	14.05	0.074	0.76
0.351	76.34	0.163	12.44	0.071	0.61
0.337	73.74	0.155	10.38	0.068	0.46
0.324	71.15	0.149	8.78	0.065	0.38
0.313	68.24	0.142	7.40	0.063	0.31
0.302	65.95	0.136	6.18	0.060	0.31
0.293	63.51				

SUMMARY INFORMATION

Median Grain Size 0.253 mm

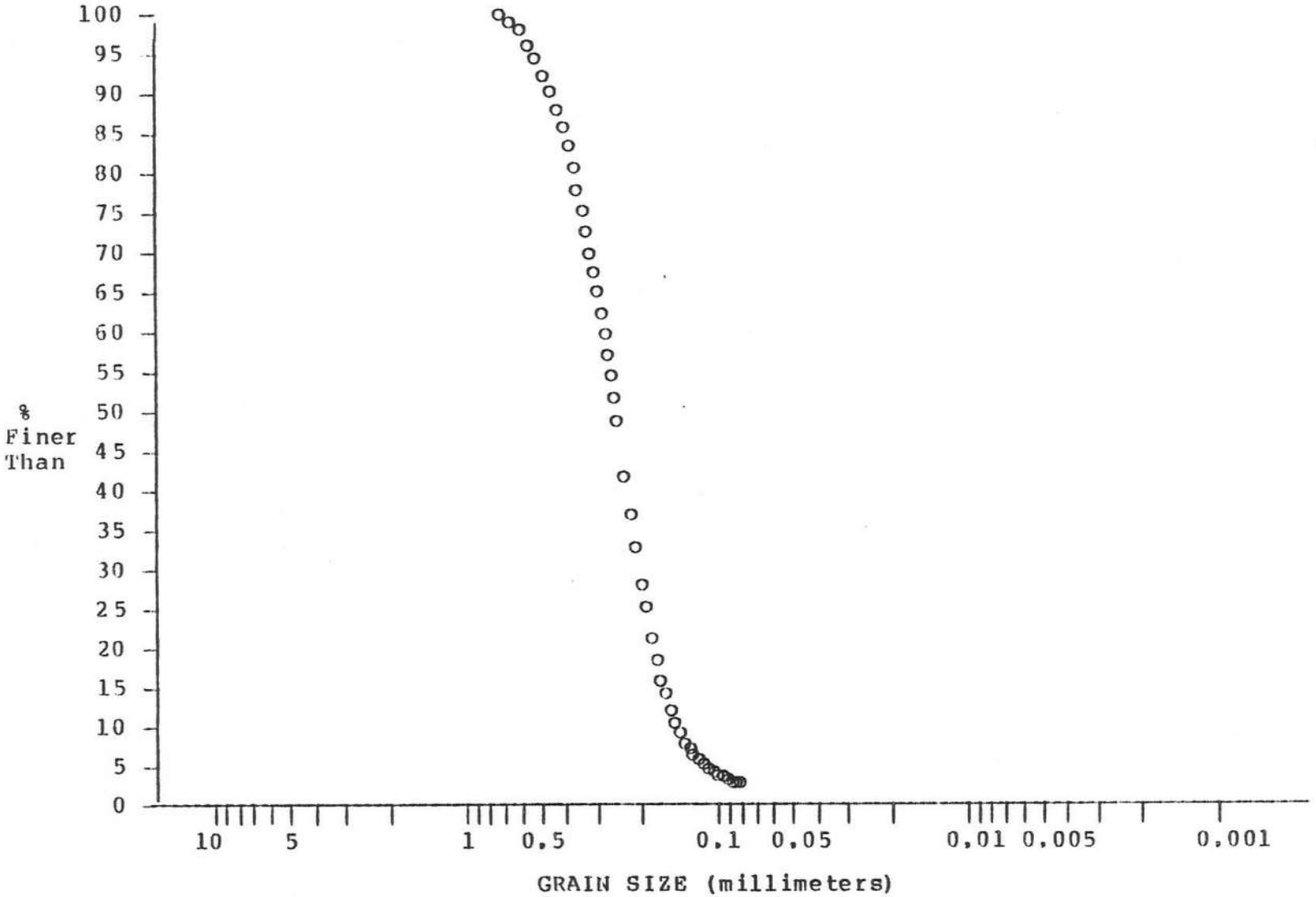
Sample Weight 134.121 gm

Specific Gravity 2.68

Sample Description

#2 (or 3) 13:35 5m 19s 9/26

GRAIN SIZE DISTRIBUTION CURVE SAMPLE #2? 13:35 5:19 DATE 7/18/80



GRAIN SIZE ANALYSIS

SAMPLE #4 14:20 6:14 DATE 7/18/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
1.157	100.00	0.284	58.95	0.131	4.09
0.957	99.74	0.275	56.27	0.125	3.45
0.822	99.49	0.267	51.79	0.120	2.81
0.723	98.59	0.260	49.74	0.115	2.43
0.648	97.70	0.253	47.31	0.110	1.92
0.591	96.68	0.247	45.01	0.105	1.92
0.544	95.14	0.231	37.85	0.101	1.92
0.506	92.46	0.220	33.38	0.096	1.66
0.473	90.41	0.212	28.39	0.092	1.28
0.445	87.98	0.200	23.66	0.088	1.15
0.421	85.55	0.193	21.23	0.085	1.02
0.401	83.25	0.184	17.26	0.081	1.02
0.382	80.82	0.176	14.32	0.078	0.90
0.366	78.01	0.169	12.15	0.074	0.64
0.351	75.58	0.163	10.36	0.071	0.51
0.337	73.53	0.155	8.18	0.068	0.51
0.324	70.46	0.149	6.65	0.065	0.26
0.313	67.90	0.142	5.50	0.063	0.13
0.302	64.71	0.136	4.73	0.060	0.13
0.293	61.64				

SUMMARY INFORMATION

Median Grain Size 0.261 mm

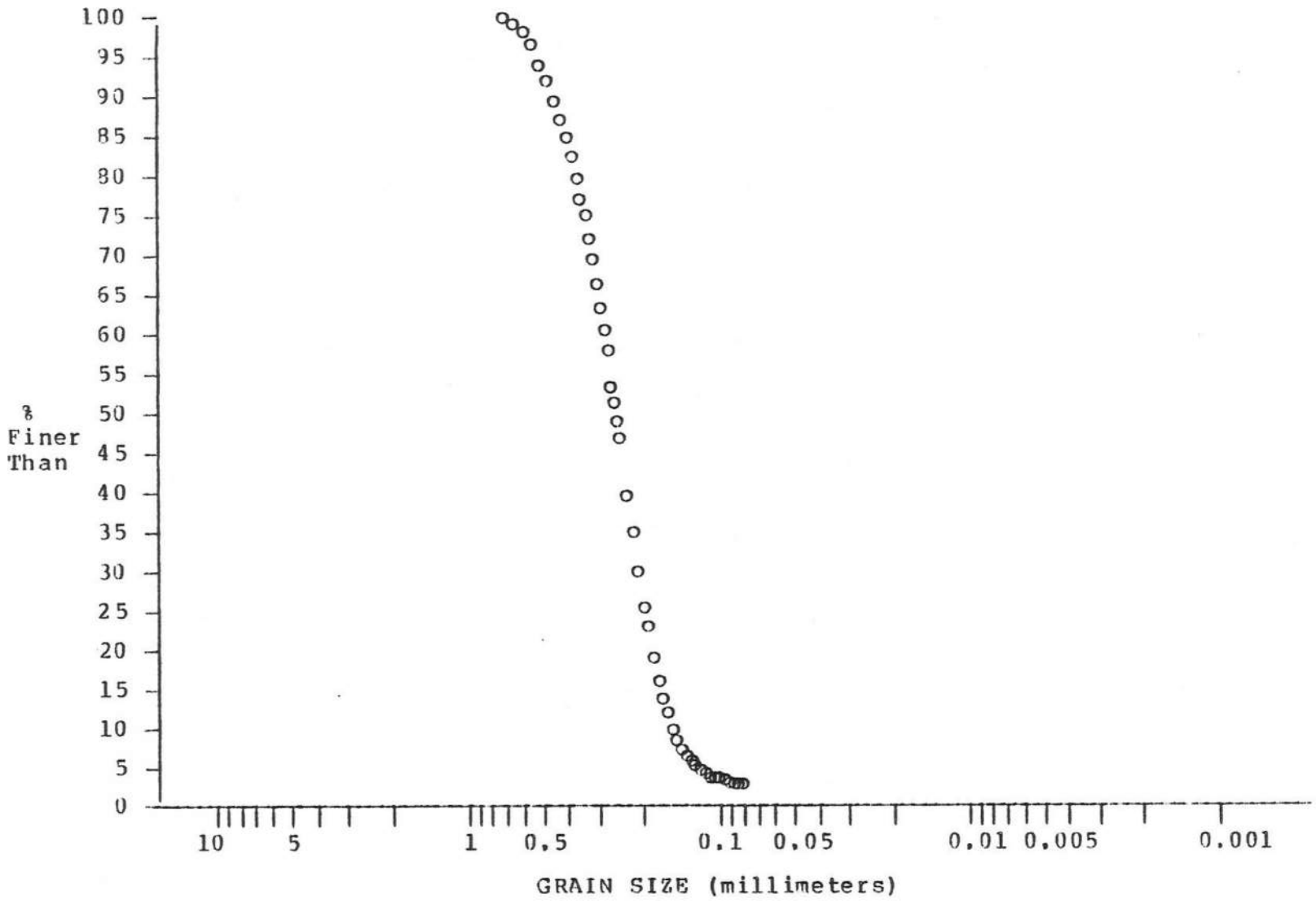
Sample Weight 19.000 gm

Specific Gravity 2.68

Sample Description

#4 14:20 6m 14s 9/26
Bottom

GRAIN SIZE DISTRIBUTION CURVE SAMPLE #4 14:20 6:14 DATE 7/18/80



GRAIN SIZE ANALYSIS

SAMPLE #3 14:30 5:04 DATE 7/18/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.957	100.00	0.284	71.58	0.131	7.95
0.822	99.48	0.275	68.71	0.125	7.17
0.723	99.22	0.267	66.75	0.120	6.39
0.648	98.96	0.260	63.36	0.115	5.61
0.591	98.57	0.253	60.37	0.110	4.95
0.544	97.78	0.247	58.15	0.105	4.30
0.506	96.35	0.231	51.24	0.101	3.91
0.473	95.57	0.220	45.63	0.096	3.52
0.445	94.52	0.212	40.68	0.092	2.87
0.421	93.61	0.200	34.55	0.088	2.35
0.401	92.31	0.193	31.16	0.085	2.09
0.382	90.48	0.184	25.81	0.081	1.69
0.366	88.66	0.176	22.16	0.078	1.43
0.351	87.09	0.169	19.69	0.074	1.04
0.337	84.75	0.163	16.30	0.071	0.78
0.324	81.88	0.155	13.82	0.068	0.52
0.313	78.62	0.149	11.99	0.065	0.39
0.302	76.53	0.142	10.17	0.063	0.26
0.293	74.58	0.136	9.13	0.060	0.13

SUMMARY INFORMATION

Median Grain Size 0.229 mm

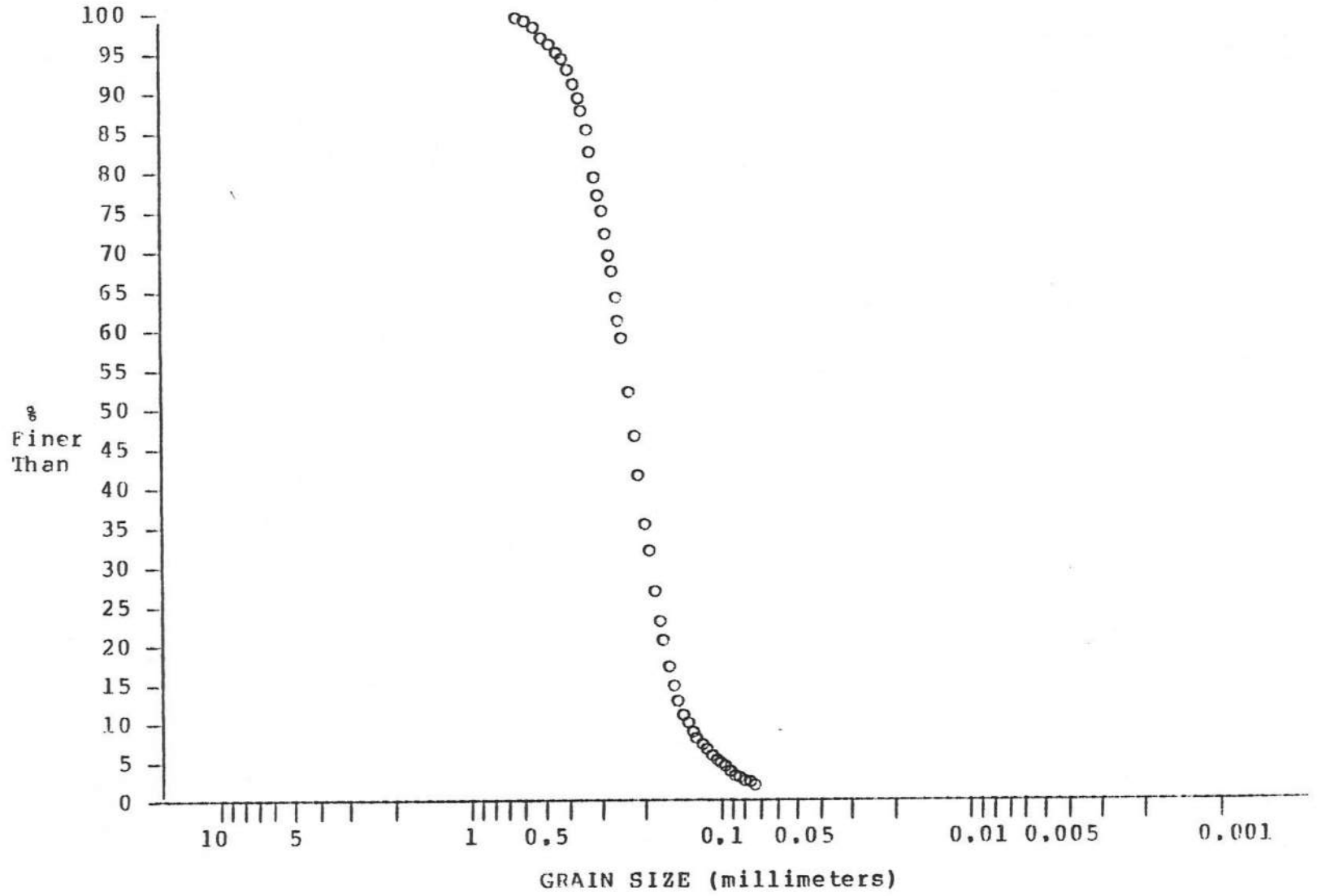
Sample Weight 9.317 gm

Specific Gravity 2.76

Sample Description

#3 14:30 5m 04s 9/26

GRAIN SIZE DISTRIBUTION CURVE SAMPLE #3 14:30 5:04 DATE 7/18/80



GRAIN SIZE ANALYSIS

SAMPLE #4 15:20 4:50 DATE 7/18/80

Diam in mm	% Finer than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
1.499	100.00	0.296	71.11	0.137	8.53
1.162	99.72	0.287	69.05	0.130	7.02
0.963	99.72	0.278	66.16	0.125	5.91
0.827	99.72	0.270	63.55	0.120	4.81
0.729	99.45	0.263	61.21	0.115	3.99
0.653	99.31	0.256	58.73	0.110	3.30
0.595	98.35	0.250	55.98	0.105	2.61
0.549	97.11	0.239	50.89	0.101	2.34
0.510	96.01	0.228	46.22	0.096	1.79
0.477	95.05	0.219	41.82	0.092	1.65
0.448	92.98	0.211	37.96	0.088	1.51
0.424	91.47	0.203	33.84	0.085	1.38
0.404	89.68	0.192	29.71	0.081	0.96
0.386	88.17	0.184	25.31	0.078	0.96
0.369	85.83	0.176	21.73	0.074	0.69
0.354	83.77	0.169	19.26	0.071	0.55
0.341	81.98	0.163	16.78	0.068	0.41
0.328	78.82	0.155	14.31	0.065	0.28
0.316	76.89	0.148	11.55	0.063	0.14
0.306	73.87	0.143	10.04	0.060	0.14

SUMMARY INFORMATION

Median Grain Size 0.237 mm

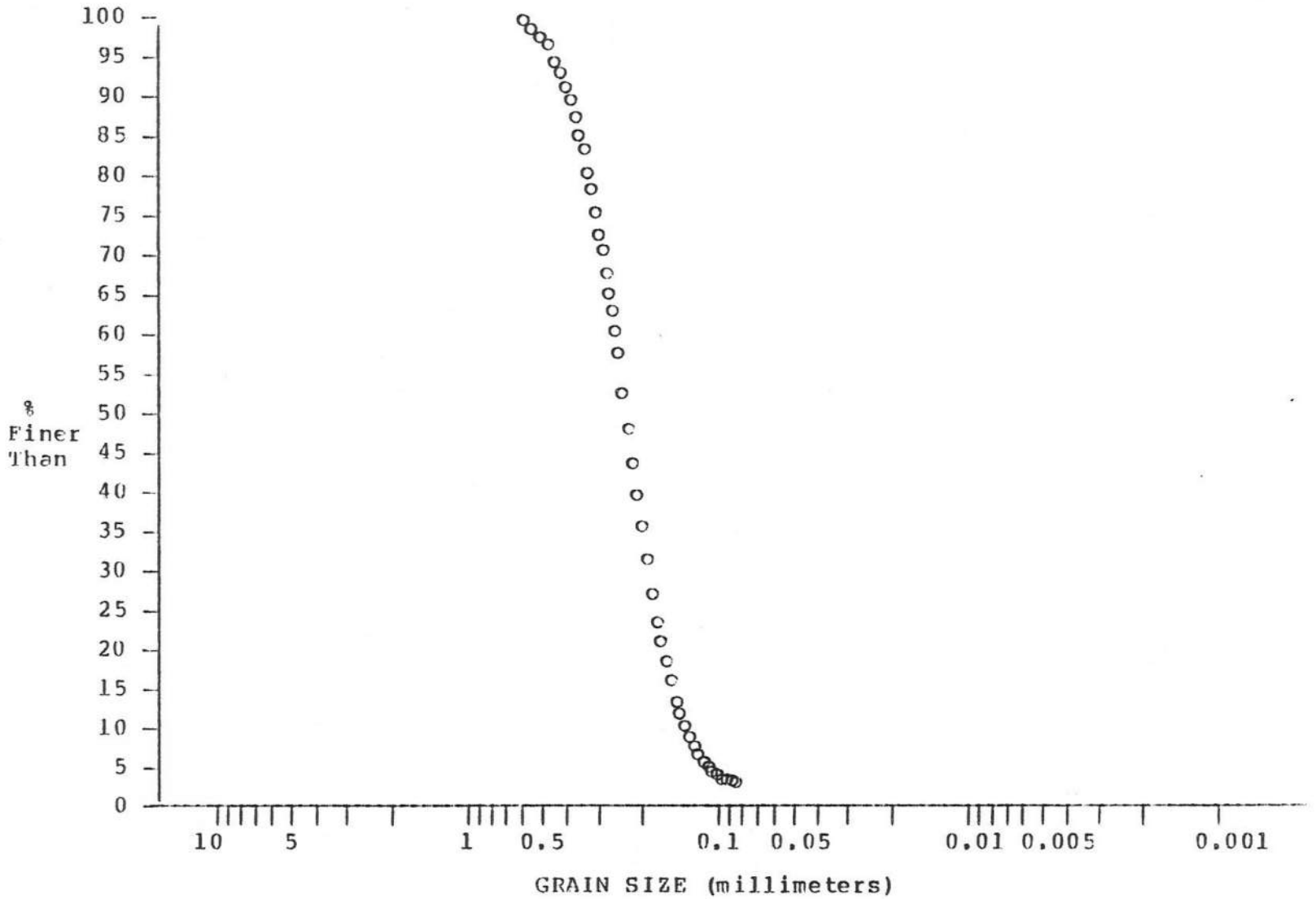
Sample Weight 18.717 gm

Specific Gravity 2.64

Sample Description

#4 1:20 4m 50s 9/26

GRAIN SIZE DISTRIBUTION CURVE SAMPLE #4 15:20 4:50 DATE 7/18/80



GRAIN SIZE ANALYSIS

SAMPLE #3 15:20 4:56 DATE 7/18/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.968	100.00	0.281	78.25	0.130	10.55
0.832	99.74	0.273	76.96	0.125	8.62
0.735	99.61	0.266	74.65	0.120	6.44
0.658	98.97	0.259	71.69	0.115	5.02
0.600	98.97	0.253	68.34	0.110	3.22
0.554	98.97	0.241	63.19	0.105	2.70
0.514	98.07	0.230	59.33	0.101	2.45
0.481	96.91	0.222	53.15	0.096	0.64
0.453	96.27	0.210	45.95	0.092	0.26
0.428	96.27	0.201	42.21	0.088	0.26
0.407	95.50	0.192	36.29	0.085	0.26
0.389	94.98	0.186	33.20	0.081	0.26
0.373	92.92	0.176	28.57	0.078	0.26
0.357	92.66	0.169	25.48	0.074	0.26
0.343	91.51	0.163	23.42	0.071	0.26
0.331	88.93	0.156	19.31	0.068	0.13
0.319	88.80	0.149	16.47	0.065	0.00
0.309	86.10	0.142	13.13	0.063	0.00
0.299	82.63	0.136	12.48	0.060	0.00
0.289	82.37				

SUMMARY INFORMATION

Median Grain Size 0.217 mm

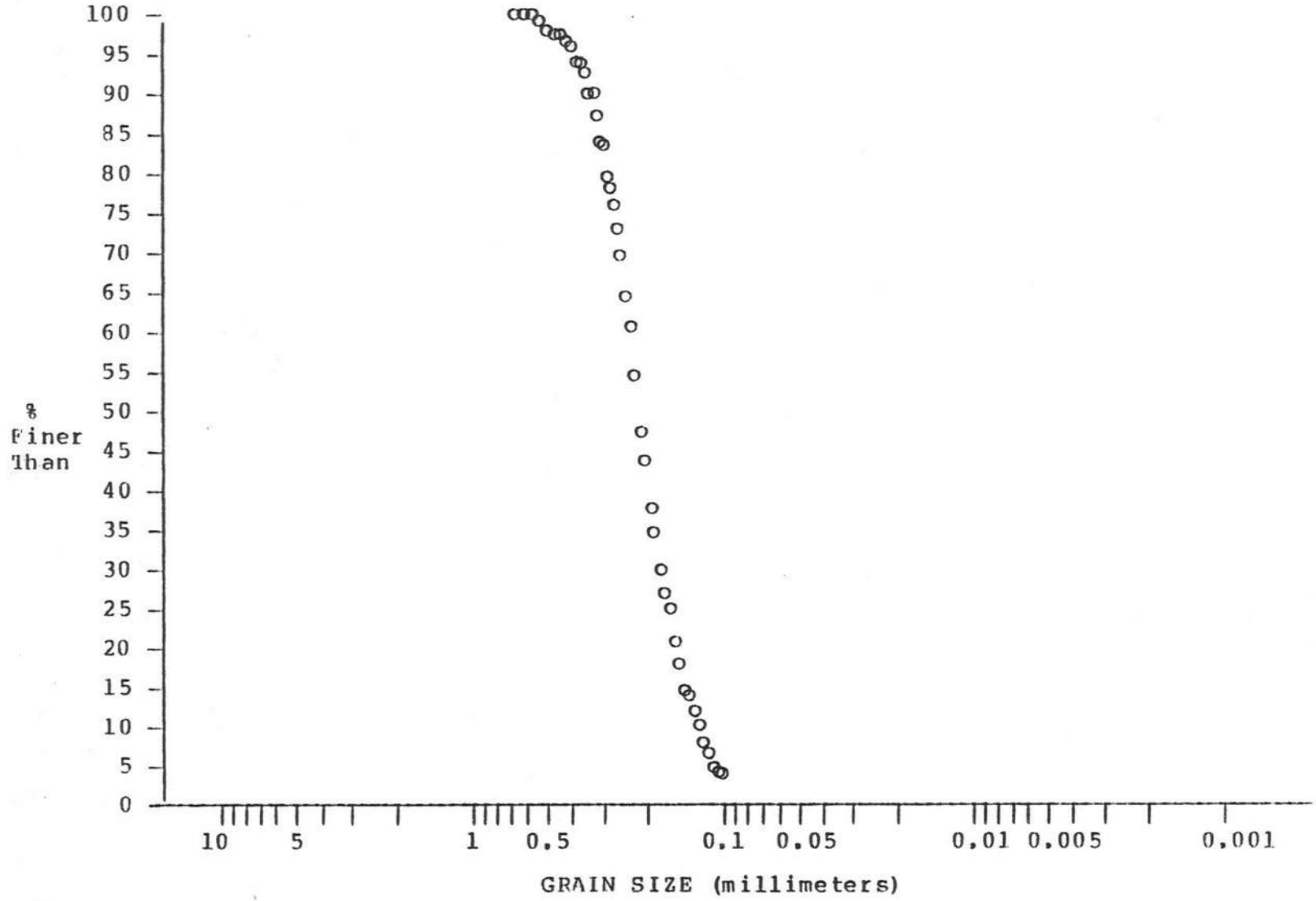
Sample Weight 9.826 gm

Specific Gravity 2.66

Sample Description

#3 15:20 4m 56s 9/26

GRAIN SIZE DISTRIBUTION CURVE SAMPLE #3 15:20 4:56 DATE 7/18/80



GRAIN SIZE ANALYSIS

SAMPLE #2 15:30 4:26 DATE 7/18/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.968	100.00	0.281	44.44	0.130	2.88
0.332	99.73	0.273	41.29	0.125	2.47
0.735	99.31	0.266	39.51	0.120	2.06
0.658	98.77	0.259	36.90	0.115	1.10
0.600	97.12	0.253	34.71	0.110	0.96
0.554	94.51	0.241	30.04	0.105	0.00
0.514	92.87	0.230	26.34	0.101	0.00
0.481	90.53	0.222	22.22	0.096	0.00
0.453	36.69	0.210	18.66	0.092	0.00
0.428	85.05	0.201	16.46	0.088	0.00
0.407	80.66	0.192	13.72	0.085	0.00
0.389	77.23	0.186	13.03	0.081	0.00
0.373	72.70	0.176	10.70	0.078	0.00
0.357	69.00	0.169	9.60	0.074	0.00
0.343	64.38	0.163	8.37	0.071	0.00
0.331	62.14	0.156	7.27	0.068	0.00
0.319	57.34	0.149	6.45	0.065	0.00
0.309	54.46	0.142	4.53	0.063	0.00
0.299	51.17	0.136	3.43	0.060	0.00
0.289	49.11				

SUMMARY INFORMATION

Median Grain Size 0.294 mm

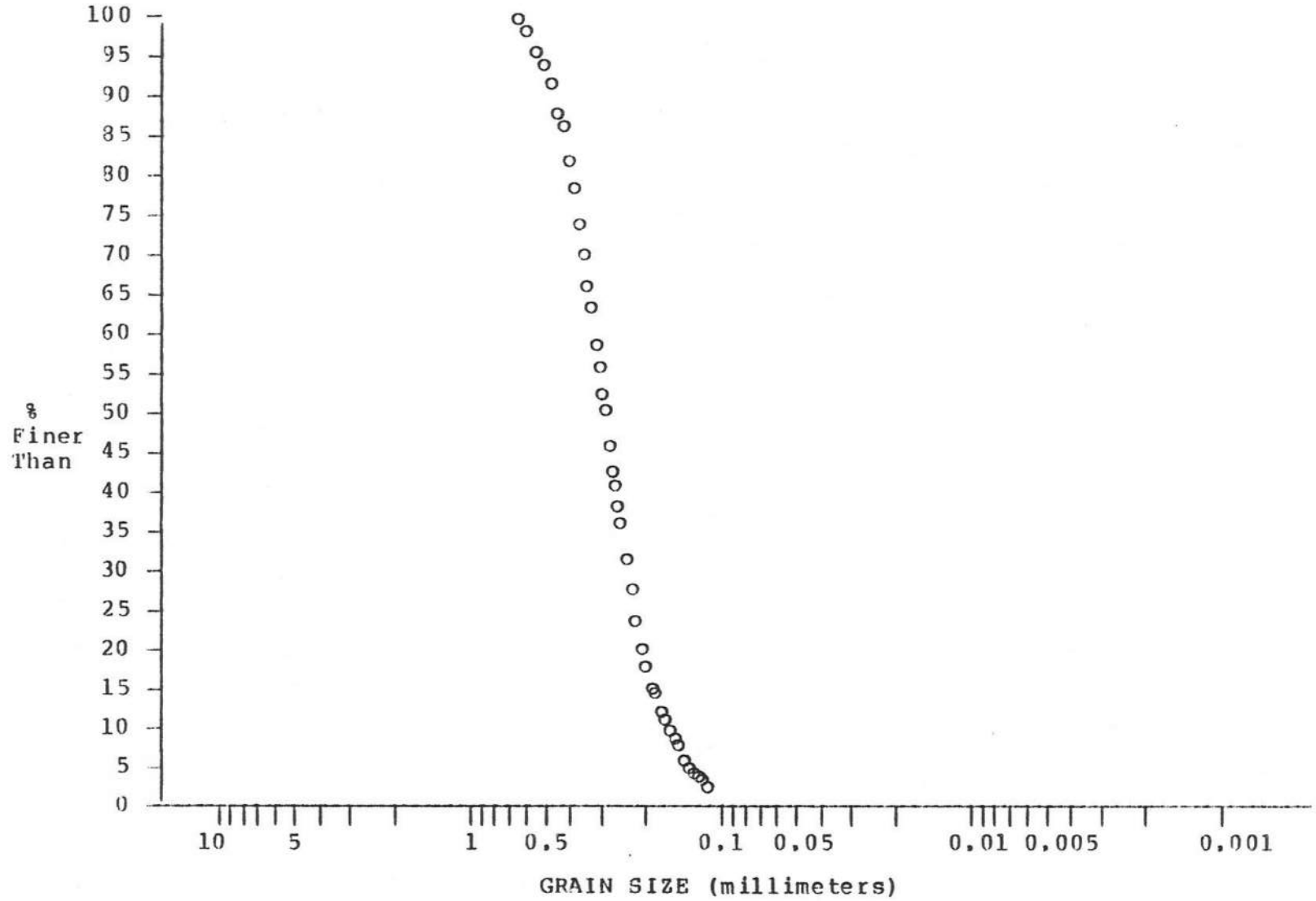
Sample Weight 35.254 gm

Specific Gravity 2.66

Sample Description

#2 15:30 4m 26s 9/26

GRAIN SIZE DISTRIBUTION CURVE SAMPLE #2 15:30 4:26 DATE 7/18/80



GRAIN SIZE ANALYSIS

SAMPLE #4 16:00 9:39 DATE 7/18/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.735	100.00	0.273	60.80	0.125	4.00
0.658	99.20	0.266	52.00	0.120	3.20
0.600	98.40	0.259	49.60	0.115	3.20
0.554	97.60	0.253	48.00	0.110	0.80
0.514	96.80	0.241	48.00	0.105	0.80
0.481	96.00	0.230	46.40	0.101	0.80
0.453	94.40	0.222	43.20	0.096	0.80
0.428	93.60	0.210	37.60	0.092	0.80
0.407	92.80	0.201	32.80	0.088	0.80
0.389	90.40	0.192	24.80	0.085	0.80
0.373	88.80	0.186	20.80	0.081	0.80
0.357	86.40	0.176	15.20	0.078	0.80
0.343	84.00	0.169	12.80	0.074	0.80
0.331	83.20	0.163	10.40	0.071	0.80
0.319	78.40	0.156	8.00	0.068	0.80
0.309	75.20	0.149	6.40	0.065	0.80
0.299	72.80	0.142	4.80	0.063	0.80
0.289	68.80	0.136	4.00	0.060	0.00
0.281	65.60	0.130	4.00		

SUMMARY INFORMATION

Median Grain Size 0.260 mm

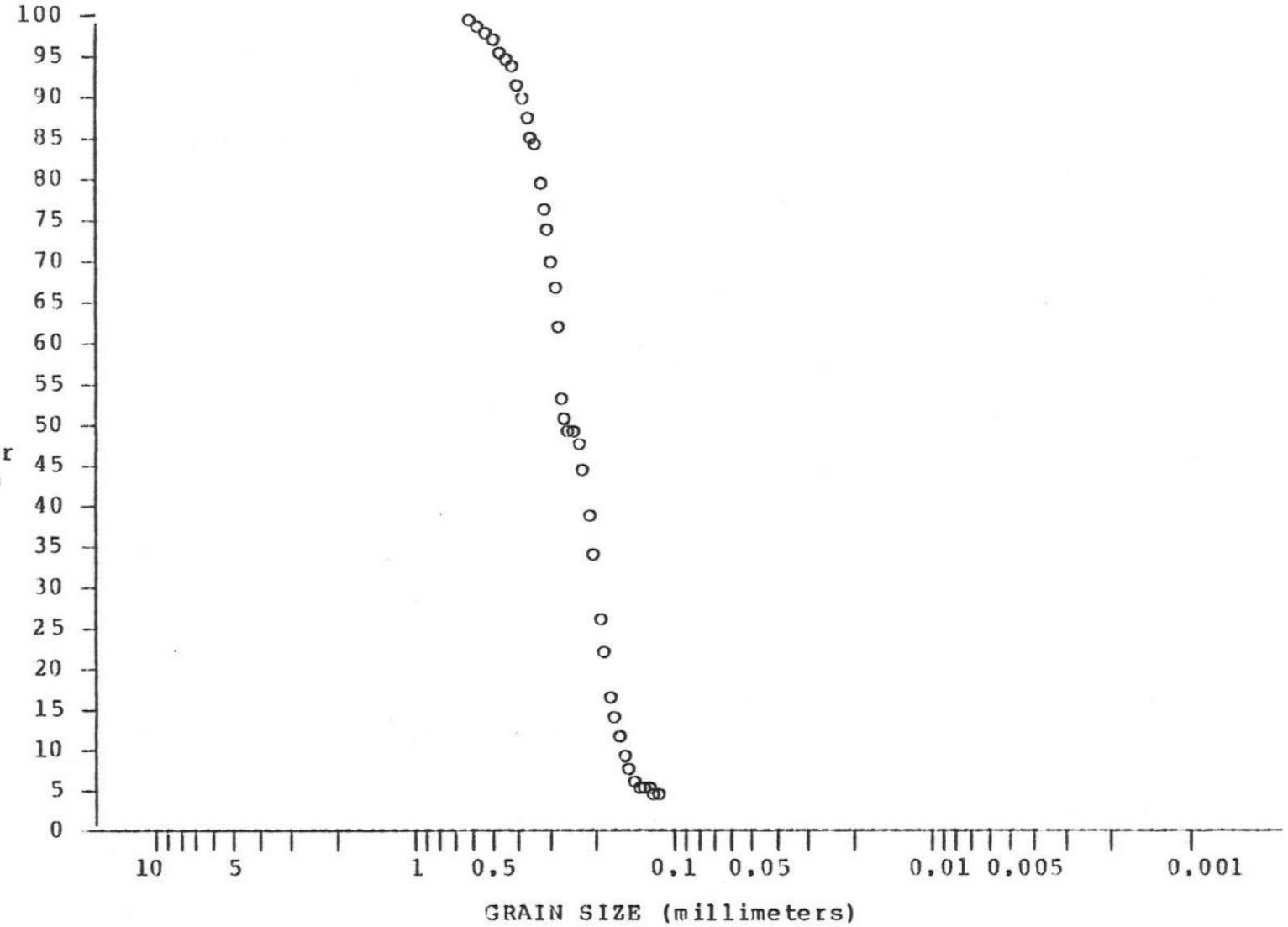
Sample Weight 0.254 gm

Sample Description

#4 16:00 9:39(time) 9/26

(Sample too small for Specific Gravity determination)

GRAIN SIZE DISTRIBUTION CURVE SAMPLE #4 16:00 9:39 DATE 7/18/80



GRAIN SIZE ANALYSIS

SAMPLE #2 16:15 4:49 DATE 7/18/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.963	100.00	0.278	49.19	0.130	6.19
0.827	99.70	0.270	47.16	0.125	5.58
0.729	99.39	0.263	44.93	0.120	4.77
0.653	99.09	0.256	43.00	0.115	4.26
0.595	98.48	0.250	39.66	0.110	2.94
0.549	96.15	0.239	34.39	0.105	2.54
0.510	93.20	0.228	30.53	0.101	1.93
0.477	91.08	0.219	28.60	0.096	1.42
0.448	88.64	0.211	24.54	0.092	1.32
0.424	82.76	0.203	22.21	0.088	1.01
0.404	80.02	0.192	19.47	0.085	0.61
0.386	76.98	0.184	16.43	0.081	0.20
0.369	74.65	0.176	15.11	0.078	0.00
0.354	72.01	0.169	12.58	0.074	0.00
0.341	68.86	0.163	11.05	0.071	0.00
0.328	64.91	0.155	9.34	0.068	0.00
0.316	58.82	0.148	8.72	0.065	0.00
0.306	57.40	0.143	8.01	0.063	0.00
0.296	54.56	0.137	7.10	0.060	0.00
0.287	51.83				

SUMMARY INFORMATION

Median Grain Size 0.281 mm

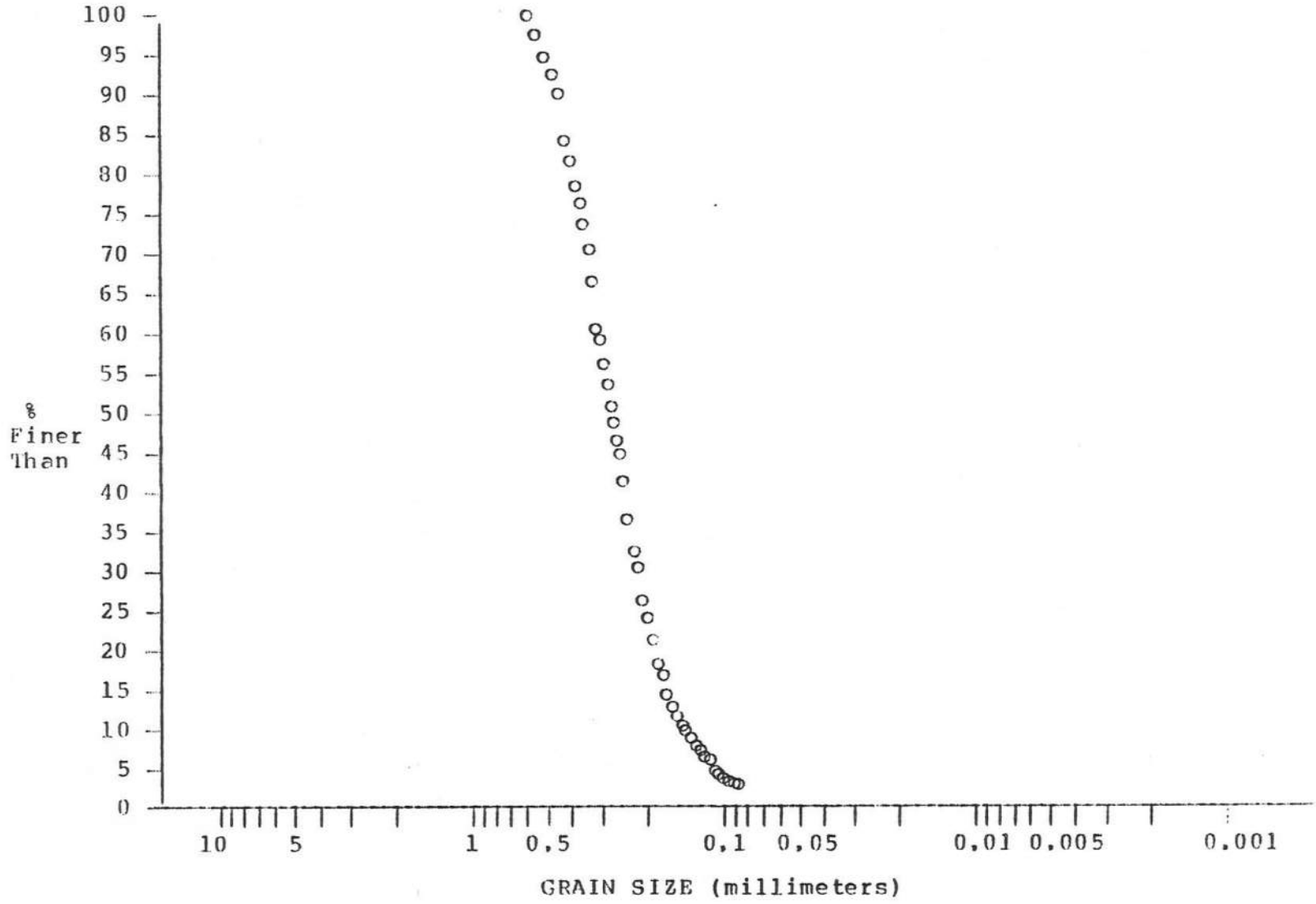
Sample Weight 23.382 gm

Specific Gravity 2.65

Sample Description

#2 16:15 4m 49s 9/26

GRAIN SIZE DISTRIBUTION CURVE SAMPLE #2 16:15 4:49 DATE 7/18/80



GRAIN SIZE ANALYSIS

SAMPLE #3 16:10 4:45 DATE 7/18/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.971	100.00	0.282	61.34	0.130	3.03
0.835	99.83	0.275	57.98	0.125	2.02
0.738	99.83	0.268	54.45	0.120	2.02
0.661	99.66	0.261	52.44	0.115	1.85
0.603	98.99	0.254	48.91	0.110	1.85
0.557	97.98	0.248	46.55	0.105	1.18
0.516	96.81	0.238	42.69	0.101	0.50
0.483	96.64	0.226	37.82	0.096	0.00
0.454	95.13	0.218	33.61	0.092	0.00
0.430	92.77	0.202	24.03	0.088	0.00
0.409	91.26	0.193	19.66	0.085	0.00
0.391	89.24	0.183	15.97	0.081	0.00
0.375	86.22	0.177	13.78	0.078	0.00
0.359	83.36	0.170	11.76	0.074	0.00
0.345	79.83	0.162	9.92	0.071	0.00
0.333	77.31	0.155	8.91	0.068	0.00
0.320	73.95	0.148	7.56	0.065	0.00
0.310	71.26	0.142	6.05	0.063	0.00
0.301	68.40	0.136	4.54	0.060	0.00
0.290	64.20				

SUMMARY INFORMATION

Median Grain Size 0.256 mm

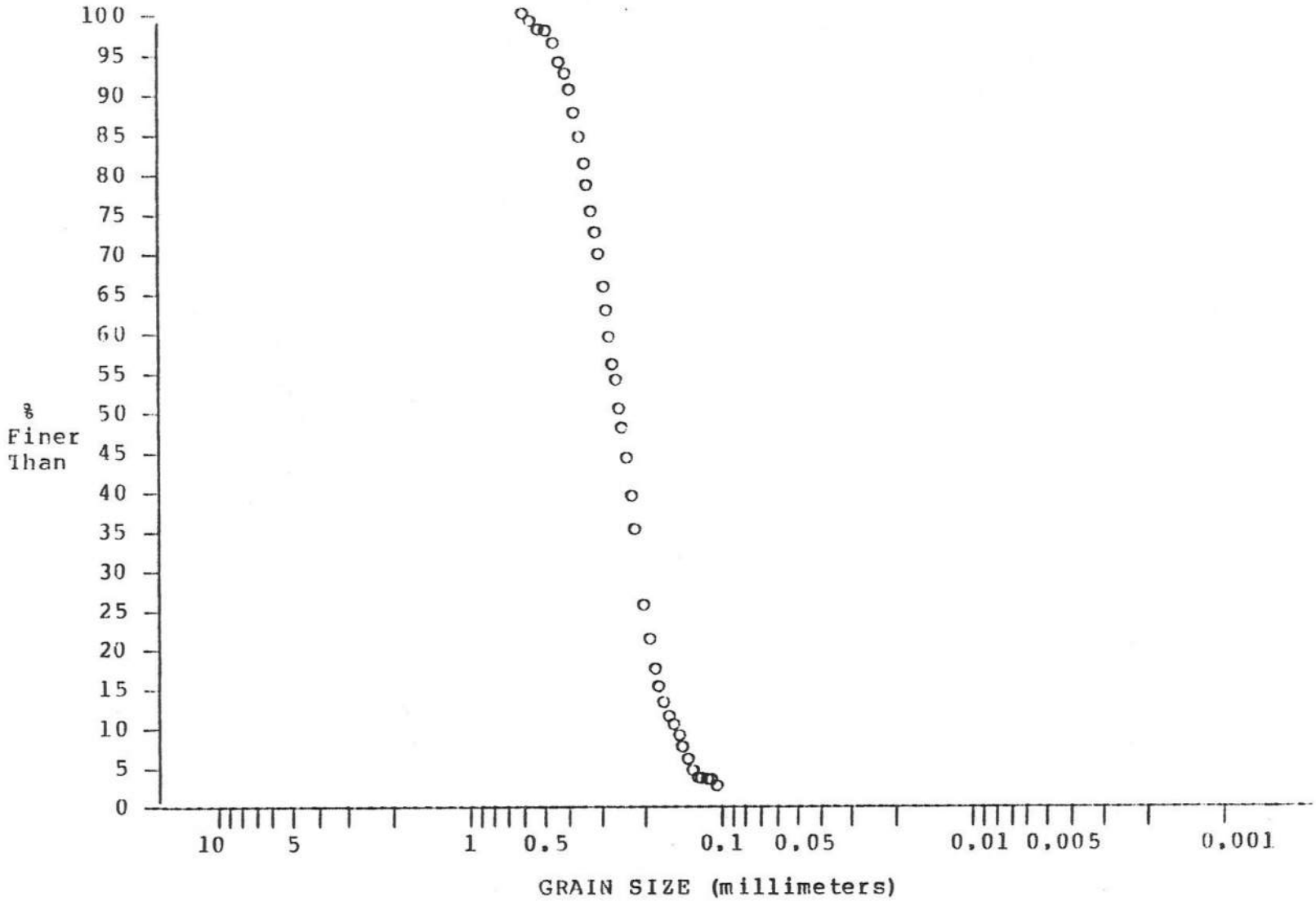
Sample Weight 16.350 gm

Specific Gravity 2.66

Sample Description

#3 16:10 4m 45s 9/26

GRAIN SIZE DISTRIBUTION CURVE SAMPLE #3 16:10 4:45 DATE 7/18/80



GRAIN SIZE ANALYSIS

SAMPLE #1S 15:00 5:44 DATE 7/18/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
1.166	100.00	0.289	47.24	0.130	0.47
0.968	99.76	0.281	43.71	0.125	0.35
0.832	99.18	0.273	39.95	0.120	0.12
0.735	98.71	0.266	35.96	0.115	0.12
0.658	98.00	0.259	32.31	0.110	0.00
0.600	97.06	0.253	29.85	0.105	0.00
0.554	95.89	0.241	23.74	0.101	0.00
0.514	94.36	0.230	19.39	0.096	0.00
0.481	91.77	0.222	15.75	0.092	0.00
0.453	89.66	0.210	11.40	0.088	0.00
0.428	87.31	0.201	8.93	0.085	0.00
0.407	82.49	0.192	6.70	0.081	0.00
0.389	79.91	0.186	5.76	0.078	0.00
0.373	76.73	0.176	4.11	0.074	0.00
0.357	72.03	0.169	3.29	0.071	0.00
0.343	68.63	0.163	2.70	0.068	0.00
0.331	64.86	0.156	2.00	0.065	0.00
0.319	60.16	0.149	1.53	0.063	0.00
0.309	55.93	0.142	0.94	0.060	0.00
0.299	52.41	0.136	0.71		

SUMMARY INFORMATION

Median Grain Size 0.295 mm

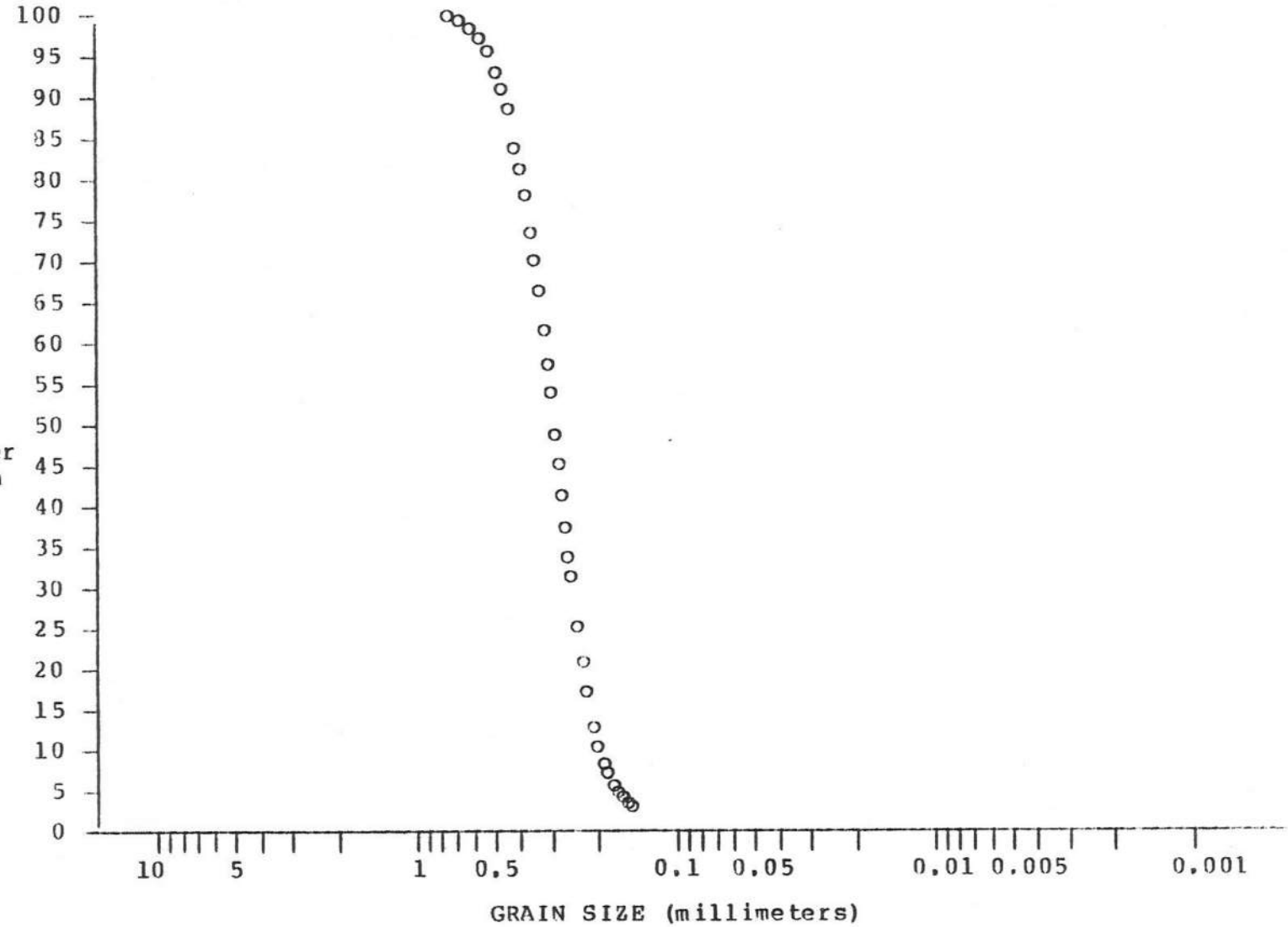
Sample Weight 177.690 gm

Specific Gravity 2.65

Sample Description

#1 S 15:00 5:14 9/27

GRAIN SIZE DISTRIBUTION CURVE SAMPLE #1S 15:00 5:44 DATE 7/18/80



GRAIN SIZE ANALYSIS

SAMPLE #2S 15: 5 5: 15 DATE 7/18/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.963	100.00	0.278	37.34	0.130	2.96
0.827	99.74	0.270	34.88	0.125	2.57
0.729	99.23	0.263	32.56	0.120	1.42
0.653	98.84	0.256	29.73	0.115	1.42
0.595	98.46	0.250	27.28	0.110	1.42
0.549	96.27	0.239	22.65	0.105	1.29
0.510	93.69	0.228	19.43	0.101	1.29
0.477	90.86	0.219	15.83	0.096	0.39
0.448	89.19	0.211	14.29	0.092	0.00
0.424	86.49	0.203	11.71	0.088	0.00
0.404	82.50	0.192	9.40	0.085	0.00
0.386	77.61	0.184	8.49	0.081	0.00
0.369	73.23	0.176	6.32	0.078	0.00
0.354	69.63	0.169	6.82	0.074	0.00
0.341	64.99	0.163	5.66	0.071	0.00
0.328	59.33	0.155	4.50	0.068	0.00
0.316	55.60	0.148	3.86	0.065	0.00
0.306	49.94	0.143	3.86	0.063	0.00
0.296	46.07	0.137	3.86	0.060	0.00
0.287	42.47				

SUMMARY INFORMATION

Median Grain Size 0.306 mm

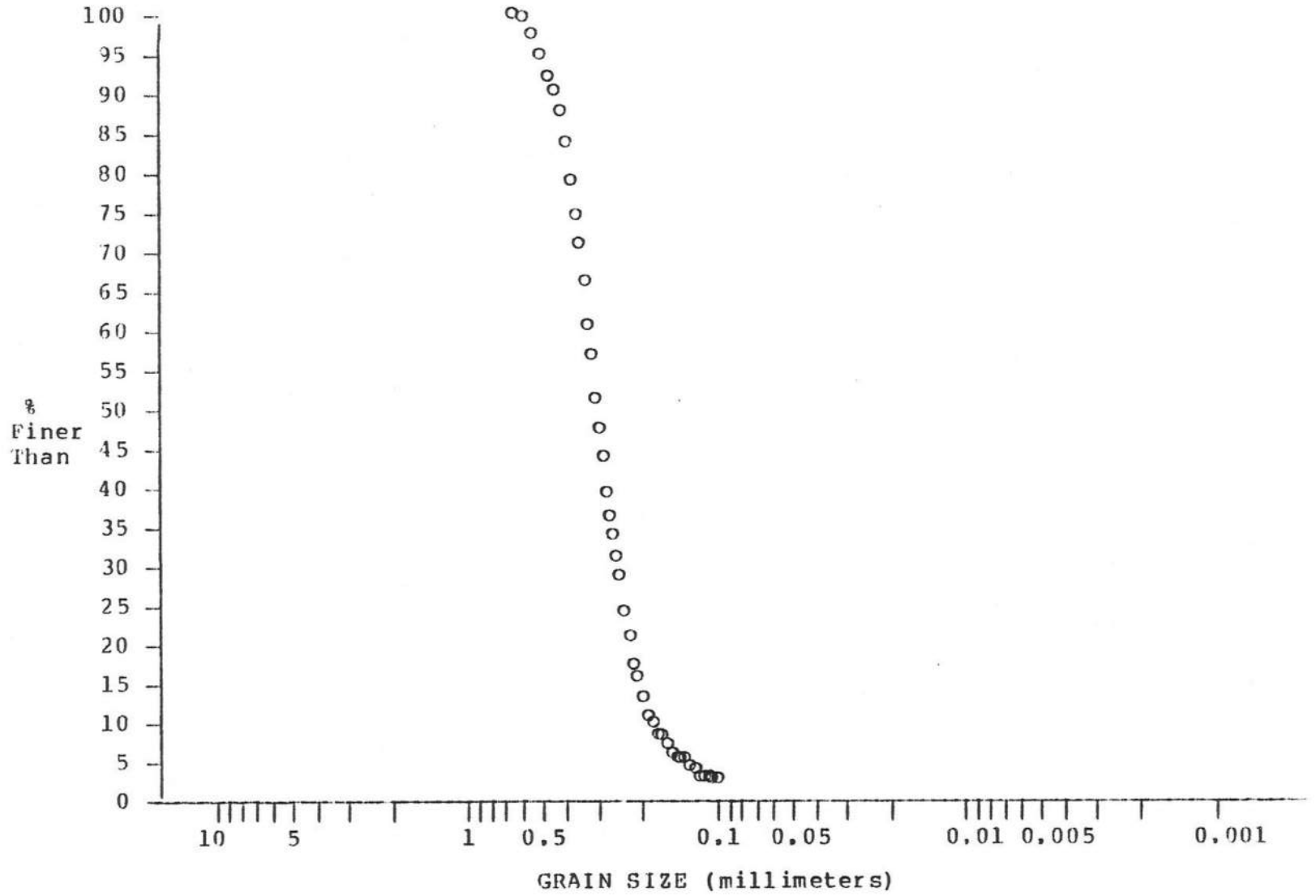
Sample Weight 33.005 gm

Specific Gravity 2.70

Sample Description

? Suspend : 4m 35s 9/27

GRAIN SIZE DISTRIBUTION CURVE SAMPLE #2S 15: 5 5:15 DATE 7/18/80



GRAIN SIZE ANALYSIS

SAMPLE #3S 15:10 5:04 DATE 7/18/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
1.166	100.00	0.289	64.98	0.130	2.58
0.968	99.79	0.281	62.81	0.125	1.76
0.832	99.38	0.273	59.40	0.120	1.34
0.735	99.17	0.266	56.61	0.115	0.83
0.658	98.66	0.259	53.72	0.110	0.00
0.600	97.93	0.253	50.62	0.105	0.00
0.554	97.42	0.241	45.25	0.101	0.00
0.514	96.49	0.230	41.12	0.096	0.00
0.481	95.45	0.222	35.23	0.092	0.00
0.453	94.32	0.210	28.20	0.088	0.00
0.428	92.15	0.201	23.04	0.085	0.00
0.407	89.88	0.192	19.42	0.081	0.00
0.389	87.71	0.186	16.94	0.078	0.00
0.373	84.61	0.176	14.26	0.074	0.00
0.357	81.92	0.169	12.40	0.071	0.00
0.343	79.75	0.163	10.33	0.068	0.00
0.331	76.14	0.156	6.71	0.065	0.00
0.319	73.76	0.149	5.27	0.063	0.00
0.309	70.66	0.142	4.13	0.060	0.00
0.299	68.60	0.136	3.41		

SUMMARY INFORMATION

Median Grain Size 0.252 mm

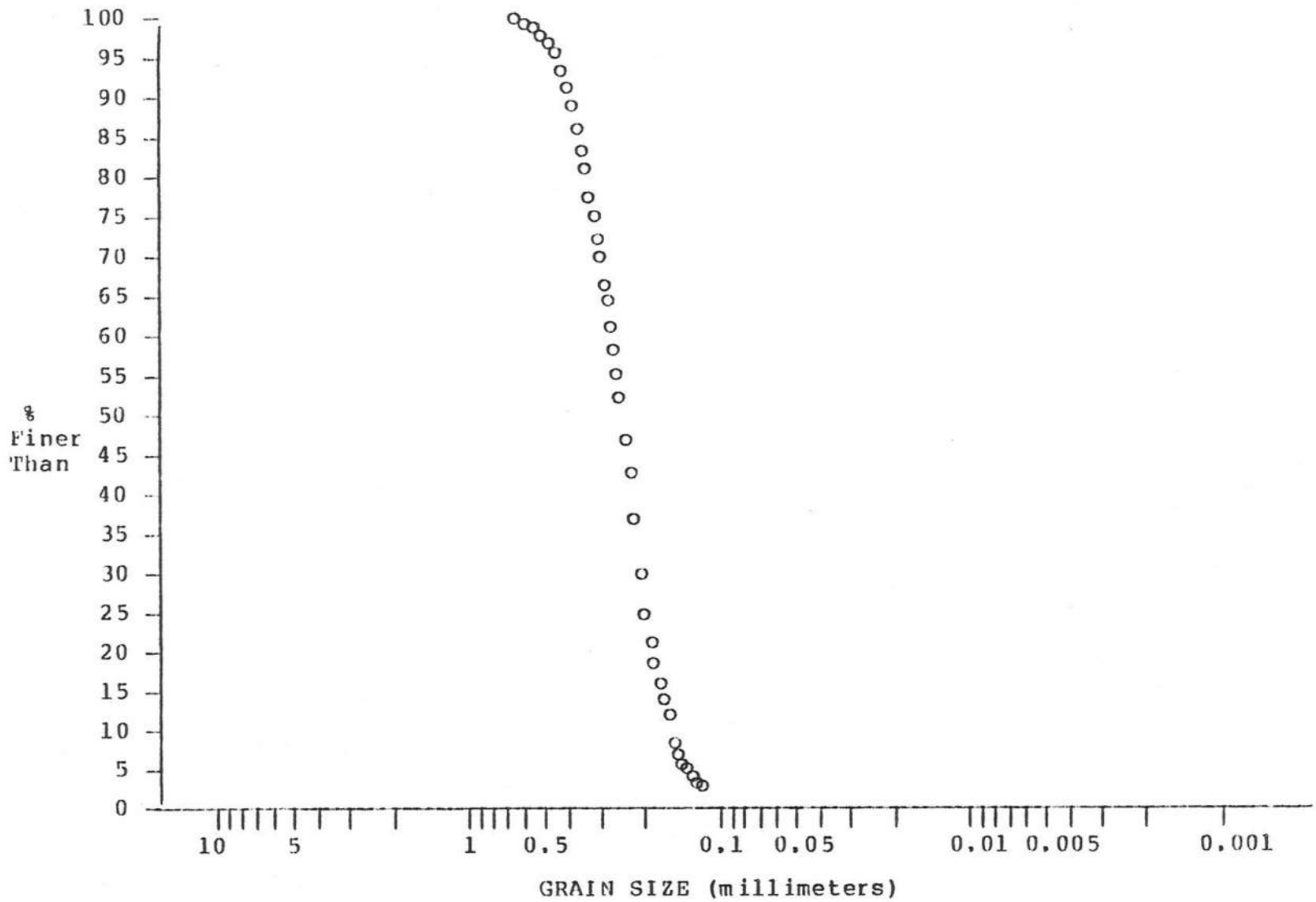
Sample Weight 25.355 gm

Specific Gravity 2.70

Sample Description

#3 S 15:10 5:04 9/27

GRAIN SIZE DISTRIBUTION CURVE SAMPLE #3S 15:10 5:04 DATE 7/18/80



GRAIN SIZE ANALYSIS

SAMPLE #1 15:20 4:39 DATE 7/18/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.965	100.00	0.280	45.30	0.130	1.01
0.829	99.72	0.272	42.91	0.125	0.74
0.732	99.72	0.265	40.24	0.120	0.55
0.655	98.71	0.257	38.03	0.114	0.55
0.598	98.53	0.251	35.45	0.110	0.37
0.552	97.15	0.240	30.85	0.105	0.28
0.512	93.55	0.228	26.15	0.101	0.18
0.479	91.44	0.220	22.34	0.096	0.18
0.451	87.85	0.209	17.68	0.092	0.18
0.426	83.43	0.200	14.73	0.088	0.18
0.406	79.37	0.193	12.43	0.085	0.09
0.387	75.32	0.185	9.30	0.081	0.00
0.371	70.26	0.177	7.55	0.078	0.00
0.356	66.67	0.170	5.80	0.074	0.00
0.342	63.35	0.162	4.24	0.071	0.00
0.329	58.93	0.155	3.31	0.068	0.00
0.317	55.80	0.149	2.49	0.065	0.00
0.307	53.22	0.142	1.75	0.063	0.00
0.298	50.92	0.136	1.38	0.060	0.00
0.288	47.79				

SUMMARY INFORMATION

Median Grain Size 0.295 mm

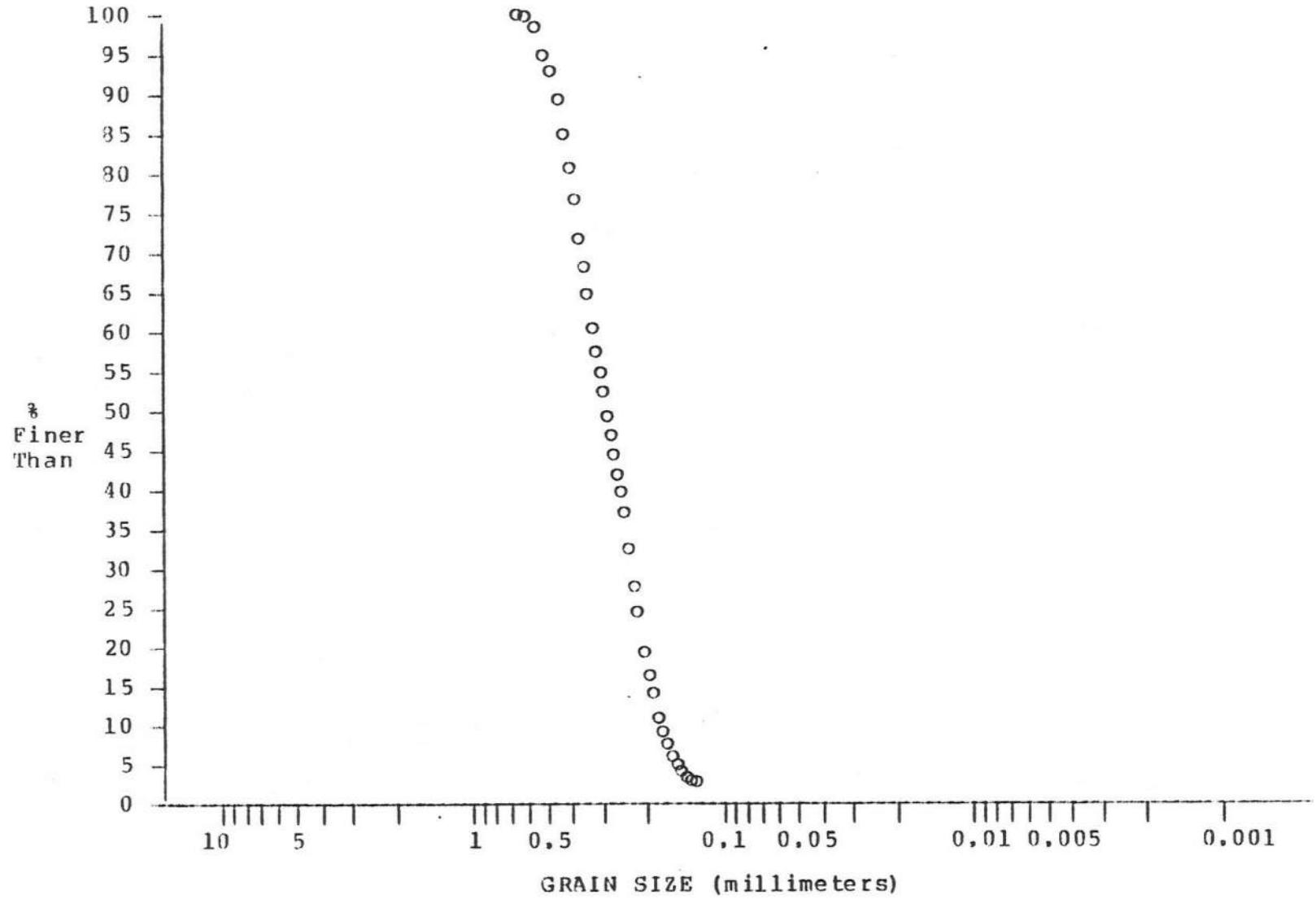
Sample Weight 28.564 gm

Specific Gravity 2.74

Sample Description

#1 15:20 4:39 9/27

GRAIN SIZE DISTRIBUTION CURVE SAMPLE #1 15:20 4:39 DATE 7/18/80



GRAIN SIZE ANALYSIS

SAMPLE #3 16:00 4:55 DATE 7/18/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.968	100.00	0.281	68.81	0.130	4.86
0.832	99.66	0.273	66.10	0.125	3.50
0.735	99.21	0.266	63.84	0.120	2.82
0.658	98.98	0.259	60.56	0.115	2.15
0.600	98.64	0.253	58.31	0.110	1.81
0.554	98.31	0.241	51.86	0.105	1.81
0.514	97.51	0.230	46.44	0.101	1.47
0.481	96.72	0.222	39.21	0.096	1.36
0.453	95.48	0.210	32.54	0.092	1.13
0.428	93.90	0.201	28.36	0.088	1.02
0.407	92.88	0.192	22.82	0.085	1.02
0.389	91.07	0.186	19.55	0.081	1.02
0.373	88.25	0.176	15.93	0.078	0.79
0.357	85.31	0.169	14.01	0.074	0.79
0.343	82.37	0.163	11.64	0.071	0.79
0.331	80.45	0.156	9.49	0.068	0.79
0.319	78.42	0.149	7.68	0.065	0.79
0.309	76.16	0.142	6.44	0.063	0.00
0.299	74.35	0.136	5.76	0.060	0.00
0.289	71.30				

SUMMARY INFORMATION

Median Grain Size 0.238 mm

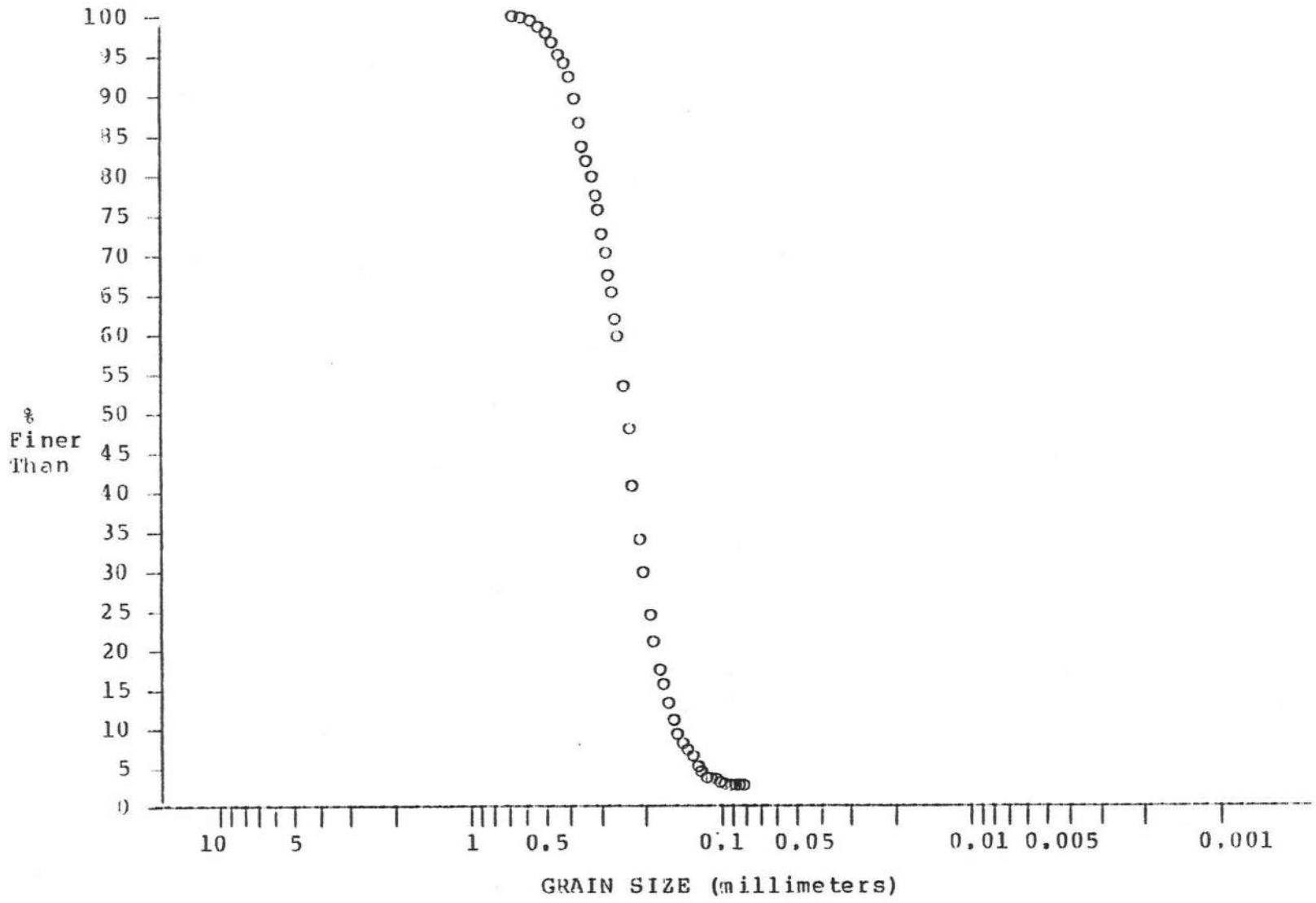
Sample Weight 23.734 gm

Specific Gravity 2.68

Sample Description

#3 16:00 4m 55s 9/27

GRAIN SIZE DISTRIBUTION CURVE SAMPLE #3 16:00 4:55 DATE 7/18/80



GRAIN SIZE ANALYSIS

SAMPLE #2 16:05 4:23 DATE 7/18/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.968	100.00	0.281	62.31	0.130	5.00
0.832	99.44	0.273	59.35	0.125	4.17
0.735	99.07	0.266	56.11	0.120	3.52
0.658	98.89	0.259	54.07	0.115	2.78
0.600	98.06	0.253	50.93	0.110	1.94
0.554	97.31	0.241	45.93	0.105	1.11
0.514	96.57	0.230	41.11	0.101	0.56
0.481	95.28	0.222	35.74	0.096	0.46
0.453	94.17	0.210	29.26	0.092	0.09
0.428	92.69	0.201	25.37	0.088	0.09
0.407	89.54	0.192	21.02	0.085	0.09
0.389	87.31	0.186	18.33	0.081	0.09
0.373	84.54	0.176	15.19	0.078	0.09
0.357	81.85	0.169	13.06	0.074	0.09
0.343	79.07	0.163	11.48	0.071	0.09
0.331	75.83	0.156	10.00	0.068	0.09
0.319	72.69	0.149	8.43	0.065	0.00
0.309	70.46	0.142	7.31	0.063	0.00
0.299	67.59	0.136	6.20	0.060	0.00
0.289	64.54				

SUMMARY INFORMATION

Median Grain Size 0.251 mm

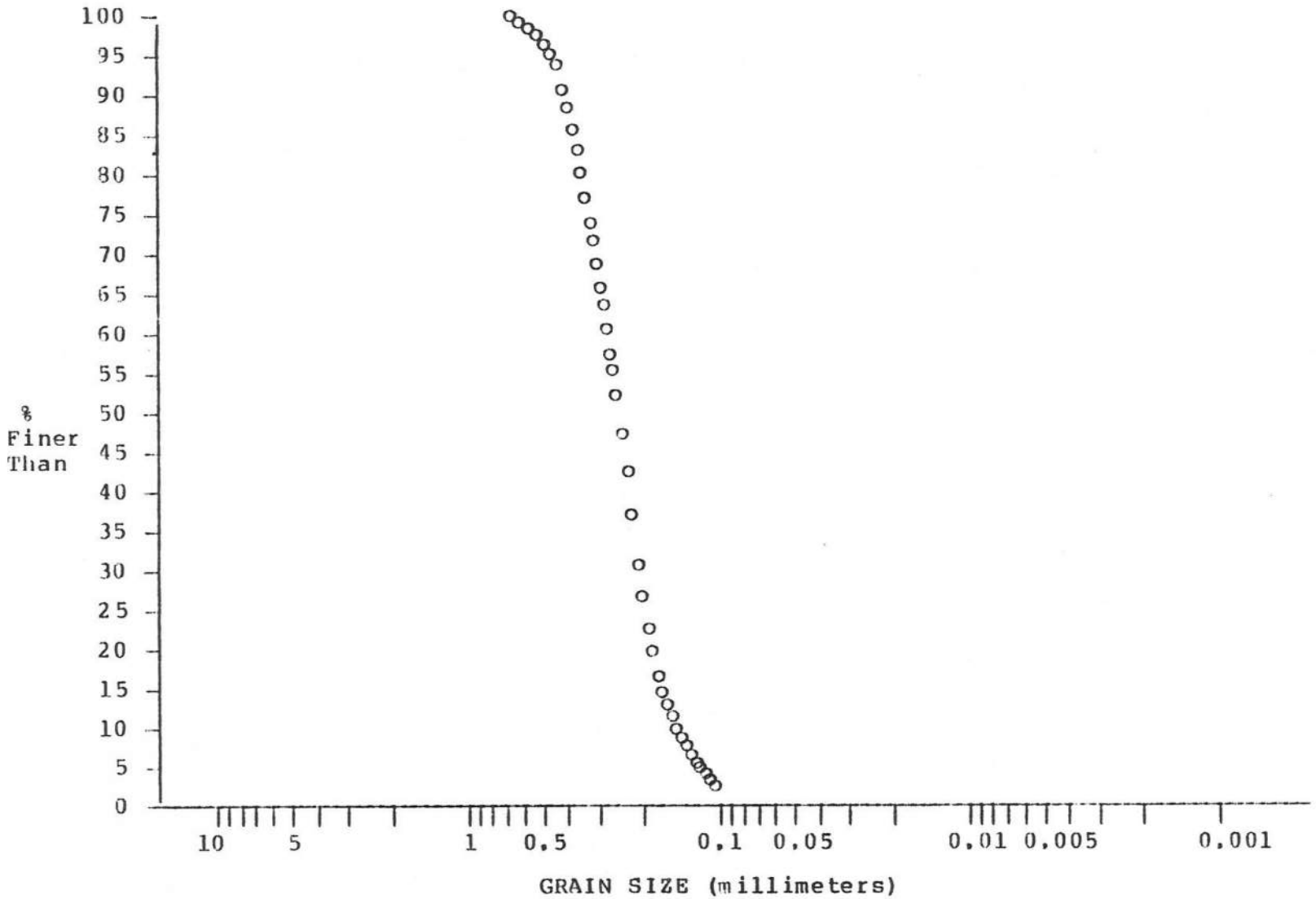
Sample Weight 28.112 gm

Specific Gravity 2.68

Sample Description

#2 16:05 4:23 9/27
Pump Sample

GRAIN SIZE DISTRIBUTION CURVE SAMPLE #2 16:05 4:23 DATE 7/18/80



GRAIN SIZE ANALYSIS

SAMPLE #1 16:15 4:44 DATE 7/18/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.968	100.00	0.281	62.57	0.130	5.39
0.832	99.70	0.273	60.93	0.125	4.94
0.735	99.25	0.266	58.38	0.120	2.84
0.658	98.95	0.259	56.44	0.115	2.25
0.600	98.65	0.253	54.79	0.110	2.25
0.554	97.75	0.241	50.45	0.105	0.90
0.514	96.71	0.230	46.26	0.101	0.90
0.481	94.91	0.222	42.51	0.096	0.90
0.453	92.37	0.210	37.72	0.092	0.90
0.428	92.22	0.201	35.48	0.088	0.90
0.407	88.77	0.192	29.19	0.085	0.75
0.389	86.23	0.186	26.50	0.081	0.75
0.373	84.43	0.176	21.56	0.078	0.75
0.357	81.44	0.169	18.26	0.074	0.75
0.343	78.44	0.163	15.87	0.071	0.75
0.331	75.45	0.156	13.02	0.068	0.75
0.319	74.10	0.149	11.08	0.065	0.75
0.309	70.66	0.142	8.83	0.063	0.75
0.299	69.61	0.136	7.34	0.060	0.00
0.289	65.12				

SUMMARY INFORMATION

Median Grain Size 0.240 mm

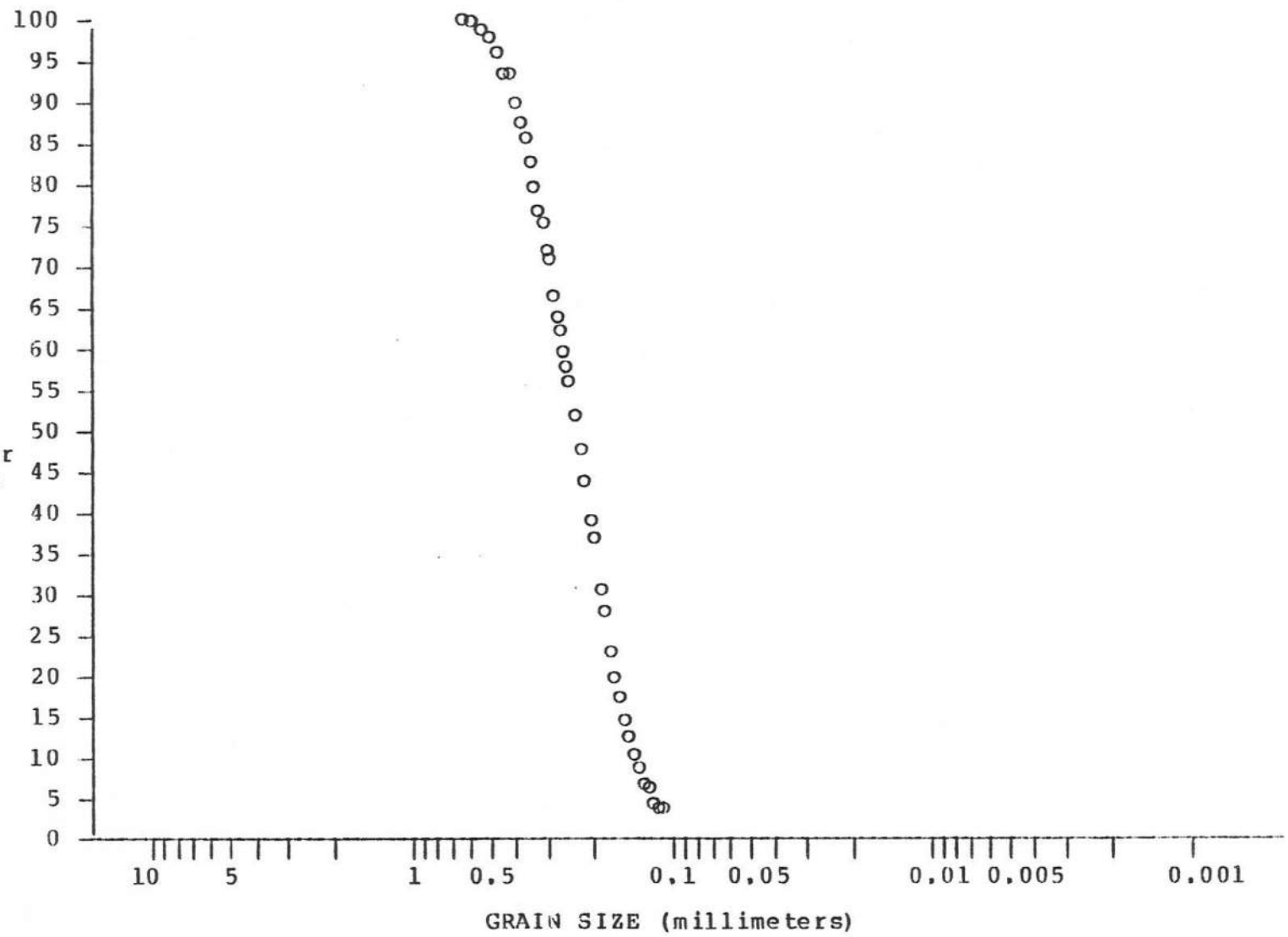
Sample Weight 17.010 gm

Specific Gravity 2.72

Sample Description

#1 16:15 4m 44s 9/27

GRAIN SIZE DISTRIBUTION CURVE SAMPLE #1 16:15 4:44 DATE 7/18/80



GRAIN SIZE ANALYSIS

SAMPLE #3 16:30 4:55 DATE 7/18/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.971	100.00	0.282	73.89	0.130	4.17
0.835	99.72	0.275	70.74	0.125	3.43
0.738	99.44	0.268	68.33	0.120	2.87
0.661	99.26	0.261	65.56	0.115	2.31
0.603	98.89	0.254	62.50	0.110	1.57
0.557	98.52	0.248	59.07	0.105	1.57
0.516	97.78	0.238	52.59	0.101	1.57
0.483	97.31	0.226	47.04	0.096	1.48
0.454	96.48	0.218	40.46	0.092	1.48
0.430	95.37	0.202	30.19	0.088	1.48
0.409	94.07	0.193	24.54	0.085	1.20
0.391	92.31	0.183	20.19	0.081	0.74
0.375	90.00	0.177	16.67	0.078	0.56
0.359	88.06	0.170	13.89	0.074	0.19
0.345	86.67	0.162	11.39	0.071	0.00
0.333	84.63	0.155	9.26	0.068	0.00
0.320	82.50	0.148	7.50	0.065	0.00
0.310	80.74	0.142	6.02	0.063	0.00
0.301	78.15	0.136	5.09	0.060	0.00
0.290	75.83				

SUMMARY INFORMATION

Median Grain Size 0.232 mm

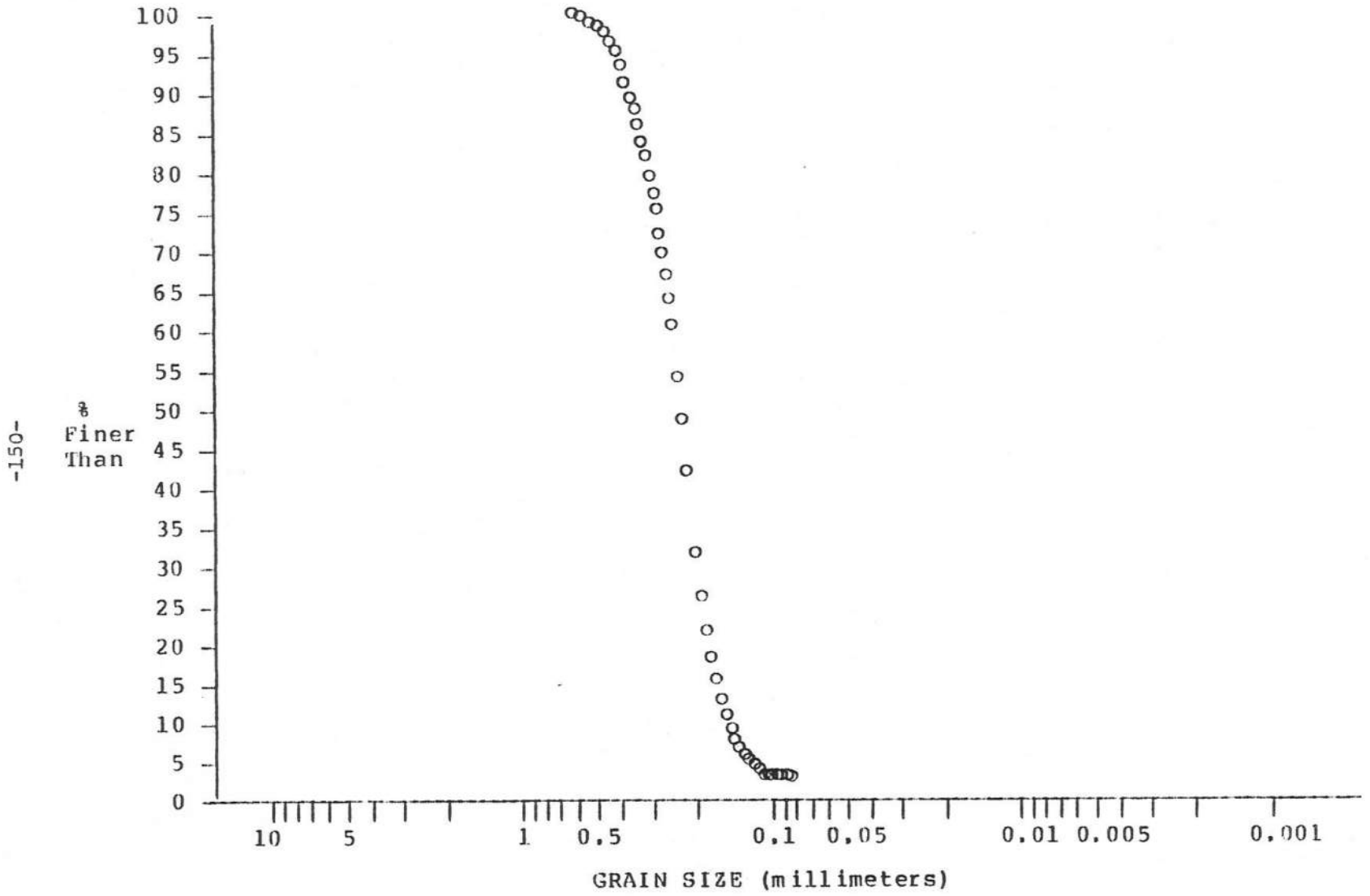
Sample Weight 14.147 gm

Specific Gravity 2.67

Sample Description

#3 16:30 4m 55s 9/27

GRAIN SIZE DISTRIBUTION CURVE SAMPLE #3 16:30 4:55 DATE 7/18/80



GRAIN SIZE ANALYSIS

SAMPLE #2 16:40 4:21 DATE 7/18/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
1.166	100.00	0.289	67.94	0.130	3.39
0.968	99.79	0.281	64.87	0.125	2.22
0.832	99.58	0.273	61.16	0.120	1.80
0.735	99.37	0.266	58.31	0.115	1.80
0.658	98.84	0.259	55.87	0.110	1.69
0.600	98.41	0.253	52.70	0.105	1.48
0.554	97.14	0.241	46.77	0.101	0.85
0.514	95.87	0.230	40.32	0.096	0.74
0.481	94.71	0.222	35.24	0.092	0.63
0.453	93.44	0.210	28.89	0.088	0.53
0.428	91.75	0.201	24.87	0.085	0.32
0.407	89.52	0.192	20.21	0.081	0.32
0.389	88.89	0.186	17.25	0.078	0.32
0.373	84.97	0.176	13.65	0.074	0.11
0.357	83.92	0.169	11.53	0.071	0.11
0.343	80.74	0.163	9.74	0.068	0.11
0.331	77.88	0.156	7.94	0.065	0.11
0.319	75.56	0.149	5.93	0.063	0.11
0.309	72.80	0.142	5.08	0.060	0.11
0.299	70.16	0.136	3.81		

SUMMARY INFORMATION

Median Grain Size 0.248 mm

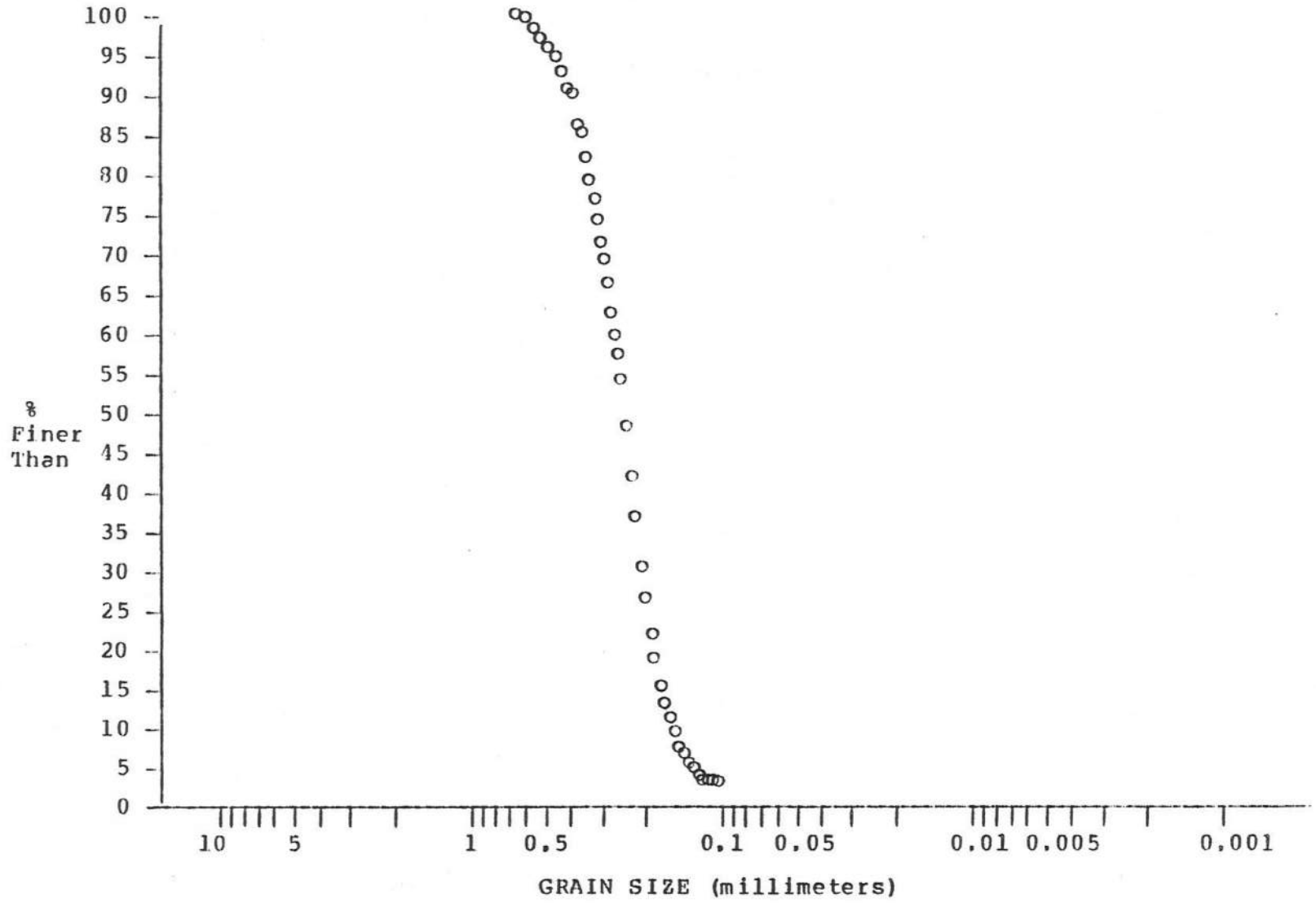
Sample Weight 24.957 gm

Specific Gravity 2.68

Sample Description

#2 16:40 4:21 9/27

GRAIN SIZE DISTRIBUTION CURVE SAMPLE #2 16:40 4:21 DATE 7/18/80



GRAIN SIZE ANALYSIS

SAMPLE #2 16:40 4:21 DATE 7/18/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
1.166	100.00	0.289	67.94	0.130	3.39
0.968	99.79	0.281	64.87	0.125	2.22
0.832	99.58	0.273	61.16	0.120	1.80
0.735	99.37	0.266	58.31	0.115	1.80
0.658	98.84	0.259	55.87	0.110	1.69
0.600	98.41	0.253	52.70	0.105	1.48
0.554	97.14	0.241	46.77	0.101	0.85
0.514	95.87	0.230	40.32	0.096	0.74
0.481	94.71	0.222	35.24	0.092	0.63
0.453	93.44	0.210	28.89	0.088	0.53
0.428	91.75	0.201	24.87	0.085	0.32
0.407	89.52	0.192	20.21	0.081	0.32
0.389	88.89	0.186	17.25	0.078	0.32
0.373	84.97	0.176	13.65	0.074	0.11
0.357	83.92	0.169	11.53	0.071	0.11
0.343	80.74	0.163	9.74	0.068	0.11
0.331	77.88	0.156	7.94	0.065	0.11
0.319	75.56	0.149	5.93	0.063	0.11
0.309	72.80	0.142	5.08	0.060	0.11
0.299	70.16	0.136	3.81		

SUMMARY INFORMATION

Median Grain Size 0.248 mm

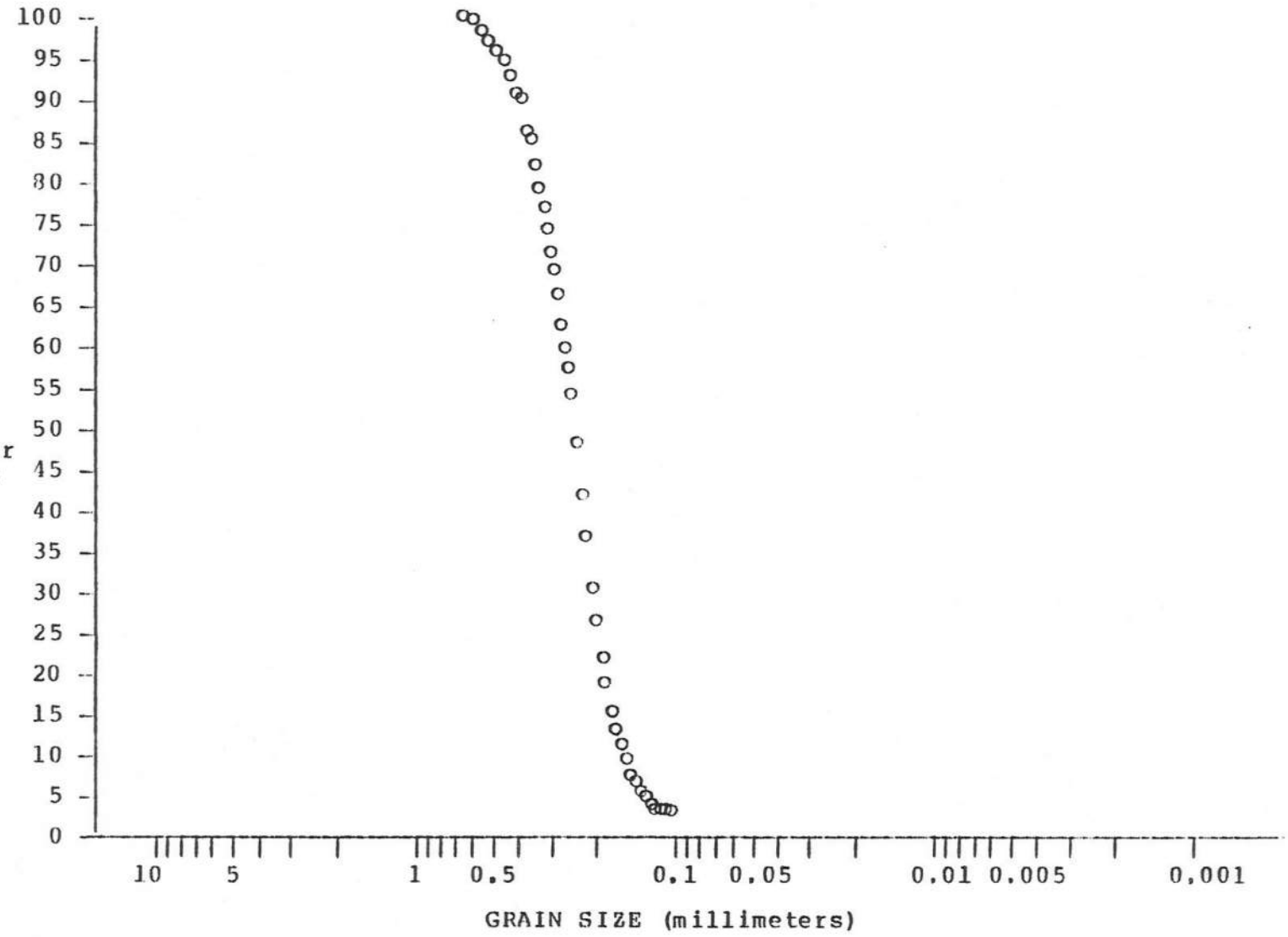
Sample Weight 24.957 gm

Specific Gravity 2.68

Sample Description

#2 16:40 4:21 9/27

GRAIN SIZE DISTRIBUTION CURVE SAMPLE #2 16:40 4:21 DATE 7/18/80



GRAIN SIZE ANALYSIS

SAMPLE #1 16:45 4:34 DATE 7/18/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.968	100.00	0.281	56.86	0.130	2.90
0.832	99.74	0.273	53.17	0.125	2.51
0.735	99.74	0.266	50.79	0.120	1.98
0.658	99.34	0.259	48.15	0.115	1.85
0.600	98.68	0.253	44.46	0.110	1.45
0.554	97.49	0.241	38.39	0.105	1.45
0.514	96.70	0.230	33.11	0.101	1.06
0.481	95.51	0.222	29.16	0.096	1.06
0.453	93.93	0.210	21.90	0.092	1.06
0.428	93.01	0.201	19.00	0.088	1.06
0.407	91.56	0.192	16.75	0.085	0.92
0.389	89.45	0.186	14.91	0.081	0.79
0.373	84.83	0.176	12.14	0.078	0.79
0.357	81.53	0.169	10.42	0.074	0.53
0.343	77.57	0.163	9.10	0.071	0.53
0.331	74.01	0.156	7.52	0.068	0.40
0.319	70.98	0.149	5.28	0.065	0.26
0.309	67.55	0.142	4.22	0.063	0.13
0.299	63.72	0.136	3.56	0.060	0.13
0.289	60.03				

SUMMARY INFORMATION

Median Grain Size 0.264 mm

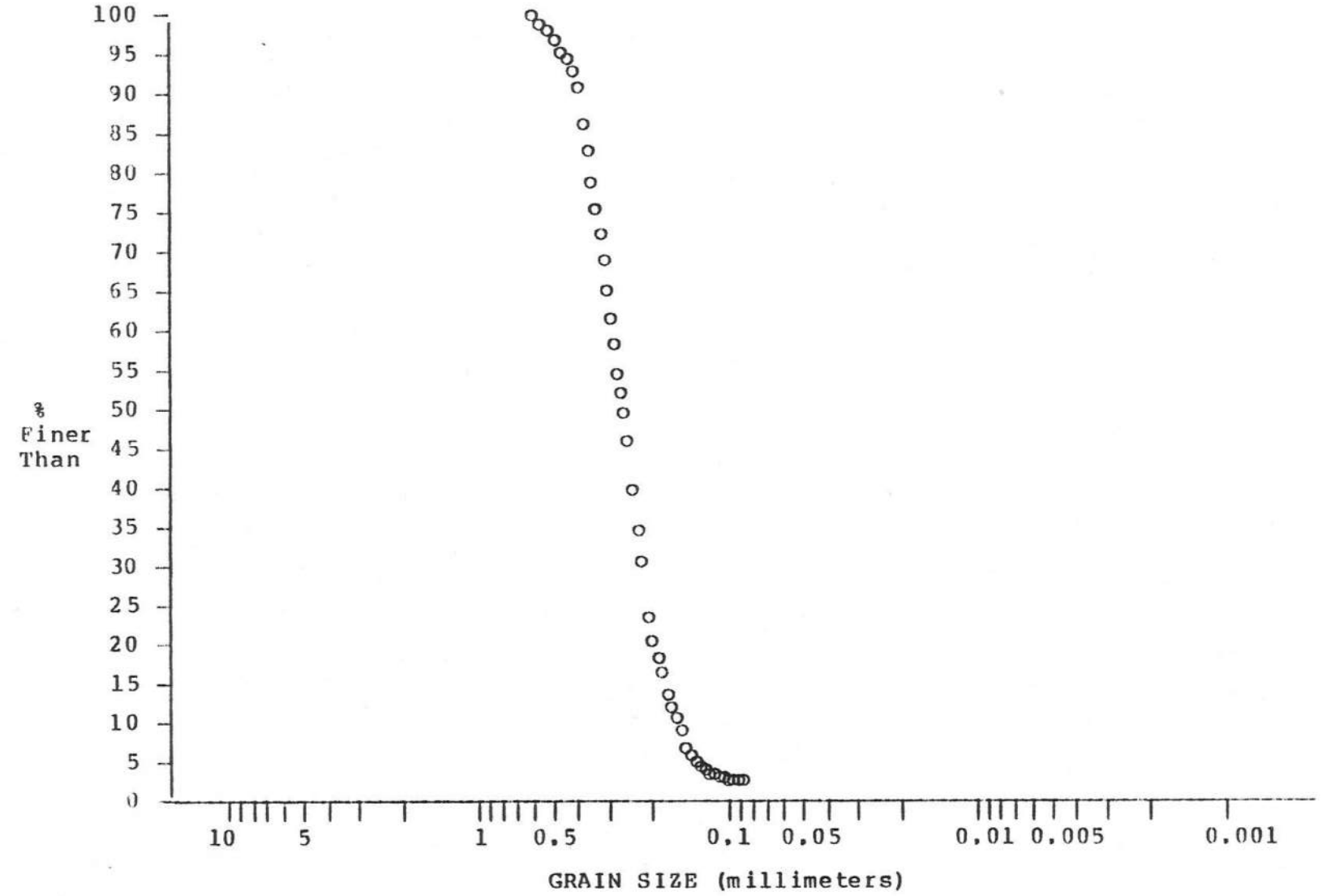
Sample Weight 19.409 gm

Specific Gravity 2.69

Sample Description

#1 16:45 4m 34s 9/27

GRAIN SIZE DISTRIBUTION CURVE SAMPLE #1 16:45 4:34 DATE 7/18/80



GRAIN SIZE ANALYSIS

SAMPLE #3 17:00 4:50 DATE 7/18/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.832	100.00	0.281	80.46	0.130	10.92
0.735	99.69	0.273	79.23	0.125	8.77
0.658	99.69	0.266	74.77	0.120	8.77
0.600	99.69	0.259	70.46	0.115	7.38
0.554	99.38	0.253	68.31	0.110	6.31
0.514	98.92	0.241	62.77	0.105	5.69
0.481	98.31	0.230	54.46	0.101	4.92
0.453	98.15	0.222	45.38	0.096	4.15
0.428	97.69	0.210	40.00	0.092	3.23
0.407	97.54	0.201	32.77	0.088	2.62
0.389	97 23	0.192	28.31	0.085	2.31
0.373	96.62	0.186	24.46	0.081	2.00
0.357	96.31	0.176	23.38	0.078	1.35
0.343	96.00	0.169	20.62	0.074	1.23
0.331	94.92	0.163	19.54	0.071	1.08
0.319	88.92	0.156	17.38	0.068	0.92
0.309	86.77	0.149	13.54	0.065	0.92
0.299	84.15	0.142	12.00	0.063	0.77
0.289	82.46	0.136	11.38	0.060	0.15

SUMMARY INFORMATION

Median Grain Size 0.226 mm

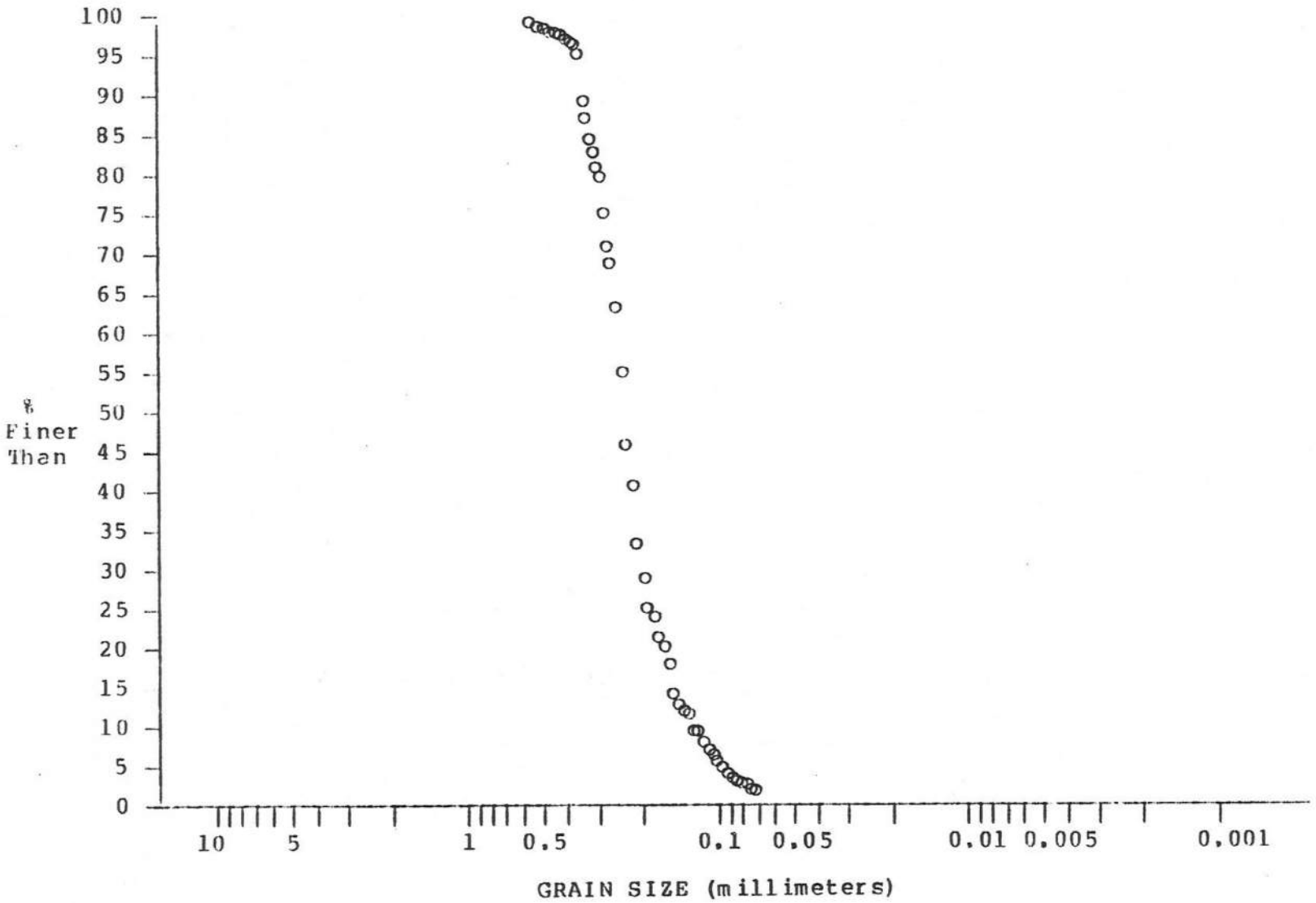
Sample Weight 18.862 gm

Specific Gravity 2.75

Sample Description

#3 17:00 4m 50s 9/27

GRAIN SIZE DISTRIBUTION CURVE SAMPLE #3 17:00 4:50 DATE 7/18/80



GRAIN SIZE ANALYSIS

SAMPLE #2 17:10 4:30 DATE 7/18/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
1.499	100.00	0.296	62.64	0.137	1.95
1.162	99.76	0.287	58.73	0.130	1.47
0.963	99.63	0.278	55.31	0.125	0.61
0.827	99.15	0.270	51.16	0.120	0.37
0.729	98.90	0.263	46.76	0.115	0.37
0.653	98.90	0.256	44.08	0.110	0.37
0.595	98.29	0.250	40.54	0.105	0.24
0.549	96.83	0.239	34.55	0.101	0.24
0.510	95.60	0.228	29.30	0.096	0.24
0.477	92.80	0.219	24.54	0.092	0.24
0.448	90.96	0.211	20.38	0.088	0.12
0.424	88.03	0.203	16.48	0.085	0.12
0.404	85.84	0.192	12.70	0.081	0.12
0.386	83.52	0.184	10.62	0.078	0.00
0.369	80.95	0.176	8.91	0.074	0.00
0.354	78.27	0.169	6.47	0.071	0.00
0.341	74.48	0.163	5.49	0.068	0.00
0.328	72.28	0.155	4.27	0.065	0.00
0.316	68.86	0.148	2.69	0.063	0.00
0.306	65.08	0.143	2.56	0.060	0.00

SUMMARY INFORMATION

Median Grain Size 0.268 mm

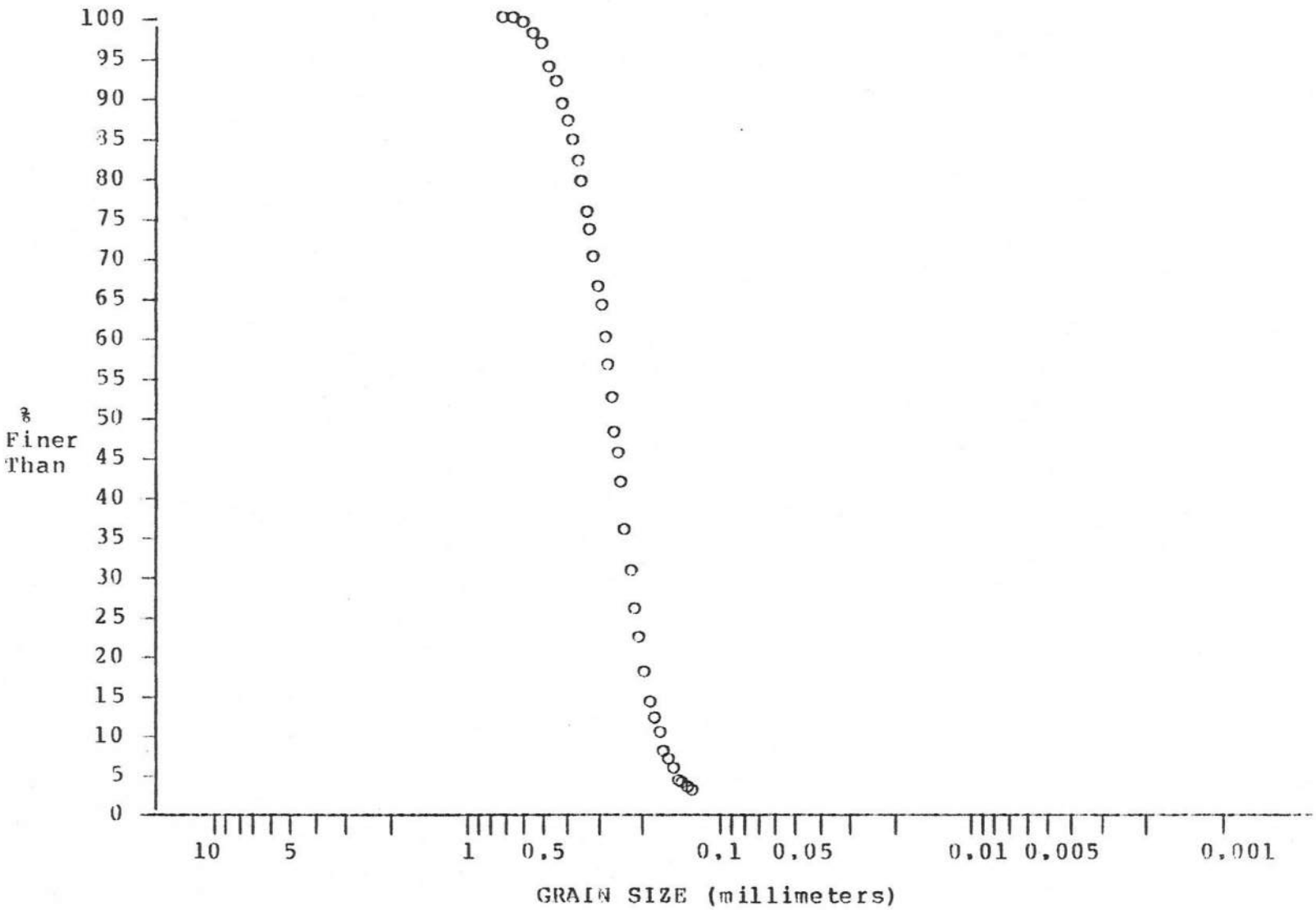
Sample Weight 21.940 gm

Specific Gravity 2.72

Sample Description

#2 17:10 4m 30s 9/27

GRAIN SIZE DISTRIBUTION CURVE SAMPLE #2 17:10 4:30 DATE 7/18/80



GRAIN SIZE ANALYSIS

SAMPLE #1 17:20 4:20 DATE 7/18/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.822	100.00	0.275	66.48	0.125	2.28
0.723	99.71	0.267	65.34	0.120	2.28
0.648	99.71	0.260	63.05	0.115	2.28
0.591	99.71	0.253	59.63	0.110	2.28
0.544	99.43	0.247	56.78	0.105	2.14
0.506	97.29	0.231	47.79	0.101	2.00
0.473	96.58	0.220	42.65	0.096	1.28
0.445	95.15	0.212	38.09	0.092	0.43
0.421	93.87	0.200	30.67	0.088	0.43
0.401	92.01	0.193	25.68	0.085	0.43
0.382	90.16	0.184	19.69	0.081	0.29
0.366	89.59	0.176	15.41	0.078	0.29
0.351	86.73	0.169	11.84	0.074	0.29
0.337	84.17	0.163	9.99	0.071	0.14
0.324	81.17	0.155	7.56	0.068	0.14
0.313	78.03	0.149	6.56	0.065	0.14
0.302	75.18	0.142	5.14	0.063	0.14
0.293	73.32	0.136	4.14	0.060	0.14
0.284	69.90	0.131	2.85		

SUMMARY INFORMATION

Median Grain Size 0.235 mm

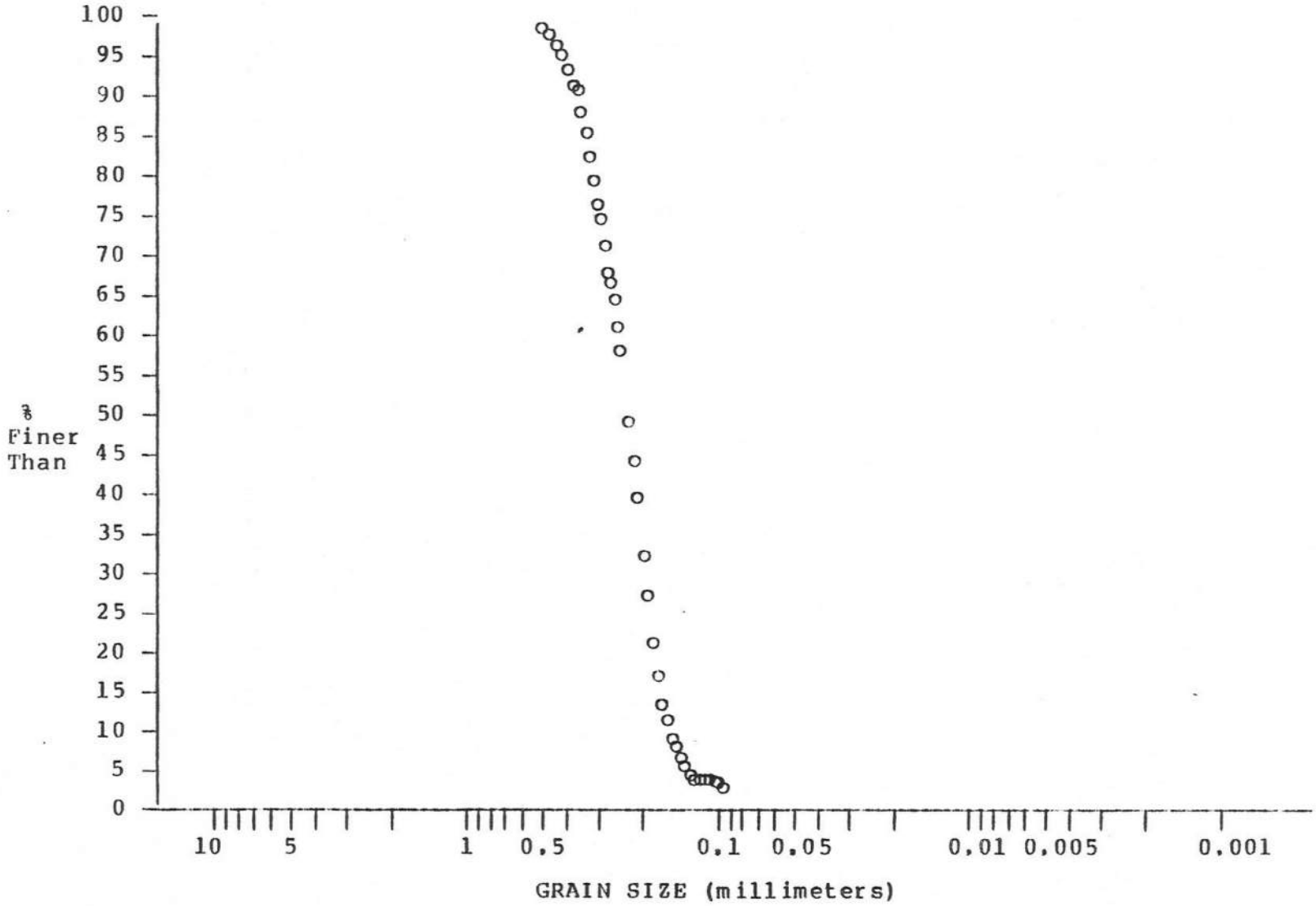
Sample Weight 11.365 gm

Specific Gravity 2.77

Sample Description

#1 17:20 4:20 9/27

GRAIN SIZE DISTRIBUTION CURVE SAMPLE #1 17:20 4:20 DATE 7/18/80



GRAIN SIZE ANALYSIS

SAMPLE #3 17:20 5:01 DATE 7/18/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
1.157	100.00	0.284	70.66	0.131	2.84
0.957	99.82	0.275	68.09	0.125	2.39
0.822	99.29	0.267	64.54	0.120	1.68
0.723	99.20	0.260	62.59	0.115	1.42
0.648	98.14	0.253	59.22	0.110	1.33
0.591	97.96	0.247	55.35	0.105	0.80
0.544	97.16	0.231	46.19	0.101	0.80
0.506	95.66	0.220	40.78	0.096	0.71
0.473	94.68	0.212	35.20	0.092	0.71
0.445	93.44	0.200	27.22	0.088	0.62
0.421	91.93	0.193	23.58	0.085	0.62
0.401	90.43	0.184	18.71	0.081	0.62
0.382	88.48	0.176	14.72	0.078	0.44
0.366	87.23	0.169	12.41	0.074	0.44
0.351	84.93	0.163	10.37	0.071	0.09
0.337	82.00	0.155	7.89	0.068	0.09
0.324	80.41	0.149	6.21	0.065	0.09
0.313	78.10	0.142	5.67	0.063	0.00
0.302	75.35	0.136	3.99	0.060	0.00
0.293	72.87				

SUMMARY INFORMATION

Median Grain Size 0.237 mm

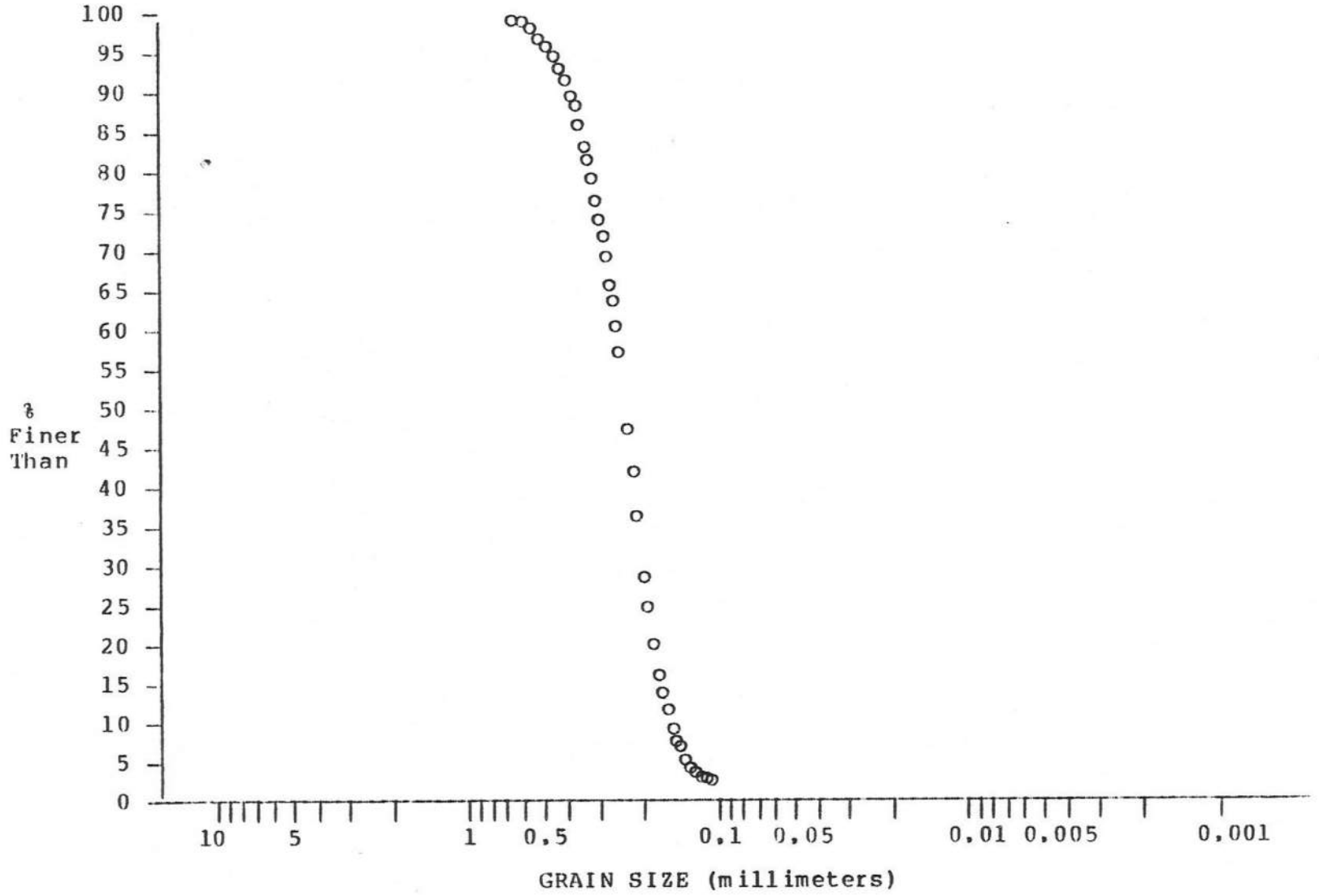
Sample Weight 15.194 gm

Specific Gravity 2.70

Sample Description

#3 17:20 5m ls 9/27
Last Sample

GRAIN SIZE DISTRIBUTION CURVE SAMPLE #3 17:20 5:01 DATE 7/18/80



Suspended Sediment

Bottle Samples

September 27, 1979

SUSPENDED SEDIMENT SAMPLE (SEPTEMBER 27, 1979)

Time	Location	Elevation (cm)	Wave Location	Concentration mg/liter	Median Grain Size (mm)
1315	120	30	---	941	0.279
		70	Crest	225	0.186
1320	120	30	Crest	479	0.264
		70	Crest	270	0.251
		110	Crest	280	0.224
1420	105	30	Crest	240	0.214
		70	Crest	74	0.11
		110		96	0.112
1420	120	30	Crest	530	0.242
		110	Crest	200	0.224
1430	105	30	Trough	390	0.202
		70	Trough	263	0.210
1435	105	30	Trough	117	0.19
1515	90	30	Crest	189	0.228
		70	Crest	126	0.210
		110	Crest	93	0.139
1530	90	30	Trough	221	0.218
		70	Trough	102	0.181
1540	90	30	Just Before Crest	293	0.293
		70	Just Before Crest	70	0.162
1545	90	30	Trough	64	0.409
1620	90	30	Crest	766	0.377
		70	Crest	134	0.231
		110	Crest	149	0.133
1630	90	30	Crest	641	0.358
		70	Crest	86	0.170
		110	Crest	33	0.114
1640	90	30	Trough	127	0.224
		70	Trough	348	0.272
1645	90	70	Trough	240	0.295
1700	90	30	Crest	449	0.285
	90	70	Crest	73	0.128
	95	110	Crest	65	0.193
1710	90	30	Trough	561	0.36
		30	Trough	161	0.25

GRAIN SIZE ANALYSIS

SAMPLE ST Filter Ppr DATE 5/06/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.732	100.00	0.272	51.29	0.125	5.02
0.655	99.70	0.265	47.95	0.120	5.02
0.598	98.63	0.257	43.53	0.114	4.11
0.552	97.26	0.251	41.86	0.110	3.96
0.512	95.43	0.240	36.23	0.105	3.96
0.479	93.46	0.228	30.90	0.101	2.74
0.451	92.09	0.220	26.03	0.096	2.28
0.426	89.04	0.209	19.94	0.092	2.28
0.406	86.30	0.200	17.96	0.088	2.28
0.387	82.04	0.193	15.83	0.085	2.13
0.371	79.76	0.185	12.79	0.081	1.83
0.356	75.19	0.177	11.26	0.078	1.07
0.342	72.75	0.170	10.05	0.074	0.91
0.329	68.95	0.162	9.59	0.071	0.00
0.317	65.60	0.155	6.70	0.068	0.00
0.307	61.64	0.149	6.70	0.065	0.00
0.298	60.43	0.142	6.70	0.063	0.00
0.288	57.23	0.136	6.39	0.060	0.00
0.280	54.03	0.130	5.18		

SUMMARY INFORMATION

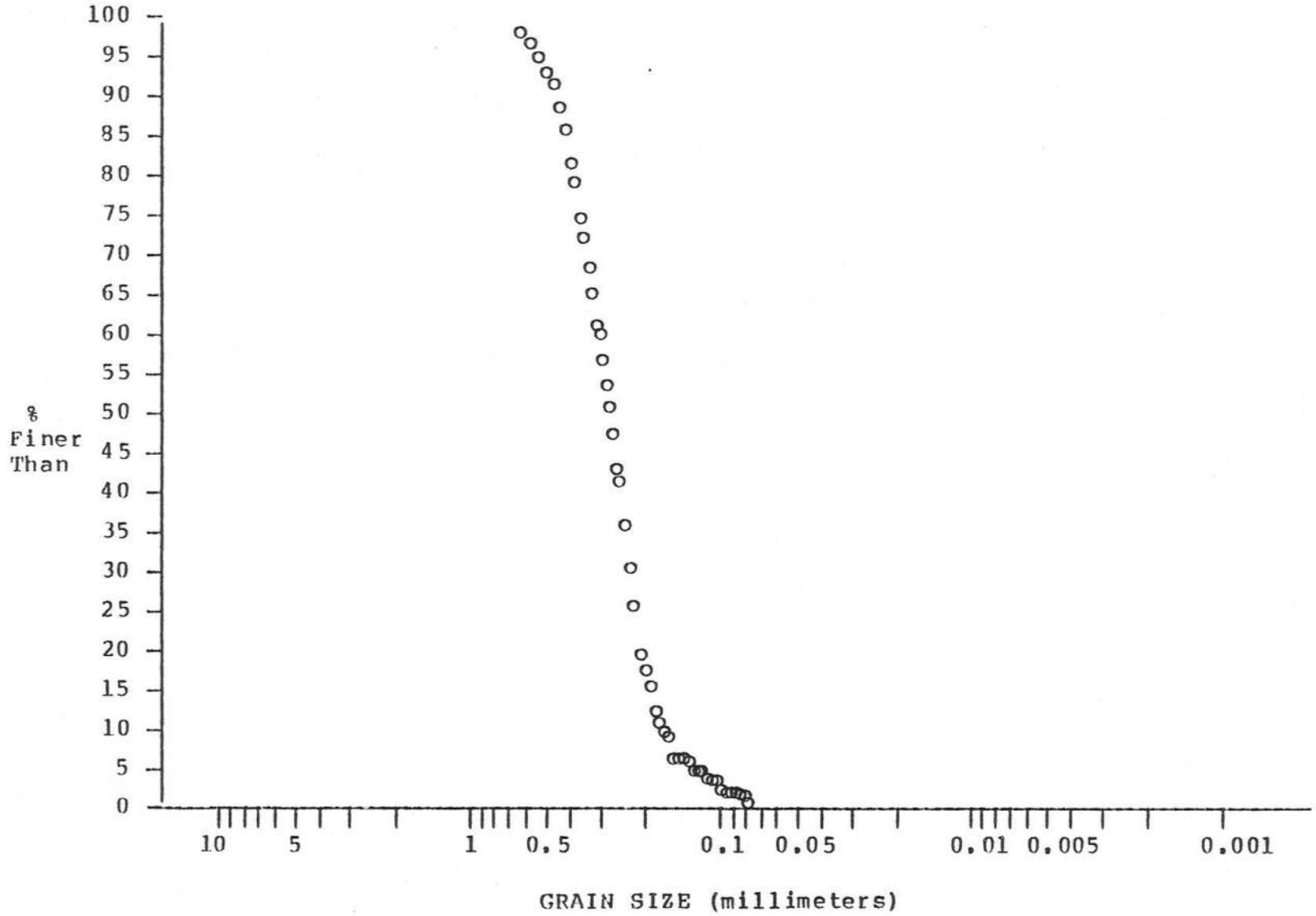
Median Grain Size 0.269 mm

Sample Weight 1.080 gm

Sample Description

? Filter Paper
13:05 (Middle) Crest Vol. 10cm

GRAIN SIZE DISTRIBUTION CURVE SAMPLE ST Filter Ppr DATE 5/06/80



GRAIN SIZE ANALYSIS

SAMPLE ST120 #3-1 DATE 5/02/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.822	100.00	0.275	47.33	0.125	7.87
0.723	99.90	0.267	46.36	0.120	7.58
0.648	99.81	0.260	44.22	0.115	6.61
0.591	99.71	0.253	42.27	0.110	6.22
0.544	99.51	0.247	37.71	0.105	5.64
0.506	97.57	0.231	32.36	0.101	3.60
0.473	94.95	0.220	28.57	0.096	2.82
0.445	92.13	0.212	25.75	0.092	2.72
0.421	89.41	0.200	21.96	0.088	2.14
0.401	84.16	0.193	19.92	0.085	1.94
0.382	80.08	0.184	17.40	0.081	1.94
0.366	77.55	0.176	15.06	0.078	1.46
0.351	73.76	0.169	13.61	0.074	1.36
0.337	71.14	0.163	12.24	0.071	0.87
0.324	65.60	0.155	10.79	0.068	0.49
0.313	62.00	0.149	10.01	0.065	0.49
0.302	60.74	0.142	9.33	0.063	0.39
0.293	58.99	0.136	8.84	0.060	0.29
0.284	53.45	0.131	8.26		

SUMMARY INFORMATION

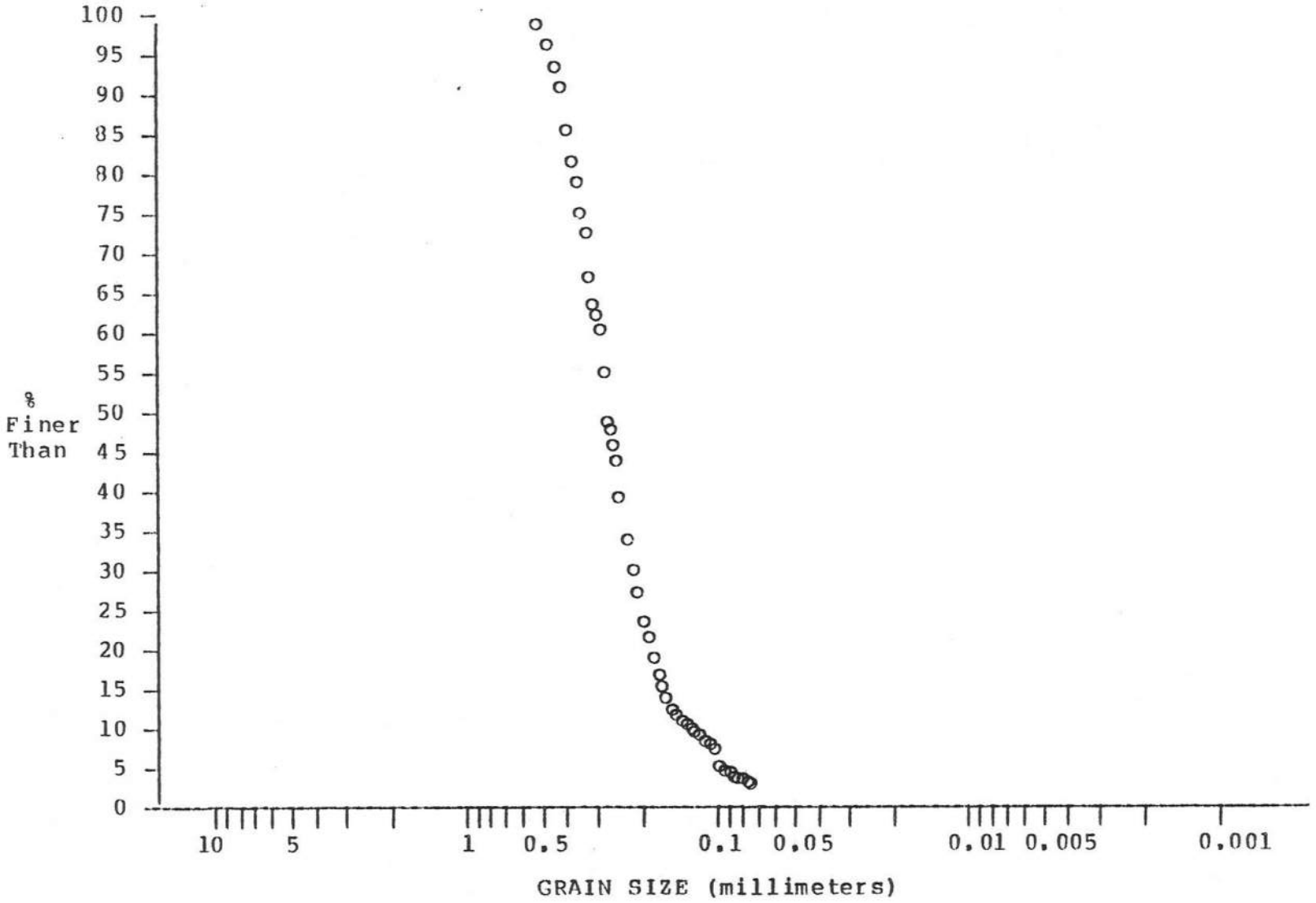
Median Grain Size 0.279 mm

Sample Weight 1.760 gm

Sample Description

ST120 Sample "3" - vol 1 cm
13:15 30 cm - Bottom

GRAIN SIZE DISTRIBUTION CURVE SAMPLE ST120 #3-1 DATE 5/02/80



GRAIN SIZE ANALYSIS

SAMPLE ST120 #3-Mid70 DATE 5/02/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.723	100.00	0.267	92.59	0.125	21.48
0.648	97.78	0.260	91.85	0.120	20.00
0.591	97.78	0.253	91.11	0.115	19.26
0.544	97.78	0.247	90.37	0.110	17.78
0.506	97.04	0.231	82.22	0.105	16.30
0.473	97.04	0.220	77.04	0.101	14.81
0.445	97.04	0.212	69.63	0.096	12.59
0.421	95.56	0.200	62.96	0.092	11.85
0.401	95.56	0.193	59.26	0.088	11.11
0.382	95.56	0.184	48.15	0.085	10.37
0.366	95.56	0.176	40.74	0.081	9.63
0.351	95.56	0.169	35.56	0.078	8.89
0.337	94.81	0.163	33.33	0.074	7.41
0.324	94.81	0.155	29.63	0.071	5.93
0.313	94.07	0.149	26.67	0.068	5.19
0.302	94.07	0.142	25.19	0.065	3.70
0.293	93.33	0.136	24.44	0.063	2.22
0.284	93.33	0.131	22.96	0.060	0.74
0.275	92.59				

SUMMARY INFORMATION

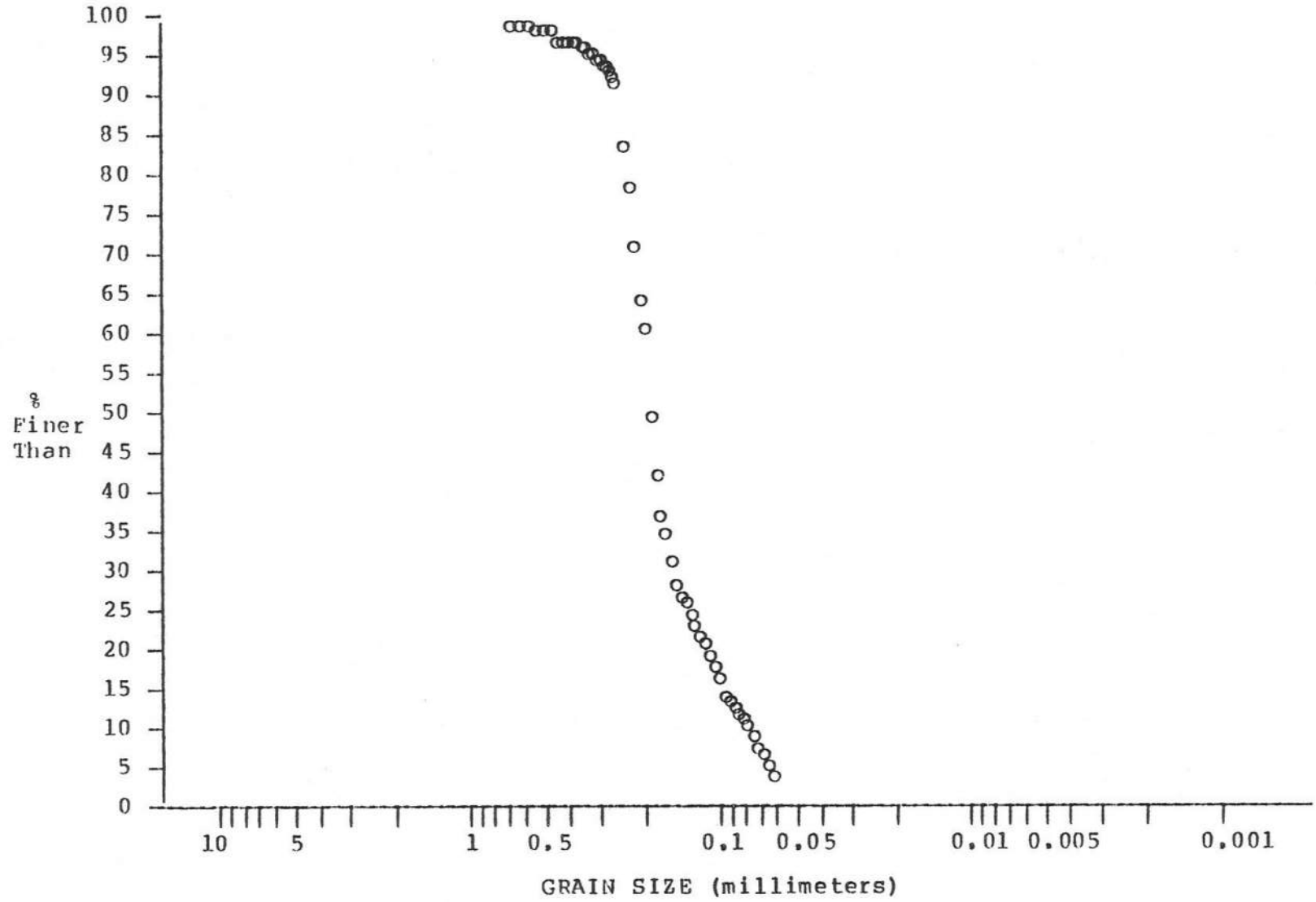
Median Grain Size 0.186 mm

Sample Weight 0.387 gm

Sample Description

ST120 #3 Middle 70cm
13:15 Vert 3cm - wave crest

GRAIN SIZE DISTRIBUTION CURVE SAMPLE ST120 #3-Mid70 DATE 5/02/80



GRAIN SIZE ANALYSIS

SAMPLE ST6 #4-1.5 DATE 5/02/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.723	100.00	0.267	53.36	0.125	4.62
0.648	99.37	0.260	47.06	0.120	4.20
0.591	99.16	0.253	43.70	0.115	4.20
0.544	99.16	0.247	40.97	0.110	4.20
0.506	99.16	0.231	31.51	0.105	4.20
0.473	99.16	0.220	27.31	0.101	4.20
0.445	98.74	0.212	22.06	0.096	3.78
0.421	97.90	0.200	17.86	0.092	3.36
0.401	94.33	0.193	15.55	0.088	2.73
0.382	92.65	0.184	13.24	0.085	1.89
0.366	86.97	0.176	11.13	0.081	1.47
0.351	84.24	0.169	9.66	0.078	1.47
0.337	79.62	0.163	8.40	0.074	1.05
0.324	75.00	0.155	7.56	0.071	0.84
0.313	72.06	0.149	6.72	0.068	0.84
0.302	68.70	0.142	6.09	0.065	0.63
0.293	63.24	0.136	5.46	0.063	0.63
0.284	60.71	0.131	5.04	0.060	0.63
0.275	55.67				

SUMMARY INFORMATION

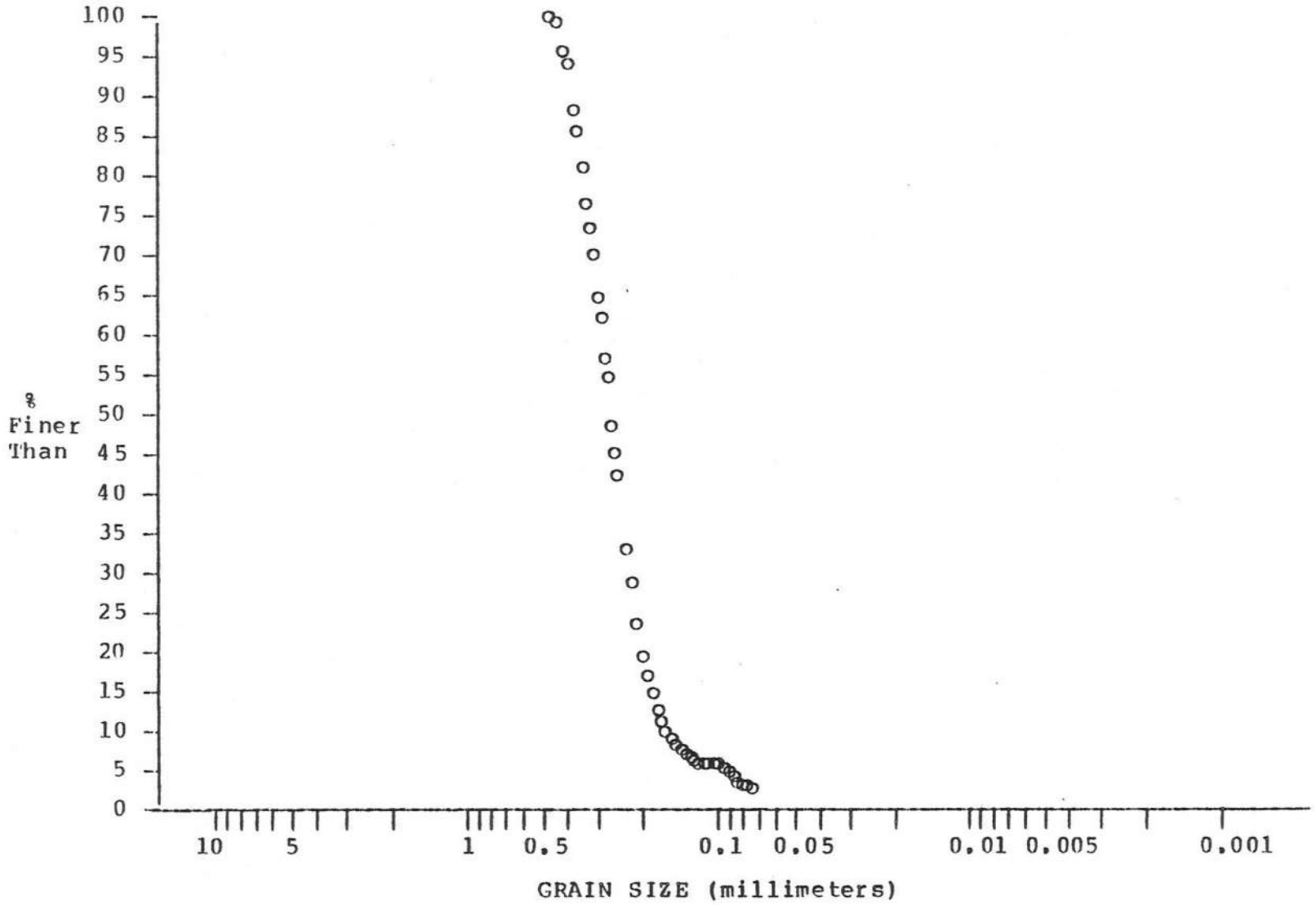
Median Grain Size 0.264 mm

Sample Weight 0.862 gm

Sample Description

ST6 #4 - vol. 1.5cm
13:20 Bottom (30m) Wave Crest

GRAIN SIZE DISTRIBUTION CURVE SAMPLE ST6 #4-1.5 DATE 5/02/80



GRAIN SIZE ANALYSIS

SAMPLE ST #4 Bo No 2-3 DATE 5/02/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.732	100.00	0.272	58.93	0.125	2.23
0.655	99.55	0.265	56.25	0.120	2.23
0.598	99.11	0.257	54.02	0.114	1.79
0.552	98.21	0.251	50.89	0.110	1.34
0.512	96.88	0.240	38.39	0.105	0.89
0.479	96.43	0.228	31.25	0.101	0.89
0.451	95.98	0.220	27.68	0.096	0.89
0.426	95.98	0.209	21.88	0.092	0.89
0.406	95.98	0.200	20.54	0.088	0.89
0.387	95.09	0.193	19.20	0.085	0.45
0.371	93.75	0.185	14.73	0.081	0.45
0.356	90.18	0.177	12.50	0.078	0.45
0.342	85.27	0.170	9.82	0.074	0.45
0.329	82.59	0.162	8.04	0.071	0.45
0.317	76.79	0.155	4.91	0.068	0.00
0.307	73.66	0.149	4.46	0.065	0.00
0.298	70.54	0.142	4.02	0.063	0.00
0.288	64.29	0.136	3.13	0.060	0.00
0.280	62.50	0.130	2.68		

SUMMARY INFORMATION

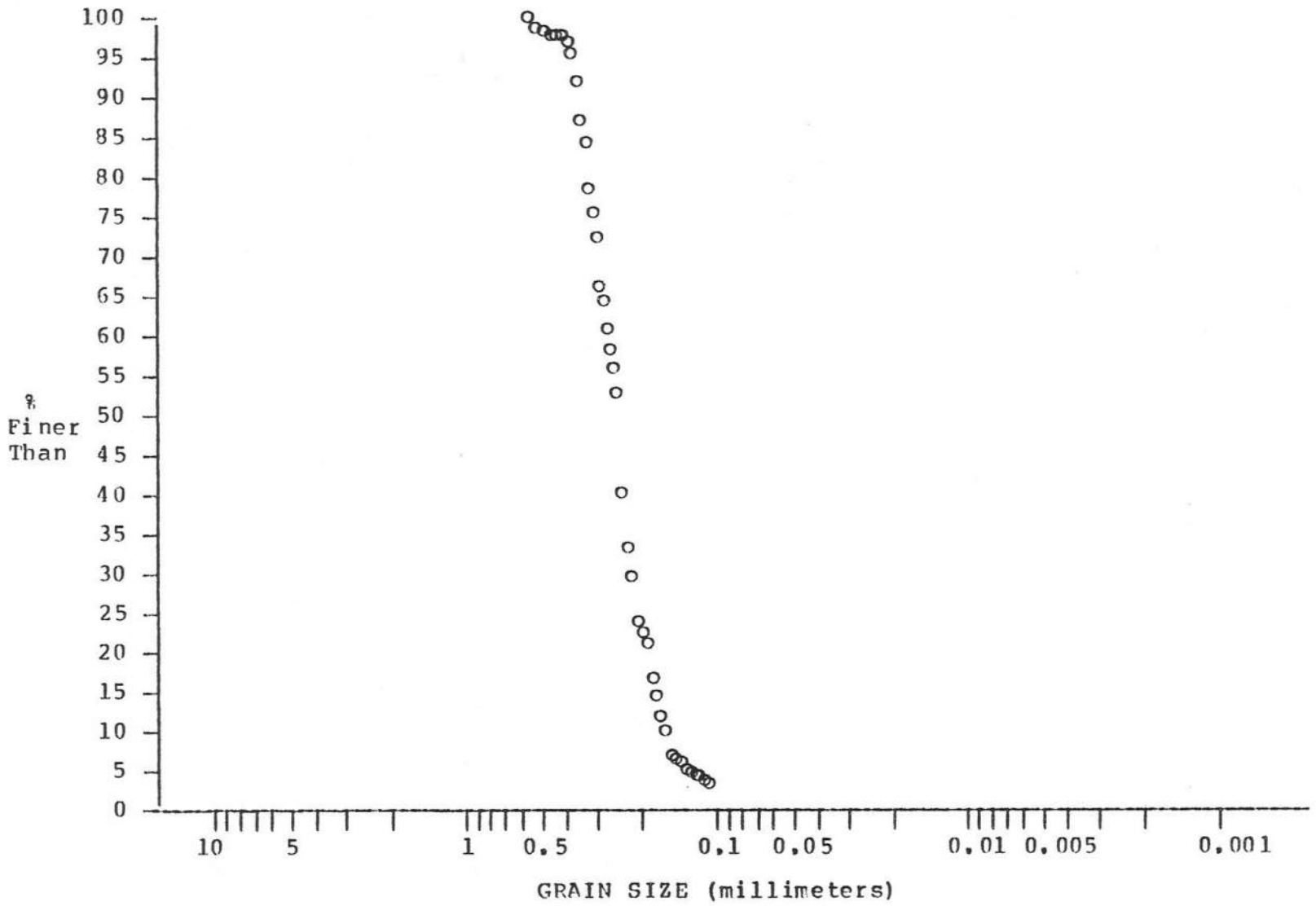
Median Grain Size 0.251 mm

Sample Weight 0.446 gm

Sample Description

#4 Bo.No.2 - vol 3cm
13:20 70cm - wave crest

GRAIN SIZE DISTRIBUTION CURVE SAMPLE ST #4 BoNo 2-3 DATE 5/02/80



GRAIN SIZE ANALYSIS

SAMPLE ST120 #4 BoNo1 DATE 5/02/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.822	100.00	0.275	75.58	0.125	12.54
0.723	99.34	0.267	70.30	0.120	12.21
0.648	99.01	0.260	69.64	0.115	11.88
0.591	98.68	0.253	69.31	0.110	11.55
0.544	98.35	0.247	67.33	0.105	10.89
0.506	98.02	0.231	55.12	0.101	10.56
0.473	98.02	0.220	47.52	0.096	9.57
0.445	98.02	0.212	41.91	0.092	8.58
0.421	98.02	0.200	37.29	0.088	7.59
0.401	97.69	0.193	33.00	0.085	6.60
0.382	97.36	0.184	27.39	0.081	5.94
0.366	94.72	0.176	24.42	0.078	5.61
0.351	93.40	0.169	21.45	0.074	4.62
0.337	91.42	0.163	20.13	0.071	4.29
0.324	90.43	0.155	17.49	0.068	3.96
0.313	86.47	0.149	15.51	0.065	3.63
0.302	84.49	0.142	14.19	0.063	2.64
0.293	77.89	0.136	13.53	0.060	1.98
0.284	77.23	0.131	13.20		

SUMMARY INFORMATION

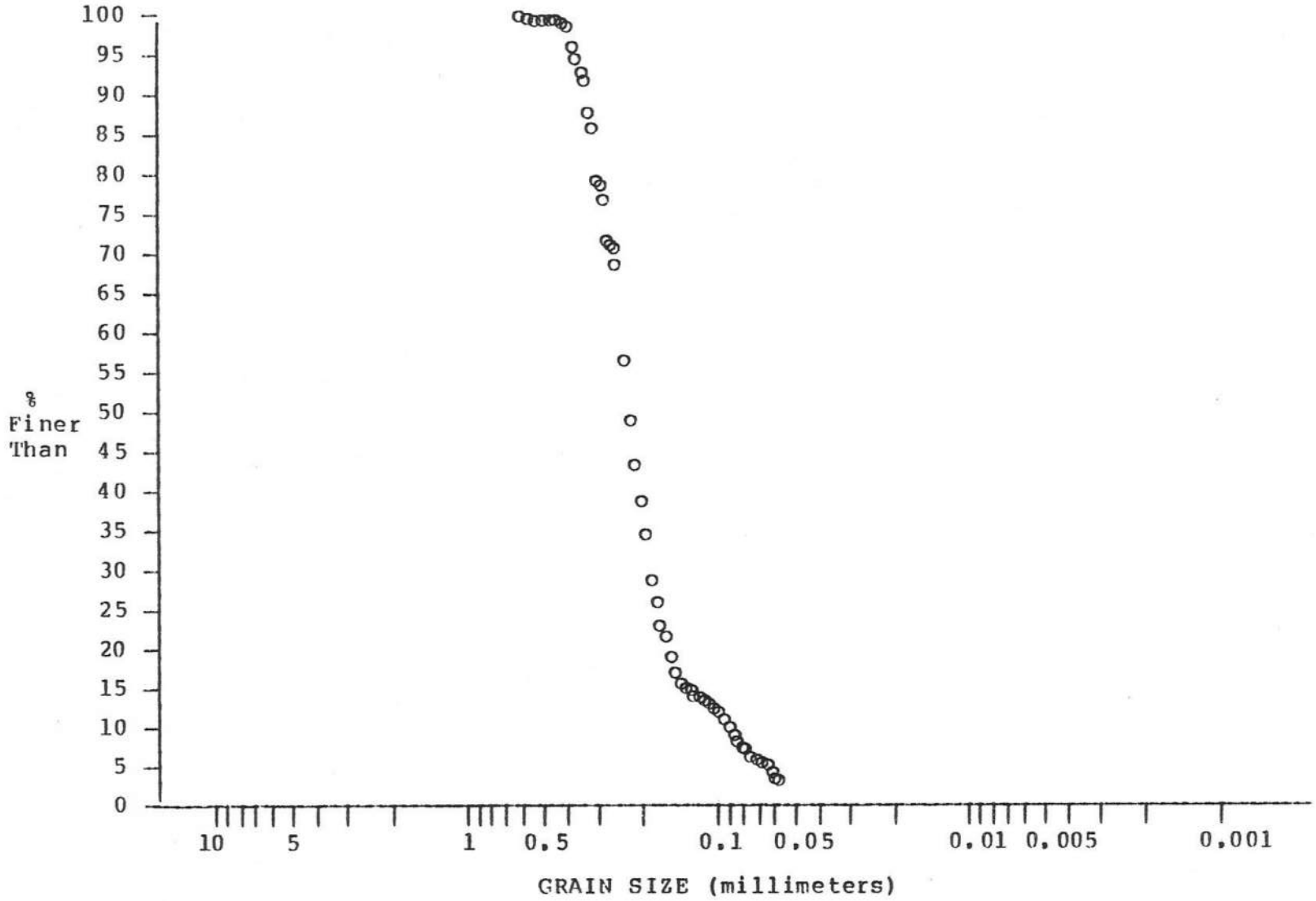
Median Grain Size 0.224 mm

Sample Weight 0.478 gm

Sample Description

ST120 #4 Bo.No.1
13:20 - Wave Crest
Top 110cm vol 2.5cm

GRAIN SIZE DISTRIBUTION CURVE SAMPLE ST120 #4 BoNo1 DATE 5/02/80



GRAIN SIZE ANALYSIS

SAMPLE ST120 Bot-9 DATE 5/02/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.957	100.00	0.284	52.13	0.131	9.27
0.822	99.67	0.275	48.20	0.125	8.94
0.723	99.56	0.267	44.60	0.120	8.51
0.648	99.02	0.260	41.11	0.115	8.07
0.591	98.69	0.253	38.71	0.110	7.96
0.544	98.04	0.247	36.97	0.105	7.52
0.506	97.16	0.231	31.73	0.101	5.13
0.473	94.87	0.220	27.37	0.096	4.58
0.445	92.58	0.212	23.45	0.092	4.14
0.421	90.51	0.200	20.72	0.088	3.93
0.401	86.37	0.193	17.67	0.085	2.84
0.382	83.32	0.184	15.27	0.081	2.29
0.366	79.61	0.176	14.07	0.078	1.74
0.351	74.92	0.169	12.54	0.074	1.53
0.337	71.76	0.163	11.67	0.071	1.53
0.324	68.48	0.155	10.91	0.068	0.98
0.313	64.01	0.149	10.47	0.065	0.65
0.302	60.09	0.142	9.81	0.063	0.44
0.293	56.16	0.136	9.49	0.060	0.33

SUMMARY INFORMATION

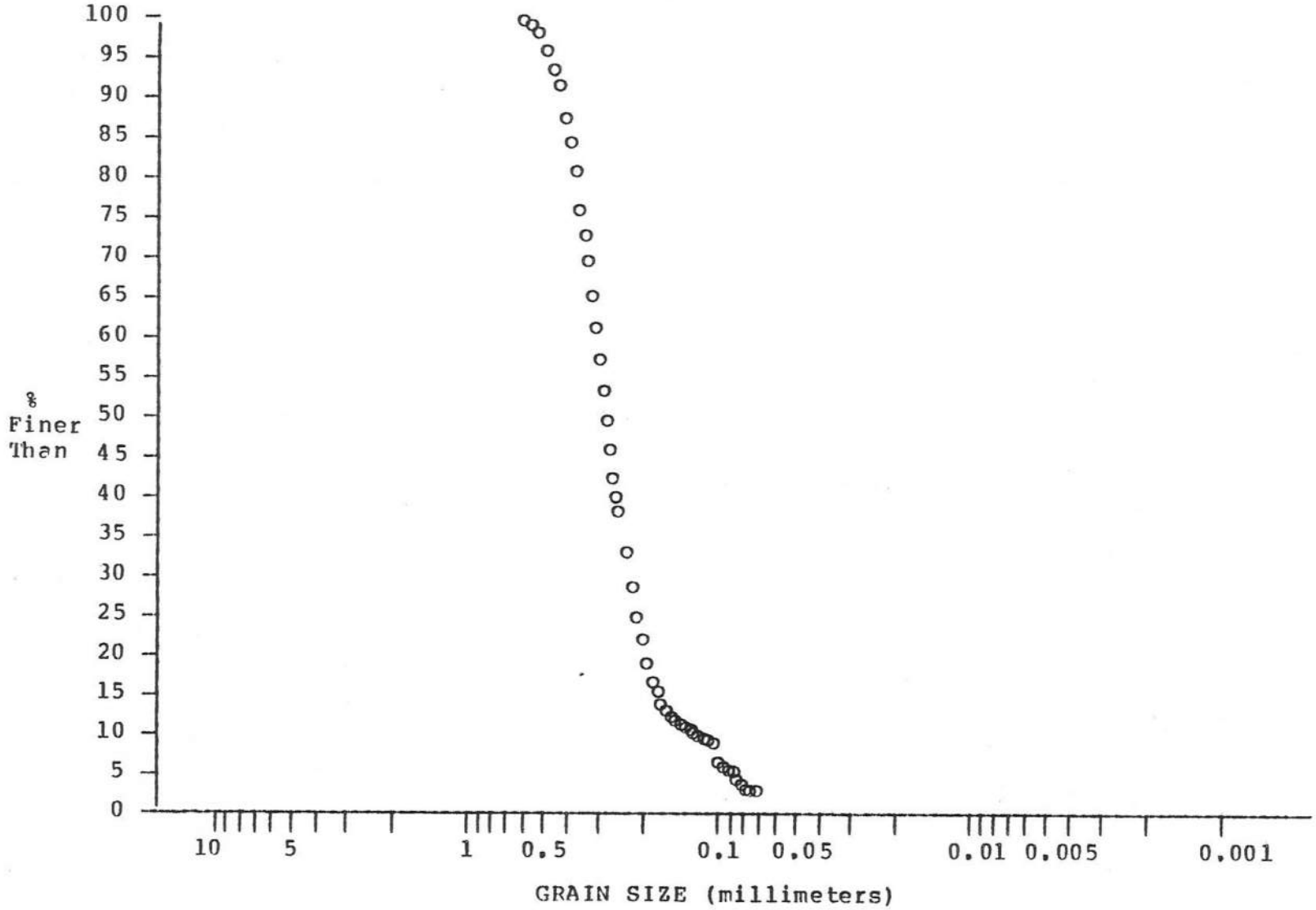
Median Grain Size 0.279 mm

Sample Weight 1.664 gm

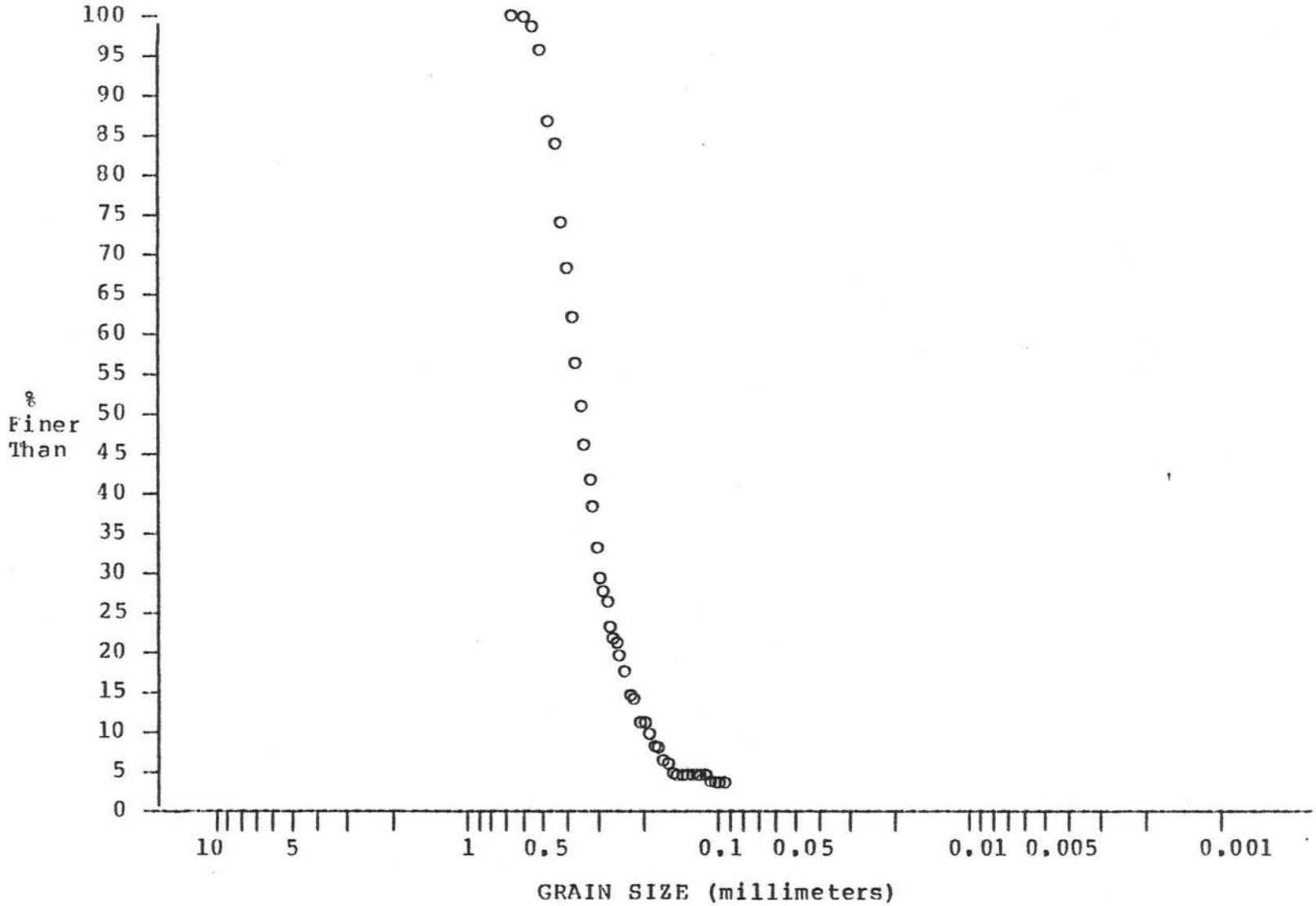
Sample Description

ST120 Bottom - 9cm
13:20 30 cm - wave crest (small)

GRAIN SIZE DISTRIBUTION CURVE SAMPLE ST120 Bot-9 DATE 5/02/80



GRAIN SIZE DISTRIBUTION CURVE SAMPLE ST90 #1-0 DATE 5/06/80



GRAIN SIZE ANALYSIS

SAMPLE ST90 #1-0 DATE 5/06/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.829	100.00	0.280	24.62	0.130	2.87
0.732	99.85	0.272	21.45	0.125	2.87
0.655	98.79	0.265	20.09	0.120	2.87
0.598	98.49	0.257	19.49	0.114	2.87
0.552	97.28	0.251	17.98	0.110	2.11
0.512	94.26	0.240	15.86	0.105	1.81
0.479	85.35	0.228	12.84	0.101	1.81
0.451	82.48	0.220	12.54	0.096	1.81
0.426	72.51	0.209	9.52	0.092	0.76
0.406	66.62	0.200	9.52	0.088	0.76
0.387	60.42	0.193	8.01	0.085	0.60
0.371	54.68	0.185	6.50	0.081	0.45
0.356	49.24	0.177	6.34	0.078	0.45
0.342	44.41	0.170	4.68	0.074	0.30
0.329	40.03	0.162	4.38	0.071	0.15
0.317	36.71	0.155	3.17	0.068	0.00
0.307	31.57	0.149	2.87	0.065	0.00
0.298	27.64	0.142	2.87	0.063	0.00
0.288	26.13	0.136	2.87	0.060	0.00

SUMMARY INFORMATION

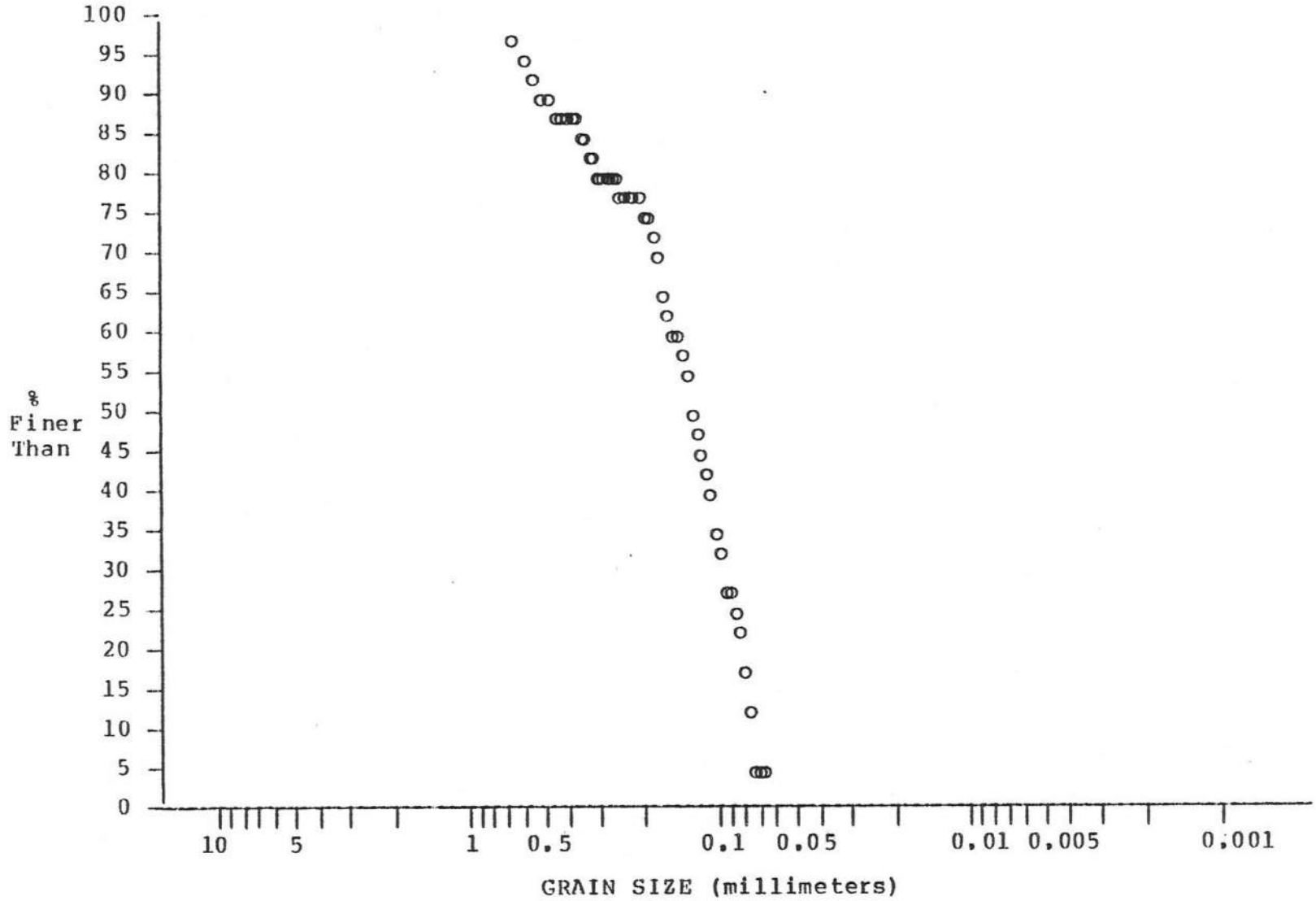
Median Grain Size 0.358 mm

Sample Weight 1.250 gm

Sample Description

ST90 #5 - 1cm
16:30 30cm - C

GRAIN SIZE DISTRIBUTION CURVE SAMPLE ST90 #7-2 DATE 5/06/80



GRAIN SIZE ANALYSIS

SAMPLE ST90 #7-2 DATE 5/06/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.732	100.00	0.272	77.50	0.125	45.00
0.655	95.00	0.265	77.50	0.120	42.50
0.598	92.50	0.257	77.50	0.114	40.00
0.552	90.00	0.251	75.00	0.110	37.50
0.512	87.50	0.240	75.00	0.105	32.50
0.479	87.50	0.228	75.00	0.101	30.00
0.451	85.00	0.220	75.00	0.096	25.00
0.426	85.00	0.209	75.00	0.092	25.00
0.406	85.00	0.200	72.50	0.088	22.50
0.387	85.00	0.193	72.50	0.085	20.00
0.371	85.00	0.185	70.00	0.081	15.00
0.356	82.50	0.177	67.50	0.078	10.00
0.342	82.50	0.170	62.50	0.074	2.50
0.329	80.00	0.162	60.00	0.071	2.50
0.317	80.00	0.155	57.50	0.068	2.50
0.307	77.50	0.149	57.50	0.065	0.00
0.298	77.50	0.142	55.00	0.063	0.00
0.288	77.50	0.136	52.50	0.060	0.00
0.280	77.50	0.130	47.50		

SUMMARY INFORMATION

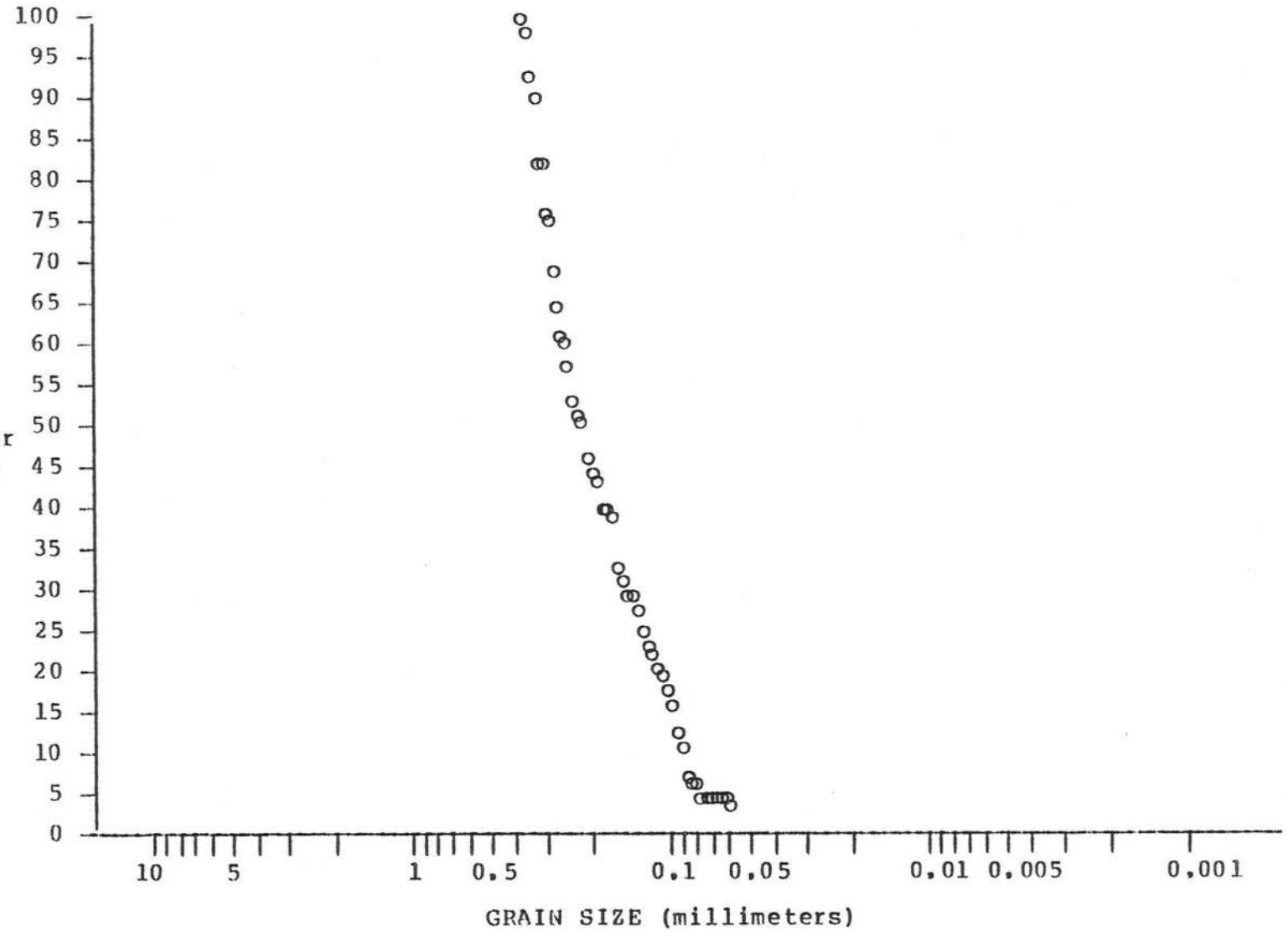
Median Grain Size 0.133 mm

Sample Weight 0.086 gm

Sample Description

ST90 #7 - 2cm
16:20 110cm - crest

GRAIN SIZE DISTRIBUTION CURVE SAMPLE ST90 #6-20 DATE 5/06/80



GRAIN SIZE ANALYSIS

SAMPLE ST90 #6-20 DATE 5/06/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.598	100.00	0.265	59.29	0.125	21.24
0.552	99.12	0.257	58.41	0.120	20.35
0.512	99.12	0.251	55.75	0.114	18.58
0.479	99.12	0.240	51.33	0.110	17.70
0.451	99.12	0.228	49.56	0.105	15.93
0.426	99.12	0.220	48.67	0.101	14.16
0.406	99.12	0.209	44.25	0.096	10.62
0.387	99.12	0.200	42.48	0.092	8.85
0.371	98.23	0.193	41.59	0.088	5.31
0.356	96.46	0.185	38.05	0.085	4.42
0.342	91.15	0.177	38.05	0.081	4.42
0.329	88.50	0.170	37.17	0.078	2.65
0.317	80.53	0.162	30.97	0.074	2.65
0.307	80.53	0.155	29.20	0.071	2.65
0.298	74.34	0.149	27.43	0.068	2.65
0.288	73.45	0.142	27.43	0.065	2.65
0.280	67.26	0.136	25.66	0.063	2.65
0.272	62.83	0.130	23.01	0.060	1.77

SUMMARY INFORMATION

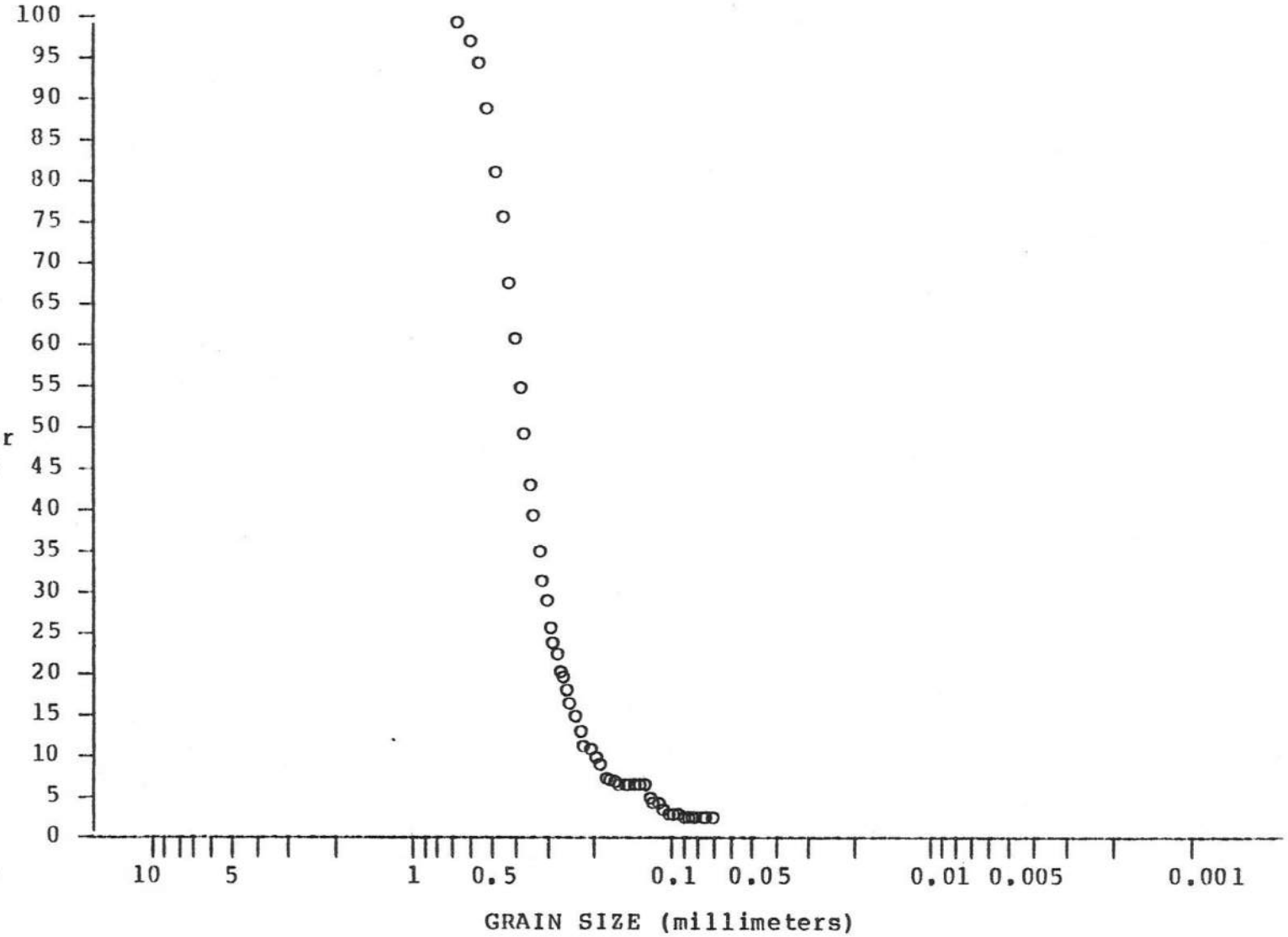
Median Grain Size 0.231 mm

Sample Weight 0.235 gm

Sample Description

ST90 #6 - 20cm
16:20 70cm - crest

GRAIN SIZE DISTRIBUTION CURVE SAMPLE ST90 #5-1 DATE 5/06/80



GRAIN SIZE ANALYSIS

SAMPLE ST90 #5-1 DATE 5/06/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.829	100.00	0.280	21.01	0.130	5.05
0.732	99.73	0.272	18.88	0.125	3.59
0.655	98.27	0.265	18.22	0.120	2.93
0.598	95.88	0.257	16.76	0.114	2.93
0.552	93.35	0.251	15.03	0.110	2.13
0.512	87.77	0.240	13.43	0.105	1.46
0.479	79.92	0.228	11.70	0.101	1.46
0.451	74.47	0.220	9.97	0.096	1.46
0.426	66.36	0.209	9.57	0.092	1.06
0.406	59.44	0.200	8.51	0.088	1.06
0.387	53.46	0.193	7.71	0.085	1.06
0.371	47.87	0.185	5.85	0.081	1.06
0.356	41.62	0.177	5.72	0.078	1.06
0.342	38.16	0.170	5.45	0.074	1.06
0.329	33.64	0.162	5.19	0.071	1.06
0.317	30.19	0.155	5.05	0.068	0.80
0.307	27.79	0.149	5.05	0.065	0.80
0.298	24.20	0.142	5.05	0.063	0.40
0.288	22.47	0.136	5.05	0.060	0.00

SUMMARY INFORMATION

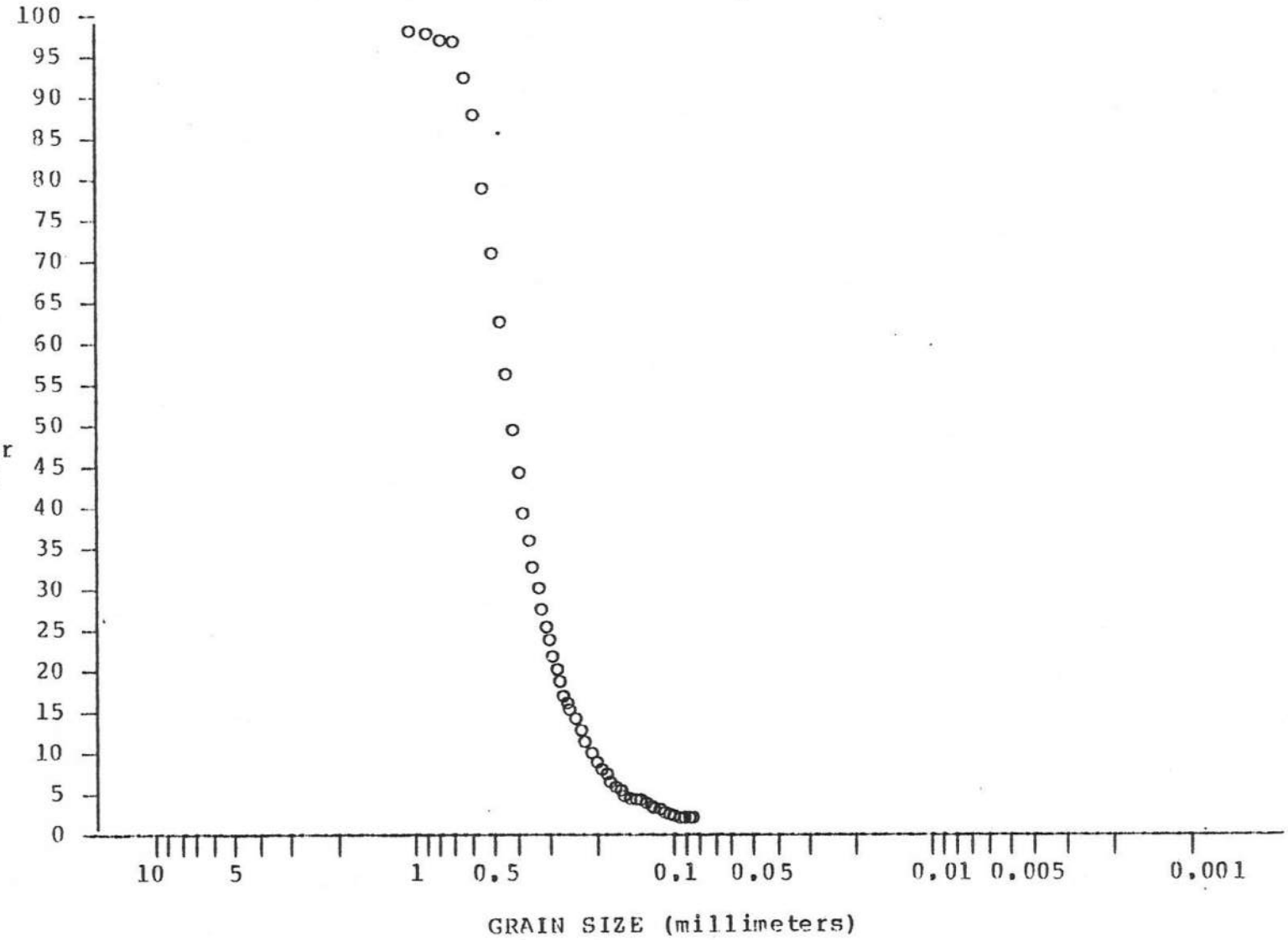
Median Grain Size 0.377 mm

Sample Weight 1.403 gm

Sample Description

ST90 #5 - 1cm
16:20 - 9.27 30cm - crest

GRAIN SIZE DISTRIBUTION CURVE SAMPLE ST90 #7-0 DATE 5/02/80



GRAIN SIZE ANALYSIS

SAMPLE ST90 #7-0 DATE 5/02/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
1.501	100.00	0.298	23.11	0.136	3.54
1.164	99.23	0.288	21.11	0.130	3.08
0.965	98.00	0.280	19.41	0.125	2.77
0.829	97.53	0.272	18.03	0.120	2.47
0.732	96.76	0.265	16.33	0.114	2.31
0.655	96.46	0.257	15.41	0.110	1.85
0.598	92.14	0.251	14.64	0.105	1.69
0.552	87.52	0.240	13.41	0.101	1.54
0.512	78.58	0.228	12.02	0.096	1.39
0.479	70.57	0.220	10.63	0.092	1.39
0.451	62.10	0.209	9.24	0.088	1.23
0.426	55.62	0.200	8.17	0.085	1.23
0.406	48.84	0.193	7.40	0.081	0.92
0.387	43.61	0.185	6.63	0.078	0.62
0.371	38.67	0.177	5.70	0.074	0.62
0.356	35.29	0.170	5.08	0.071	0.62
0.342	32.05	0.162	4.62	0.068	0.62
0.329	29.58	0.155	4.01	0.065	0.62
0.317	26.81	0.149	3.70	0.063	0.46
0.307	24.65	0.142	3.54	0.060	0.46

SUMMARY INFORMATION

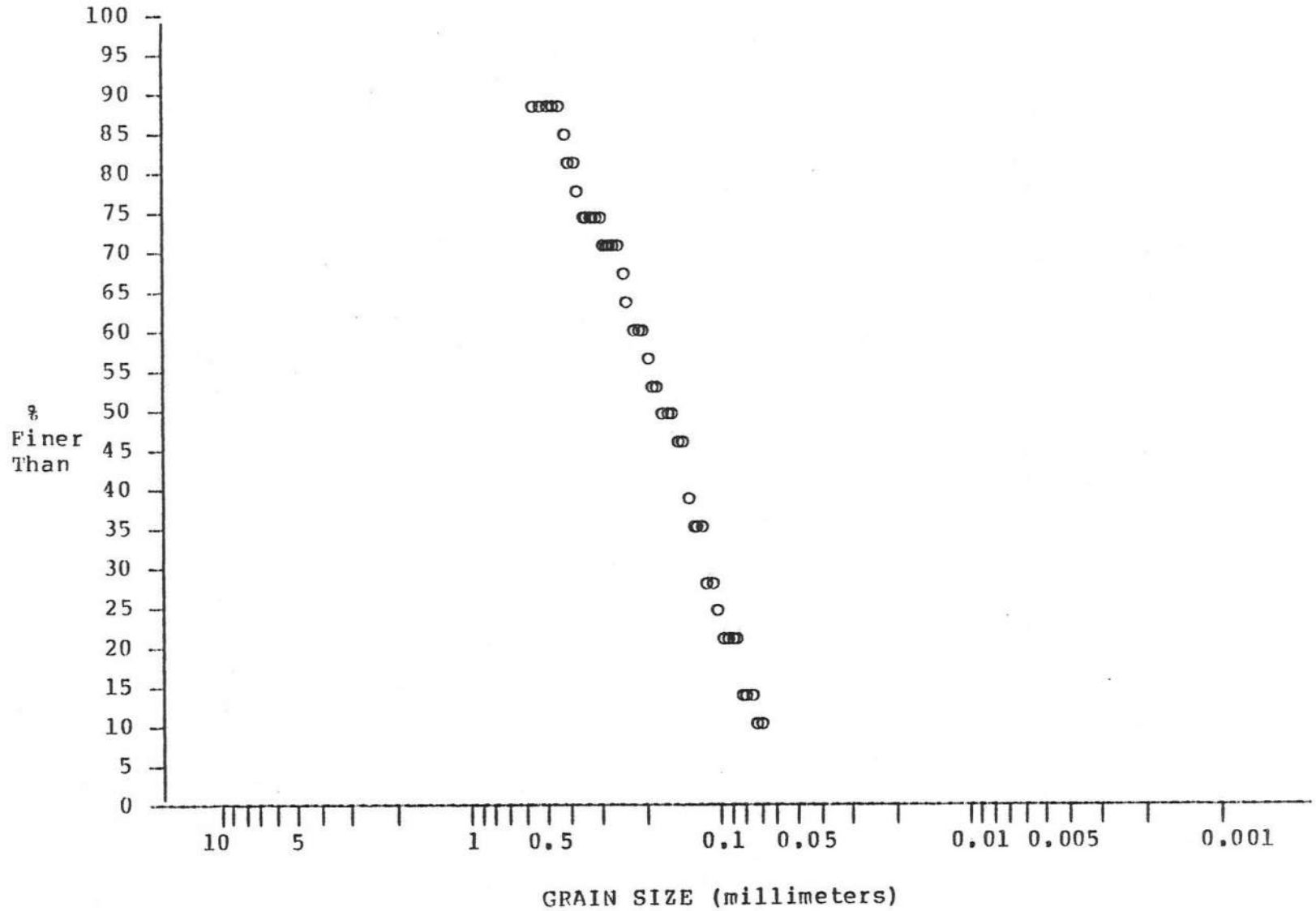
Median Grain Size 0.409 mm

Sample Weight 1.241 gm

Sample Description

ST90 Bo.7 - .0cm
15:45 30 cm - trough

GRAIN SIZE DISTRIBUTION CURVE SAMPLE ST90 #6-7 DATE 5/06/80



GRAIN SIZE ANALYSIS

SAMPLE ST90 #6-7 DATE 5/06/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.552	100.00	0.257	71.43	0.120	35.71
0.512	89.29	0.251	71.43	0.114	35.71
0.479	89.29	0.240	71.43	0.110	28.57
0.451	89.29	0.228	67.86	0.105	28.57
0.426	89.29	0.220	64.29	0.101	25.00
0.406	89.29	0.209	60.71	0.096	21.43
0.387	85.71	0.200	60.71	0.092	21.43
0.371	82.14	0.193	60.71	0.088	21.43
0.356	82.14	0.185	57.14	0.085	21.43
0.342	78.57	0.177	53.57	0.081	14.29
0.329	75.00	0.170	53.57	0.078	14.29
0.317	75.00	0.162	50.00	0.074	14.29
0.307	75.00	0.155	50.00	0.071	10.71
0.298	75.00	0.149	50.00	0.068	10.71
0.288	75.00	0.142	46.43	0.065	0.00
0.280	75.00	0.136	46.43	0.063	0.00
0.272	71.43	0.130	39.29	0.060	0.00
0.265	71.43	0.125	35.71		

SUMMARY INFORMATION

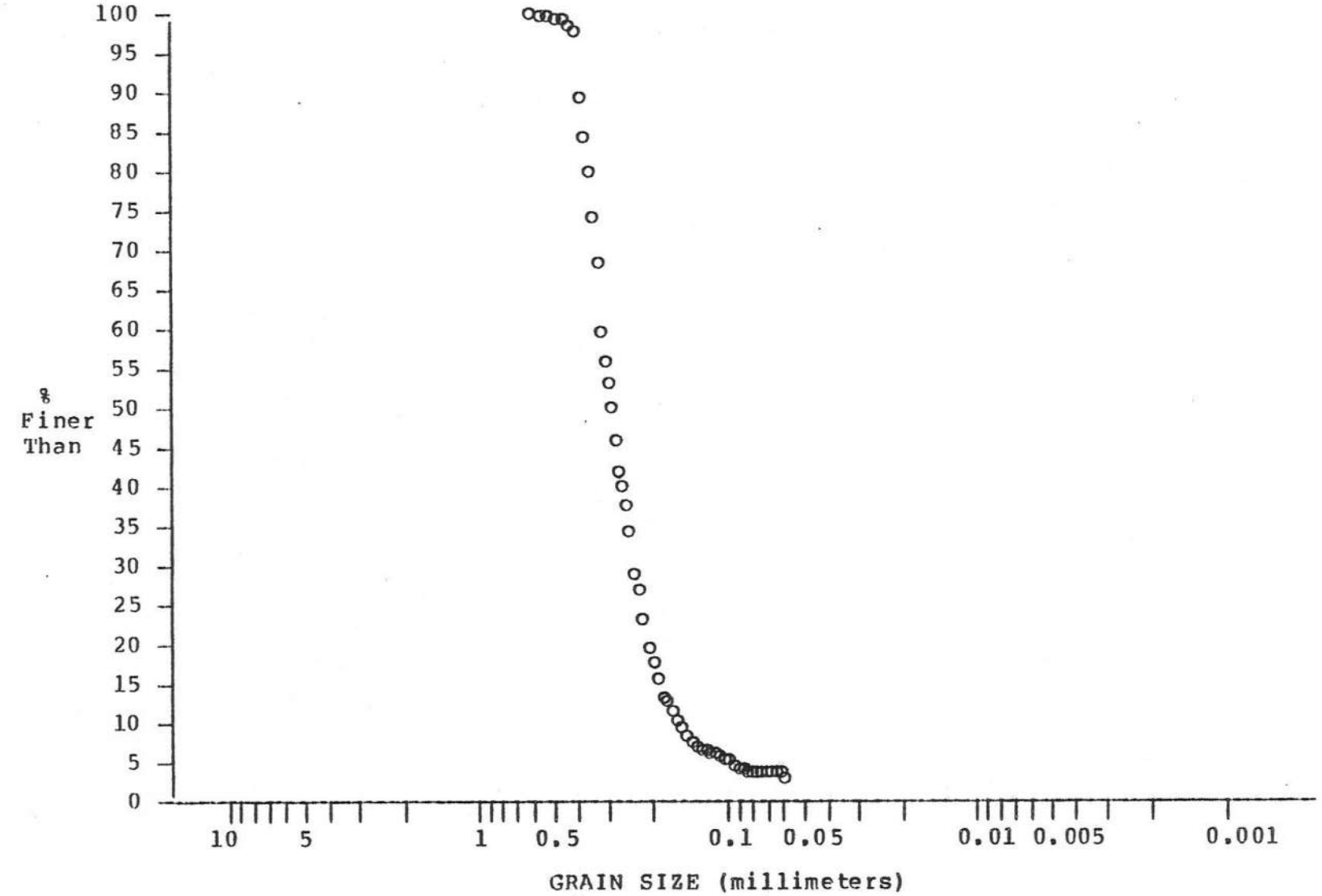
Median Grain Size 0.162 mm

Sample Weight 0.087 gm

Sample Description

ST90 Bo.No.6 - 7cm
15:40 70cm - Just before crest

GRAIN SIZE DISTRIBUTION CURVE SAMPLE ST90 #7-0.5 DATE 5/06/80



GRAIN SIZE ANALYSIS

SAMPLE ST90 #7-0.5 DATE 5/06/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.829	100.00	0.280	44.40	0.130	4.98
0.732	99.17	0.272	40.25	0.125	4.98
0.655	99.17	0.265	38.59	0.120	4.56
0.598	98.76	0.257	36.10	0.114	4.56
0.552	98.34	0.251	32.78	0.110	4.15
0.512	98.34	0.240	27.39	0.105	3.73
0.479	97.93	0.228	25.31	0.101	3.73
0.451	97.93	0.220	21.58	0.096	2.90
0.426	97.10	0.209	17.84	0.092	2.49
0.406	96.27	0.200	16.18	0.088	2.49
0.387	87.97	0.193	14.11	0.085	2.07
0.371	82.99	0.185	11.62	0.081	2.07
0.356	78.42	0.177	11.20	0.078	2.07
0.342	72.61	0.170	9.96	0.074	2.07
0.329	66.80	0.162	8.71	0.071	2.07
0.317	58.09	0.155	7.88	0.068	2.07
0.307	54.36	0.149	6.64	0.065	2.07
0.298	51.45	0.142	5.81	0.063	2.07
0.288	48.55	0.136	5.39	0.060	1.24

SUMMARY INFORMATION

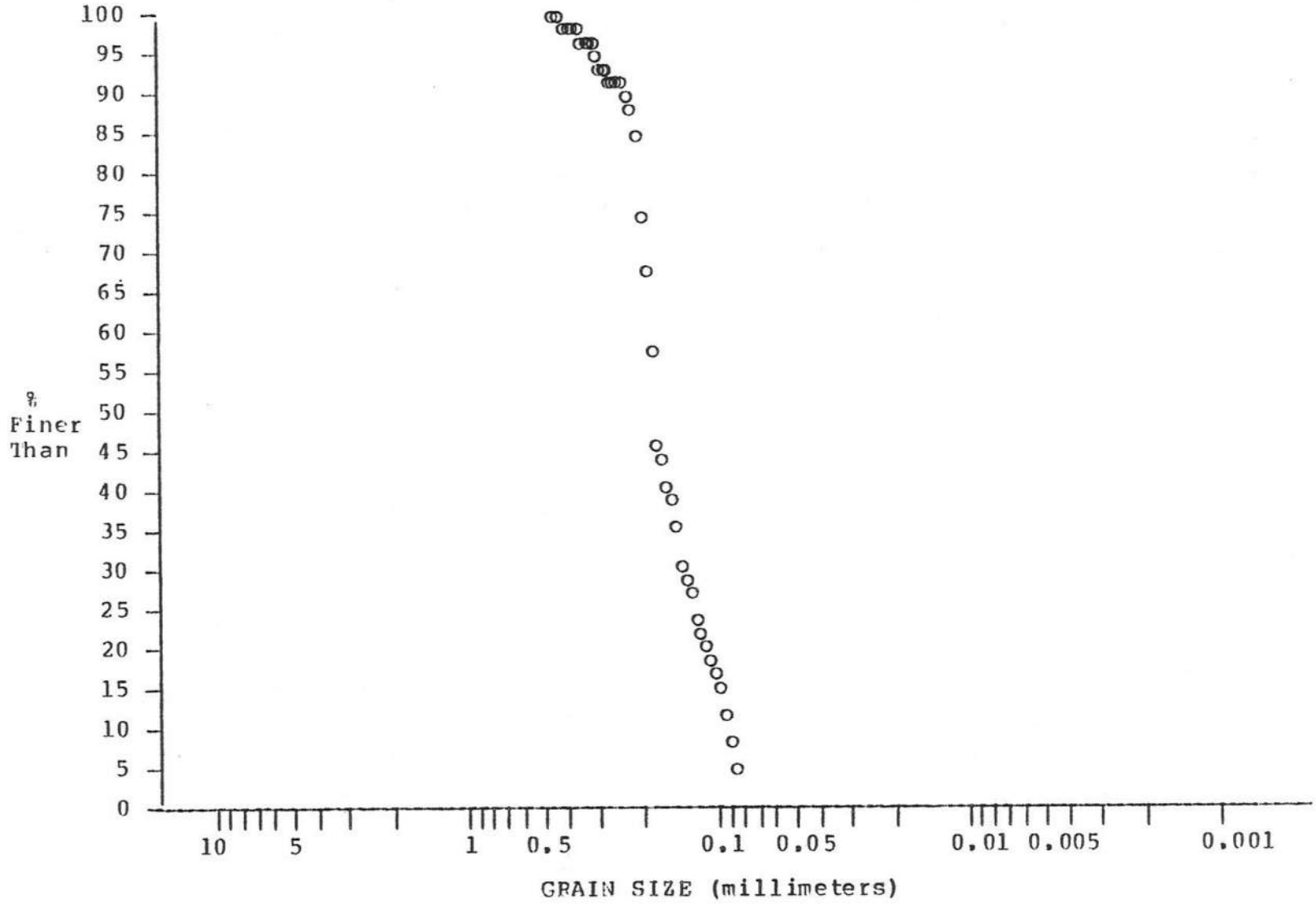
Median Grain Size 0.293 mm

Sample Weight 0.556 gm

Sample Description

ST90 Bottle 7 - 0.5cm
15:40 30cm - Just before crest

GRAIN SIZE DISTRIBUTION CURVE SAMPLE ST90 #2-11 DATE 5/02/80



GRAIN SIZE ANALYSIS

SAMPLE ST90 #2-11 DATE 5/02/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.479	100.00	0.251	89.83	0.120	20.34
0.451	98.31	0.240	89.83	0.114	18.64
0.426	98.31	0.228	88.14	0.110	16.95
0.406	96.61	0.220	86.44	0.105	15.25
0.387	96.61	0.209	83.05	0.101	13.56
0.371	96.61	0.200	72.88	0.096	10.17
0.356	96.61	0.193	66.10	0.092	6.78
0.342	94.92	0.185	55.93	0.088	3.39
0.329	94.92	0.177	44.07	0.085	0.00
0.317	94.92	0.170	42.37	0.081	0.00
0.307	94.92	0.162	38.98	0.078	0.00
0.298	93.22	0.155	37.29	0.074	0.00
0.288	91.53	0.149	33.90	0.071	0.00
0.280	91.53	0.142	28.81	0.068	0.00
0.272	91.53	0.136	27.12	0.065	0.00
0.265	89.83	0.130	25.42	0.063	0.00
0.257	89.83	0.125	22.03	0.060	0.00

SUMMARY INFORMATION

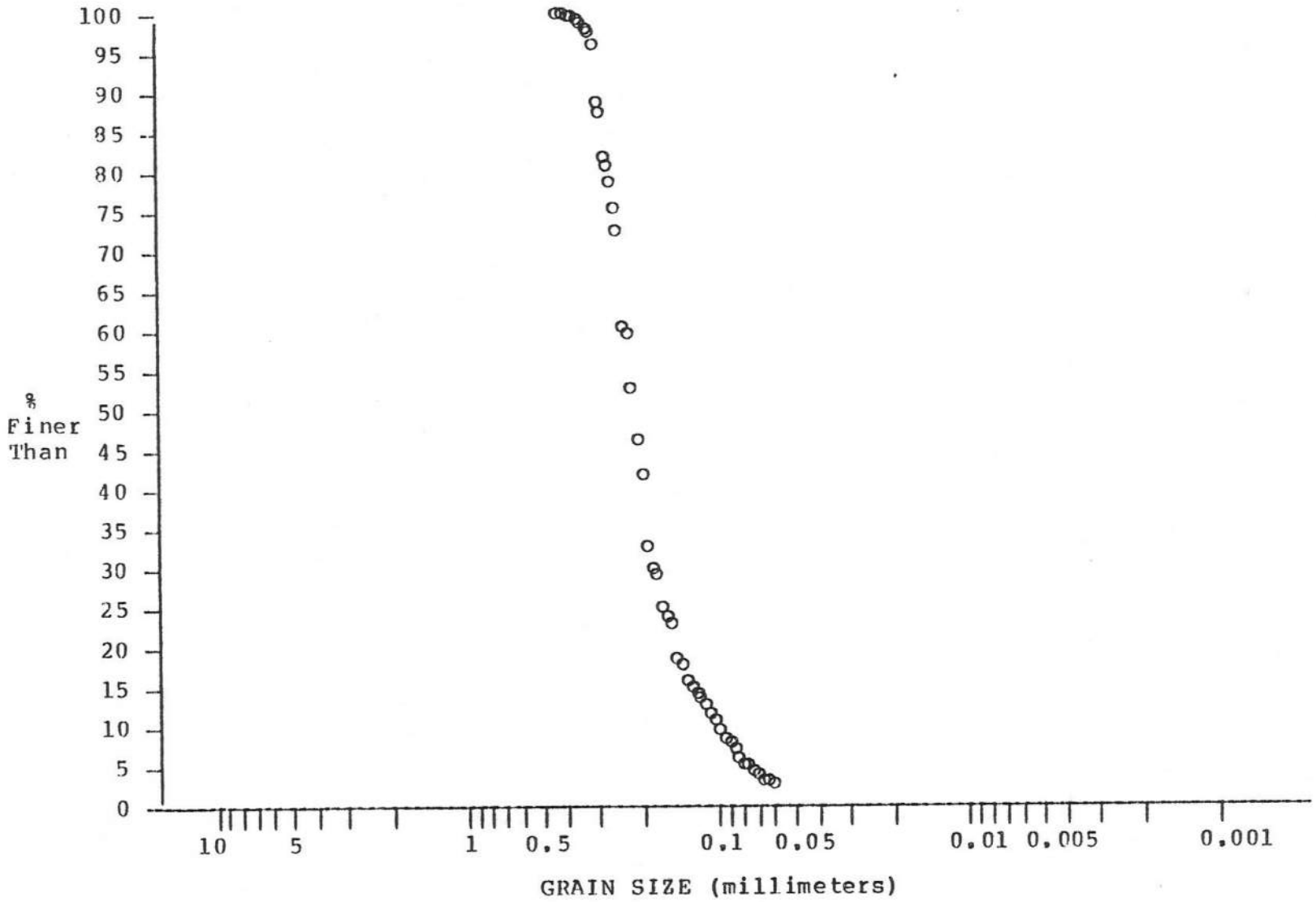
Median Grain Size 0.181 mm

Sample Weight 0.191 gm

Sample Description

ST90 B.No.2 - 11cm
15:30 - 9/27 70cm - trough

GRAIN SIZE DISTRIBUTION CURVE SAMPLE ST90 #1-0 DATE 5/02/80



GRAIN SIZE ANALYSIS

SAMPLE ST90 #1-0 DATE 5/02/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.552	100.00	0.257	73.98	0.120	12.20
0.512	99.59	0.251	71.14	0.114	11.38
0.479	99.59	0.240	58.94	0.110	10.16
0.451	99.19	0.228	58.13	0.105	9.35
0.426	98.78	0.220	51.22	0.101	8.13
0.406	98.78	0.209	44.72	0.096	6.91
0.387	98.37	0.200	40.24	0.092	6.50
0.371	98.37	0.193	31.30	0.088	5.69
0.356	97.97	0.185	28.46	0.085	4.47
0.342	97.56	0.177	27.64	0.081	3.66
0.329	96.75	0.170	23.58	0.078	3.66
0.317	96.34	0.162	22.36	0.074	2.85
0.307	94.72	0.155	21.54	0.071	2.44
0.298	87.40	0.149	17.07	0.068	1.63
0.288	86.18	0.142	16.26	0.065	1.63
0.280	80.49	0.136	14.23	0.063	1.22
0.272	79.27	0.130	13.41	0.060	0.81
0.265	77.24	0.125	12.60		

SUMMARY INFORMATION

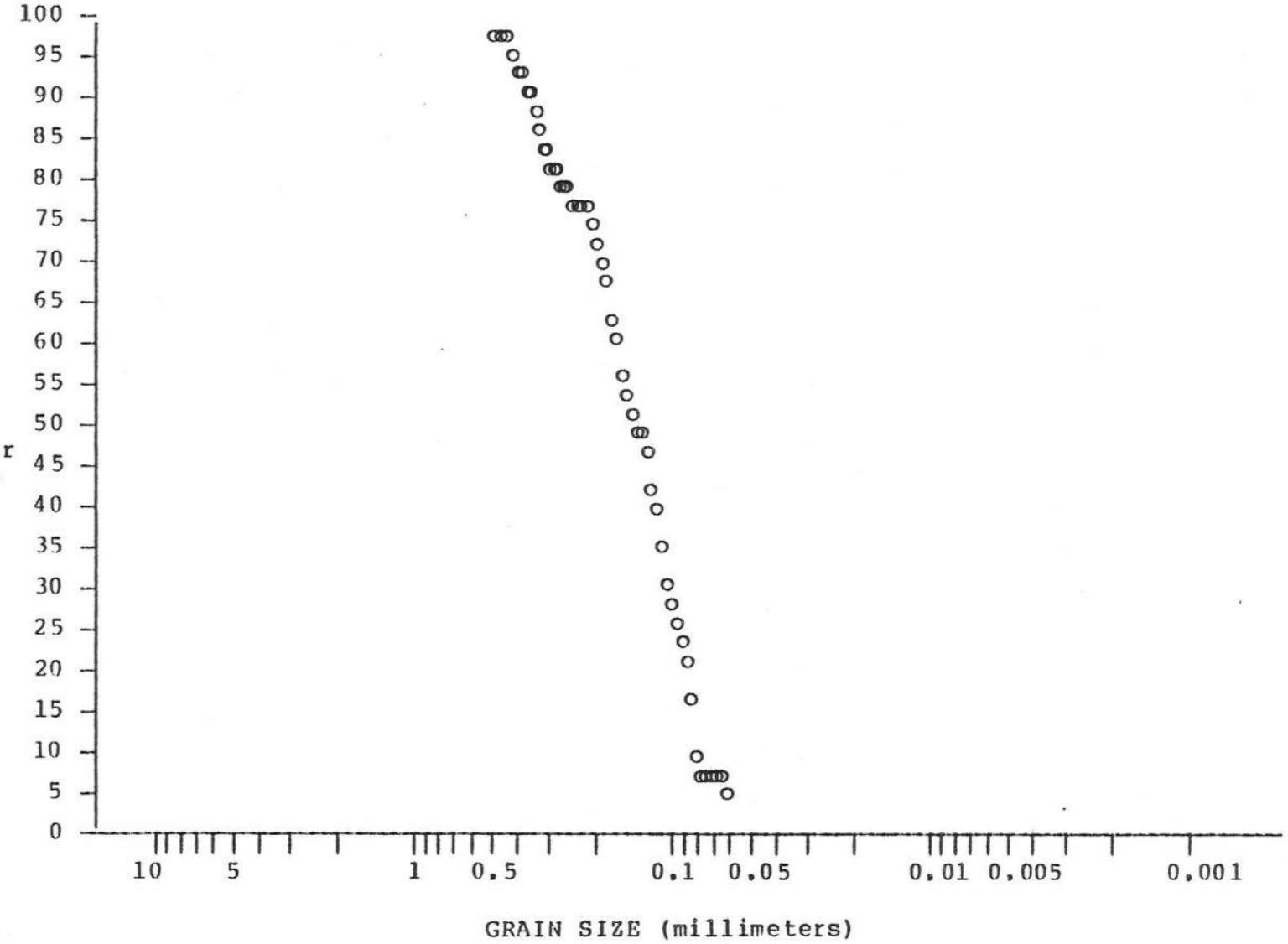
Median Grain Size 0.218 mm

Sample Weight 0.432 gm

Sample Description

ST90 B.1 - 0cm
15:30 30cm - trough

GRAIN SIZE DISTRIBUTION CURVE SAMPLE ST90 #6-1.5 DATE 5/06/80



GRAIN SIZE ANALYSIS

SAMPLE ST90 #6-1.5 DATE 5/06/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.512	100.00	0.251	79.07	0.120	41.86
0.479	97.67	0.240	76.74	0.114	39.53
0.451	97.67	0.228	76.74	0.110	34.88
0.426	97.67	0.220	76.74	0.105	30.23
0.406	95.35	0.209	76.74	0.101	27.91
0.387	93.02	0.200	74.42	0.096	25.58
0.371	93.02	0.193	72.09	0.092	23.26
0.356	90.70	0.185	69.77	0.088	20.93
0.342	90.70	0.177	67.44	0.085	16.28
0.329	88.37	0.170	62.79	0.081	9.30
0.317	86.05	0.162	60.47	0.078	6.98
0.307	83.72	0.155	55.81	0.074	6.98
0.298	83.72	0.149	53.49	0.071	6.98
0.288	81.40	0.142	51.16	0.068	6.98
0.280	81.40	0.136	48.84	0.065	6.98
0.272	81.40	0.130	48.84	0.063	4.65
0.265	79.07	0.125	46.51	0.060	0.00
0.257	79.07				

SUMMARY INFORMATION

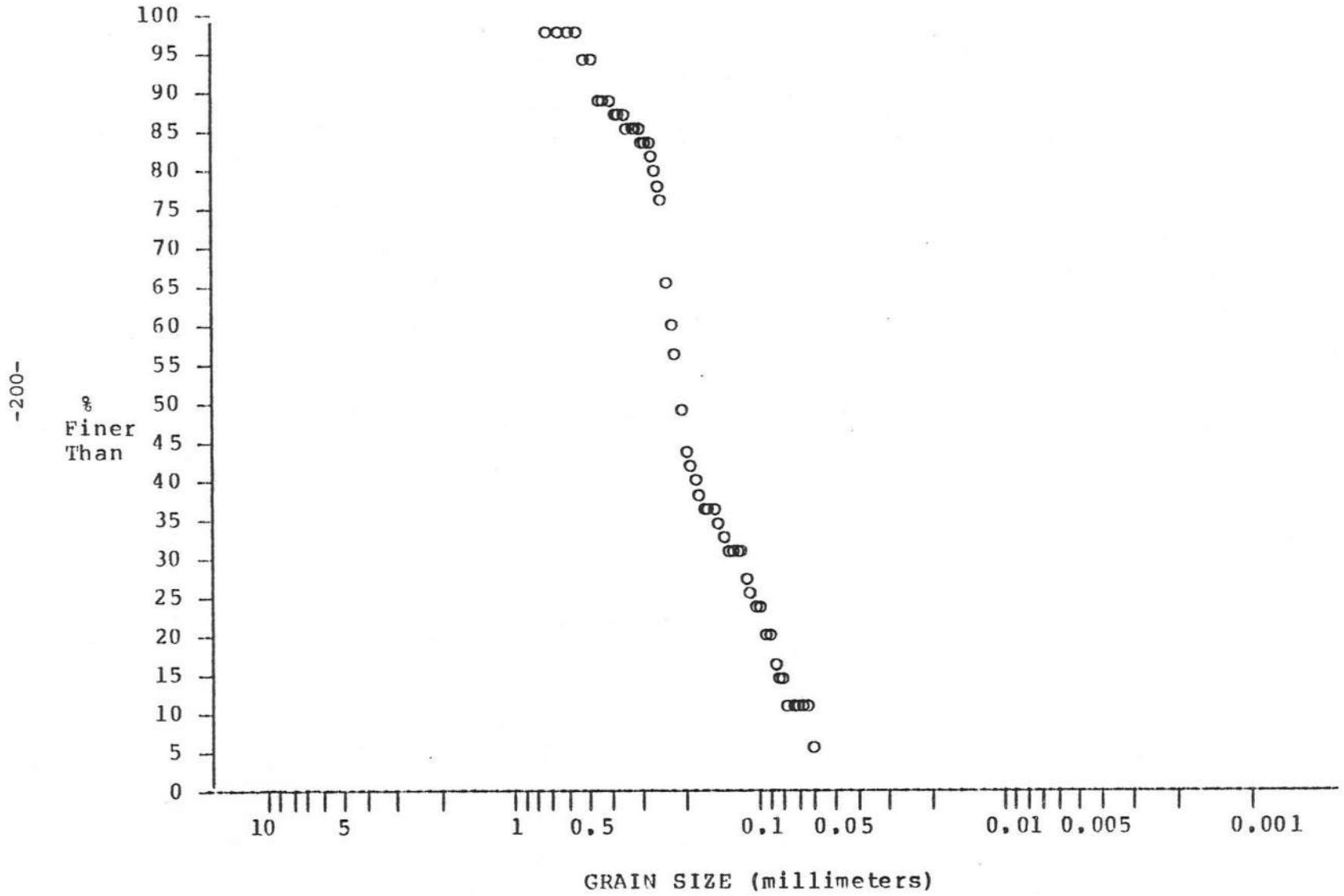
Median Grain Size 0.139 mm

Sample Weight 0.168 gm

Sample Description

ST90 B.6 - 1.5cm
15:15 9.27 1.10m - crest

GRAIN SIZE DISTRIBUTION CURVE SAMPLE ST90 #2-2.4 DATE 5/06/80



GRAIN SIZE ANALYSIS

SAMPLE ST90 #2-2.4 DATE 5/06/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.829	100.00	0.280	83.64	0.130	30.91
0.732	98.18	0.272	81.82	0.125	30.91
0.655	98.18	0.265	80.00	0.120	30.91
0.598	98.18	0.257	78.18	0.114	27.27
0.552	98.18	0.251	76.36	0.110	25.45
0.512	94.55	0.240	65.45	0.105	23.64
0.479	94.55	0.228	60.00	0.101	23.64
0.451	89.09	0.220	56.36	0.096	20.00
0.426	89.09	0.209	49.09	0.092	20.00
0.406	89.09	0.200	43.64	0.088	16.36
0.387	87.27	0.193	41.82	0.085	14.55
0.371	87.27	0.185	40.00	0.081	14.55
0.356	87.27	0.177	38.18	0.078	10.91
0.342	85.45	0.170	36.36	0.074	10.91
0.329	85.45	0.162	36.36	0.071	10.91
0.317	85.45	0.155	36.36	0.068	10.91
0.307	85.45	0.149	34.55	0.065	10.91
0.298	83.64	0.142	32.73	0.063	5.45
0.288	83.64	0.136	30.91	0.060	0.00

SUMMARY INFORMATION

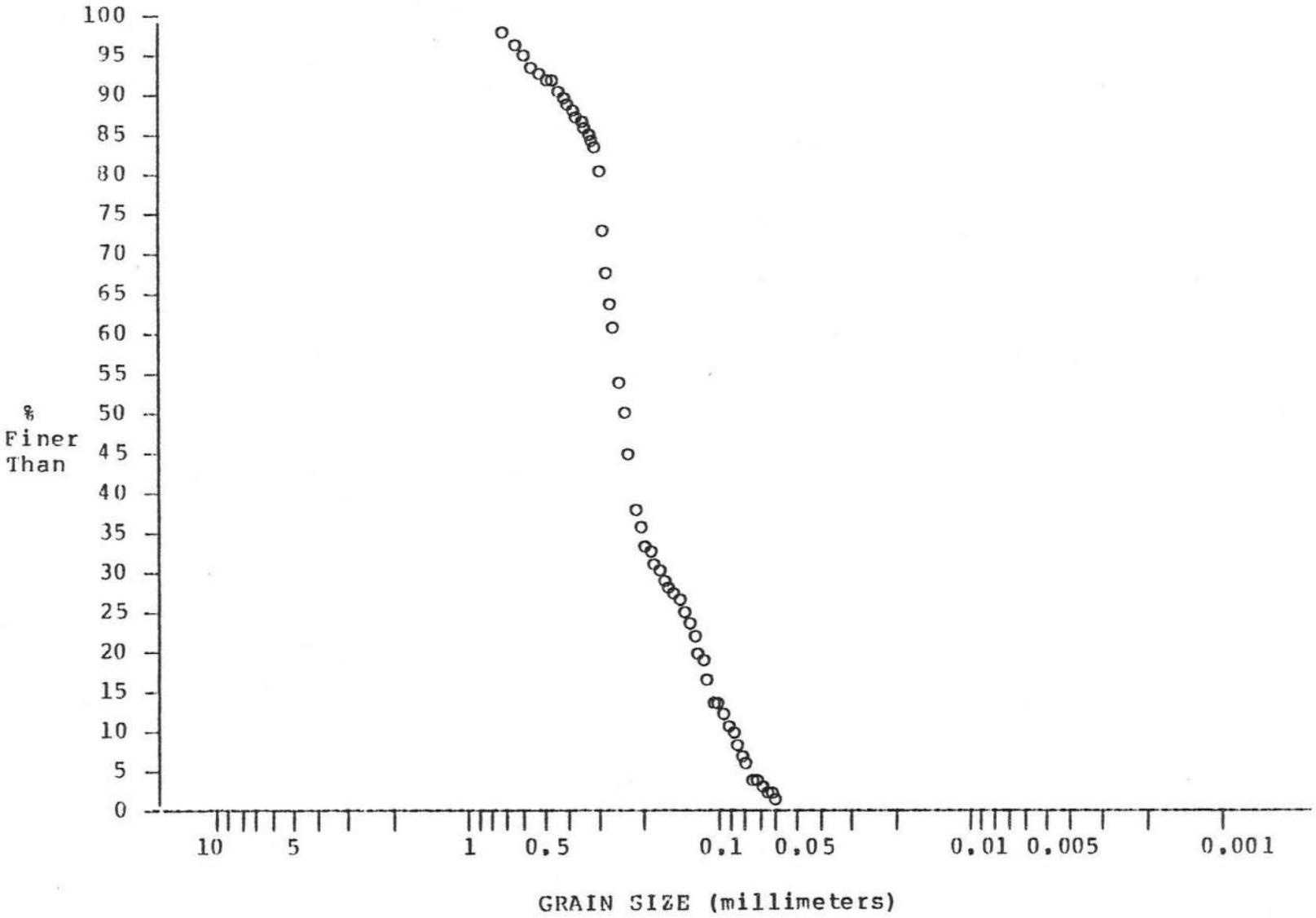
Median Grain Size 0.210 mm

Sample Weight 0.215 gm

Sample Description

ST90 Bo.2 - 2.4cm
15:15 70cm - crest

GRAIN SIZE DISTRIBUTION CURVE SAMPLE ST90 #1-1.0 DATE 5/06/80



GRAIN SIZE ANALYSIS

SAMPLE ST90 #1-1.0 DATE 5/06/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.829	100.00	0.280	80.92	0.130	23.66
0.732	99.24	0.272	73.28	0.125	22.14
0.655	98.47	0.265	67.94	0.120	19.85
0.598	96.95	0.257	64.12	0.114	19.08
0.552	95.42	0.251	61.07	0.110	16.79
0.512	93.89	0.240	54.20	0.105	13.74
0.479	93.13	0.228	50.38	0.101	13.74
0.451	92.37	0.220	45.04	0.096	12.21
0.426	92.37	0.209	38.17	0.092	10.69
0.406	90.84	0.200	35.88	0.088	9.92
0.387	90.08	0.193	33.59	0.085	8.40
0.371	89.31	0.185	32.82	0.081	6.87
0.356	88.55	0.177	31.30	0.078	6.11
0.342	87.79	0.170	30.53	0.074	3.82
0.329	87.02	0.162	29.01	0.071	3.82
0.317	86.26	0.155	28.24	0.068	3.05
0.307	85.50	0.149	27.48	0.065	2.29
0.298	84.73	0.142	26.72	0.063	2.29
0.288	83.97	0.136	25.19	0.060	1.53

SUMMARY INFORMATION

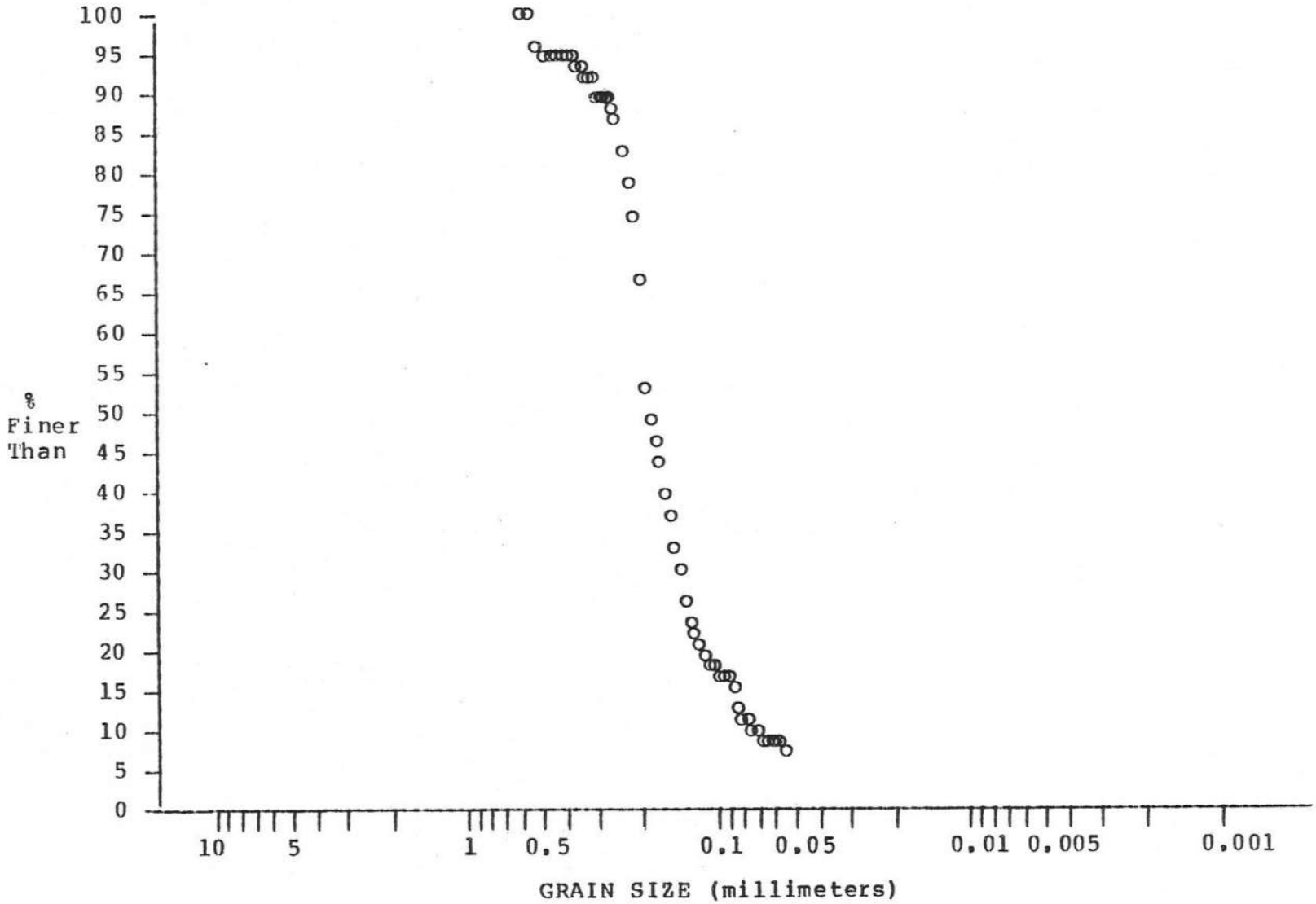
Median Grain Size 0.228 mm

Sample Weight 0.349 gm

Sample Description

STA90 Bottle 1 - 1.0cm
15:15 (?) 30cm - crest

GRAIN SIZE DISTRIBUTION CURVE SAMPLE ST105 #7-0.5 DATE 5/02/80



GRAIN SIZE ANALYSIS

SAMPLE ST105 #7-0.5 DATE 5/02/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.648	100.00	0.267	87.84	0.125	20.27
0.591	98.65	0.260	87.84	0.120	18.92
0.544	98.65	0.253	86.49	0.115	17.57
0.506	94.59	0.247	85.14	0.110	16.22
0.473	93.24	0.231	81.08	0.105	16.22
0.445	93.24	0.220	77.03	0.101	14.86
0.421	93.24	0.212	72.97	0.096	14.86
0.401	93.24	0.200	64.86	0.092	14.86
0.382	93.24	0.193	51.35	0.088	13.51
0.366	93.24	0.184	47.30	0.085	10.81
0.351	91.89	0.176	44.59	0.081	9.46
0.337	91.89	0.169	41.89	0.078	9.46
0.324	90.54	0.163	37.84	0.074	8.11
0.313	90.54	0.155	35.14	0.071	8.11
0.302	90.54	0.149	31.08	0.068	6.76
0.293	87.84	0.142	28.38	0.065	6.76
0.284	87.84	0.136	24.32	0.063	6.76
0.275	87.84	0.131	21.62	0.060	6.76

SUMMARY INFORMATION

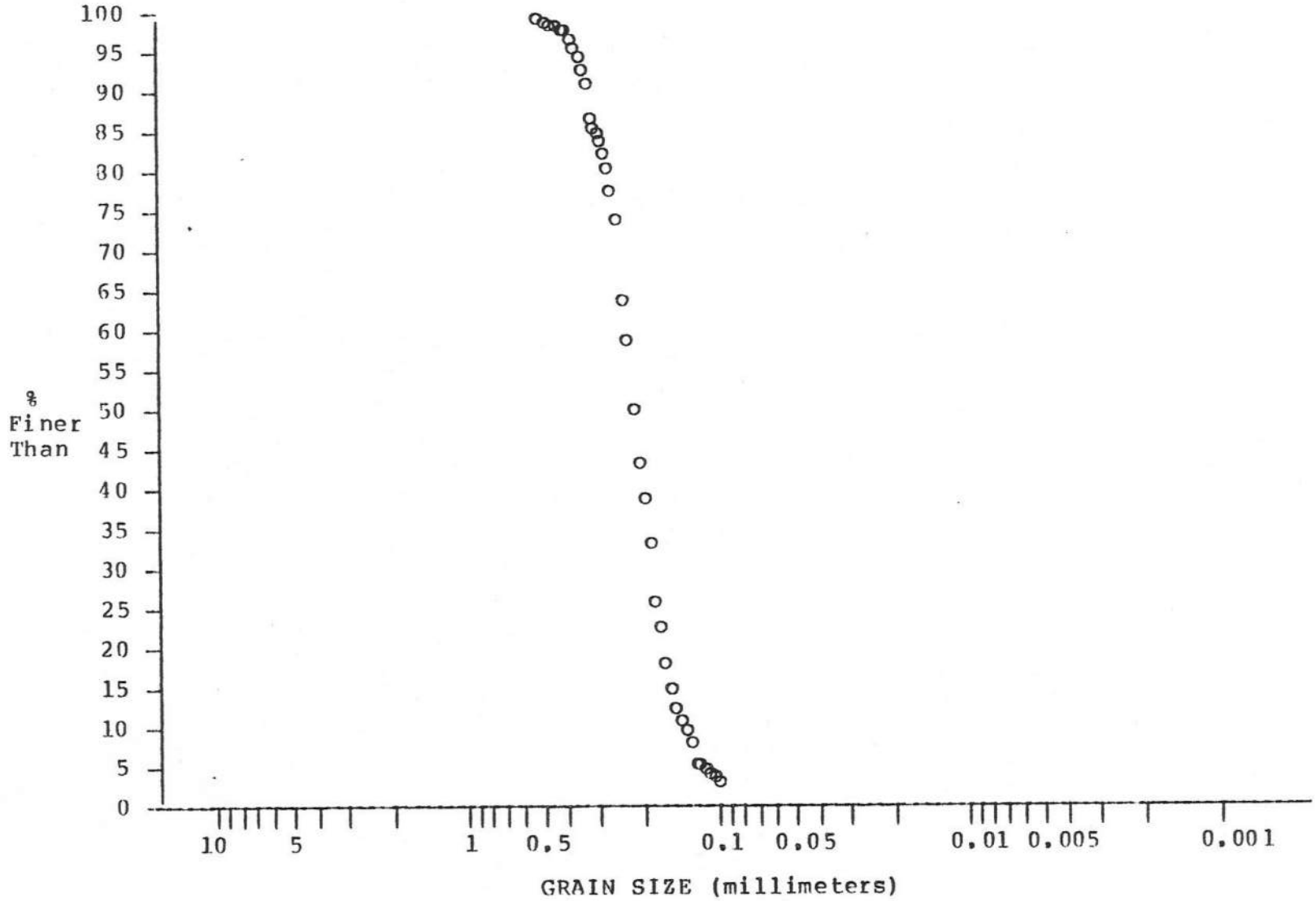
Median Grain Size 0.190 mm

Sample Weight 0.222 gm

Sample Description

ST105 #7 - 0.5cm
14:35 30 cm - trough

GRAIN SIZE DISTRIBUTION CURVE SAMPLE ST105 #2-2 DATE 5/02/80



GRAIN SIZE ANALYSIS

SAMPLE ST105 #2-2 DATE 5/02/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.552	100.00	0.257	79.33	0.120	3.91
0.512	99.44	0.251	76.54	0.114	3.35
0.479	98.32	0.240	72.63	0.110	2.79
0.451	97.77	0.228	62.57	0.105	2.23
0.426	97.21	0.220	57.54	0.101	1.68
0.406	97.21	0.209	48.60	0.096	0.56
0.387	96.65	0.200	41.90	0.092	0.00
0.371	96.65	0.193	37.43	0.088	0.00
0.356	95.53	0.185	31.84	0.085	0.00
0.342	94.41	0.177	24.58	0.081	0.00
0.329	93.30	0.170	21.23	0.078	0.00
0.317	91.62	0.162	16.76	0.074	0.00
0.307	89.94	0.155	13.41	0.071	0.00
0.298	85.47	0.149	11.17	0.068	0.00
0.288	84.36	0.142	9.50	0.065	0.00
0.280	83.80	0.136	8.38	0.063	0.00
0.272	82.68	0.130	6.70	0.060	0.00
0.265	81.01	0.125	3.91		

SUMMARY INFORMATION

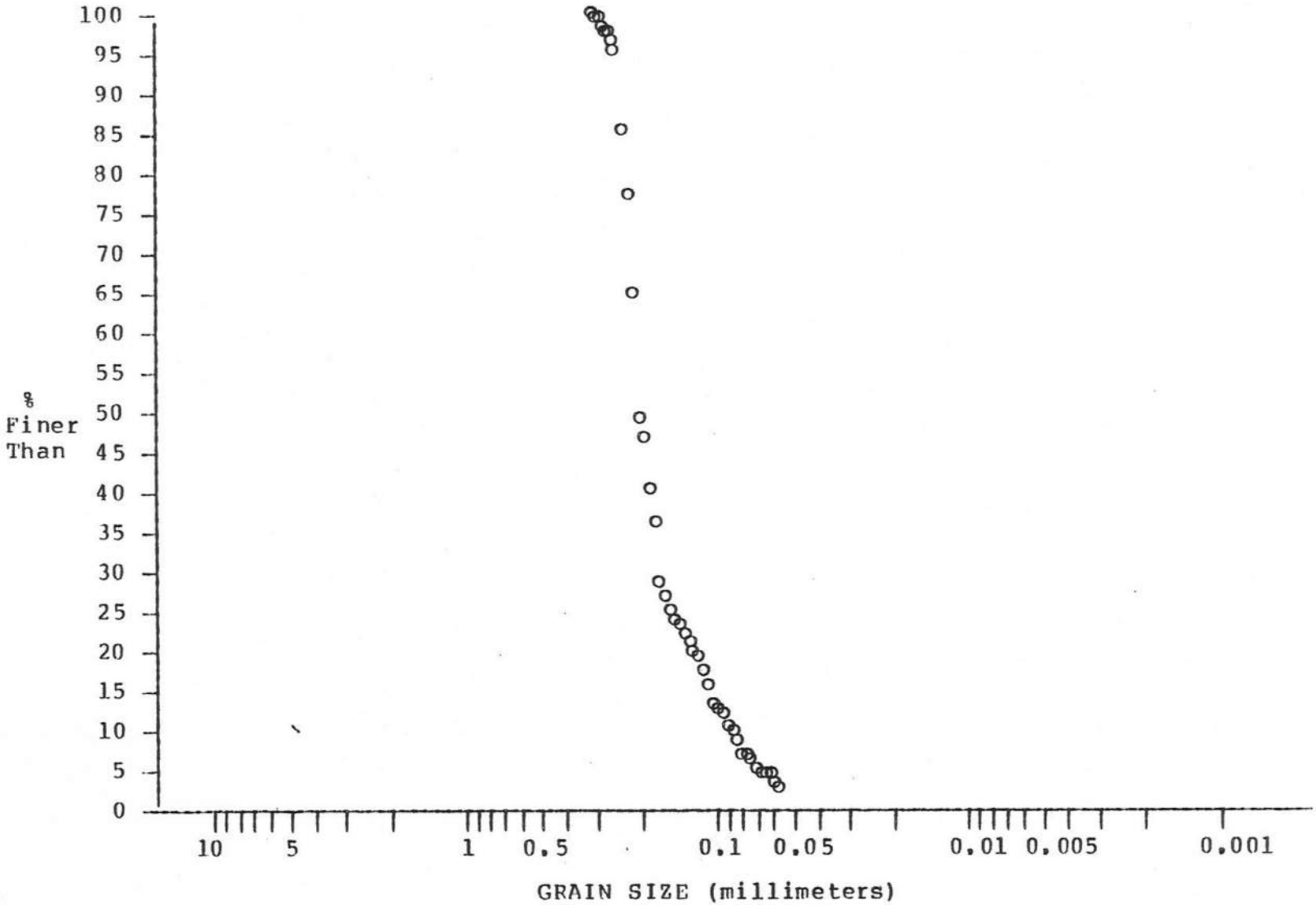
Median Grain Size 0.211 mm

Sample Weight 0.458 gm

Sample Description

ST105 B.2 - 2cm
14:30 eb. 70cm - trough

GRAIN SIZE DISTRIBUTION CURVE SAMPLE ST105 #1-3 DATE 5/02/80



GRAIN SIZE ANALYSIS

SAMPLE ST105 #1-3 DATE 5/02/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.822	100.00	0.275	97.06	0.125	18.24
0.723	99.41	0.267	96.47	0.120	17.65
0.648	99.41	0.260	96.47	0.115	15.88
0.591	99.41	0.253	95.29	0.110	14.12
0.544	99.41	0.247	94.12	0.105	11.76
0.506	99.41	0.231	84.12	0.101	11.18
0.473	99.41	0.220	75.88	0.096	10.59
0.445	99.41	0.212	63.53	0.092	8.82
0.421	99.41	0.200	47.65	0.088	8.24
0.401	99.41	0.193	45.29	0.085	7.06
0.382	99.41	0.184	38.82	0.081	5.29
0.366	99.41	0.176	34.71	0.078	5.29
0.351	99.41	0.169	27.06	0.074	4.71
0.337	99.41	0.163	25.29	0.071	3.53
0.324	99.41	0.155	23.53	0.068	2.94
0.313	99.41	0.149	22.35	0.065	2.94
0.302	98.82	0.142	21.76	0.063	2.94
0.293	98.24	0.136	20.59	0.060	1.76
0.284	98.24	0.131	19.41		

SUMMARY INFORMATION

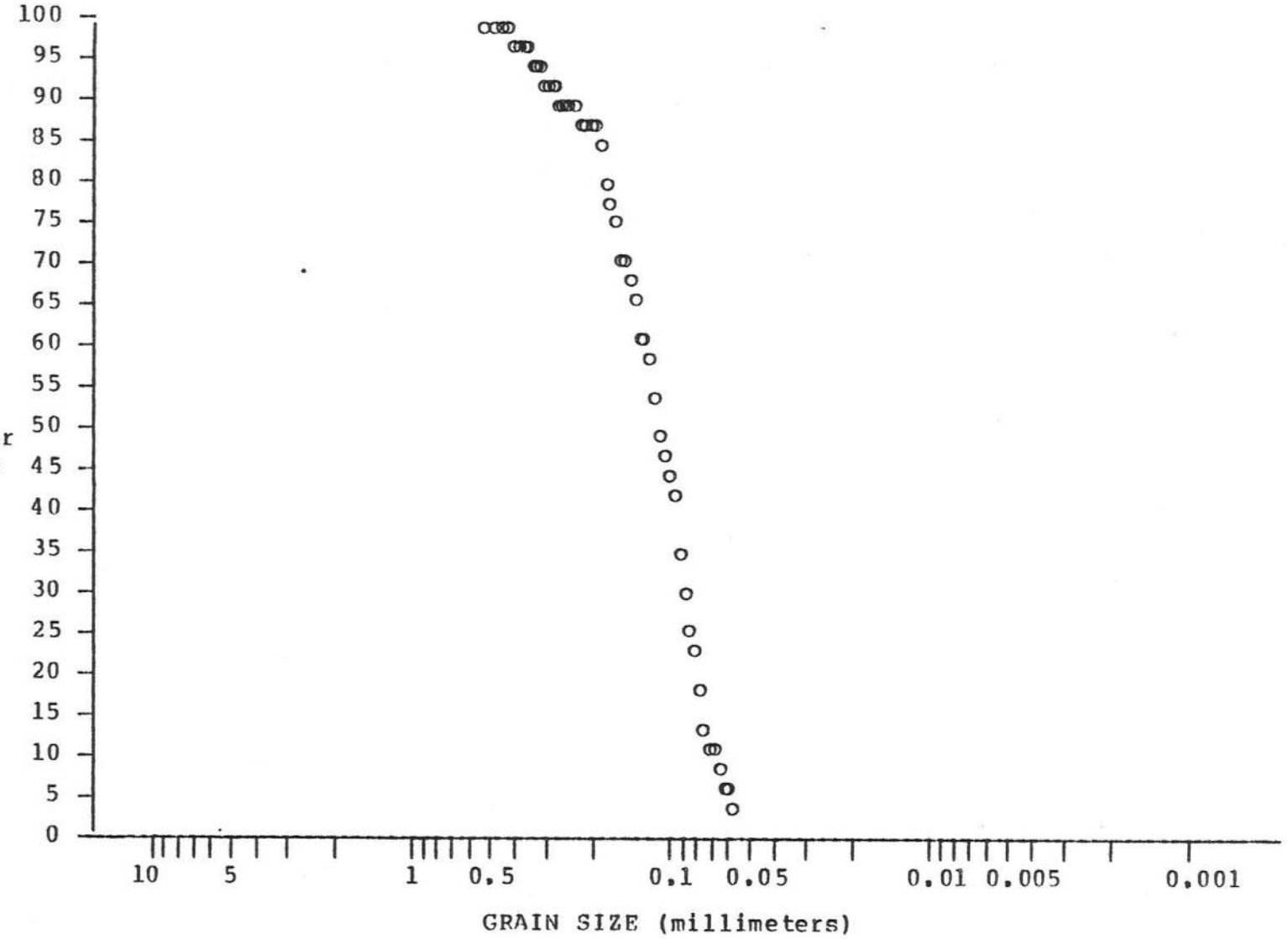
Median Grain Size 0.202 mm

Sample Weight 0.640 gm

Sample Description

ST105 #1 - 3cm
14:30 30cm - trough

GRAIN SIZE DISTRIBUTION CURVE SAMPLE ST105 #7-5.5 DATE 5/02/80



GRAIN SIZE ANALYSIS

SAMPLE ST105 #7-5.5 DATE 5/02/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.544	100.00	0.253	88.10	0.120	57.14
0.506	97.62	0.247	88.10	0.115	52.38
0.473	97.62	0.231	88.10	0.110	47.62
0.445	97.62	0.220	85.71	0.105	45.24
0.421	97.62	0.212	85.71	0.101	42.86
0.401	95.24	0.200	85.71	0.096	40.48
0.382	95.24	0.193	85.71	0.092	33.33
0.366	95.24	0.184	83.33	0.088	28.57
0.351	95.24	0.176	78.57	0.085	23.81
0.337	92.86	0.169	76.19	0.081	21.43
0.324	92.86	0.163	73.81	0.078	16.67
0.313	92.86	0.155	69.05	0.074	11.90
0.302	90.48	0.149	69.05	0.071	9.52
0.293	90.48	0.142	66.67	0.068	9.52
0.284	90.48	0.136	64.29	0.065	7.14
0.275	90.48	0.131	59.52	0.063	4.76
0.267	88.10	0.125	59.52	0.060	4.76
0.260	88.10				

SUMMARY INFORMATION

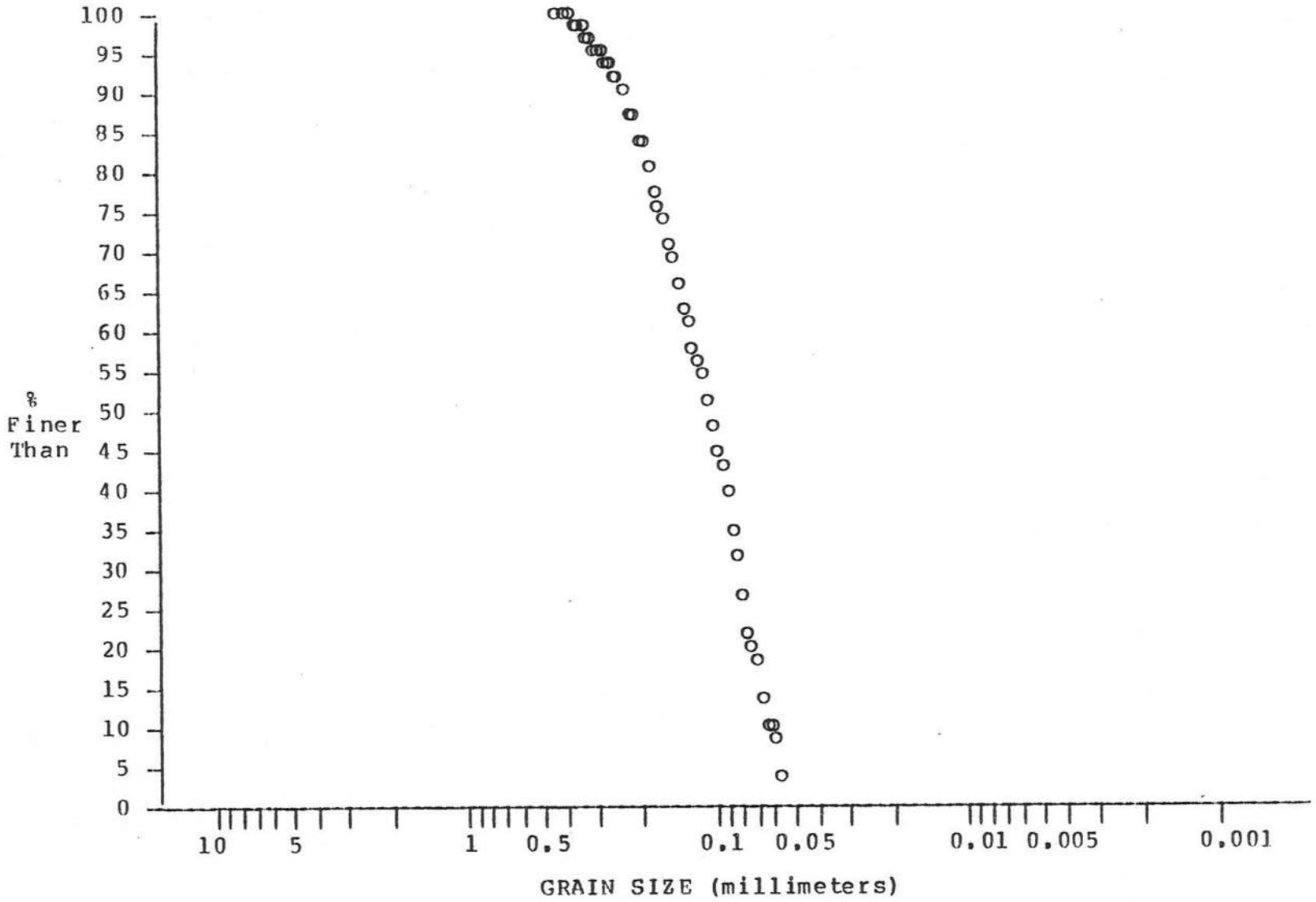
Median Grain Size 0.112 mm

Sample Weight 0.134 gm

Sample Description

ST105 7 - 5.5cm
14:20 0 110cm - crest

GRAIN SIZE DISTRIBUTION CURVE SAMPLE ST105 #8-4.2 DATE 5/02/80



GRAIN SIZE ANALYSIS

SAMPLE ST105 #8-4.2 DATE 5/02/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.445	100.00	0.231	88.52	0.115	52.46
0.421	98.36	0.220	85.25	0.110	49.18
0.401	98.36	0.212	85.25	0.105	45.90
0.382	98.36	0.200	81.97	0.101	42.62
0.366	96.72	0.193	81.97	0.096	40.98
0.351	96.72	0.184	78.69	0.092	37.70
0.337	96.72	0.176	75.41	0.088	32.79
0.324	95.08	0.169	73.77	0.085	29.51
0.313	95.08	0.163	72.13	0.081	24.59
0.302	93.44	0.155	68.85	0.078	19.67
0.293	93.44	0.149	67.21	0.074	18.03
0.284	93.44	0.142	63.93	0.071	16.39
0.275	91.80	0.136	60.66	0.068	11.48
0.267	91.80	0.131	59.02	0.065	8.20
0.260	91.80	0.125	55.74	0.063	8.20
0.253	90.16	0.120	54.10	0.060	6.56
0.247	90.16				

SUMMARY INFORMATION

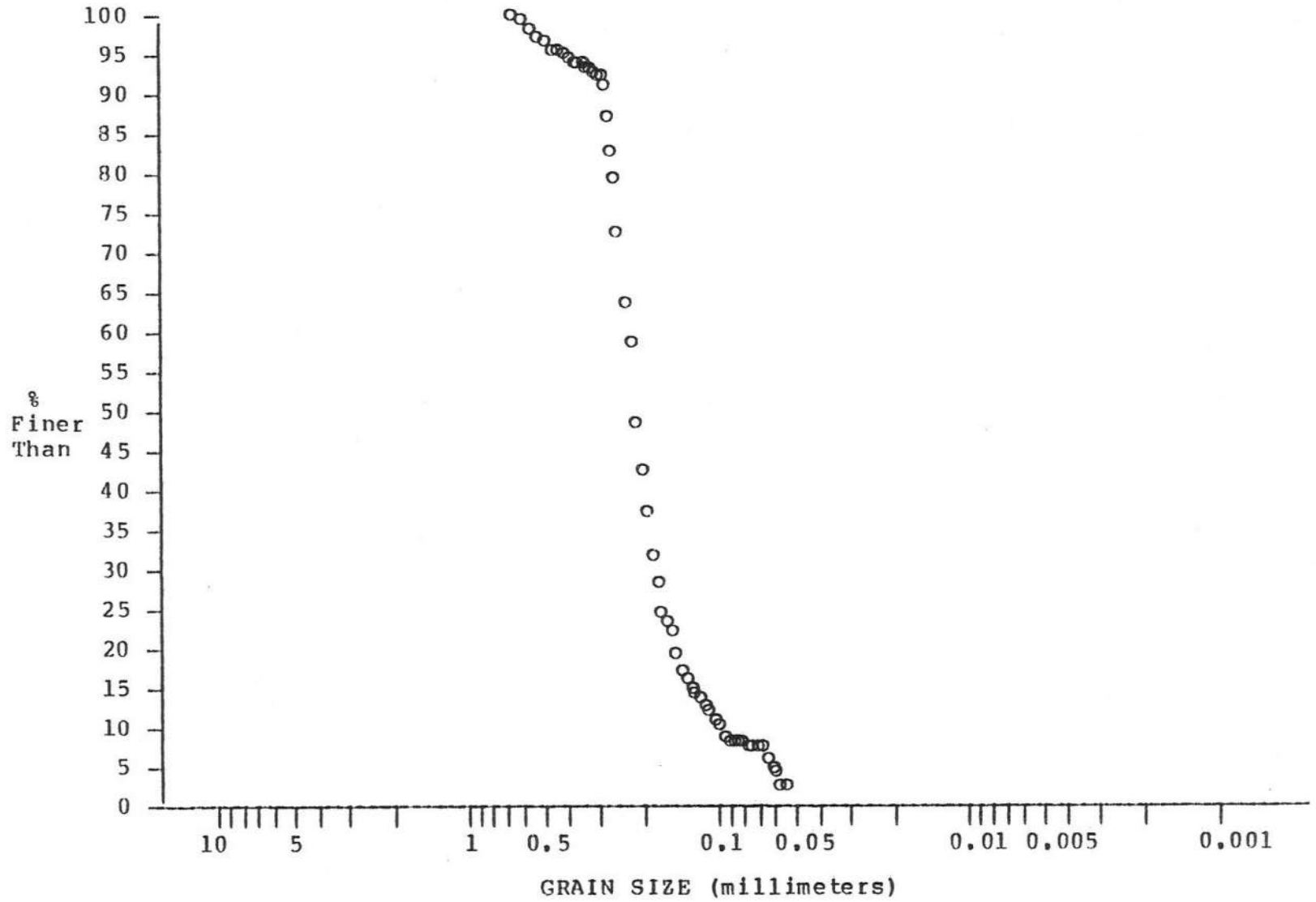
Median Grain Size 0.111 mm

Sample Weight 0.114 gm

Sample Description

ST105 #8 - 4.2cm
14:20 0 70cm - crest

GRAIN SIZE DISTRIBUTION CURVE SAMPLE ST105 #6-0.4 DATE 5/02/80



GRAIN SIZE ANALYSIS

SAMPLE ST105 #6-0.4 DATE 5/02/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.723	100.00	0.267	85.96	0.125	12.92
0.648	98.88	0.260	81.46	0.120	12.36
0.591	98.31	0.253	78.09	0.115	11.24
0.544	97.19	0.247	71.35	0.110	10.67
0.506	96.07	0.231	62.36	0.105	9.55
0.473	95.51	0.220	57.30	0.101	8.99
0.445	94.38	0.212	47.19	0.096	7.30
0.421	94.38	0.200	41.01	0.092	6.74
0.401	93.82	0.193	35.96	0.088	6.74
0.382	93.26	0.184	30.34	0.085	6.74
0.366	92.70	0.176	26.97	0.081	6.74
0.351	92.70	0.169	23.03	0.078	6.18
0.337	92.70	0.163	21.91	0.074	6.18
0.324	92.13	0.155	20.79	0.071	6.18
0.313	92.13	0.149	17.98	0.068	6.18
0.302	91.57	0.142	15.73	0.065	4.49
0.293	91.01	0.136	14.61	0.063	3.37
0.284	91.01	0.131	13.48	0.060	2.81
0.275	89.89				

SUMMARY INFORMATION

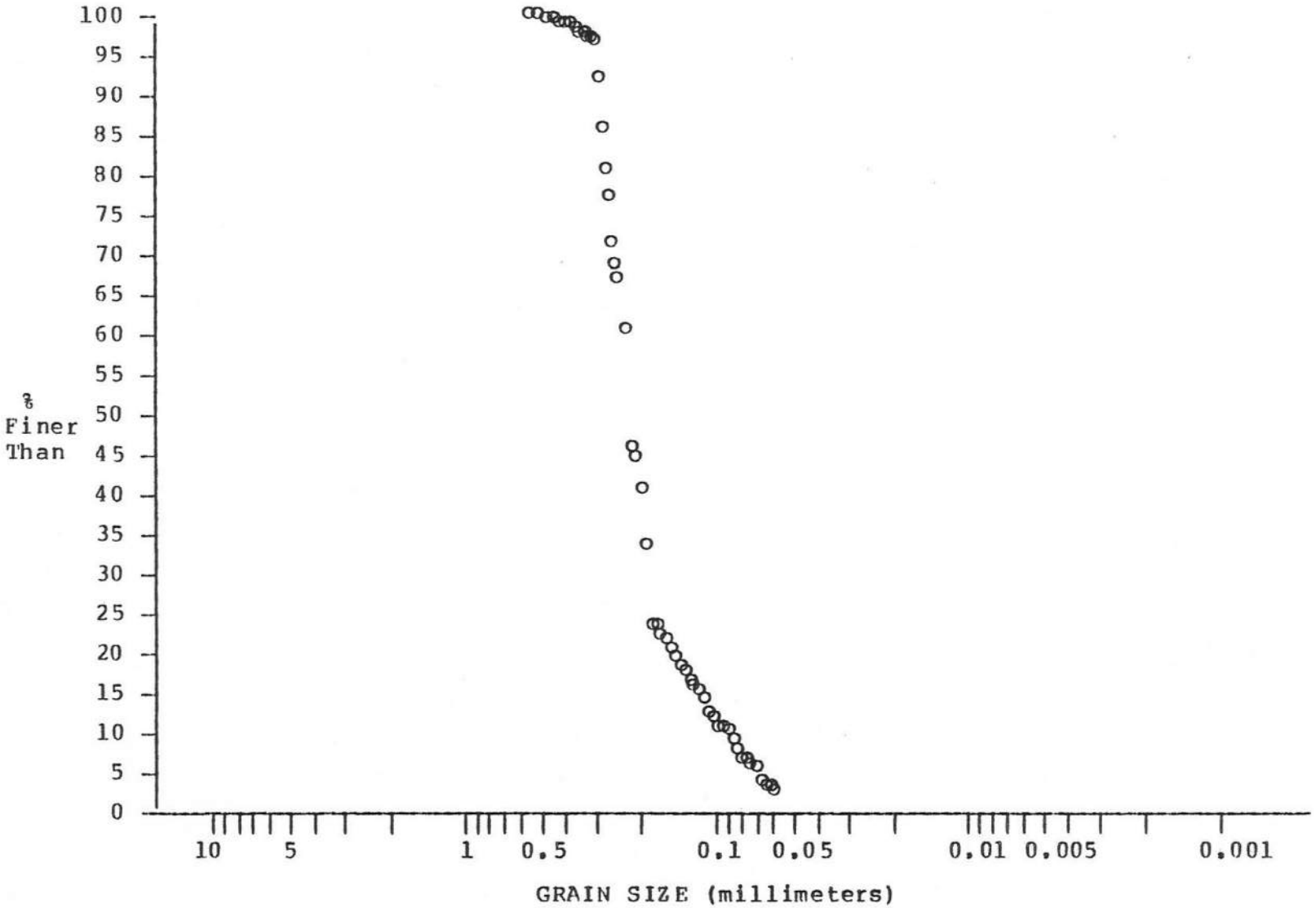
Median Grain Size 0.214 mm

Sample Weight 0.460 gm

Sample Description

ST105 No.6 - 0.4cm
14:20 0 30cm - crest

GRAIN SIZE DISTRIBUTION CURVE SAMPLE ST112 #5-1.8 DATE 5/02/80



GRAIN SIZE ANALYSIS

SAMPLE ST112 #5-1.8 DATE 5/02/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.723	100.00	0.267	75.86	0.125	14.37
0.648	99.43	0.260	70.11	0.120	13.79
0.591	99.43	0.253	67.24	0.115	12.64
0.544	98.85	0.247	65.52	0.110	10.92
0.506	98.85	0.231	59.20	0.105	10.34
0.473	98.28	0.220	44.25	0.101	9.20
0.445	98.28	0.212	43.10	0.096	9.20
0.421	97.70	0.200	39.08	0.092	8.62
0.401	97.70	0.193	32.18	0.088	7.47
0.382	97.70	0.184	21.84	0.085	6.32
0.366	97.13	0.176	21.84	0.081	5.17
0.351	96.55	0.169	20.69	0.078	5.17
0.337	96.55	0.163	20.11	0.074	4.60
0.324	95.98	0.155	18.97	0.071	4.02
0.313	95.98	0.149	17.82	0.068	2.30
0.302	95.40	0.142	16.67	0.065	1.72
0.293	90.80	0.136	16.09	0.063	1.72
0.284	84.48	0.131	14.94	0.060	1.15
0.275	79.31				

SUMMARY INFORMATION

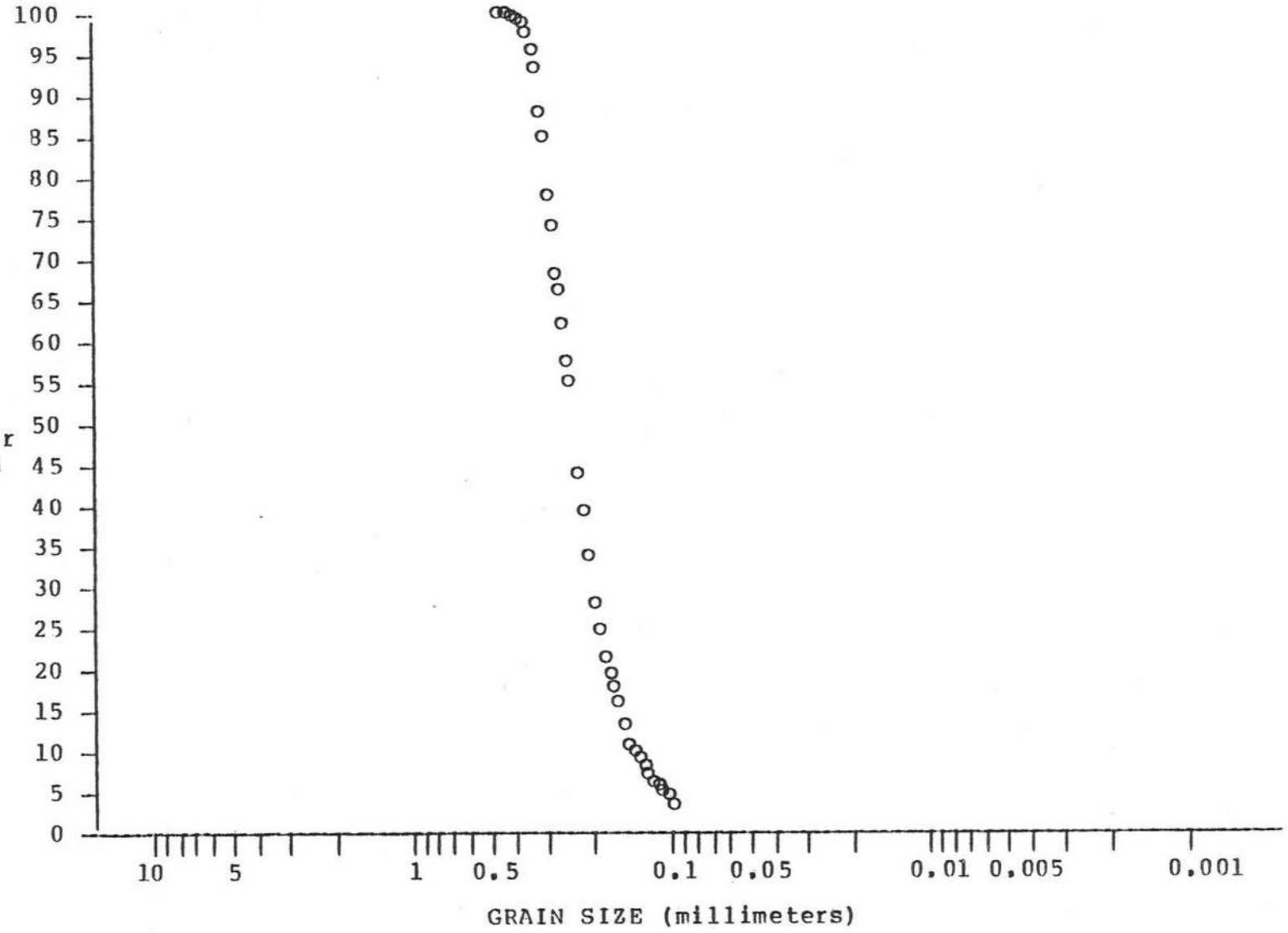
Median Grain Size 0.224 mm

Sample Weight 0.341 gm

Sample Description

ST112 * #5 - 1.8cm
14:20 110cm - crest

GRAIN SIZE DISTRIBUTION CURVE SAMPLE ST122 #1-0.4 DATE 5/02/80



GRAIN SIZE ANALYSIS

SAMPLE ST122 #1-0.4 DATE 5/02/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.723	100.00	0.267	64.87	0.125	5.60
0.648	99.78	0.260	60.78	0.120	4.74
0.591	99.57	0.253	56.03	0.115	4.31
0.544	99.57	0.247	53.66	0.110	3.66
0.506	99.57	0.231	42.46	0.105	3.02
0.473	99.35	0.220	37.93	0.101	1.94
0.445	98.92	0.212	32.33	0.096	0.65
0.421	98.92	0.200	26.51	0.092	0.43
0.401	98.49	0.193	23.28	0.088	0.22
0.382	98.06	0.184	19.83	0.085	0.22
0.366	97.63	0.176	17.89	0.081	0.00
0.351	96.55	0.169	16.38	0.078	0.00
0.337	94.40	0.163	14.44	0.074	0.00
0.324	92.03	0.155	11.64	0.071	0.00
0.313	86.64	0.149	9.27	0.068	0.00
0.302	83.62	0.142	8.41	0.065	0.00
0.293	76.51	0.136	7.76	0.063	0.00
0.284	72.63	0.131	6.68	0.060	0.00
0.275	66.81				

SUMMARY INFORMATION

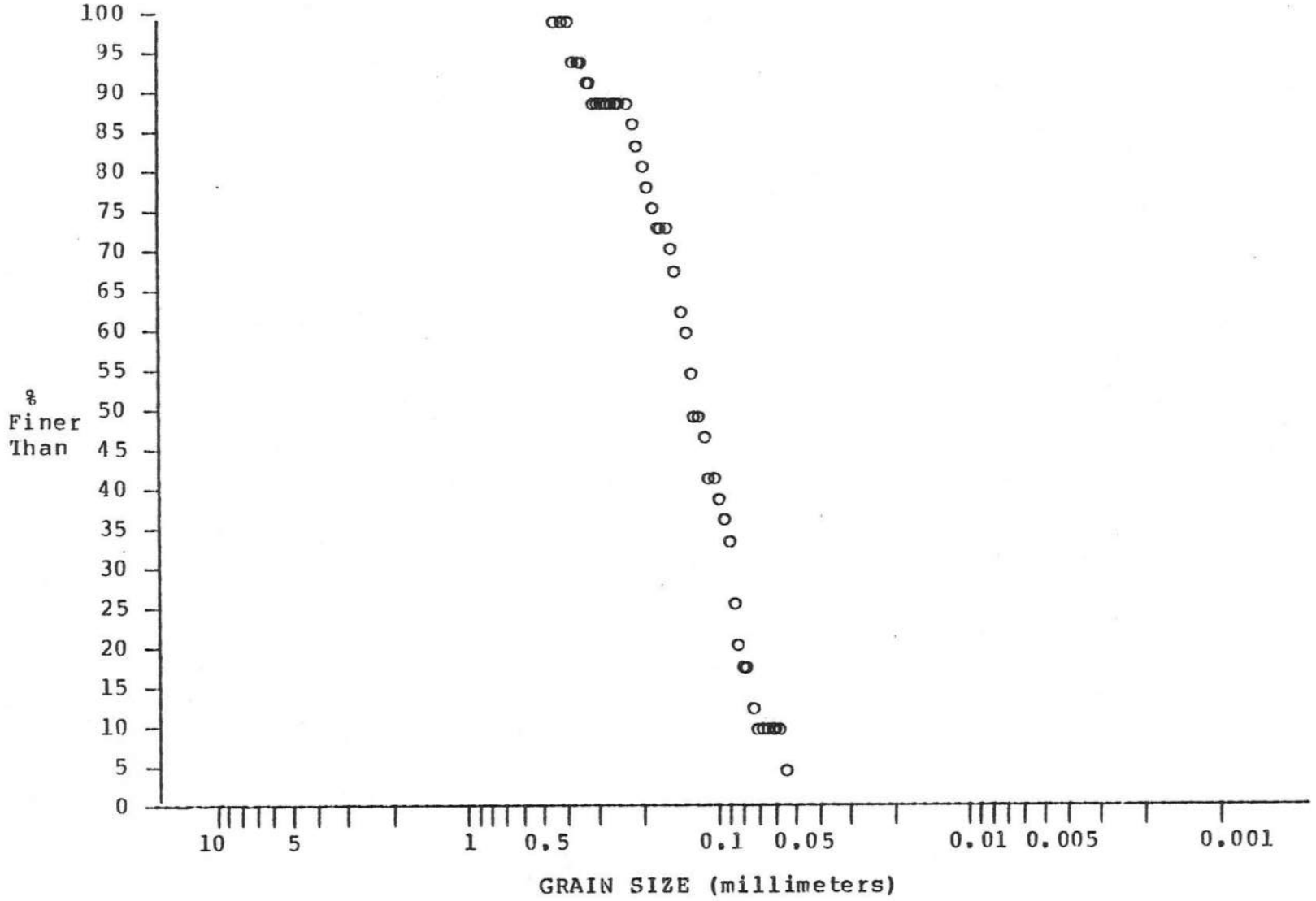
Median Grain Size 0.242 mm

Sample Weight 1.015 gm

Sample Description

ST122 * #1 - 0.4cm
14:20 30 cm - crest

GRAIN SIZE DISTRIBUTION CURVE SAMPLE ST90 #5-6.5 DATE 5/02/80



GRAIN SIZE ANALYSIS

SAMPLE ST90 #5-6.5 DATE 5/02/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.473	100.00	0.247	86.84	0.115	44.74
0.445	97.37	0.231	86.84	0.110	39.47
0.421	97.37	0.220	84.21	0.105	39.47
0.401	97.37	0.212	81.58	0.101	36.84
0.382	92.11	0.200	78.95	0.096	34.21
0.366	92.11	0.193	76.32	0.092	31.58
0.351	92.11	0.184	73.68	0.088	23.68
0.337	89.47	0.176	71.05	0.085	18.42
0.324	89.47	0.169	71.05	0.081	15.79
0.313	86.84	0.163	71.05	0.078	15.79
0.302	86.84	0.155	68.42	0.074	10.53
0.293	86.84	0.149	65.79	0.071	7.89
0.284	86.84	0.142	60.53	0.068	7.89
0.275	86.84	0.136	57.89	0.065	7.89
0.267	86.84	0.131	52.63	0.063	7.89
0.260	86.84	0.125	47.37	0.060	7.89
0.253	86.84	0.120	47.37		

SUMMARY INFORMATION

Median Grain Size 0.128 mm

Sample Weight 0.071 gm

Sample Description

ST90 B.5 - 6.5cm
13:45 70cm - trough

GRAIN SIZE ANALYSIS

SAMPLE ST90 #2-2 DATE 5/06/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.552	100.00	0.257	75.00	0.120	20.00
0.512	90.00	0.251	75.00	0.114	20.00
0.479	90.00	0.240	75.00	0.110	15.00
0.451	85.00	0.228	75.00	0.105	10.00
0.426	80.00	0.220	75.00	0.101	10.00
0.406	80.00	0.209	65.00	0.096	10.00
0.387	80.00	0.200	65.00	0.092	10.00
0.371	80.00	0.193	60.00	0.088	10.00
0.356	75.00	0.185	60.00	0.085	5.00
0.342	75.00	0.177	55.00	0.081	5.00
0.329	75.00	0.170	50.00	0.078	5.00
0.317	75.00	0.162	45.00	0.074	5.00
0.307	75.00	0.155	40.00	0.071	5.00
0.298	75.00	0.149	35.00	0.068	5.00
0.288	75.00	0.142	30.00	0.065	5.00
0.280	75.00	0.136	25.00	0.063	5.00
0.272	75.00	0.130	20.00	0.060	5.00
0.265	75.00	0.125	20.00		

SUMMARY INFORMATION

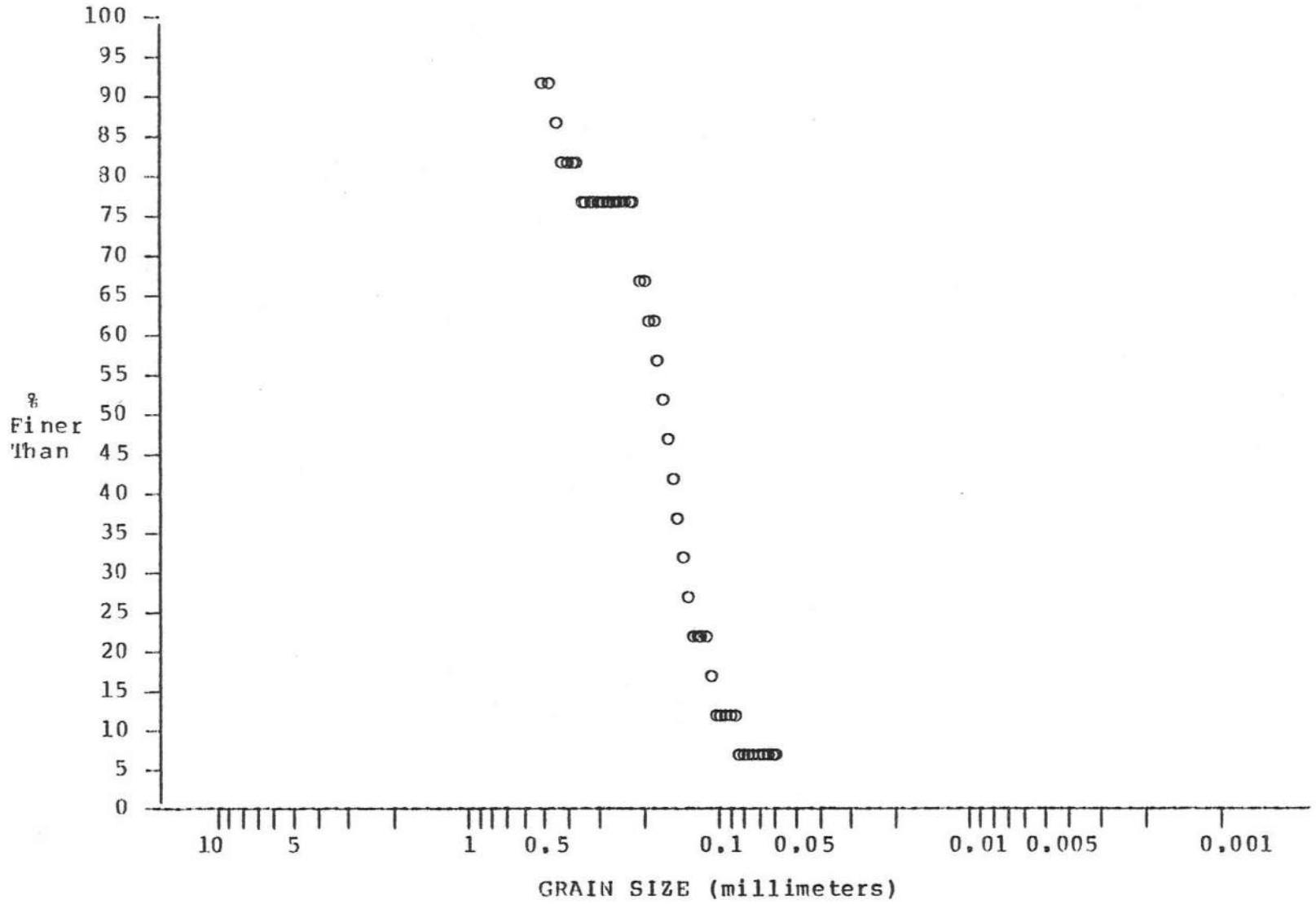
Median Grain Size 0.170 mm

Sample Weight 0.150 gm

Sample Description

ST90 #2 - 2cm
16:30 70cm - C

GRAIN SIZE DISTRIBUTION CURVE SAMPLE ST90 #2-2 DATE 5/06/80



GRAIN SIZE ANALYSIS

SAMPLE ST90 #8-1.5 DATE 5/06/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.552	100.00	0.257	85.00	0.120	55.00
0.512	97.50	0.251	85.00	0.114	50.00
0.479	97.50	0.240	85.00	0.110	47.50
0.451	95.00	0.228	82.50	0.105	42.50
0.426	95.00	0.220	82.50	0.101	37.50
0.406	92.50	0.209	82.50	0.096	27.50
0.387	92.50	0.200	80.00	0.092	25.00
0.371	92.50	0.193	80.00	0.088	25.00
0.356	90.00	0.185	80.00	0.085	25.00
0.342	90.00	0.177	77.50	0.081	20.00
0.329	90.00	0.170	75.00	0.078	17.50
0.317	87.50	0.162	70.00	0.074	17.50
0.307	87.50	0.155	65.00	0.071	15.00
0.298	87.50	0.149	62.50	0.068	15.00
0.288	87.50	0.142	62.50	0.065	10.00
0.280	85.00	0.136	60.00	0.063	7.50
0.272	85.00	0.130	60.00	0.060	2.50
0.265	85.00	0.125	57.50		

SUMMARY INFORMATION

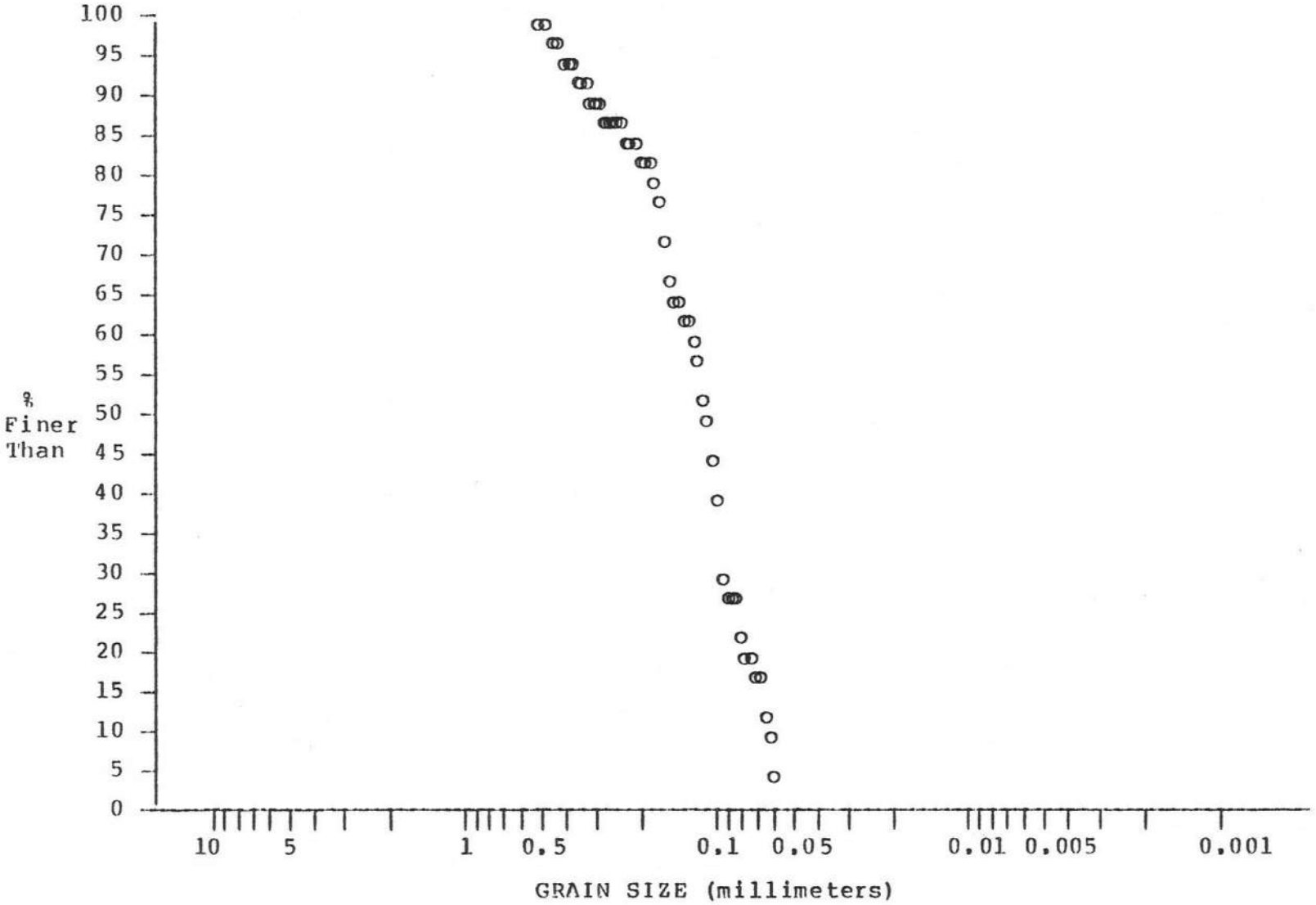
Median Grain Size 0.114 mm

Sample Weight 0.060 gm

Sample Description

ST90 #8 - 1.5cm
16:30 110cm - c

GRAIN SIZE DISTRIBUTION CURVE SAMPLE ST90 #8-1.5 DATE 5/06/80



GRAIN SIZE ANALYSIS

SAMPLE ST #6-8.9 DATE 5/06/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.552	100.00	0.257	57.14	0.120	14.29
0.512	97.14	0.251	57.14	0.114	8.57
0.479	94.29	0.240	54.29	0.110	8.57
0.451	91.43	0.228	51.43	0.105	8.57
0.426	88.57	0.220	48.57	0.101	5.71
0.406	85.71	0.209	45.71	0.096	5.71
0.387	80.00	0.200	42.86	0.092	5.71
0.371	80.00	0.193	40.00	0.088	2.86
0.356	77.14	0.185	40.00	0.085	0.00
0.342	74.29	0.177	37.14	0.081	0.00
0.329	71.43	0.170	37.14	0.078	0.00
0.317	68.57	0.162	37.14	0.074	0.00
0.307	65.71	0.155	34.29	0.071	0.00
0.298	65.71	0.149	34.29	0.068	0.00
0.288	62.86	0.142	28.57	0.065	0.00
0.280	60.00	0.136	25.71	0.063	0.00
0.272	60.00	0.130	22.86	0.060	0.00
0.265	57.14	0.125	20.00		

SUMMARY INFORMATION

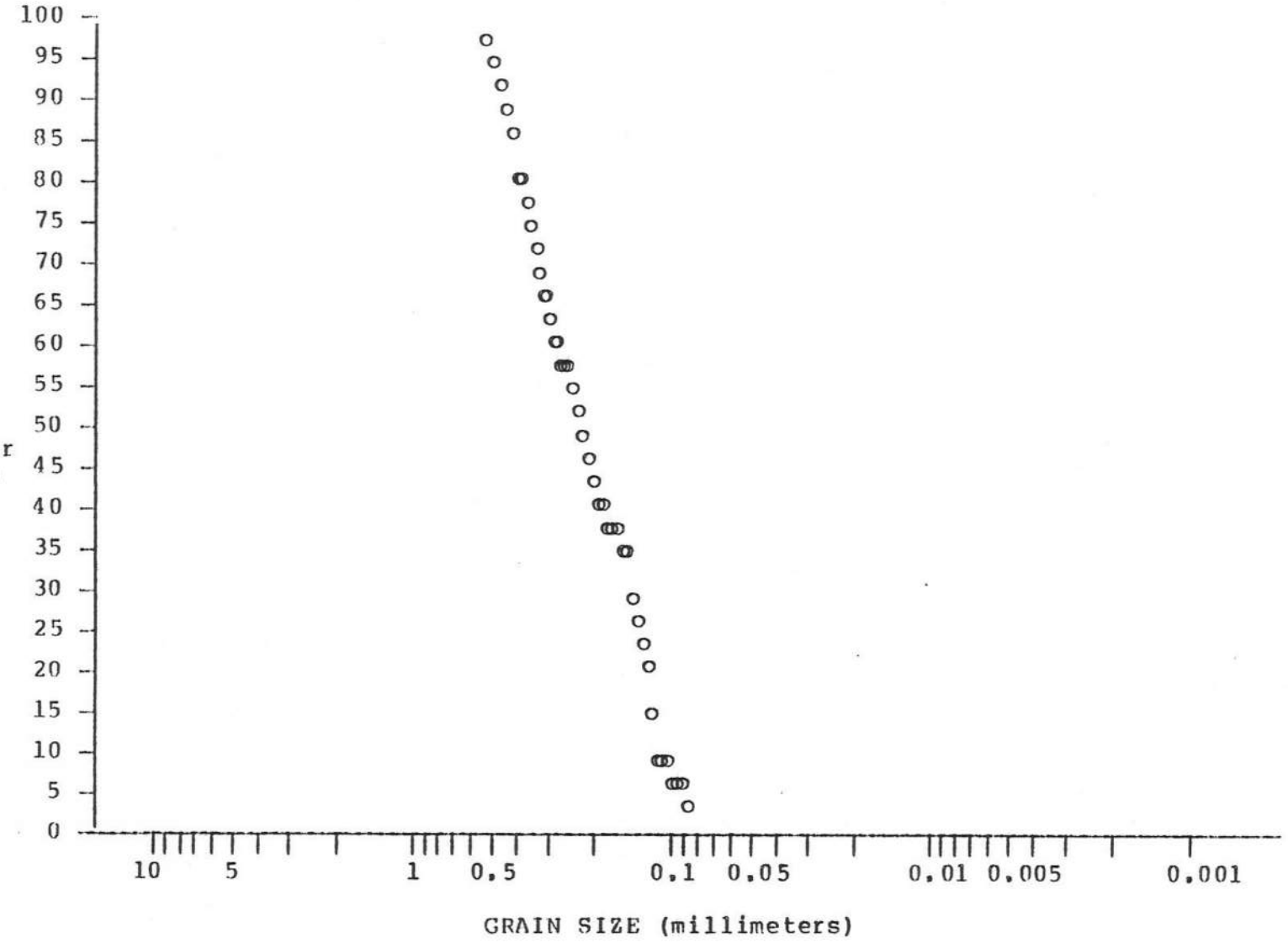
Median Grain Size 0.224 mm

Sample Weight 0.135 gm

Sample Description

ST ? #6 - 8.9
16:40 30cm - T

GRAIN SIZE DISTRIBUTION CURVE SAMPLE ST #6-8.9 DATE 5/06/80



GRAIN SIZE ANALYSIS

SAMPLE ST90 #5-4.5 DATE 5/06/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.451	100.00	0.240	33.75	0.114	6.25
0.426	99.38	0.228	27.50	0.110	6.25
0.406	99.38	0.220	24.38	0.105	6.25
0.387	99.38	0.209	18.75	0.101	6.25
0.371	99.38	0.200	16.88	0.096	5.00
0.356	99.38	0.193	16.25	0.092	5.00
0.342	99.38	0.185	14.38	0.088	4.38
0.329	98.75	0.177	13.13	0.085	4.38
0.317	96.88	0.170	12.50	0.081	4.38
0.307	86.25	0.162	11.88	0.078	3.13
0.298	74.38	0.155	10.63	0.074	3.13
0.288	64.38	0.149	10.00	0.071	2.50
0.280	55.00	0.142	9.38	0.068	1.88
0.272	50.00	0.136	8.75	0.065	1.25
0.265	47.50	0.130	8.75	0.063	1.25
0.257	42.50	0.125	8.13	0.060	1.25
0.251	38.75	0.120	7.50		

SUMMARY INFORMATION

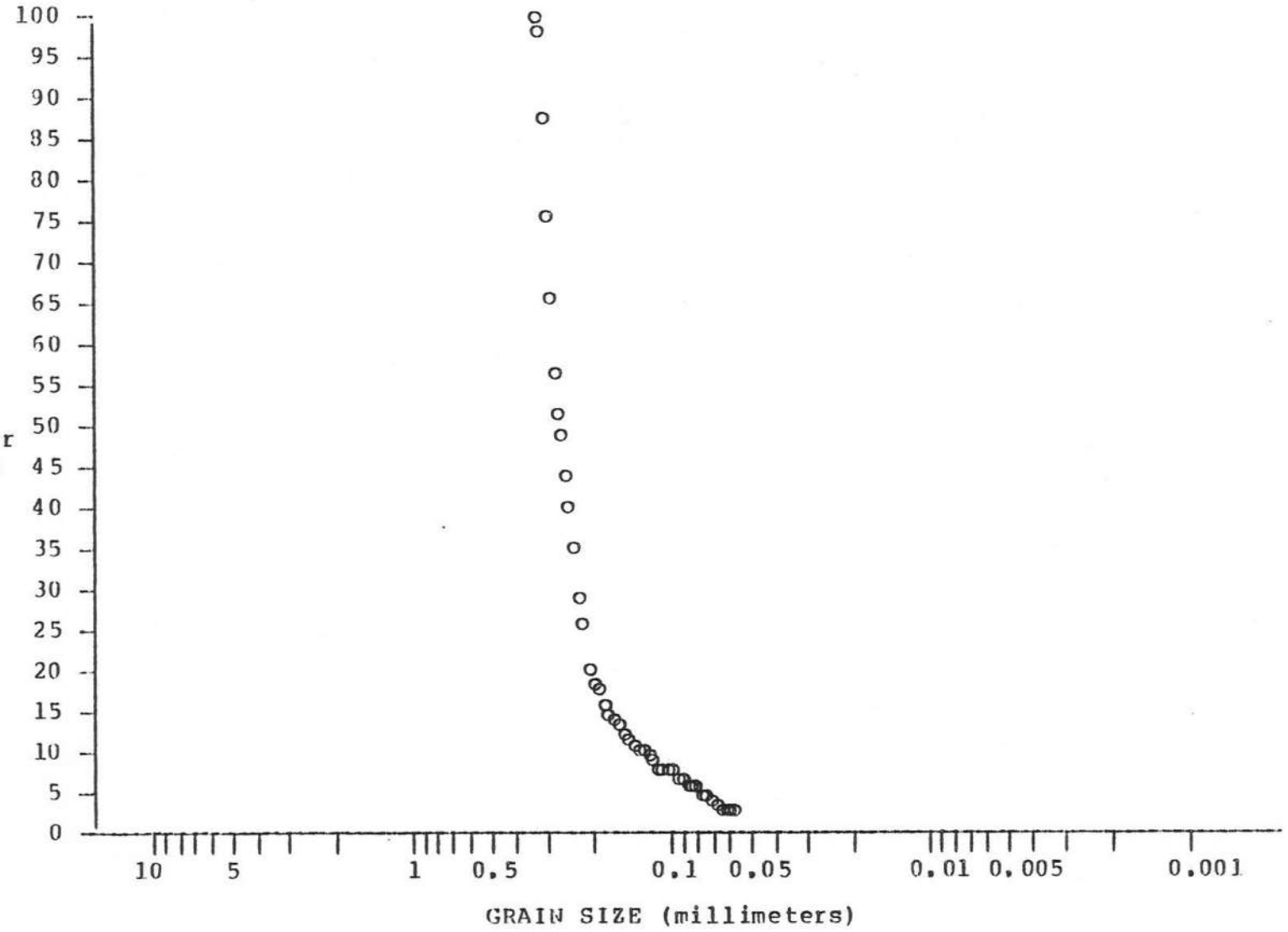
Median Grain Size 0.272 mm

Sample Weight 0.522 gm

Sample Description

ST90 #5 - 4.5cm
16:40 70cm - T

GRAIN SIZE DISTRIBUTION CURVE SAMPLE ST90 #5-4.5 DATE 5/06/80



GRAIN SIZE ANALYSIS

SAMPLE ST90 #7-1.9 DATE 5/06/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.479	100.00	0.251	31.09	0.120	8.29
0.451	99.48	0.240	29.53	0.114	5.70
0.426	98.96	0.228	26.94	0.110	4.66
0.406	96.89	0.220	25.39	0.105	4.66
0.387	88.08	0.209	23.83	0.101	3.63
0.371	83.42	0.200	22.80	0.096	3.63
0.356	76.17	0.193	21.76	0.092	2.59
0.342	70.98	0.185	21.24	0.088	2.07
0.329	63.73	0.177	20.73	0.085	2.07
0.317	59.59	0.170	19.69	0.081	2.07
0.307	54.40	0.162	19.69	0.078	1.04
0.298	51.30	0.155	18.13	0.074	1.04
0.288	46.63	0.149	17.10	0.071	1.04
0.280	41.45	0.142	15.03	0.068	0.52
0.272	39.90	0.136	12.95	0.065	0.52
0.265	35.75	0.130	11.92	0.063	0.00
0.257	33.16	0.125	9.84	0.060	0.00

SUMMARY INFORMATION

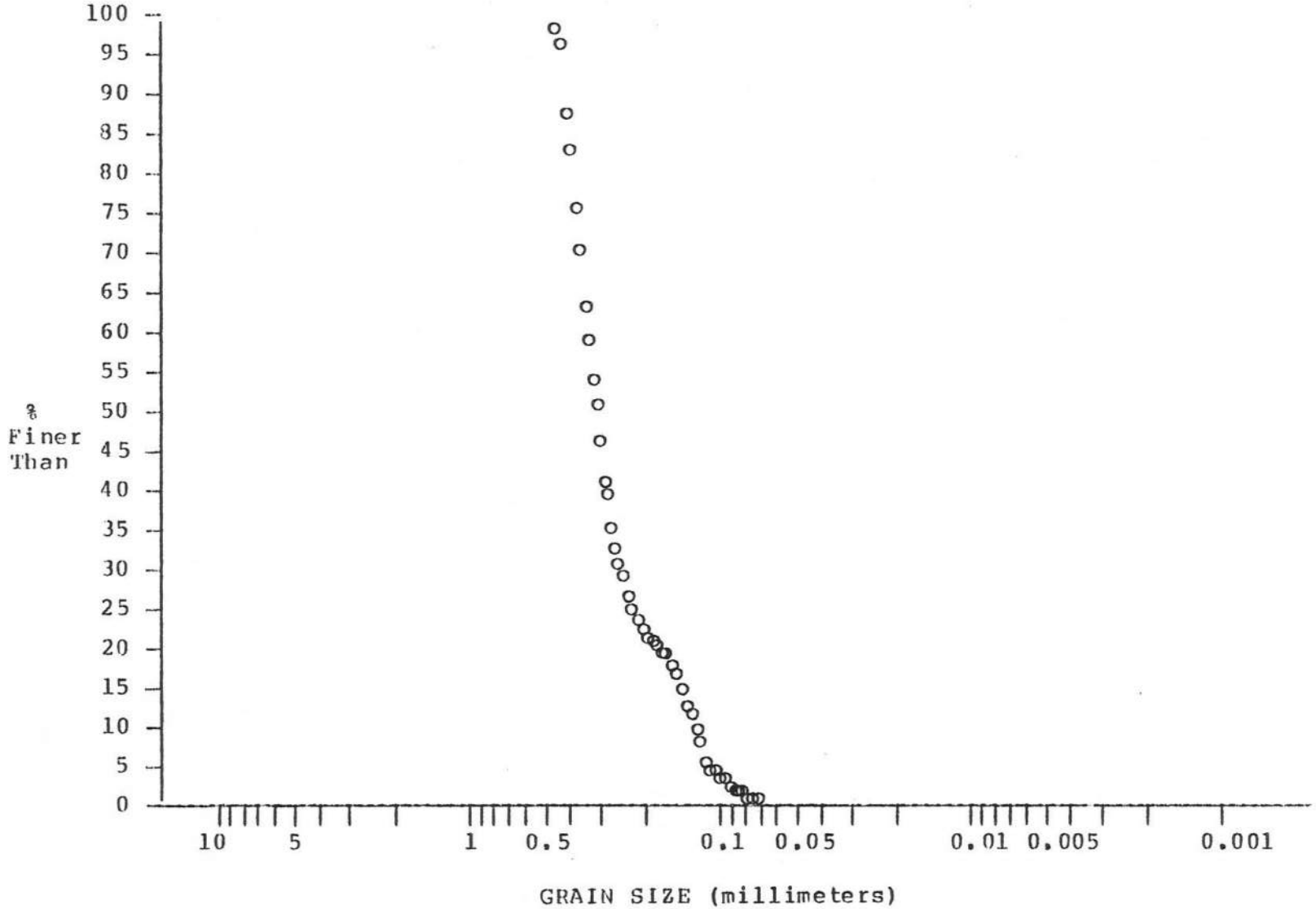
Median Grain Size 0.295 mm

Sample Weight 0.422 gm

Sample Description

ST90 #7 - 1.9cm
16:45 70cm - T

GRAIN SIZE DISTRIBUTION CURVE SAMPLE ST90 #7-1.9 DATE 5/06/80



GRAIN SIZE ANALYSIS

SAMPLE ST #1-7.7 DATE 5/06/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.965	100.00	0.280	25.57	0.130	11.50
0.829	98.94	0.272	24.05	0.125	11.04
0.732	98.34	0.265	23.00	0.120	10.59
0.655	97.73	0.257	22.24	0.114	9.98
0.598	97.28	0.251	21.03	0.110	9.68
0.552	96.22	0.240	19.36	0.105	8.62
0.512	92.59	0.228	18.15	0.101	7.41
0.479	83.66	0.220	17.70	0.096	6.81
0.451	79.27	0.209	17.10	0.092	6.51
0.426	68.23	0.200	17.10	0.088	5.14
0.406	57.79	0.193	16.64	0.085	4.54
0.387	51.13	0.185	15.58	0.081	4.08
0.371	42.66	0.177	15.13	0.078	3.63
0.356	38.28	0.170	14.83	0.074	2.87
0.342	36.16	0.162	14.37	0.071	2.57
0.329	33.89	0.155	14.07	0.068	2.12
0.317	31.77	0.149	13.46	0.065	1.82
0.307	29.65	0.142	12.86	0.063	1.21
0.298	27.84	0.136	12.10	0.060	0.76
0.288	26.48				

SUMMARY INFORMATION

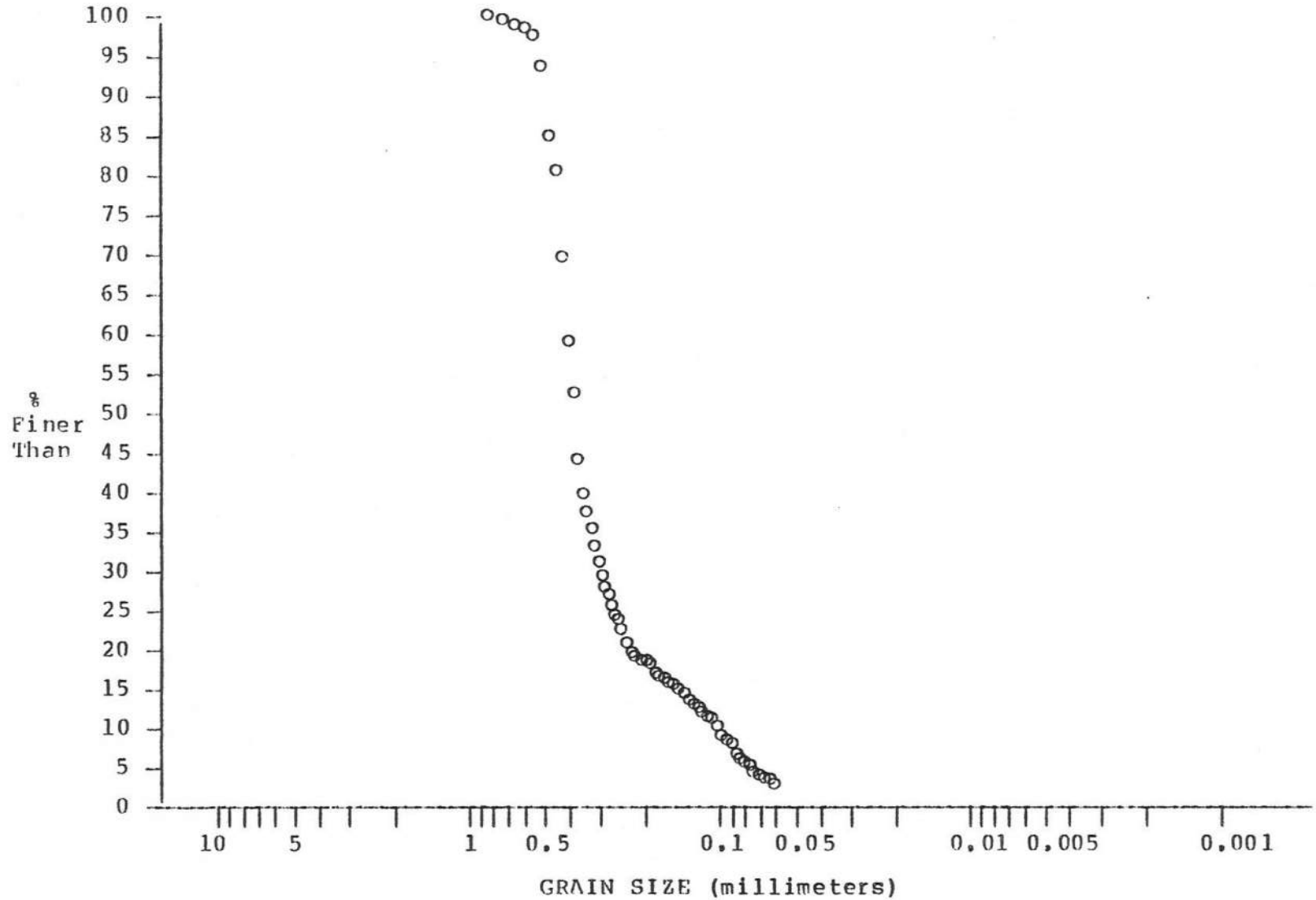
Median Grain Size 0.385 mm

Sample Weight 2.759 gm

Sample Description

ST ? #1 - 7.7cm
16:45 30cm - trough

GRAIN SIZE DISTRIBUTION CURVE SAMPLE ST #1-7.7 DATE 5/06/80



GRAIN SIZE ANALYSIS

SAMPLE ST90 #8-0 DATE 5/02/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.957	100.00	0.284	49.45	0.131	9.34
0.822	99.73	0.275	46.98	0.125	8.79
0.723	99.73	0.267	43.41	0.120	7.97
0.648	99.45	0.260	40.93	0.115	7.42
0.591	99.18	0.253	38.46	0.110	6.59
0.544	99.18	0.247	35.16	0.105	6.32
0.506	98.90	0.231	29.12	0.101	6.04
0.473	98.35	0.220	26.65	0.096	5.49
0.445	97.80	0.212	24.73	0.092	4.95
0.421	95.88	0.200	21.70	0.088	4.12
0.401	89.56	0.193	19.51	0.085	3.85
0.382	83.52	0.184	16.48	0.081	3.30
0.366	80.77	0.176	14.84	0.078	2.75
0.351	79.67	0.169	13.46	0.074	2.47
0.337	71.15	0.163	12.36	0.071	2.47
0.324	67.31	0.155	11.26	0.068	1.92
0.313	63.19	0.149	10.71	0.065	1.65
0.302	59.34	0.142	10.16	0.063	1.37
0.293	54.12	0.136	9.89	0.060	1.10

SUMMARY INFORMATION

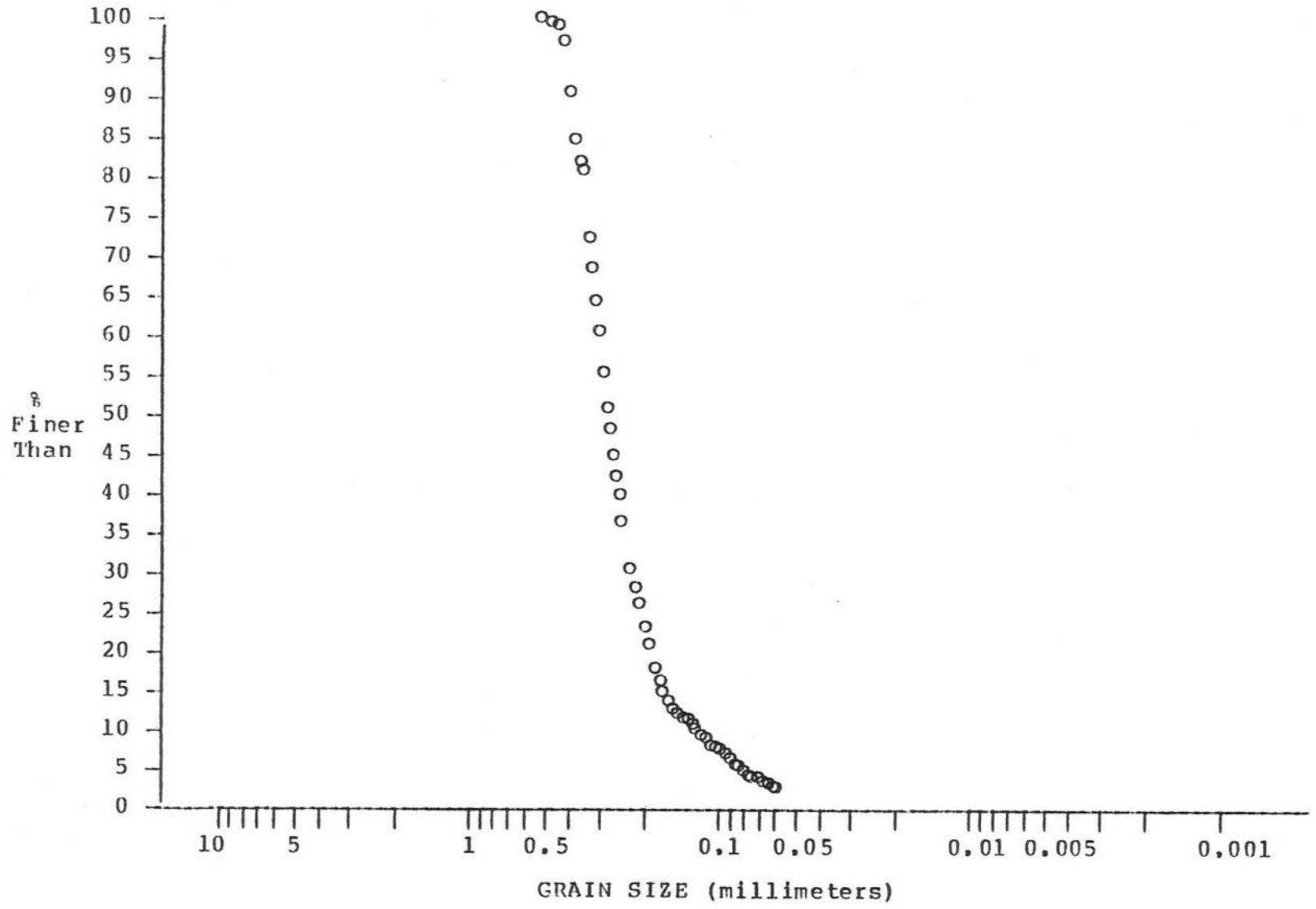
Median Grain Size 0.285 mm

Sample Weight 0.876 gm

Sample Description

ST90 Bo.No.8 - 0cm
17:00 9/27 30 cm C.

GRAIN SIZE DISTRIBUTION CURVE SAMPLE ST90 #8-0 DATE 5/02/80



GRAIN SIZE ANALYSIS

SAMPLE ST #6-1.8 DATE 5/02/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.544	100.00	0.253	86.25	0.120	45.00
0.506	98.75	0.247	85.00	0.115	42.50
0.473	98.75	0.231	83.75	0.110	40.00
0.445	97.50	0.220	82.50	0.105	36.25
0.421	95.00	0.212	82.50	0.101	33.75
0.401	95.00	0.200	80.00	0.096	32.50
0.382	95.00	0.193	78.75	0.092	28.75
0.366	92.50	0.184	77.50	0.088	25.00
0.351	92.50	0.176	76.25	0.085	21.25
0.337	92.50	0.169	73.75	0.081	20.00
0.324	91.25	0.163	70.00	0.078	17.50
0.313	91.25	0.155	63.75	0.074	13.75
0.302	88.75	0.149	60.00	0.071	12.50
0.293	88.75	0.142	55.00	0.068	10.00
0.284	87.50	0.136	53.75	0.065	7.50
0.275	87.50	0.131	51.25	0.063	6.25
0.267	86.25	0.125	48.75	0.060	5.00
0.260	86.25				

SUMMARY INFORMATION

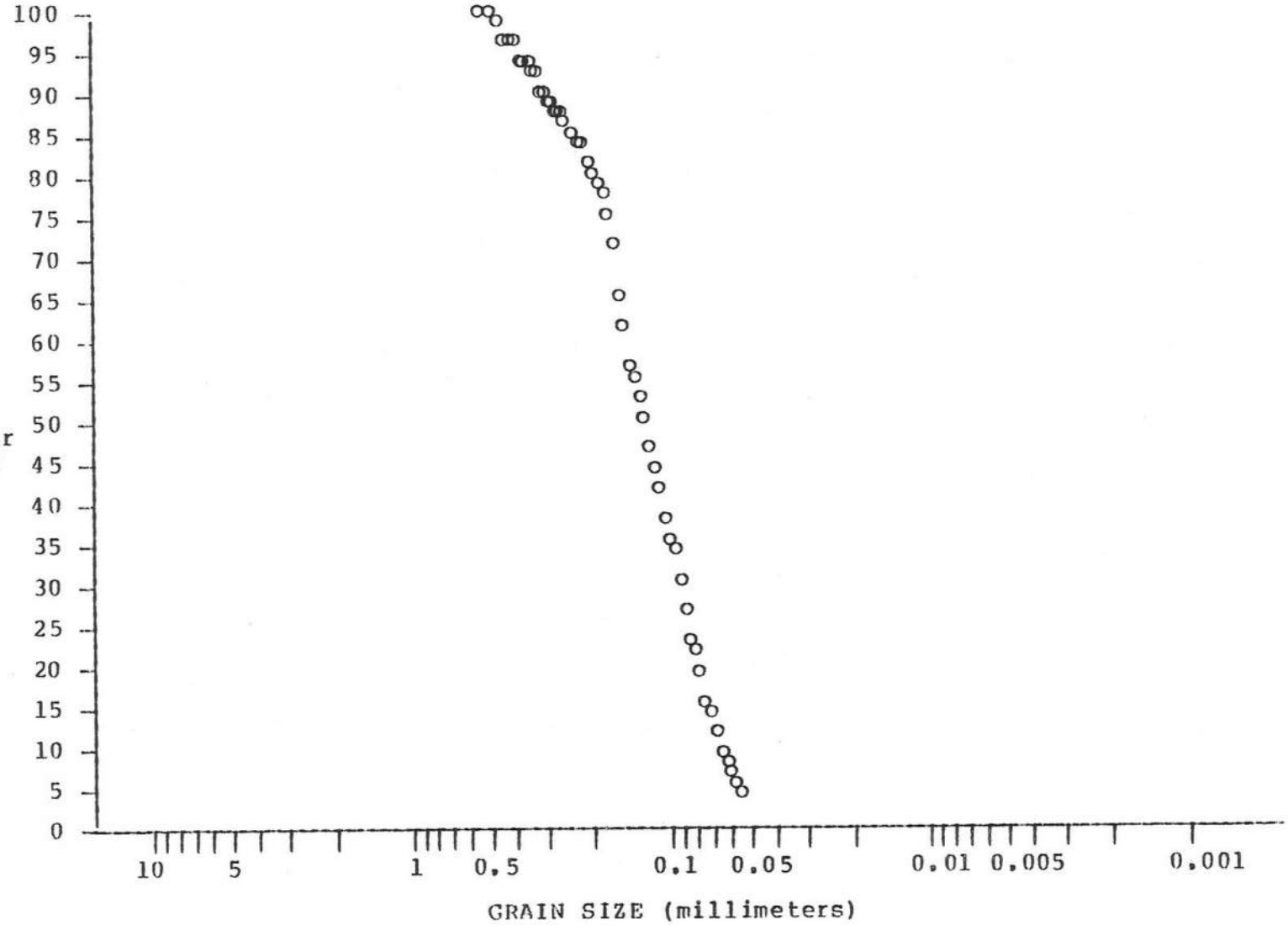
Median Grain Size 0.128 mm

Sample Weight 0.127 gm

Sample Description

No. 6 - 1.8cm
17:00 70cm - c.

GRAIN SIZE DISTRIBUTION CURVE SAMPLE ST #6-1.8 DATE 5/02/80



GRAIN SIZE ANALYSIS

SAMPLE ST90 #5-0.9 DATE 5/02/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.552	100.00	0.257	52.14	0.120	5.71
0.512	99.29	0.251	50.00	0.114	5.00
0.479	98.57	0.240	45.00	0.110	3.57
0.451	97.86	0.228	41.43	0.105	3.57
0.426	97.14	0.220	39.29	0.101	3.57
0.406	97.14	0.209	34.29	0.096	2.86
0.387	96.43	0.200	29.29	0.092	2.14
0.371	95.00	0.193	27.14	0.088	2.14
0.356	92.86	0.185	22.14	0.085	2.14
0.342	90.00	0.177	19.29	0.081	1.43
0.329	85.00	0.170	17.14	0.078	0.71
0.317	80.71	0.162	14.29	0.074	0.71
0.307	76.43	0.155	12.86	0.071	0.71
0.298	72.86	0.149	11.43	0.068	0.00
0.288	70.71	0.142	10.00	0.065	0.00
0.280	65.71	0.136	9.29	0.063	0.00
0.272	62.86	0.130	6.43	0.060	0.00
0.265	57.14	0.125	5.71		

SUMMARY INFORMATION

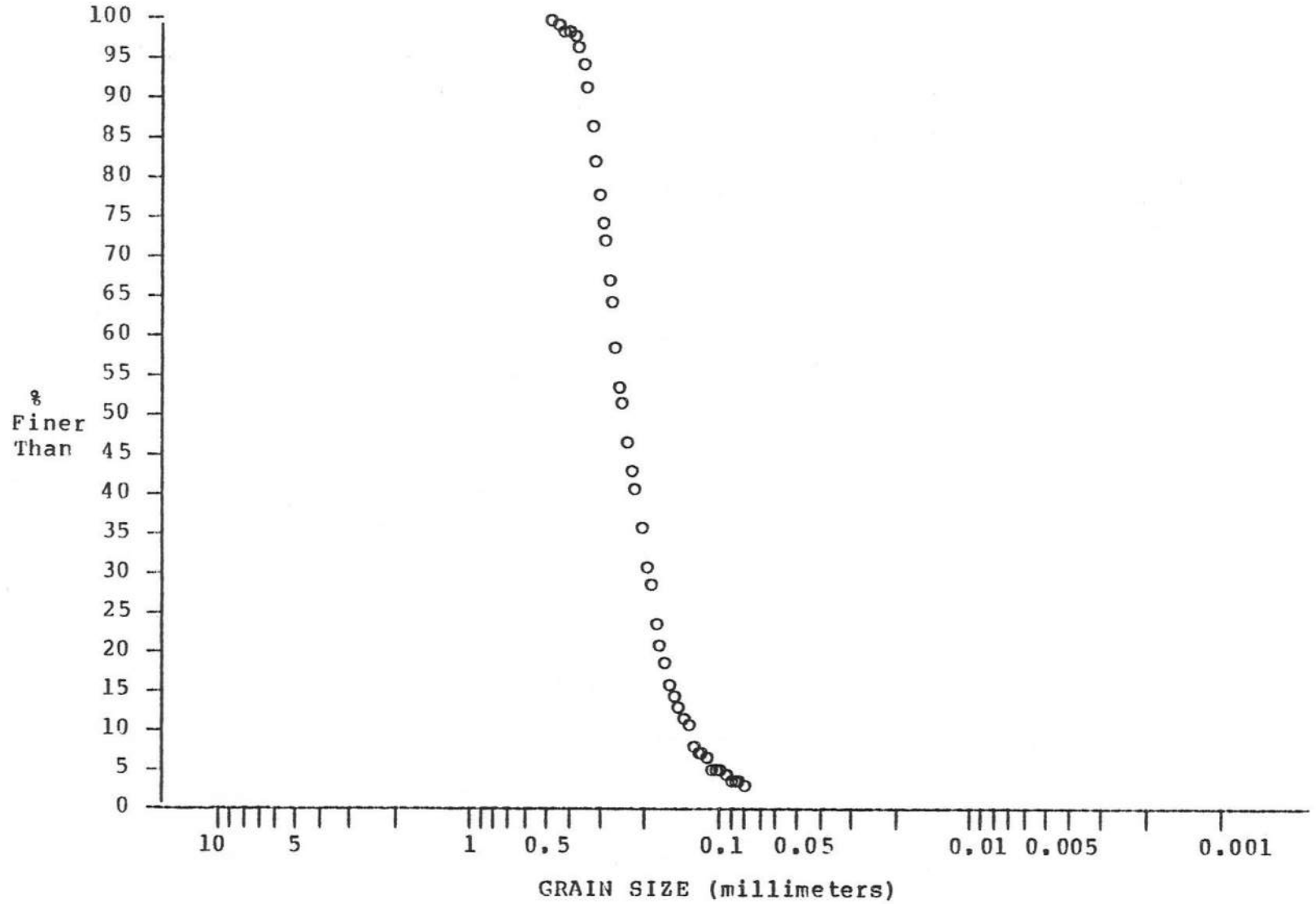
Median Grain Size 0.251 mm

Sample Weight 0.295 gm

Sample Description

ST90 m #5 - 0.9cm
17:10 9/27 30 cm - T.

GRAIN SIZE DISTRIBUTION CURVE SAMPLE ST90 #5-0.9 DATE 5/02/80



GRAIN SIZE ANALYSIS

SAMPLE ST95 #2-2 DATE 5/02/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.655	100.00	0.265	63.33	0.125	26.67
0.598	96.67	0.257	63.33	0.120	23.33
0.552	96.67	0.251	63.33	0.114	23.33
0.512	93.33	0.240	63.33	0.110	23.33
0.479	90.00	0.228	60.00	0.105	23.33
0.451	86.67	0.220	56.67	0.101	20.00
0.426	83.33	0.209	56.67	0.096	16.67
0.406	83.33	0.200	53.33	0.092	13.33
0.387	83.33	0.193	50.00	0.088	13.33
0.371	83.33	0.185	50.00	0.085	10.00
0.356	80.00	0.177	46.67	0.081	6.67
0.342	80.00	0.170	43.33	0.078	3.33
0.329	76.67	0.162	43.33	0.074	3.33
0.317	73.33	0.155	40.00	0.071	3.33
0.307	73.33	0.149	40.00	0.068	3.33
0.298	73.33	0.142	36.67	0.065	3.33
0.288	70.00	0.136	33.33	0.063	3.33
0.280	70.00	0.130	30.00	0.060	0.00
0.272	66.67				

SUMMARY INFORMATION

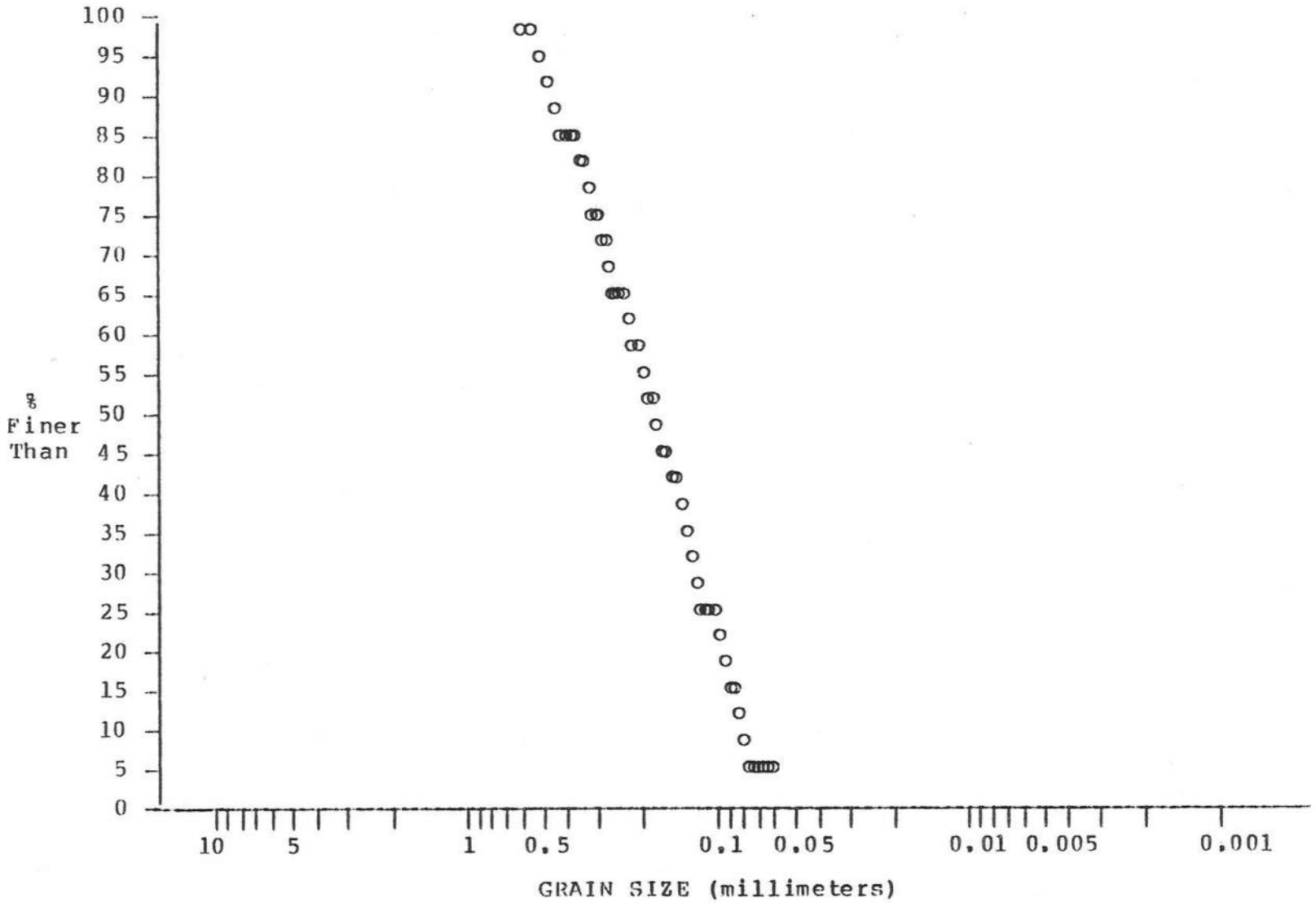
Median Grain Size 0.193 mm

Sample Weight 0.114 gm

Sample Description

ST95 #2 - 2cm
17:00 - 9/27 110cm - c.

GRAIN SIZE DISTRIBUTION CURVE SAMPLE ST95 #2-2 DATE 5/02/80



GRAIN SIZE ANALYSIS

SAMPLE ST90 #7-0.1 DATE 5/02/80

Diam in mm	% Finer Than	Diam in mm	% Finer Than	Diam in mm	% Finer Than
0.965	100.00	0.280	25.69	0.130	2.34
0.829	98.51	0.272	23.78	0.125	1.70
0.732	97.45	0.265	22.72	0.120	1.06
0.655	97.03	0.257	20.38	0.114	0.85
0.598	96.18	0.251	17.62	0.110	0.85
0.552	95.33	0.240	14.01	0.105	0.21
0.512	93.21	0.228	11.68	0.101	0.21
0.479	87.69	0.220	9.77	0.096	0.00
0.451	79.83	0.209	8.28	0.092	0.00
0.426	74.10	0.200	7.43	0.088	0.00
0.406	67.73	0.193	6.37	0.085	0.00
0.387	59.45	0.185	5.73	0.081	0.00
0.371	54.99	0.177	4.88	0.078	0.00
0.356	47.98	0.170	4.46	0.074	0.00
0.342	43.31	0.162	3.82	0.071	0.00
0.329	40.13	0.155	3.40	0.068	0.00
0.317	37.15	0.149	2.97	0.065	0.00
0.307	34.18	0.142	2.76	0.063	0.00
0.298	30.36	0.136	2.55	0.060	0.00
0.288	26.33				

SUMMARY INFORMATION

Median Grain Size 0.360 mm

Sample Weight 1.093 gm

Sample Description

ST90 #7 - 0.1cm
17:10 9/27 30cm - trough

GRAIN SIZE DISTRIBUTION CURVE SAMPLE ST90 #7-0.1 DATE 5/02/80