LAMONT-DOHERTY GEOLOGICAL OBSERVATORY OF COLUMBIA UNIVERSITY

PALISADES, NEW YORK

NEPHELOMETER MEASUREMENTS, HACH TURBIDIMETER MEASUREMENTS AND BOTTOM PHOTOGRAPHS FROM CONRAD CRUISE 15

by

Lawrence Sullivan

Edward Thorndike

Maurice Ewing

Stephen Eittreim

July 1973

Technical Report No. 8-CU-8-73

ONR Contract N00014-67-A-0108-0004

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INTRODUCTION

This report gives the results of nephelometer and Hach Turbidimeter sample measurements as well as bottom photographs taken on ROBERT D. CONRAD Cruise 15, which began at Victoria, British Columbia, on 30 September 1971 and ended in Bridgetown, Barbados, on August 1, 1972. During this cruise measurements were made in the South Pacific, Antarctic and Atlantic oceans. The principal objectives of these measurements were to study the transport of sediment in the water column and its deposition and erosion at the sediment-water interface. The bottom photograph collection will provide information for geological and biological studies of the ocean floor. It is the aim of this report to present this data in a format which will allow the rapid dissemination of the information to the scientific community.

INSTRUMENTATION

Bottom Camera: The Ewing-Thorndike deep-sea camera used on this cruise was similar to that described by Thorndike (1959). The lens was designed by Hopkins (1961) for use under water in a housing with a plane window. The focal length and relative aperture in air are 35 mm and f/11. The camera axis makes an angle of 18° with that of the frame, which is essentially vertical. The picture size is 38 x 32 mm, giving angular half-fields in water of 21.0° and 18.1° . The camera is approximately 2.1 m off bottom, giving roughly the field shown in Figure 1. Illumination is provided by a 100-joule strobe light located at the lower end of the frame, approximately 0.76 m off bottom. The camera and strobe, together with a magnetic compass, are mounted in a frame which also supports the nephelometer as shown in Figure 1.

The camera is actuated by a magnet which slides up along the outside of its housing when the trigger weight strikes bottom, removing the tension in the trigger line. The interval between photographs is approximately one minute, allowing time for the film to be transported, the capacitors of the strobe system to be recharged, and the ship to drift to a new position. The film, Kodak 2479 RAR, is processed in D19 or D76 developer shortly after exposure.

Nephelometer: The nephelometer is an improved version of that described by Thorndike and Ewing (1967). The basic arrangement of the elements is shown in Figure 2. Light from a small bulb powered by 10 to 12 rechargeable nickel-cadmium cells passes through a window into the water beyond. The center part of this divergent beam goes through an opal glass diffuser and an attenuator, consisting of three strips of grey filter glass with different optical densities, and then through a window into the camera housing. The outer parts of the beam proceed past the edges of the attenuator and do not enter the camera unless the light is scattered. Thus the camera receives three different intensities of direct light near its center, with regions of scattered light on either side. The optical densities of the attenuator strips have been chosen so that one of the center strips will receive illumination which is approximately equal to that of the scattered light. Two additional traces are recorded, one near each edge of the film. The first gives a record of time and depth. A watch with a blade replacing its second hand interrupts a light beam directed toward the film to supply time marks. Depth is furnished by a 0 - 10,000 psi, bourdon-tube pressure gauge, with a disk containing small holes near its outer edge replacing its pointer, and with its tube open to the sea. The position of the holes is recorded on the film by use of the same light beam that records time. Depth at intermediate points is obtained from this indication of pressure, using the PDR depth of the bottom for calibration. The second trace receives light from a small bulb in the camera housing which receives power from the same battery that supplies the main nephelometer light. The exposure of this trace responds to changes in light-battery voltage, film transport speed, film sensitivity and development in the same manner as the direct traces but, of course, is unaffected by the properties of the water path. Thus, it can be used to monitor the direct traces. The nephelometer camera employs a Leitz Summicron lens of 35 mm focal length, and f/2.0 relative aperture. Unperforated, 35-mm film, Kodak 2479 RAR, is transported at a speed slightly less than 25 mm per minute behind a 4.8 mm slit located in the plane where the attenuator image is formed. The nephelometer is mounted in the same frame as the bottom camera as shown in Figure 1.

Sensitometer: Two types of sensitometer were employed to supply standard exposures for the nephelometer film calibration. The first, used for stations N1 - N109, consists of a grey filter with strips having optical densities differing by 0.2 which are illuminated from behind by a diffuse light and photographed with the nephelometer camera with film transporting at normal speed. The second uses the same type of filter, with steps differing in density by 0.2, but is arranged to operate with the nephelometer film removed from the camera and placed essentially in contact with the filter. It provides information for a longer characteristic curve and is less subject to errors. It was used for stations N110 - N176. A sample characteristic curve obtained with this sensitometer is given in Figure 3.

Hach Turbidimeter Results: On legs 4 through 10 water samples were taken with 1.7 liter Niskin bottles affixed to the hydrographic wire at varying distances above the nephelometer. Turbidity of these samples was measured on board with a Hach laboratory turbidimeter, model 2100A. This instrument measures the turbidity of a water sample by the degree of light scattering produced at 90°. A high intensity lamp sends a light beam up through the base of a flat-bottomed vial containing the sample and a photomultiplier tube senses the light scattered out through a viewing port on the side of the vial chamber. Stray light produced by scattering at both vial surfaces is also recorded by the sensor, hence cleanliness of the glass is critical.

Niskin bottles were tripped by messenger during the time of "hits" made to obtain bottom photographs. The heights of the samples above the bottom were great enough (generally greater than 100 m, although four samples were taken at 55 m) to avoid contamination from the sediment cloud stirred up by bottom hits. As soon as feasible after coming aboard, the samples are poured directly into the turbidimeter vials. The vials are rinsed three times with the sample water, then untrasonically cleaned before a reading is taken. Five separate readings are generally obtained unless the readings are inconsistent, in which case more readings are made until a stable value is established. The average and the standard deviation of these readings is given on page 108. The sample bottle is agitated before the samples are drawn in order to resuspend any particles which may have settled in the time interval between coming aboard and running the sample.

The manufacturer's units, FTU - Formazin Turbidity Units - relate to turbidity standards of Formazin suspensions prepared gravimetrically. The units were originally linked to ppm concentrations of suspensions of diatomaceous earth and although the correlation is not exact, this can be considered as a rough approximation when thinking about the order of magnitude concentrations involved.

The instrument is standardized to compensate for drift by inserting samples of known standard turbidity and adjusting the scale to the proper reading. At the time of this cruise, the lowest turbidity standard available was 72.0 FTU, which is three orders of magnitude or three scale ranges above the values being measured. Triply-distilled filtered water was used as a check on the standardization for the low scale range. The filtration was done with 0.45 μm pore-size filters on board ship at the time the distilled water was drawn off into the sample vial. The measurements made of this reference water are also included on pages 108 and 109.

SHIPBOARD OPERATION

The camera-nephelometer unit is normally lowered on the hydrographic wire at a speed of 100 meters per minute. During the time that a point of the film moves from one side of the 4.8 mm slit to the other, the nephelometer has descended a distance of approximately 20 m. Thus, a point on the film gives a measure of light scattering averaged over 20 meters of depth. When the unit strikes bottom, the bottom-camera strobe light flashes and one photograph is exposed. A sequence of 10 - 20 photographs is taken by raising the unit approximately 50 meters and then lowering it to the bottom and continuing this procedure. The strobe light flash produces a dark band across the nephelometer film which can be useful in determining the point on the film corresponding to the hit, but unfortunately it obscures the record in the bottom 20 to 40 m. After bottom photographs have been taken, the equipment is raised at the same speed at which it was lowered. The nephelometer film is processed on shipboard with D19 developer as soon as practicable.

In order to preclude errors from contamination, the equipment is washed between lowerings to remove sediment that has been accumulated from contact with the bottom. Baffles and frame are covered with non-reflecting black felt to minimize errors from reflected light.

REDUCTION OF CAMERA AND NEPHELOMETER DATA

The nephelometer and camera films from each leg are returned to Lamont-Doherty where they are inspected. Prints are made from the camera negatives for each station and a punched card is prepared for each, in order to permit rapid sorting and retrieval of information by computer. The prints of the photographs are filed for use by interested scientists. This report contains 600 photographs, chosen from the 1,930 usable frames obtained. Some stations are represented by only a few photographs because bottom type changes little between frames. On stations where bottom type was more variable, more photographs are included.

The nephelometer films are marked at positions where they are to be photometered. The films from N1 - N136 were photometered at each 300 m of depth for the upper part of the water column and at each 100 m for the bottom 1,000 m. The films from N137 - N176 were photometered at each 250 m for the upper part and at each 100 m for the bottom 1,000 m. Additional points of special interest were also photometered. All depths are based on PDR soundings corrected using Mathews Tables.

Photometering was done with a Photovolt Electronic Spot-Photometer, Model 502, combined with a Transmission Densitometer, Model 52, equipped with a film carriage that moves the film transversely past the densitometer slit with a motor-driven cam.

The optical density of the film is read on the photometer and later combined with depth information and recorded on punched cards. Optical density is converted to log-exposure by using a characteristic curve constructed from the sensitometer patches. The upper part of the curve (high exposure end) has a small slope and its shape is somewhat uncertain due to temperature effects. This leads to an uncertainty of $\pm$ 0.1 in the log-exposure in regions of very strong scattering.

For each depth, the log-exposures of the two scattered-light strips are averaged and the log-exposure for one of the direct strips is subtracted from this average to give log E/E_D. If values of log E/E_D for any station are to be compared with those of other stations, the absorption produced by the attenuator in the direct beam must be the same in all cases or, if not, a correction must be applied to compensate for the change. Starting with station N137 (Leg 9), numbered, cemented attenuators were used. The optical densities of the strips of each attenuator are compared with a standard, #1, kept at the Lamont-Doherty laboratory, so that proper compensation can be made. Prior to this time, uncemented attenuators were used and new pieces of glass were substituted for damaged ones during the cruise. The optics log and communication with the operators show that changes were made after stations N99, N127 and N136 and possibly at other times as well. The magnitudes of the three changes and the possibilities of additional changes were investigated by three basic methods. These will be described briefly.

Method 1: It is assumed that regions can be found (clear water between the surface and bottom nepheloid layers) where the light scattering of the water does not change appreciably between neighboring stations. Differences in log E/E_D are attributed to changes in E_D produced by changes in attenuator absorption and they provide the correction needed to make observations with the two attenuators comparable.

Method 2: It is assumed that the lens aperture, film transport speed, and sensitometer exposure time are the same for stations before and after the attenuator change. Differences in log E_D are attributed to changes in the attenuator absorption and are used to obtain the correction needed, making observations with the two attenuators comparable.

Method 3: It is assumed that the light source intensity, lens aperture, film transport speed, film sensitivity, and development are the same for stations before and after an attenuator change. A single, average characteristic curve is used to convert the optical densities of the direct strips to log-exposures (this method is used in cases where the sensitometer data are questionable) and differences in log E_D are used to obtain the correction as in method 2.

Method 1 can be applied by examining the values of log E/E_D for clear water, smoothing out the fluctuations and gradual changes attributable to biological productivity and proximity to continents, and noting the magnitude of the abrupt changes. By this procedure, the change at station N99 is found to be 0.4. Method 1 can also be applied by calculating the average value of log E/E_D for clear water for two groups of stations in the same region, different attenuators being used for each of the groups. Using this procedure, with 10 Argentine Basin stations before station N99 and 3 shortly after it, one obtains 0.43 for the change. Comparison of stations N98 and N99 with N100 and N101 by method 3 yields a difference of 0.45, in good agreement with the results of method 1.

The change between stations N127 and N128, calculated by method 1 using one station before the change and two after it, is 0.09. By method 2, using 7 stations before the change and 9 after it, the change is 0.11.

Method 2 seems more suitable than method 1 for determining the change after station N136 as the stations available for use with method 1 are not close together and are rather near shore. Using 9 stations before the change and 15 after it, method 2 gives 0.34. Method 1, using two stations before and two after the change, gives 0.41.

Method 1 can be employed to compare the attenuator used on CONRAD Cruise 16 in the Argentine Basin with that used in the same area on Cruise 15. As a well-calibrated attenuator was used on Cruise 16, this provides a method of obtaining the correction for the part of Cruise 15 prior to station N100 without the possibility of cumulative errors arising from the several comparisons given above. Comparison of log E/E_D for 10 stations of Cruise 15 with 6 from Cruise 16 gives a correction of 0.60 for the first part of Cruise 15. The agreement between this and the sum of the changes given above ($0.43 - 0.10 + 0.34 = 0.67$) is considered satisfactory.

The evidence from all three methods indicated that no additional attenuator changes were made. The correction for stations N137 to N176 is known to be zero because this attenuator has the same absorption as the standard. The other corrections are obtained from the changes considered above and are tabulated below.

Station	Correction
N001 - N099	0.6
N100 - N127	0.2
N128 - N136	0.3
N137 - N176	0.0

ACKNOWLEDGEMENTS

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CAMERA NEPHELOMETER UNIT

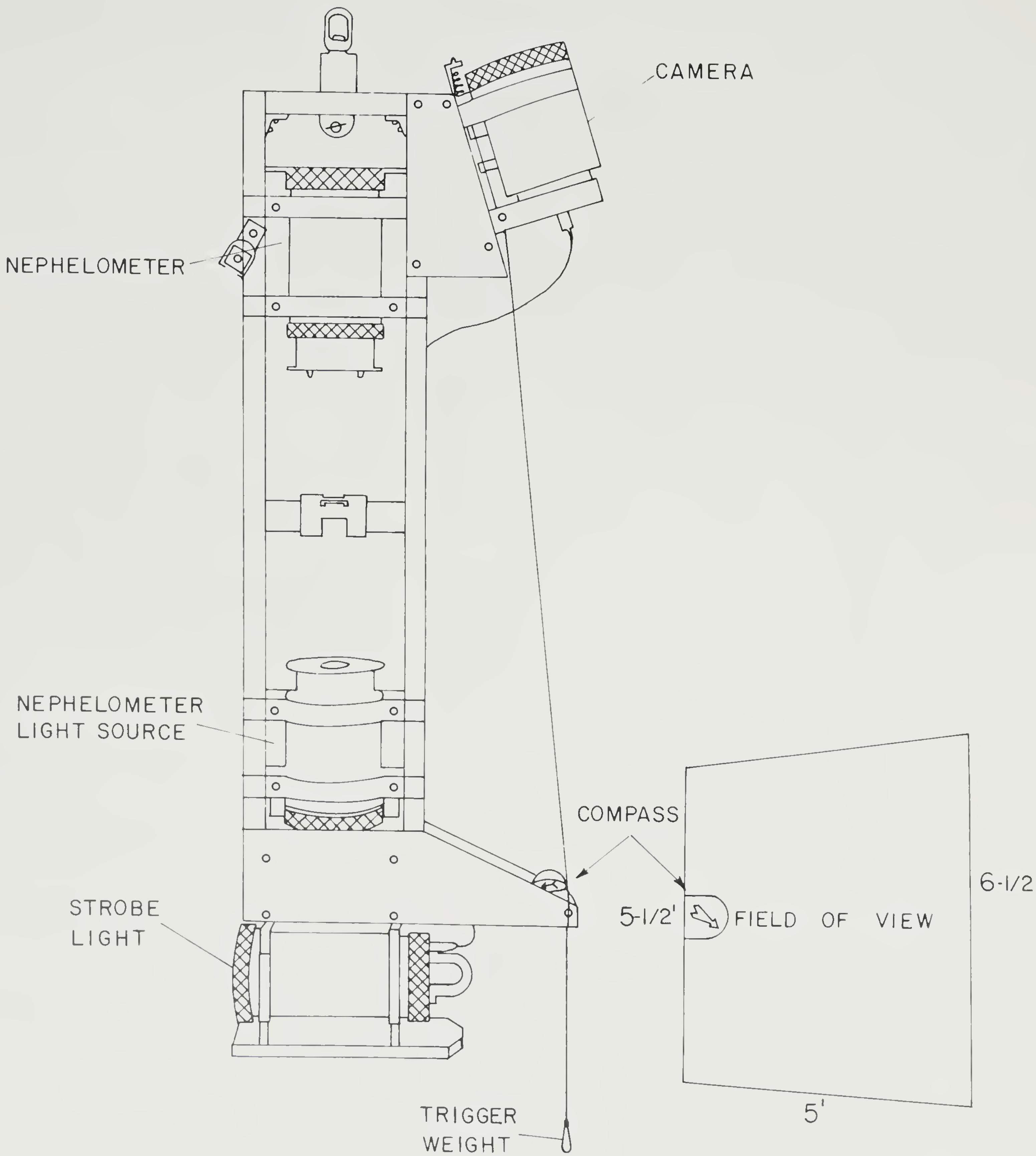

FIGURE 1

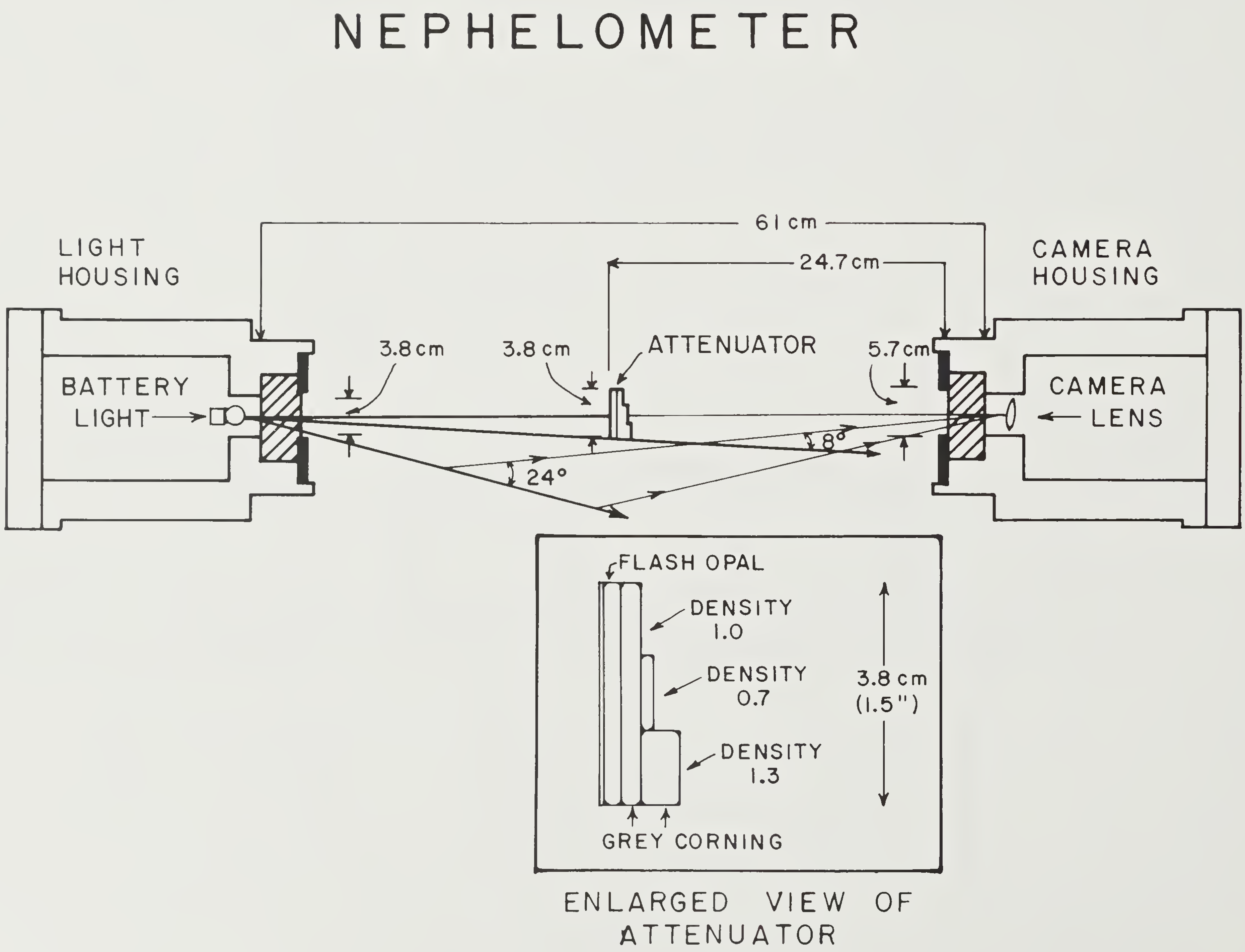
NEPHELOMETER
61 cm
24.7 cm
LIGHT
HOUSING
CAMERA
HOUSING
BATTERY
LIGHT
3.8 cm
3.8 cm
ATTENUATOR
5.7 cm
CAMERA
LENS
8°
24°
FLASH OPAL
DENSITY
1.0
DENSITY
0.7
DENSITY
1.3
3.8 cm
(1.5")
GREY CORNING
ENLARGED VIEW OF
ATTENUATOR

FIGURE 2

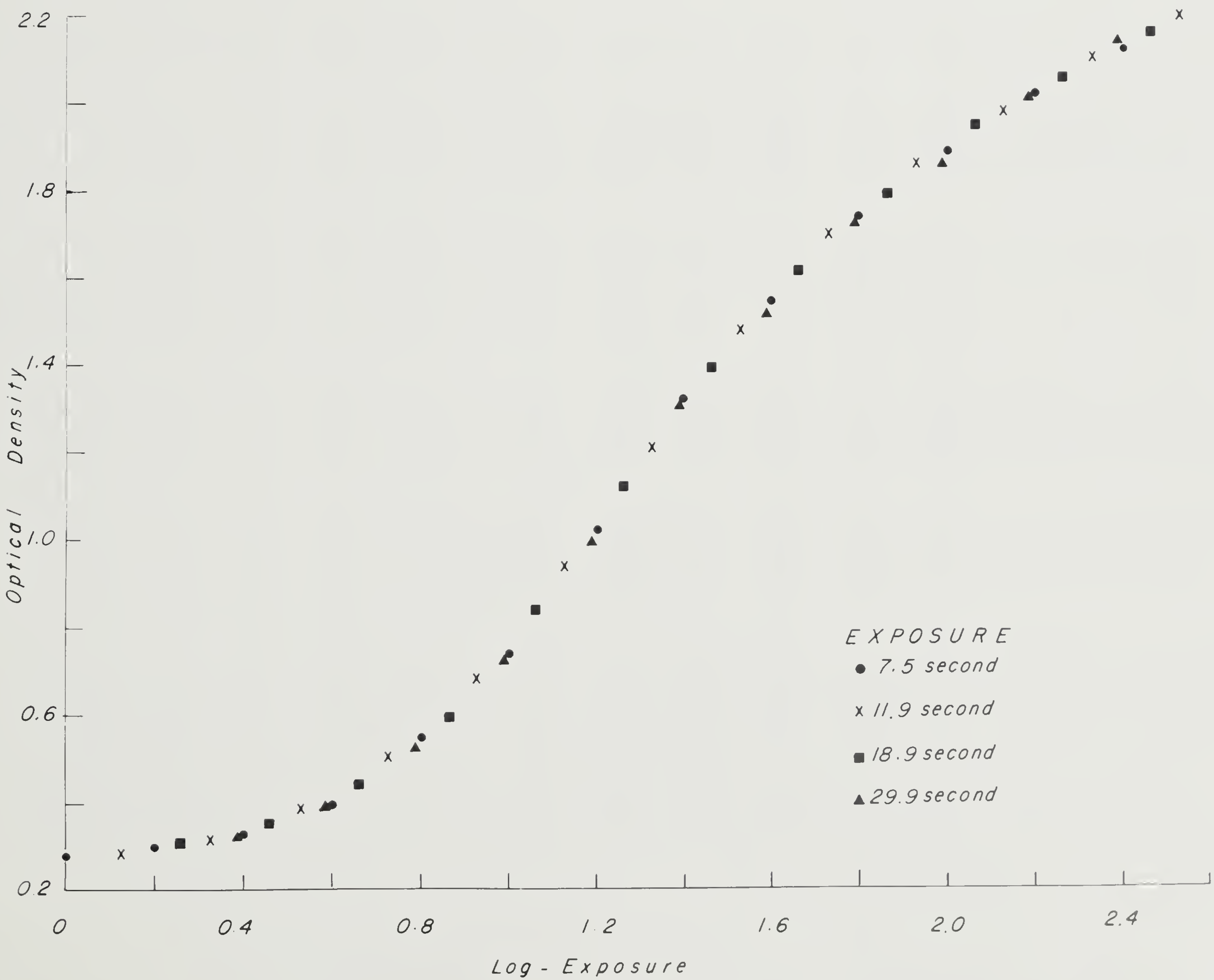
2.2
1.8
1.4
1.0
0.6
0.2
Optical Density
0
0.4
0.8
1.2
1.6
2.0
2.4
Log - Exposure
EXPOSURE
7.5 second
11.9 second
18.9 second
29.9 second

FIGURE 3

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K Stn.	N Stn.	Ship Stn.	Date 1971	Position Lat. North	Position Long. West	Msdn Sq.	TIME Over	TIME Hit	TIME Free	TIME Surface	PDR Depth Fms. Over	PDR Depth Fms. Surface	Number Hits	Number Good	Data
1	1	2	01 Oct	45 42.8	127 58.7	157	0851	0923	0942	1014	1548	1546	15	14	C2, RA1, GS2
2	2	3	02 Oct	45 41.4	125 39	157	0917	0943	1006	1030	1233	1235	15	2	C3, RA2, GS3
3	3A	4	03 Oct	44 29.1	129 22	157	0915	0947	1065	1037	1514	1514	18	17	C4, RA3, GS4
4	3B	5	04 Oct	42 50.6	133 29.6	158	0956	1038	1053	1136	2037	2039	15	11	C5, GS5
5	3	6	05 Oct	38 32.2	133 39.3	122	1542	1632	1649	1739	2381	2410	15	13	C6, RA4, GS6
6	4	7	06 Oct	36 02.3	133 46.4	122	0929	1027	1043	1141	2779	2800	15	13	C7, RA5, GS7-8
7	5	8	07 Oct	32 55.5	133 53	122	0834	0933	0949	1048	2858	2860	15	14	C8, RA6, GS9-10
8	6	9	08 Oct	29 42.2	133 51.5	086	1131	1205	1221	1244	1540	1540	15	14	D1, RA7
9	7	10	09 Oct	26 56.2	133 56.4	086	0902	0955	1012	1047	2453	2435	15	14	C9, RA8, GS11-12
10	8	11	10 Oct	23 33.3	134 02.5	086	0909	1004	1022	1100	2673	2678	15	15	C10, RA9, GS13-14
11	9	12	11 Oct	19 59	134 01.5	050	1252	1353	1410	1451	2802	2797	15	13	C11, RA10, GS15-16
12	10	13	12 Oct	17 25	134 06.8	050	0909	1004	1021	1058	2614	2675	15	13	RA11, GS17-18
13	11	14	13 Oct	14 04.5	134 10.4	050	1056	1144	1202	1234	2300	2285	15	13	C13, GS19-20
14	12	15	14 Oct	11 04.6	134 21	050	0906	0958	1016	1050	2553	2546	15	13	C14, RA12, GS21-22
15	13	16	15 Oct	07 13.6	134 48.6	014	1343	1438	1456	1551	2494	2490	15	13	C15, RA13
16	14	18	17 Oct	01 07.6	136 11.8	014	1205	1255	1312	1344	2305	2355	15	12	C17, RA14
17	15	19	18 Oct	02 42.5	134 50.5	014	0914	1006	1022	1113	2296	2300	15	14	C18, RA15, GS24
18	16	20	19 Oct	05 01	132 41.7	014	0857	0946	1003	1035	2293	2295	15	10	C19, RA16
19	17	21	20 Oct	05 01.2	131 57.1	014	0942	1033	1048	1136	2262	2257	15	14	C20, RA17
20	18	22	21 Oct	01 33.2	132 58.3	014	1015	1107	1121	1154	2358	2347	15	14	C21
21	19	23	21 Oct	00 52.8	133 11.8	014	2055	2143	2158	2229	2292	2250	15	15	C22
				South											
22	-	24	22 Oct	00 32.7	133 34.2	313	0844	0933	0948	1021	2270	2268	15	14	C23
23	20	25	23 Oct	04 09.9	134 36.5	313	0904	0956	1012	1103	2490	2462	15	15	C24, RA18
24	21	26	24 Oct	07 07.6	136 59.5	313	1100	1151	1206	1255	2380	2390	15	14	C25, RA19, GS25
25	22	27	25 Oct	08 59.6	139 04.5	313	0847	0930	0945	1028	2015	2020	15	14	C26, RA20
26	23	28	26 Oct	11 31.2	141 46.9	350	0853	0945	1000	1053	2492	2492	15	3	C27, RA21, GS26
27	24	29	27 Oct	13 45.1	144 48.3	350	1053	1141	1156	1231	2255	2272	15	12	C28, RA22, GS27-28
28	25	30	02 Nov	19 13.0	148 00.5	350	1328	1413	1428	1459	2160	2015	15	13	C29, RA23

C=Core D=Dredge GS=Grabber Sample RA=Radon Sample

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K Stn.	N Stn.	Ship Stn.	Date 1971	Position Lat. South	Position Long. West	Msdn Sq.	TIME Over	TIME Hit	TIME Free	TIME Surface	PDR Depth Fms. Over	PDR Depth Fms. Surface	Number Hits	Number Good	Data
29	26	31	04 Nov	23 29.4	141 08.4	386	1343	1434	1503	1537	2430	2445	15	12	C30, RA24
30	-	32	05 Nov	25 06.3	138 26.5	385	1303	1341	1358	1428	2235	2220	15	14	C31, RA25
31	27	33	06 Nov	26 39.2	135 32.1	385	0854	0942	0956	1035	2265	2260	15	13	C32,
32	28	41	11 Nov	26 55.4	120 05.1	384	1420	1459	1516	1542	1855	1864	12	10	C41, RA27
33	-	42	12 Nov	25 58.6	117 18.5	383	0944	1015	1035	1103	1962	1 20	20	20	C42
34	-	44	15 Nov	25 37.7	112 28.2	383	1433	1458	1519	1540	1510	1530	20	20	C44
35	-	45	16 Nov	23 32.1	116 45.0	383	1824	1856	1911	1934	1705	1716	15	14	C45
36	-	46	17 Nov	23 38.4	115 32.4	383	1014	1037	1053	1111	1370	1377	15	14	C46
37	-	47	18 Nov	24 51.5	111 05.9	383	1314	1342	1356	1418	1660	1630	15	13	C47
38	-	48	19 Nov	25 55.5	107 24.8	382	1240	1310	1339	1416	1840	1863	30	26	C48
39	-	49	20 Nov	26 11.8	106 20.4	382	2314	2346	2356	0019	1770	1700	10	10	D2
40	-	50	21 Nov	26 55.5	101 12.6	382	1232	1311	1330	1354	1786	1786	15	10	C49, RA28
41	29	51	22 Nov	27 45.3	96 16.9	381	2009	2052	2106	2135	1992	1990	10	9	C50
42	30	52	23 Nov	28 11.8	93 52.4	381	1403	1449	1502	1532	2106	2106	10	7	C51
43	31	53	25 Nov	29 14.9	85 58.2	380	1331	1414	1428	1457	2020	2024	10	9	C52, RA29
44	32	54	26 Nov	29 58.7	82 06	380	1311	1358	1411	1441	2186	2184	10	8	C53, RA30
45	33	55	27 Nov	30 36.7	78 13.5	415	1409	1457	1510	1541	2230	2205	10	9	C54, RA31
46	34	56	28 Nov	31 06.5	74 55.9	415	1308	1359	1413	1446	2270	2292	10	9	C55, RA32
47	35	57	29 Nov	31 26.3	72 37.3	415	0906	1015	1031	1119	3290	3290	11	11	C54, RA33
48	36	58	30 Nov	32 15.3	72 39.6	415	0742	0852	0906	0955	3223	3228	10	9	C57
49	37	59	06 Dec	34 41.3	73 28.2	415	0910	1008	1022	1118	2660	2705	10	9	C58
50	38	60	07 Dec	36 10.6	75 11	415	0950	1038	1058	1144	2225	2234	15	14	C59
51	39	61	08 Dec	38 23.9	76 37.3	415	1417	1511	1541	1633	2132	2115	20	19	C60, WS1
52	40	62	09 Dec	40 38	77 13.5	451	1614	1701	1722	1808	2023		17	17	C61, SE1, WS2
53	41	63	11 Dec	45 17.9	77 12.4	451	0946	1025	1040	1114	1578	1495	10	9	C62, SE2, WS3
54	42	64	12 Dec	47 54.3	78 00.9	451	1008	1057	1116	1203	1988	1983	10	6	C63, SE3, WS4
55	43	65	13 Dec	51 28	76 26.4	487	1549	1626	1640	1715	1723	1710	10	9	C64. SE4,

C=Core D=Dredge RA=Radon Sample SE=Sechi Disk WS=Water Sample

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K Stn.	N Stn.	Ship Stn.	Date	Position Lat. South	Position Long. West	Msdn Sq.	TIME Over	TIME Hit	TIME Free	TIME Surface	PDR Depth Fms Over	PDR Depth Fms Surface	Number Hits	Number Good	Data
			1971												
56	44	66	14 Dec	53 04.2	78 57.4	487	1007	1059	1114	1204	2202	2197	12	5	C65, SE5, WS5
57	45	67	15 Dec	56 31.3	80 33.9	488	1149	1241	1257	1348	2165	2220	11	11	C66, SE6, WS6
58	46	68	16 Dec	60 00.8	80 35.6	524	1038	1140	1153	1253	2692	2691	10	9	C67, SE7, RA34
59	47	69	17 Dec	63 20.1	77 29.9	523	1347	1446	1501	1658	2438		10	9	C68, SE8, WS7
60	48	70	18 Dec	65 05.1	74 03.6	523	0841	0931	0948	1031	2034	2039	12	10	C69, SE9, RA35, WS8
61	49	72	21 Dec	65 23.4	71 19.5	523	1052	1145	1212	1302	1858	1860	20	18	C71, SE11, WS9-10
62	50	73	22 Dec	62 39.3	69 40.3	522	0957	1054	1117	1207	2153	2153	20	17	C72, SE12, WS11
63	51	74	23 Dec	59 47.6	66 35.6	486	1413	1458	1515	1558	1950	1868	12	6	C73, SE13, WS12
64	52	75	24 Dec	61 20.3	62 46.1	522	1430	1518	1534	1614	1875	1875	12	11	C74, SE14, RA36, WS13
65	53	76	26 Dec	60 25.9	62 18.1	522	0848	0937	0952	1038	2154		12	11	C75, SE15, WS14
66	54	77	27 Dec	58 49.8	63 18.4	486	1127	1214	1230	1318	2045		10	8	C76, SE16, WS15-16
67	55	78	28 Dec	55 40.9	63 21.4	486	1111	1209	1223	1313	2153		10	10	C77, SE17, WS17-18
			1972												
68	-	80	07 Jan	52 55.1	60 27.8	486	0659	0705	0718	0724	255	252	8	6	C79, SE19
69	56	81	07 Jan	52 11.4	56 48.5	485	2115	2124	2135	2144	380	388	8	4	C80
70	57	82	08 Jan	52 52.5	52 27.5	485	1601	1701	1717	1758	1867	1860	10	10	C81, SE20
71	58	83	09 Jan	52 24.4	49 20.3	484	0817	0905	0921	0959	1800	1750	10	9	C82, SE21
72	59	84	09 Jan	52 10.7	48 50	484	1357	1434	1451	1522	1385	1383	12	11	C83
73	60	85	10 Jan	50 28.5	44 43.2	484	1118	1136	1151	1208	810	812	12	10	C84, SE22
74	61	86	11 Jan	49 24.1	42 00.9	448	0226	0346	0403	0526	2760	2950	10	9	WS19-20
75	62	88	11 Jan	50 37.7	40 19.9	484	2246	2322	2336	0010	1660	1667	10	3	C85
76	63	89	12 Jan	51 28.6	38 29.2	483	1253	1345	1358	1445	2162	2165	10	8	C86, SE23, WS21
77	64	90	13 Jan	52 48.1	33 47.3	483	1011	1057	1113	1154	1735	1795	12	12	C87, SE24, WS22
78	65	91	14 Jan	53 52.8	29 25.6	482	0918	1016	1042	1136	2497	2520	21	20	C88, SE25, RA38, WS23-24
79	-	92	15 Jan	52 17.5	23 39.1	482	1452	1555	1613	1711	2560	2400	15	14	C89, SE26, WS25
80	66	93	15 Jan	52 05.1	22 48.2	482	2126	2235	2252	2348	2600	2525	10	10	C90, WS26-27
81	67	94	17 Jan	49 55.3	15 35.3	445	0837	0926	0941	1030	2073	2015	10	10	C91, SE27, WS28
82	68	95	18 Jan	48 29.6	10 34.4	445	0945	1024	1039	1113	1560	1590	12	12	C92, SE28, RA39,WS29
83	69	96	19 Jan	46 05.7	13 15.4	445	1632	1714	1731	1801	1465	1497	12	10	C93, SE29

C=Core RA=Radon Sample SE=Sechi Disk WS=Water Sample

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K Stn.	N Stn.	Ship Stn.	Date 1972	Position Lat. South	Position Long. West	Msdn Sq.	TIME Over	TIME Hit	TIME Free	TIME Surface	PDR Depth Fms Over	PDR Depth Fms Surface	Number Hits	Number Good	Data
84	70	98	22 Jan	42 59.5	20 51.4	446	0823	0914	0931	1020	2050	1990	10	9	C94, SE31, RA40,WS30
85	71	99	23 Jan	42 57.6	23 30.3	446	0830	0930	0947	1040	2280	2212	12	10	C95, SE32, WS31
86	72	101	24 Jan	42 57.2	25 56.5	446	0545	0638	0654	0747	2445	2452	12	12	C97, SE33, RA41,WS32
87	73	102	25 Jan	42 56.6	29 47.3	446	1022	1118	1134	1226	2363	2365	12	11	C98, SE34, WS33
88	74	103	25 Jan	43 00.2	31 11.5	447	2203	2259	2308	0001	2557	2513	5	5	C99
89	75	104	26 Jan	42 58.3	33 52.1	447	1758	1854	1904	2000	2660	2660	7	7	C100, SE35
90	76	105	29 Jan	42 58.8	41 34.3	448	0642	0745	0801	0902	2755	2750	10	1	C101, SE36,RA42,WS34
91	77	106	30 Jan	42 37.5	45 20.8	448	1320	1426	1442	1550	2675	2677	10	9	C102, SE37,WS35-36
92	78	107	31 Jan	42 27.1	46 41.9	448	1322	1427	1449	1556	2780	2770	18	17	C103, SE38,WS37-38
93	79	108	1 Feb	42 17.9	48 34.6	448	0614	0720	0741	0855	2960	2968	15	14	C104, SE39,WS39-40
94	80	111	2 Feb	41 24.6	51 02.4	449	1453	1612	1628	1729	2685	2655	10	8	C107, SE41,WS41-42
95	81	112	3 Feb	39 51.6	52 28.9	413	0934	1033	1050	1256	2702	2705	12	8	C108, SE42, WS43
96	82	113	3 Feb	39 08.3	52 49.6	413	1842	1746	2003	2059	2470	2460	15	13	C109, SE43, WS44
97	83	114	4 Feb	38 04.6	53 40.5	413	1238	1333	1351	1443	1980	1548	15	13	C110, SE44, WS45A
98	84	115	14 Feb	37 39.8	49 35.7	412	1257	1357	1412	1511	2698	2698	10	9	C111
99	85	116	15 Feb	40 01.9	49 05.0	448	1030	1134	1150	1254	2884	2884	10	8	C112
100	86	117	16 Feb	43 37.1	48 26.5	448	1822	1923	1736	2035	2830	2830	10	8	C113, RA43
101	87	118	18 Feb	47 39.7	47 29.4	448	0926	1044	1101	1243	3202	3204	10	3	C114, SE45
102	88	119	19 Feb	49 37	47 36.2	448	1022	1055	1146	1224	1430	1720	25	22	C115, SE46, D4
103	89	120	21 Feb	54 05.6	51 49.9	485	1845	1917	1955	2025	1309	1340	25	25	C116, SE47, RA44
-	90	121	23 Feb	55 41.2	55 19.2	485	0942	1030	1058	1142	1900	1624			C117, SE48
-	91	122	24 Feb	55 39.3	58 58.6	485	1029	1122	1128	1217	2100	2204	-	-	C118, SE49
104	92	123	25 Feb	52 39.9	57 45.2	485	1432	1439	1455	1501	262	260	11	10	C119, SE50, RA45
105	93	125	26 Feb	49 37	55 53.8	449	1851	1901	1920	1929	438	403	15	13	C121, SE52
106	94	126	27 Feb	48 28.3	55 15	449	0902	0932	1001	1029	1290	1283	25	19	C122, D5
107	-	127	28 Feb	45 55.9	55 18	449	1625	1736	1750	1858	3005	3005	10	9	C123,SE53,RA46,WS45
108	95	128	28 Feb	45 35.9	55 42.9	449	2347	0057	0113	0217	2700	2800	10	0	C124

C=Core D=Dredge RA=Radon Sample SE=Sechi Disk WS=Water Sample

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K Stn.	N Stn.	Ship Stn.	Date 1972	Position Lat. South	Long. West	Msdn Sq.	TIME Over	Hit	Free	Surface	PDR Depth Fms Over	Surface	Number Hits	Good	Data
109	96	129	29 Feb	44 16	57 10.4	449	2053	2150	2205	2301	2560	2583	10	8	C125
110	97	130	1 Mar	43 39.1	57 53.3	449	1425	1510	1527	1609	2000	2005	13	11	C126, D6, SE54
111	98	131	3 Mar	41 36.8	54 16.1	449	1838	1941	2000	2101	2708	2712	15	9	C127, WS46
112	99	132	4 Mar	40 24.7	55 19.2	449	1312	1339	1359	1426	1120		15	10	C128
113	100	134	20 Mar	47 12.5	56 57.4	449	2012	2103	2117	2206	2173	2177	10	10	C130, WS47
114	101	135	21 Mar	47 51	56 49.2	449	0834	0924	0940	1030	2350	2100	10	9	C131
115	102	137	23 Mar	47 25.4	51 26.8	449	0828	0943	0958	1110	3246	3246	10	9	C132, WS48, SE55
116	103	138	25 Mar	49 07.3	45 42.4	448	1828	1944	2003	2114	3316	3296	12	12	C133, WS49
-	104	139	26 Mar	49 39.6	45 46.9	448	0642	0738	0755	0841	2057	2140	-	-	C134, RA48
117	105	140	27 Mar	52 18.7	46 53.2	484	1016	1057	1112	1150	1885	1820	10	9	C135, SE56
118	106	141	28 Mar	51 42.4	51 17.8	485	1256	1327	1343	1412	1274	1271	12	3	C136, SE57
119	107	142	29 Mar	51 19.9	55 00.6	485	1253	1313	1329	1347	705	702	12	9	C137,WS50,SE58,RA49
120	108	143	31 Mar	51 22.2	61 53.8	486	1301	1304	1316	1320	106	106	12	10	C138, SE59, RA50
121	109	144	4 Apr	49 36	62 35.4	450	1817	1819	1832	1834	78	78	12	12	C139, SE60
122	-	145	8 Apr	43 41.6	62 24.3	450	2256	2258	2315	2317	46	46	15	15	C140
-	110	146	18 Apr	40 18.4	53 34.2	449	0915	1016	1032	1130	2614	2658	-	-	C141,WS51,SE61,RA54
123	111	148	20 Apr	36 03.4	51 30.7	413	1243	1321	1342	1418	1719	1730	12	11	SE62
124	112	149	23 Apr	33 33.7	49 02	412	1352	1428	1441	1515	1575	1598	10	8	C143, SE63, RA55
125	113	150	24 Apr	34 21.4	46 56.9	412	0649	0749	0803	0859	2387	2385	10	9	C144, WS52, SE64
126	114	151	28 Apr	29 13.4	45 27.8	376	0933	1015	1029	1107	1810	1810	10	6	C145, SE65
127	115	152	29 Apr	29 25.2	42 22.9	376	1313	1402	1416	1501	2137	2137	10	9	C146, SE66, RA56
128	116	153	30 Apr	29 29.9	39 09.8	375	0917	1016	1029	1125	2460	2482	10	9	C147, WS53, SE67
129	117	154	30 Apr	30 02.2	39 28.7	411	1836	1938	1952	2049	2185	2400	10	10	C148, WS54
130	118	155	1 May	30 29.9	35 56.5	411	1833	1850	1904	1919	720	728	10	10	D8
131	-	156	1 May	30 28.4	35 55	411	2226	2239	2255	2303	366	360	10	9	D8
132	-	157	2 May	30 29.7	35 13.3	411	2141	2159	2209	2223	780	785	10	6	
133	-	158	3 May	30 02.5	35 08.2	411	0629	0651	0702	0715	1140	1150	10	4	D9, SE68

C=Core D=Dredge RA=Radon Sample SE=Sechi Disk WS=Water Sample

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K Stn.	N Stn.	Ship Stn.	Date 1972	Position Lat. South	Position Long. West	Msdn Sq.	TIME Over	TIME Hit	TIME Free	TIME Surface	PDR Depth Fms Over	PDR Depth Fms Surface	Number Hits	Number Good	Data
-	119	159	4 May	28 27.2	38 09.5	375	1159	1258	1312	1408	2530	2507	-	-	C149, SE69
134	120	160	5 May	28 22.1	41 12.5	376	1107	1147	1200	1239	1735	1733	10	9	D10, SE70
135	121	161	12 May	25 34.3	41 54.8	376	2015	2045	2104	2132	1324	1302	15	6	C150
136	122	162	13 May	25 42.9	40 57.0	376	0653	0727	0739	0811	1465	1590	8	4	C151, SE71
137	123	164	15 May	23 16	41 01.7	376	2203	2210	2225	2233	280	332	10	10	C153, RA57
138	124	165	17 May	21 33.1	38 48.2	375	0715	0745	0758	0828	1404	1405	10	8	C154, SE72
139	125	166	19 May	20 19.5	37 57.2	375	1011	1031	1044	1105	985	985	8	7	D11, SE73
140	126	167	20 May	20 38.3	35 31.2	375	0947	1002	1018	1032	617	615	15	13	D12, SE74
141	127	168	21 May	20 43.8	33 46.1	375	0113	0156	0231	0315	1770	1600	28	28	WS56
142	128	169	21 May	20 58.7	31 51.6	375	0138	0227	0255	0345	2213	2210	9	9	D13
143	129	171	23 May	20 31.9	31 49.2	375	1127	1210	1224	1305	2000	2010	10	8	D15-16, SE75
144	130	172	25 May	18 00.9	36 50.4	339	0844	0928	0941	1022	2003	2002	10	9	C155, SE76
145	131	173	27 May	14 57.2	36 04.5	339	1903	1959	2012	2103	2334	2335	10	8	C156, WS57,SE77,RA58
146	132	174	28 May	13 58.4	34 04.4	339	1425	1523	1536	1631	2568	2568	10	9	C157
147	133	175	31 May	12 41.8	36 34.5	339	1319	1410	1423	1510	2040	2046	10	3	C158, WS58, SE78
148	134	176	1 Jun	11 00.8	36 46.4	339	1221	1228	1238	1244	263	243	10	8	C159, SE79
149	-	177	1 Jun	10 57.6	36 45.2	339	1346	-	-	1403	120	118	10	6	C160
150	135	178	2 Jun	09 40.3	34 49.1	303	1954	2029	2042	2116	1613	1610	10	10	C161, RA59
-	136	179	4 Jun	08 30.6	31 45.5	303	0203	0311	0324	0425	2680	2675	-	-	C162, WS59
151	137	180	9 Jun	06 07.5	34 24.8	303	1012	1050	1105	1143	1700	1658	10	6	C163, SE80
152	138	181	10 Jun	02 57	34 22.9	303	0926	1012	1027	1112	2102	2102	10	7	C164, SE81
153	139	182	11 Jun	00 54.8	35 39.3	303	1032	1126	1140	1233	2383	-	10	9	C165, WS60, SE82
154	140	183	14 Jun	00 44.6	40 29.7	304	1039	1124	1138	1221	2007	2010	10	8	C166, SE83
				North											
155	141	184	15 Jun	01 47.9	39 45.6	004	1021	1112	1125	1214	2365	2365	10	5	C167
156	142	185	16 Jun	00 35.4	41 09.7	005	0951	1041	1054	1141	2193	2192	10	6	C168, SE84

C=Core D=Dredge RA=Radon Sample SE=Sechi Disk WS=Water Sample

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K	N	Ship		Position		Msdn	---------T	I M	E-------		PDR Depth Fms		Number		
Stn.	Stn.	Stn.	Date 1972	Lat. South	Long. West	Sq.	Over	Hit	Free	Surface	Over	Surface	Hits	Good	Data
157	143	186	17 Jun	01 41	41 30.8	304	1023	1056	1109	1142	1510	1505	10	2	C169, SE85
				North											
158	144	187	19 Jun	00 40.6	44 37.8	005	1223	1311	1324	1408	1895	1895	10	8	C170, WS61, SE86
-	145	188	21 Jun	04 22.4	44 02	005	0159	0245	0259	0341	1893	2080			C171
159	146	189	21 Jun	05 00.8	44 08.8	005	2027	2112	2125	2208	2003	2000	10	10	C172
160	147	190	22 Jun	03 23.5	45 39.5	005	1351	1434	1448	1529	1989	1961	10	9	C173, SE87
161	148	192	24 Jun	04 30.4	46 40.7	005	1341	1425	1439	1521	1793	1792	10	7	C175, WS62, SE89
162	149	194	27 Jun	08 50.9	50 15.8	006	1641	1738	1751	1847	2447	2447	10	8	C177, SE90, WS63
163	150	195	28 Jun	09 59.1	52 43.3	006	1353	1448	1502	1556	2575	2575	10	7	C178
164	151	196	29 Jun	10 55.7	55 03.1	042	1405	1457	1511	1602	2386	2385	10	7	C179, SE91
165	152	198	7 Jul	14 12.4	58 04.7	042	1637	1722	1750	1845	2085	2110	5	4	C181
166	153	199	9 Jul	16 34.1	58 54.2	042	1013	1137	1221	1335	3039	3060	12	9	C182, WS64
167	154	200	10 Jul	19 27	59 45.7	042	1932	2028	2115	2219	2573	2618	15	13	D18
168	155	201	11 Jul	21 59.4	60 21.3	079	2019	2128	2207	2321	3090	3087	11	11	C183, WS65
169	156	203	13 Jul	25 14.5	60 24.1	079	1045	1201	1249	1408	3182	3179	12	11	C185, WS66, SE92
-	157	205	14 Jul	26 07.1	60 12.9	079	1407	1510	1608	1724	2885	3200			WS67, SBT2
170	158	206	15 Jul	27 35.2	60 23.1	079	0808	0916	1004	1111	3110	2995	10	9	C187, GS33-35
171	159	209	16 Jul	27 27.5	61 16.3	079	1137	1243	1334	1441	2998	3182	12	11	C189, GS39-41
172	160	210	16 Jul	27 36.5	61 06.7	079	2004	2121	2206	2314	3000	3001	12	12	D19, STD4
173	161	212	18 Jul	28 03.4	61 01.2	079	2006	2103	2215	2315	2655	2887	20	20	C190,D21,GS42-43,STD5
174	162-163	214	20 Jul	27 15.3	61 08.1	079	1323	1450	1540	1650	3030	3014	16,12	15,11	C192,GS45-54,SE94
175	163	214	20 Jul	27 14.3	61 06.1	079	1925	2033	2115	2220	3006				
176	164	215	21 Jul	27 33.9	60 23.9	079	1013	1115	1204	1308	2922	2910	16	14	GS55-58,SE95,BC1
177	165	218	22 Jul	26 59.2	61 22	079	1713	1821	1908	2018	3105	3110	15	13	C193,D24,GS59-62,SE96
178	166	219	23 Jul	27 12.3	60 28.6	079	0953	1101	1145	1253	3170	3190	15	14	C194,GS63-66
179	167	220	23 Jul	26 56.2	60 46.1	079	1812	1916	1954	2102	2988	3034	12	11	C195, WS68
-	168	221	24 Jul	27 35.2	60 24.9	079	1545	1650	1737	1846	2775	2917			C196,WS69,GS67-71,SE97, BC2, STD7

BC=Box Core C=Core D=Dredge GS=Grabber Sample SBT=Small Bio Trawl SE=Sechi Disk STD=Salinity Temperature Depth Recorder

WS=Water Sample

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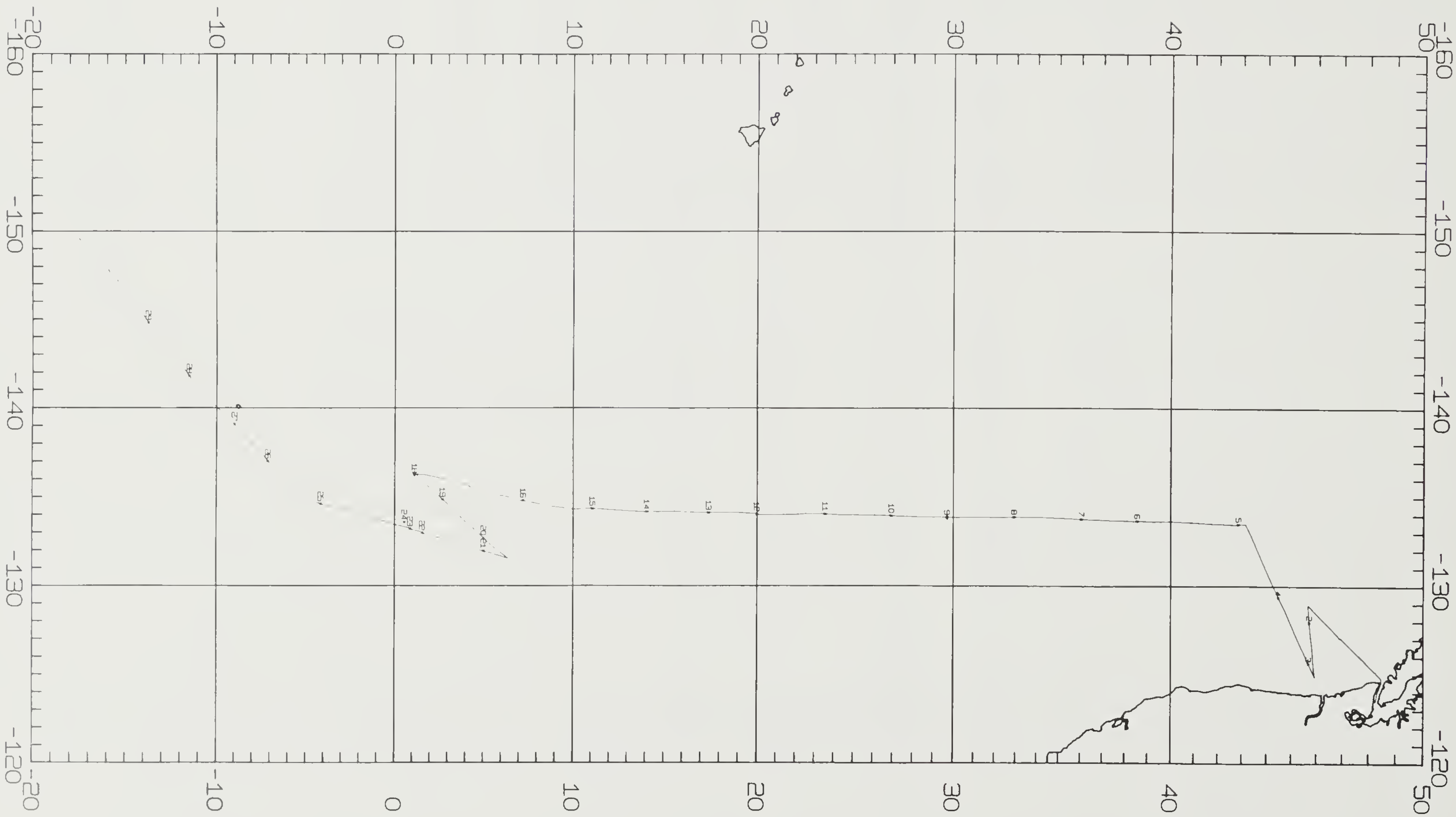
K Stn.	N Stn.	Ship Stn.	Date 1972	Position Lat. North	Position Long. West	Msdn Sq.	T I M E Over	T I M E Hit	T I M E Free	T I M E Surface	PDR Depth Fms Over	PDR Depth Fms Surface	Number Hits	Number Good	Data
180	169	222	25 Jul	27 32.9	60 25.3	079	0940	1046	1130	1241	2993	2907	15	14	C197,WS70,WB72-79
181	170	224	26 Jul	27 33.4	60 15	079	2005	2113	2158	2305	2845	2893	15	15	C198
182	171	225	27 Jul	27 59.6	60 57.2	079	1541	1651	1713	1830	2817	3055	2	2	C199,D27,GS85-89,SE98
183	172	226	28 Jul	28 02.2	60 59.6	079	1017	1120	1200	1302	2680	2990	15	14	C200,D28,GS90-94,SE99
184	173	227	29 Jul	28 03.7	61 02.3	079	0834	0936	1024	1127	2840	2834	16	15	C201,WS71,GS95-99, SE100
185	174	229	29 Jul	28 02.1	60 59.4	079	2043	2203	2225	2349	2700	2925	9	9	BC-3
186	175	230	31 Jul	29 09.1	61 10.8	079	0936	1047	1137	1543	3142	2865	25	24	C202-203,WS72,GS105-107,SE101
187	176	232	02 Aug	29 32.9	62 34.9	079	1604	1659	1741	1834	2340	2474	16	15	C204-205,WS73

C=Core BC=Box Core GS=Grabber Sample SE=Sechi Disk WB=Water Barrel S=Water Sample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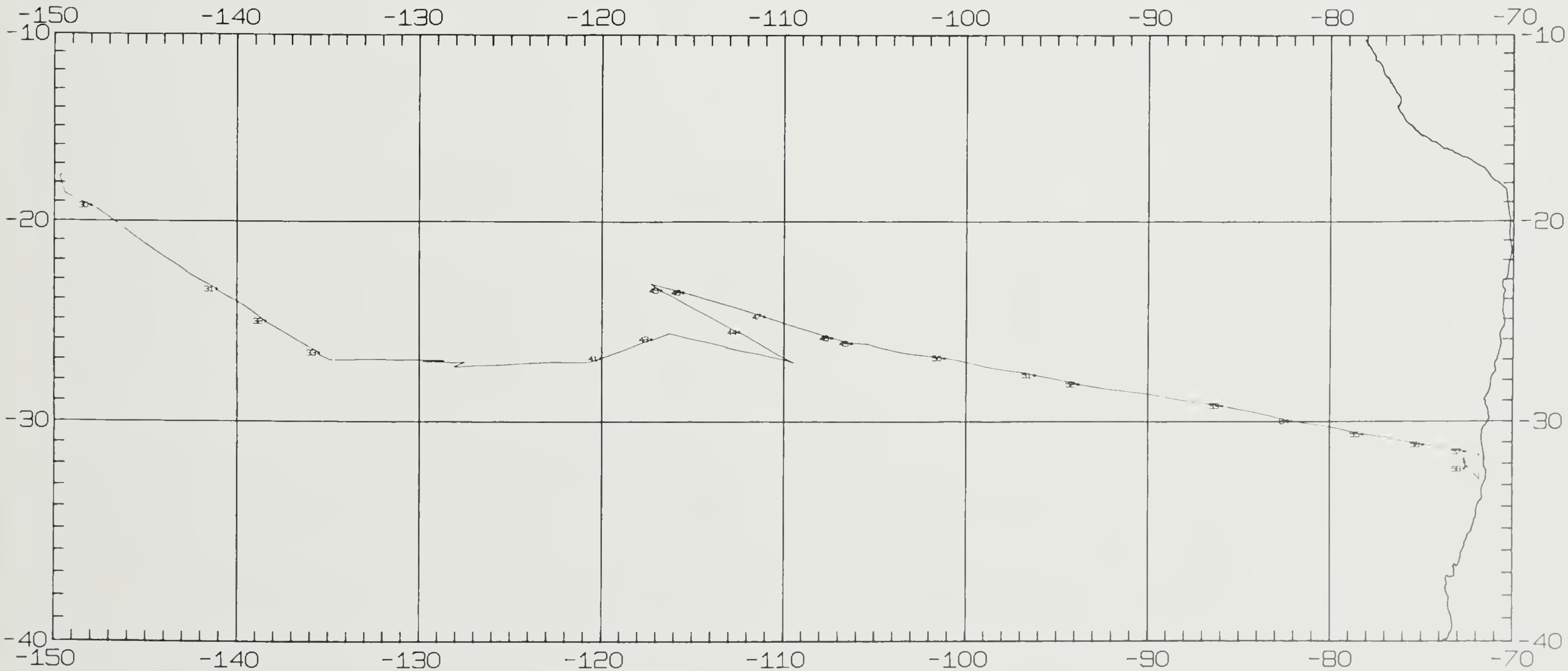
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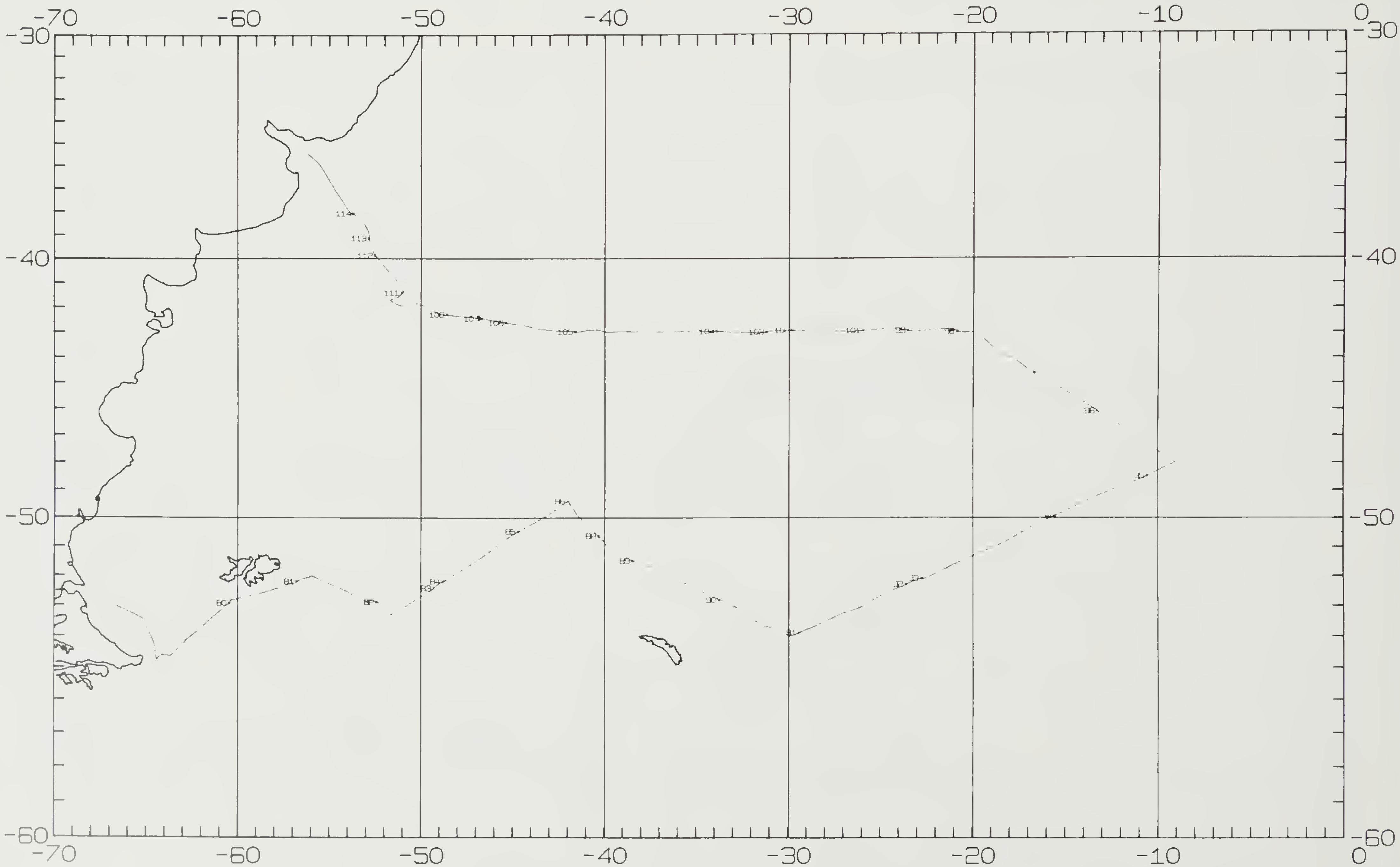
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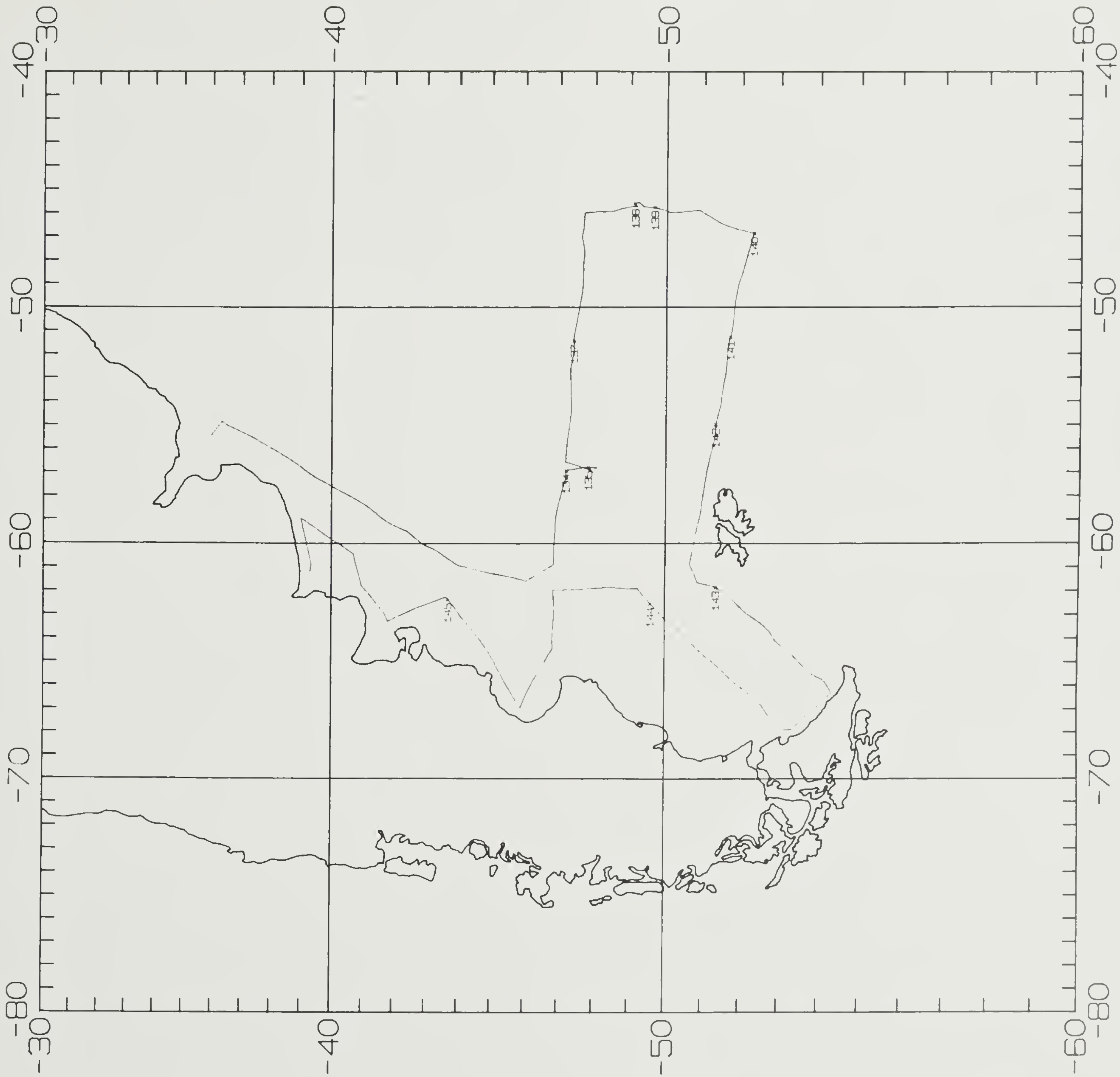
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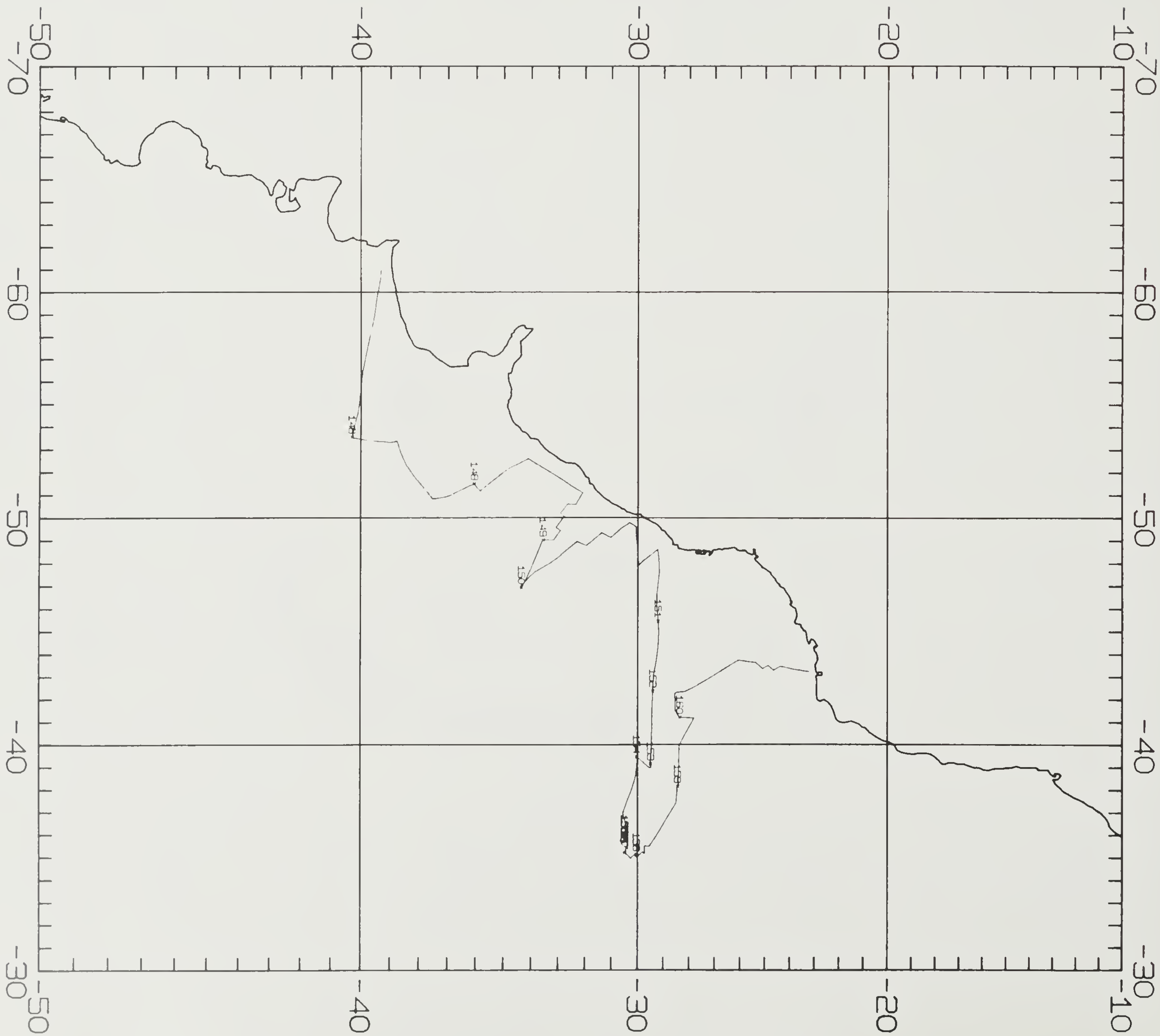
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-40
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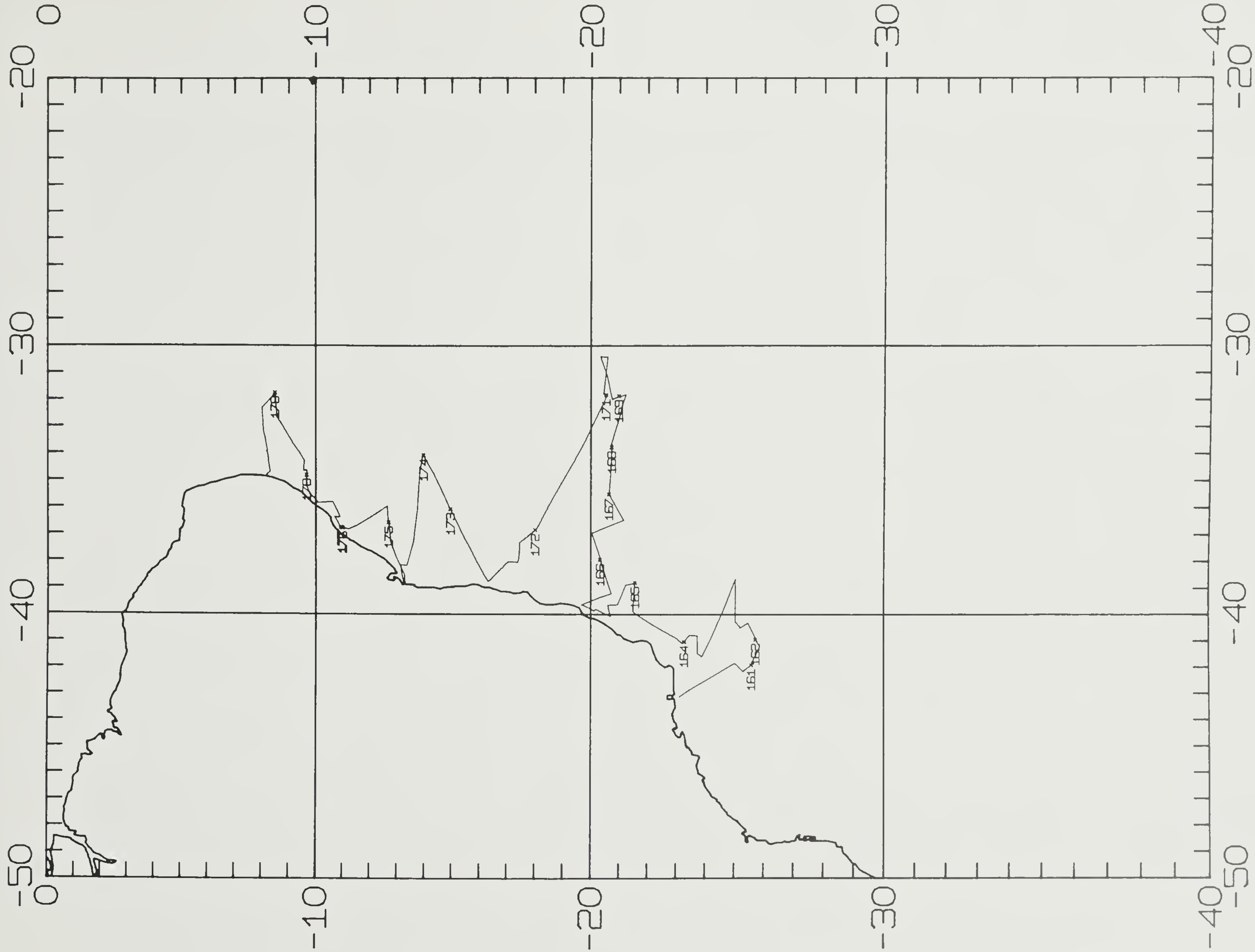
-20
-10
-70
-60
-50
-40
-30


0
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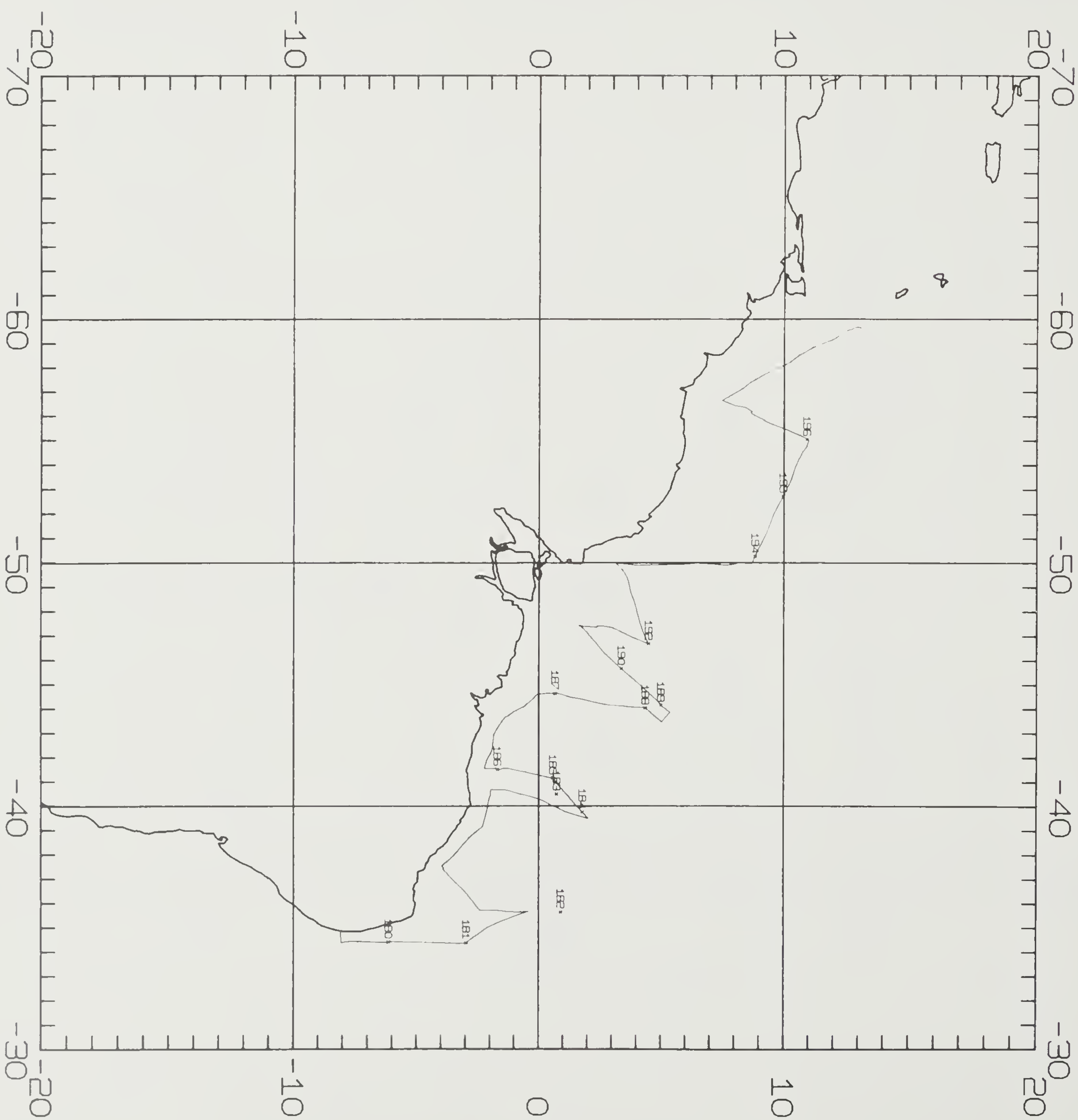
-50
0
-10
-20
-30
-40
-20
-30
-40
-50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10
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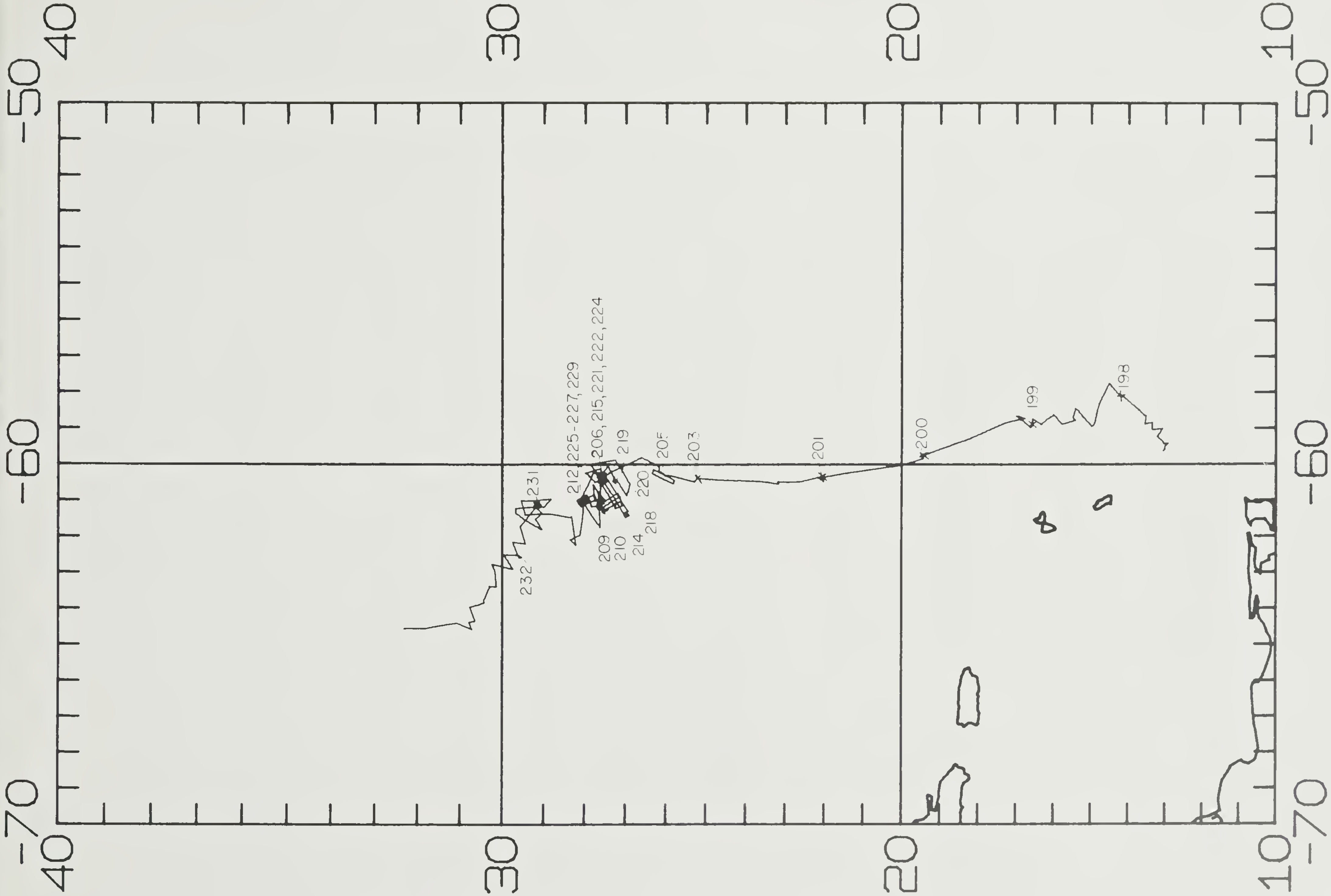
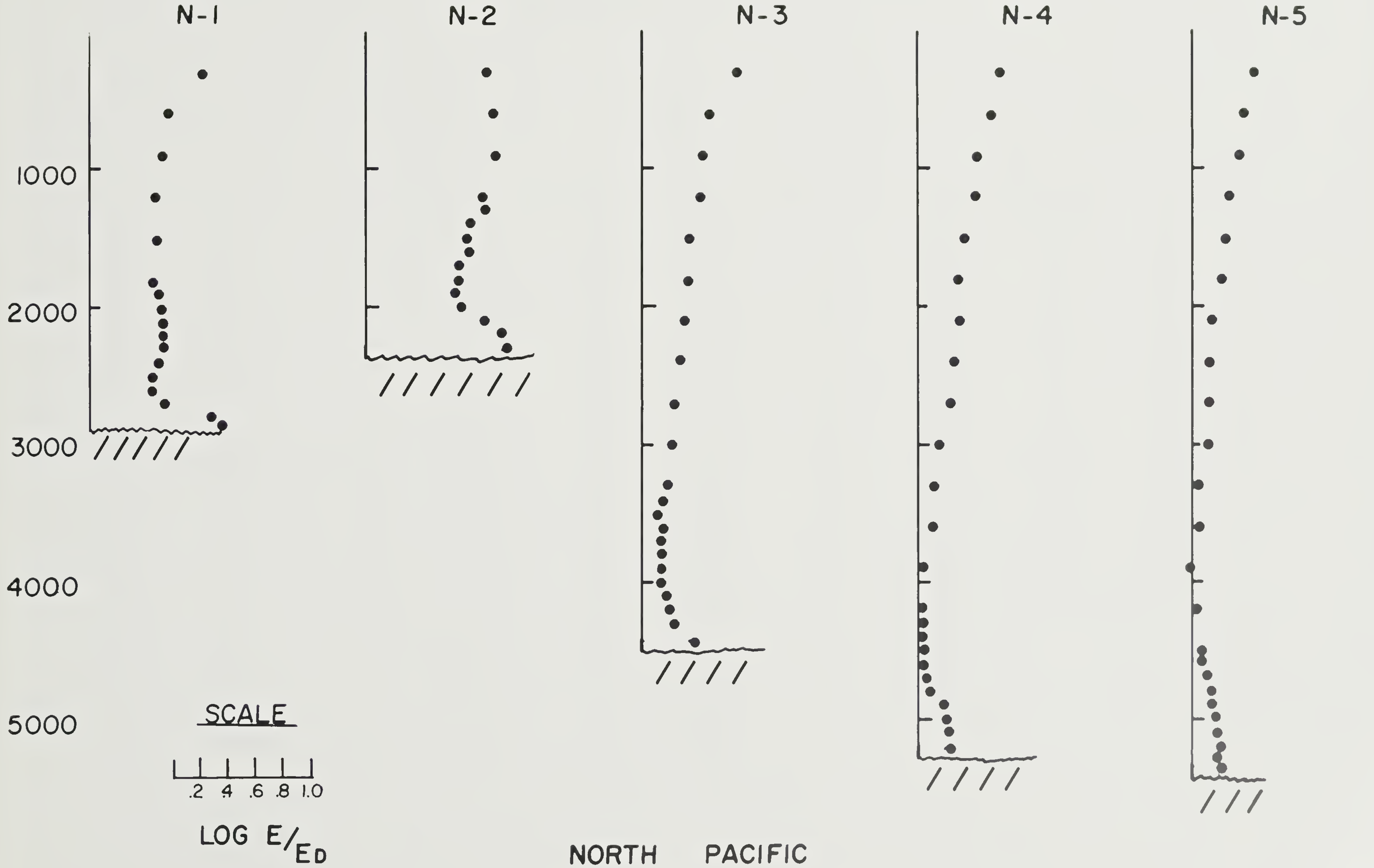
-70
-60
-50
-40
-30


40
30
20
10
-50
-60
-70
198
199
200
201
203
206, 215, 221, 222, 224
225-227, 229
212
219
220
218
214
210
209
231
232

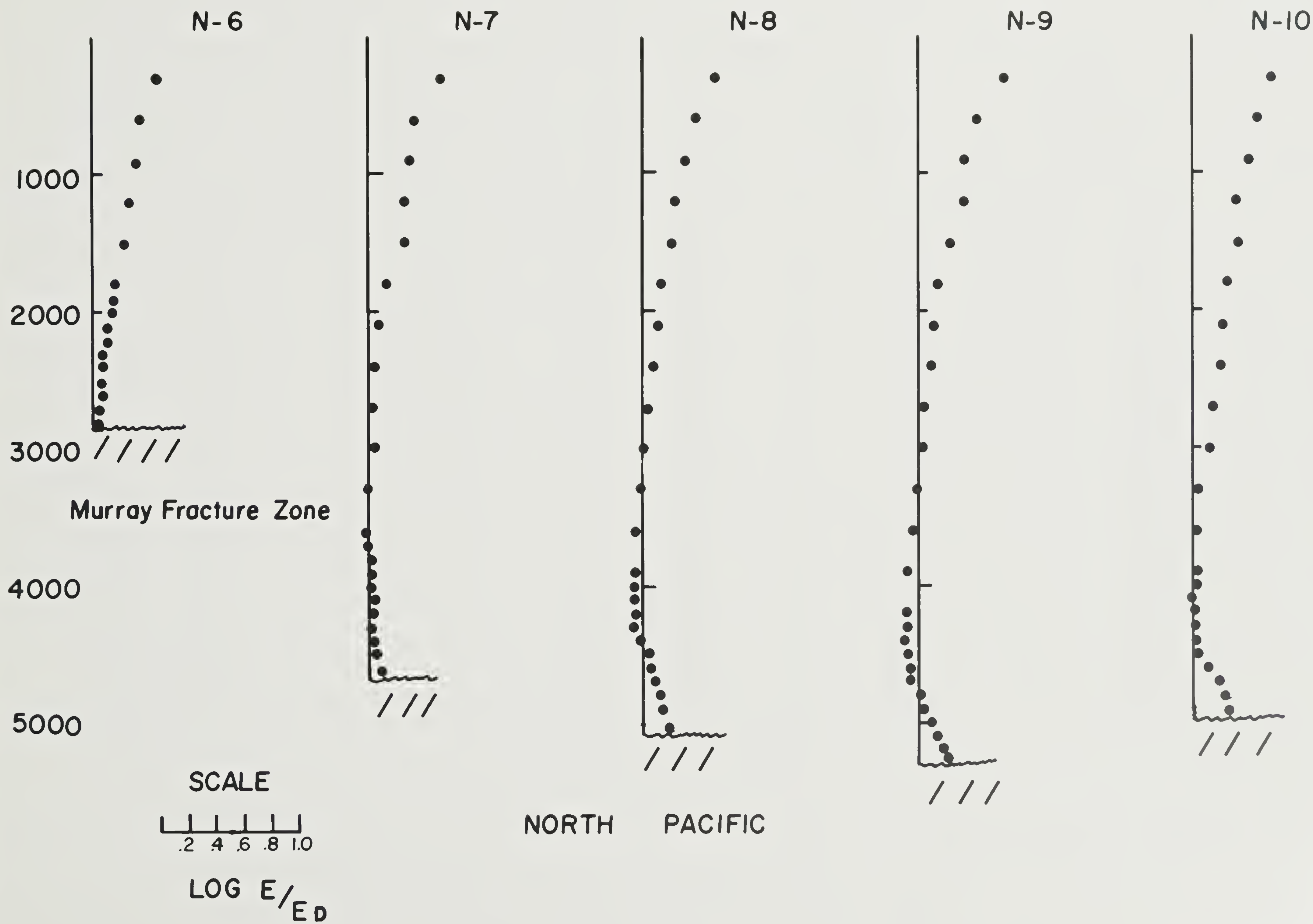
NEPHELOMETER PROFILES FOR CRUISE CONRAD 15

N 1 45°43'N 127°59'W 2867 m		N 2 45°41'N 125°38'W 2295 m		N 3 38°32'N 133°39'W 4445 m		N 4 36°02'N 133°46'W 5222 m		N 5 32°55'N 133°53'W 5383 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
300	.82	300	.89	300	.70	300	.60	300	.47
600	.59	600	.92	600	.50	600	.55	600	.38
900	.53	900	.94	900	.47	900	.44	900	.34
1200	.49	1200	.84	1200	.42	1200	.42	1200	.28
1500	.50	1300	.87	1500	.34	1500	.36	1500	.25
1800	.49	1400	.76	1800	.34	1800	.30	1800	.22
1900	.51	1500	.73	2100	.31	2100	.31	2100	.15
2000	.52	1600	.76	2400	.29	2400	.27	2400	.12
2100	.54	1700	.69	2700	.25	2700	.23	2700	.13
2200	.53	1800	.69	3000	.23	3000	.18	3000	.12
2300	.53	1900	.68	3300	.19	3300	.13	3300	.05
2400	.50	2000	.70	3400	.16	3600	.12	3600	.07
2500	.47	2100	.87	3500	.13	3900	.06	3900	-.01
2600	.47	2200	.98	3600	.17	4200	.05	4200	.04
2700	.56	2295	1.02	3700	.14	4300	.04	4500	.08
2800	.88			3800	.14	4400	.04	4600	.09
2867	.98			3900	.14	4500	.05	4700	.11
				4000	.17	4600	.05	4800	.15
				4100	.20	4700	.08	4900	.15
				4200	.21	4800	.10	5000	.19
				4300	.24	4900	.20	5100	.19
				4445	.39	5000	.22	5200	.21
						5100	.25	5300	.19
						5200	.25	5383	.21


N-1
N-2
N-3
N-4
N-5
1000
2000
3000
4000
5000
SCALE
.2 .4 .6 .8 1.0
LOG E/ED
NORTH PACIFIC

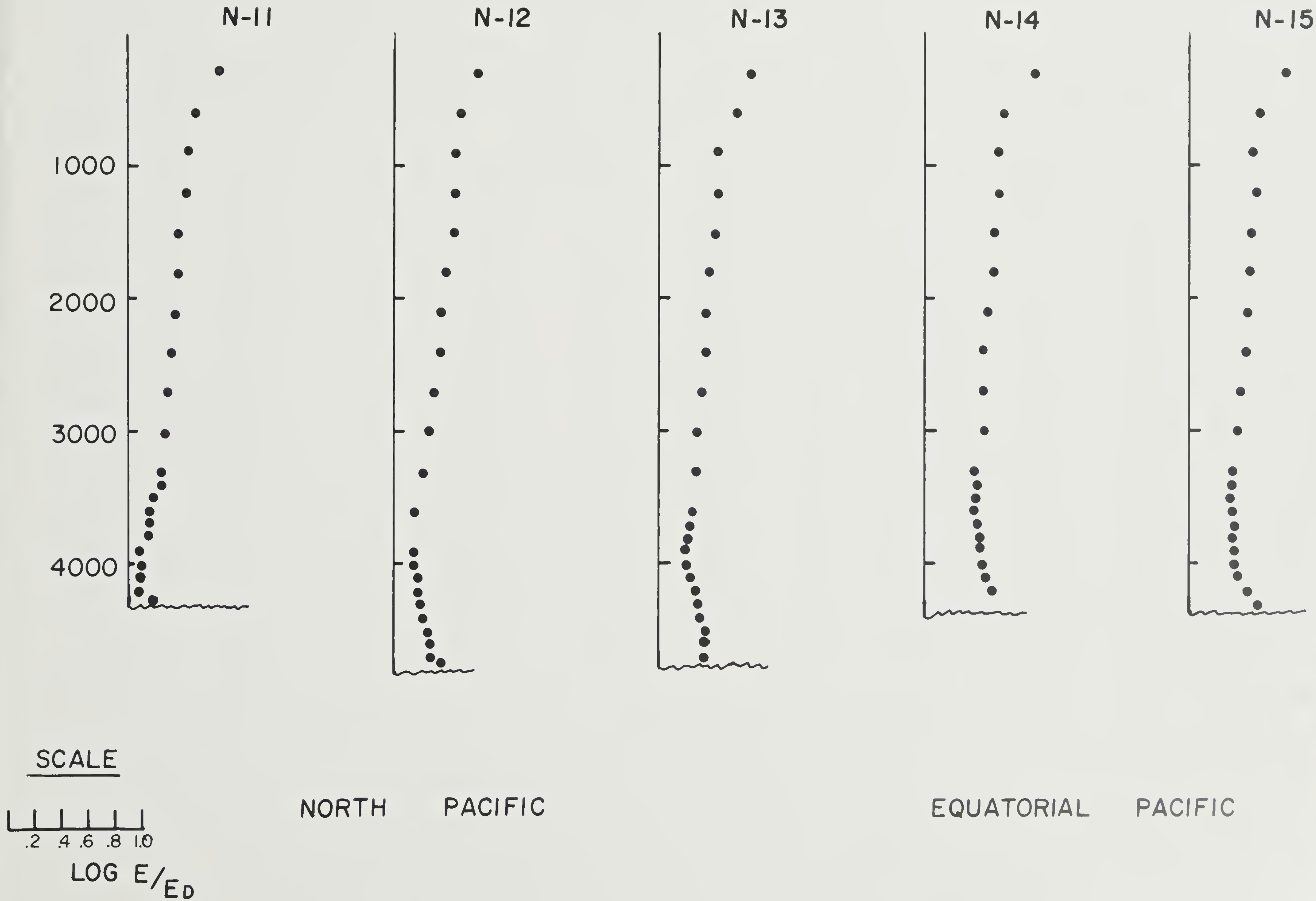
NEPHELOMETER PROFILES

N 6		N 7		N 8		N 9		N 10	
29°43'N 133°52'W 2874 m		26°56'N 133°56'W 4608 m		23°34'N 134°03'W 5040 m		19°59'N 134°03'W 5275 m		17°25'N 134°07'W 4917 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
300	.49	300	.53	300	.52	300	.64	300	.59
600	.35	600	.34	600	.39	600	.43	600	.49
900	.34	900	.31	900	.31	900	.35	900	.41
1200	.29	1200	.29	1200	.26	1200	.32	1200	.32
1500	.24	1500	.29	1500	.21	1500	.23	1500	.35
1800	.18	1800	.13	1800	.13	1800	.17	1800	.27
1900	.17	2100	.09	2100	.11	2100	.12	2100	.21
2000	.16	2400	.07	2400	.08	2400	.10	2400	.21
2100	.12	2700	.05	2700	.03	2700	.06	2700	.16
2200	.12	3000	.05	3000	.01	3000	.04	3000	.13
2300	.09	3300	.00	3300	-.01	3300	.00	3300	.04
2400	.08	3600	.00	3600	-.05	3600	-.03	3600	.03
2500	.08	3700	.01	3900	-.06	3900	-.09	3900	.05
2600	.09	3800	.04	4000	-.06	4200	-.08	4000	.02
2700	.05	3900	.03	4100	-.06	4300	-.08	4100	.00
2800	.06	4000	.02	4200	-.04	4400	-.10	4200	.01
2874	.05	4100	.07	4300	-.05	4500	-.07	4300	.01
		4200	.04	4400	-.01	4600	-.04	4400	.02
		4300	.04	4500	.05	4700	-.03	4500	.05
		4400	.05	4600	.06	4800	.02	4600	.12
		4500	.07	4700	.10	4900	.04	4700	.20
		4608	.12	4800	.13	5000	.10	4800	.24
				4900	.15	5100	.15	4917	.27
				5040	.20	5200	.19		
						5275	.22		


N-6
N-7
N-8
N-9
N-10
1000
2000
3000
4000
5000
Murray Fracture Zone
SCALE
.2 .4 .6 .8 1.0
LOG E/E D
NORTH PACIFIC

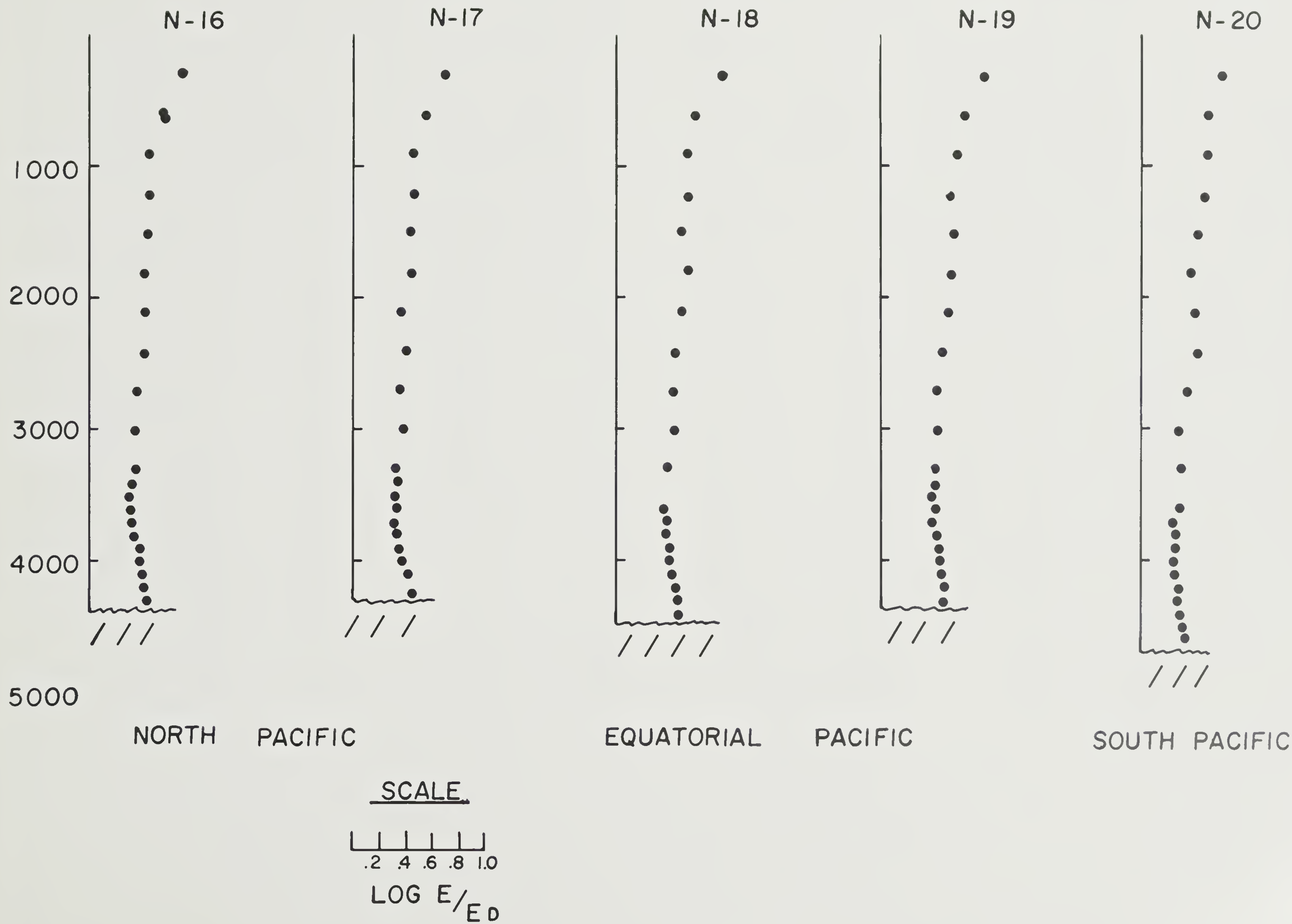
NEPHELOMETER PROFILES

N 11 14°05'N 134°10'W 4268 m		N 12 11°05'N 134°20'W 4775 m		N 13 07°13'N 134°47'W 4699 m		N 14 01°08'N 136°14'W 4317 m		N 15 02°41'N 134°52'W 4310 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
300	.67	300	.62	300	.70	300	.83	300	.73
600	.50	600	.50	600	.59	600	.60	600	.54
900	.45	900	.47	900	.45	900	.57	900	.49
1200	.43	1200	.47	1200	.45	1200	.57	1200	.51
1500	.38	1500	.44	1500	.41	1500	.51	1500	.47
1800	.38	1800	.40	1800	.38	1800	.51	1800	.45
2100	.36	2100	.36	2100	.35	2100	.48	2100	.43
2400	.32	2400	.34	2400	.34	2400	.44	2400	.41
2700	.30	2700	.30	2700	.31	2700	.43	2700	.38
3000	.26	3000	.28	3000	.29	3000	.43	3000	.37
3300	.25	3300	.21	3300	.29	3300	.39	3300	.33
3400	.24	3600	.16	3600	.24	3400	.40	3400	.32
3500	.19	3900	.15	3700	.22	3500	.39	3500	.31
3600	.16	4000	.15	3800	.21	3600	.38	3600	.33
3700	.16	4100	.19	3900	.19	3700	.40	3700	.34
3800	.15	4200	.19	4000	.20	3800	.41	3800	.33
3900	.08	4300	.20	4100	.24	3900	.41	3900	.36
4000	.10	4400	.22	4200	.28	4000	.44	4000	.37
4100	.09	4500	.27	4300	.30	4100	.48	4100	.39
4200	.10	4600	.29	4400	.31	4200	.51	4200	.45
4268	.20	4700	.29	4500	.34	4317	.50	4310	.51
		4775	.36	4600	.34				
				46[illegible]	.35				


N-11
N-12
N-13
N-14
N-15
1000
2000
3000
4000
SCALE
.2 .4 .6 .8 1.0
LOG E/ED
NORTH PACIFIC
EQUATORIAL PACIFIC

NEPHELOMETER PROFILES

N 16		N 17		N 18		N 19		N 20	
05°00'N		05°01'N		01°33'N		00°54'N		04°10'S	
132°41'W		132°22'W		132°58'W		133°13'W		134°36'W	
4304 m		4243 m		4423 m		4310 m		4648 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
300	.70	300	.70	300	.81	300	.80	300	.61
600	.56	600	.53	600	.60	600	.65	600	.50
900	.47	900	.46	900	.55	900	.60	900	.50
1200	.47	1200	.47	1200	.56	1200	.55	1200	.48
1500	.46	1500	.43	1500	.50	1500	.57	1500	.41
1800	.41	1800	.44	1800	.53	1800	.54	1800	.39
2100	.41	2100	.37	2100	.50	2100	.52	2100	.40
2400	.41	2400	.40	2400	.46	2400	.49	2400	.42
2700	.37	2700	.35	2700	.42	2700	.45	2700	.34
3000	.36	3000	.39	3000	.42	3000	.44	3000	.29
3300	.33	3300	.31	3300	.39	3300	.41	3300	.30
3400	.31	3400	.34	3600	.37	3400	.42	3600	.29
3500	.30	3500	.31	3700	.39	3500	.40	3700	.26
3600	.31	3600	.32	3800	.39	3600	.42	3800	.27
3700	.32	3700	.31	3900	.41	3700	.40	3900	.27
3800	.34	3800	.32	4000	.41	3800	.43	4000	.25
3900	.38	3900	.35	4100	.42	3900	.46	4100	.26
4000	.38	4000	.38	4200	.46	4000	.47	4200	.29
4100	.40	4100	.41	4300	.47	4100	.48	4300	.29
4200	.41	4243	.48	4423	.49	4200	.50	4400	.30
4304	.46					4310	.50	4500	.32
								4600	.35
								4648	.36


N-16
N-17
N-18
N-19
N-20
1000
2000
3000
4000
5000
NORTH PACIFIC
EQUATORIAL PACIFIC
SOUTH PACIFIC
SCALE
.2 .4 .6 .8 1.0
LOG E/E D

NEPHELOMETER PROFILES

N21
07°07'S
136°59'W
4469 m

Depth	Log E/E_D
300	.52
600	.44
900	.42
1200	.38
1500	.29
1800	.30
2100	.28
2400	.21
2700	.19
3000	.19
3300	.16
3600	.16
3700	.13
3800	.11
3900	.10
4000	.14
4100	.19
4200	.26
4300	.30
4400	.32
4469	.34

N22
08°59'S
138°04'W
3764 m

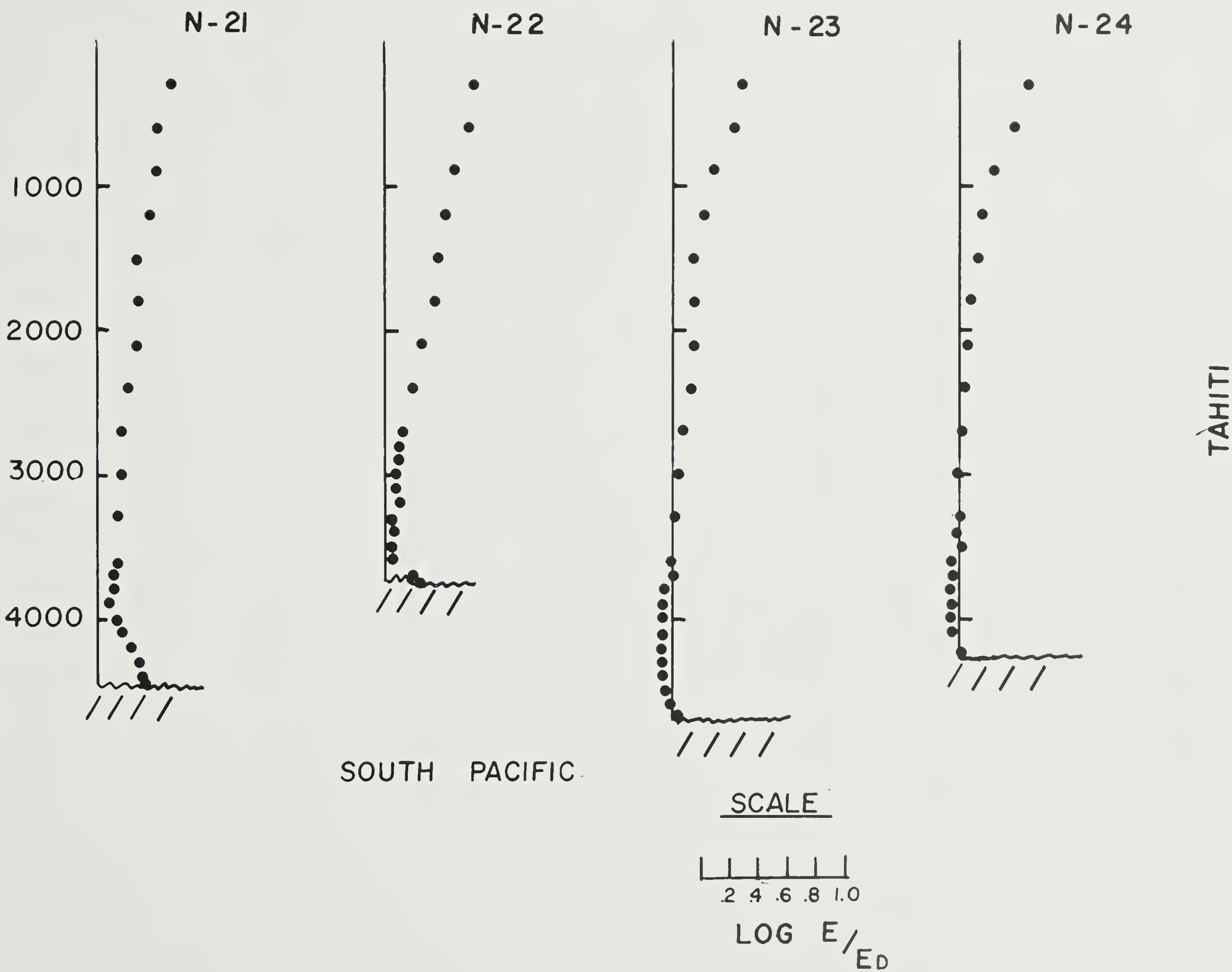
Depth	Log E/E_D
300	.62
600	.60
900	.48
1200	.42
1500	.38
1800	.36
2100	.27
2400	.20
2700	.13
2800	.11
2900	.10
3000	.09
3100	.09
3200	.11
3300	.05
3400	.07
3500	.05
3600	.06
3700	.20
3764	.27

N23
11°31'S
141°46'W
4682 m

Depth	Log E/E_D
300	.49
600	.43
900	.30
1200	.22
1500	.16
1800	.17
2100	.16
2400	.13
2700	.09
3000	.04
3300	.01
3600	-.01
3700	.02
3800	-.05
3900	-.05
4000	-.06
4100	-.08
4200	-.09
4300	-.08
4400	-.06
4500	-.03
4600	.00
4682	.05

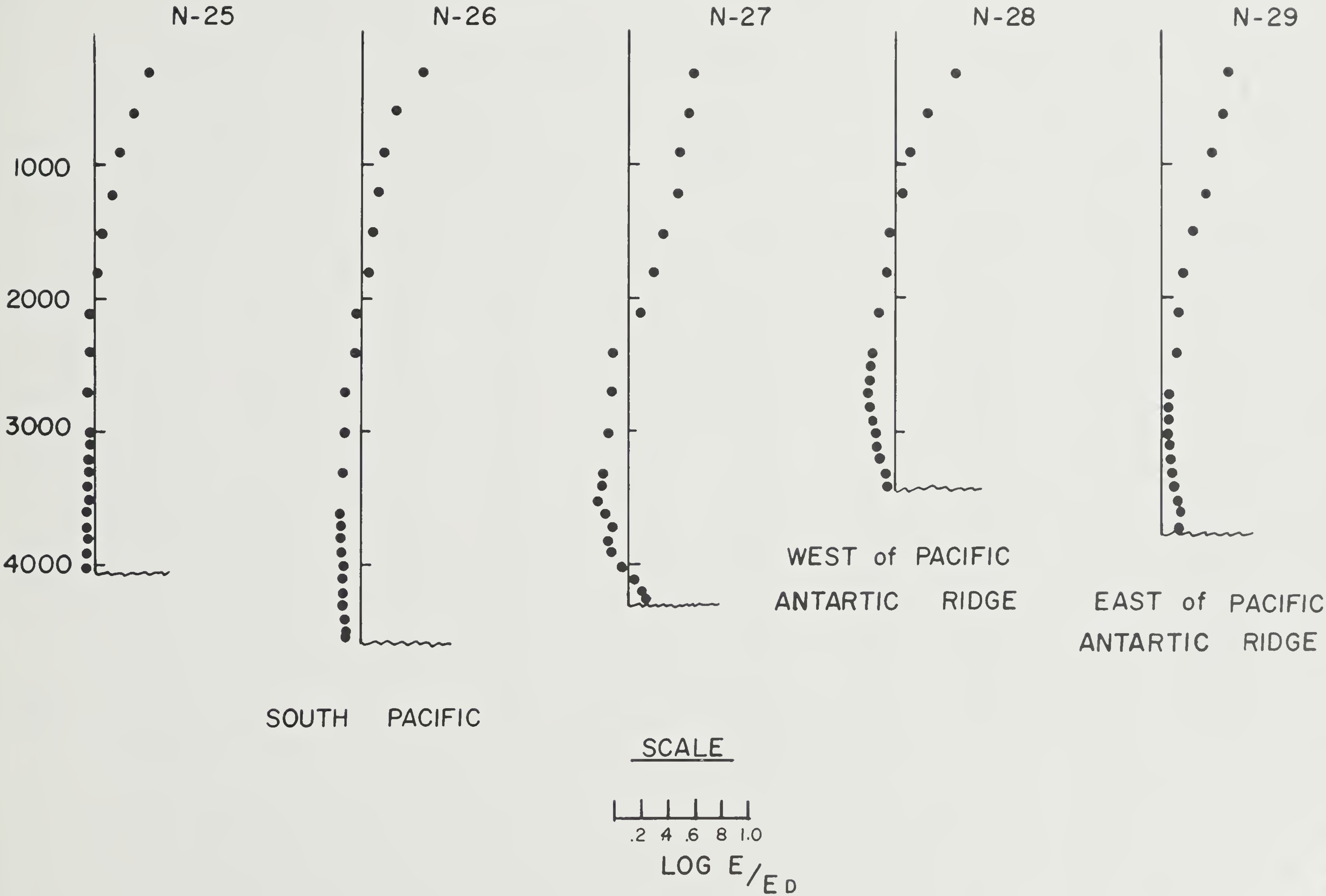
N24
13°44'S
144°41'W
4231 m

Depth	Log E/E_D
300	.48
600	.39
900	.24
1200	.17
1500	.13
1800	.09
2100	.07
2400	.03
2700	.01
3000	-.02
3300	.00
3400	-.02
3500	.01
3600	-.05
3700	-.05
3800	-.06
3900	-.05
4000	-.06
4100	-.05
4231	.01


N-21
N-22
N-23
N-24
1000
2000
3000
4000
TAHITI
SOUTH PACIFIC
SCALE
.2 .4 .6 .8 1.0
LOG E/ED

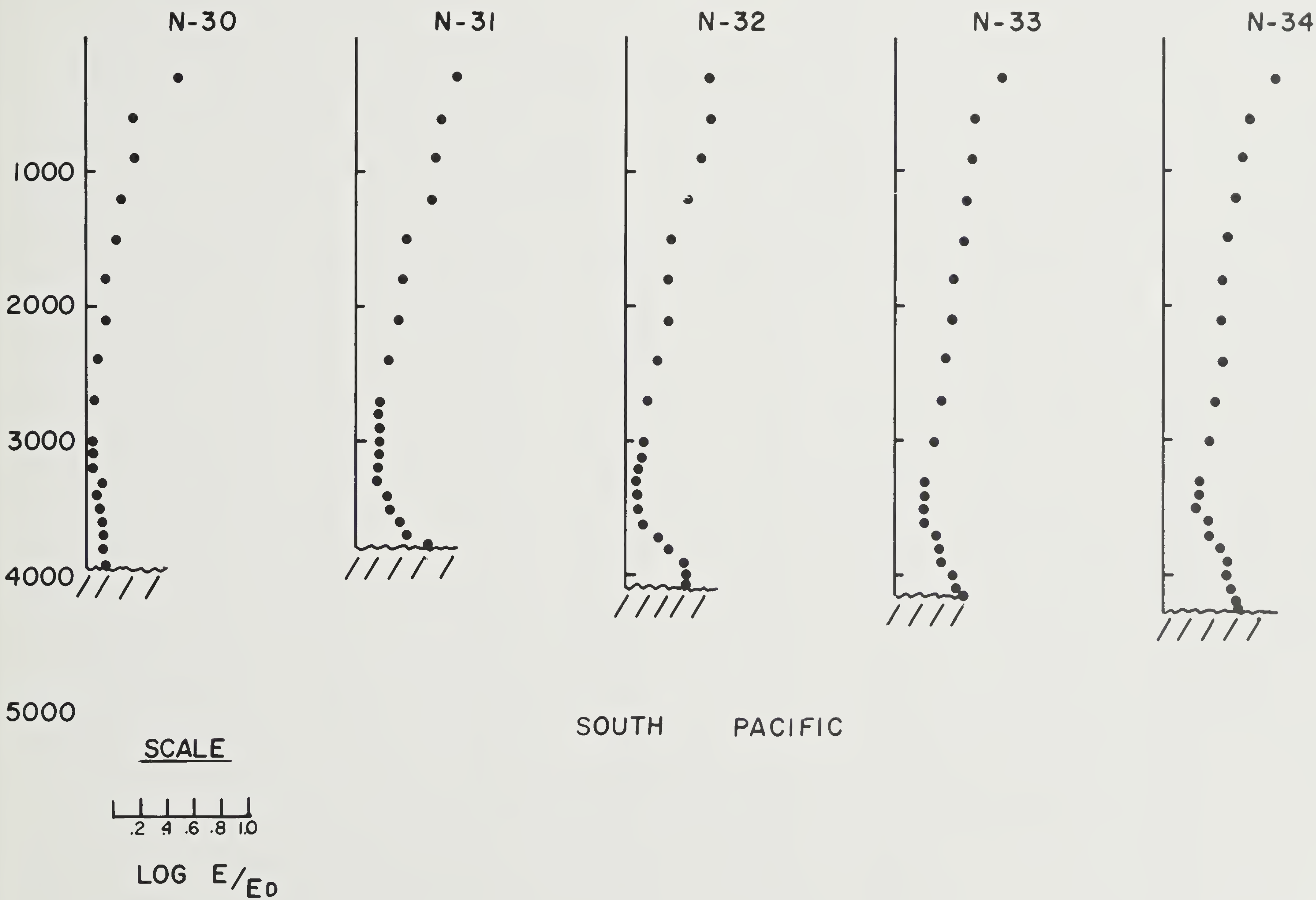
NEPHELOMETER PROFILES

N25 19°12'S 148°29'W 4049 m		N26 23°20'S 141°08'W 4565 m		N27 26°46'S 135°28'W 4250 m		N28 26°55'S 120°05'W 3468 m		N29 27°44'S 96°17'W 3725 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
300	.40	300	.46	300	.48	300	.47	300	.49
600	.29	600	.25	600	.45	600	.22	600	.46
900	.18	900	.17	900	.38	900	.10	900	.38
1200	.13	1200	.11	1200	.38	1200	.04	1200	.31
1500	.03	1500	.08	1500	.26	1500	-.04	1500	.21
1800	.01	1800	.03	1800	.19	1800	-.08	1800	.15
2100	-.05	2100	-.06	2100	.09	2100	-.13	2100	.11
2400	-.05	2400	-.08	2400	-.11	2400	-.19	2400	.10
2700	-.06	2700	-.13	2700	-.15	2500	-.19	2700	.05
3000	-.05	3000	-.15	3000	-.18	2600	-.20	2800	.04
3100	-.05	3300	-.16	3300	-.22	2700	-.20	2900	.04
3200	-.05	3600	-.20	3400	-.21	2800	-.20	3000	.04
3300	-.04	3700	-.17	3500	-.24	2900	-.18	3100	.06
3400	-.04	3800	-.18	3600	-.19	3000	-.14	3200	.06
3500	-.06	3900	-.17	3700	-.11	3100	-.14	3300	.08
3600	-.07	4000	-.16	3800	-.16	3200	-.11	3400	.09
3700	-.06	4100	-.17	3900	-.13	3300	-.09	3500	.11
3800	-.06	4200	-.16	4000	-.05	3400	-.08	3600	.14
3900	-.07	4300	-.15	4100	.04	3468	-.04	3725	.12
4049	-.08	4400	-.12	4200	.10				
		4500	-.11	4250	.15				
		4565	-.13						


N-25
N-26
N-27
N-28
N-29
1000
2000
3000
4000
WEST of PACIFIC
ANTARTIC RIDGE
EAST of PACIFIC
ANTARTIC RIDGE
SOUTH PACIFIC
SCALE
.2 .4 .6 .8 1.0
LOG E/E D

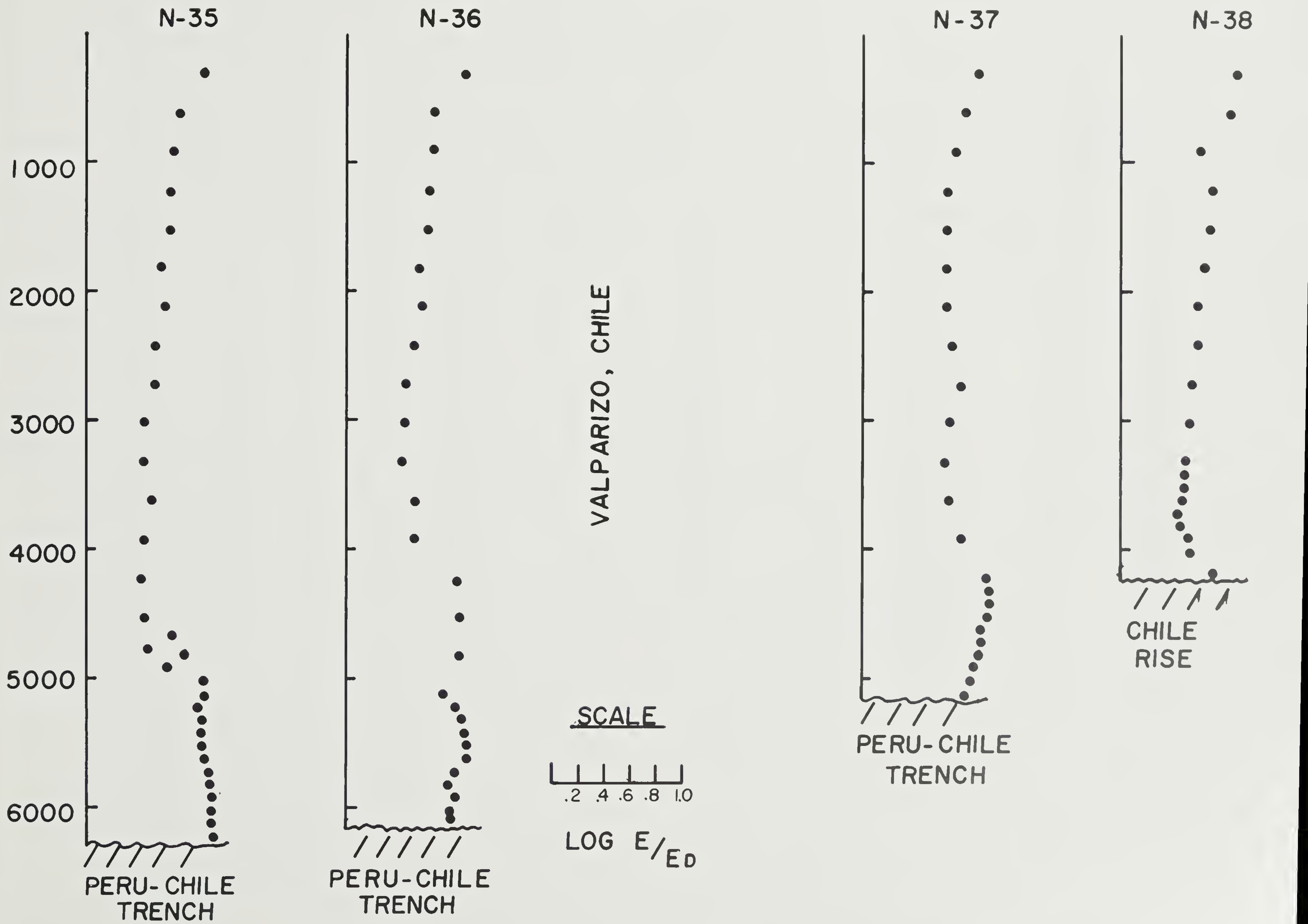
NEPHELOMETER PROFILES

N30 28°11'S 93°54'W 3938 m		N31 29°14'S 85°59'W 3776 m		N32 29°58'S 82°06'W 4090 m		N33 30°36'S 78°13'W 4175 m		N34 31°05'S 74°56'W 4250 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
300	.69	300	.75	300	.62	300	.80	300	.84
600	.34	600	.63	600	.64	600	.60	600	.64
900	.36	900	.60	900	.57	900	.58	900	.60
1200	.27	1200	.58	1200	.47	1200	.53	1200	.54
1500	.22	1500	.39	1500	.33	1500	.51	1500	.49
1800	.16	1800	.36	1800	.31	1800	.44	1800	.46
2100	.14	2100	.32	2100	.32	2100	.43	2100	.45
2400	.09	2400	.26	2400	.23	2400	.39	2400	.45
2700	.07	2700	.19	2700	.18	2700	.35	2700	.40
3000	.04	2800	.18	3000	.13	3000	.30	3000	.35
3100	.05	2900	.18	3100	.12	3300	.24	3300	.29
3200	.05	3000	.18	3200	.10	3400	.24	3400	.28
3300	.11	3100	.18	3300	.08	3500	.21	3500	.27
3400	.09	3200	.18	3400	.10	3600	.23	3600	.35
3500	.10	3300	.17	3500	.10	3700	.31	3700	.36
3600	.11	3400	.22	3600	.14	3800	.34	3800	.44
3700	.11	3500	.26	3700	.25	3900	.36	3900	.50
3800	.11	3600	.32	3800	.32	4000	.43	4000	.49
3938	.13	3700	.39	3900	.43	4100	.47	4100	.51
		3776	.54	4000	.45	4175	.52	4200	.56
				4090	.45			4250	.59


N-30
N-31
N-32
N-33
N-34
1000
2000
3000
4000
5000
SCALE
.2 .4 .6 .8 1.0
LOG E/ED
SOUTH PACIFIC

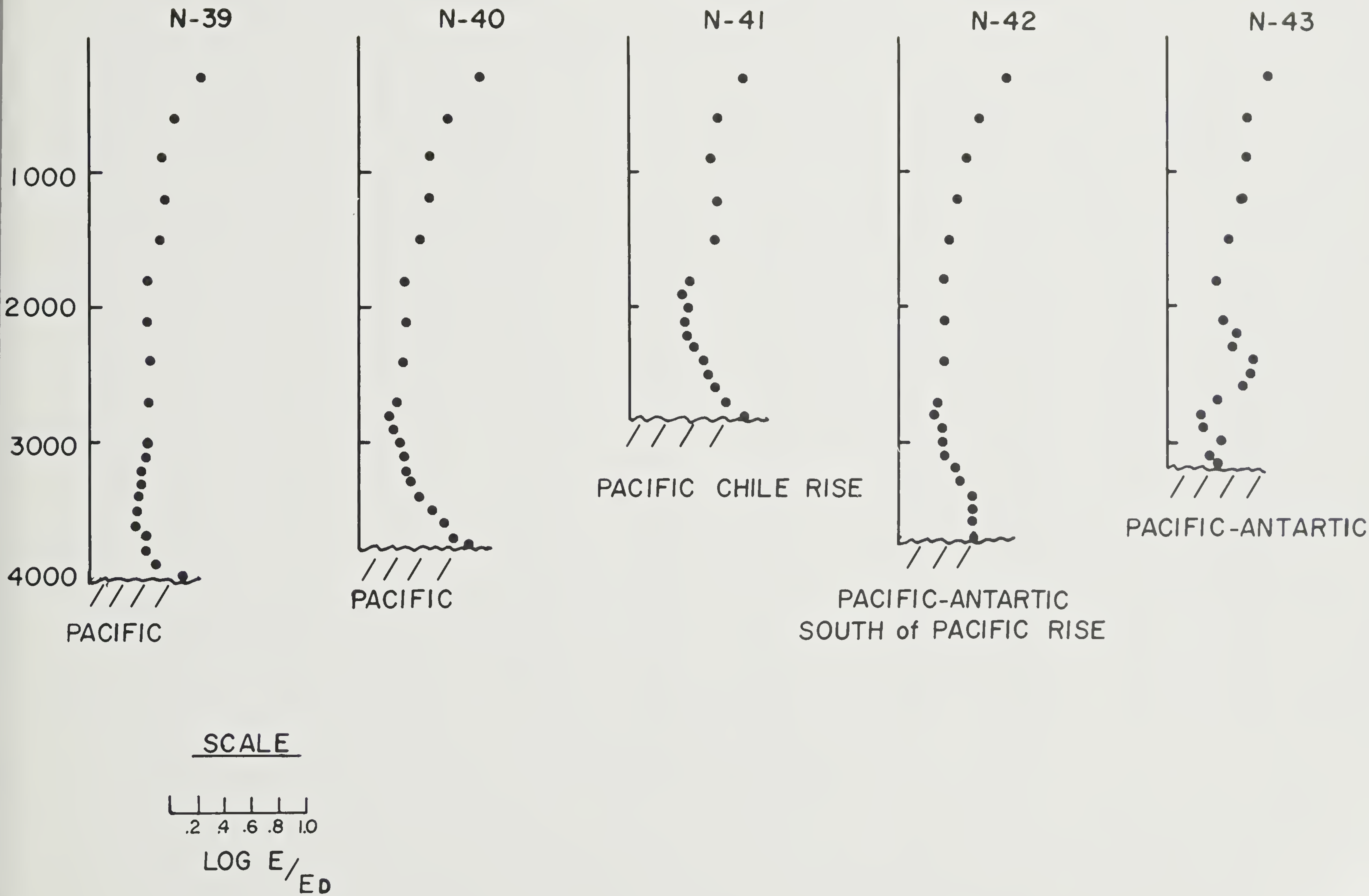
NEPHELOMETER PROFILES

N35 31°25'S 72°36'W 6210 m		N36 32°14'S 72°40'W 6080 m		N37 34°41'S 73°28'W 5101 m		N38 36°11'S 75°11'W 4165 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
300	.90	300	.93	300	.90	300	.90
600	.71	600	.66	600	.80	600	.86
900	.68	900	.68	900	.72	900	.62
1200	.65	1200	.63	1200	.67	1200	.72
1500	.66	1500	.62	1500	.67	1500	.70
1800	.59	1800	.58	1800	.65	1800	.66
2100	.61	2100	.60	2100	.67	2100	.60
2400	.57	2400	.52	2400	.70	2400	.60
2700	.52	2700	.48	2700	.77	2700	.63
3000	.46	3000	.47	3000	.69	3000	.53
3300	.44	3300	.43	3300	.64	3300	.51
3600	.50	3600	.55	3600	.69	3400	.50
3900	.44	3900	.53	3900	.79	3500	.50
4200	.41	4200	.87	4200	.98	3600	.49
4500	.45	4500	.88	4300	1.00	3700	.44
4600	.68	4800	.88	4400	.99	3800	.48
4700	.48	5100	.75	4500	.98	3900	.54
4800	.77	5200	.85	4600	.91	4000	.53
4900	.62	5300	.90	4700	.92	4165	.75
5000	.90	5400	.92	4800	.90		
5200	.87	5500	.94	4900	.88		
5300	.90	5600	.93	5000	.84		
5400	.89	5700	.85	5101	.81		
5500	.89	5800	.80				
5600	.91	5900	.85				
5700	.93	6000	.82				
5800	.95	6080	.84				
5900	.98						
6000	.98						
6100	.98						
6210	1.01						


N-35
N-36
N-37
N-38
1000
2000
3000
4000
5000
6000
VALPARIZO, CHILE
SCALE
.2 .4 .6 .8 1.0
LOG E/ED
PERU-CHILE TRENCH
PERU-CHILE TRENCH
PERU-CHILE TRENCH
CHILE RISE

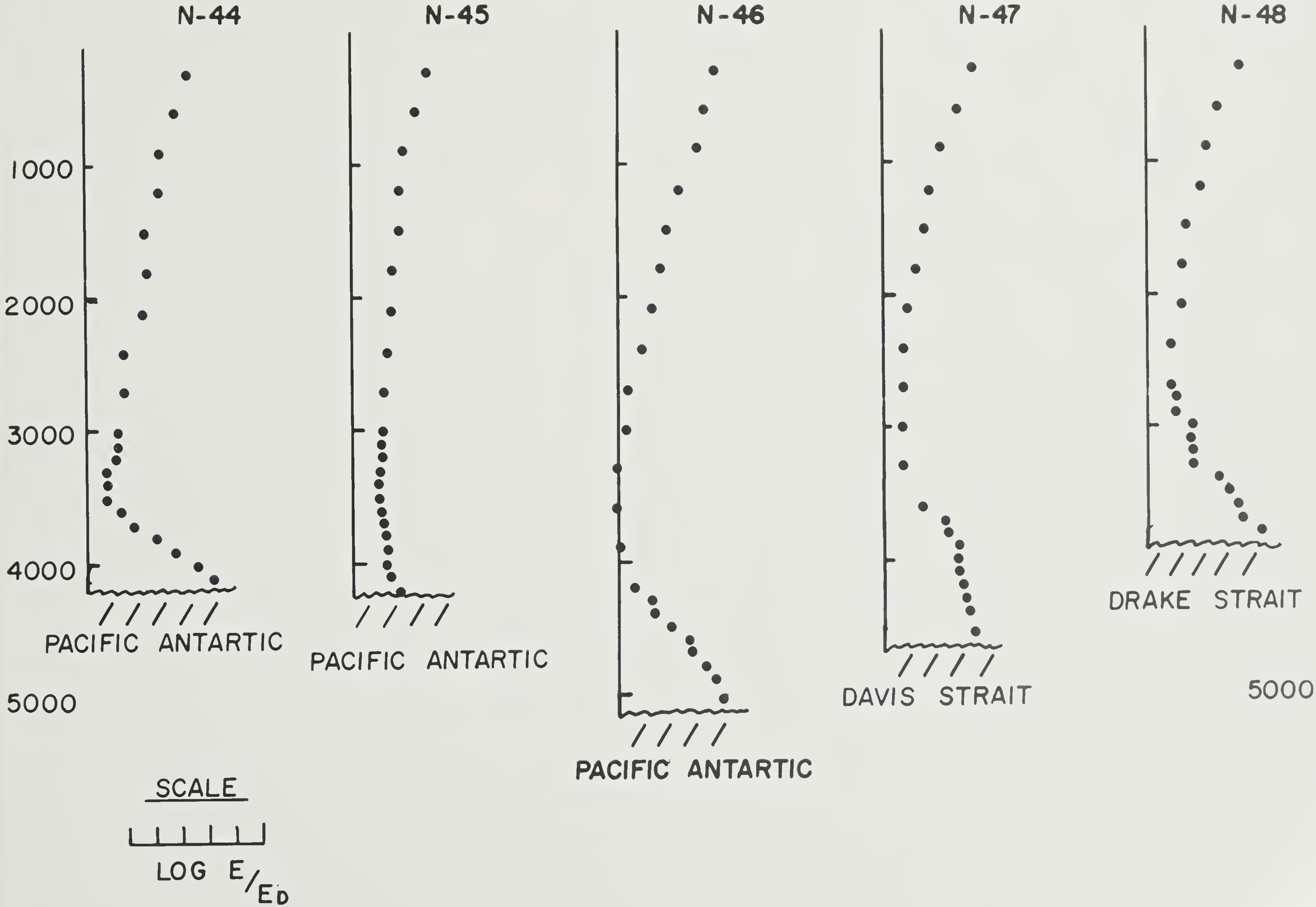
NEPHELOMETER PROFILES

N39 38°24'S 76°37'W 3988 m		N40 40°38'S 77°13'W 3776 m		N41 45°17'S 77°13'W 2813 m		N42 47°55'S 77°59'W 3709 m		N43 51°28'S 76°25'W 3181 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
300	.83	300	.78	300	.83	300	.79	300	.76
600	.63	600	.67	600	.67	600	60	600	.60
900	.55	900	.52	900	.61	900	.51	900	.59
1200	.58	1200	.52	1200	.67	1200	.48	1200	.54
1500	.53	1500	.45	1500	.64	1500	.39	1500	.45
1800	.44	1800	.34	1800	.44	1800	.36	1800	.38
2100	.52	2100	.37	1900	.40	2100	.35	2100	.41
2400	.46	2400	.31	2000	.42	2400	.32	2200	.51
2700	.45	2700	.29	2100	.41	2700	.29	2300	.49
3000	.43	2800	.22	2200	.43	2800	.27	2400	.63
3100	.43	2900	.26	2300	.49	2900	.32	2500	.66
3200	.39	3000	.30	2400	.57	3000	.32	2600	.58
3300	.40	3100	.32	2500	.60	3100	.34	2700	.38
3400	.38	3200	.35	2600	.65	3200	.42	2800	.28
3500	.87	3300	.39	2700	.71	3300	.45	2900	.29
3600	.86	3400	.43	2813	.85	3400	.55	3000	.41
3700	.42	3500	.56			3500	.55	3100	.31
3800	.42	3600	.62			3600	.55	3181	.49
3900	.50	3700	.70			3709	.58		
3988	.71	3776	.82						


N-39
N-40
N-41
N-42
N-43
1000
2000
3000
4000
PACIFIC
PACIFIC
PACIFIC CHILE RISE
PACIFIC-ANTARTIC
SOUTH of PACIFIC RISE
PACIFIC-ANTARTIC
SCALE
.2 .4 .6 .8 1.0
LOG E/ED

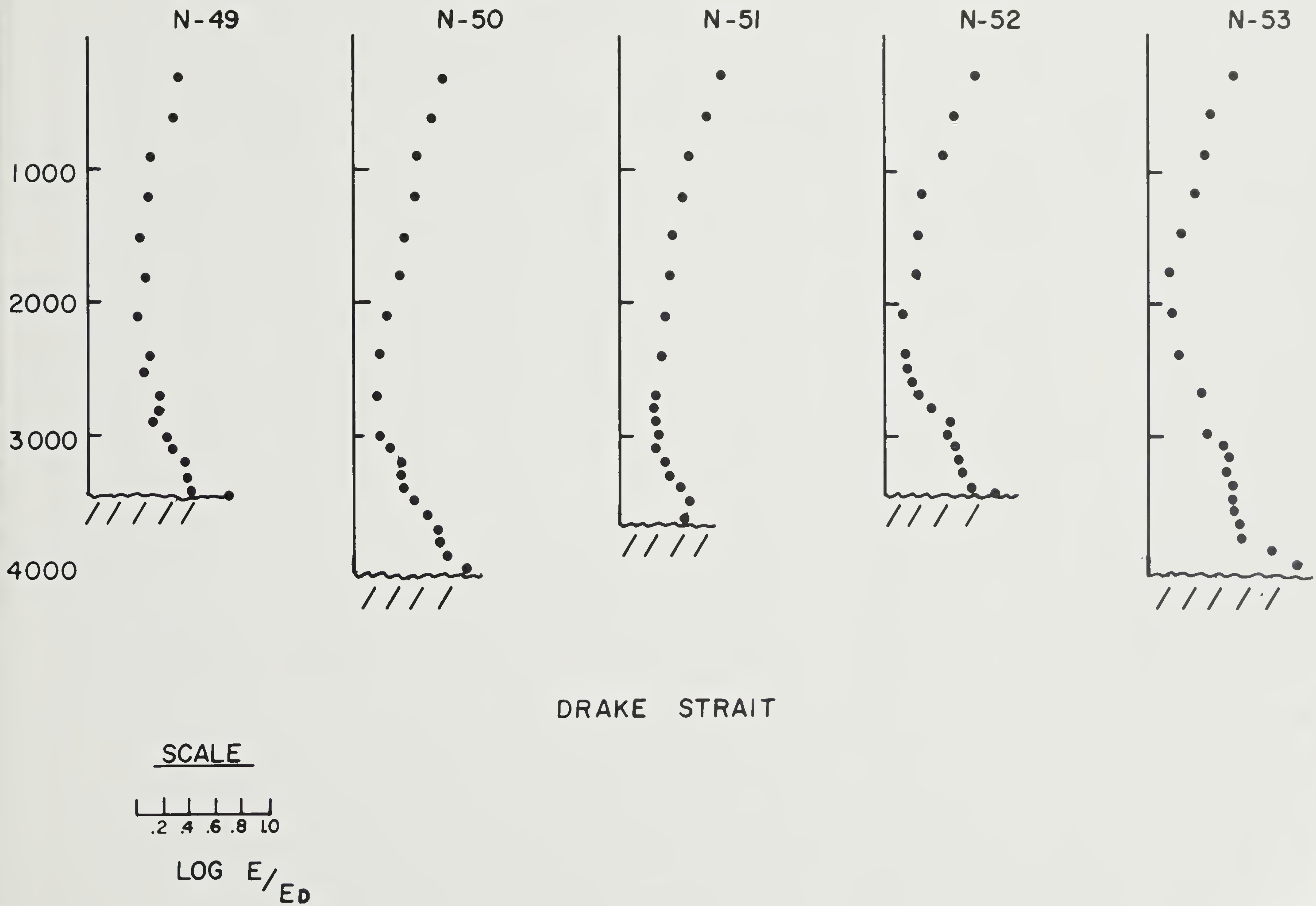
NEPHELOMETER PROFILES

N44 53°04'S 78°57'W 4116 m		N45 56°31'S 80°34'W 4221 m		N46 60°01'S 80°35'W 5035 m		N47 63°21'S 77°28'W 4548 m		N48 65°05'S 74°04'W 3779 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
300	.76	300	.58	300	.72	300	.69	300	.71
600	.67	600	.48	600	.65	600	.56	600	.55
900	.55	900	.39	900	.59	900	.43	900	.44
1200	.54	1200	.35	1200	.45	1200	.34	1200	.40
1500	.45	1500	.34	1500	.37	1500	.30	1500	.30
1800	.44	1800	.30	1800	.31	1800	.26	1800	.26
2100	.41	2100	.29	2100	.26	2100	.18	2100	.25
2400	.28	2400	.25	2400	.18	2400	.14	2400	.17
2700	.29	2700	.23	2700	.08	2700	.13	2700	.17
3000	.22	3000	.21	3000	.08	3000	.14	2800	.21
3100	.22	3100	.20	3300	-.01	3300	.16	2900	.21
3200	.21	3200	.21	3600	-.01	3600	.30	3000	.33
3300	.16	3300	.20	3900	.01	3700	.47	3100	.31
3400	.16	3400	.18	4200	.12	3800	.49	3200	.36
3500	.16	3500	.19	4300	.25	3900	.57	3300	.36
3600	.27	3600	.21	4400	.27	4000	.57	3400	.54
3700	.35	3700	.22	4500	.40	4100	.58	3500	.61
3800	.51	3800	.23	4600	.54	4200	.60	3600	.69
3900	.68	3900	.26	4700	.57	4300	.62	3700	.72
4000	.82	4000	.26	4800	.66	4400	.65	3779	.86
4116	.96	4100	.29	4900	.71	4548	.70		
		4221	.35	5035	.80				


N-44
N-45
N-46
N-47
N-48
1000
2000
3000
4000
5000
PACIFIC ANTARTIC
PACIFIC ANTARTIC
PACIFIC ANTARTIC
DAVIS STRAIT
DRAKE STRAIT
5000
SCALE
LOG E/ED

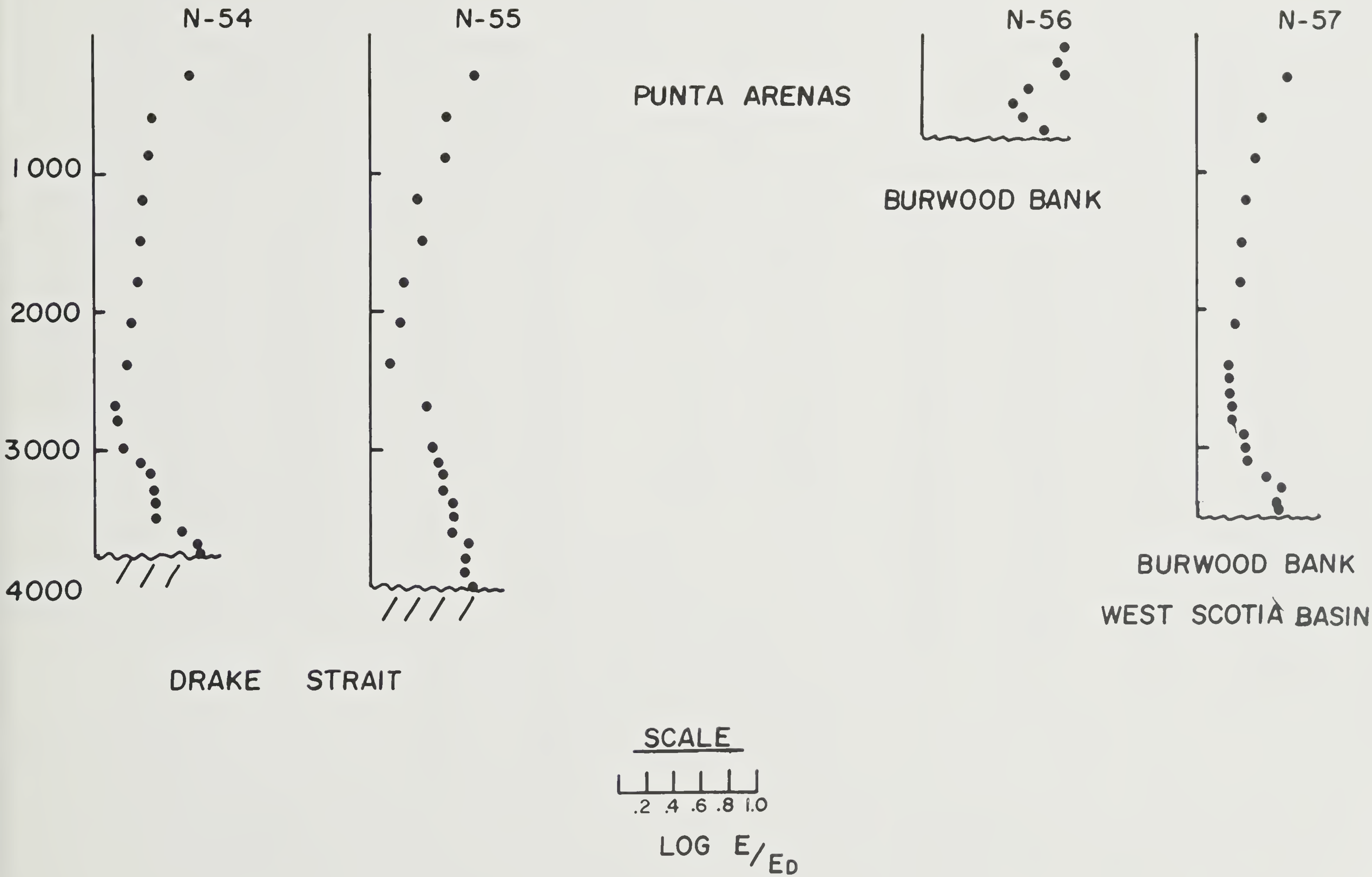
NEPHELOMETER PROFILES

N49 65°23'S 71°22'W 3445 m		N50 62°39'S 69°40'W 4004 m		N51 59°46'S 66°35'W 3619 m		N52 61°20'S 62°46'W 3468 m		N53 60°26'S 62°17'W 3997 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
300	.68	300	.69	300	.77	300	.69	300	.67
600	.68	600	.59	600	.65	600	.52	600	.49
900	.48	900	.48	900	.51	900	.42	900	.43
1200	.44	1200	.47	1200	.49	1200	.29	1200	.36
1500	.40	1500	.39	1500	.40	1500	.24	1500	.24
1800	.42	1800	.35	1800	.39	1800	.23	1800	.18
2100	.39	2100	.26	2100	.33	2100	.13	2100	.20
2400	.47	2400	.19	2400	.31	2400	.16	2400	.24
2500	.41	2700	.18	2700	.28	2500	.18	2700	.41
2600	.54	3000	.20	2800	.26	2600	.20	3000	.46
2700	.52	3100	.28	2900	.29	2700	.26	3100	.56
2800	.49	3200	.37	3000	.30	2800	.34	3200	.61
2900	.60	3300	.35	3100	.28	2900	.50	3300	.60
3000	.63	3400	.39	3200	.33	3000	.48	3400	.63
3100	.72	3500	.46	3300	.38	3100	.52	3500	.65
3200	.75	3600	.54	3400	.44	3200	.56	3600	.67
3300	.79	3700	.62	3500	.51	3300	.59	3700	.70
3445	1.08	3800	.65	3619	.50	3400	.64	3800	.71
		3900	.70			3468	.83	3900	.93
		4004	.86					3997	1.16


N-49
N-50
N-51
N-52
N-53
1000
2000
3000
4000
DRAKE STRAIT
SCALE
.2 .4 .6 .8 1.0
LOG E/ED

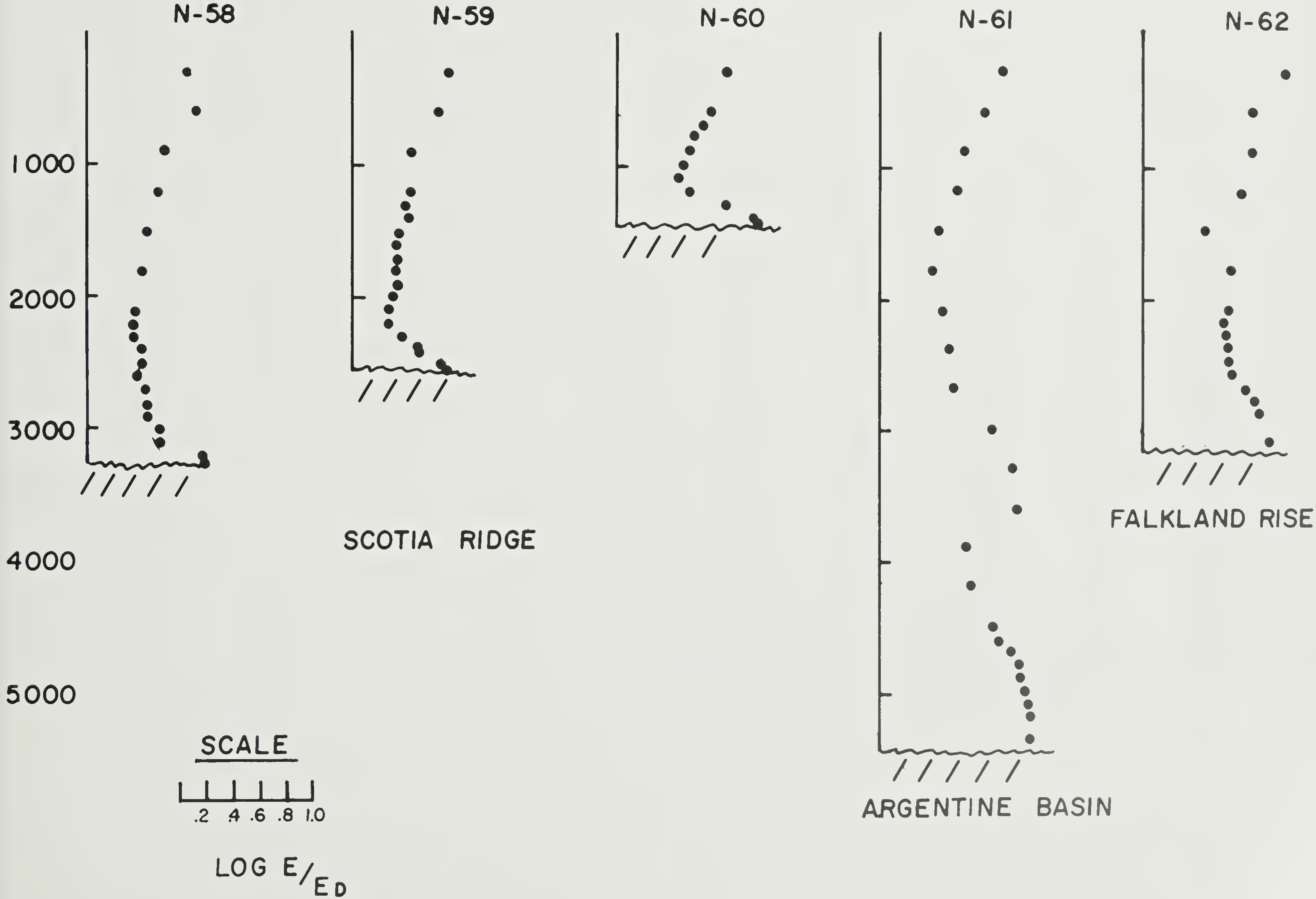
NEPHELOMETER PROFILES

N54 58°50'S 63°17'W 3794 m		N55 55°40'S 63°20'W 4017 m		N56 52°11'S 56°49'W 696 m		N57 52°52'S 52°26'W 3469 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
300	.70	300	.76	100	1.05	300	.65
600	.42	600	.54	200	.99	600	.48
900	.40	900	.56	300	1.05	900	.43
1200	.37	1200	.33	400	.78	1200	.37
1500	.32	1500	.39	500	.68	1500	.32
1800	.31	1800	.24	600	.77	1800	.31
2100	.29	2100	.21	696	.87	2100	.28
2400	.23	2400	.17			2400	.25
2700	.17	2700	.41			2500	.24
2800	.19	3000	.46			2600	.24
2900	.20	3100	.50			2700	.27
3000	.22	3200	.53			2800	.28
3100	.28	3300	.53			2900	.36
3200	.31	3400	.60			3000	.38
3300	.45	3500	.60			3100	.39
3400	.47	3600	.60			3200	.51
3500	.47	3700	.71			3300	.62
3600	.65	3800	.70			3400	.60
3700	.76	3900	.69			3469	.60
3794	.77	4017	.74				


N-54
N-55
PUNTA ARENAS
N-56
N-57
1000
2000
3000
4000
BURWOOD BANK
BURWOOD BANK
WEST SCOTIA BASIN
DRAKE STRAIT
SCALE
.2 .4 .6 .8 1.0
LOG E/ED

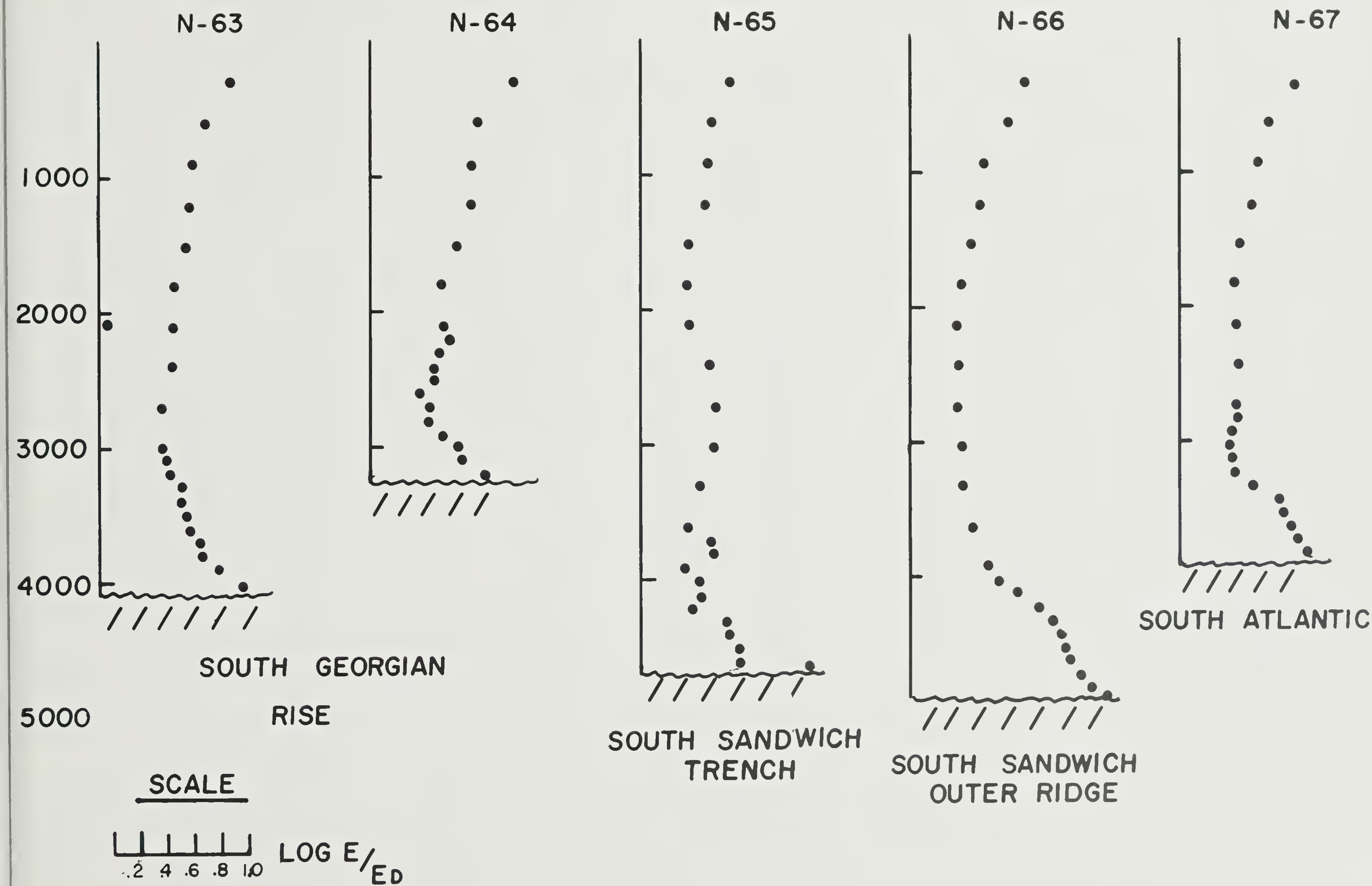
NEPHELOMETER PROFILES

N58 52°24'S 49°11'W 3285 m		N59 52°11'S 48°50'W 2560 m		N60 50°29'S 44°43'W 1490 m		N61 49°24'S 41°57'W 5328 m		N62 50°38'S 40°21'W 3077 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
300	.74	300	.72	300	.93	300	.91	300	1.06
600	.81	600	.64	600	.71	600	.80	600	.81
900	.58	900	.45	700	.65	900	.63	900	.81
1200	.51	1200	.42	800	.59	1200	.59	1200	.75
1500	.45	1300	.40	900	.55	1500	.44	1500	.47
1800	.40	1400	.42	1000	.50	1800	.40	1800	.65
2100	.36	1500	.33	1100	.48	2100	.49	2100	.63
2200	.34	1600	.36	1200	.54	2400	.51	2200	.60
2300	.36	1700	.34	1300	.82	2700	.57	2300	.62
2400	.41	1800	.32	1400	1.03	3000	.83	2400	.63
2500	.41	1900	.33	1490	1.08	3300	1.00	2500	.65
2600	.38	2000	.30			3600	1.02	2600	.69
2700	.44	2100	.28			3900	.63	2700	.78
2800	.46	2200	.28			4200	.69	2800	.84
2900	.46	2300	.39			4500	.85	2900	.89
3000	.54	2400	.50			4600	.91	3077	.96
3100	.52	2500	.68			4700	1.00		
3200	.85	2560	.71			4800	1.05		
3285	.88					4900	1.06		
						5000	1.10		
						5100	1.12		
						5200	1.14		
						5328	1.16		


N-58
N-59
N-60
N-61
N-62
1000
2000
3000
4000
5000
SCOTIA RIDGE
FALKLAND RISE
ARGENTINE BASIN
SCALE
.2 .4 .6 .8 1.0
LOG E/E D

NEPHELOMETER PROFILES

N63 51°30'S 38°28'W 4020 m		N64 52°48'S 33°47'W 3219 m		N65 53°53'S 29°26'W 4665 m		N66 52°06'S 22°41'W 4863 m		N67 49°55'S 15°34'W 3859 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
300	.95	300	1.06	300	.66	300	.84	300	.86
600	.75	600	.79	600	.51	600	.71	600	.66
900	.69	900	.76	900	.50	900	.54	900	.60
1200	.67	1200	.73	1200	.48	1200	.51	1200	.54
1500	.62	1500	.63	1500	.36	1500	.45	1500	.47
1800	.57	1800	.57	1800	.32	1800	.39	1800	.41
2100	.55	2100	.54	2100	.36	2100	.36	2100	.41
2400	.55	2200	.59	2400	.50	2400	.38	2400	.42
2700	.45	2300	.51	2700	.54	2700	.35	2700	.41
3000	.48	2400	.48	3000	.52	3000	.39	2800	.43
3100	.49	2500	.49	3300	.43	3300	.38	2900	.39
3200	.51	2600	.36	3600	.36	3600	.47	3000	.37
3300	.60	2700	.46	3700	.51	3900	.59	3100	.40
3400	.60	2800	.43	3800	.54	4000	.66	3200	.41
3500	.62	2900	.54	3900	.31	4100	.80	3300	.55
3600	.67	3000	.64	4000	.45	4200	.96	3400	.73
3700	.73	3100	.68	4100	.47	4300	1.04	3500	.78
3800	.76	3219	.85	4200	.39	4400	1.11	3600	.82
3900	.88			4300	.63	4500	1.15	3700	.88
4020	1.08			4400	.64	4600	1.18	3800	.95
				4500	.73	4700	1.26	3859	.98
				4665	1.26	4800	1.38		
						4863	1.45		


N-63
N-64
N-65
N-66
N-67
1000
2000
3000
4000
5000
SOUTH GEORGIAN RISE
SOUTH SANDWICH TRENCH
SOUTH SANDWICH OUTER RIDGE
SOUTH ATLANTIC
SCALE
.2 .4 .6 .8 1.0
LOG E/ED

NEPHELOMETER PROFILES

N68
48°30'S
10°20'W
2889 m

Depth	Log E/E_D
300	.90
600	.75
900	.62
1200	.56
1500	.52
1800	.42
1900	.43
2000	.44
2100	.40
2200	.47
2300	.48
2400	.48
2500	.46
2600	.60
2700	.61
2889	.81

N69
46°06'S
13°13'W
2710 m

Depth	Log E/E_D
300	.79
600	.64
900	.60
1200	.56
1500	.52
1800	.45
1900	.39
2000	.37
2100	.41
2200	.41
2300	.43
2400	.47
2500	.54
2600	.62
2710	.55

N70
42°59'S
20°51'W
3831 m

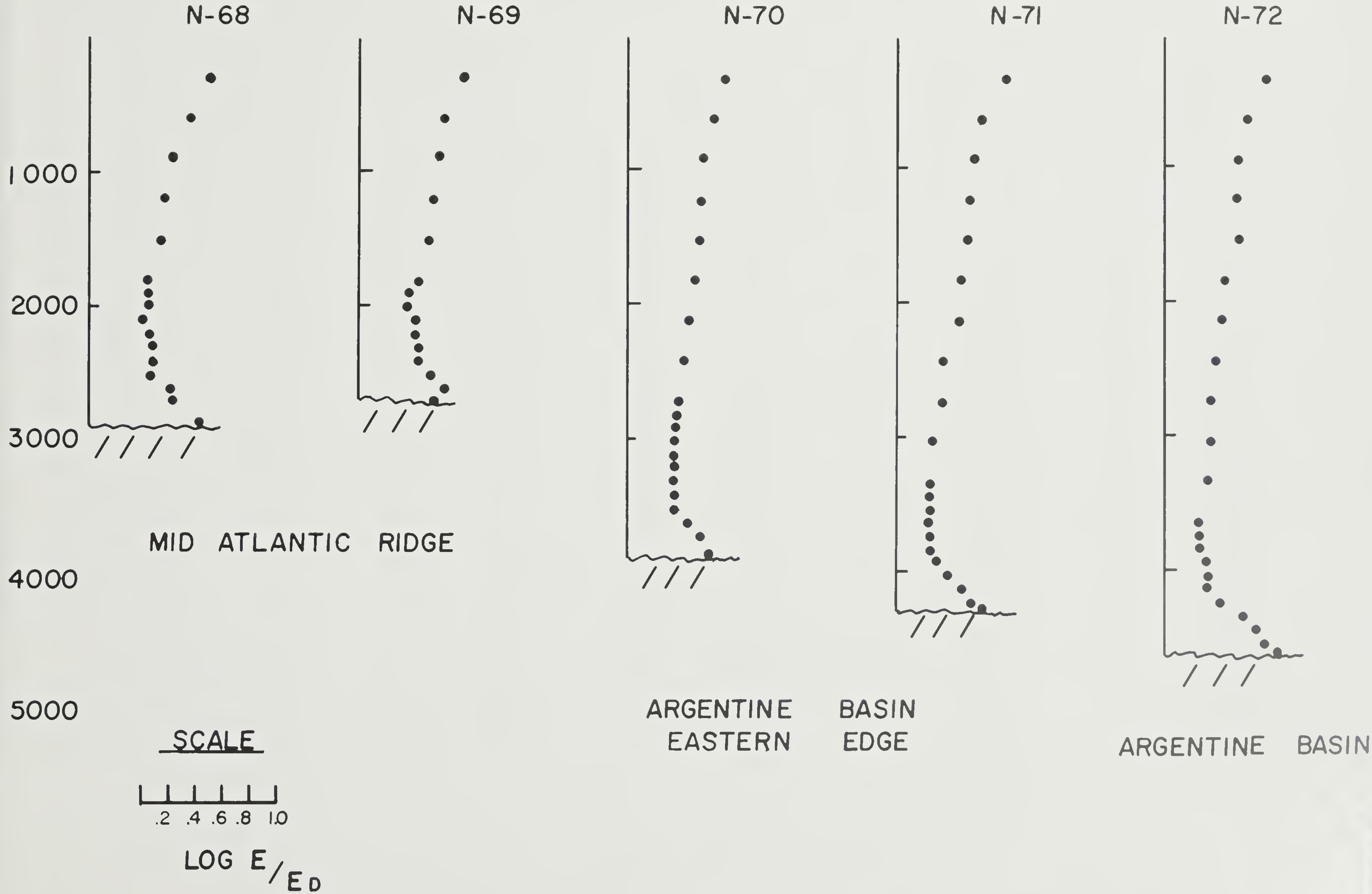
Depth	Log E/E_D
300	.72
600	.64
900	.57
1200	.56
1500	.53
1800	.50
2100	.47
2400	.42
2700	.39
2800	.38
2900	.37
3000	.35
3100	.35
3200	.36
3300	.35
3400	.36
3500	.37
3600	.46
3700	.56
3831	.60

N71
42°57'S
23°30'W
4263 m

Depth	Log E/E_D
300	.81
600	.63
900	.58
1200	.54
1500	.52
1800	.48
2100	.47
2400	.36
2700	.34
3000	.28
3300	.27
3400	.27
3500	.26
3600	.25
3700	.26
3800	.27
3900	.30
4000	.39
4100	.50
4200	.57
4263	.67

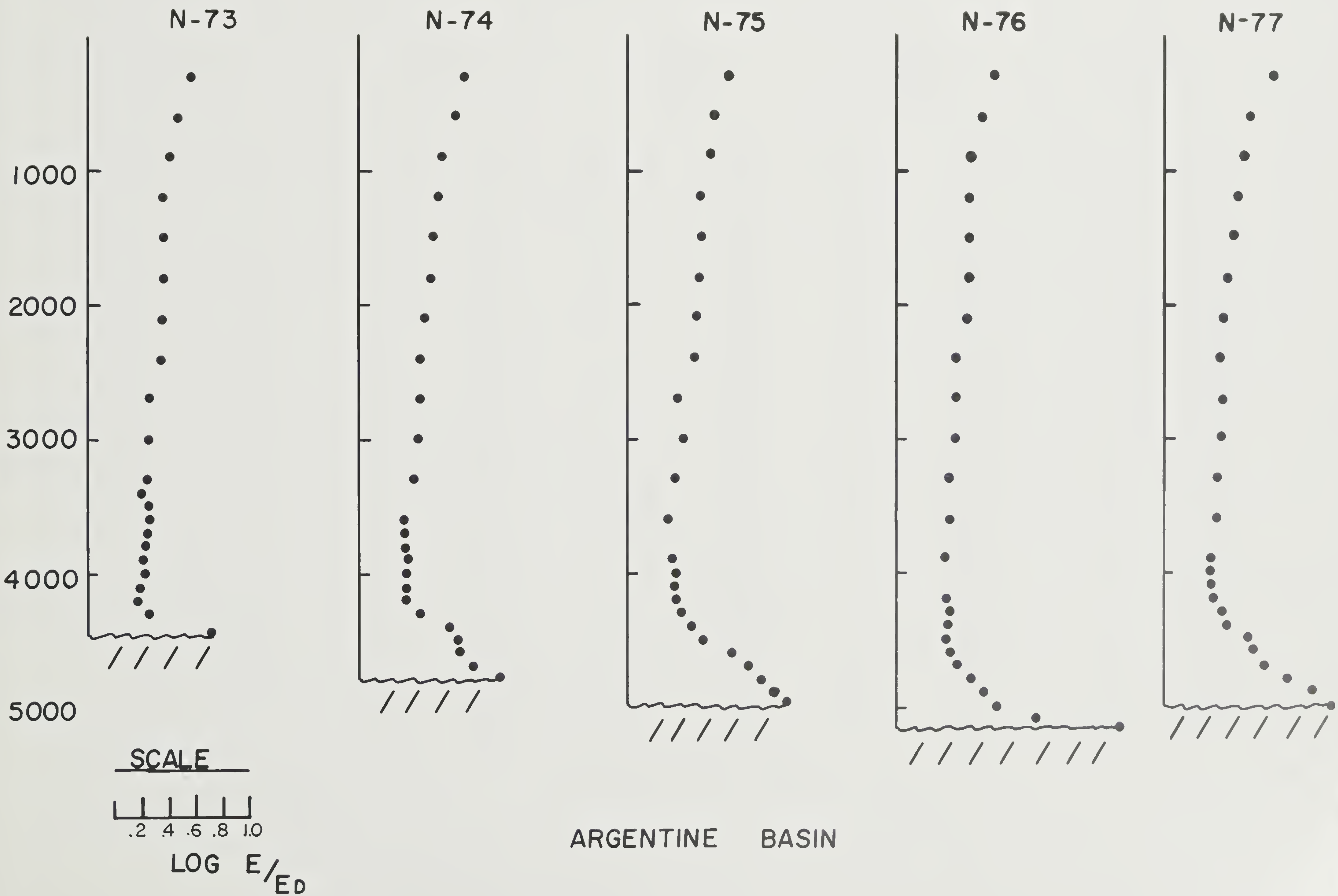
N72
42°57'S
25°56'W
4579 m

Depth	Log E/E_D
300	.76
600	.61
900	.55
1200	.56
1500	.55
1800	.46
2100	.42
2400	.38
2700	.35
3000	.35
3300	.32
3600	.28
3700	.29
3800	.29
3900	.32
4000	.33
4100	.31
4200	.42
4300	.60
4400	.70
4500	.75
4579	.84


N-68
N-69
N-70
N-71
N-72
1000
2000
3000
4000
5000
MID ATLANTIC RIDGE
ARGENTINE BASIN
EASTERN EDGE
ARGENTINE BASIN
SCALE
.2 .4 .6 .8 1.0
LOG E/ED

NEPHELOMETER PROFILES

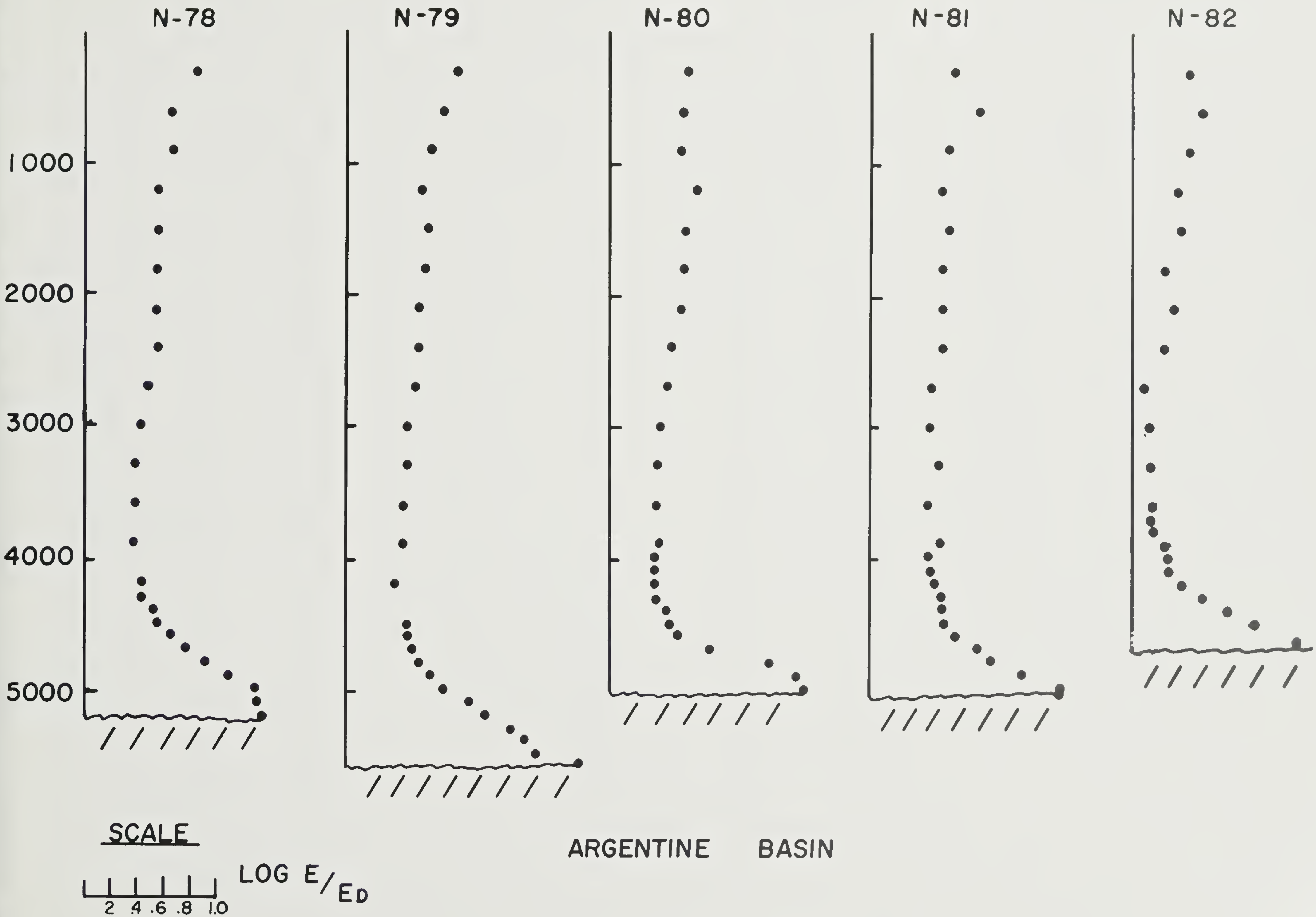
N73 42°56'S 29°47'W 4423 m		N74 43°01'S 31°10'W 4795 m		N75 42°58'S 33°51'W 4992 m		N76 42°59'S 41°34'W 5175 m		N77 42°38'S 45°19'W 5021 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
300	.76	300	.80	300	.75	300	.72	300	.82
600	.67	600	.72	600	.67	600	.63	600	.65
900	.60	900	.62	900	.61	900	.57	900	.60
1200	.55	1200	.60	1200	.55	1200	.55	1200	.57
1500	.55	1500	.57	1500	.56	1500	.56	1500	.51
1800	.55	1800	.54	1800	.54	1800	.54	1800	.48
2100	.54	2100	.50	2100	.51	2100	.52	2100	.45
2400	.52	2400	.47	2400	.50	2400	.46	2400	.42
2700	.44	2700	.47	2700	.38	2700	.43	2700	.46
3000	.44	3000	.44	3000	.42	3000	.43	3000	.41
3300	.42	3300	.41	3300	.36	3300	.40	3300	.38
3400	.40	3600	.36	3600	.30	3600	.40	3600	.40
3500	.45	3700	.36	3900	.33	3900	.37	3900	.36
3600	.43	3800	.37	4000	.34	4200	.38	4000	.36
3700	.45	3900	.38	4100	.35	4300	.40	4100	.37
3800	.41	4000	.36	4200	.38	4400	.39	4200	.39
3900	.40	4100	.36	4300	.40	4500	.37	4300	.43
4000	.42	4200	.36	4400	.49	4600	.40	4400	.49
4100	.39	4300	.46	4500	.57	4700	.48	4500	.62
4200	.37	4400	.69	4600	.79	4800	.58	4600	.67
4300	.44	4500	.74	4700	.90	4900	.64	4700	.75
4420	.91	4600	.74	4800	1.00	5000	.73	4800	.92
		4700	.87	4900	1.10	5100	1.03	4900	1.12
		4795	1.04	4992	1.18	5175	1.69	5021	1.29



ARGENTINE BASIN

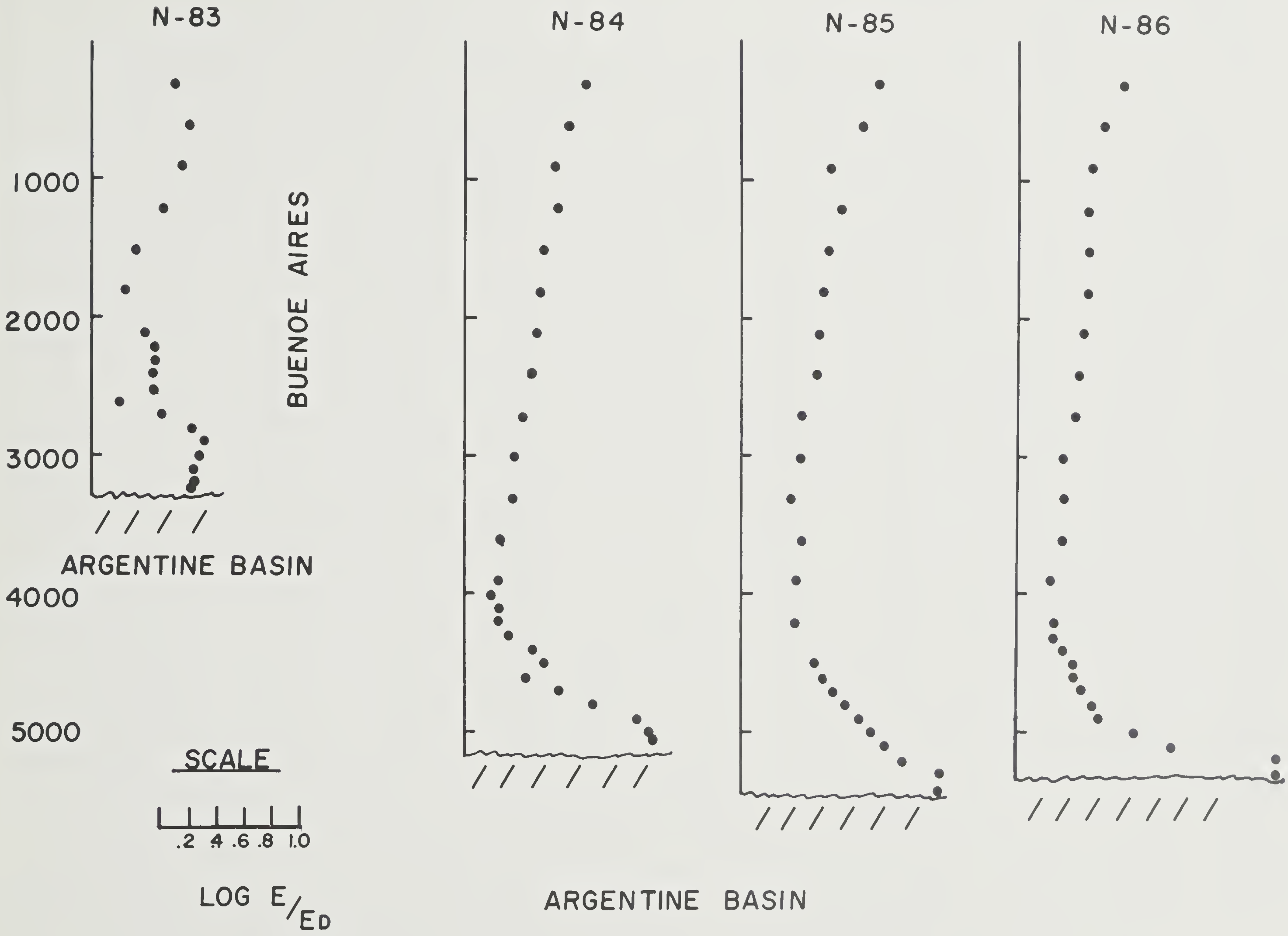
NEPHELOMETER PROFILES

N78 42°27'S 46°41'W 5222 m		N79 42°19'S 48°38'W 5568 m		N80 41°24'S 50°59'W 5040 m		N81 39°52'S 52°29'W 5078 m		N82 39°08'S 52°50'W 4633 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
300	.85	300	.83	300	.60	300	.65	300	.63
600	.68	600	.72	600	.57	600	.83	600	.74
900	.68	900	.65	900	.55	900	.60	900	.64
1200	.58	1200	.58	1200	.69	1200	.56	1200	.57
1500	.57	1500	.62	1500	.59	1500	.60	1500	.58
1800	.57	1800	.60	1800	.59	1800	.56	1800	.44
2100	.57	2100	.55	2100	.55	2100	.56	2100	.52
2400	.46	2400	.57	2400	.49	2400	.57	2400	.44
2700	.49	2700	.51	2700	.44	2700	.48	2700	.30
3000	.42	3000	.47	3000	.40	3000	.48	3000	.33
3300	.40	3300	.45	3300	.37	3300	.51	3300	.34
3600	.39	3600	.43	3600	.37	3600	.49	3600	.36
3900	.38	3900	.42	3900	.39	3900	.52	3700	.36
4200	.43	4200	.38	4000	.33	4000	.41	3800	.39
4300	.45	4500	.44	4100	.34	4100	.46	3900	.47
4400	.53	4600	.47	4200	.35	4200	.50	4000	.49
4500	.57	4700	.50	4300	.35	4300	.54	4100	.49
4600	.67	4800	.55	4400	.44	4400	.54	4200	.60
4700	.79	4900	.64	4500	.47	4500	.56	4300	.77
4800	.91	5000	.72	4600	.53	4600	.56	4400	.92
4900	1.09	5100	.93	4700	.79	4700	.81	4500	1.16
5000	1.31	5200	1.07	4800	1.22	4800	.91	4633	1.48
5100	1.31	5300	1.25	4900	1.46	4900	1.18		
5222	1.36	5400	1.39	5040	1.50	5000	1.48		
		5500				5078	1.47		


N-78
N-79
N-80
N-81
N-82
1000
2000
3000
4000
5000
SCALE
2 .4 .6 .8 1.0
LOG E/ED
ARGENTINE BASIN

NEPHELOMETER PROFILES

N83		N84		N85		N86	
$38^{o}07'S$		$37^{o}40'S$		$40^{o}05'S$		$43^{o}37'S$	
$53^{o}42'W$		$49^{o}35'W$		$49^{o}10'W$		$48^{o}25'W$	
3247 m		5076 m		5428 m		5318 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
300	.60	300	.88	300	1.00	300	.78
600	.71	600	.74	600	.88	600	.65
900	.67	900	.66	900	.66	900	.57
1200	.52	1200	.68	1200	.71	1200	.52
1500	.31	1500	.58	1500	.66	1500	.53
1800	.26	1800	.55	1800	.60	1800	.51
2100	.40	2100	.51	2100	.58	2100	.50
2200	.46	2400	.49	2400	.55	2400	.45
2300	.47	2700	.42	2700	.45	2700	.43
2400	.46	3000	.36	3000	.42	3000	.36
2500	.46	3300	.34	3300	.38	3300	.35
2600	.20	3600	.26	3600	.44	3600	.33
2700	.50	3900	.24	3900	.40	3900	.27
2800	.72	4000	.20	4200	.40	4200	.29
2900	.81	4100	.25	4500	.54	4300	.29
3000	.78	4200	.24	4600	.60	4400	.34
3100	.74	4300	.32	4700	.68	4500	.41
3200	.74	4400	.50	4800	.77	4600	.42
3247	.72	4500	.59	4900	.87	4700	.49
		4600	.45	5000	.96	4800	.57
		4700	.69	5100	1.05	4900	.61
		4800	.91	5200	1.18	5000	.88
		4900	1.24	5300	1.45	5100	1.14
		5000	1.32	5428	1.44	5200	1.92
		5076	1.38			5318	1.92


N-83
N-84
N-85
N-86
1000
2000
3000
4000
5000
BUENOE AIRES
ARGENTINE BASIN
SCALE
.2 .4 .6 .8 1.0
LOG E/ED
ARGENTINE BASIN

NEPHELOMETER PROFILES

N87
47°39'S
47°29'W
6027 m

Depth	Log E/E_D
300	.81
600	.75
900	.59
1200	.59
1500	.59
1800	.48
2100	.42
2400	.42
2700	.36
3000	.36
3300	.38
3600	.56
3900	.59
4200	.44
4500	.55
4800	.68
5100	.86
5200	.91
5300	.97
5400	.99
5500	1.07
5600	1.05
5700	1.08
5800	1.10
5900	1.19
6027	1.48

N88
49°37'S
47°36'W
2645 m

Depth	Log E/E_D
300	.71
600	.65
900	.60
1200	.52
1500	.49
1600	.48
1700	.45
1800	.43
1900	.41
2000	.43
2100	.40
2200	.41
2300	.38
2400	.40
2500	.40
2645	.69

N89
54°05'S
51°49'W
2414 m

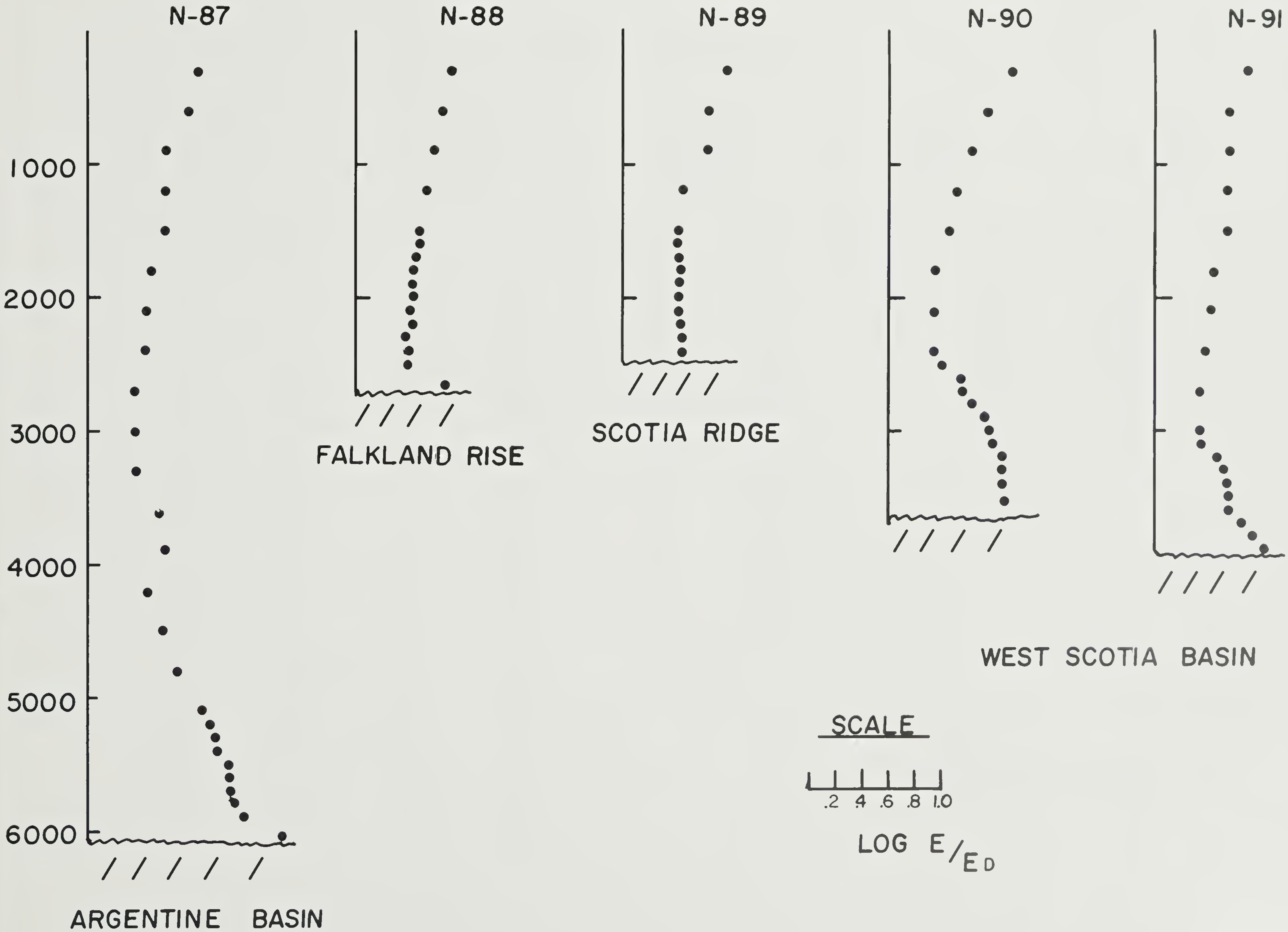
Depth	Log E/E_D
300	.79
600	.67
900	.66
1200	.47
1500	.42
1600	.41
1700	.43
1800	.42
1900	.42
2000	.41
2100	.41
2200	.43
2300	.47
2414	.46

N90
55°41'S
55°16'W
3525 m

Depth	Log E/E_D
300	.92
600	.73
900	.62
1200	.51
1500	.45
1800	.34
2100	.33
2400	.34
2500	.41
2600	.54
2700	.56
2800	.62
2900	.72
3000	.76
3100	.79
3200	.83
3300	.84
3400	.86
3525	.88

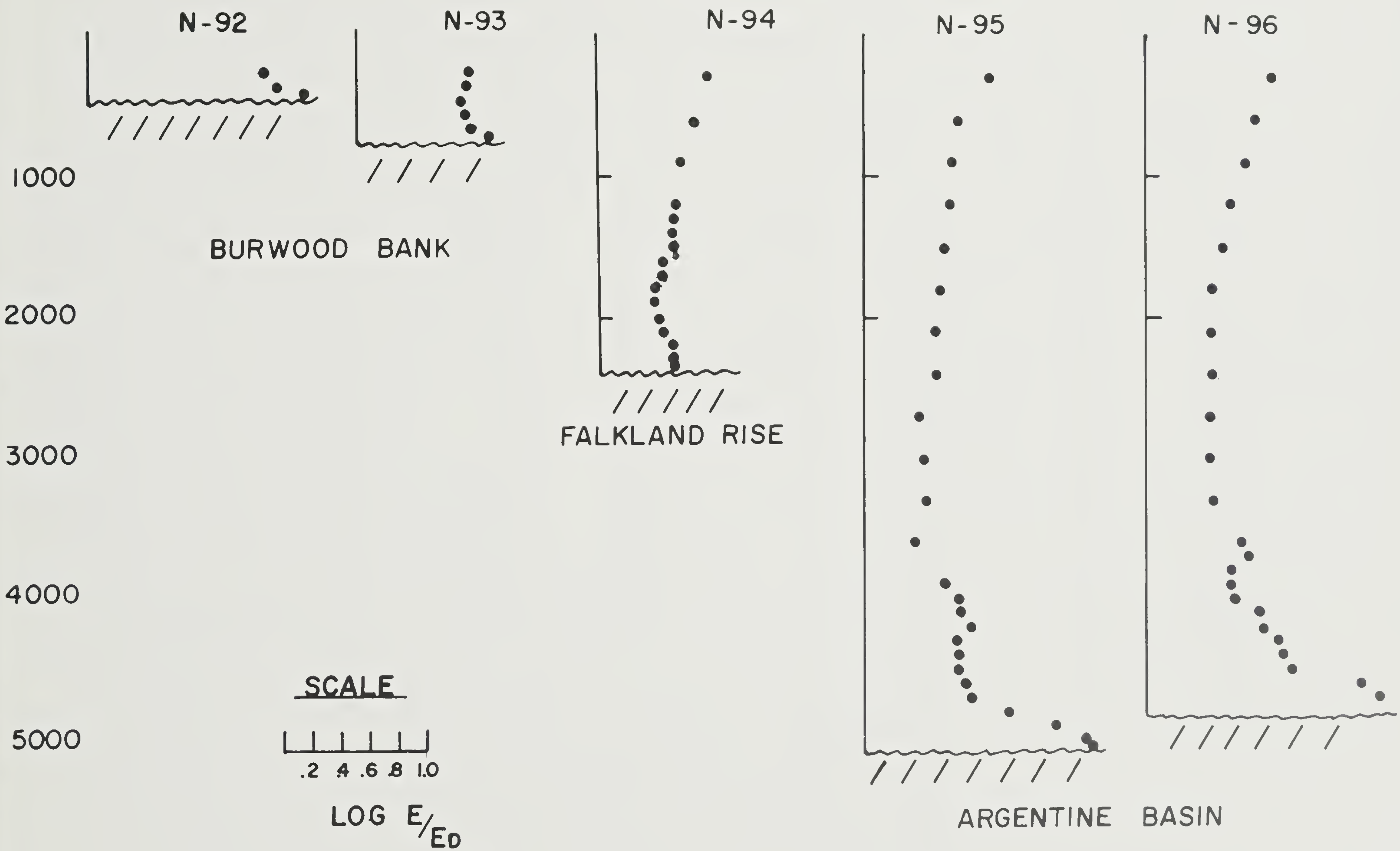
N91
55°39'S
58°55'W
3903 m

Depth	Log E/E_D
300	.70
600	.58
900	.57
1200	.55
1500	.57
1800	.46
2100	.41
2400	.39
2700	.35
3000	.35
3100	.37
3200	.49
3300	.52
3400	.53
3500	.57
3600	.57
3700	.66
3800	.74
3903	.85


N-87
N-88
N-89
N-90
N-91
1000
2000
3000
4000
5000
6000
FALKLAND RISE
SCOTIA RIDGE
WEST SCOTIA BASIN
ARGENTINE BASIN
SCALE
.2 .4 .6 .8 1.0
LOG E/ED

NEPHELOMETER PROFILES

N92 52°41'S 57°44'W 479 m		N93 49°37'S 55°53'W 763 m		N94 48°28'S 55°14'W 2384 m		N95 45°35'S 55°44'W 5057 m		N96 44°17'S 57°10'W 4787 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
100	1.26	100	1.04	300	.78	300	.88	300	.89
200	1.29	200	.96	600	.68	600	.67	600	.79
300	1.25	300	.80	900	.59	900	.61	900	.70
400	1.32	400	.79	1200	.55	1200	.60	1200	.60
479	1.54	500	.75	1300	.53	1500	.56	1500	.52
		600	.79	1400	.51	1800	.52	1800	.47
		700	.81	1500	.51	2100	.50	2100	.47
		763	.95	1600	.45	2400	.50	2400	.47
				1700	.44	2700	.39	2700	.43
				1800	.40	3000	.41	3000	.43
				1900	.40	3300	.42	3300	.48
				2000	.41	3600	.36	3600	.69
				2100	.46	3900	.59	3700	.73
				2200	.51	4000	.67	3800	.60
				2300	.51	4100	.68	3900	.60
				2384	.52	4200	.74	4000	.62
						4300	.66	4100	.80
						4400	.66	4200	.83
						4500	.66	4300	.93
						4600	.71	4400	.97
						4700	.77	4500	1.02
						4800	1.02	4600	1.51
						4900	1.38	4700	1.63
						5000	1.61	4787	1.63
						5057	1.64		


N-92
N-93
N-94
N-95
N-96
1000
2000
3000
4000
5000
BURWOOD BANK
FALKLAND RISE
ARGENTINE BASIN
SCALE
.2 .4 .6 .8 1.0
LOG E/ED

NEPHELOMETER PROFILES

N97
$43^{\circ}39'$S
$57^{\circ}52'$W
3732 m

Depth	Log E/E_D
300	.76
600	.65
900	.57
1200	.54
1500	.50
1800	.46
2100	.48
2400	.63
2700	.64
2800	.00
2900	.64
3000	.65
3100	.65
3200	.72
3300	.81
3400	.90
3500	.98
3600	1.16
3700	1.28
3732	1.31

N98
$41^{\circ}39'$S
$54^{\circ}20'$W
5083 m

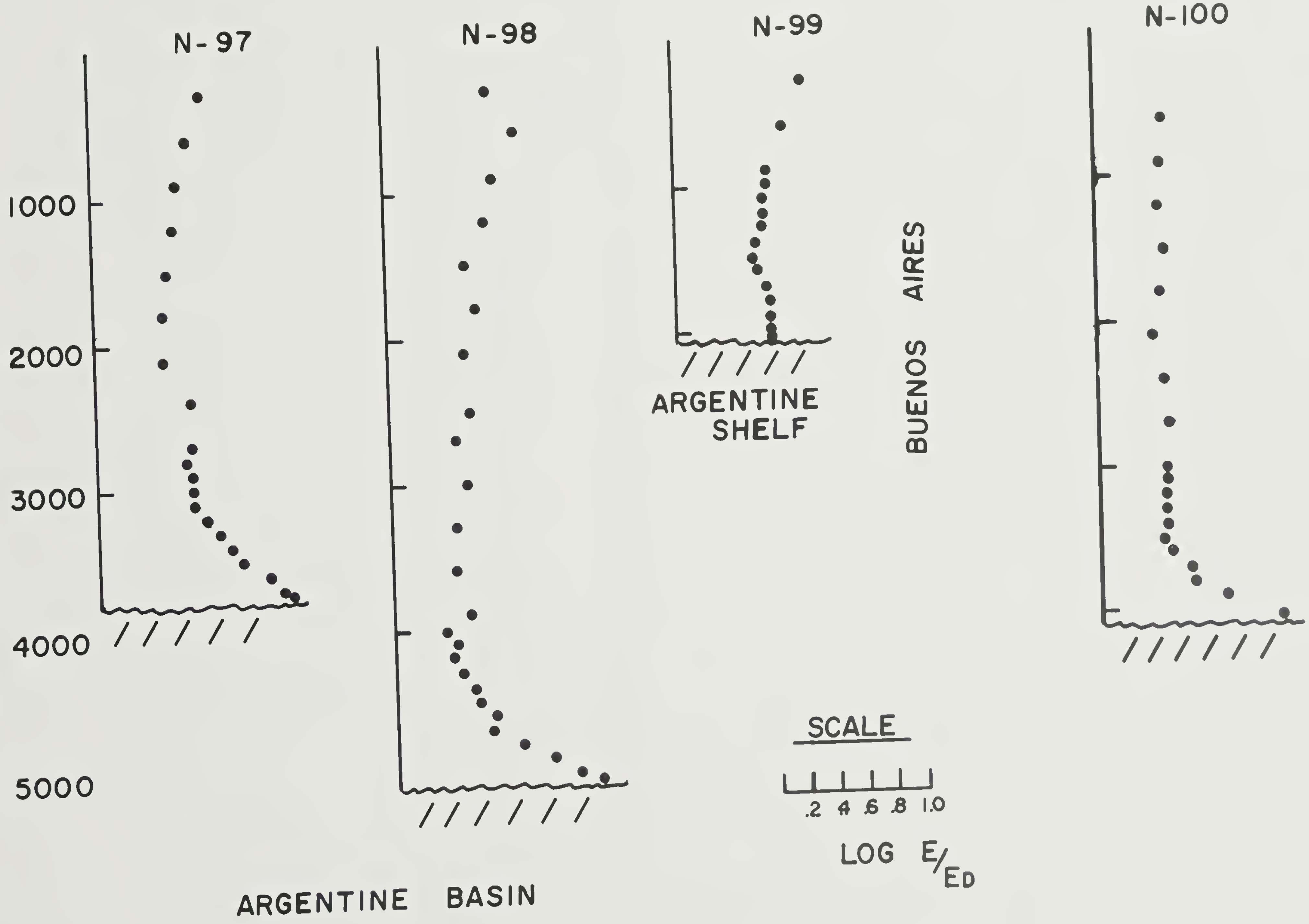
Depth	Log E/E_D
300	.71
600	.90
900	.74
1200	.68
1500	.53
1800	.60
2100	.51
2400	.56
2700	.44
3000	.52
3300	.44
3600	.42
3900	.51
4000	.35
4100	.41
4200	.39
4300	.45
4400	.54
4500	.58
4600	.69
4700	.67
4800	.86
4900	1.10
5000	1.28
5083	1.40

N99
$40^{\circ}25'$S
$55^{\circ}19'$W
2076 m

Depth	Log E/E_D
300	.88
600	.73
900	.62
1000	.62
1100	.60
1200	.60
1300	.69
1400	.54
1500	.52
1600	.56
1700	.61
1800	.63
1900	.64
2000	.65
2076	.67

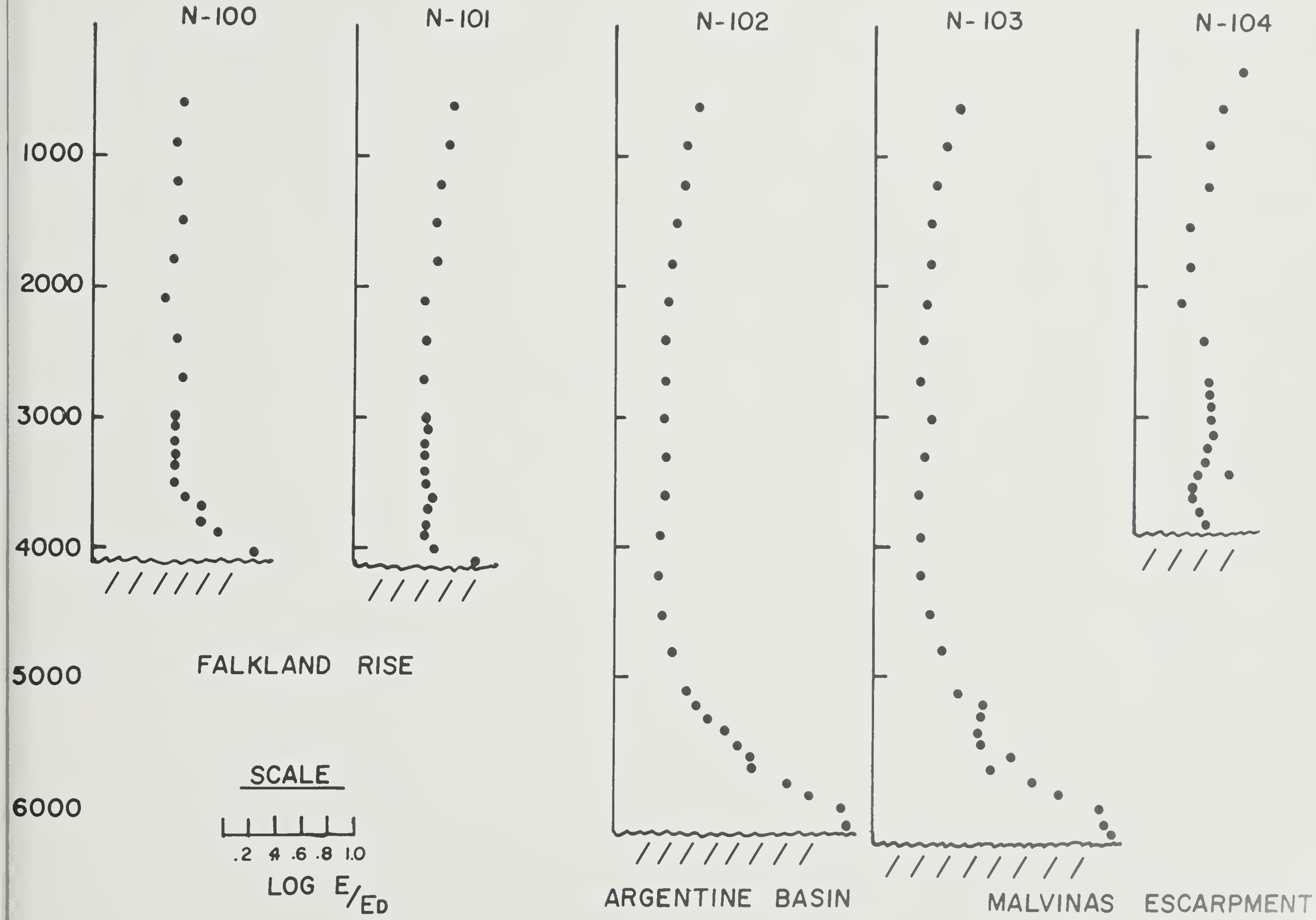
N100
$47^{\circ}12'$S
$56^{\circ}56'$W
4048 m

Depth	Log E/E_D
600	.70
900	.65
1200	.64
1500	.70
1800	.62
2100	.57
2400	.64
2700	.70
3000	.64
3100	.64
3200	.65
3300	.64
3400	.66
3500	.63
3600	.72
3700	.84
3800	.83
3900	.98
4048	1.26


N-97
N-98
N-99
N-100
1000
2000
3000
4000
5000
ARGENTINE SHELF
BUENOS AIRES
SCALE
.2 .4 .6 .8 1.0
LOG E/ED
ARGENTINE BASIN

NEPHELOMETER PROFILES

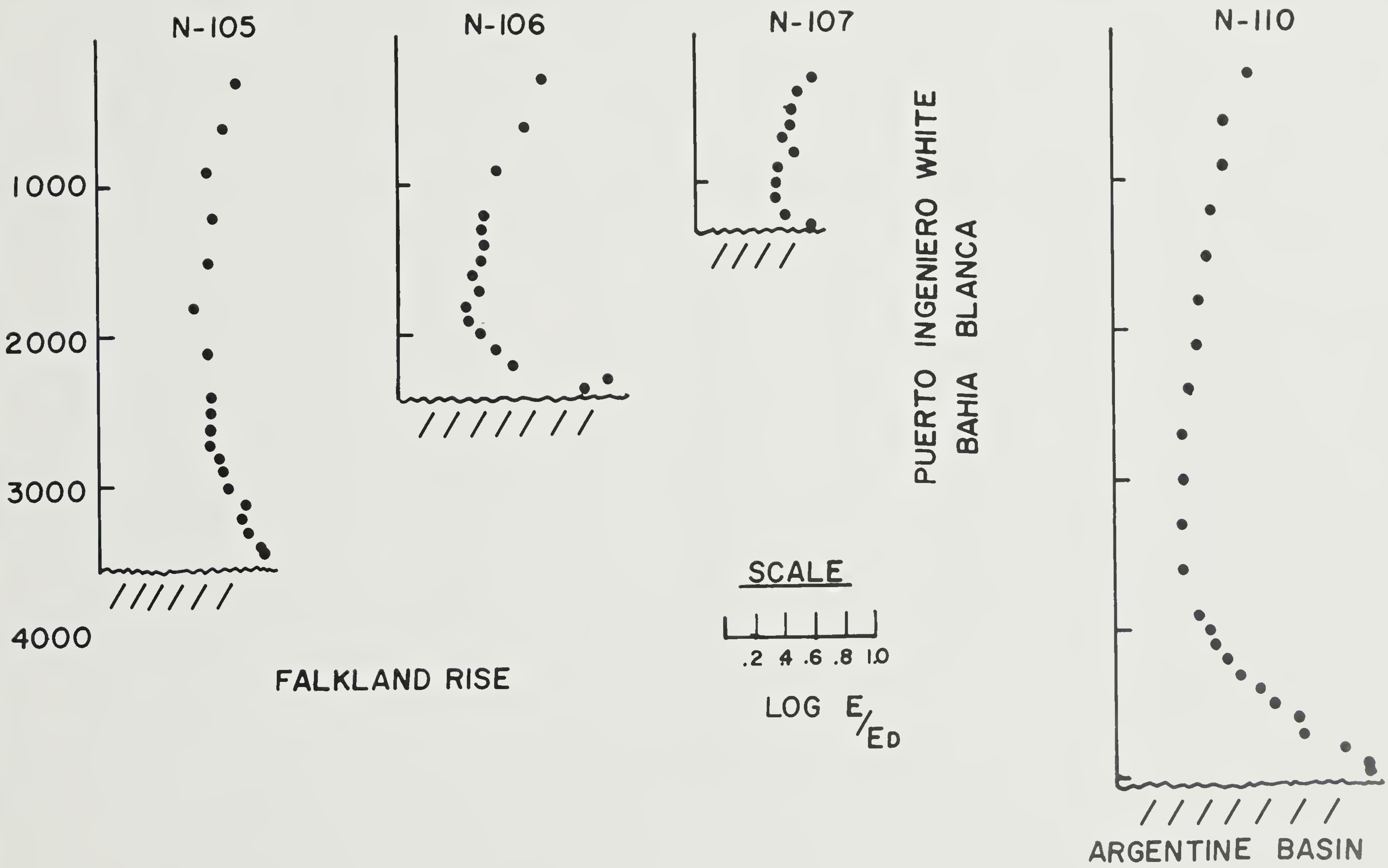
N101 47°52'S 56°52'W 4099 m		N102 47°24'S 51°25'W 6115 m		N103 49°06'S 45°40'W 6212 m		N104 49°39'S 45°46'W 3827 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
600	.77	600	.64	600	.64	300	.83
900	.73	900	.54	900	.55	600	.67
1200	.68	1200	.52	1200	.48	900	.58
1500	.63	1500	.48	1500	.45	1200	.58
1800	.65	1800	.43	1800	.42	1500	.42
2100	.54	2100	.41	2100	.40	1800	.44
2400	.56	2400	.40	2400	.39	2100	.38
2700	.55	2700	.40	2700	.36	2400	.53
3000	.56	3000	.39	3000	.43	2700	.57
3100	.57	3300	.41	3300	.40	2800	.58
3200	.56	3600	.40	3600	.37	2900	.60
3300	.57	3900	.38	3900	.34	3000	.60
3400	.56	4200	.35	4200	.36	3100	.62
3500	.57	4500	.39	4500	.43	3200	.57
3600	.61	4800	.47	4800	.52	3300	.58
3700	.58	5100	.59	5100	.67	3400	.72
3800	.58	5200	.67	5200	.86	3500	.47
3900	.57	5300	.72	5300	.83	3600	.47
4000	.62	5400	.88	5400	.81	3700	.51
4099	.92	5500	.98	5500	.84	3827	.58
		5600	1.07	5600	1.08		
		5700	1.07	5700	.91		
		5800	1.32	5800	1.23		
		5900	1.51	5900	1.43		
		6000	1.78	6000	1.78		
		6115	1.80	6100	1.78		
				6212	1.87		


N-100
N-101
N-102
N-103
N-104
1000
2000
3000
4000
5000
6000
FALKLAND RISE
SCALE
.2 .4 .6 .8 1.0
LOG E/ED
ARGENTINE BASIN
MALVINAS ESCARPMENT

NEPHELOMETER PROFILES *

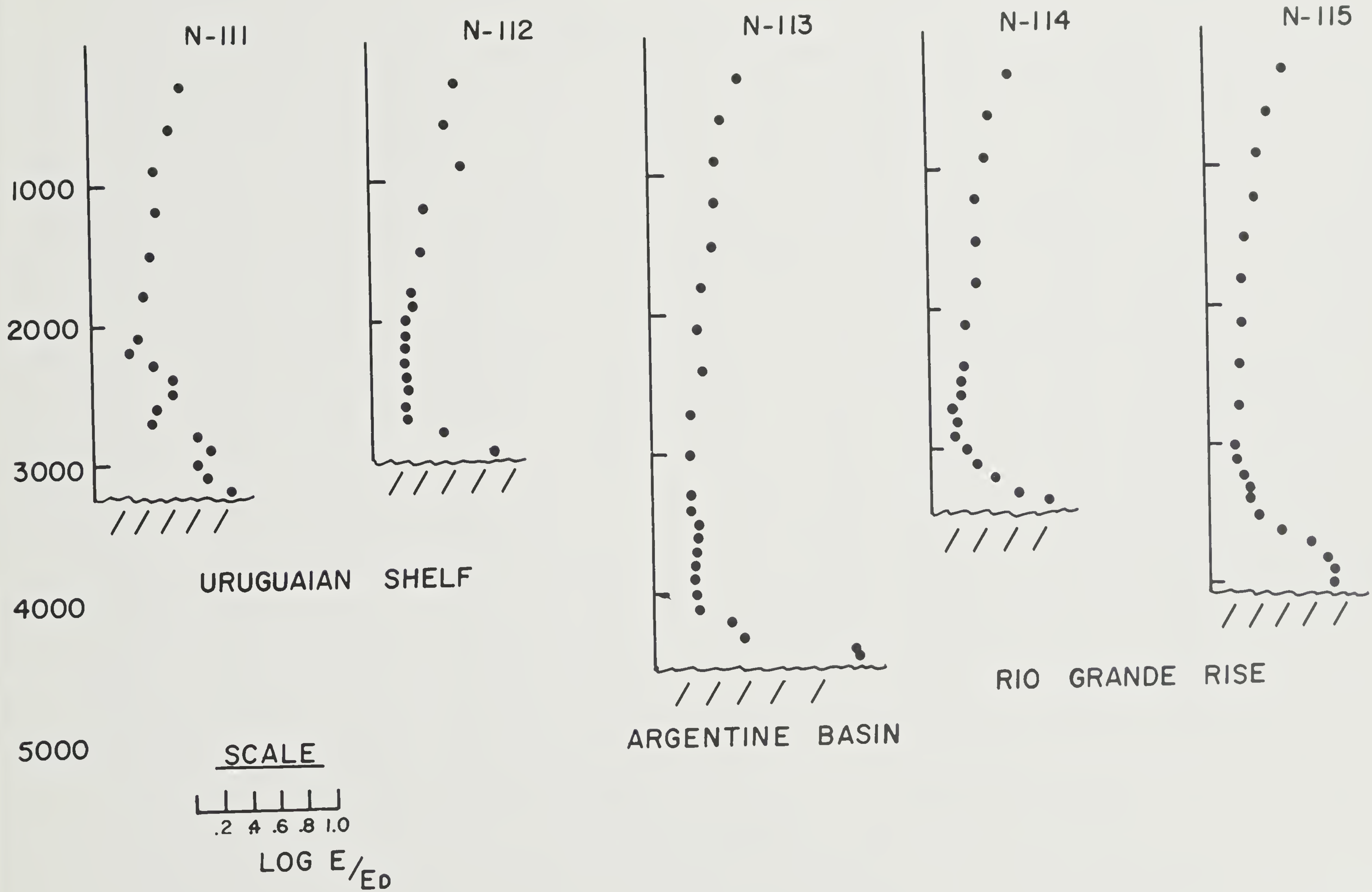
N105 52°18'S 46°52'W 3422 m		N106 51°41'S 51°19'W 2349 m		N107 51°20'S 55°00'W 1295 m		N110 40°18'S 53°34'W 4961 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
300	.93	300	.99	300	.78	300	.90
600	.83	600	.84	400	.69	600	.73
900	.72	900	.66	500	.62	900	.72
1200	.77	1200	.58	600	.62	1200	.66
1500	.72	1300	.57	700	.59	1500	.62
1800	.63	1400	.58	800	.64	1800	.57
2100	.73	1500	.56	900	.53	2100	.55
2400	.76	1600	.50	1000	.52	2400	.50
2500	.74	1700	.53	1100	.53	2700	.45
2600	.75	1800	.47	1200	.60	3000	.47
2700	.73	1900	.48	1295	.79	3300	.45
2800	.80	2000	.56			3600	.44
2900	.83	2100	.63			3900	.57
3000	.87	2200	.78			4000	.62
3100	.98	2300	1.40			4100	.69
3200	.95	2349	1.23			4200	.75
3300	1.00					4300	.56
3400	1.09					4400	.98
3422	1.10					4500	1.09
						4600	1.24
						4700	1.27
						4800	1.54
						4900	1.70
						4961	1.70

* N108: 51°22'S; 61°52'W; 194 m
N109: 49°36'S; 62°34'W; 143 m   Too shallow for meaningful results.


N-105
N-106
N-107
N-110
1000
2000
3000
4000
PUERTO INGENIERO WHITE
BAHIA BLANCA
SCALE
.2 .4 .6 .8 1.0
LOG E/ED
FALKLAND RISE
ARGENTINE BASIN

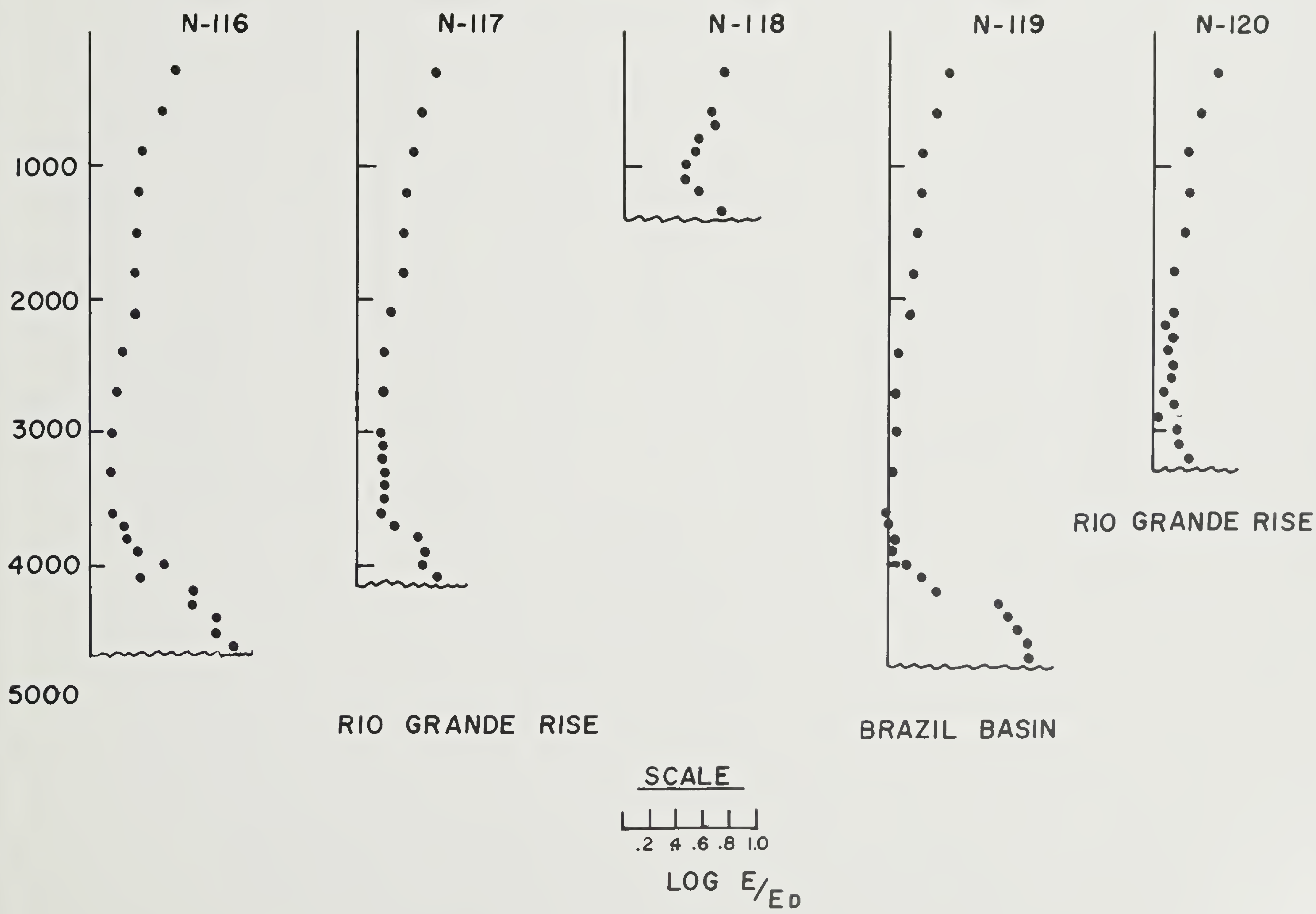
NEPHELOMETER PROFILES

N 111		N 112		N 113		N 114		N 115	
36°03'S 51°30'W 3208 m		33°34'S 49°02'W 2942 m		34°22'S 46°57'W 4484 m		29°12'S 45°28'W 3389 m		29°25'S 42°22'W 4011 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
300	.67	300	.61	300	.65	300	.60	300	.58
600	.55	600	.53	600	.51	600	.44	600	.45
900	.45	900	.65	900	.49	900	.42	900	.38
1200	.48	1200	.40	1200	.48	1200	.35	1200	.36
1500	.41	1500	.36	1500	.43	1500	.35	1500	.29
1800	.38	1800	.30	1800	.39	1800	.34	1800	.27
2100	.31	1900	.30	2100	.32	2100	.26	2100	.26
2200	.28	2000	.27	2400	.39	2400	.24	2400	.23
2300	.42	2100	.26	2700	.29	2500	.21	2700	.22
2400	.57	2200	.26	3000	.29	2600	.22	3000	.20
2500	.58	2300	.23	3300	.29	2700	.17	3100	.21
2600	.45	2400	.25	3400	.29	2800	.20	3200	.27
2700	.41	2500	.27	3500	.33	2900	.18	3300	.30
2800	.76	2600	.24	3600	.31	3000	.28	3400	.30
2900	.84	2700	.27	3700	.31	3100	.33	3500	.36
3000	.74	2800	.51	3800	.30	3200	.48	3600	.51
3100	.81	2942	.88	3900	.30	3300	.63	3700	.72
3208	1.00			4000	.30	3389	.85	3800	.83
				4100	.33			3900	.90
				4200	.55			4011	.89
				4300	.63				
				4400	1.43				
				4484	1.49				


N-111
N-112
N-113
N-114
N-115
1000
2000
3000
4000
5000
URUGUAIAN SHELF
ARGENTINE BASIN
RIO GRANDE RISE
SCALE
.2 .4 .6 .8 1.0
LOG E/ED

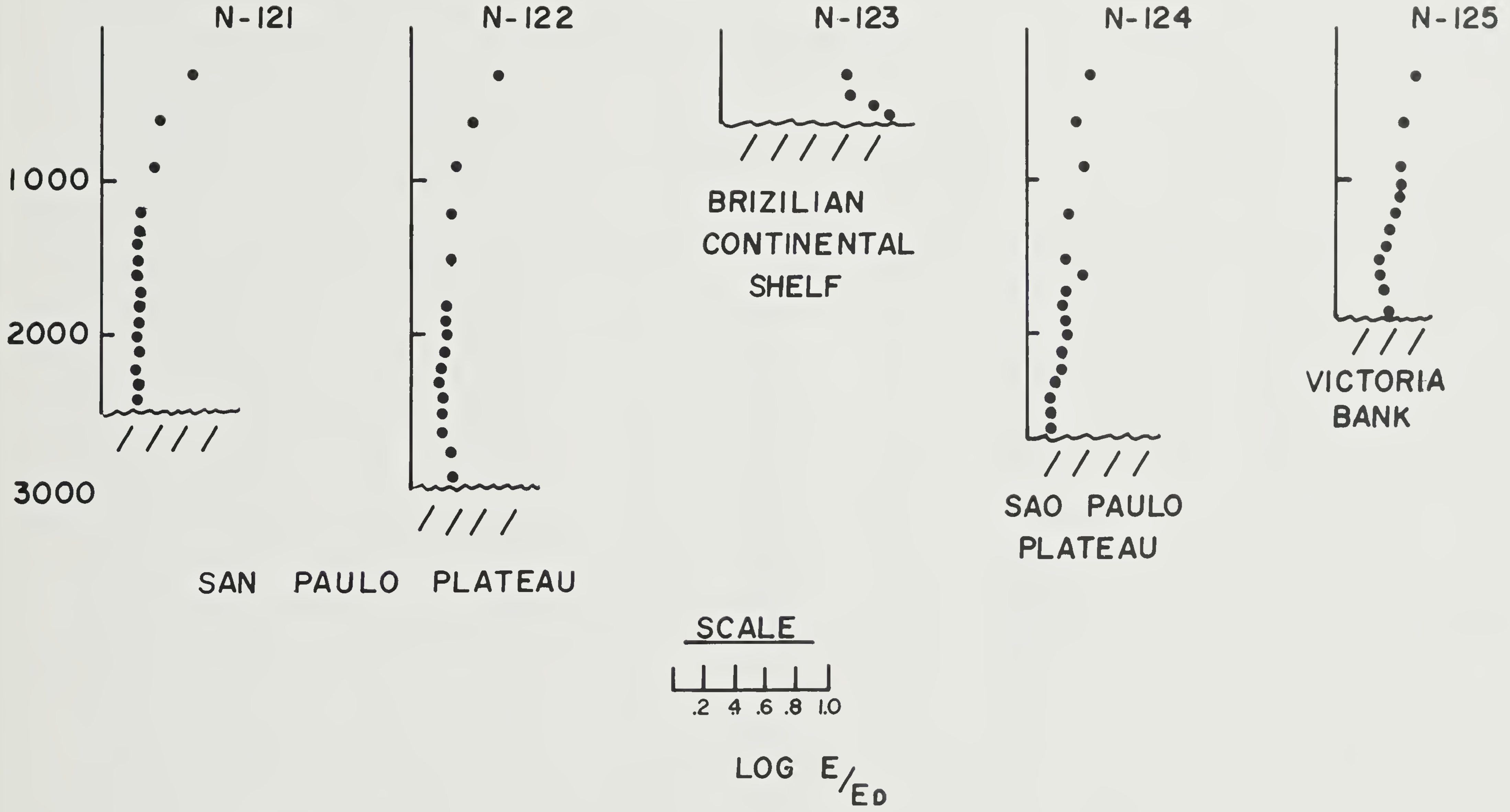
NEPHELOMETER PROFILES

N 116		N 117		N 118		N 119		N 120	
29°29'S		30°01'S		30°29'S		28°26'S		28°21'S	
39°09'W		39°27'W		35°56'W		38°09'W		41°12'W	
4627 m		4100 m		1341 m		4718 m		3247 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
300	.62	300	.58	300	.74	300	.43	300	.48
600	.52	600	.48	600	.63	600	.34	600	.34
900	.40	900	.41	700	.69	900	.25	900	.27
1200	.37	1200	.37	800	.53	1200	.24	1200	.27
1500	.34	1500	.35	900	.51	1500	.21	1500	.22
1800	.33	1800	.34	1000	.47	1800	.19	1800	.15
2100	.32	2100	.26	1100	.47	2100	.15	2100	.14
2400	.22	2400	.20	1200	.55	2400	.08	2200	.09
2700	.20	2700	.20	1341	.72	2700	.04	2300	.12
3000	.17	3000	.18			3000	.04	2400	.10
3300	.15	3100	.19			3300	.02	2500	.14
3600	.16	3200	.19			3600	.02	2600	.12
3700	.27	3300	.21			3700	.00	2700	.09
3800	.28	3400	.20			3800	.03	2800	.14
3900	.37	3500	.20			3900	.01	2900	.01
4000	.58	3600	.18			4000	.12	3000	.19
4100	.36	3700	.29			4100	.27	3100	.20
4200	.79	3800	.43			4200	.36	3200	.26
4300	.79	3900	.51			4300	.82	3247	.26
4400	.98	4000	.49			4400	.90		
4500	.99	4100	.60			4500	.98		
4627	1.10					4600	1.03		
						4718	1.03		


N-116
N-117
N-118
N-119
N-120
1000
2000
3000
4000
5000
RIO GRANDE RISE
BRAZIL BASIN
RIO GRANDE RISE
SCALE
.2 .4 .6 .8 1.0
LOG E/ED

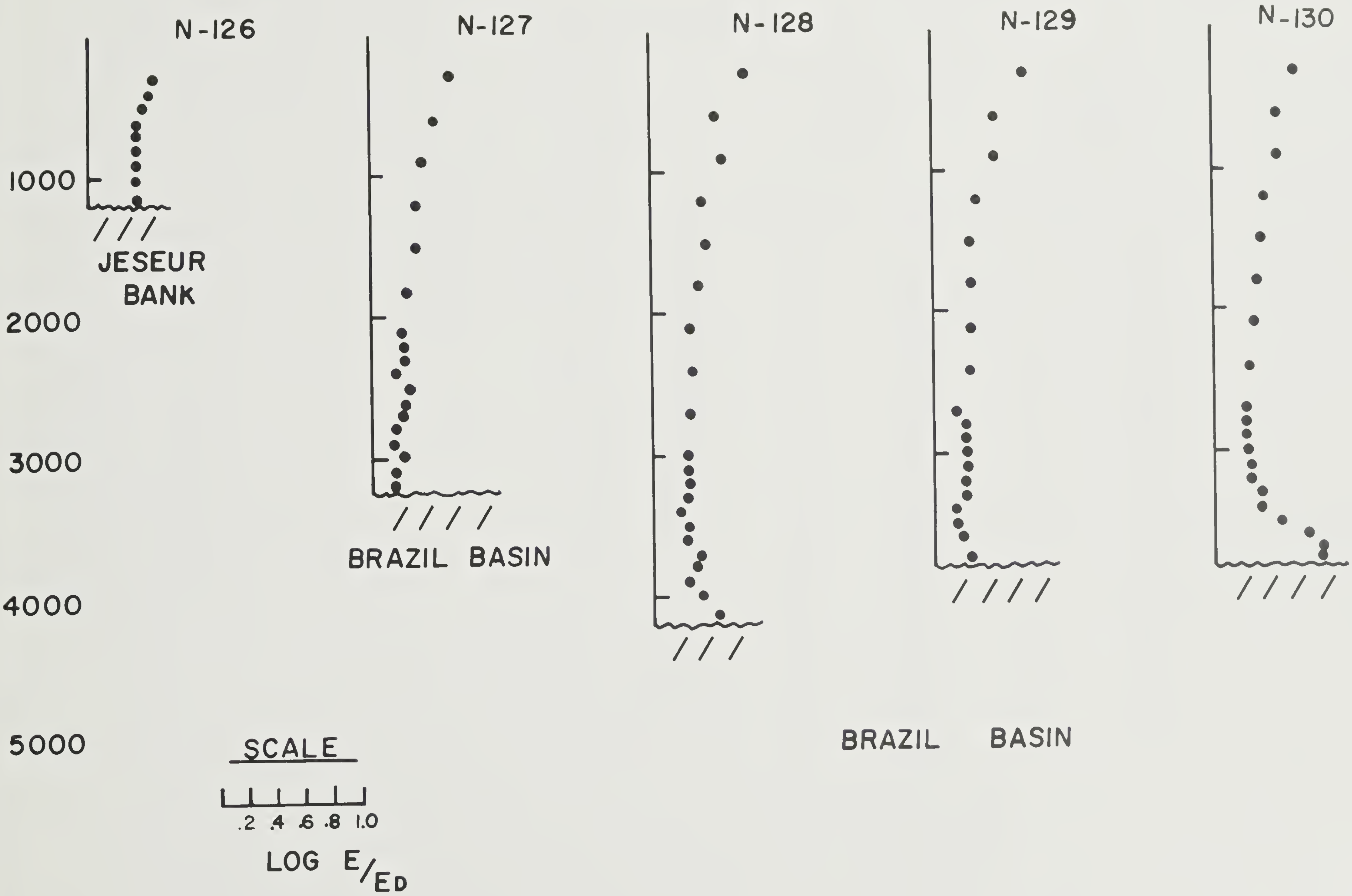
NEPHELOMETER PROFILES

N 121		N 122		N 123		N 124		N 125	
25°34'S		25°41'S		23°09'S		21°24'S		20°20'S	
41°55'W		40°55'W		41°04'W		38°49'W		37°58'W	
2455 m		2839 m		551 m		2623 m		1836 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
300	.57	300	.57	100	.79	300	.41	300	.51
600	.38	600	.40	200	.86	600	.31	600	.43
900	.34	900	.30	300	.81	900	.35	900	.42
1200	.28	1200	.27	400	.84	1200	.25	1000	.43
1300	.26	1500	.26	500	1.00	1500	.22	1100	.41
1400	.24	1800	.22	551	1.10	1600	.34	1200	.40
1500	.25	1900	.22			1700	.27	1300	.37
1600	.23	2000	.22			1800	.24	1400	.33
1700	.27	2100	.21			1900	.24	1500	.30
1800	.24	2200	.20			2000	.24	1600	.30
1900	.24	2300	.19			2100	.21	1700	.31
2000	.22	2400	.20			2200	.21	1836	.35
2100	.25	2500	.20			2300	.16		
2200	.22	2600	.21			2400	.16		
2300	.24	2700	.25			2500	.14		
2400	.23	2839	.26			2623	.14		
2455	.23								


N-121
N-122
N-123
N-124
N-125
1000
2000
3000
BRIZILIAN
CONTINENTAL
SHELF
VICTORIA
BANK
SAO PAULO
PLATEAU
SAN PAULO PLATEAU
SCALE
.2 .4 .6 .8 1.0
LOG E/ED

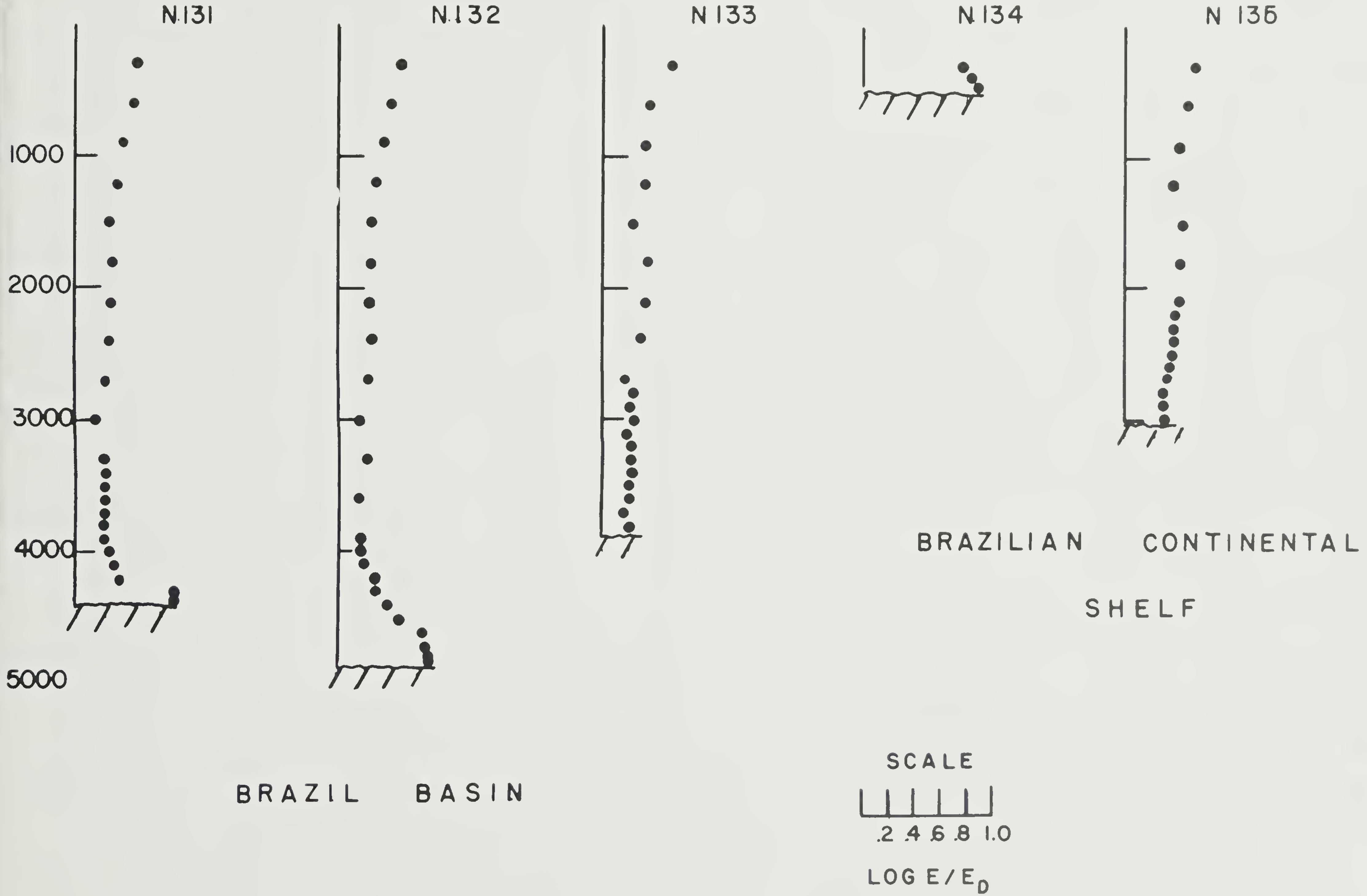
NEPHELOMETER PROFILES

N 126		N 127		N 128		N 129		N 130	
20°38'S		20°42'S		20°58'S		20°34'S		18°00'S	
35°32'W		33°45'W		31°48'W		31°48'W		36°47'W	
1151 m		3200 m		4155 m		3757 m		3755 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
300	.46	300	.55	300	.65	300	.64	300	.58
400	.42	600	.46	600	.42	600	.42	600	.45
500	.40	900	.38	900	.50	900	.43	900	.45
600	.36	1200	.31	1200	.25	1200	.30	1200	.36
700	.35	1500	.31	1500	.39	1500	.28	1500	.32
800	.35	1800	.27	1800	.32	1800	.28	1800	.30
900	.35	2100	.21	2100	.25	2100	.26	2100	.29
1000	.34	2200	.23	2400	.29	2400	.24	2400	.25
1151	.33	2300	.24	2700	.28	2700	.16	2700	.22
		2400	.18	3000	.24	2800	.21	2800	.21
		2500	.27	3100	.24	2900	.21	2900	.21
		2600	.23	3200	.25	3000	.22	3000	.22
		2700	.21	3300	.22	3100	.22	3100	.27
		2800	.18	3400	.19	3200	.21	3200	.26
		2900	.16	3500	.23	3300	.21	3300	.32
		3000	.22	3600	.21	3400	.15	3400	.32
		3100	.17	3700	.32	3500	.16	3500	.49
		3200	.17	3800	.30	3600	.20	3600	.69
				3900	.24	3757	.27	3700	.77
				4000	.34			3755	.77
				4155	.48				


N-126
N-127
N-128
N-129
N-130
1000
2000
3000
4000
5000
JESEUR
BANK
BRAZIL BASIN
BRAZIL BASIN
SCALE
.2 .4 .6 .8 1.0
LOG E/ED

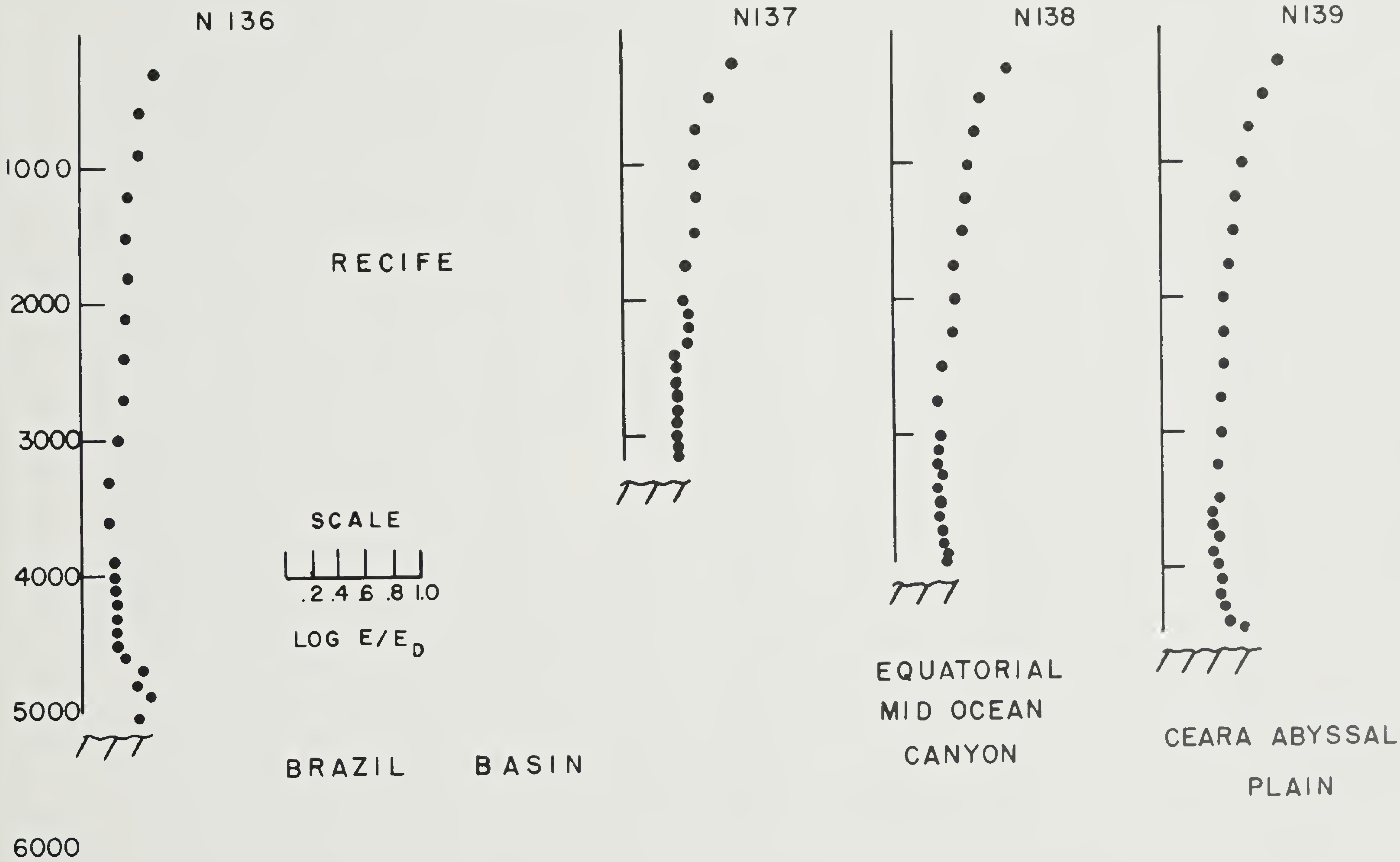
NEPHELOMETER PROFILES

N 131 14°58'S 36°07'W 4390 m		N 132 13°58'S 34°09'W 4842 m		N 133 12°42'S 36°35'W 3831 m		N 134 11°00'S 36°47'W 484 m		N 135 09°40'S 34°48'W 3015 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
300	.49	300	.49	300	.53	200	.85	300	.53
600	.45	600	.40	600	.38	300	.76	600	.49
900	.39	900	.34	900	.37	400	.83	900	.42
1200	.32	1200	.30	1200	.36	484	.88	1200	.37
1500	.27	1500	.26	1500	.25			1500	.44
1800	.30	1800	.28	1800	.38			1800	.43
2100	.28	2100	.24	2100	.33			2100	.41
2400	.27	2400	.25	2400	.30			2200	.39
2700	.21	2700	.23	2700	.19			2300	.38
3000	.16	3000	.15	2800	.26			2400	.39
3300	.22	3300	.21	2900	.24			2500	.37
3400	.29	3600	.14	3000	.26			2600	.36
3500	.22	3900	.19	3100	.20			2700	.32
3600	.23	4000	.19	3200	.24			2800	.30
3700	.22	4100	.20	3300	.23			2900	.31
3800	.21	4200	.30	3400	.24			3015	.30
3900	.21	4300	.30	3500	.21				
4000	.29	4400	.39	3600	.21				
4100	.30	4500	.46	3700	.19				
4200	.34	4600	.63	3831	.23				
4300	.77	4700	.64						
4390	.77	4800	.67						
		4842	.67						


N.131
N.132
N 133
N 134
N 136
1000
2000
3000
4000
5000
BRAZILIAN CONTINENTAL SHELF
BRAZIL BASIN
SCALE
.2 .4 .6 .8 1.0
LOG E/E_D

NEPHELOMETER PROFILES

N136 08°30'S 31°56'W 5051 m		N137 06°07'S 34°25'W 3171 m		N138 02°57'S 34°23'W 3944 m		N139 00°54'N 35°39'W 4482 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
300	.54	250	.81	250	.87	250	.89
600	.45	500	.65	500	.67	500	.77
900	.46	750	.57	750	.61	750	.65
1200	.36	1000	.54	1000	.54	1000	.62
1500	.33	1250	.56	1250	.55	1250	.57
1800	.36	1500	.53	1500	.51	1500	.53
2100	.32	1750	.46	1750	.47	1750	.50
2400	.32	2000	.45	2000	.48	2000	.48
2700	.31	2100	.50	2250	.44	2250	.49
3000	.28	2200	.49	2500	.38	2500	.48
3300	.20	2300	.48	2750	.33	2750	.45
3600	.20	2400	.39	3000	.36	3000	.45
3900	.23	2500	.40	3100	.35	3250	.41
4000	.22	2600	.39	3200	.33	3500	.42
4100	.24	2700	.41	3400	.32	3600	.39
4200	.26	2800	.40	3500	.37	3700	.38
4300	.25	2900	.41	3600	.36	3800	.42
4400	.25	3000	.40	3700	.39	3900	.39
4500	.25	3100	.41	3800	.39	4000	.41
4600	.31	3171	.41	3900	.40	4100	.42
4700	.44			3944	.38	4200	.42
4800	.40					4300	.49
4900	.50					4400	.50
5051	.40					4482	.62


N 136
N137
N138
N139
1000
2000
3000
4000
5000
6000
RECIFE
SCALE
.2 .4 .6 .8 1.0
LOG E/E_D
BRAZIL BASIN
EQUATORIAL
MID OCEAN
CANYON
CEARA ABYSSAL
PLAIN

NEPHELOMETER PROFILES

N140
$00^{\circ}43'N$
$40^{\circ}30'W$
3764 m

Depth	Log E/E_D
250	.84
500	.74
750	.67
1000	.62
1250	.58
1500	.62
1750	.49
2000	.50
2250	.53
2500	.54
2750	.54
3000	.56
3100	.54
3200	.47
3300	.51
3400	.53
3500	.51
3600	.47
3700	.49
3764	.58

N141
$01^{\circ}48'N$
$39^{\circ}45'W$
4447 m

Depth	Log E/E_D
250	.89
500	.81
750	.69
1000	.65
1250	.66
1500	.55
1750	.52
2000	.54
2250	.45
2500	.42
2750	.48
3000	.45
3250	.41
3500	.46
3600	.49
3700	.47
3800	.50
3900	.54
4000	.53
4100	.47
4200	.43
4300	.52
4400	.58
4447	.58

N142
$00^{\circ}36'N$
$41^{\circ}08'W$
4138 m

Depth	Log E/E_D
250	.80
500	.75
750	.67
1000	.62
1250	.55
.500	.61
1750	.52
2000	.51
2250	.48
2500	.46
2750	.53
3000	.48
3100	.47
3200	.43
3300	.44
3400	.46
3500	.47
3600	.49
3700	.49
3800	.49
3900	.50
4000	.52
4138	.55

N143
$01^{\circ}39'S$
$41^{\circ}29'W$
2807 m

Depth	Log E/E_D
250	.76
500	.70
750	.67
1000	.61
1250	.62
1500	.64
1600	.57
1700	.55
1800	.52
1900	.53
2000	.57
2100	.56
2200	.55
2300	.54
2400	.54
2500	.51
2600	.53
2700	.52
2807	.53

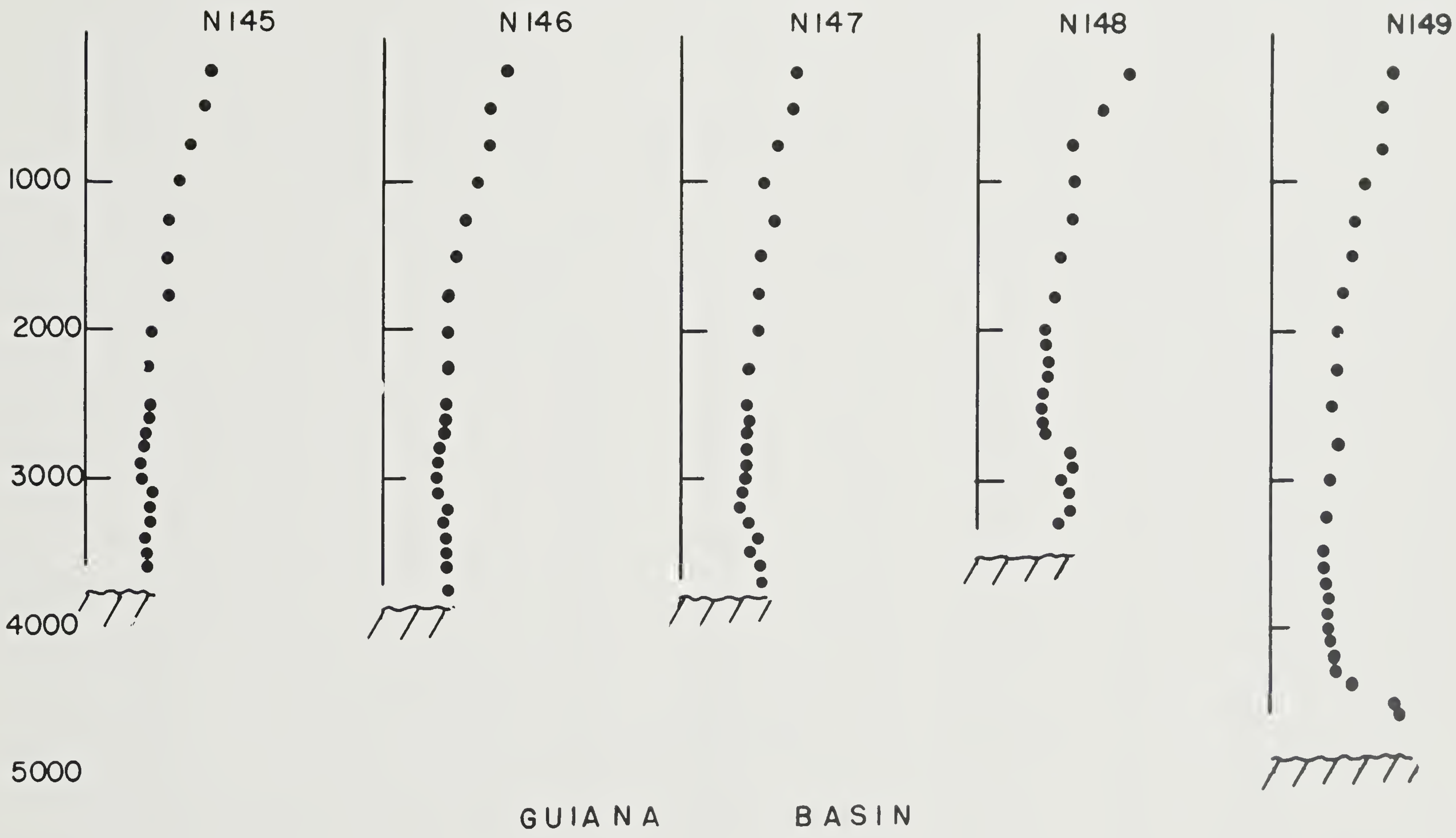
N144
$00^{\circ}40'N$
$44^{\circ}38'W$
3533 m

Depth	Log E/E_D
250	.87
500	.75
750	.68
1000	.63
.250	.71
1500	.55
.750	.56
2000	.49
2250	.52
2500	.53
2600	.57
2700	.47
2800	.48
2900	.48
3000	.45
3100	.55
3200	.54
3300	.56
3400	.55
3533	.54

BRAZIL - GUIANA

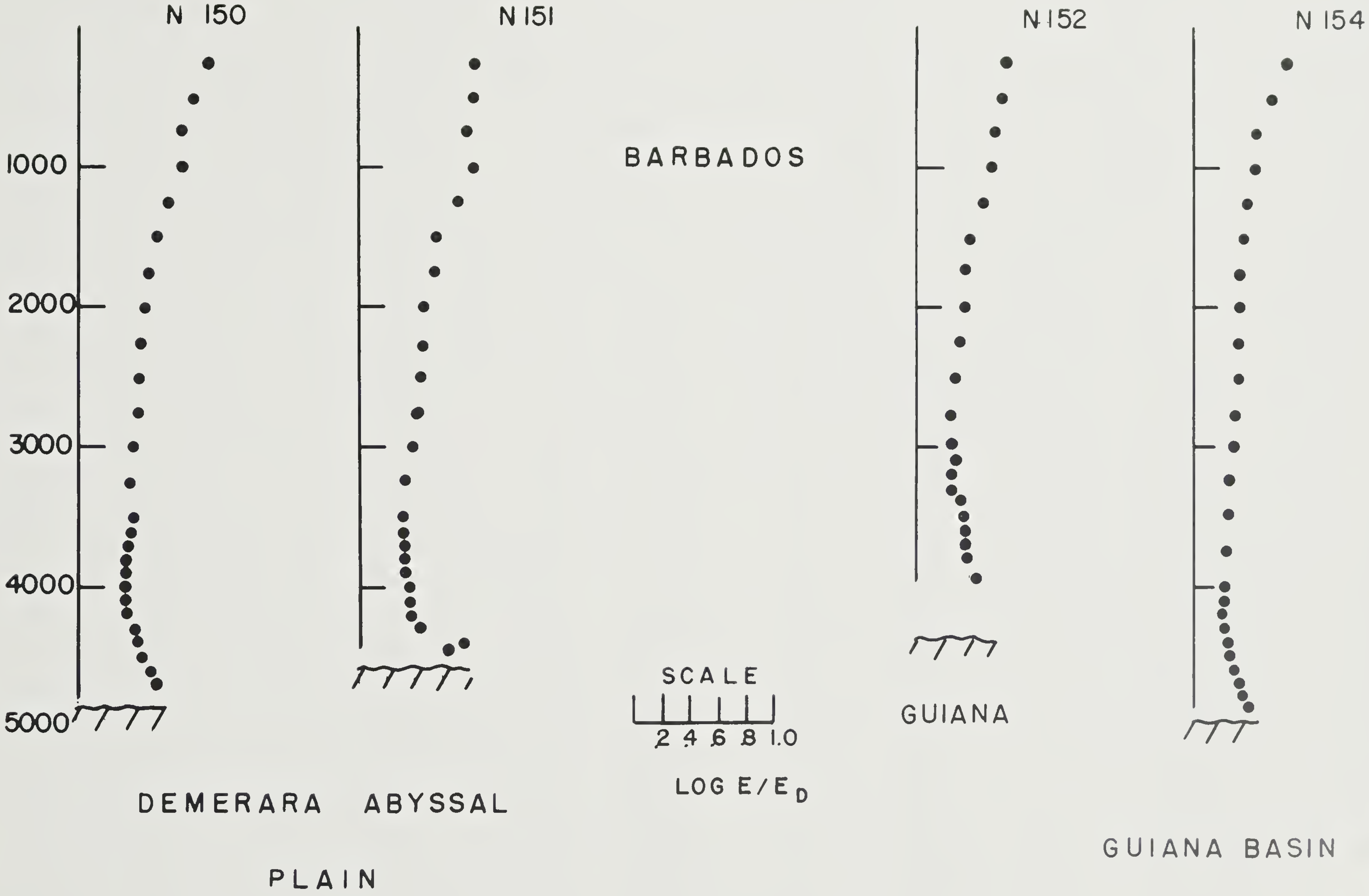
NEPHELOMETER PROFILES

N145 04°20'N 44°01'W 3606 m		N146 05°01'N 44°09'W 3751 m		N147 03°23'N 45°39'W 3703 m		N148 04°29'N 46°41W 3364 m		N149 08°50'N 50°16'W 4598 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
250	.86	250	.83	250	.80	250	1.03	250	.81
500	.81	500	.72	500	.78	500	.83	500	.75
750	.70	750	.71	750	.67	750	.66	750	.74
1000	.61	1000	.62	1000	.59	1000	.67	1000	.61
1250	.57	1250	.57	1250	.66	1250	.66	1250	.57
1500	.58	1500	.50	1500	.55	1500	.56	1500	.55
1750	.56	1750	.46	1750	.53	1750	.54	1750	.49
2000	.42	2000	.45	2000	.52	2000	.47	2000	.45
2250	.42	2250	.44	2250	.48	2100	.49	2250	.45
2500	.44	2500	.42	2500	.47	2200	.49	2500	.40
2600	.42	2600	.42	2600	.48	2300	.49	2750	.46
2700	.39	2700	.41	2700	.47	2400	.43	3000	.40
2800	.39	2800	.38	2800	.47	2500	.42	3250	.39
2900	.38	2900	.38	2900	.47	2600	.46	3500	.37
3000	.39	3000	.37	3000	.45	2700	.48	3600	.38
3100	.45	3100	.39	3100	.41	2800	.64	3700	.39
3200	.44	3200	.44	3200	.40	2900	.63	3800	.40
3300	.43	3300	.40	3300	.49	3000	.65	3900	.39
3400	.40	3400	.43	3400	.53	3100	.59	4000	.40
3500	.41	3500	.42	3500	.49	3200	.63	4100	.41
3606	.41	3600	.43	3600	.54	3300	.63	4200	.43
		3751	.45	3703	.55	3364	.56	4300	.45
								4400	.57
								4500	.83
								4598	.89


N145
N146
N147
N148
N149
1000
2000
3000
4000
5000
GUIANA BASIN

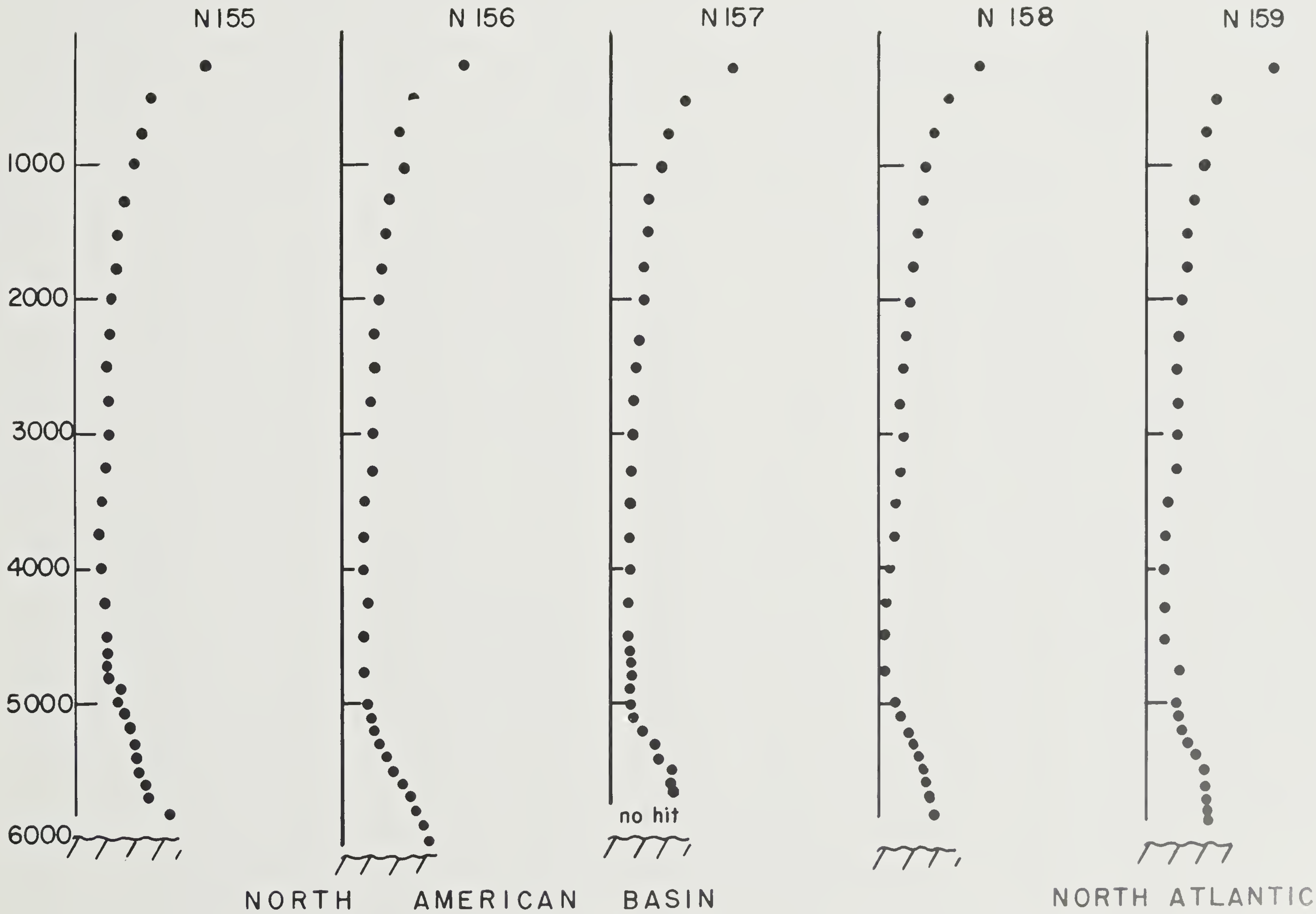
NEPHELOMETER PROFILES

N150 09°59'N 52°43'W 4840 m		N151 10°55'N 55°04'W 4477 m		N152 14°27'N 58°07'W 3945 m		N153 16°35'N 58°55'W 5856 m		N154 19°27'N 59°46'W 4864 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
250	.93	250	.85	250	.64	Very poor film		250	.68
500	.83	500	.84	500	.61			500	.54
750	.77	750	.79	750	.56			750	.46
1000	.77	1000	.84	1000	.54			1000	.44
1250	.67	1250	.71	1250	.48			1250	.39
1500	.59	1500	.55	1500	.39			1500	.36
1750	.51	1750	.54	1750	.37			1750	.32
2000	.50	2000	.49	2000	.37			2000	.32
2250	.47	2250	.49	2250	.31			2250	.32
2500	.47	2500	.46	2500	.29			2500	.31
2750	.46	2750	.46	2750	.26			2750	.30
3000	.39	3000	.39	3000	.27			3000	.29
3250	.39	3250	.33	3100	.30			3250	.25
3500	.41	3500	.31	3200	.27			3500	.25
3600	.38	3600	.33	3300	.26			3750	.25
3700	.37	3700	.31	3400	.32			4000	.23
3800	.33	3800	.31	3500	.34			4100	.22
3900	.36	3900	.31	3600	.34			4200	.20
4000	.33	4000	.38	3700	.36			4300	.22
4100	.36	4100	.37	3800	.39			4400	.24
4200	.37	4200	.39	3945	.43			4500	.26
4300	.42	4300	.46					4600	.31
4400	.43	4400	.79					4700	.34
4500	.48	4477	.67					4800	.36
4600	.53							4864	.40
4700	.58								


N 150
N 151
N 152
N 154
BARBADOS
1000
2000
3000
4000
5000
SCALE
.2 .4 .6 .8 1.0
LOG E/E_D
GUIANA
DEMERARA ABYSSAL
PLAIN
GUIANA BASIN

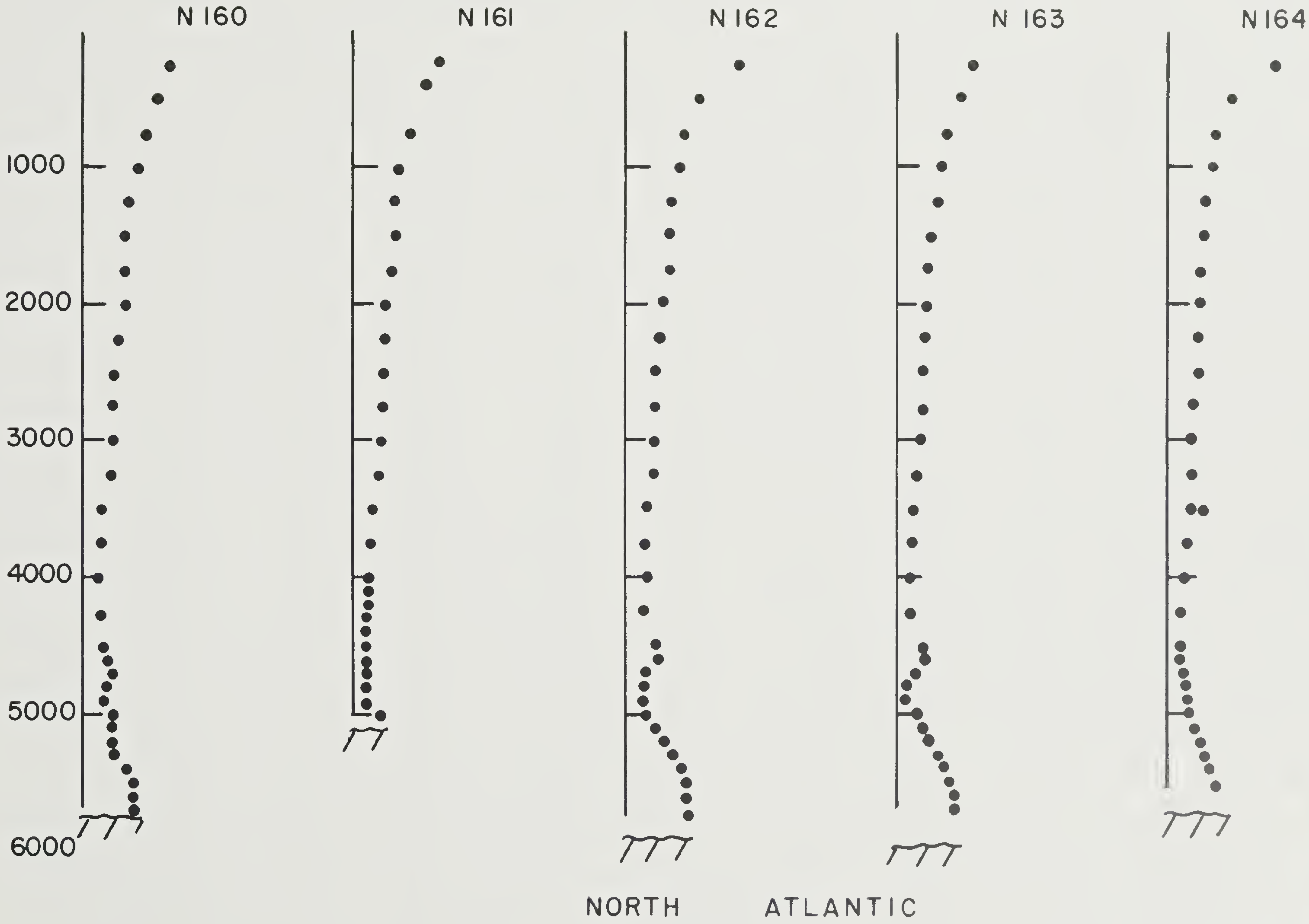
NEPHELOMETER PROFILES

N155		N156		N157		N158		N159	
21°59'N		25°15'N		26°08'N		27°48'N		27°25'N	
60°22'W		60°26'W		60°13'W		60°26'W		61°15'W	
5832 m		6050 m		5663 m		5856 m		5881 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
250	.97	250	.90	250	.90	250	.73	250	.96
500	.55	500	.51	500	.54	500	.51	500	.51
750	.50	750	.41	750	.42	750	.40	750	.44
1000	.44	1000	.44	1000	.38	1000	.37	1000	.42
1250	.39	1250	.33	1250	.29	1250	.32	1250	.35
1500	.31	1500	.31	1500	.29	1500	.29	1500	.31
1750	.32	1750	.29	1750	.26	1750	.28	1750	.31
2000	.27	2000	.26	2000	.24	2000	.23	2000	.28
2250	.27	2250	.24	2250	.21	2250	.20	2250	.26
2500	.21	2500	.23	2500	.19	2500	.18	2500	.24
2750	.24	2750	.21	2750	.19	2750	.17	2750	.23
3000	.22	3000	.22	3000	.18	3000	.19	3000	.24
3250	.21	3250	.21	3250	.18	3250	.17	3250	.21
3500	.19	3500	.16	3500	.15	3500	.11	3500	.17
3750	.19	3750	.15	3750	.14	3750	.11	3750	.15
4000	.20	4000	.16	4000	.14	4000	.09	4000	.13
4250	.22	4250	.19	4250	.12	4250	.07	4250	.13
4500	.21	4500	.17	4500	.14	4500	.05	4500	.16
4600	.24	4750	.18	4600	.14	4750	.07	4750	.25
4700	.22	5000	.20	4700	.17	5000	.13	5000	.23
4800	.24	5100	.21	4800	.16	5100	.17	5100	.25
4900	.35	5200	.22	4900	.13	5200	.22	5200	.28
5000	.31	5300	.27	5000	.14	5300	.27	5300	.31
5100	.38	5400	.33	5100	.18	5400	.30	5400	.40
5200	.42	5500	.36	5200	.27	5500	.35	5500	.46
5300	.45	5600	.46	5300	.34	5600	.37	5600	.46
5400	.46	5700	.51	5400	.36	5700	.39	5700	.47
5500	.49	5800	.52	5500	.46	5856	.42	5800	.49
5600	.54	5900	.60	5600	.47			5881	.47
5700	.55	6050	.64	5663	.49				
5832	.72								


N 155
N 156
N 157
N 158
N 159
1000
2000
3000
4000
5000
6000
no hit
NORTH AMERICAN BASIN
NORTH ATLANTIC

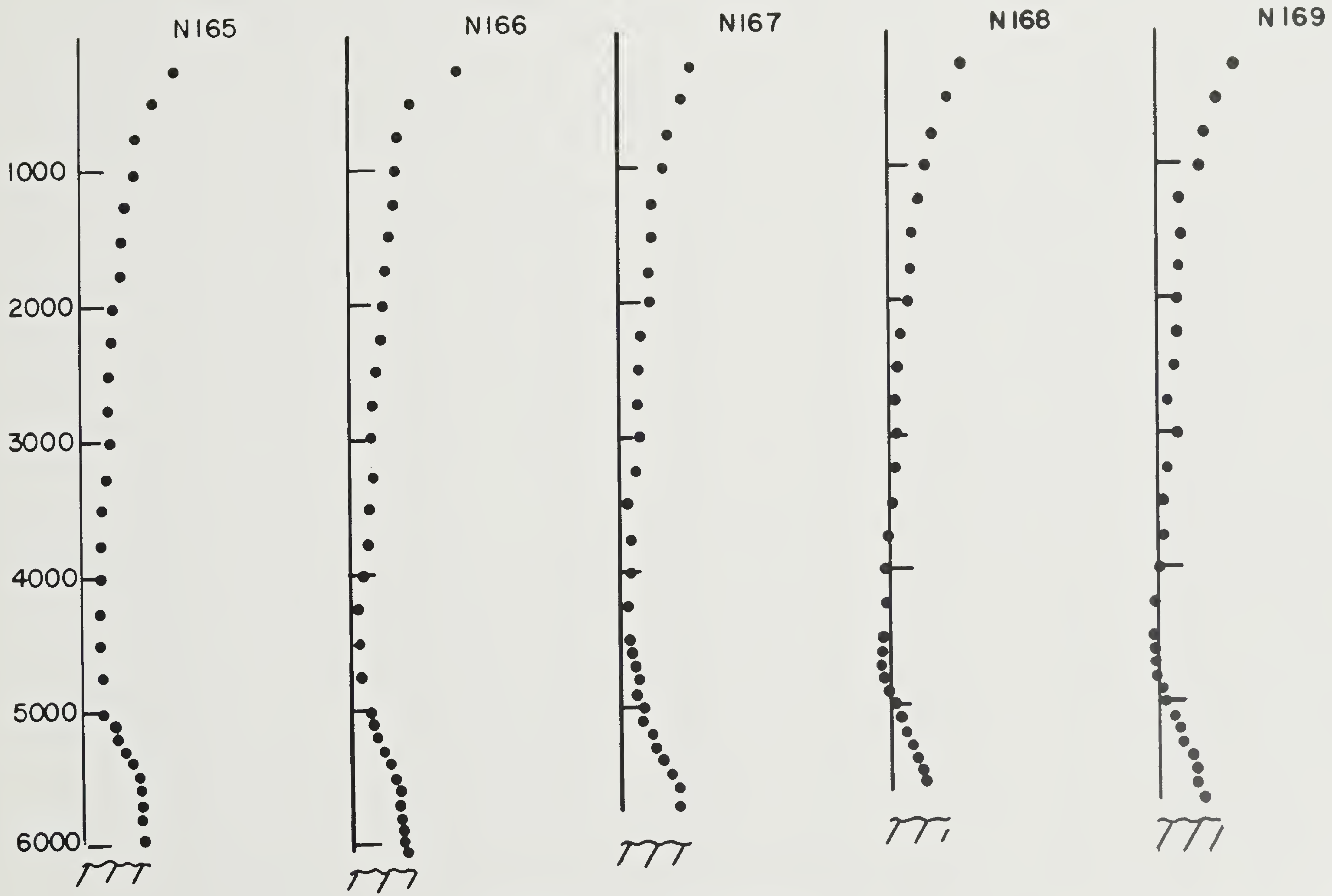
NEPHELOMETER PROFILES

N160 27°36'N 61°08'W 5711 m		N161 28°02'N 61°00'W 5009 m		N162 27°15'N 61°08'W 5760 m		N163 27°15'N 61°06'W 5711 m		N164 27°34'N 60°23'W 5542 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
250	.68	250	.64	250	.83	250	.59	250	.80
500	.58	500	.55	500	.56	500	.49	500	.49
750	.50	750	.43	750	.43	750	.37	750	.37
1000	.43	1000	.38	1000	.41	1000	.35	1000	.34
1250	.36	1250	.33	1250	.35	1250	.31	1250	.29
1500	.34	1500	.35	1500	.34	1500	.27	1500	.28
1750	.33	1750	.30	1750	.32	1750	.26	1750	.27
2000	.32	2000	.26	2000	.29	2000	.25	2000	.24
2250	.29	2250	.26	2250	.26	2250	.22	2250	.22
2500	.26	2500	.24	2500	.23	2500	.20	2500	.22
2750	.25	2750	.23	2750	.23	2750	.21	2750	.19
3000	.26	3000	.21	3000	.23	3000	.18	3000	.19
3250	.22	3250	.20	3250	.22	3250	.15	3250	.19
3500	.18	3500	.16	3500	.17	3500	.14	3500	.15
3750	.16	3750	.13	3750	.17	3750	.12	3750	.12
4000	.13	4000	.11	4000	.19	4000	.10	4000	.12
4250	.16	4100	.11	4250	.16	4250	.11	4250	.09
4500	.18	4200	.13	4500	.23	4500	.20	4500	.10
4600	.21	4300	.10	4600	.26	4600	.21	4600	.09
4700	.24	4400	.09	4700	.16	4700	.13	4700	.11
4800	.20	4500	.11	4800	.15	4800	.09	4800	.14
4900	.19	4600	.11	4900	.14	4900	.09	4900	.14
5000	.24	4700	.11	5000	.17	5000	.15	5000	.16
5100	.24	4800	.10	5100	.22	5100	.21	5100	.20
5200	.25	4900	.11	5200	.30	5200	.26	5200	.24
5300	.27	5009	.22	5300	.36	5300	.32	5200	.24
5400	.35			5400	.42	5400	.39	5300	.27
5500	.40			5500	.47	5500	.40	5400	.32
5600	.39			5600	.47	5600	.43	5542	.38
5711	.40			5760	.49	5711	.41		


N 160
N 161
N 162
N 163
N 164
1000
2000
3000
4000
5000
6000
NORTH ATLANTIC

NEPHELOMETER PROFILES

N165 26°56'N 61°23'W 5953 m		N166 27°14'N 60°28'W 6074 m		N167 26°57'N 60°47'W 5735 m		N168 27°35'N 60°24'W 5590 m		N169 27°32'N 60°25'W 5711 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
250	.72	250	.82	250	.56	250	.58	250	.59
500	.54	500	.47	500	.48	500	.44	500	.46
750	.41	750	.38	750	.38	750	.31	750	.36
1000	.41	1000	.36	1000	.36	1000	.30	1000	.31
1250	.34	1250	.33	1250	.29	1250	.23	1250	.19
1500	.31	1500	.30	1500	.26	1500	.20	1500	.19
1750	.32	1750	.28	1750	.21	1750	.17	1750	.18
2000	.27	2000	.26	2000	.23	2000	.15	2000	.15
2250	.25	2250	.24	2250	.18	2250	.10	2250	.14
2500	.21	2500	.20	2500	.16	2500	.08	2500	.11
2750	.22	2750	.17	2750	.14	2750	.06	2750	.09
3000	.24	3000	.16	3000	.16	3000	.07	3000	.13
3250	.20	3250	.18	3250	.13	3250	.06	3250	.08
3500	.16	3500	.13	3500	108	3500	.01	3500	.05
3750	.16	3750	.13	3750	.10	3750	.00	3750	.03
4000	.16	4000	.10	4000	.09	4000	-.03	4000	.00
4250	.13	4250	.06	4250	.07	4250	-.03	4250	-.02
4500	.14	4500	.05	4500	.09	4500	-.07	4500	-.03
4750	.18	4750	.08	4600	.09	4600	-.08	4600	-.03
5000	.17	5000	.12	4700	.11	4700	-.06	4700	-.03
5100	.23	5100	.15	4800	.12	4800	-.05	4800	-.01
5200	.24	5200	.20	4900	.11	4900	-.01	4900	.02
5300	.36	5300	.25	5000	.18	5000	.04	5000	.05
5400	.39	5400	.30	5100	.17	5100	.09	5100	.12
5500	.42	5500	.32	5200	.23	5200	.11	5200	.16
5600	.43	5600	.34	5300	.25	5300	.17	5300	.18
5700	.43	5700	.34	5400	.32	5400	.20	5400	.25
5800	.42	5800	.38	5500	.39	5500	.23	5500	.29
5953	.46	5900	.39	5600	.44	5590	.27	5600	.28
		6000	.39	5700	.44			5711	.32
		6074	.41						



NORTH ATLANTIC

NEPHELOMETER PROFILES

N170 27°32'N 60°15'W 5421 m		N171 28°00'N 60°58'W 5372 m		N172 28°02'N 61°00'W 5590 m		N173 28°05'N 61°02'W 5383 m		N174 28°02'N 60°59'W 5566 m	
Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D	Depth	Log E/E_D
250	.54	250	.60	250	.65	250	.68	250	.65
500	.39	500	.50	500	.46	500	.48	500	.42
750	.27	750	.36	750	.36	750	.39	750	.33
1000	.26	1000	.29	1000	.32	1000	.31	1000	.28
1250	.22	1250	.25	1250	.24	1250	.23	1250	.24
1500	.22	1500	.25	1500	.24	1500	.23	1500	.21
1750	.19	1750	.21	1750	.23	1750	.20	1750	.20
2000	.16	2000	.19	2000	.20	2000	.19	2000	.17
2250	.14	2250	.15	2250	.17	2250	.16	2250	.15
2500	.09	2500	.11	2500	.14	2500	.14	2500	.11
2750	.10	2750	.09	2750	.13	2750	.13	2750	.11
3000	.08	3000	.08	3000	.12	3000	.11	3000	.11
3250	.07	3250	.08	3250	.12	3250	.10	3250	.09
3500	.04	3500	.03	3500	.06	3500	.05	3500	.01
3750	.03	3750	.00	3750	.03	3750	.02	3750	.02
4000	.00	4000	-.01	4000	.04	4000	-.00	4000	.01
4250	-.04	4100	.02	4250	.00	4250	-.00	4250	.00
4500	-.05	4200	-.01	4500	-.02	4500	-.00	4500	.00
4600	-.06	4300	-.04	4600	-.01	4600	.00	4600	.00
4700	-.02	4400	-.04	4700	-.01	4700	-.00	4700	.00
4800	-.04	4500	-.06	4800	-.01	4800	-.01	4800	-.00
4900	-.01	4600	-.01	4900	.00	4900	-.00	4900	.00
5000	.05	4700	-.01	5000	.01	5000	.05	5000	.04
5100	.08	4800	-.01	5100	.10	5100	.12	5100	.08
5200	.11	4900	-.01	5200	.14	5200	.16	5200	.13
5300	.21	5000	.00	5300	.20	5300	.23	5300	.20
5421	.26	5100	.10	5400	.23	5383	.30	5400	.24
		5200	.13	5500	.26			5500	.28
		5300	.21	5590	.27			5566	.31
		5400	.28						

NORTH ATLANTIC

NEPHELOMETER PROFILES

N175
29°09'N
61°10'W
6002 m

Depth	Log E/E_D
250	.66
500	.46
750	.38
1000	.34
1250	.33
1500	.27
1750	.22
2000	.19
2250	.16
2500	.14
2750	.16
3000	.17
3250	.13
3500	.10
3750	.10
4000	.20
4250	.30
4500	.48
4750	.58
5000	.56
5100	.52
5200	.52
5300	.51
5400	.49
5500	.50
5600	.44
5700	.41
5800	.44
6002	.51

N176
29°37'N
62°30'W
4525 m

Depth	Log E/E_D
250	.65
500	.54
750	.37
1000	.31
1250	.25
1500	.22
1750	.24
2000	.20
2250	.18
2500	.16
2750	.13
3000	.12
3250	.11
3500	.09
3600	.08
3700	.07
3800	.12
3900	.16
4000	.21
4100	.30
4200	.35
4300	.42
4400	.51
4525	.66

NORTH ATLANTIC

HACH TURBIDIMETER READINGS

Hach Sample No.	Nephelometer No.	Bottom Depth (m)	Height Above Bottom (m)	Average F. T. U. Readings SAMPLE		Distilled Filtered Standard
47	100	4048	732	0.054	±.005	
48	102	6115	2195	0.065	±.015	.022
49	103	6212	2743	0.046	±.009	.025
50	107	1295	183	0.062	±.003	.029
51	110	4961	1920	0.060	±.011	.030
53	116	4627	1463	0.068	±.007	.050
54	117	4100	1097	0.061	±.007	.032
55	120	3247	183	0.073	±.009	.018
56	127	3200	457	0.070	±.022	.024
57	131	4390	1116	0.053	±.005	.040
58	133	3831	1097	0.058	±.009	.030
59	136	5051	2012	0.063	±.006	.031
60	139	4482	1463	0.076	±.020	.038
61	144	3533	366	0.122	±.008	.032
62	148	3364	366	0.055	±.007	.030
63	149	4598	1554	0.049	±.006	.030

HACH TURBIDIMETER READINGS

Hach Sample No.	Nephelometer No.	Bottom Depth (m)	Height Above Bottom (m)	Average F. T. U. Readings SAMPLE		Distilled Filtered Standard
19	29	5328	1830	0.105	±.005	
20	"	"	183	0.135	±.040	0.030
21	63	4020	2743	0.050	±.015	
22	64	3219	549	0.060	±.010	0.026
23	65	4665	1463	0.055	±.010	
24	"	"	183	0.070	±.017	0.019
25	66A*	4777	1280	0.040	±.011	0.020
26	66	4863	1280	0.037	±.003	
27	"	"	91	0.063	±.016	0.017
28	67	3859				0.023
29	68	2889	914	0.032	±.003	0.016
30	70	3831	366	0.047	±.009	0.022
31	71	4263	549	0.042	±.007	0.020
32	72	4579	549	0.042	±.009	0.025
33	73	4423	549	0.042	±.002	0.023
34	76	5175	2048	0.039	±.006	0.020
35	77	5021	1500	0.091	±.016	
36	"	"	(64-366)	0.069	±.008	0.033
37	78	5222	914	0.045	±.003	
38	"	"	55	0.098	±.008	0.030
39	79	5568	1280	0.066	±.010	
40	"	"	55	0.119	±.020	
42	80	5040	55	0.114	±.019	
43	81	5078	914	0.077	±.011	
44	82	4633	55	0.076	±.004	
45	95A	5647	1463	0.063	±.006	
46	98	5083	1098	0.064	±.006	

* An A following nephelometer numbers indicated nephelometer malfunctioned this station.

KI-3

KI-7

KI-9

KI-12

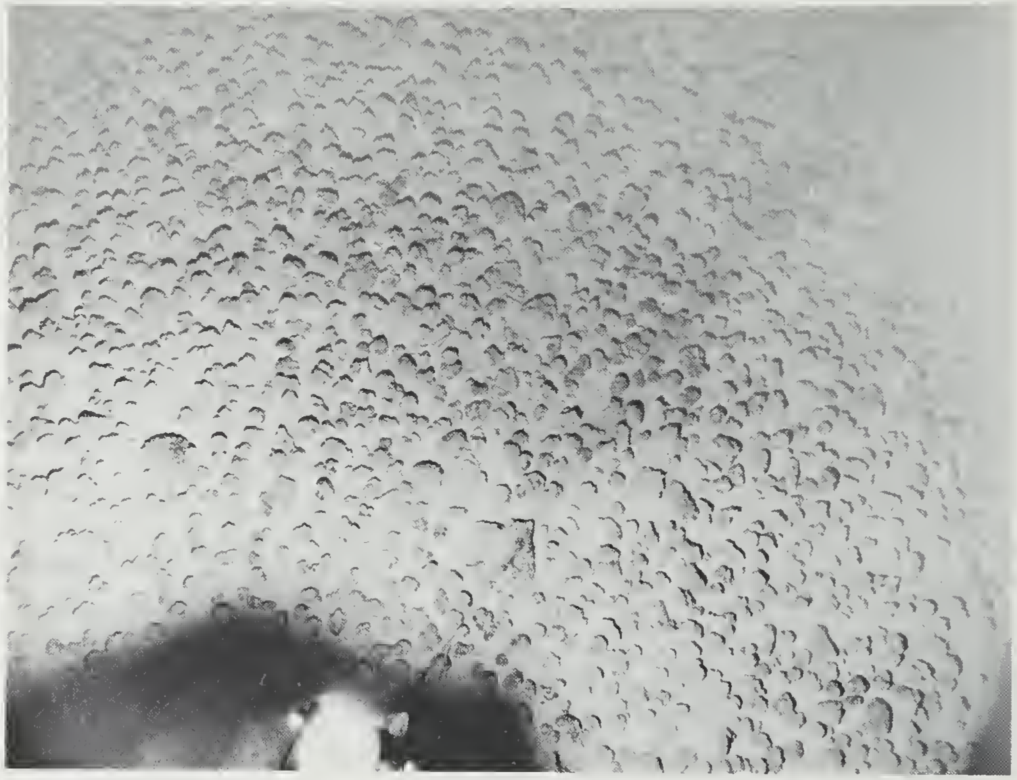
K2—1

K3—5

K3—16

K4—1

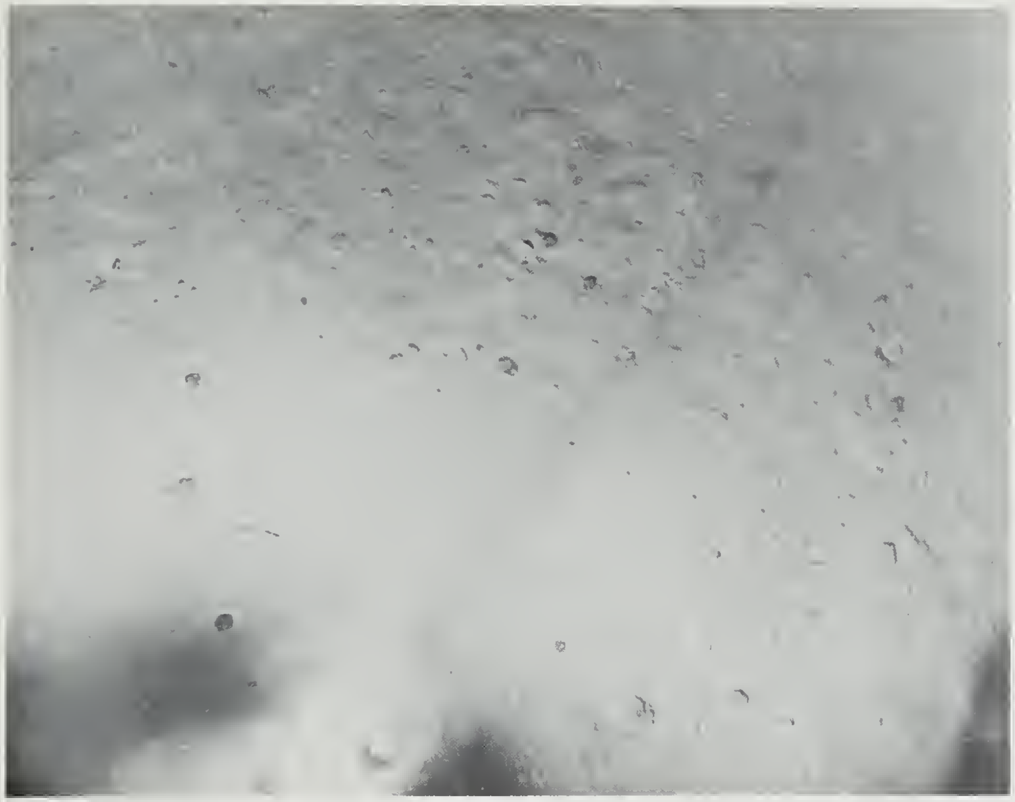
K4—2



K5—1

K5—3

K5—12



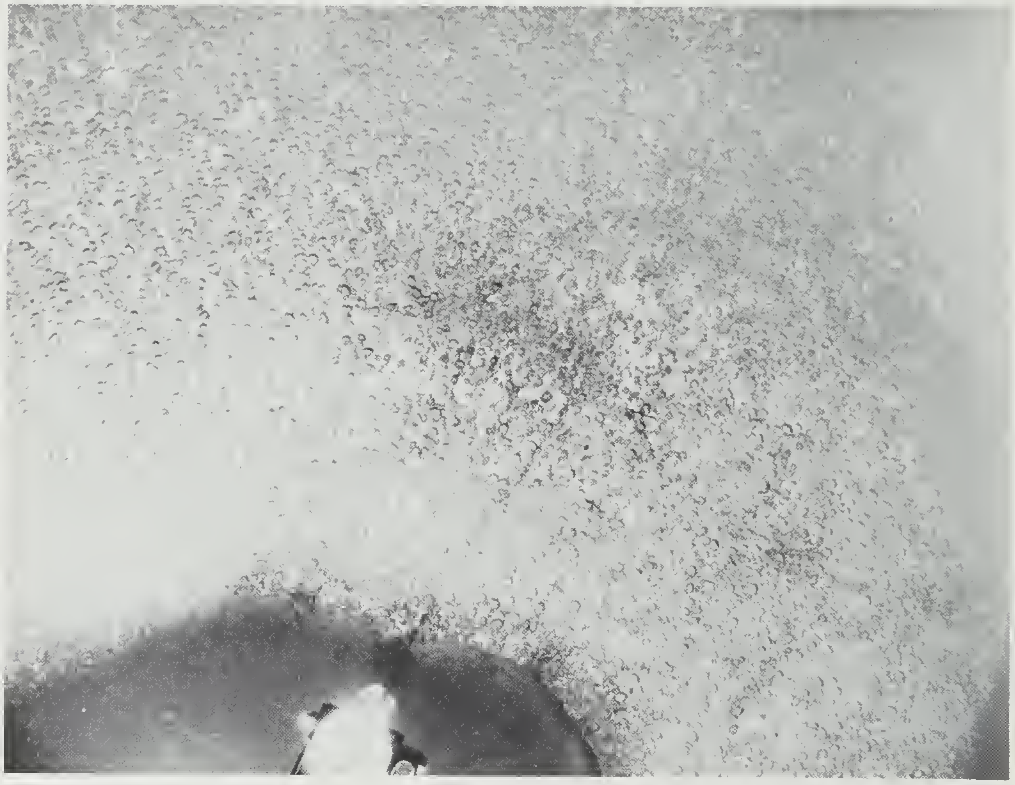
K6—1

K6—3

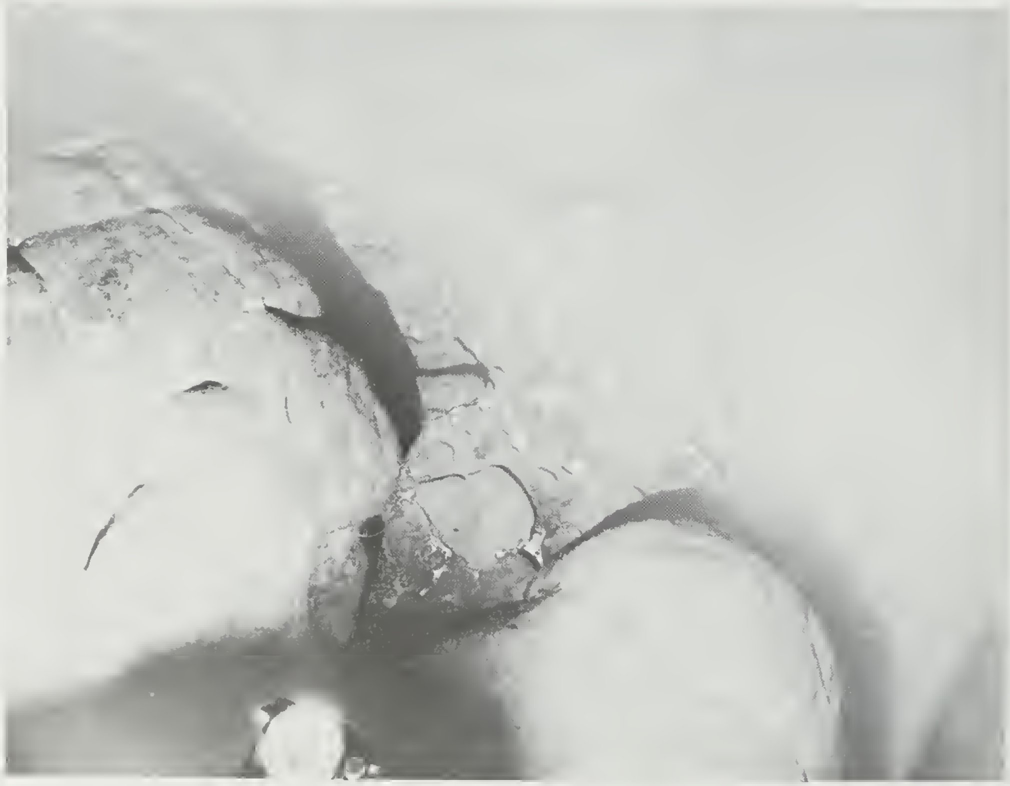
K6—8

K7—1

K7—5



K8—1



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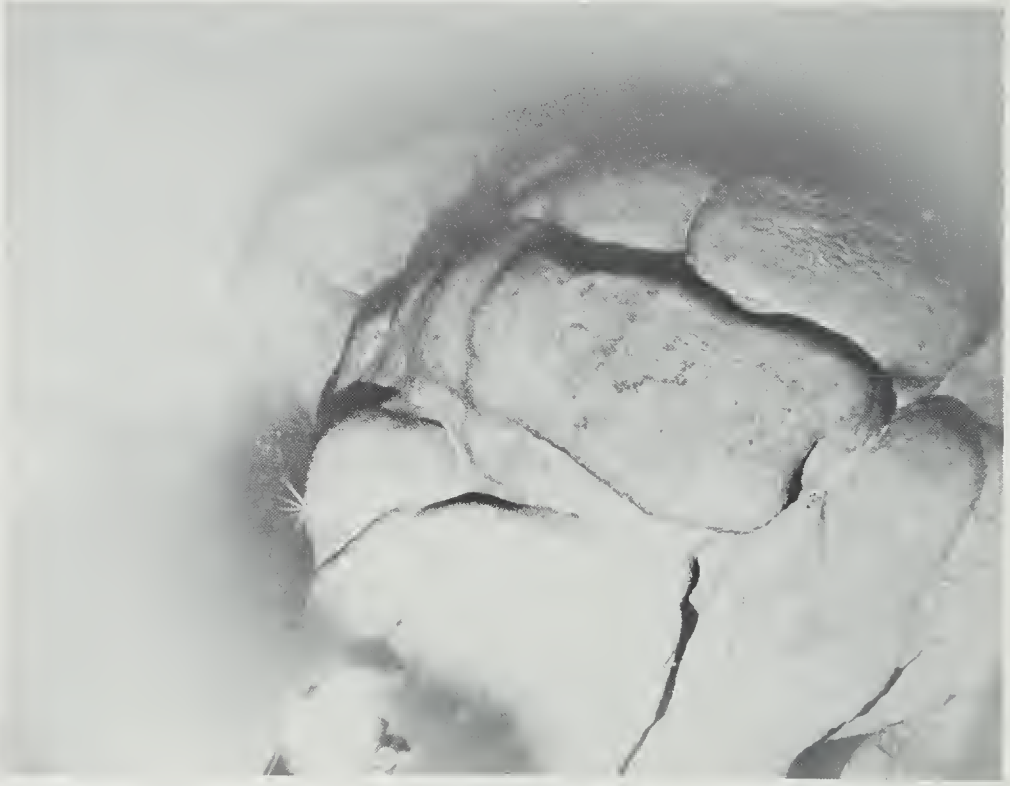
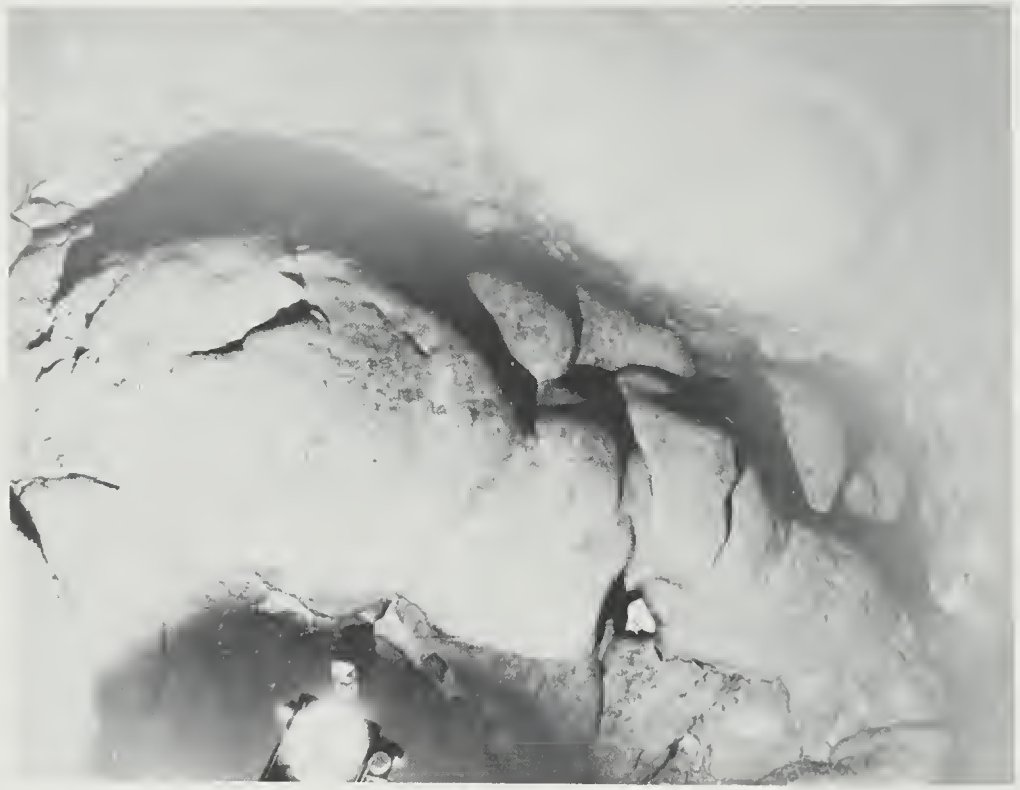
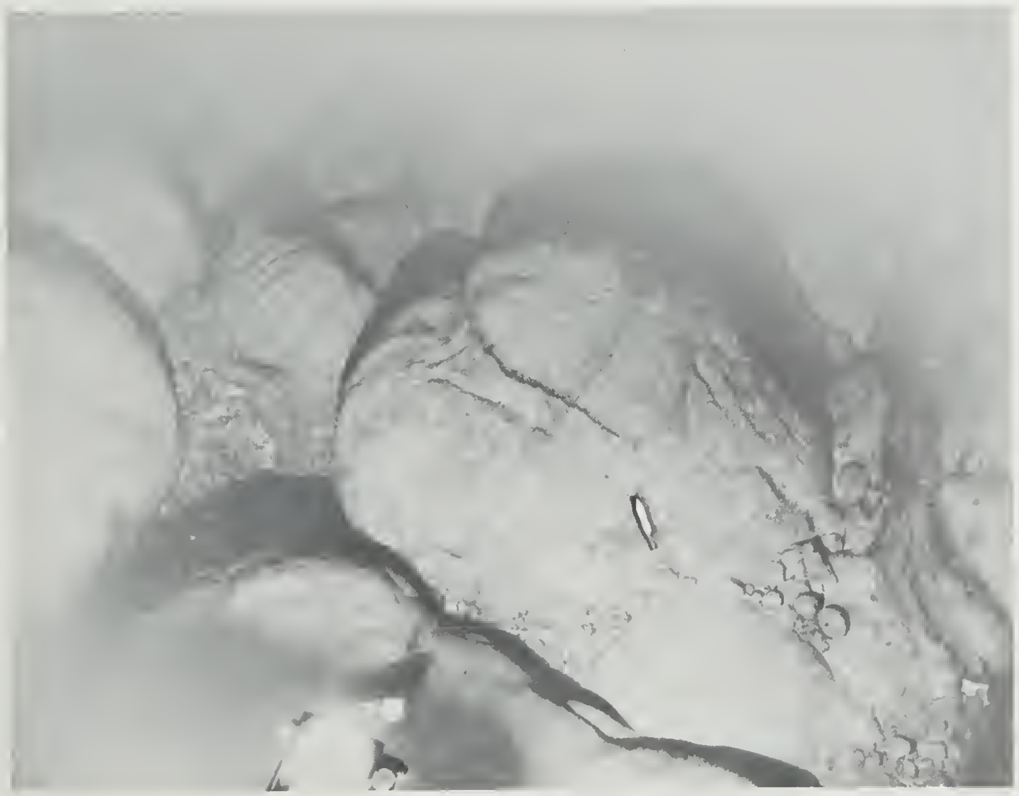


K8—3

K8—4

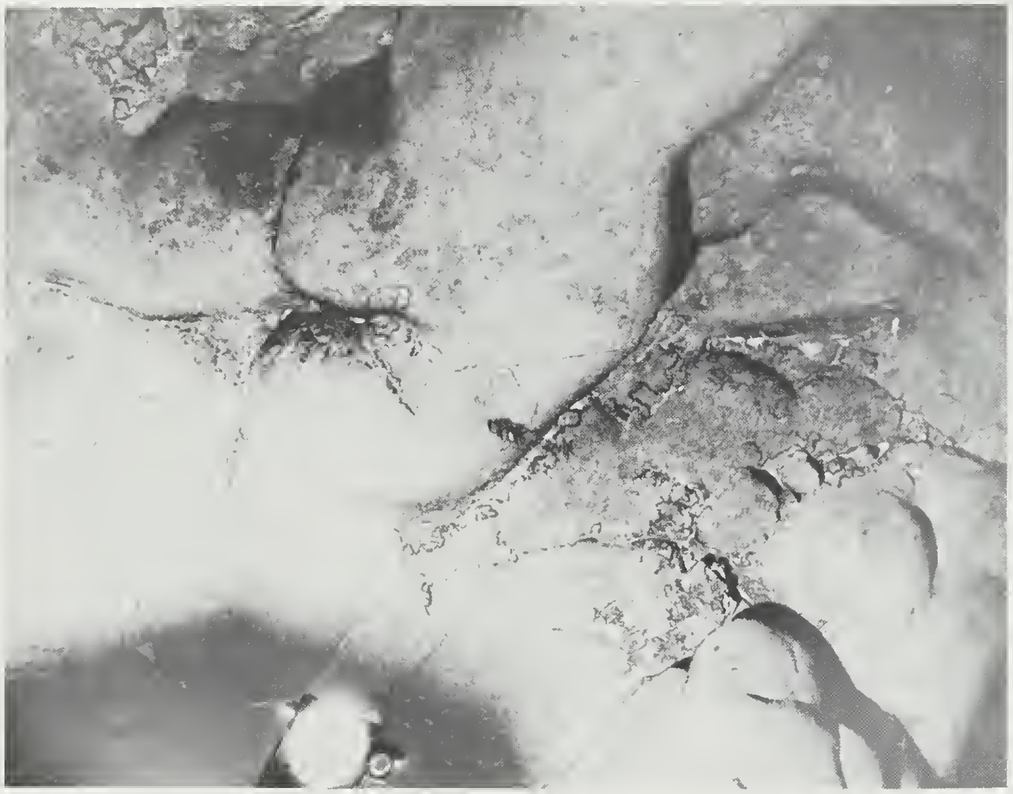


K8—5



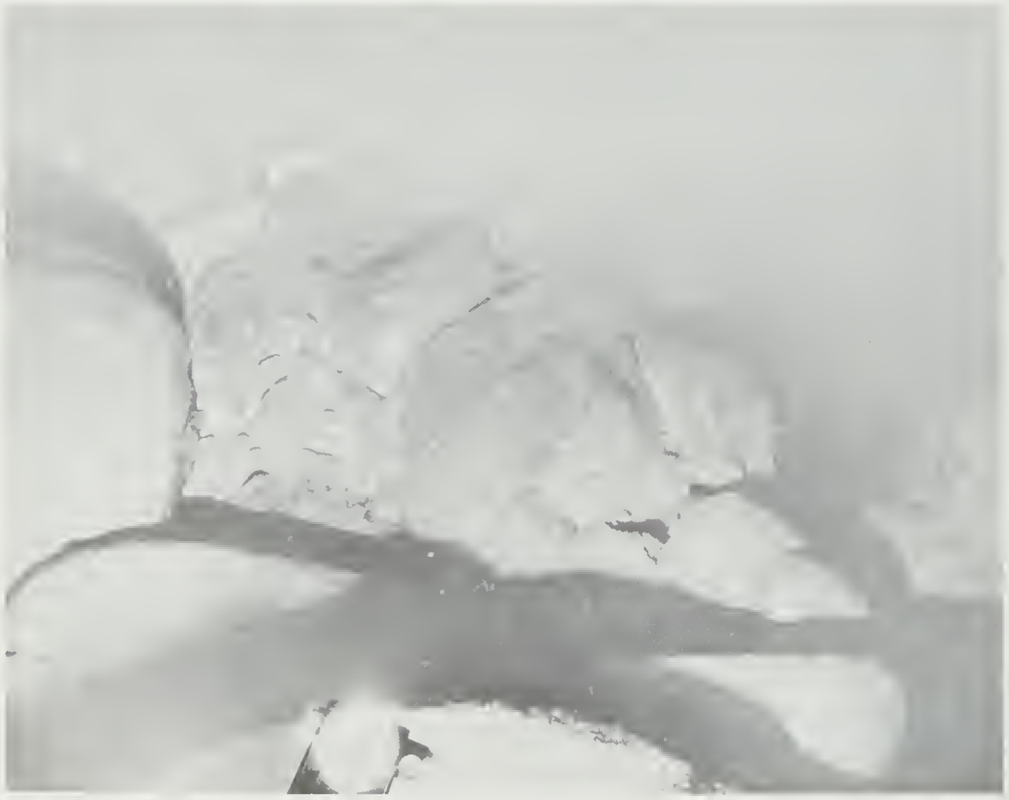
K8—6

K8—7

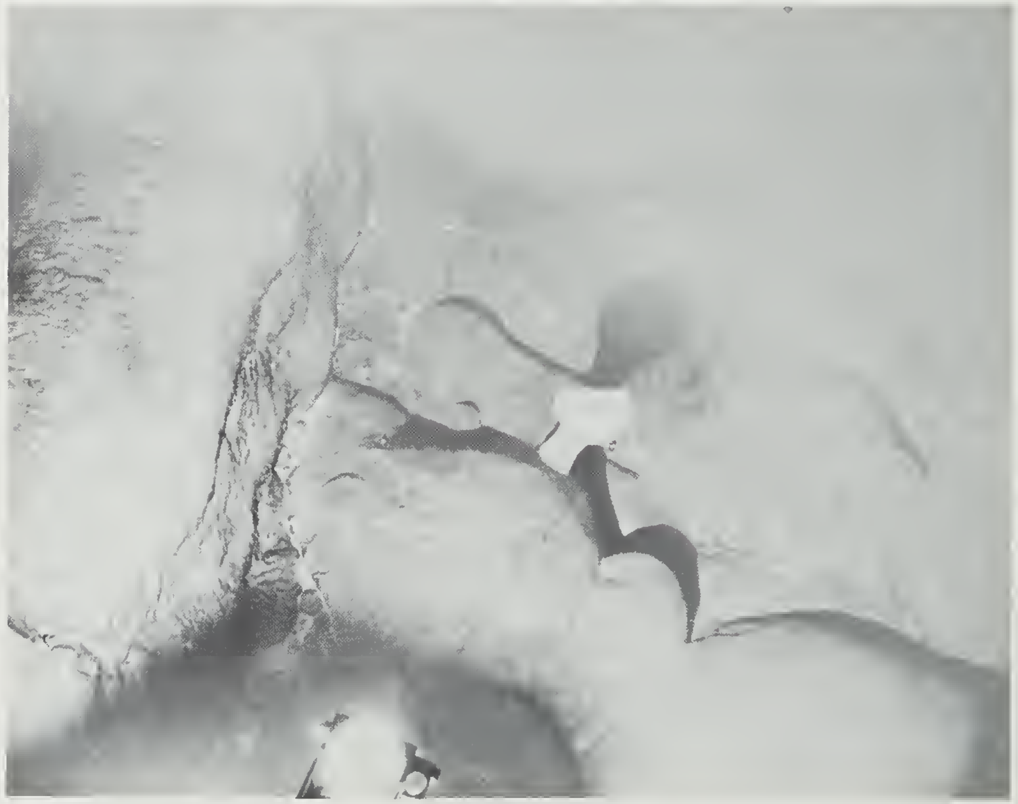


K8 — 8

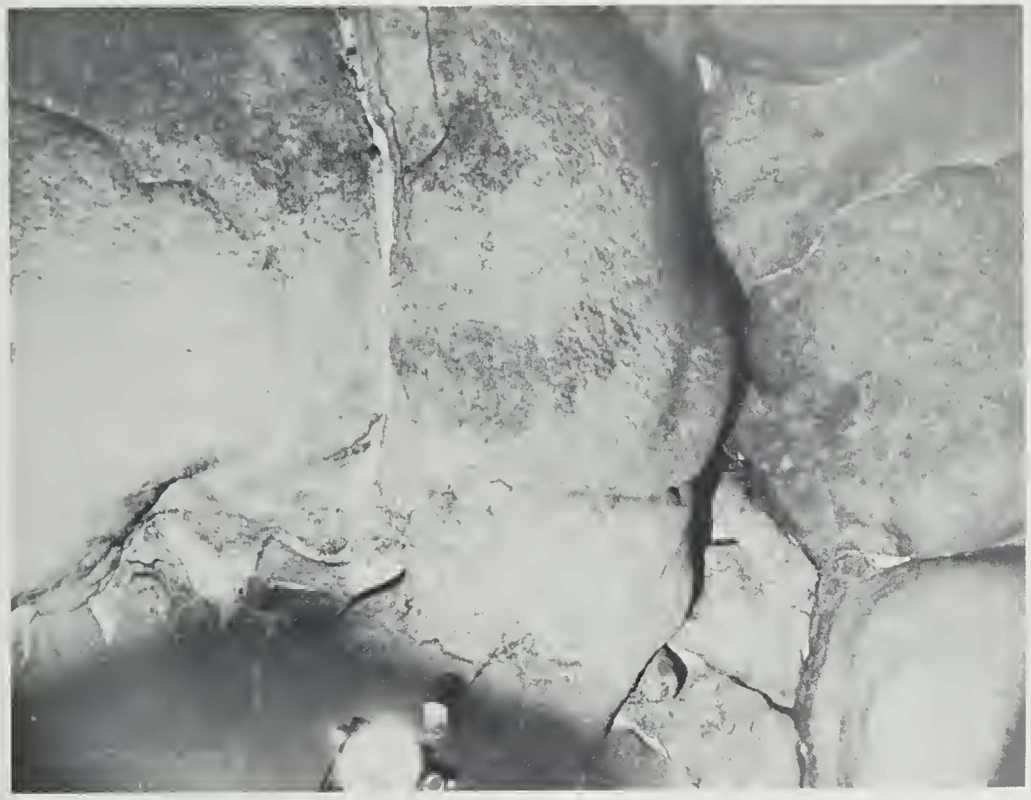
K8 — 9



K8 — 10



K8 — 11



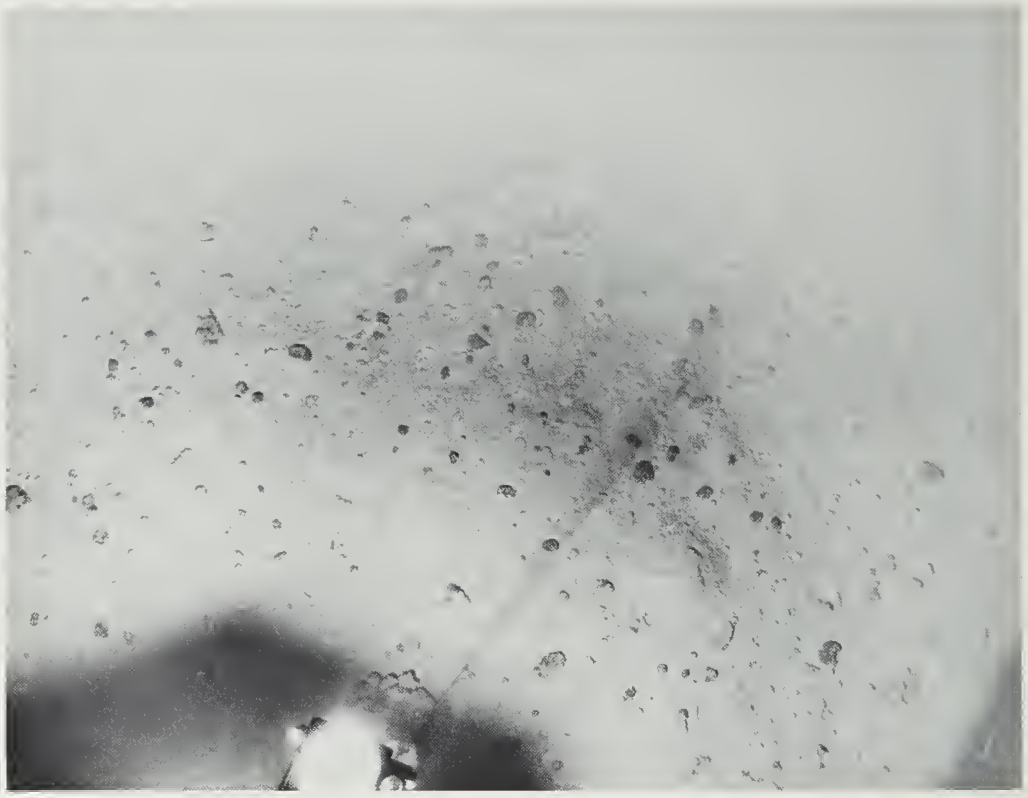
K8—13

K9—7

K9—8

K10—4

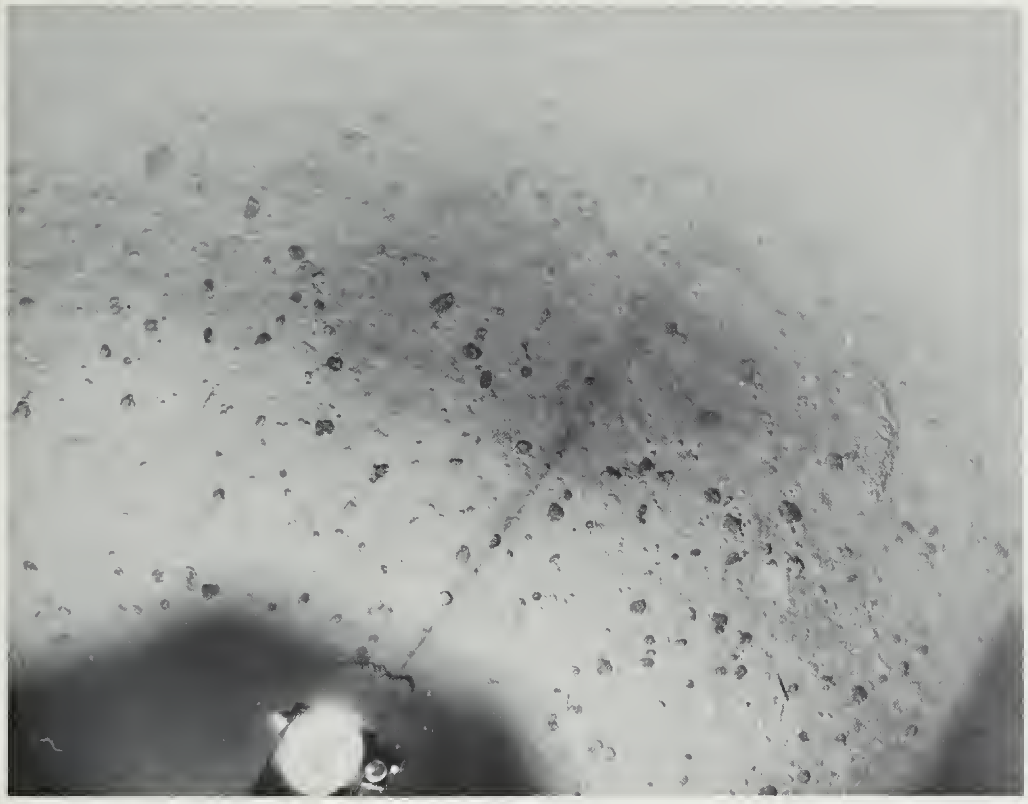
K10—14



K11—3

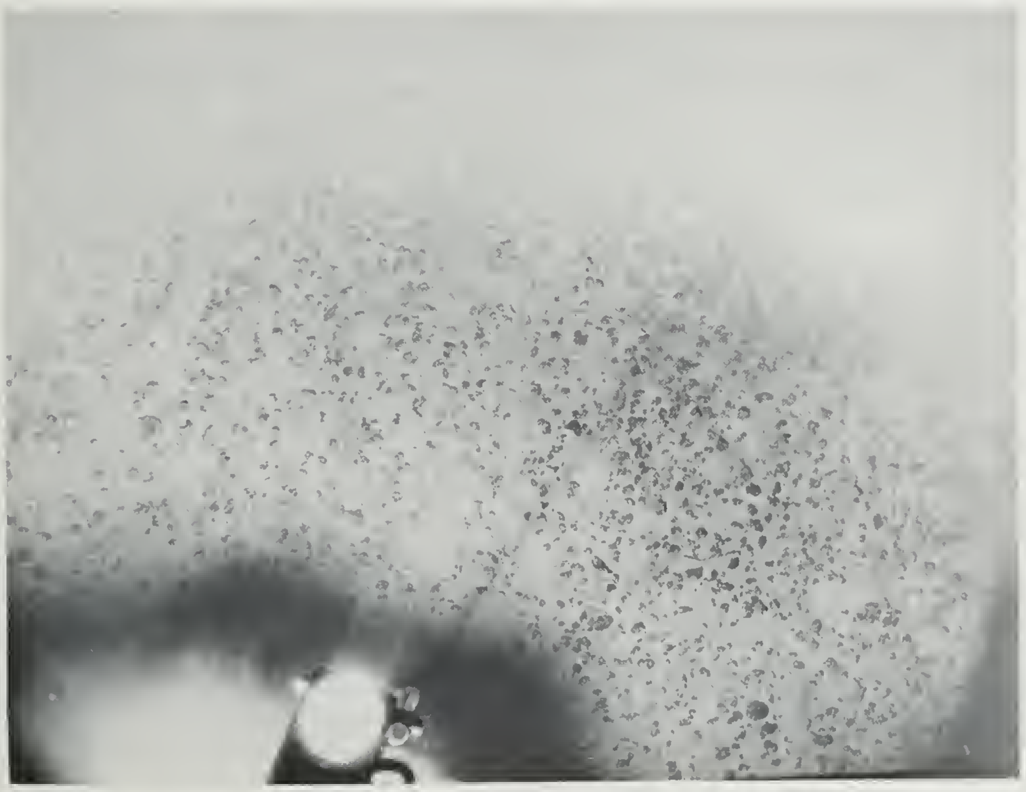
K11—7

K11—9



K11—11

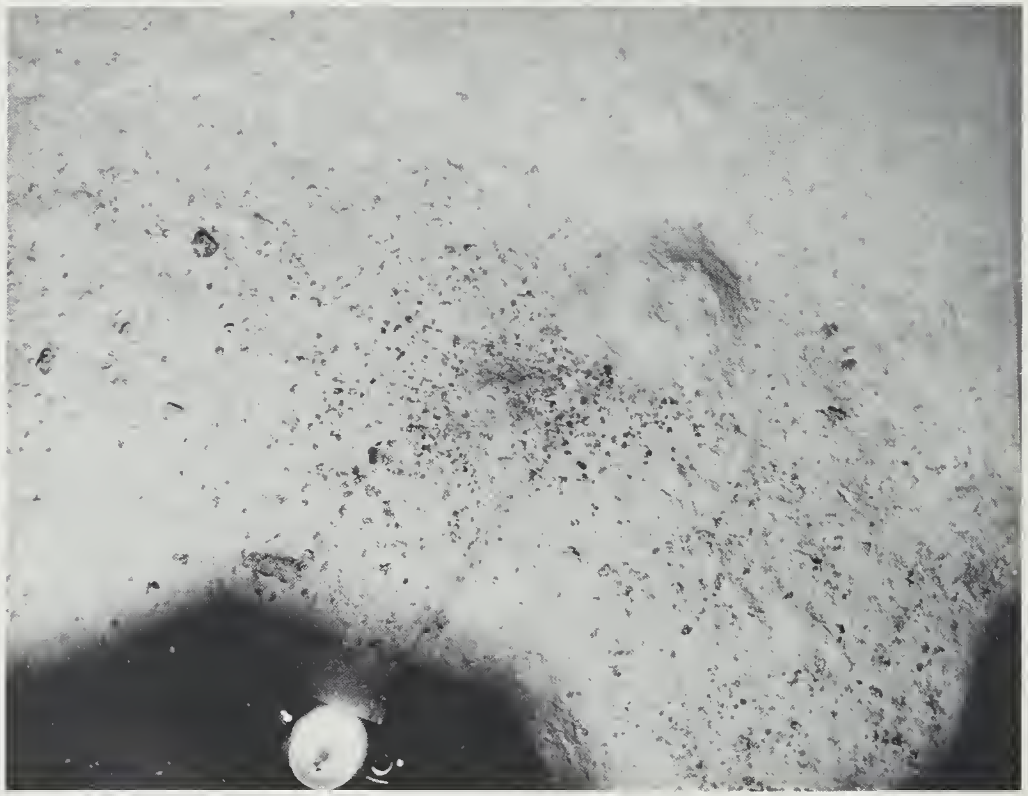
K12—1



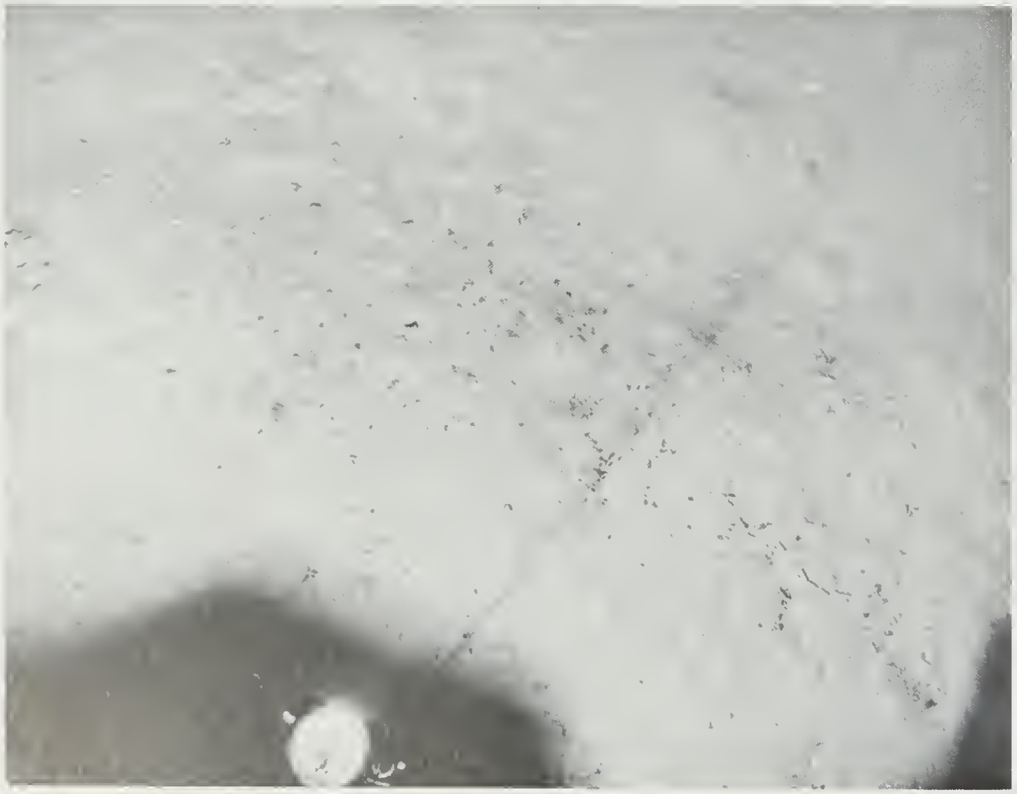
K12—4

K12—7

K12—12



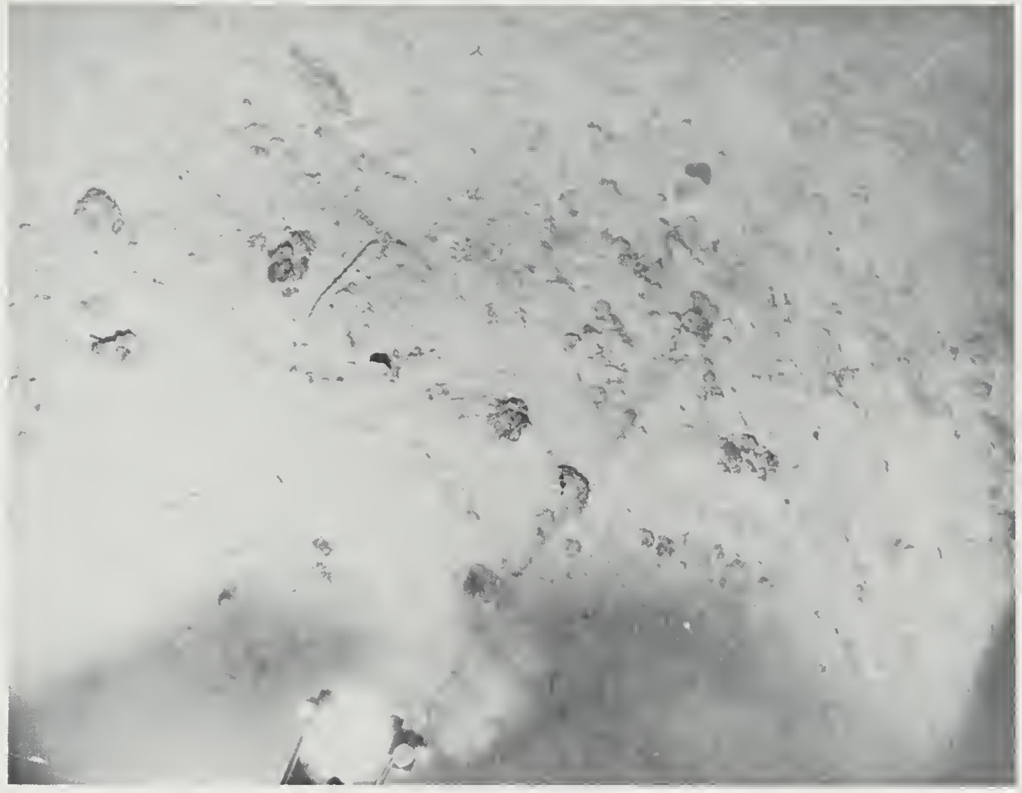
K13—1



K13—3

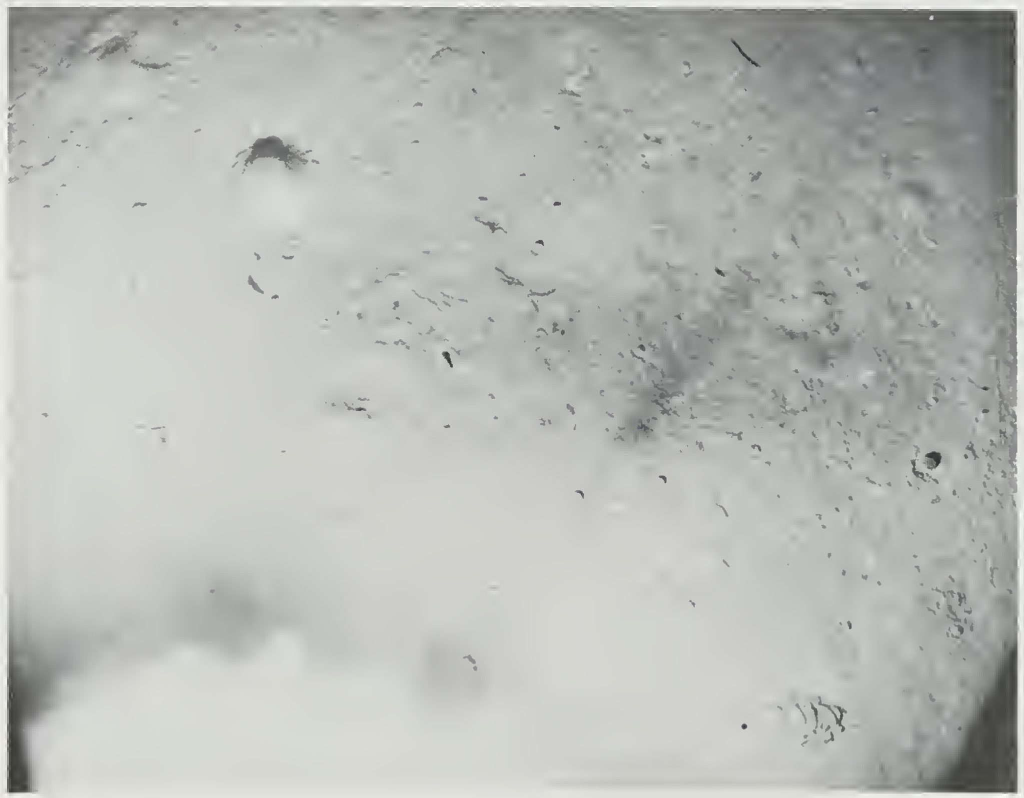
K13—13

K14—3



K14—4

K14—9

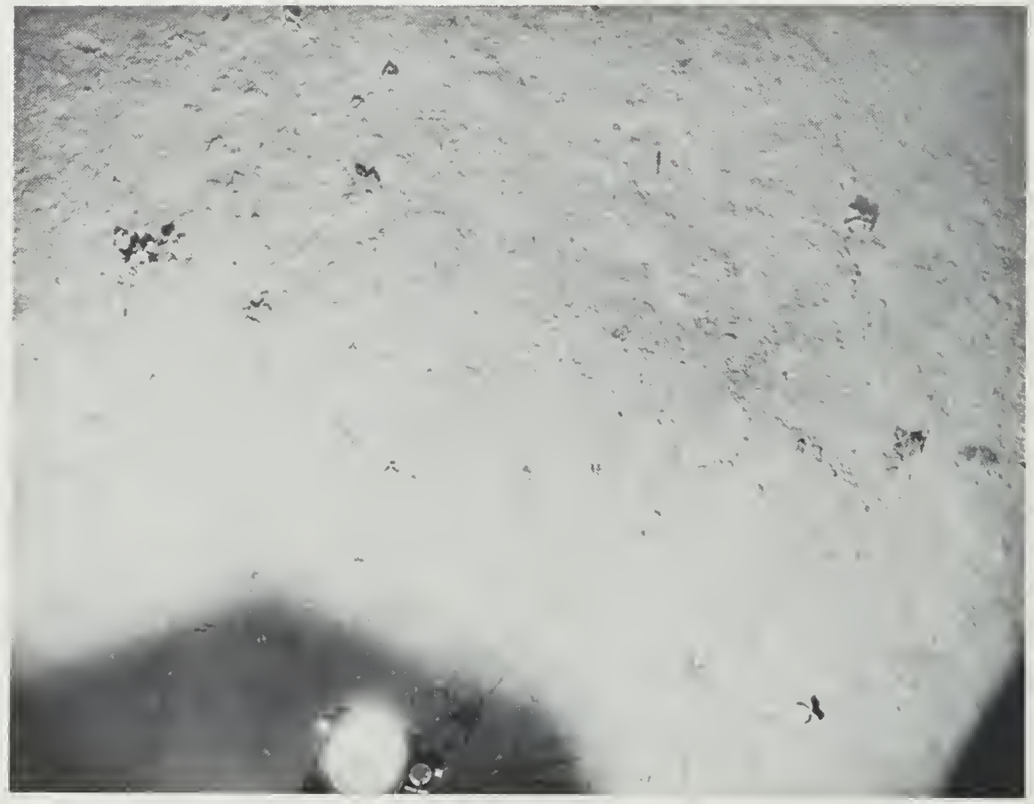


K15—3

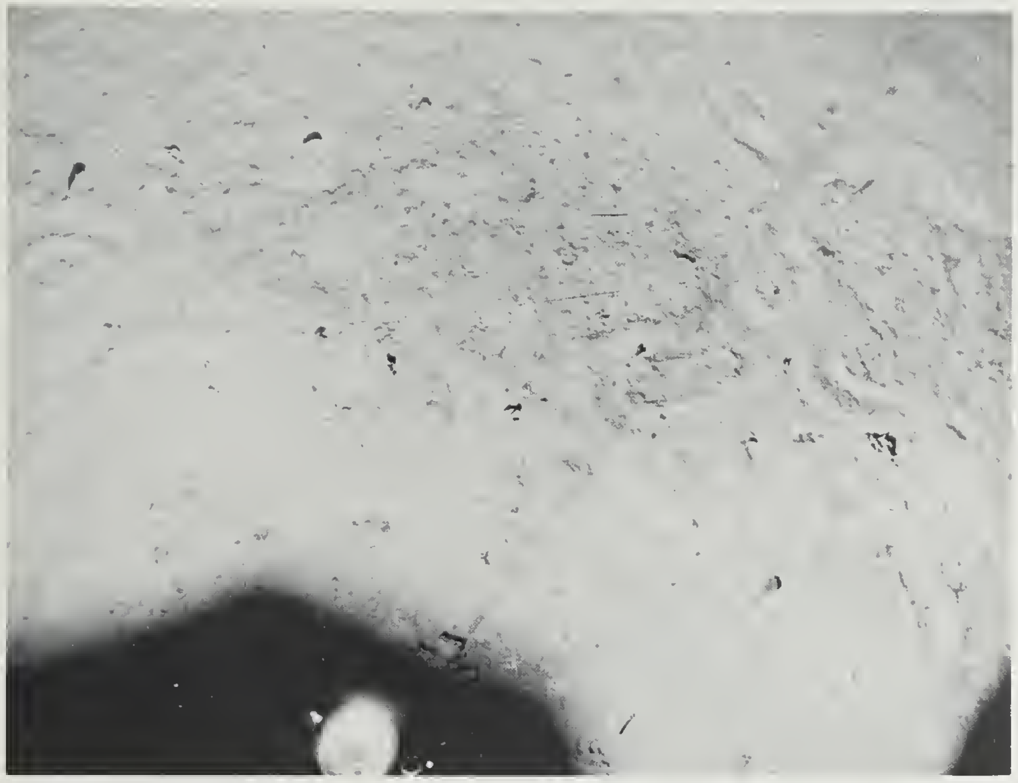
K15—6

K15—10

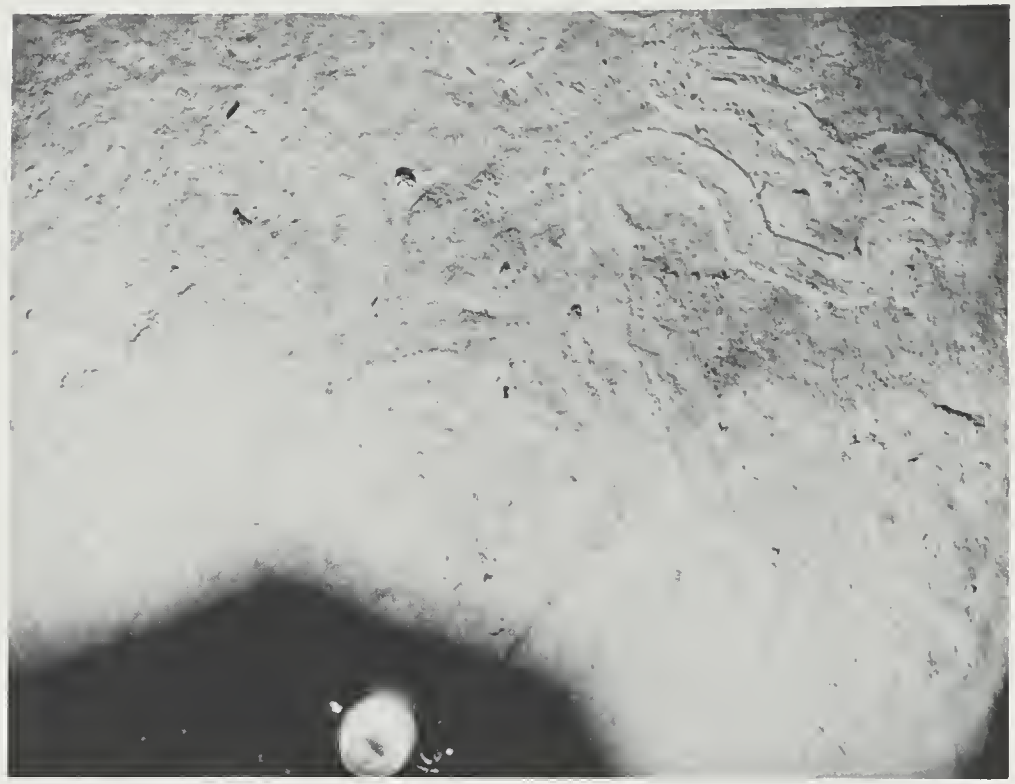
K16—3



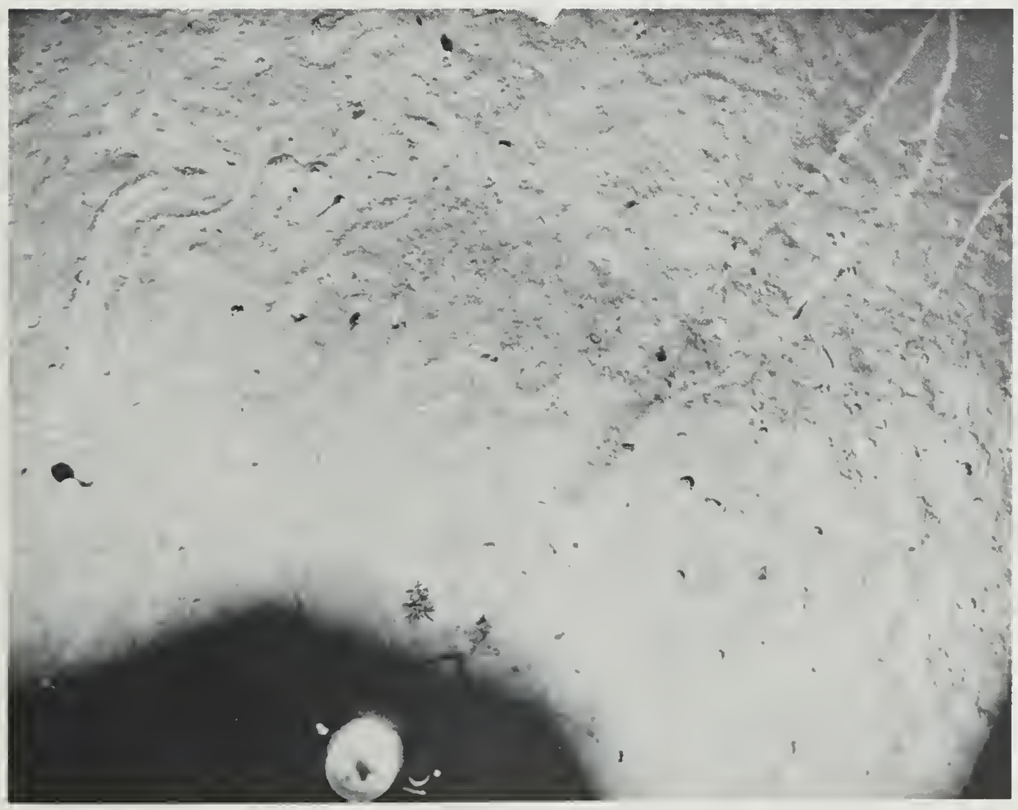
K16—9



K16—11



K17—1



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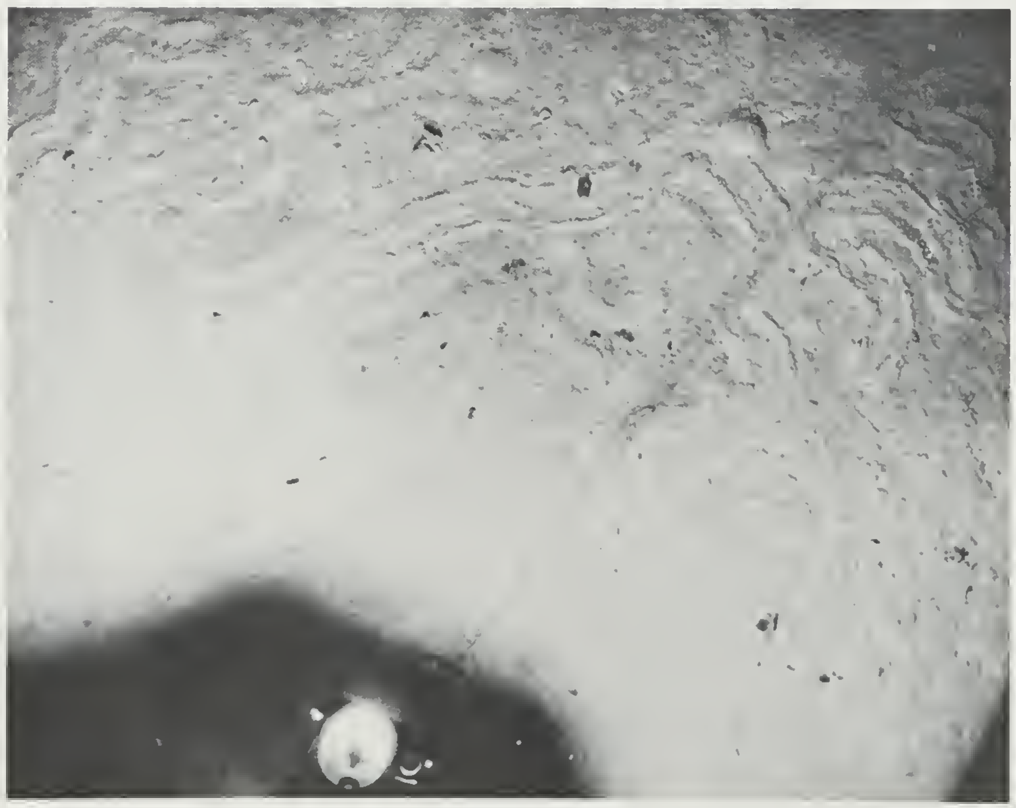

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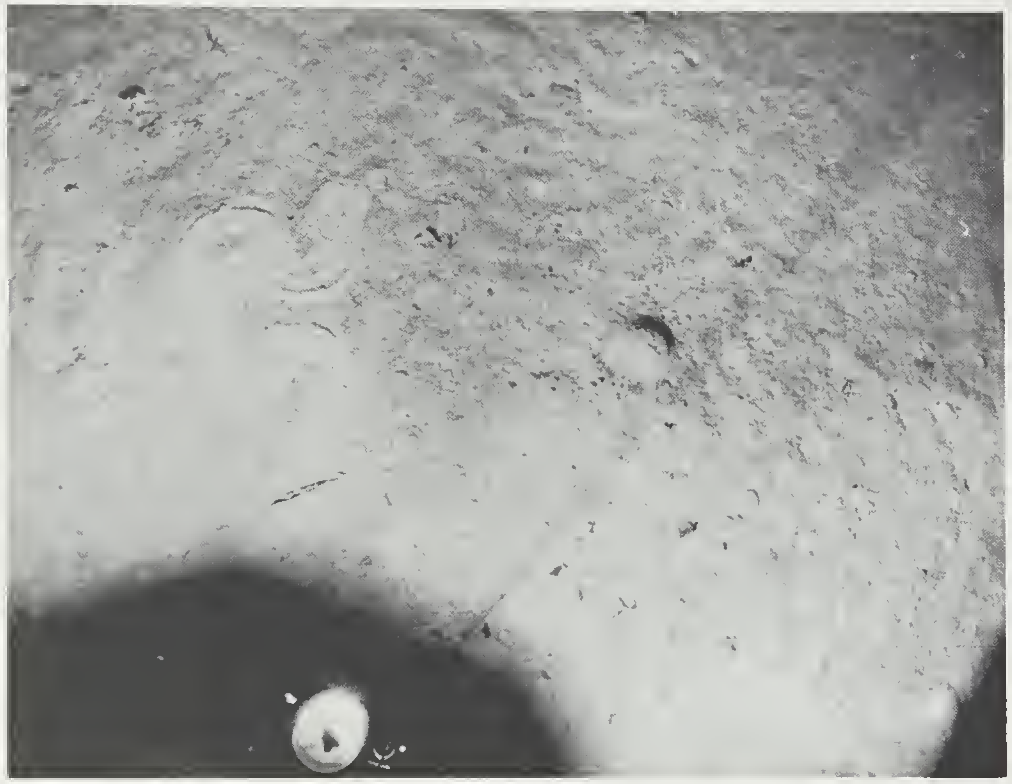

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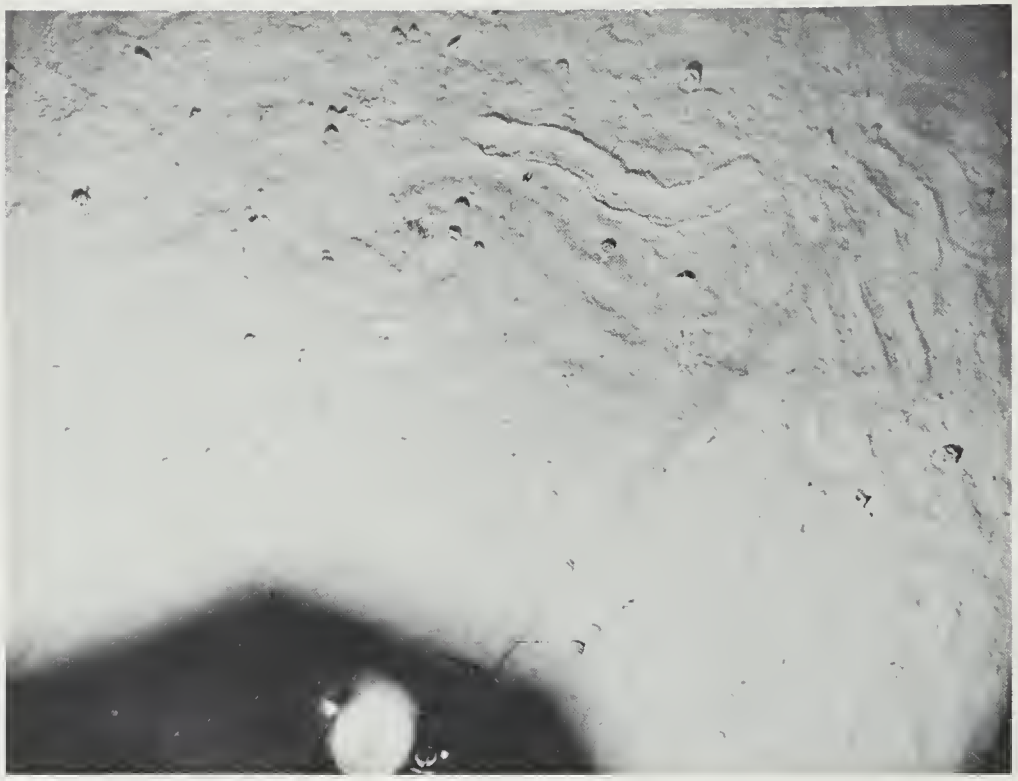
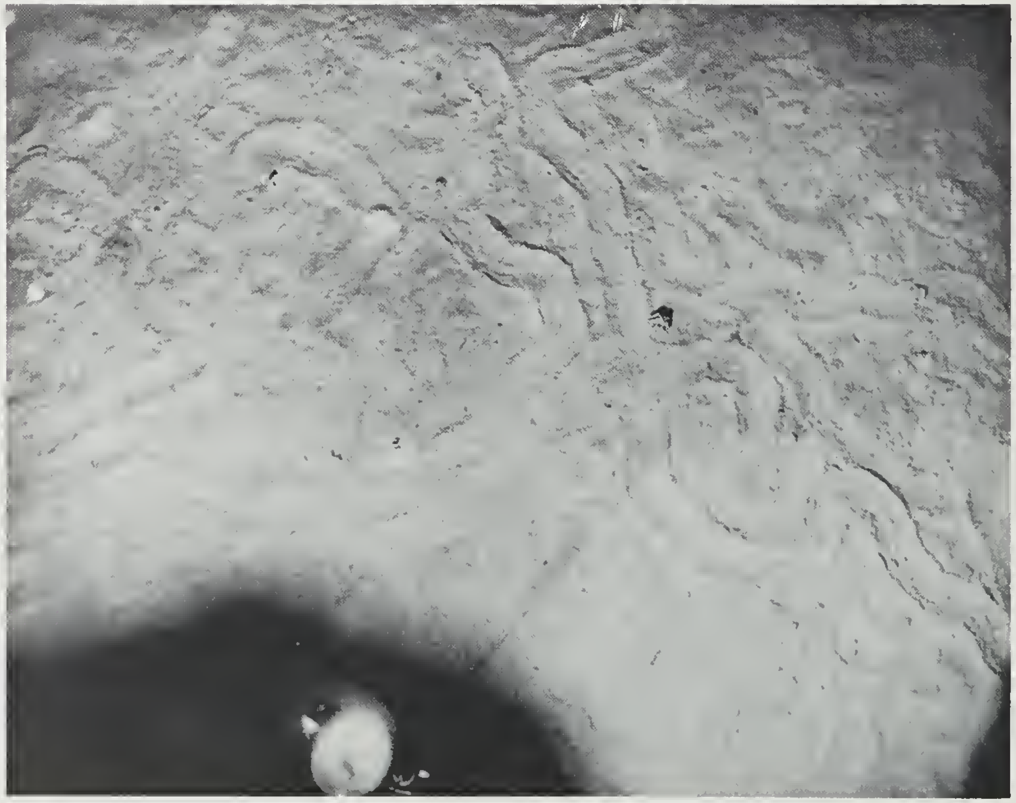


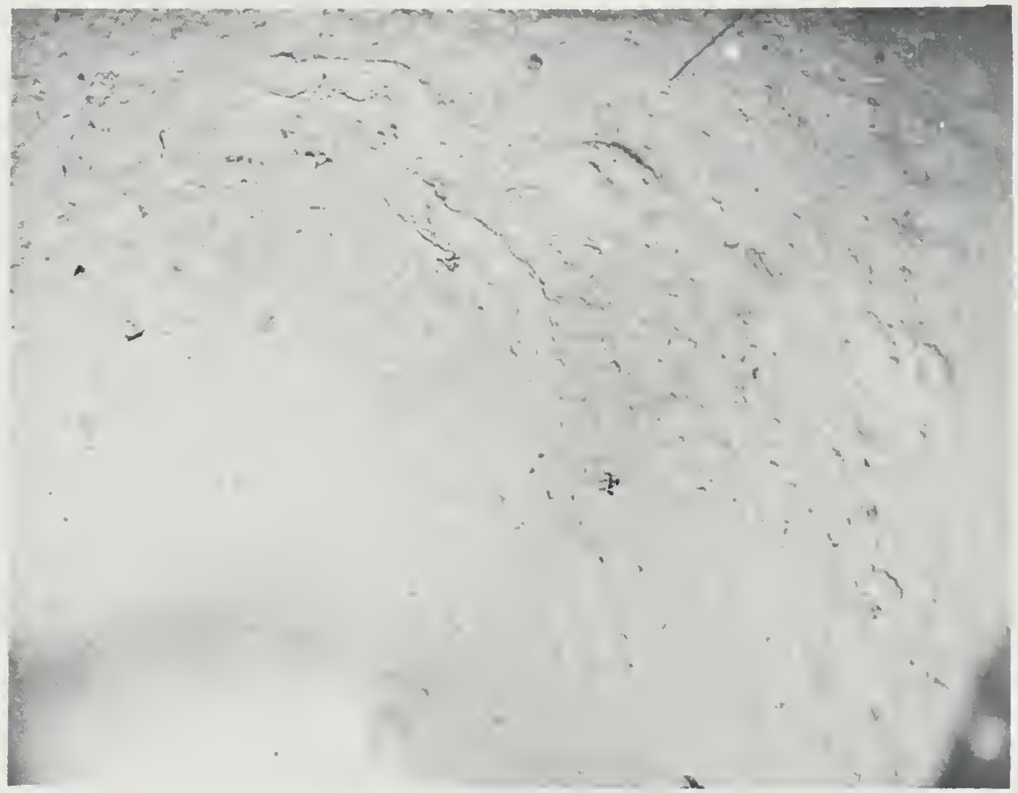
K18—7

K18—8



K19—2

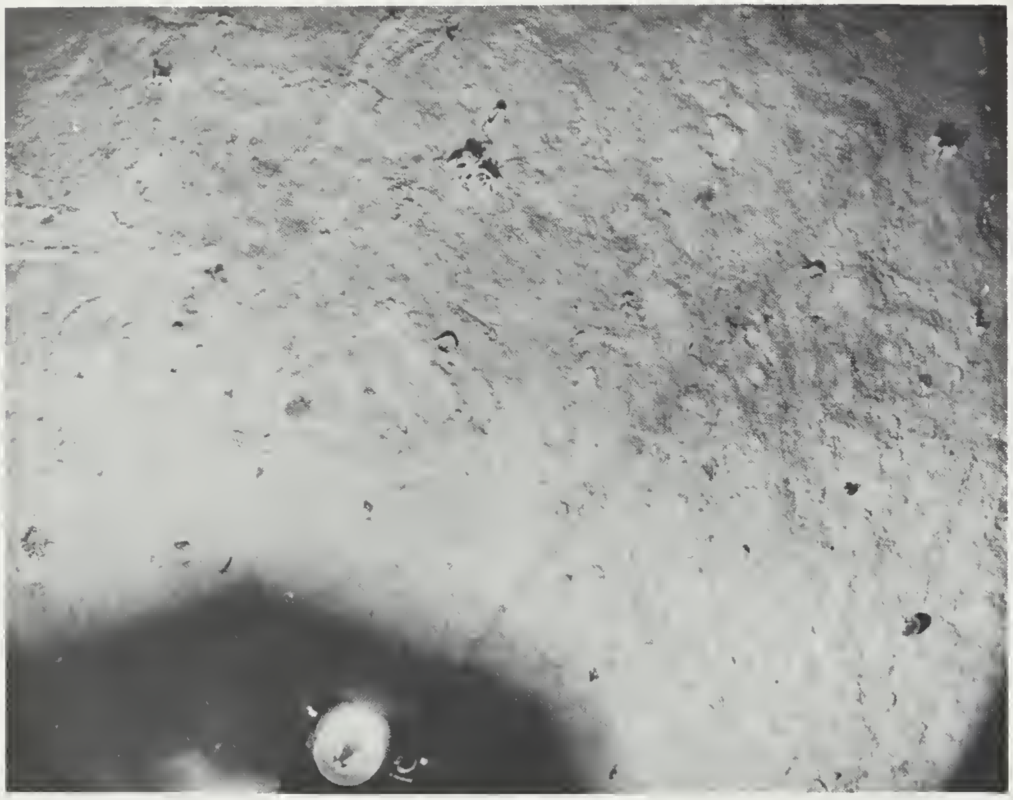
K19—4



K20—1

K20—7

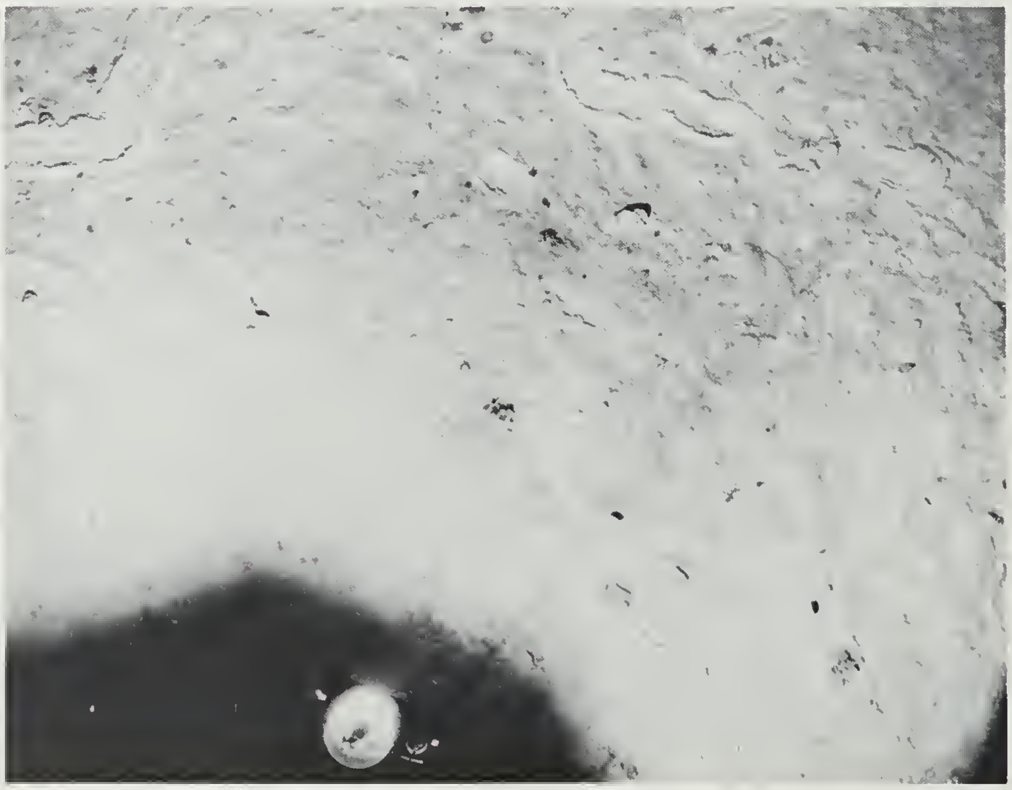
K21—1



K21— 9

K21—14

K22—6

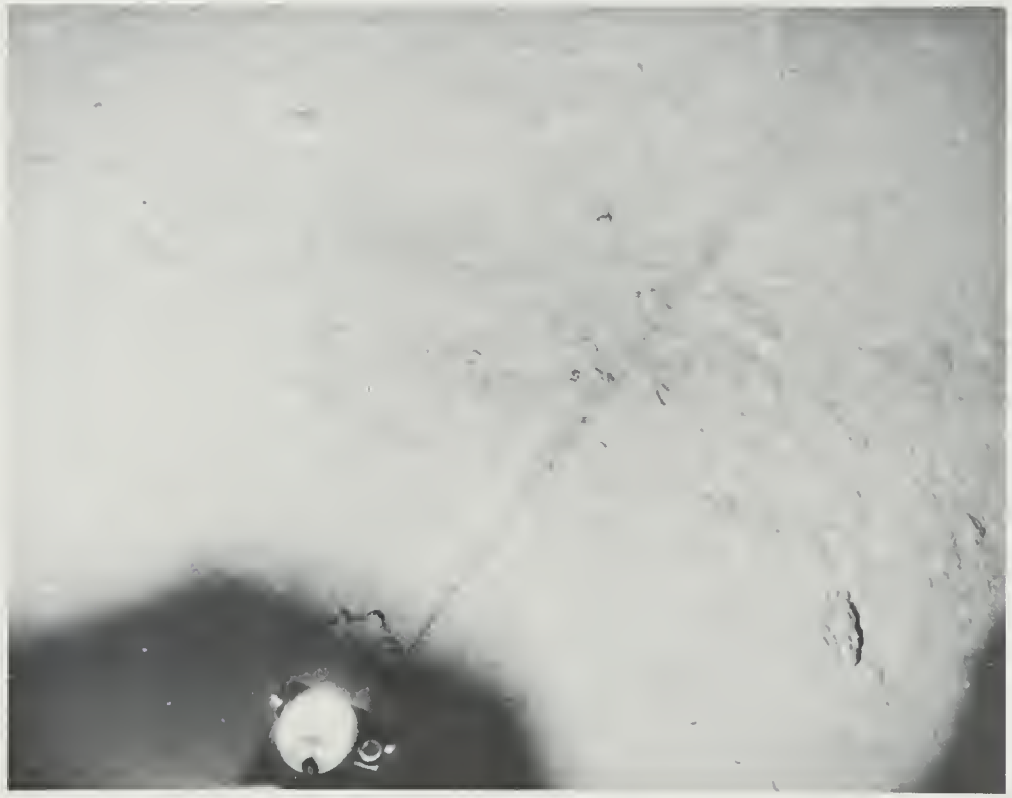


K22—8

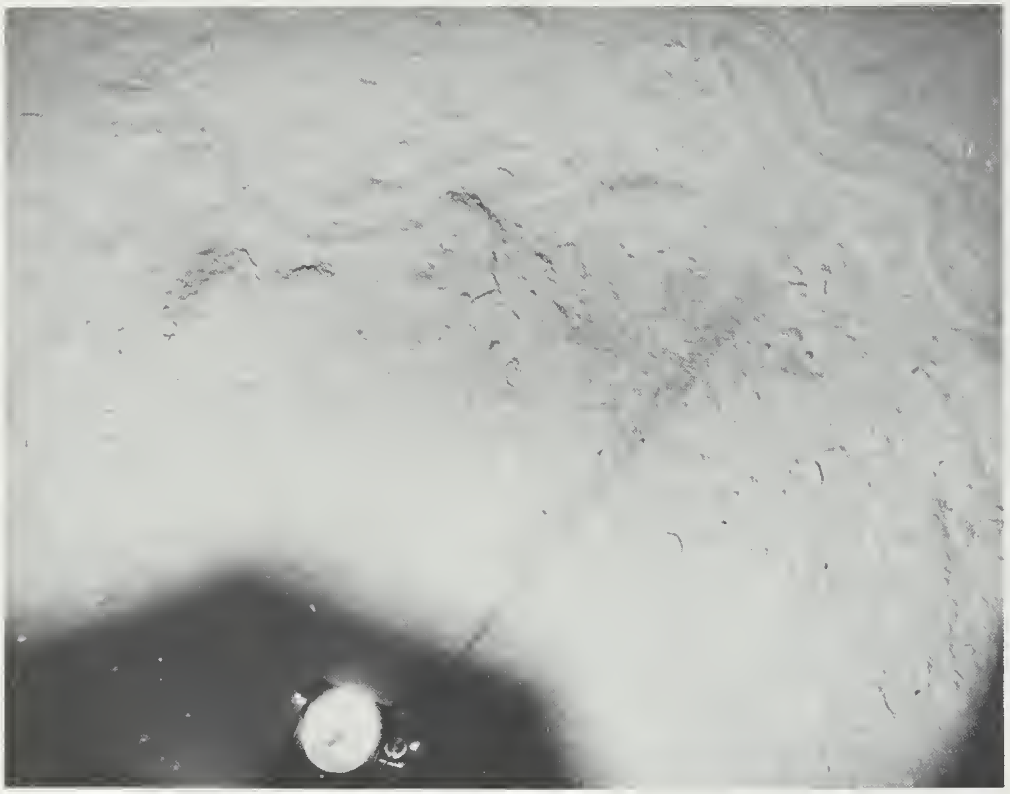
K23—2

K23—9

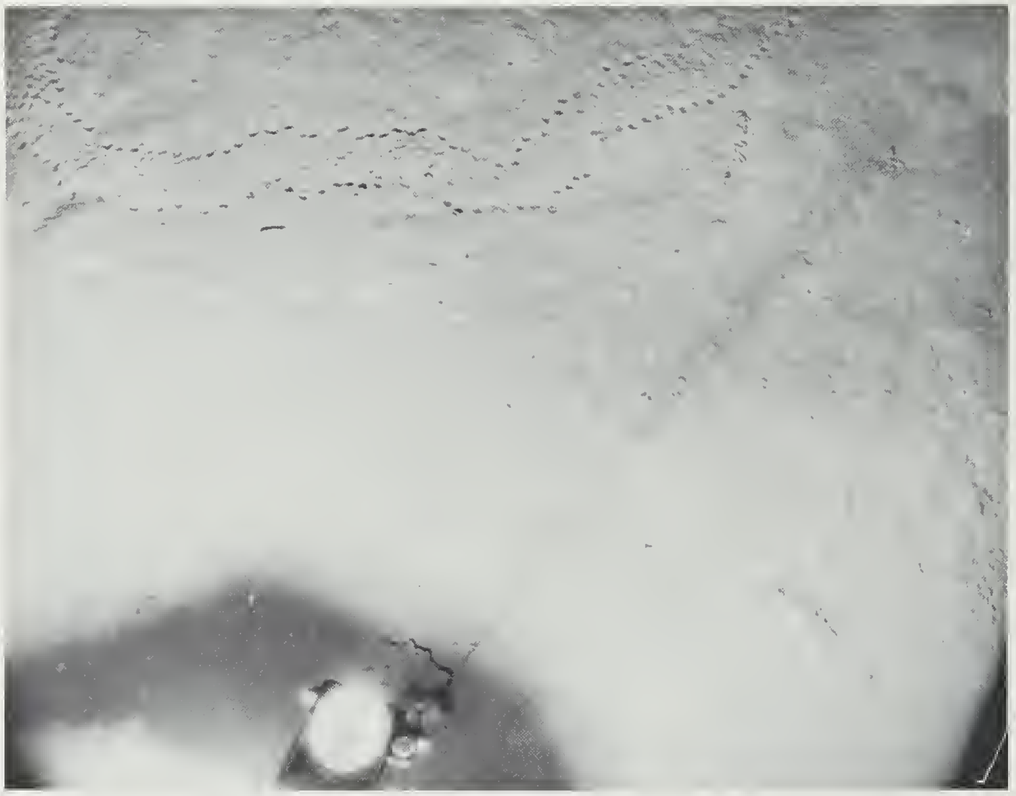
K23—12



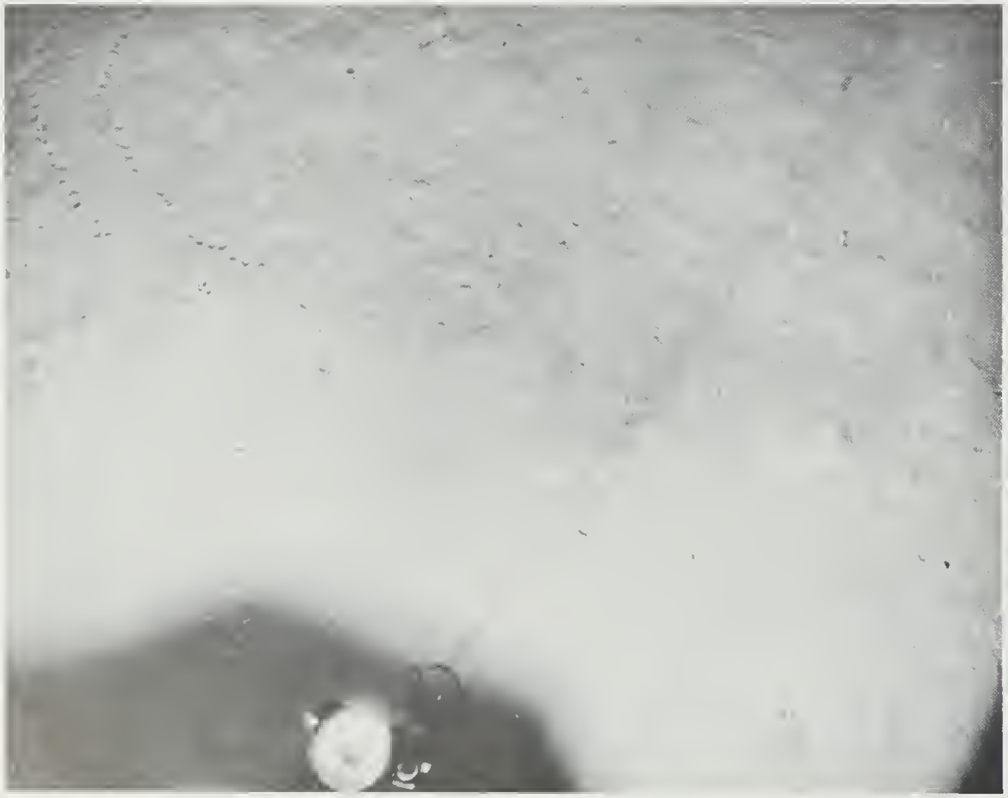
K24—11



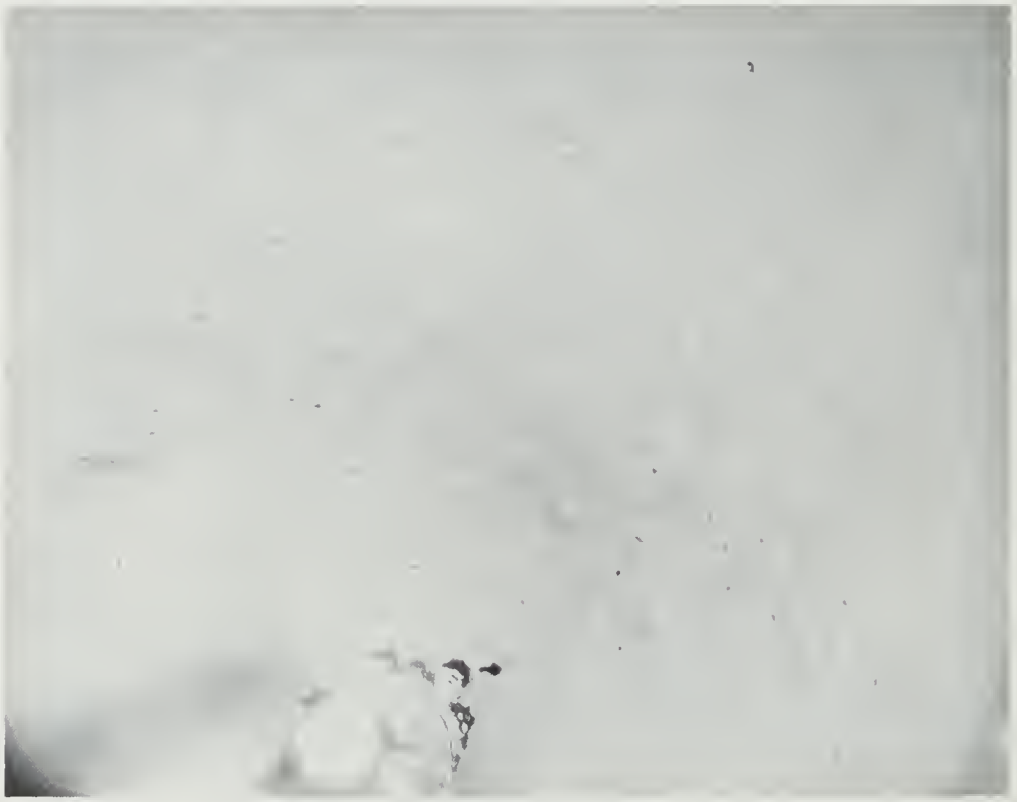
K24—13



K25—2

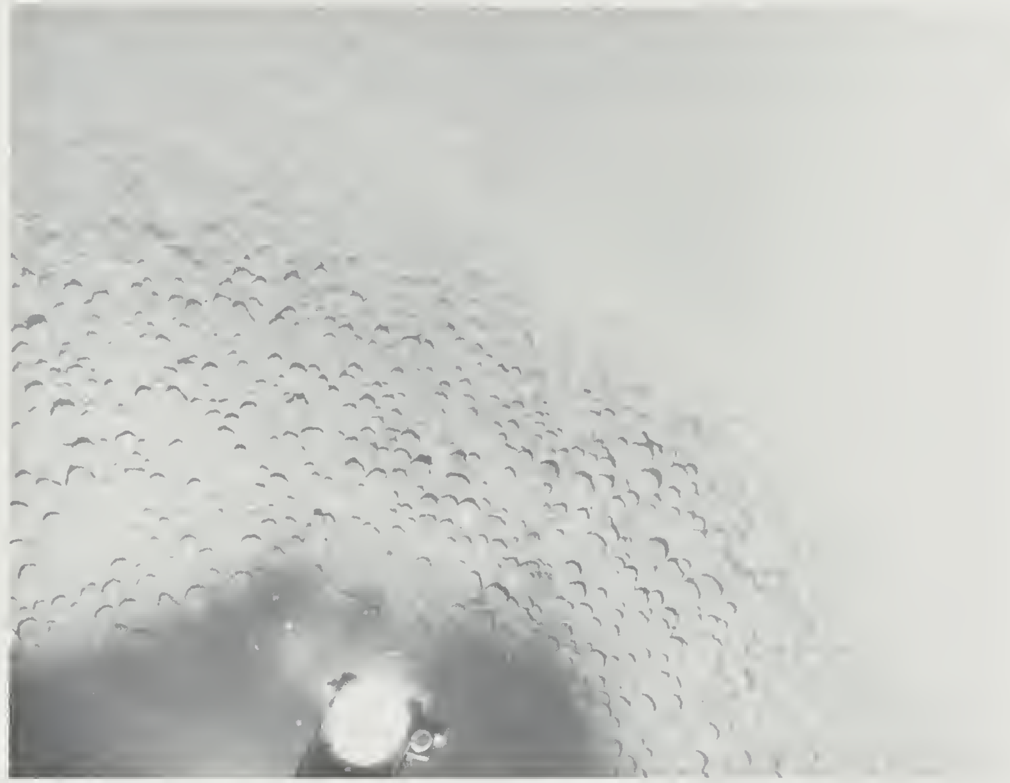


K25—12



K26—1

K27—7



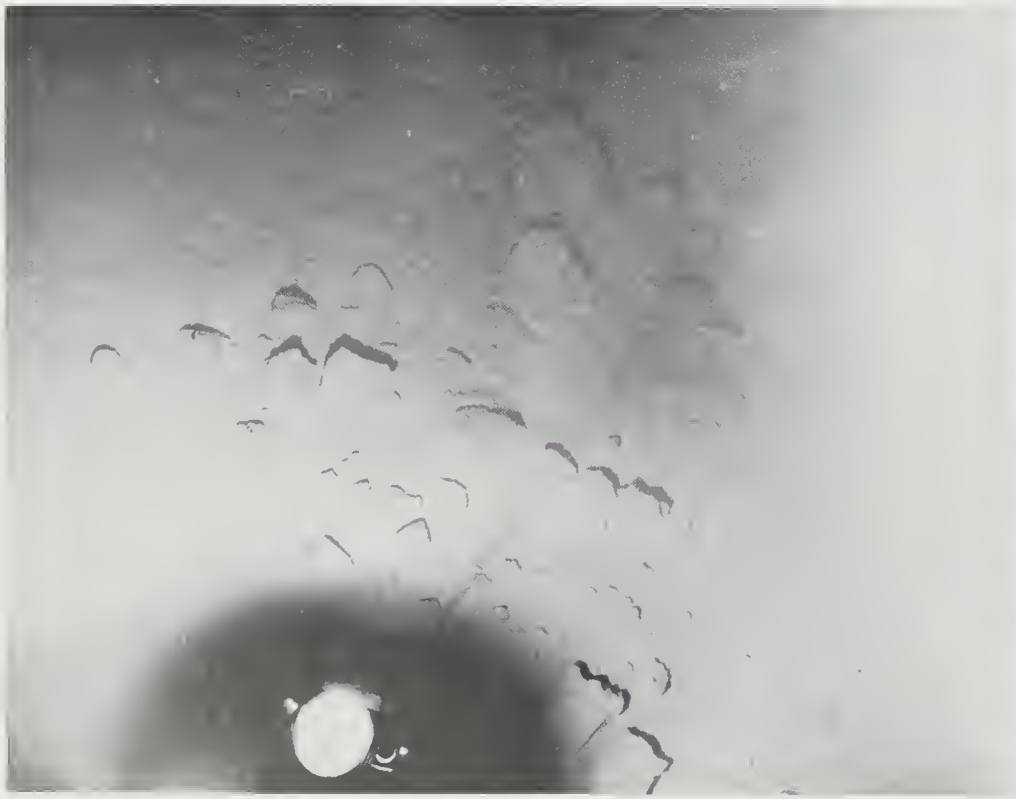
K28—1

K28—8

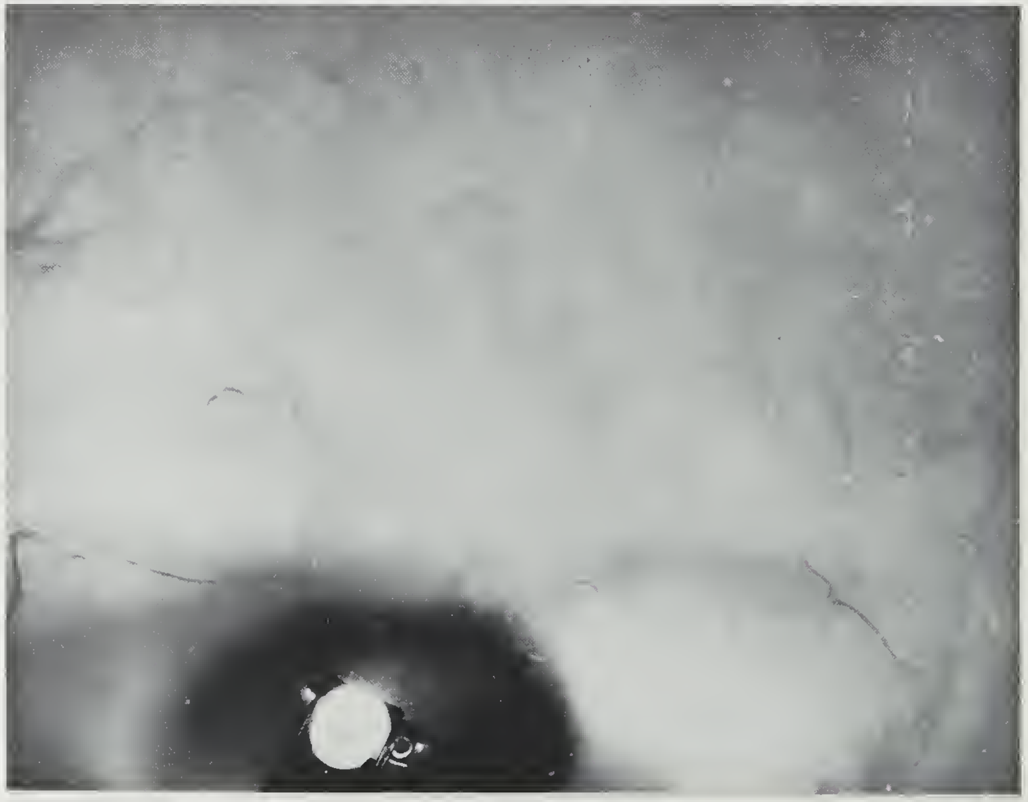
K28—13

K29—2

K29—6

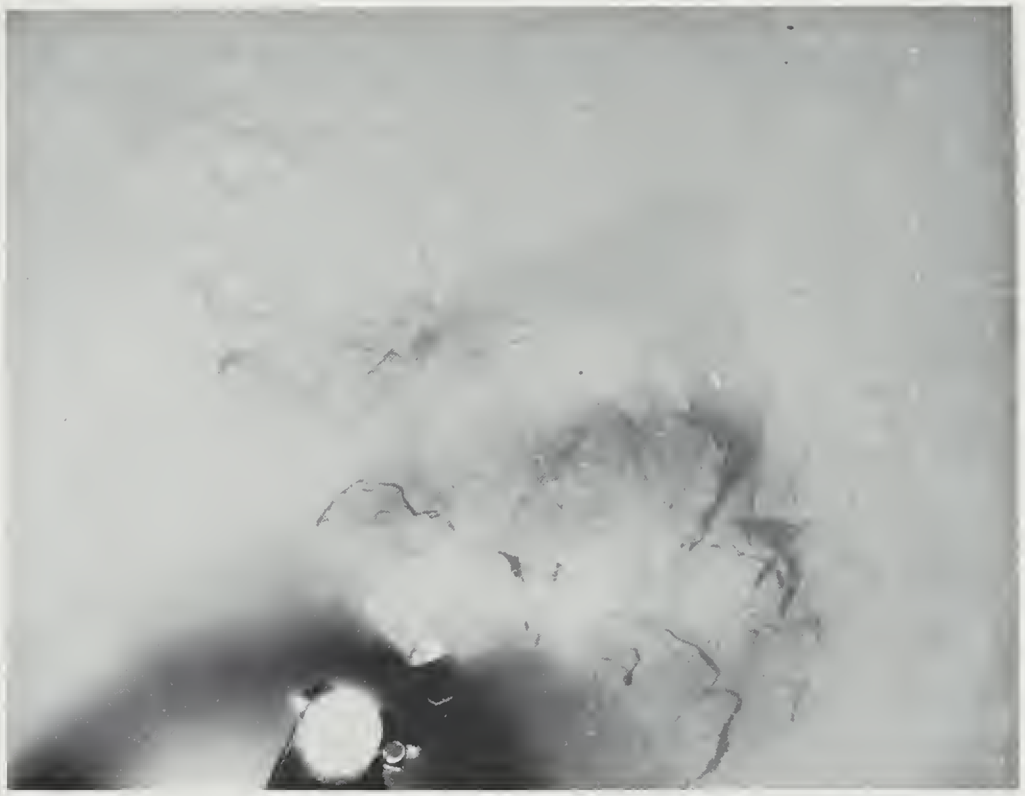


K30—1

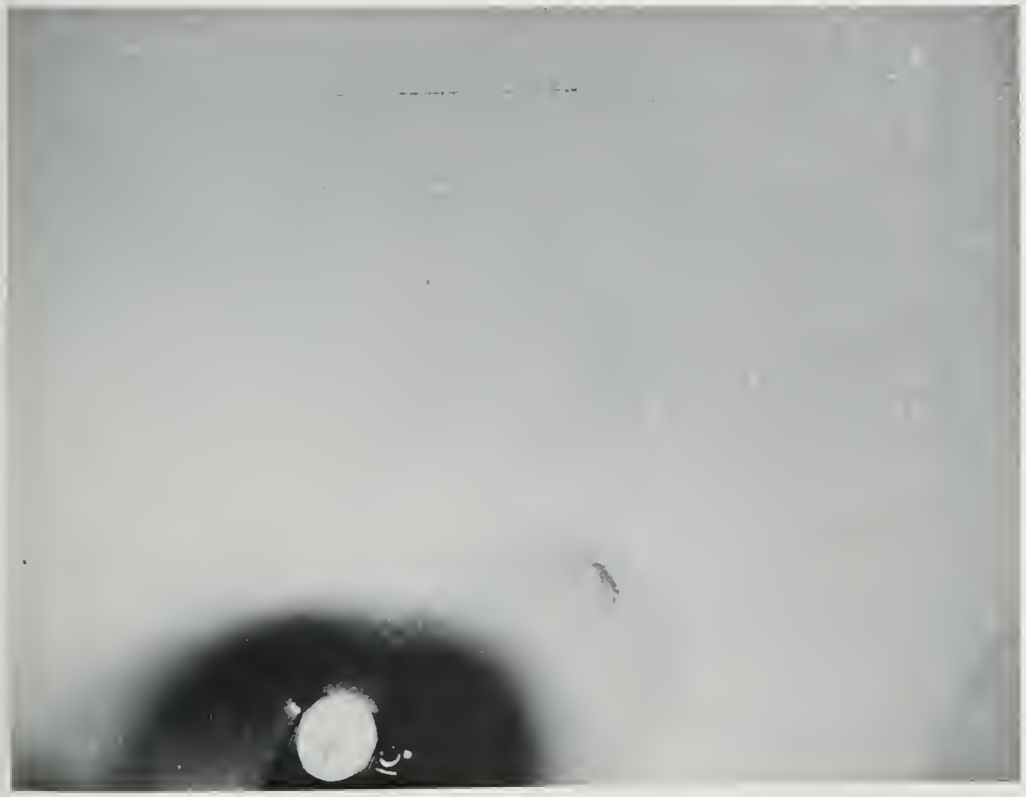


K30—8

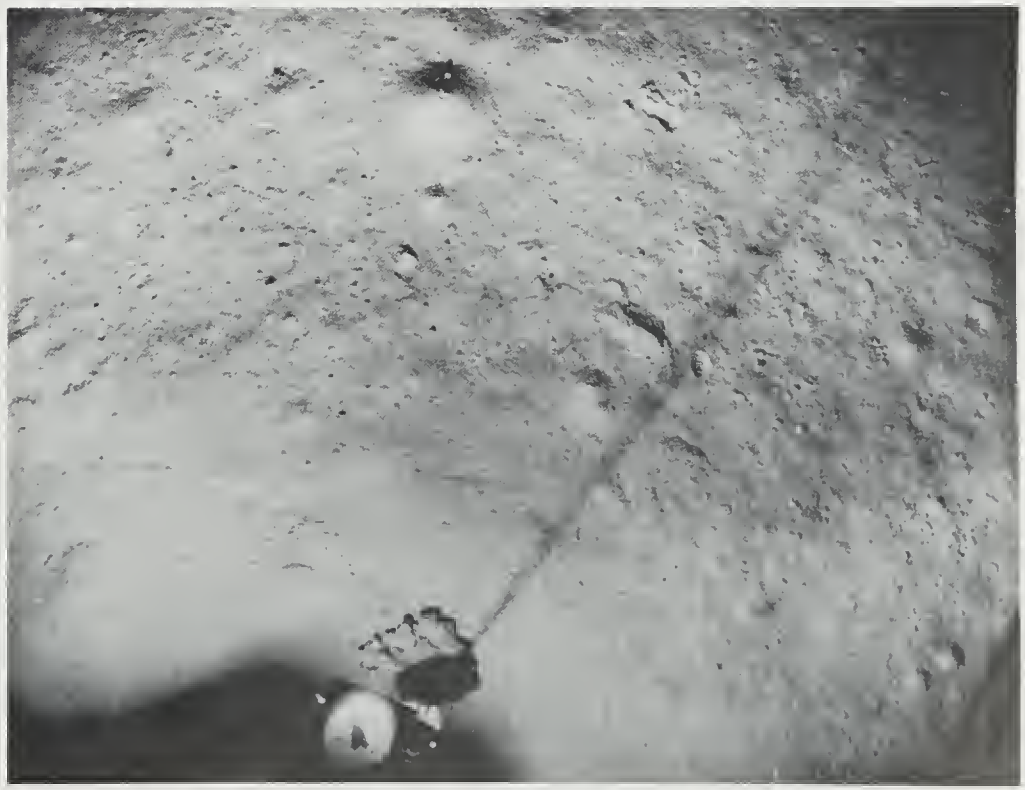
K30—9



K30—13



K31—8



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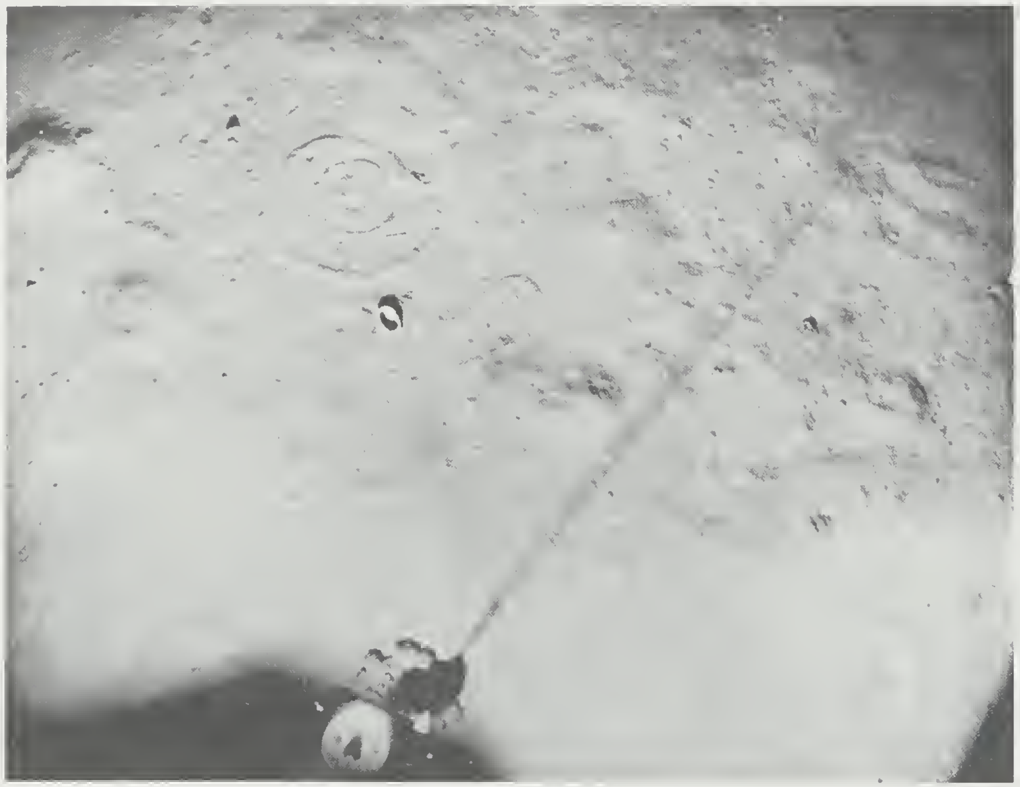

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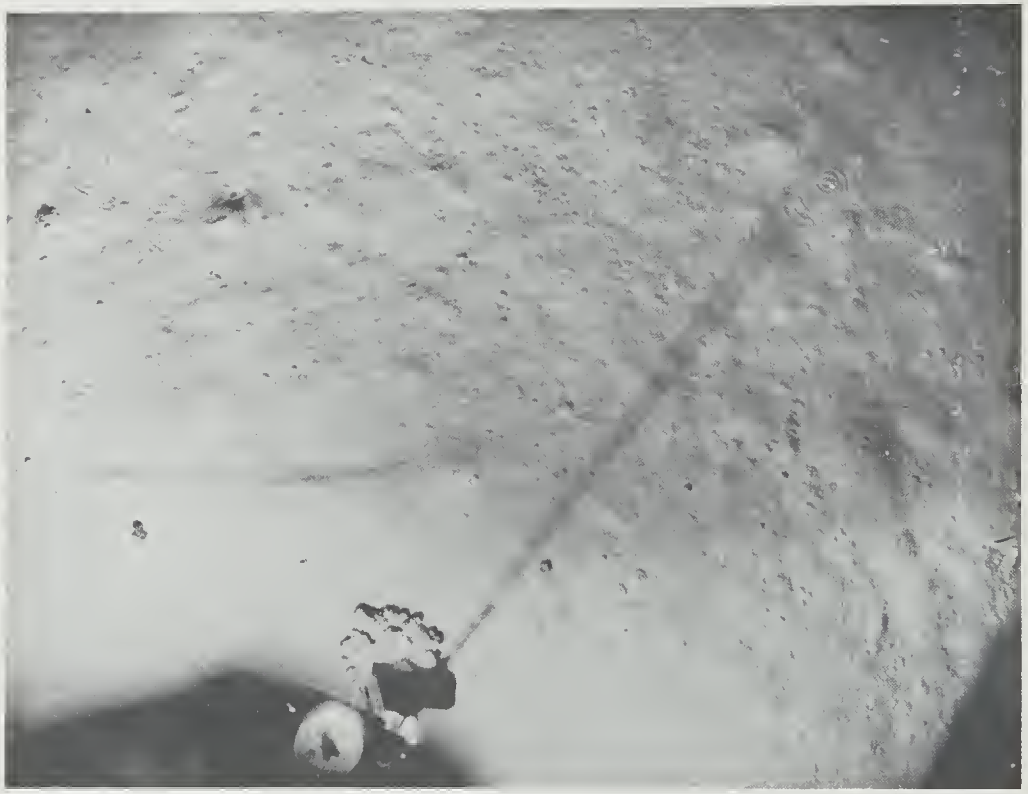
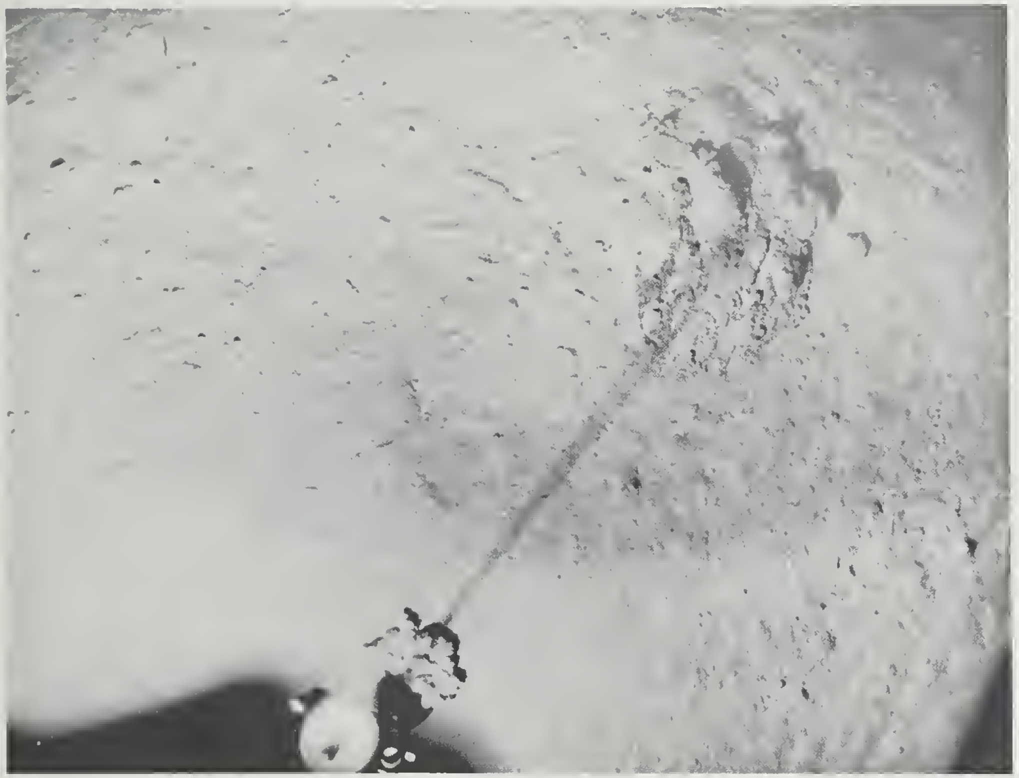


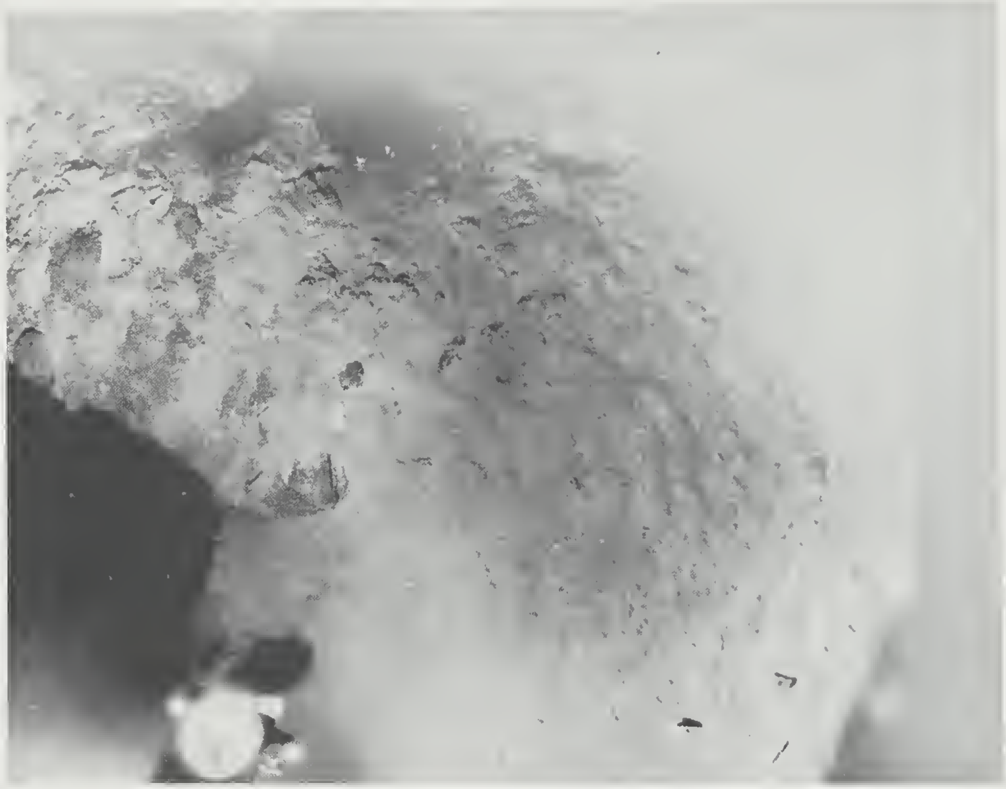
K32—8

K33—3

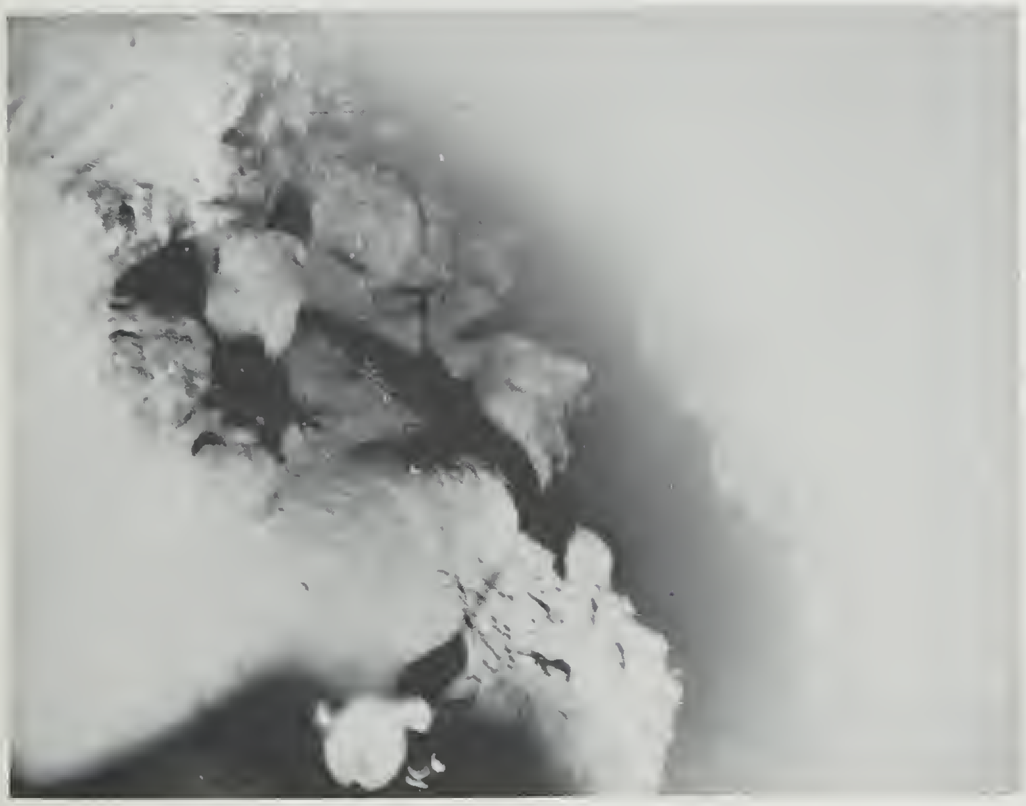
K33—14



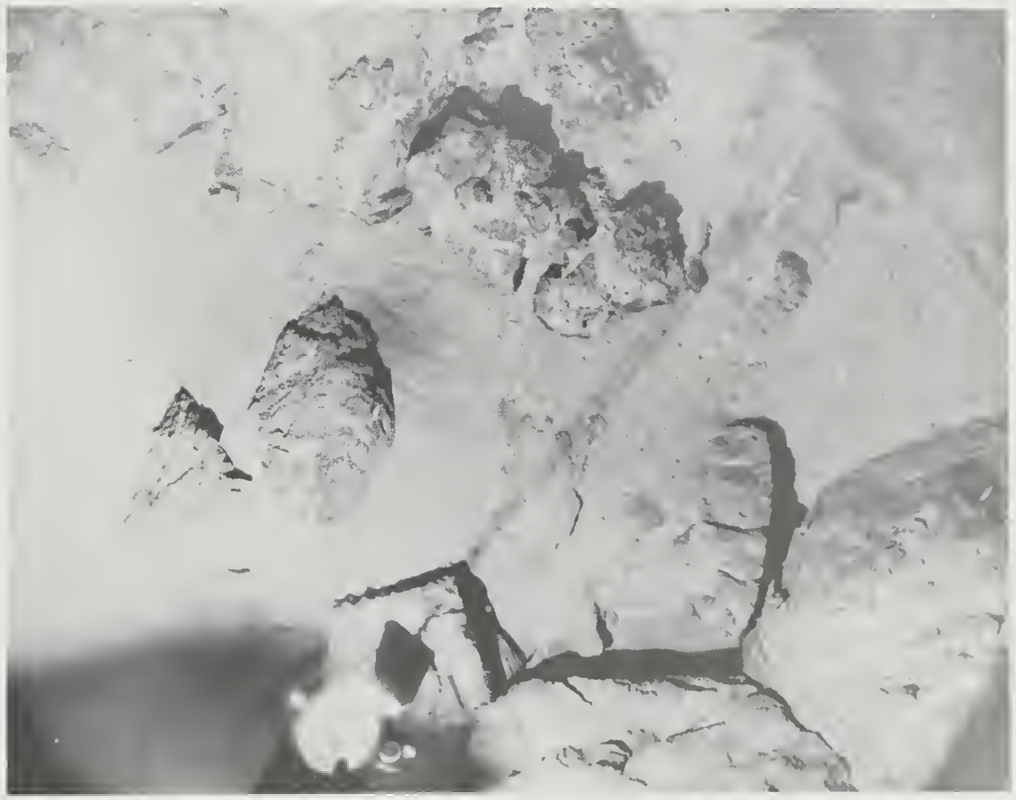
K34—11



K34—12



K34—13



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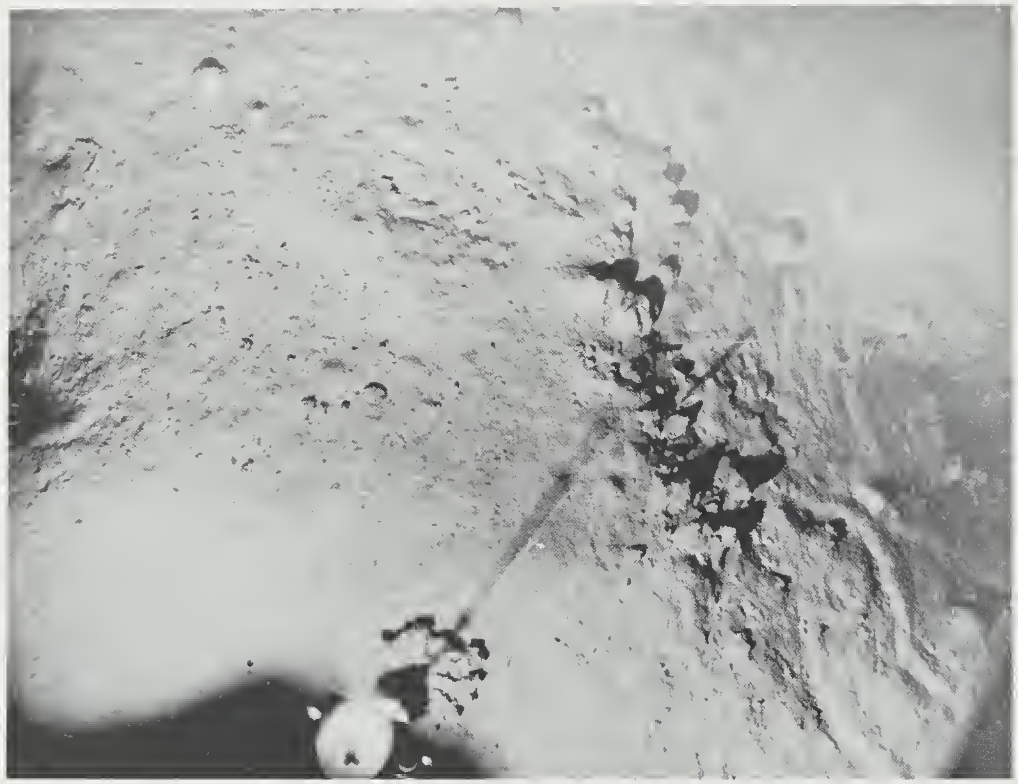
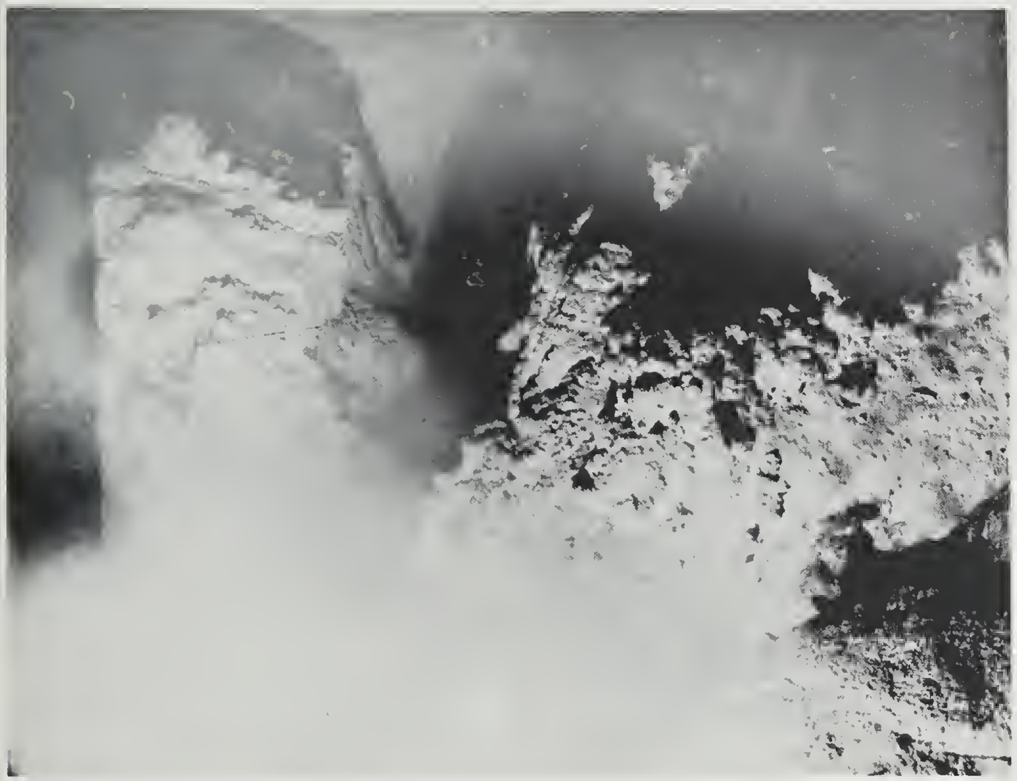


K34—21

K34—22

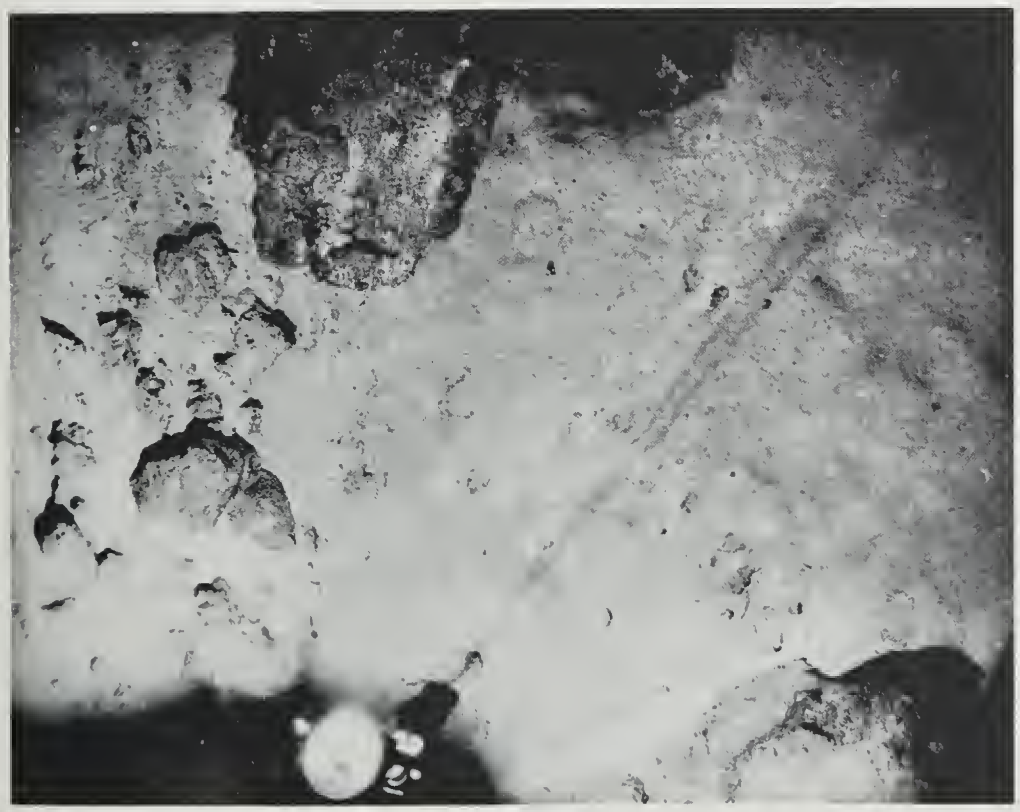
K34—23

K34—24



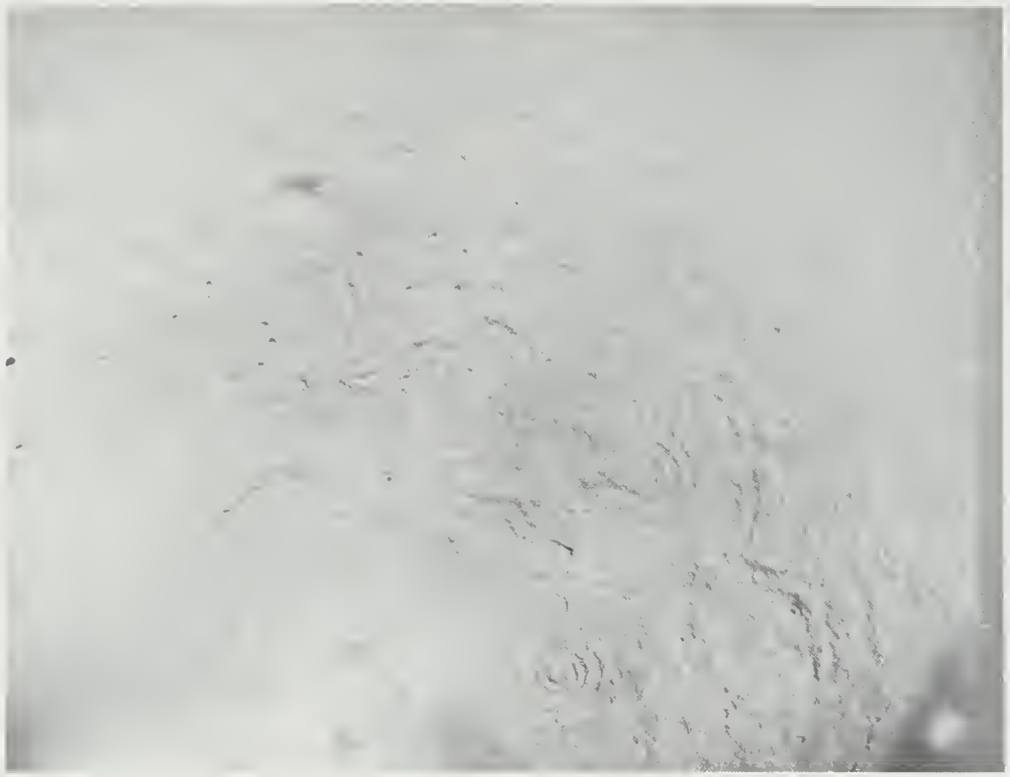
K34—26

K34—27



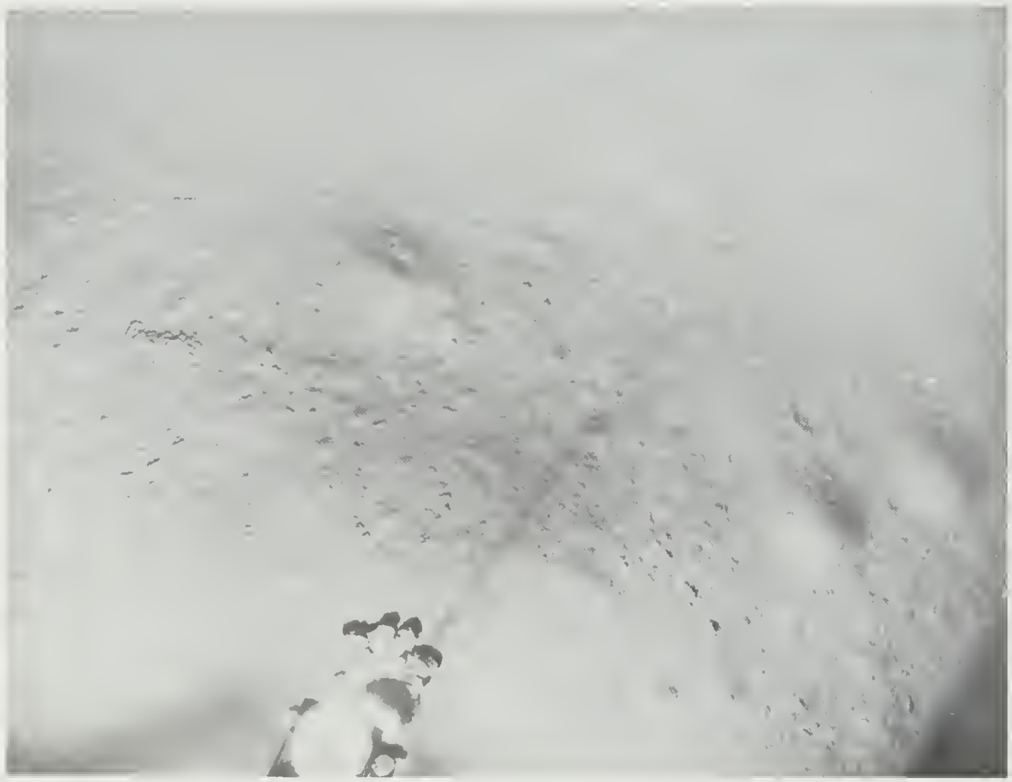
K34—28

K34—29

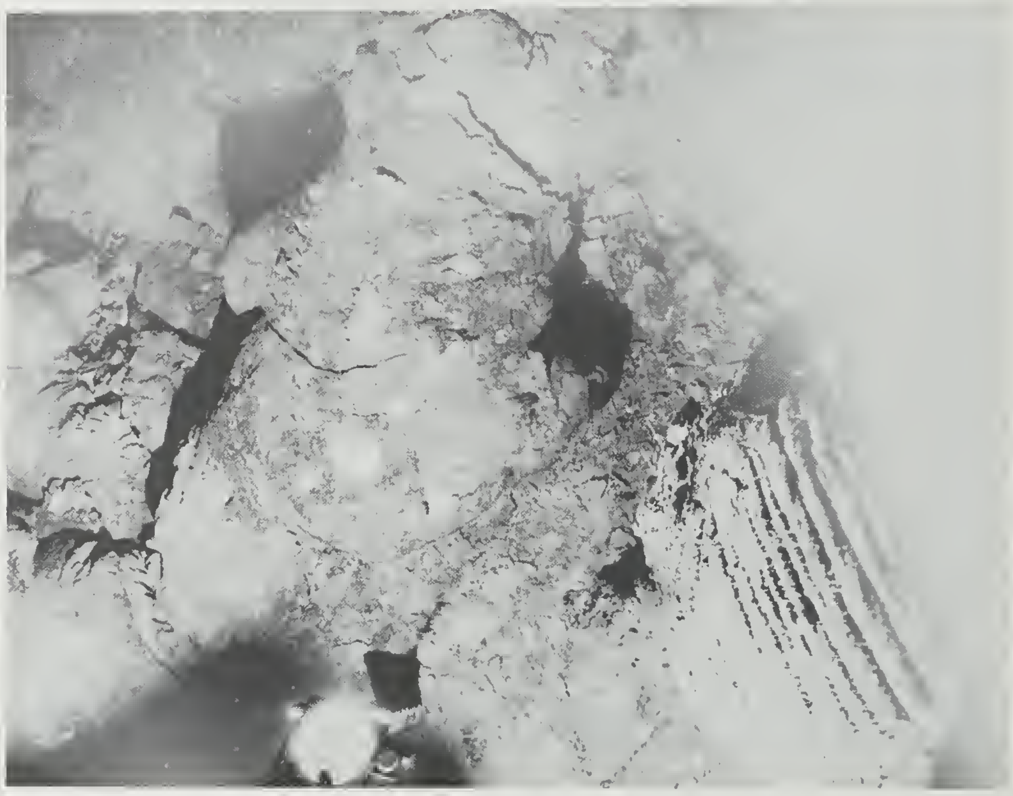


K35—4

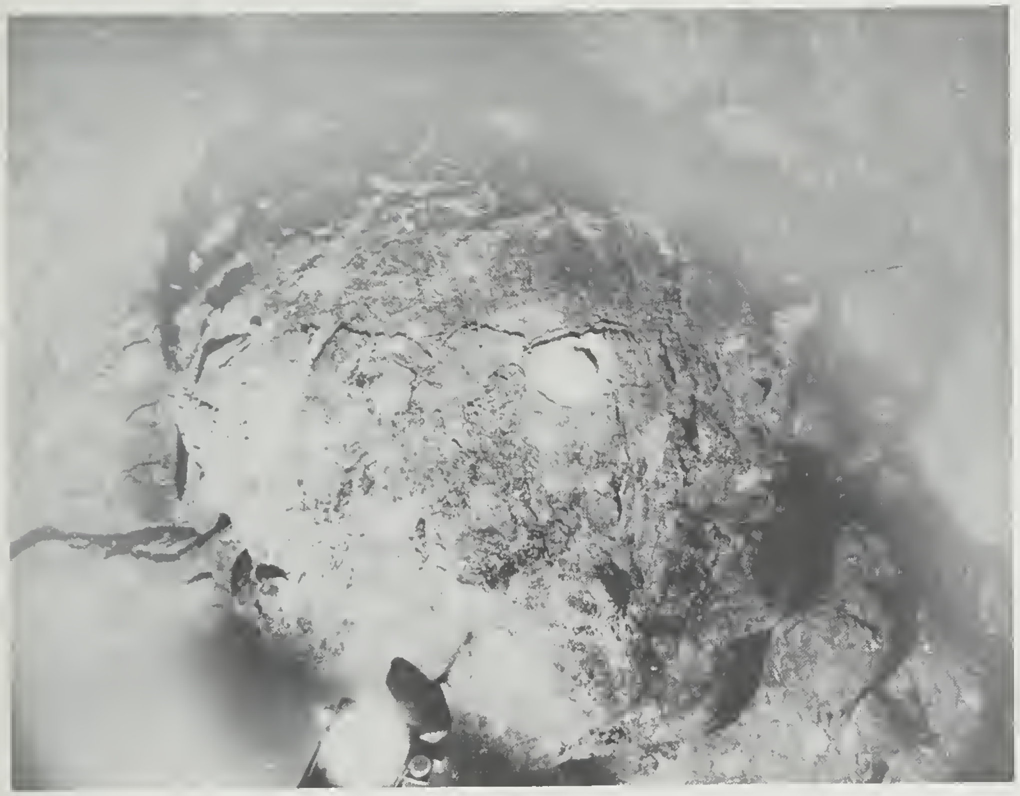
K35—6



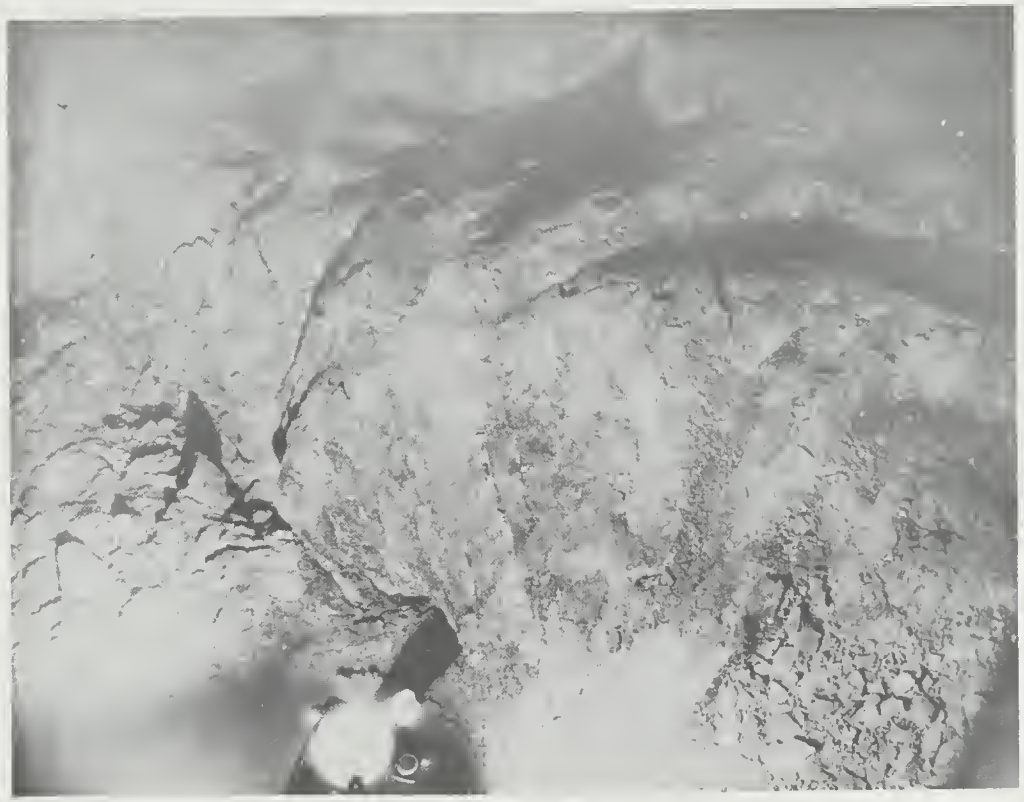
K35—13



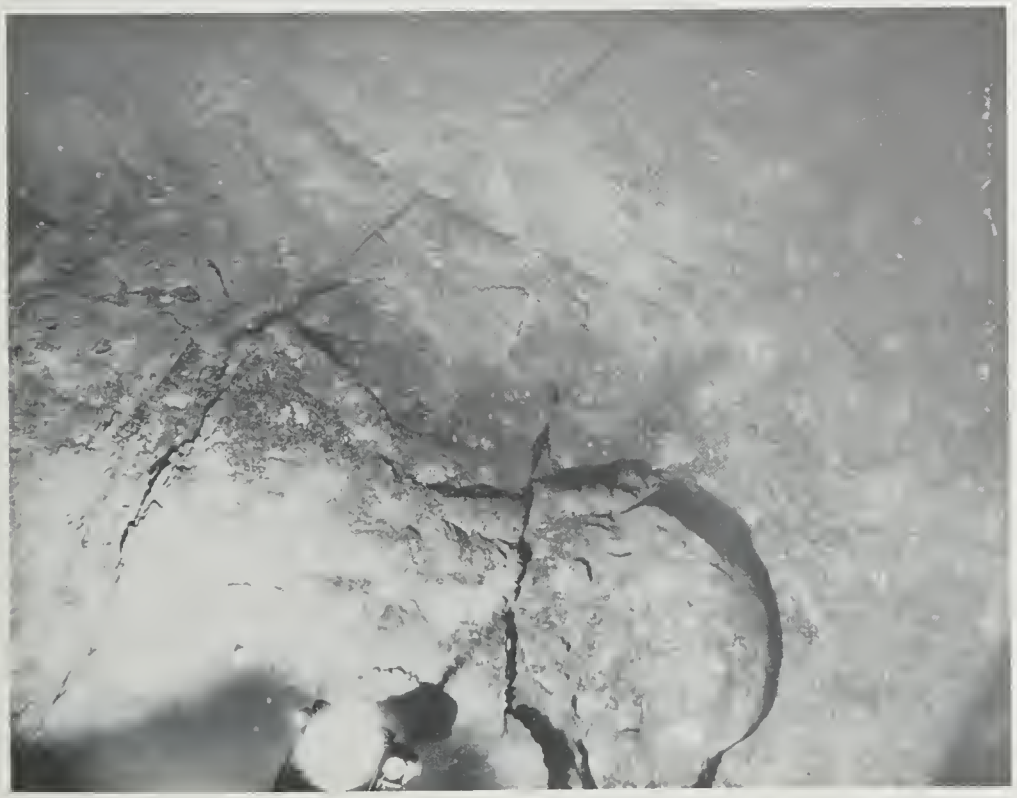
K36—1



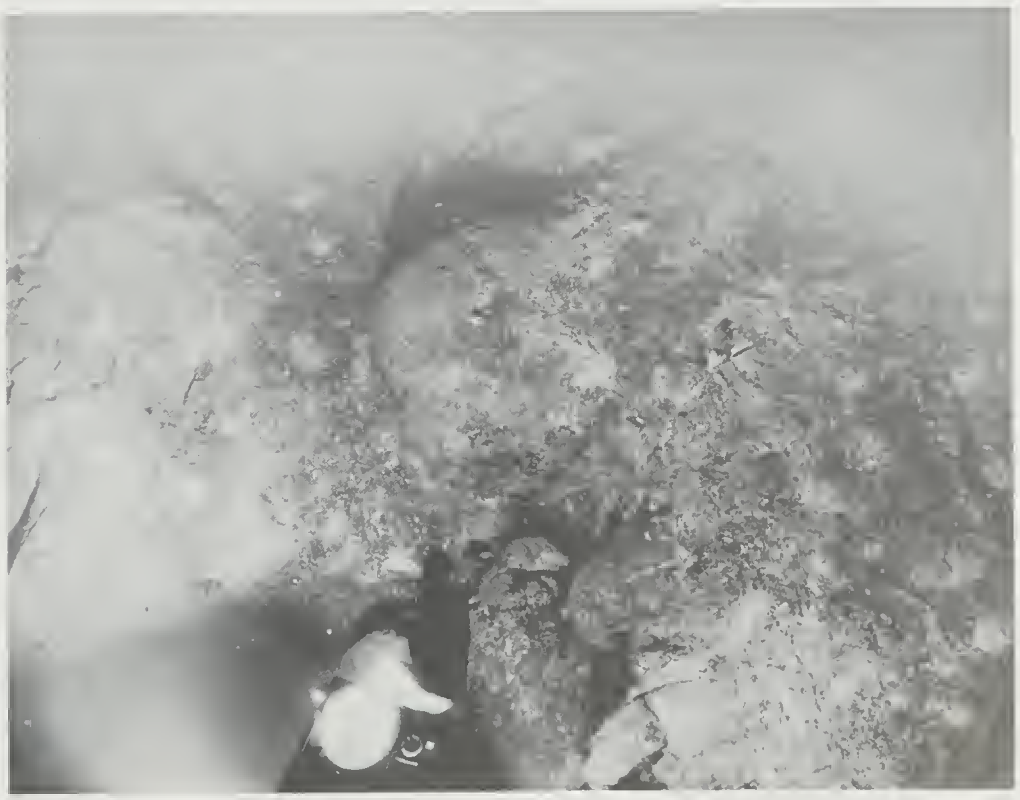
K36—2



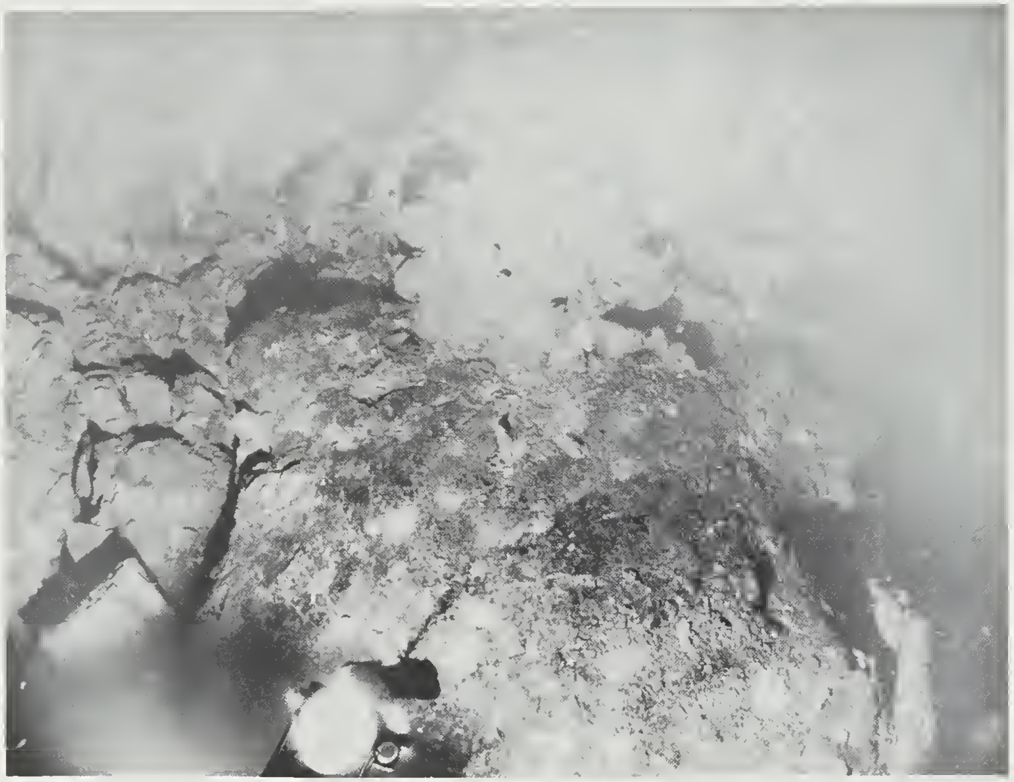
K36—3



K36—4



K36—5



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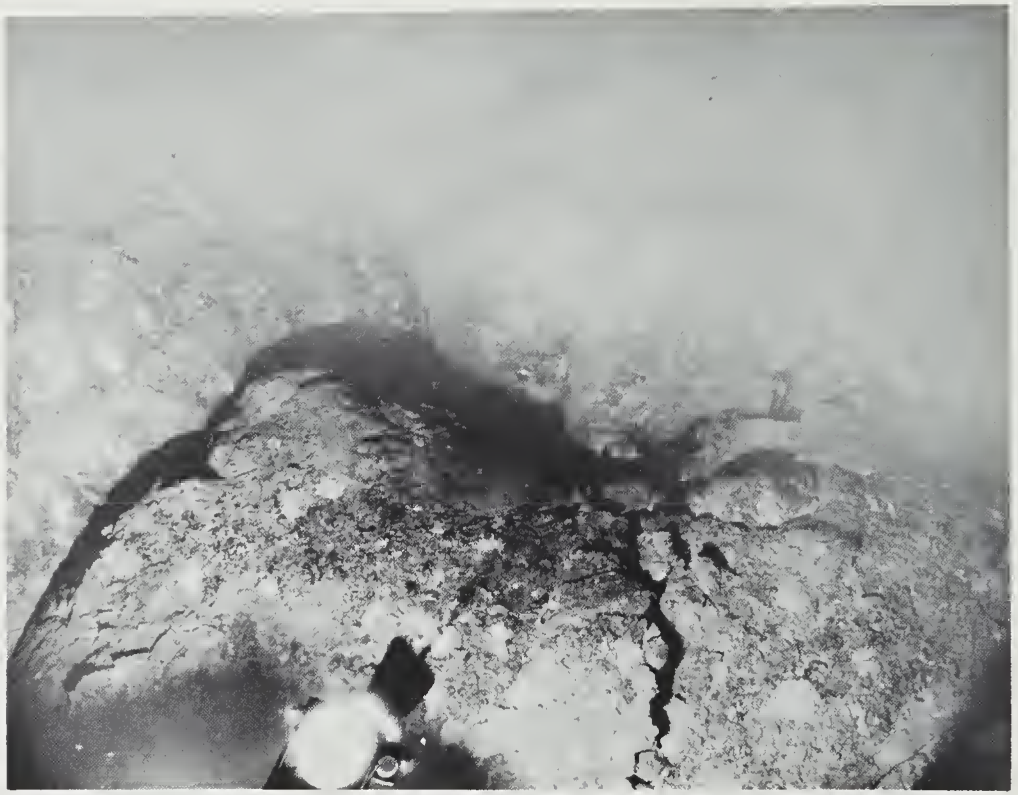
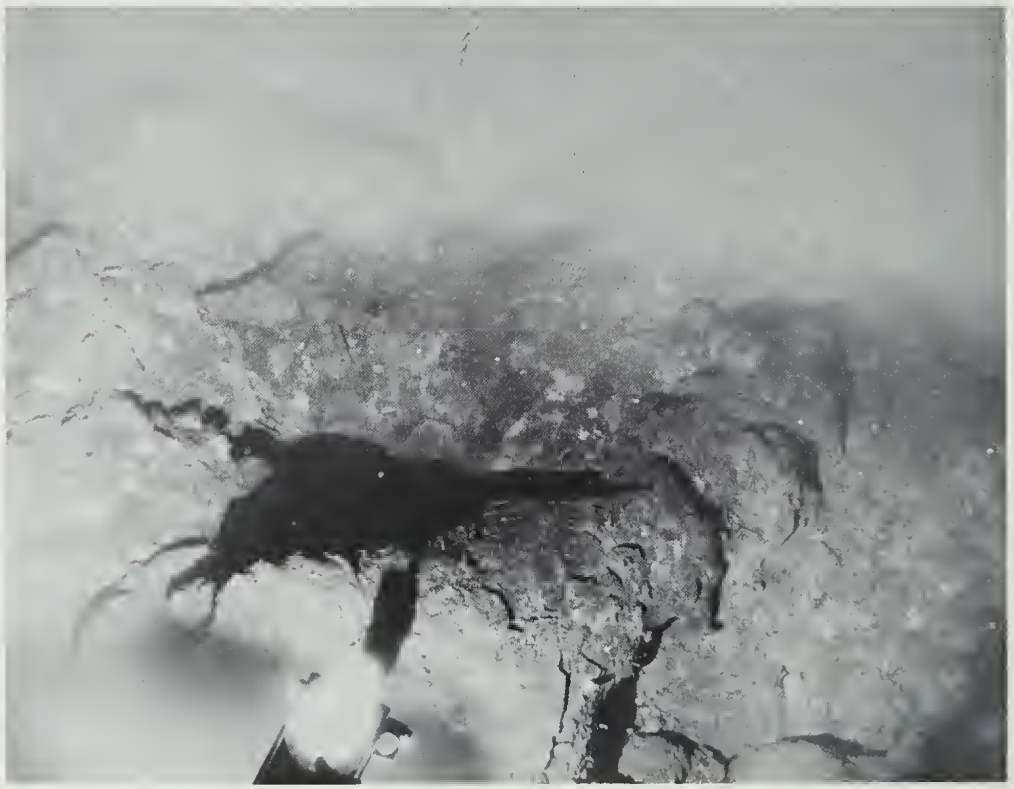
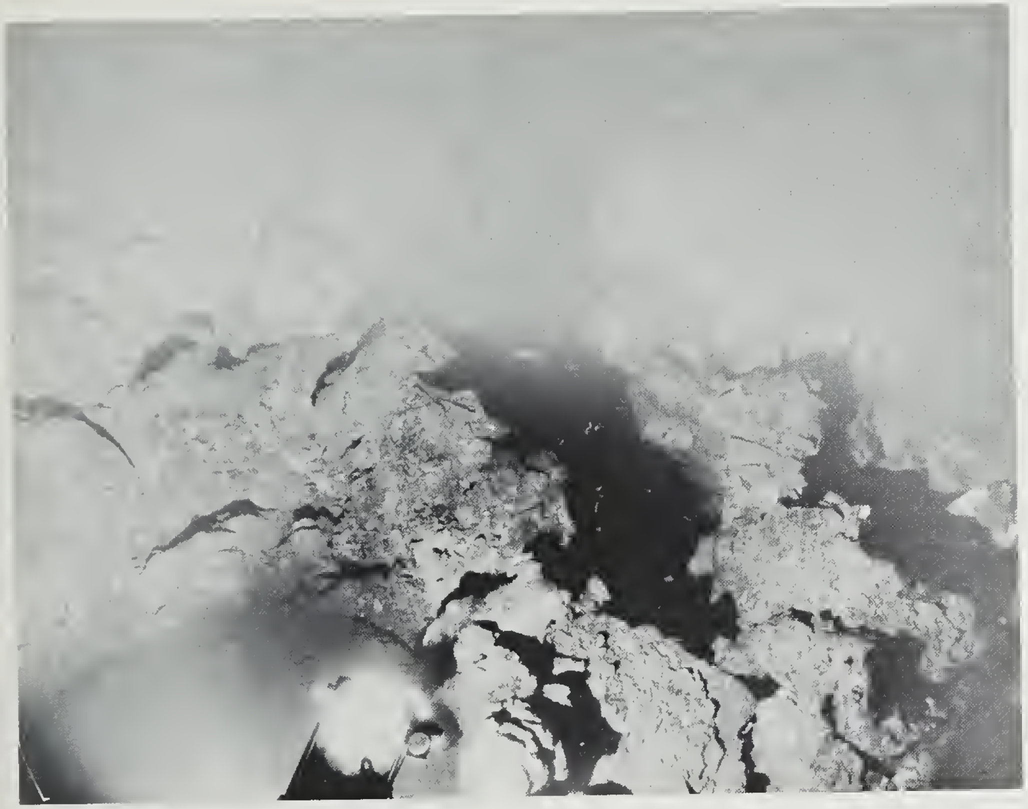


K36—7

K36—8



K36—9

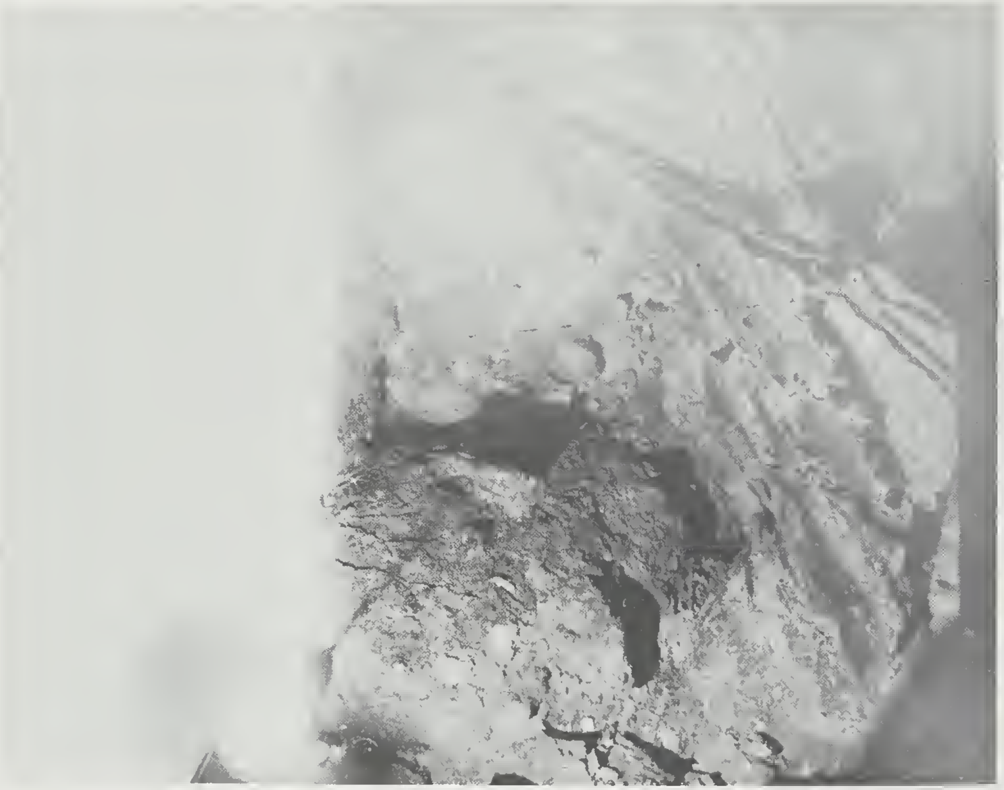


K36—10

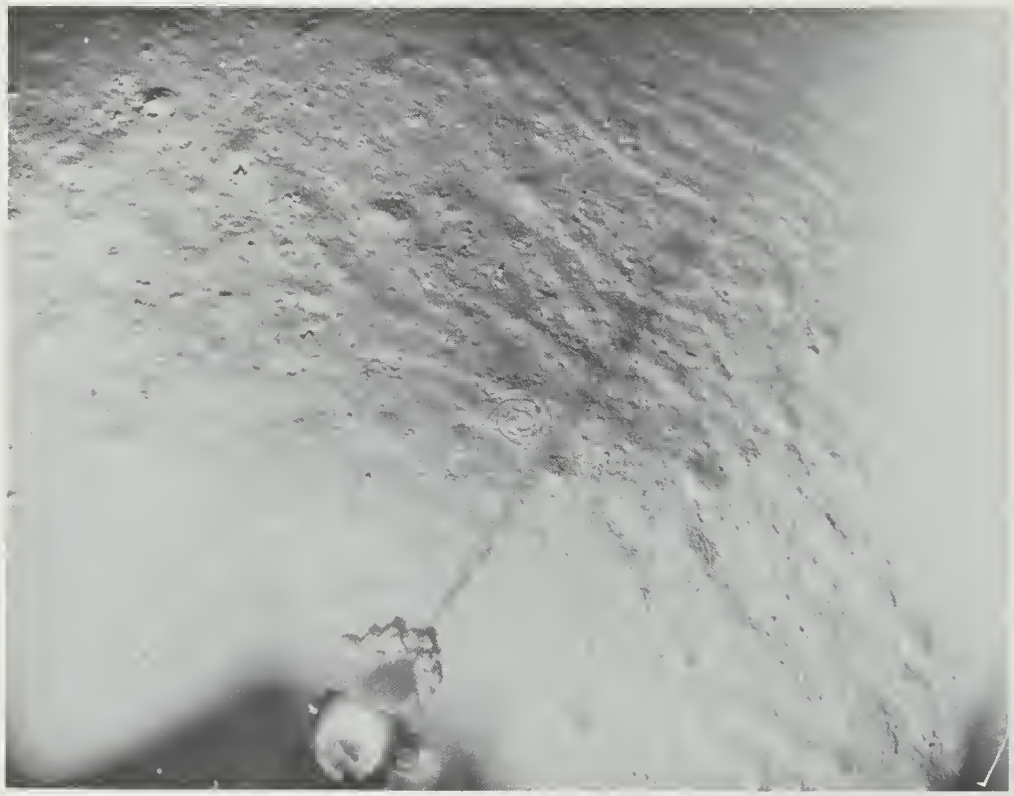
K36—11

K36—12

K36—13



K36—14

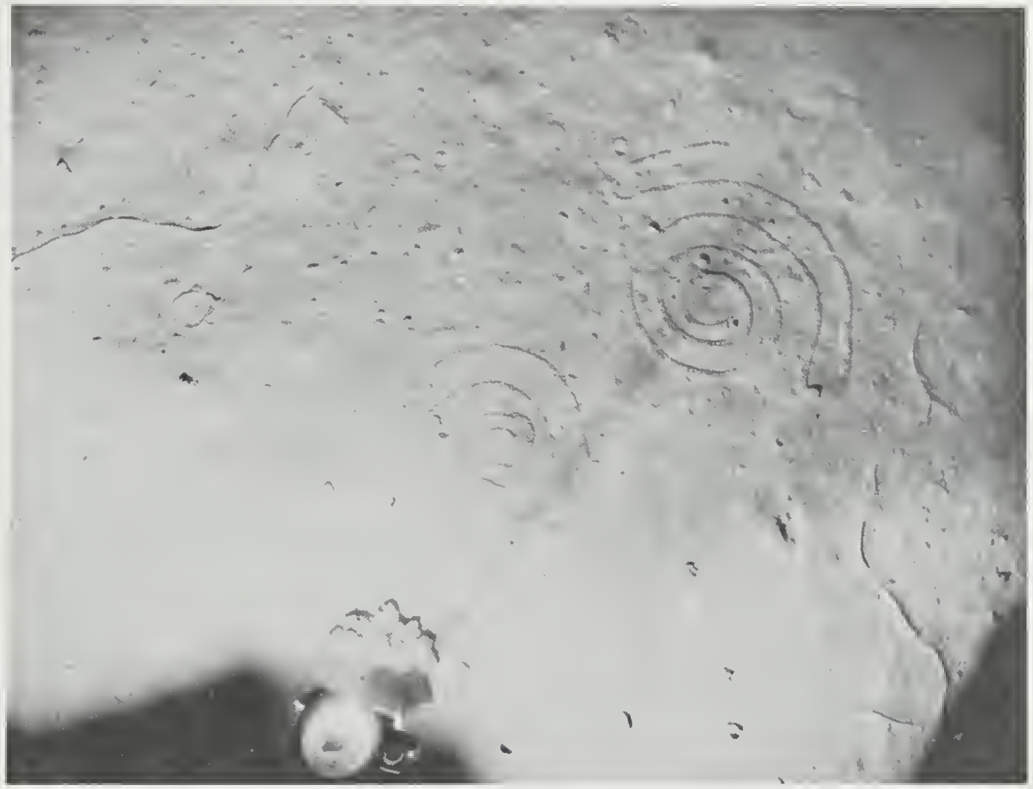


K37—1

K37—3

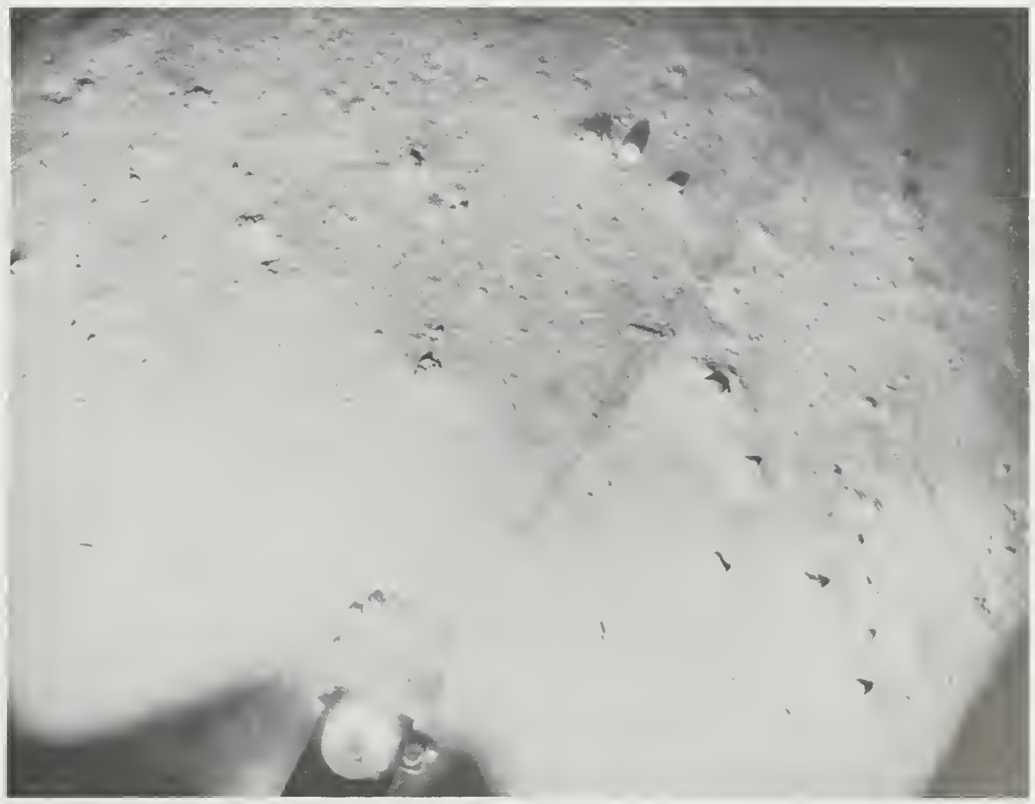
K37—7

K37—13



K38—5

K38—16



K38—17

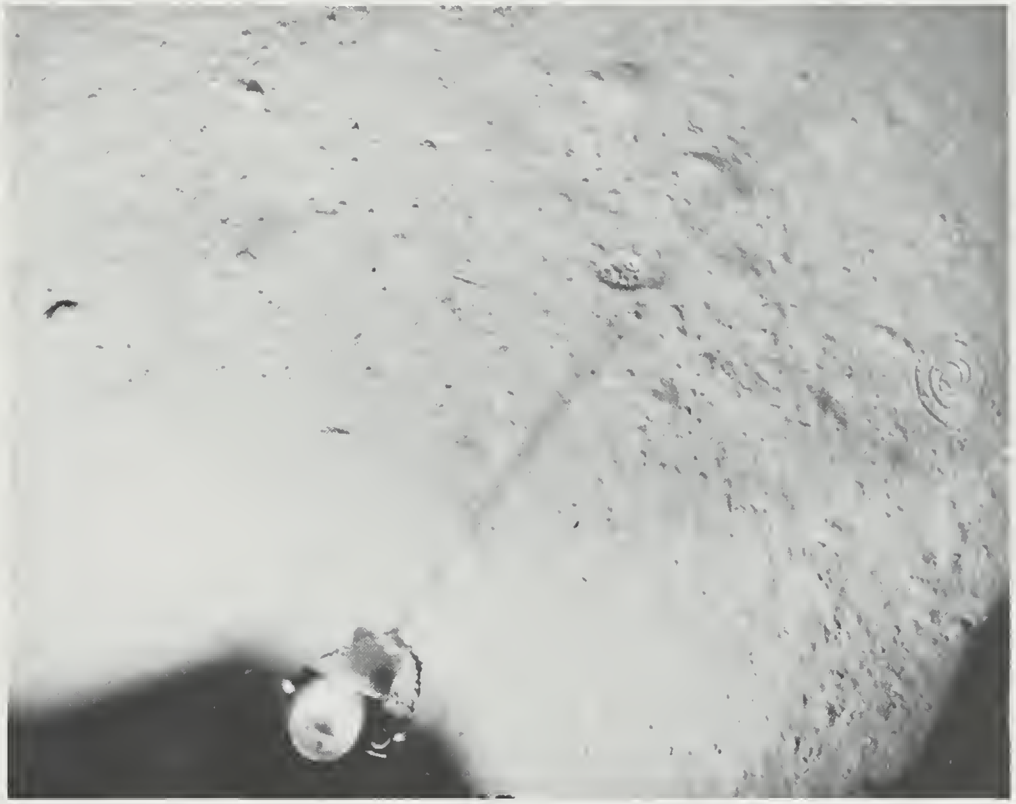
K39—2

K39-3

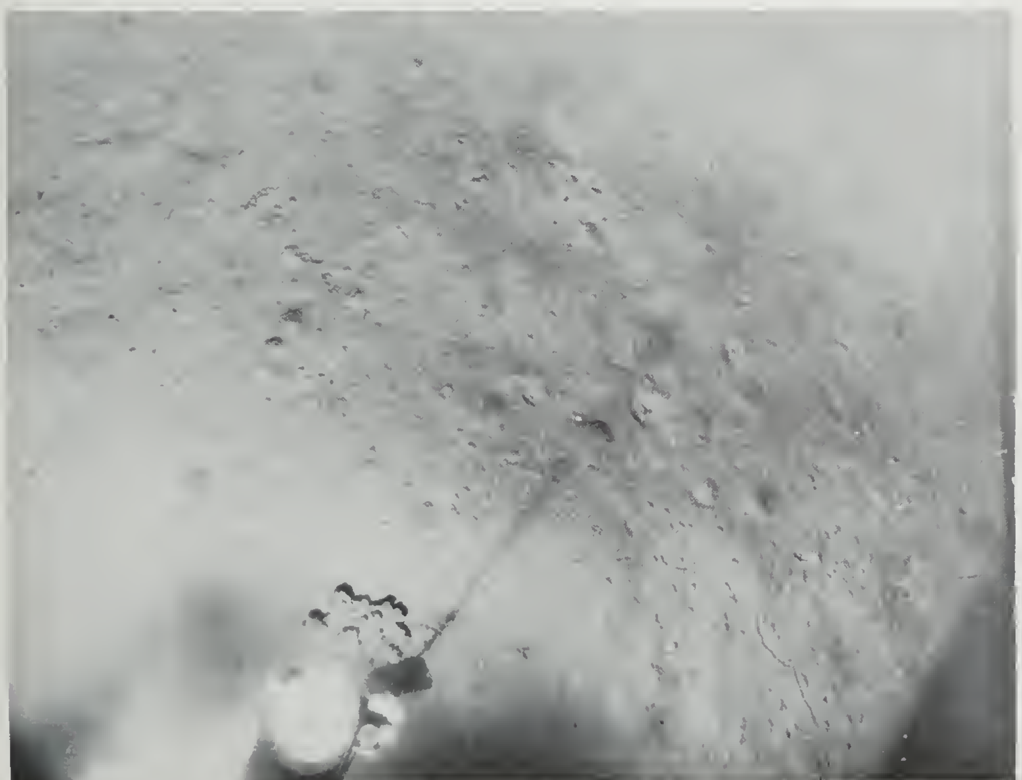
K39—4

K39—5

K40—14

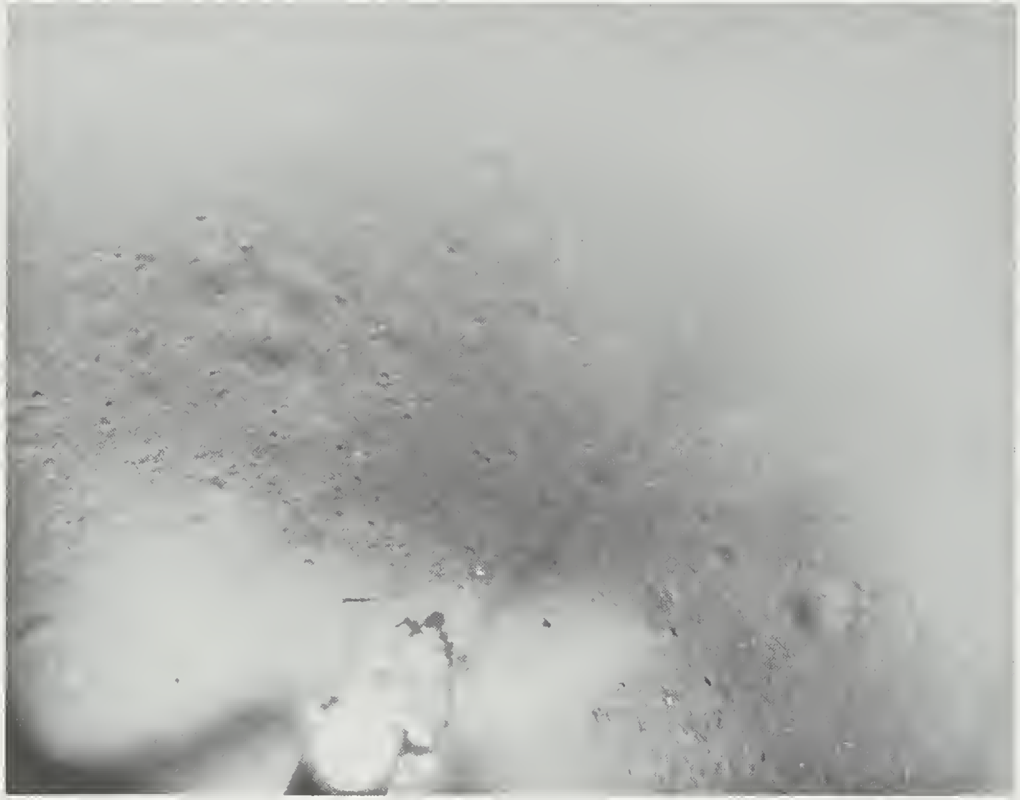


K40—18



K41—2

K41—5

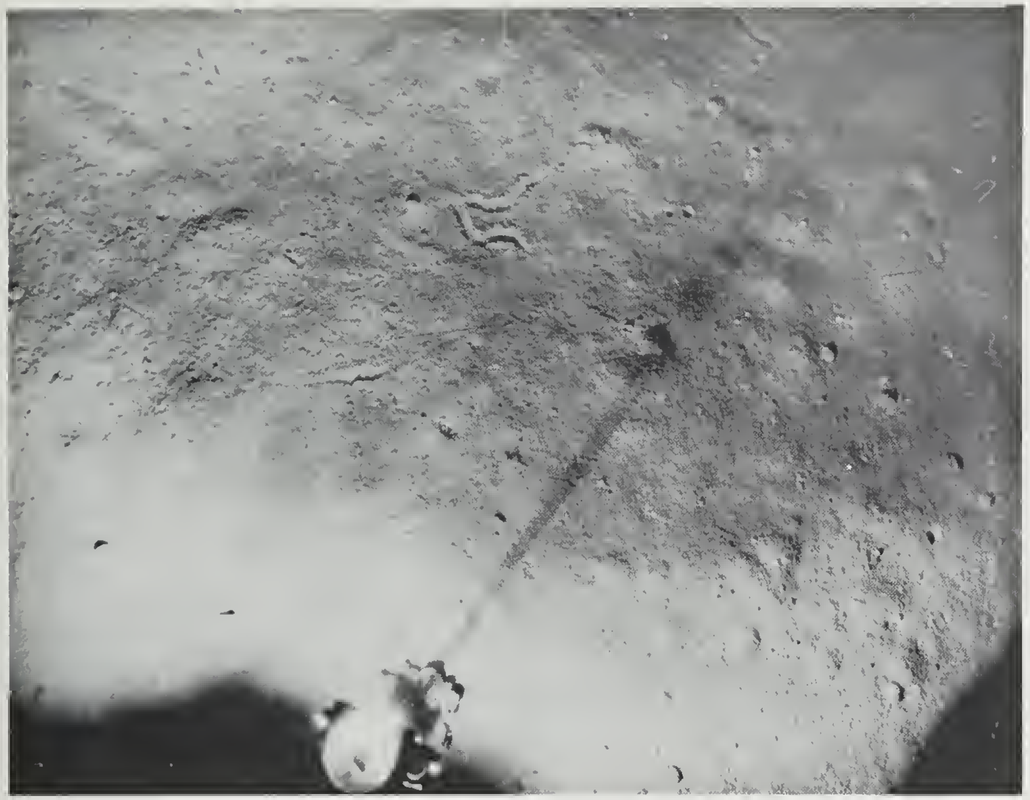


K42—4

K43—1

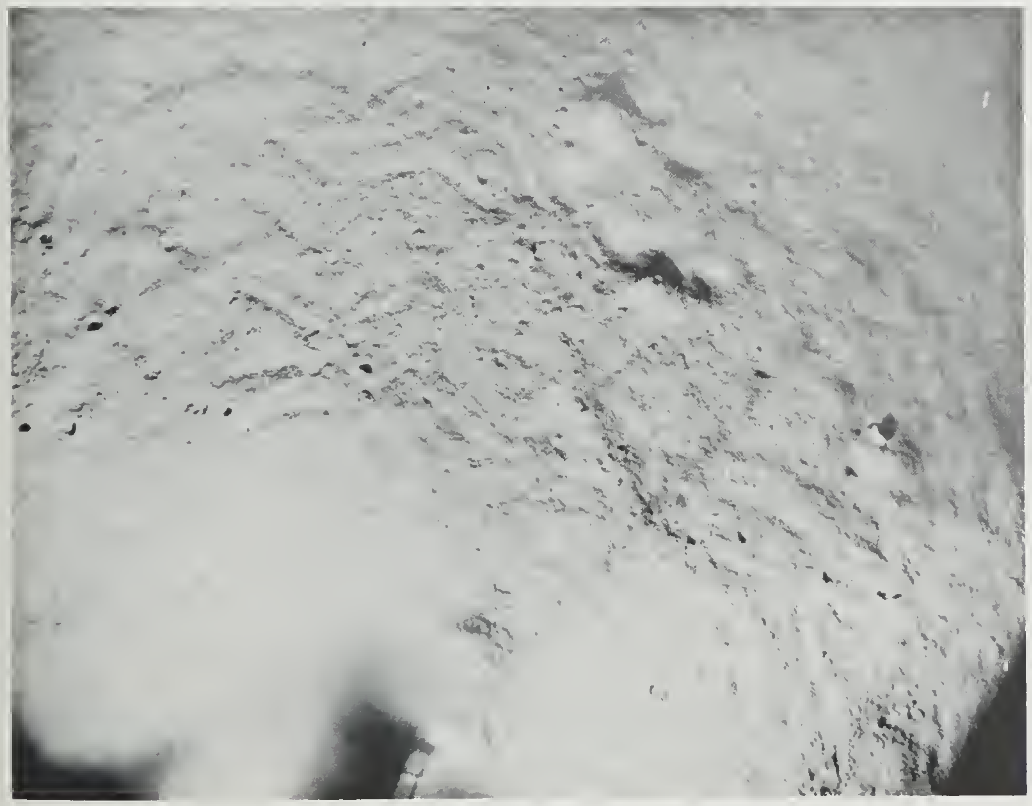
K43—2

K43—4

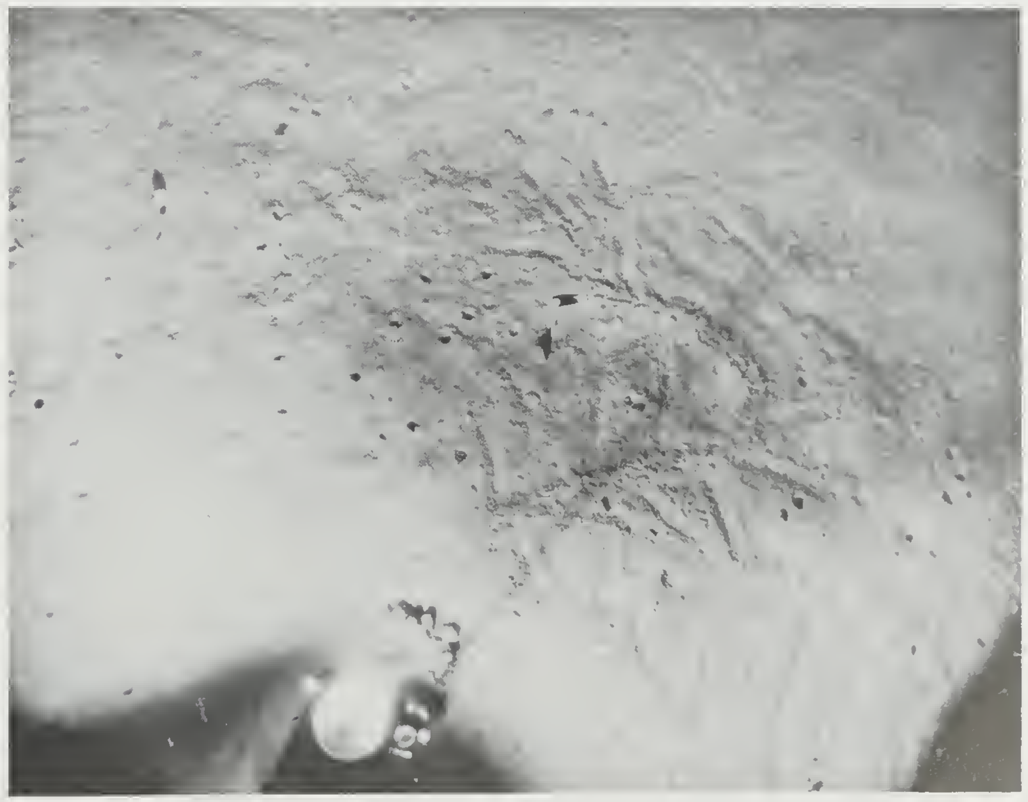


K43—7

K44—1



K44—2



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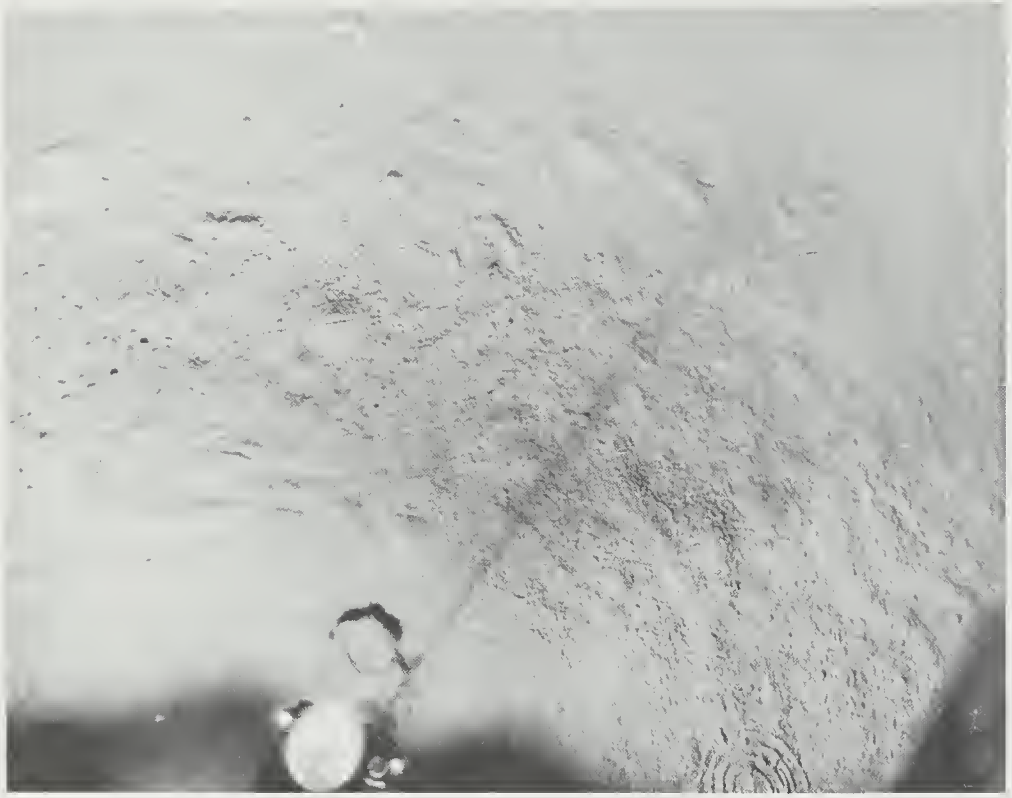
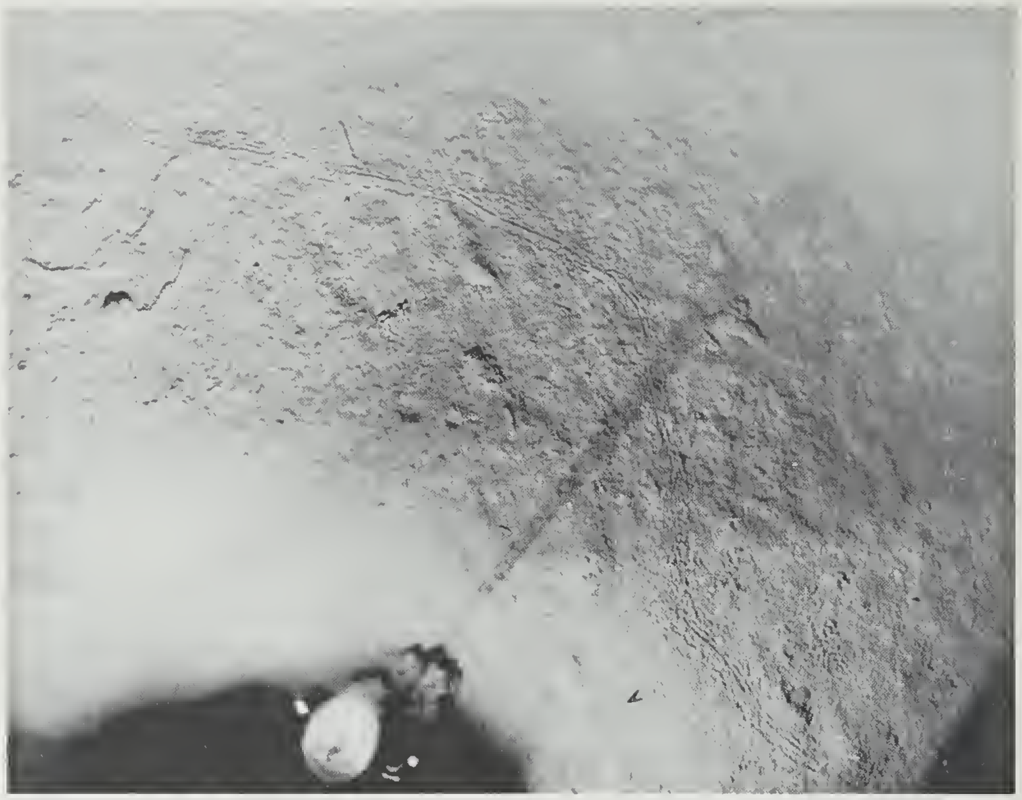
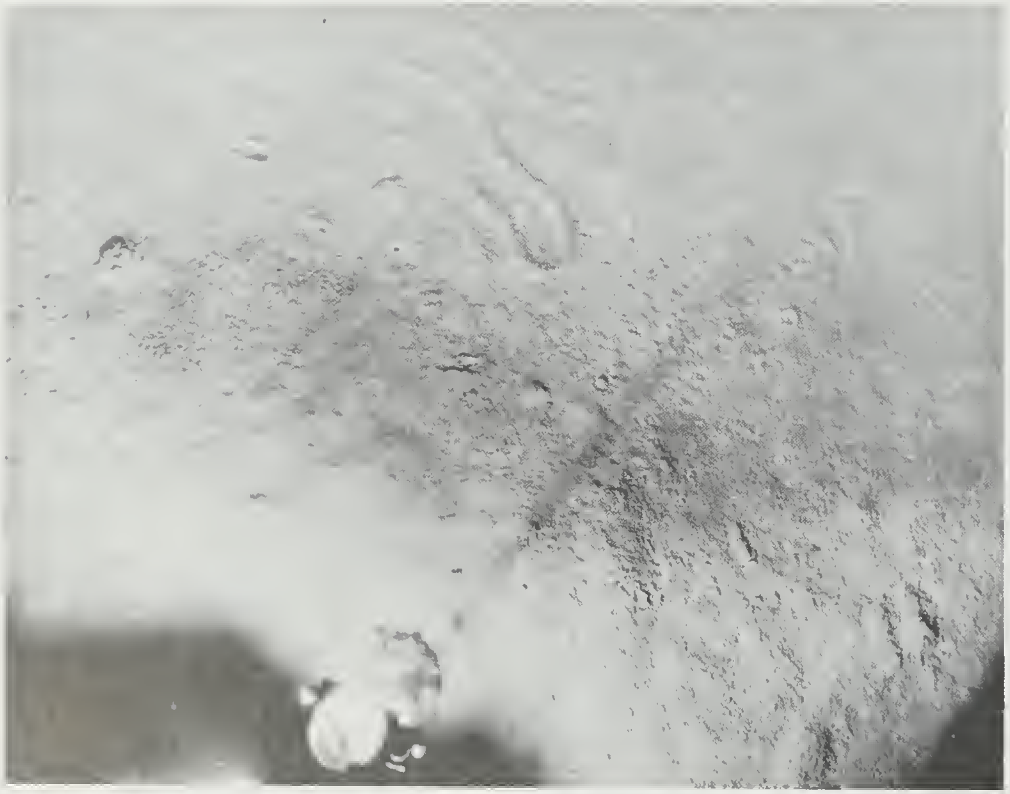


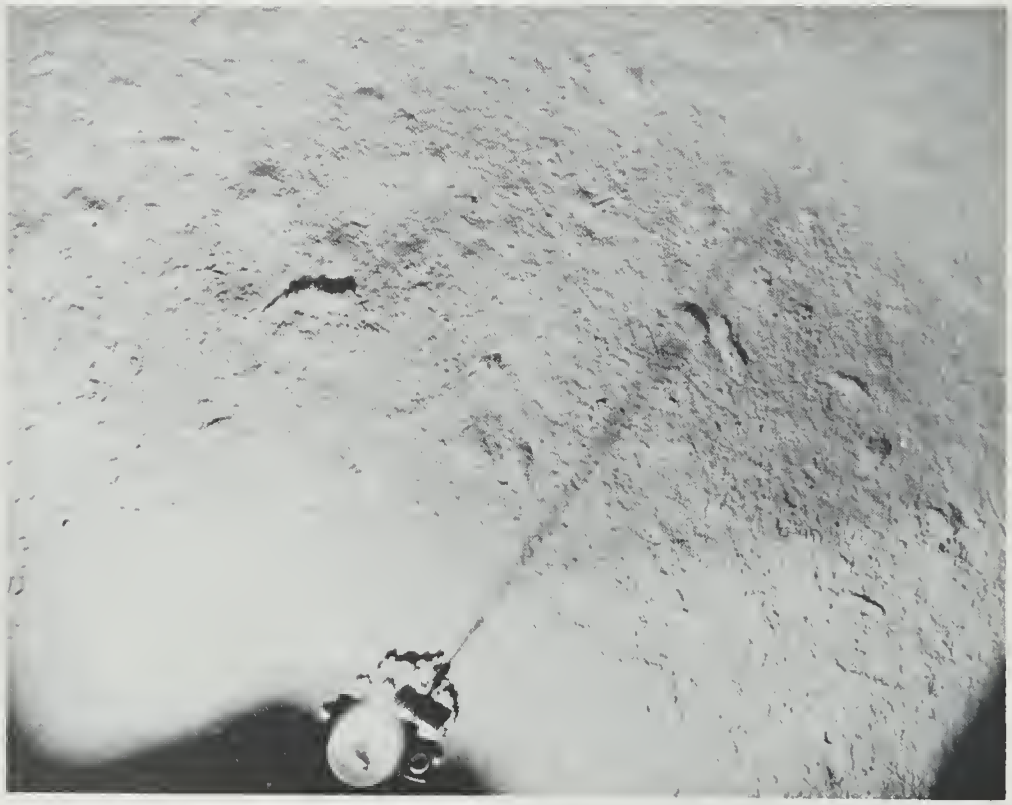
K45—3



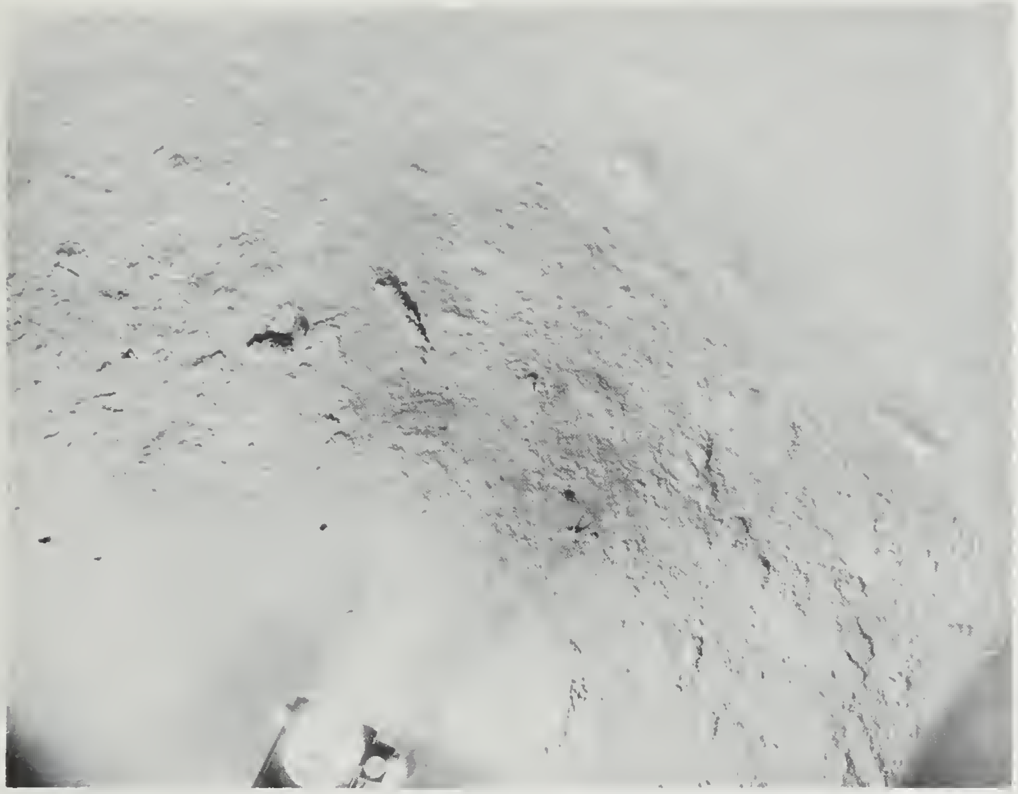
K45—7



K45—8



K46—1



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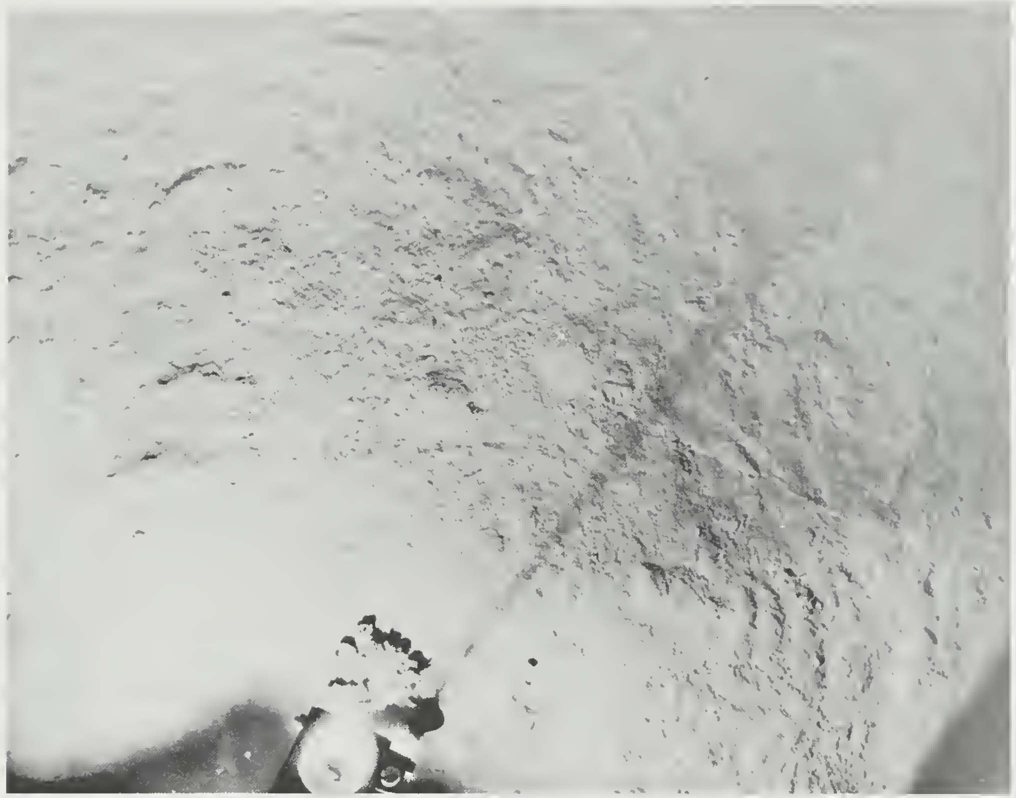
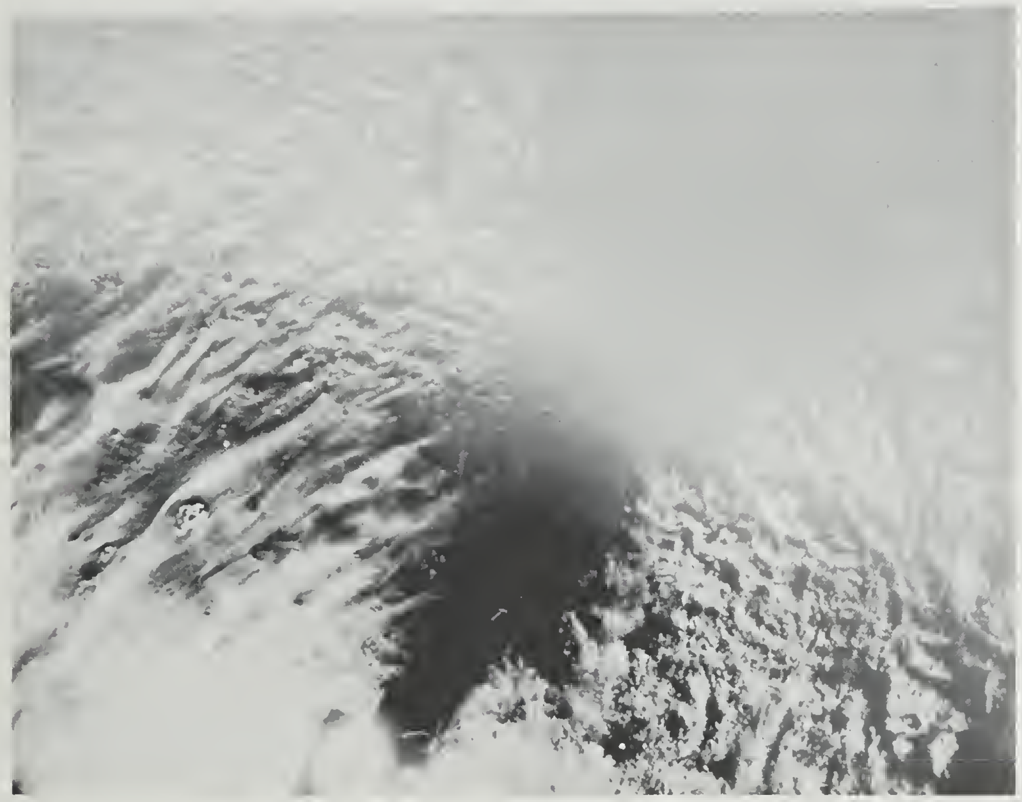
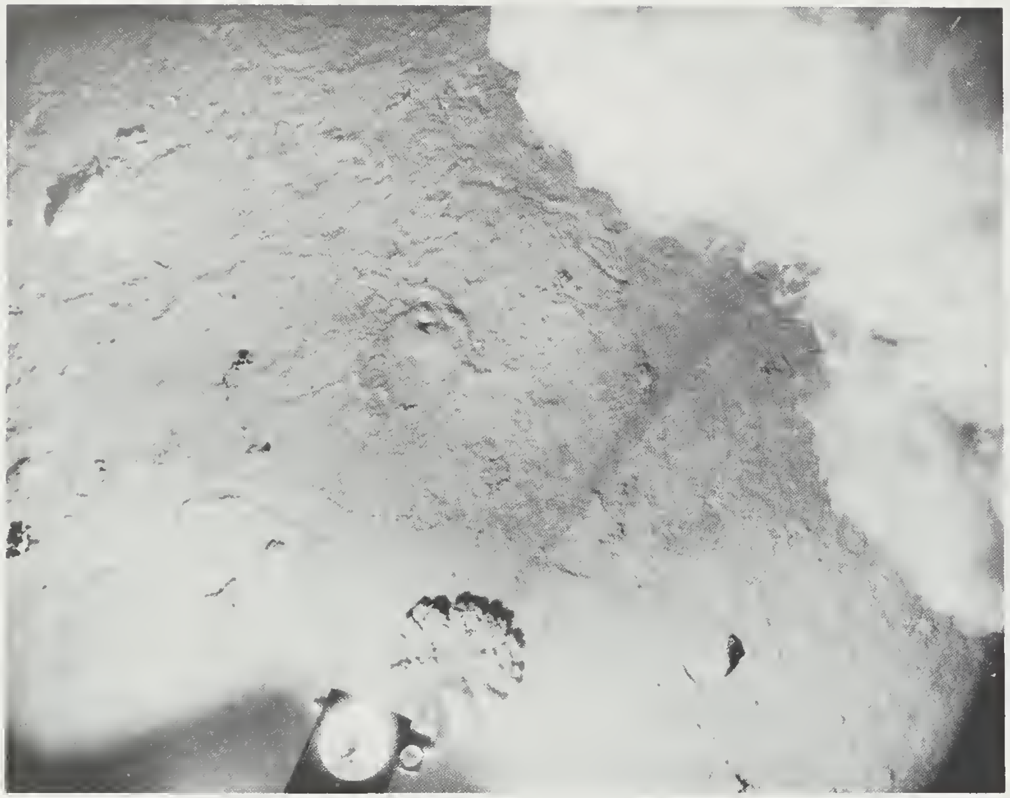


K46—5

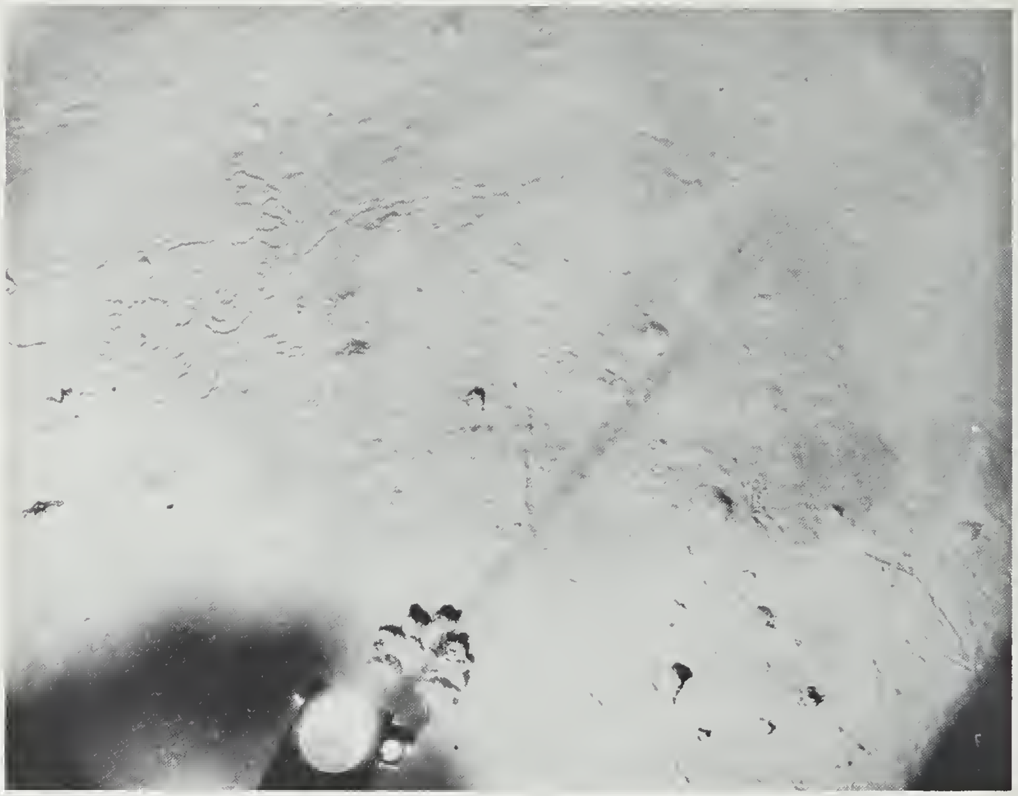


K47—2

K47—3

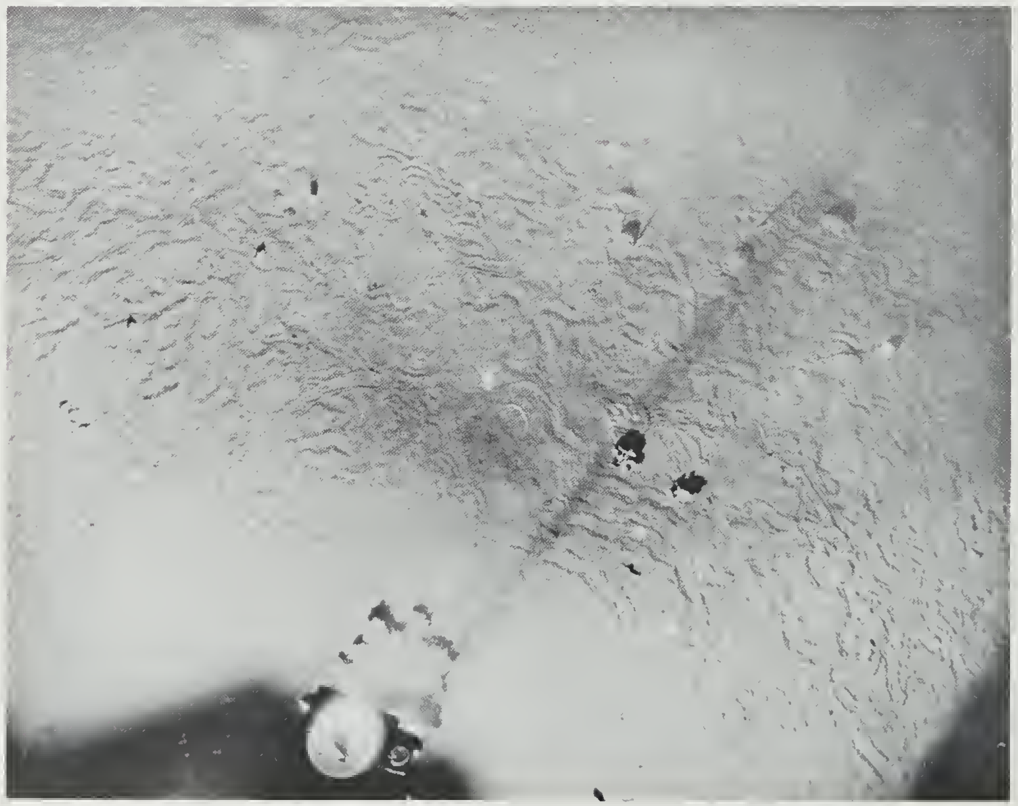


K47—8

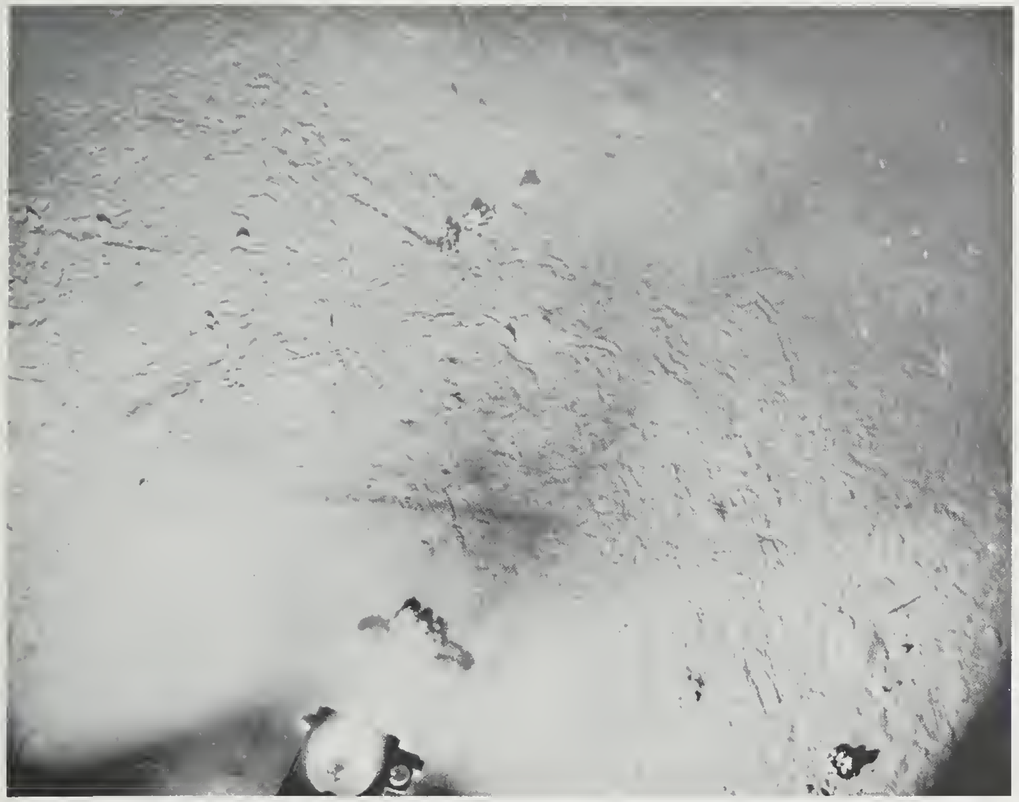


K47—10

K48—2



K48—4



K48—7

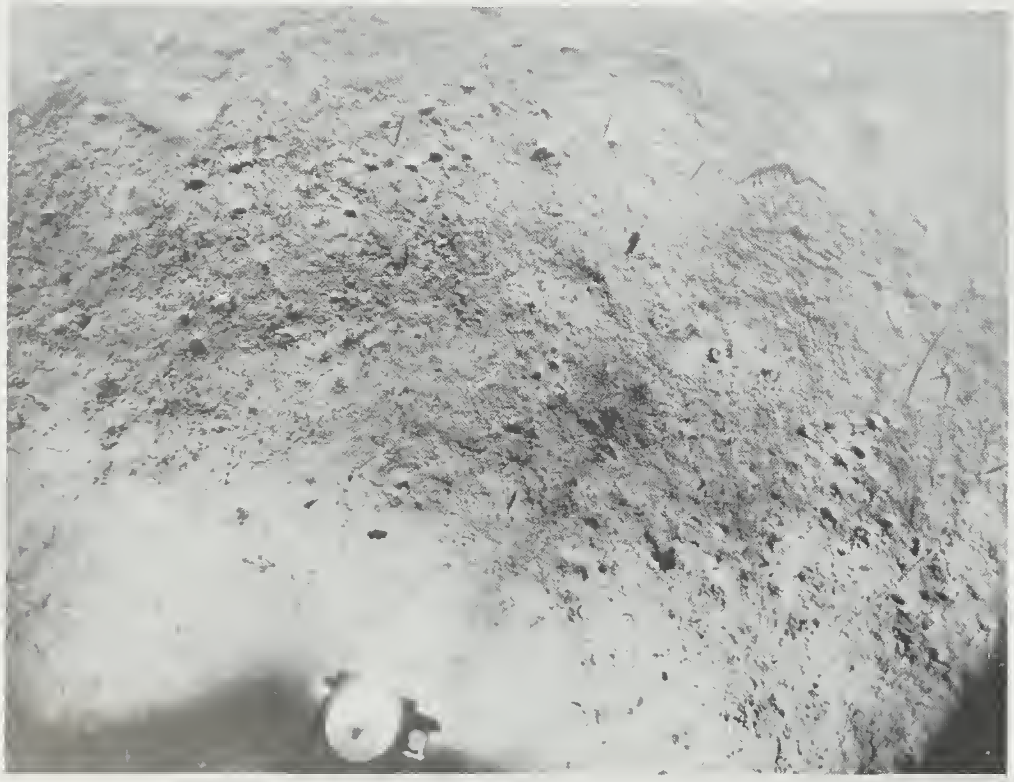
K49— 2

K49—4

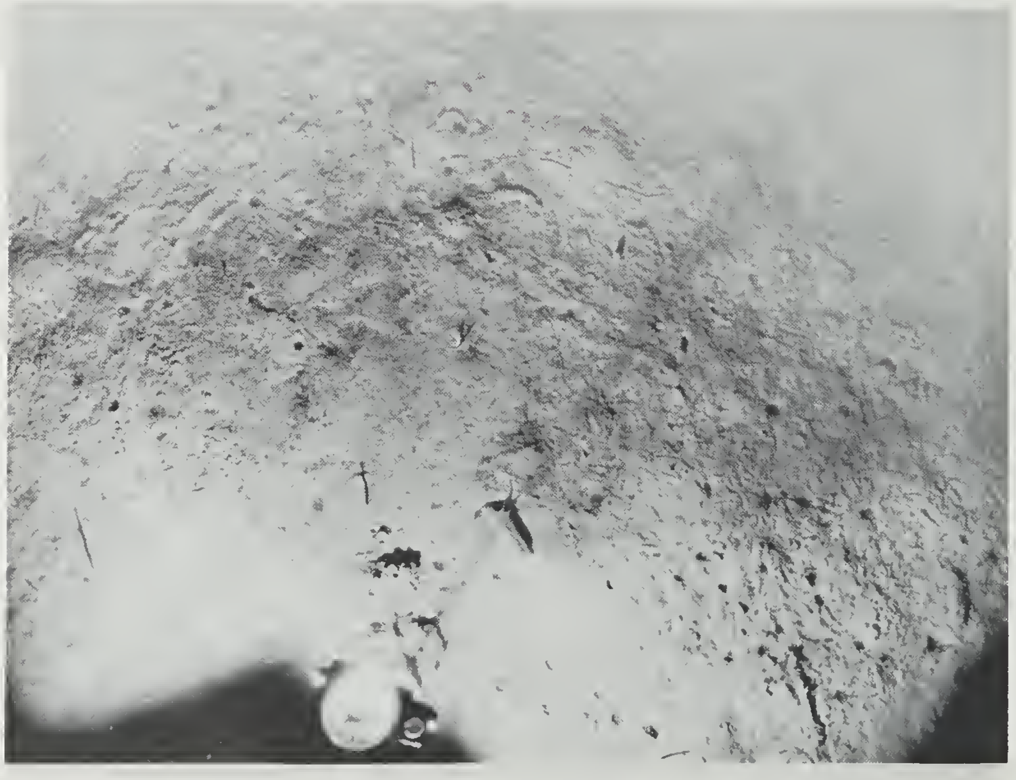
K49—7

K49—9

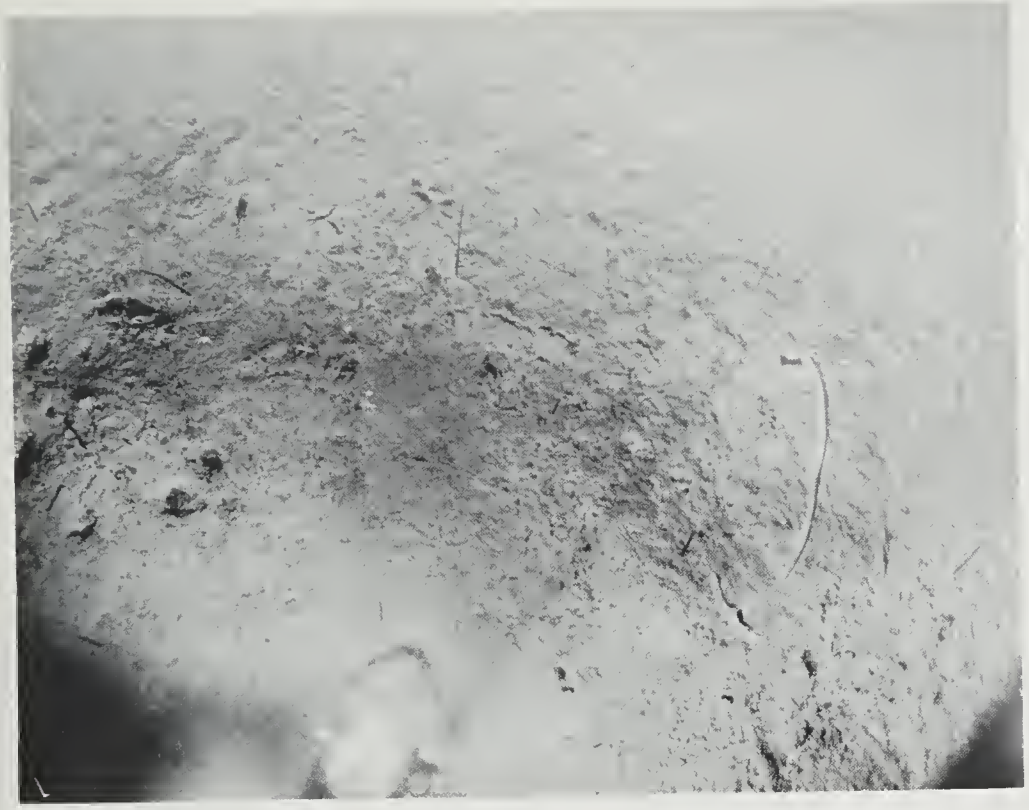
K50— 2



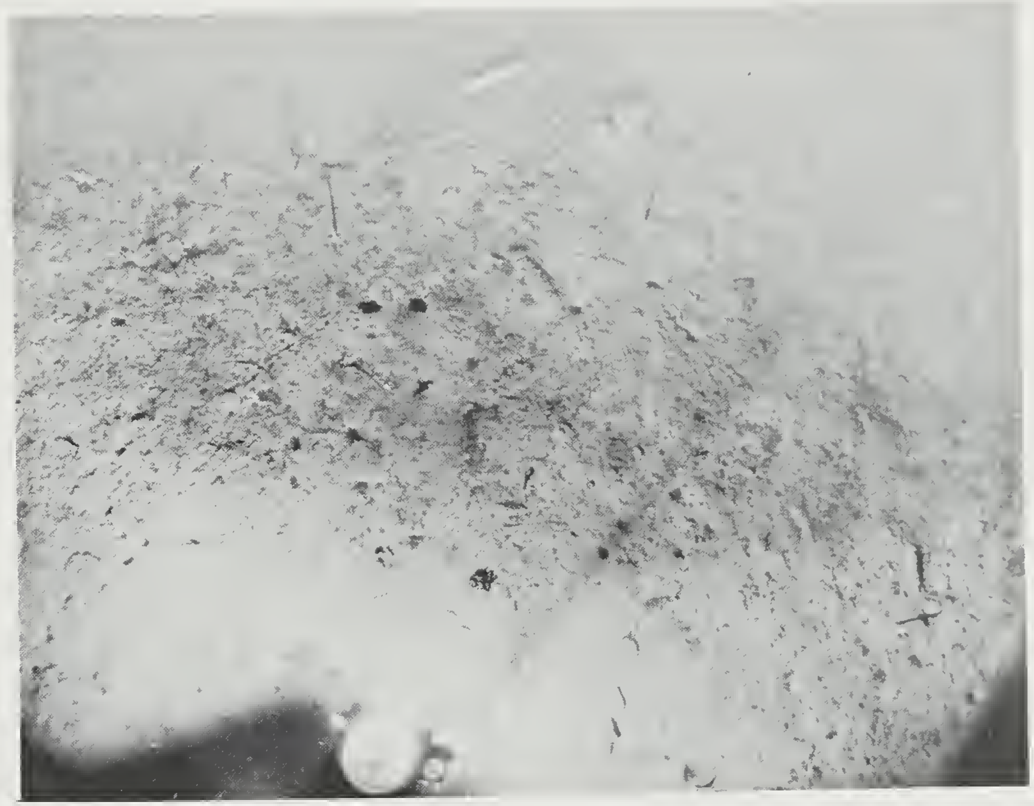
K50—4



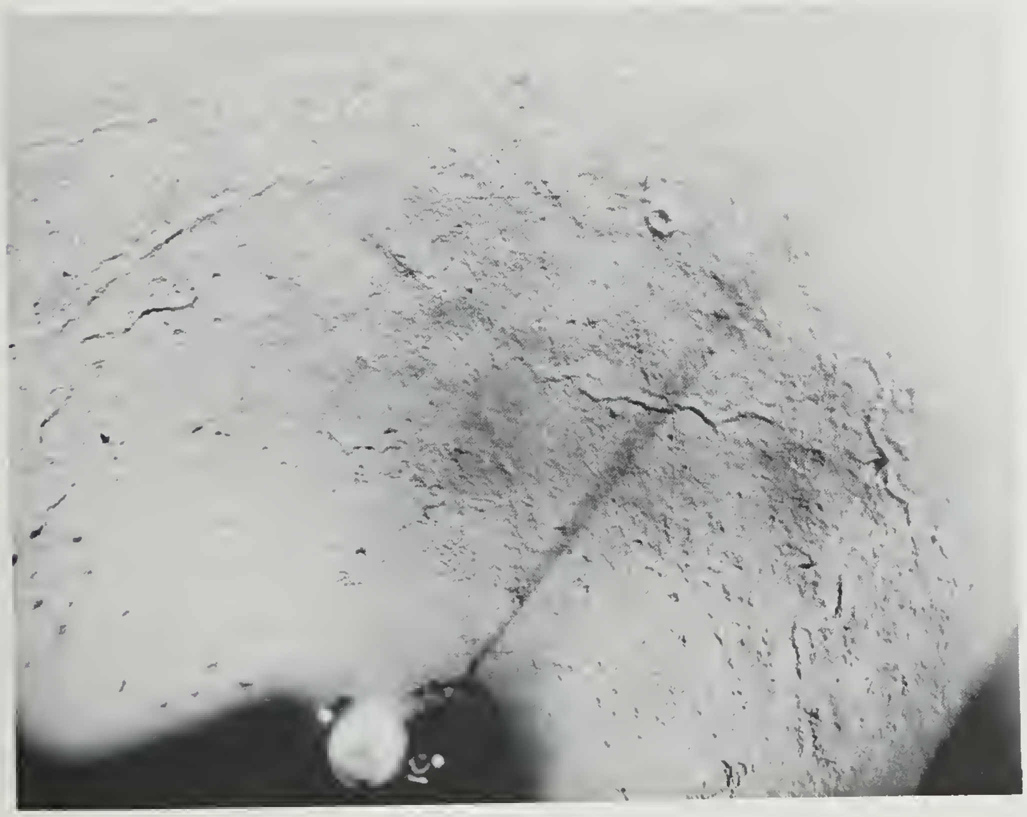
K50— 7



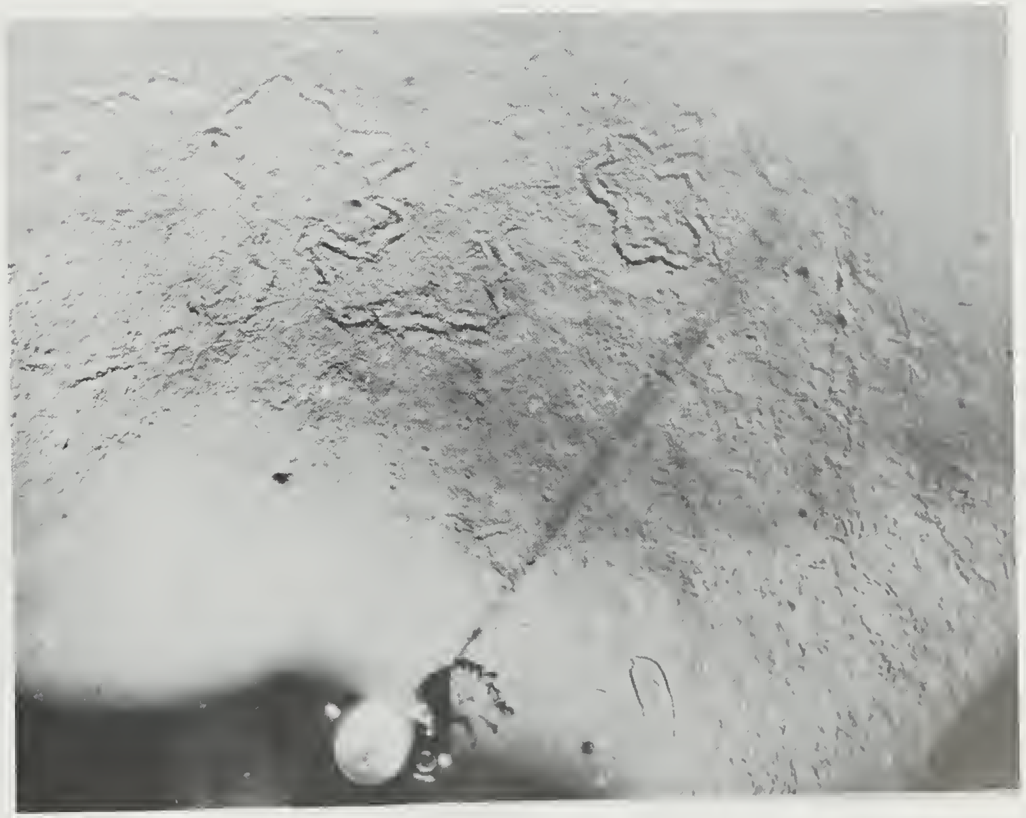
K50—9



K50—13



K51— 1

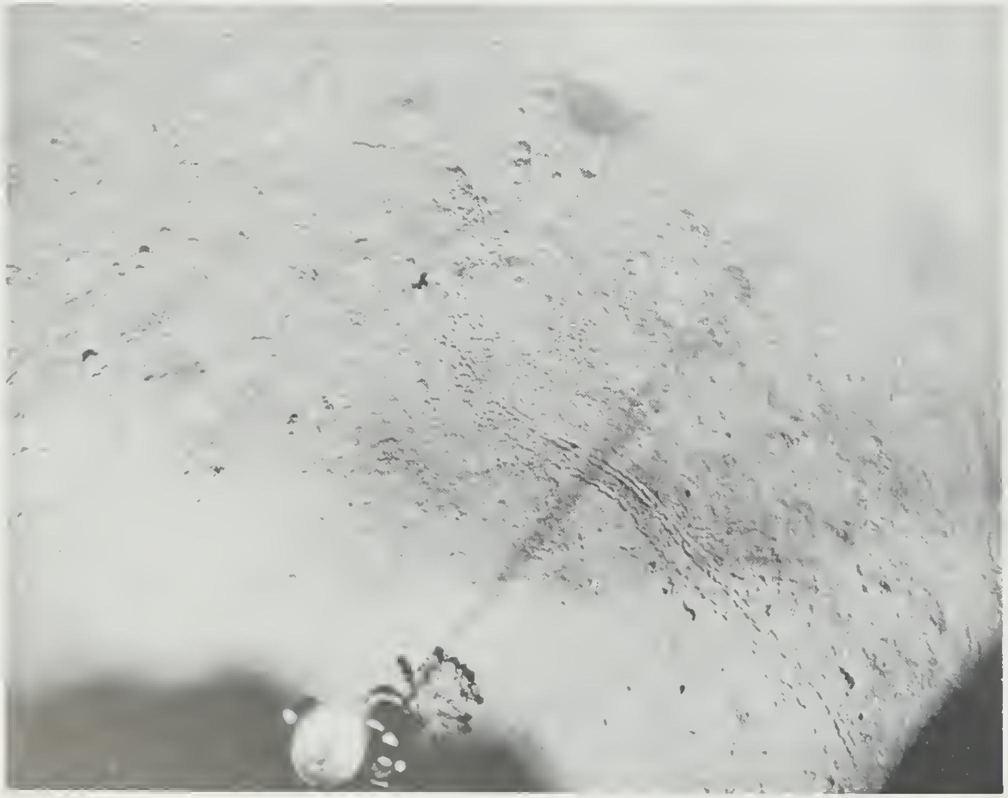


K51—3

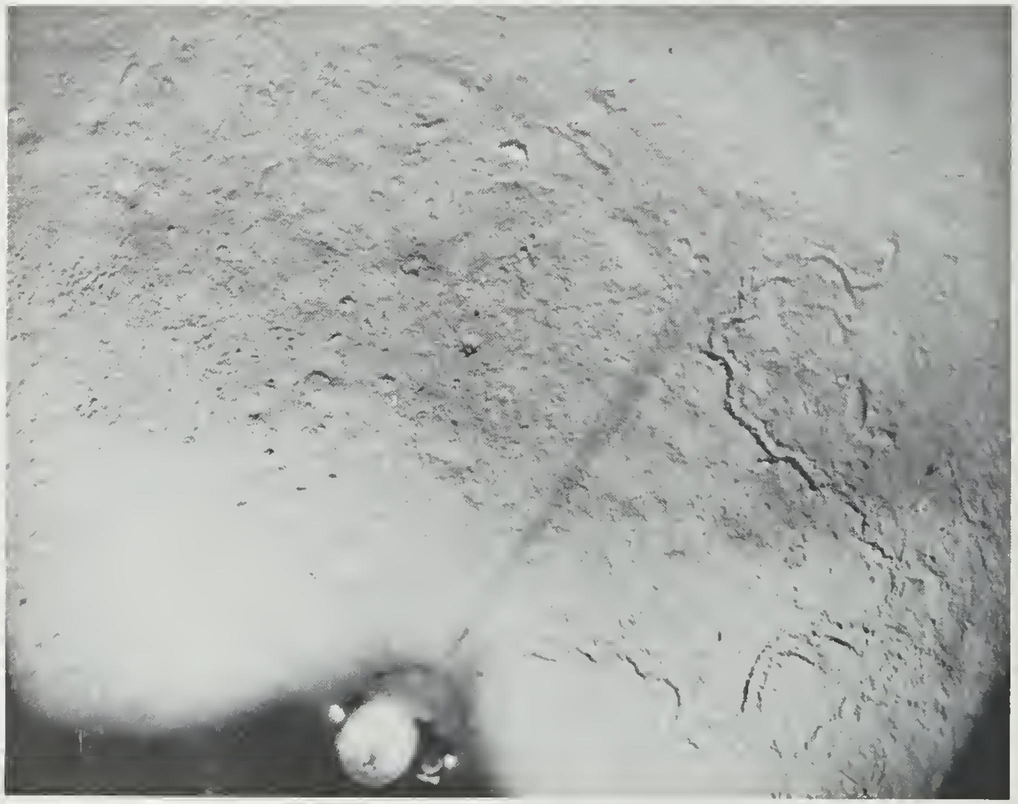
53

K51—14

K51—15



K51—17



K52—10

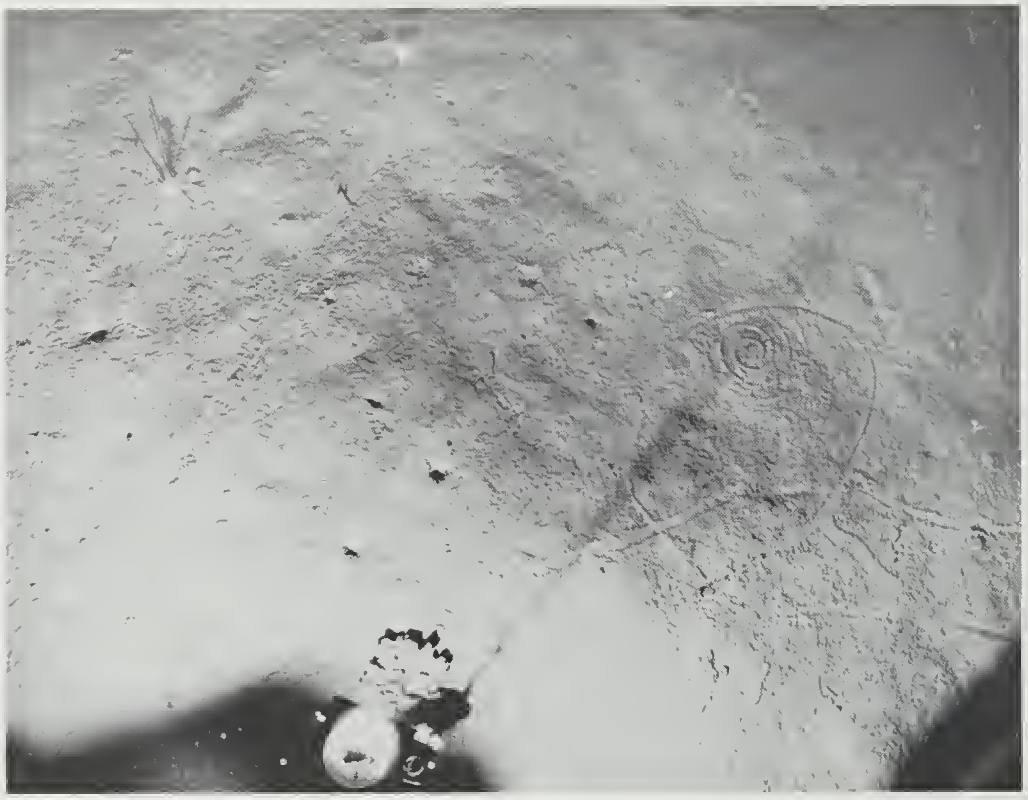
K52—12

K52—14

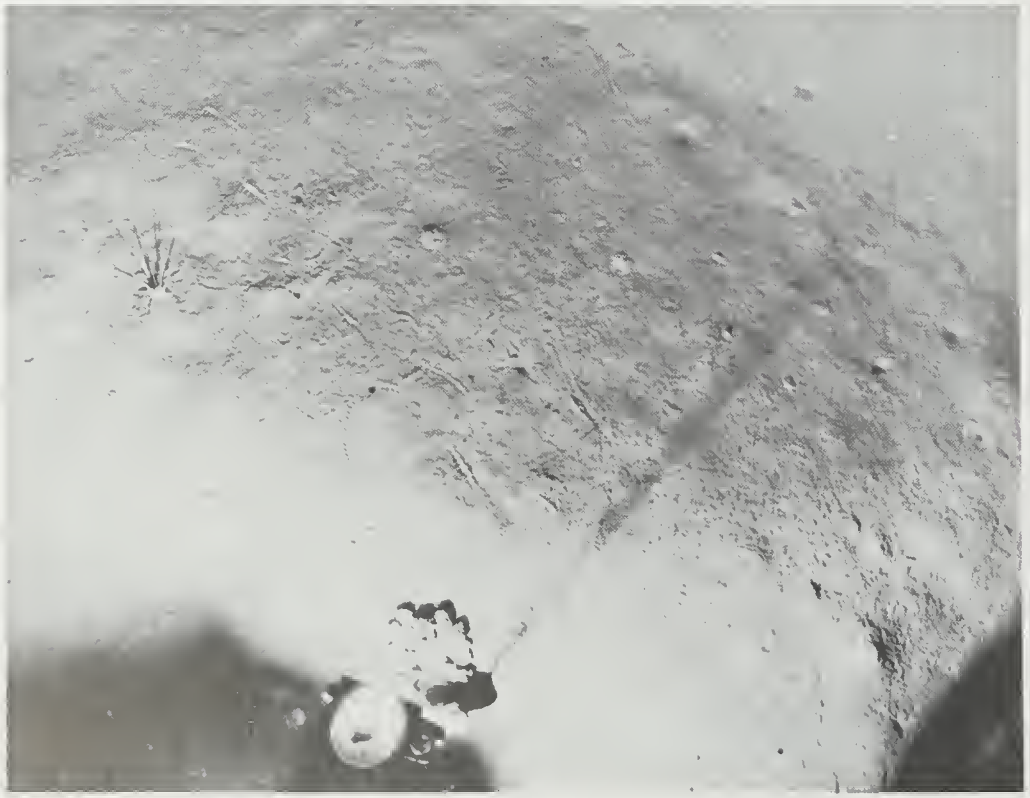
K52—15

K53—3

K53—4

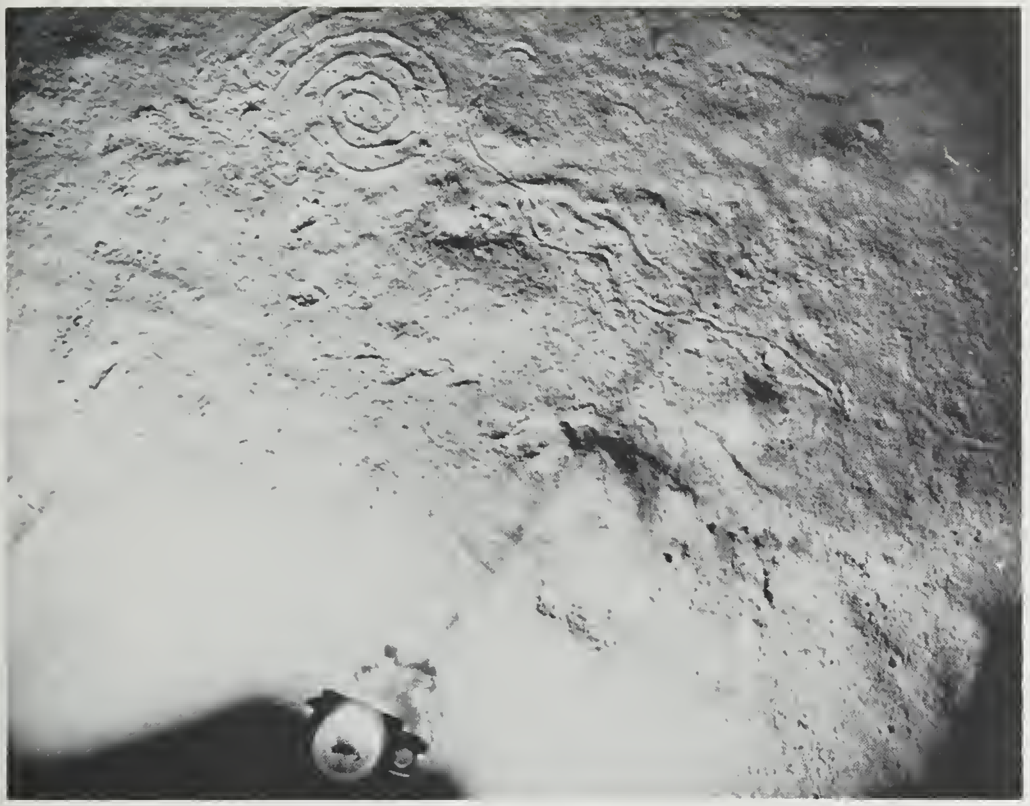


K53—7

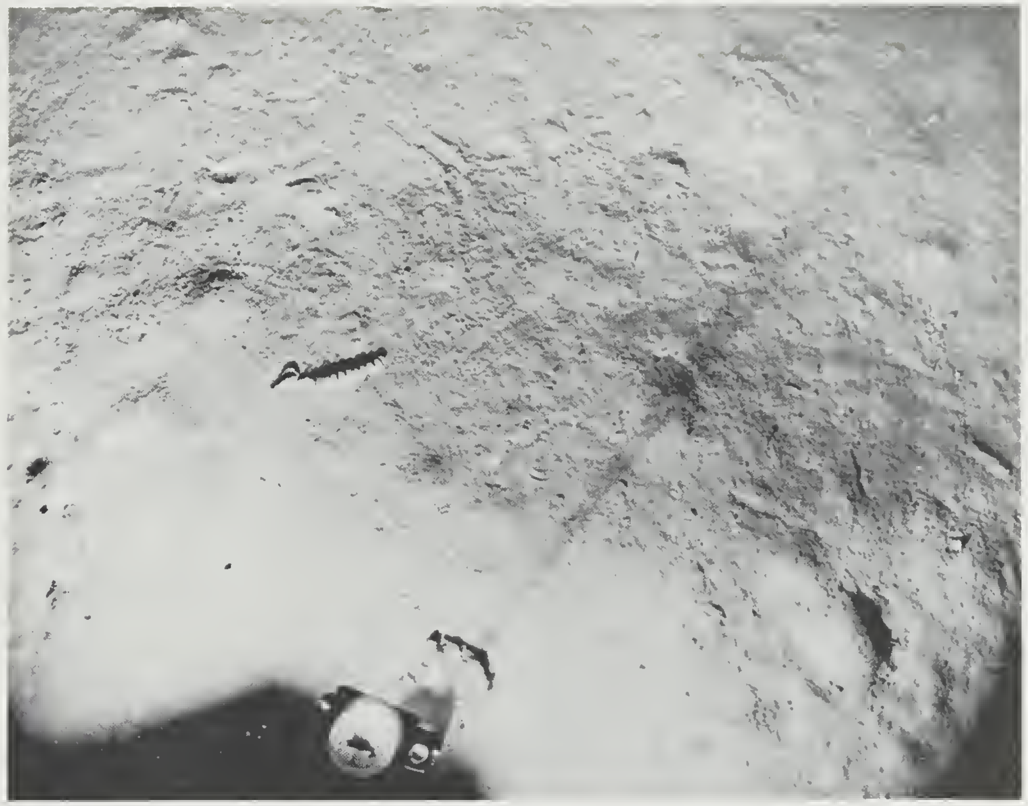


K53—8

K54—22

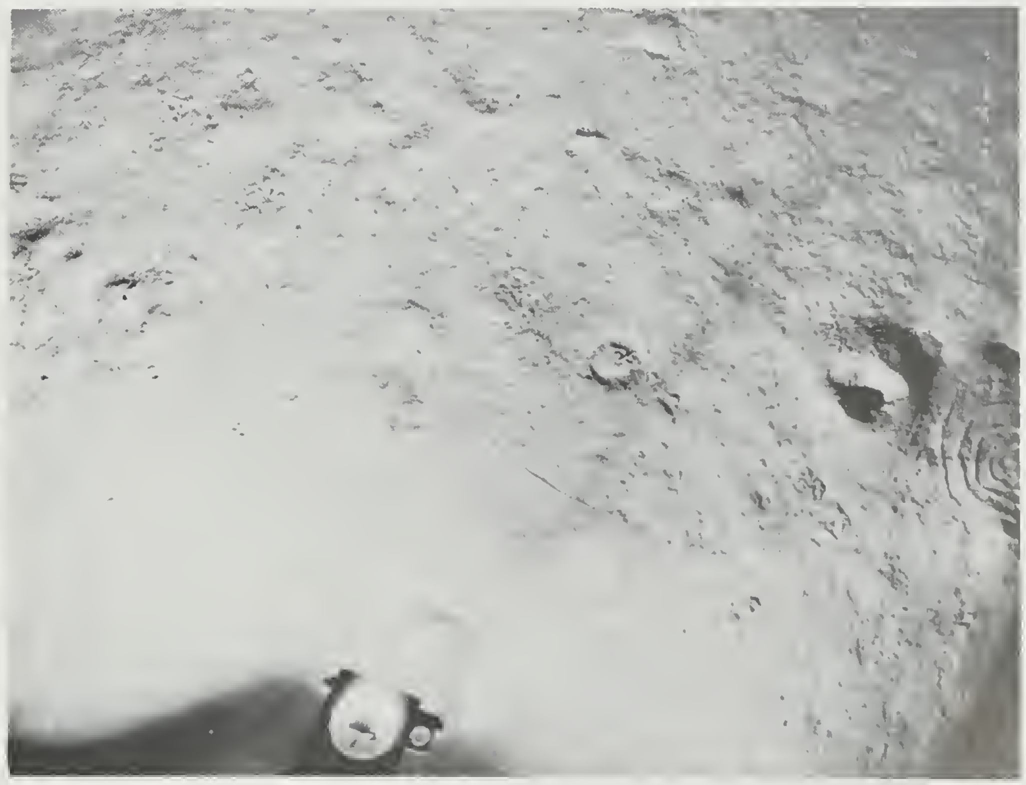


K54—24



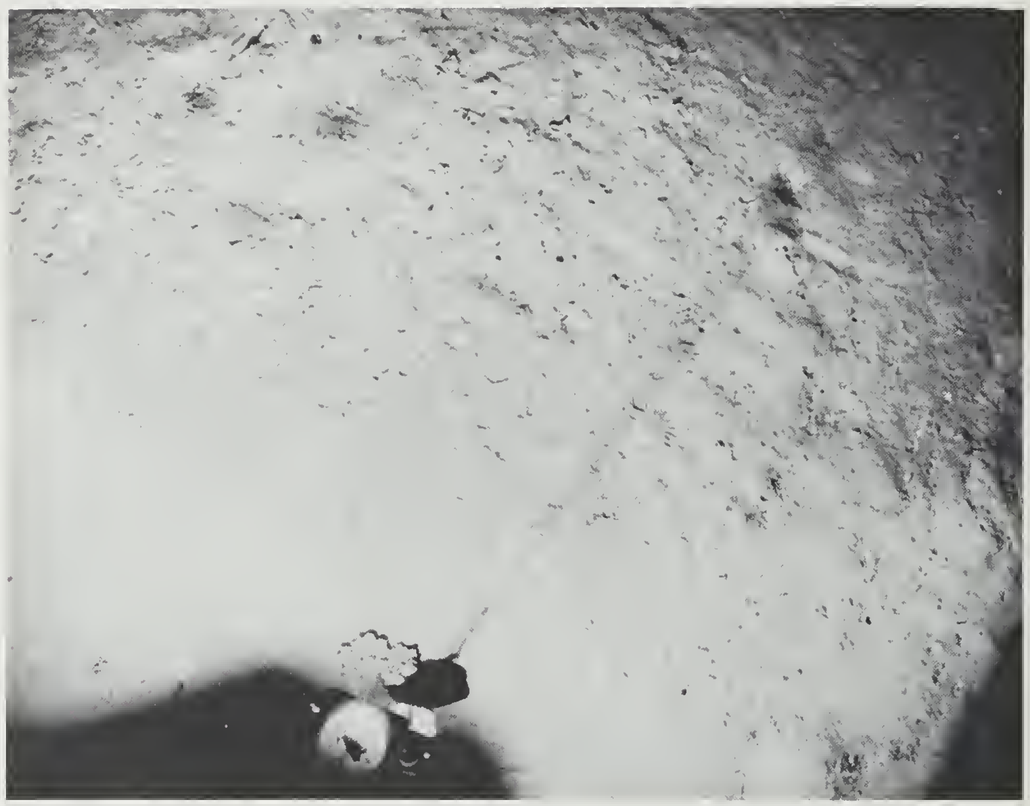
K54—25

K54—26



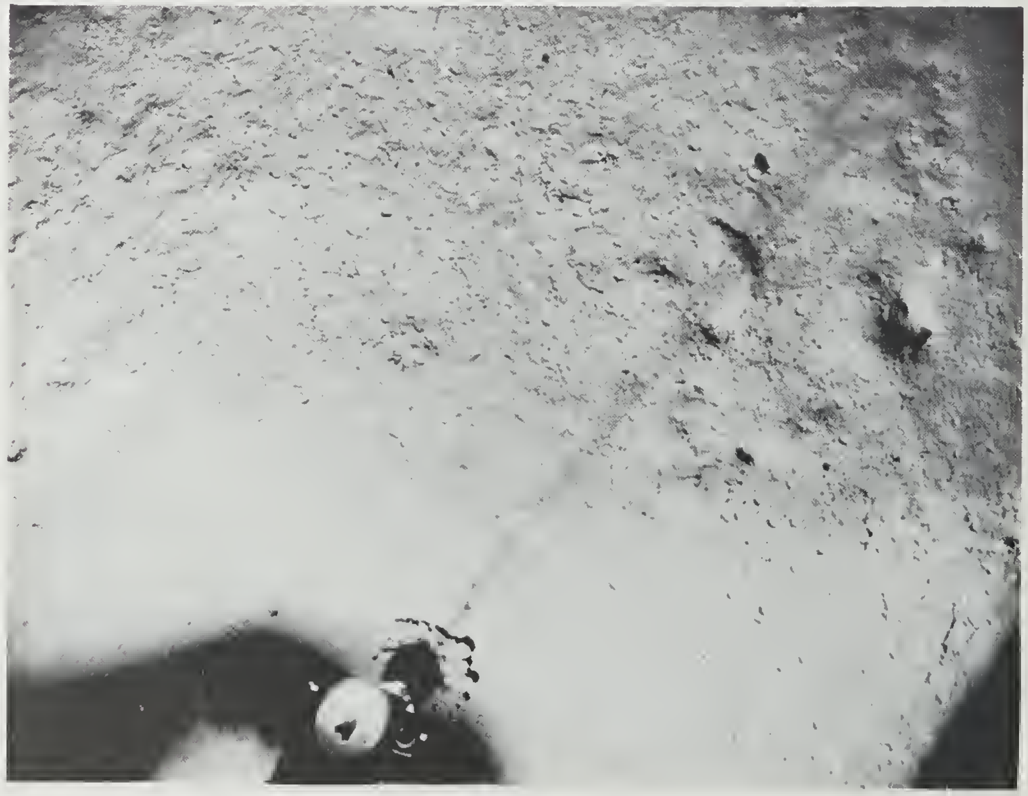
K54—27

K55—2

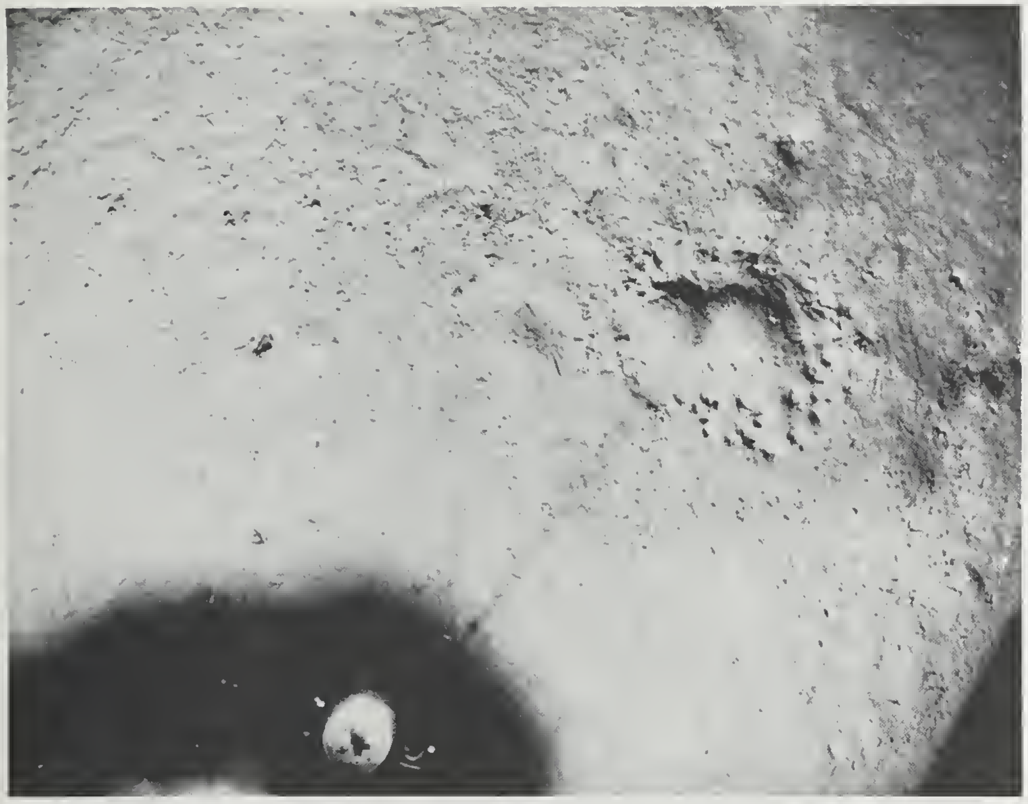


K55—4

K55—5



K55—7



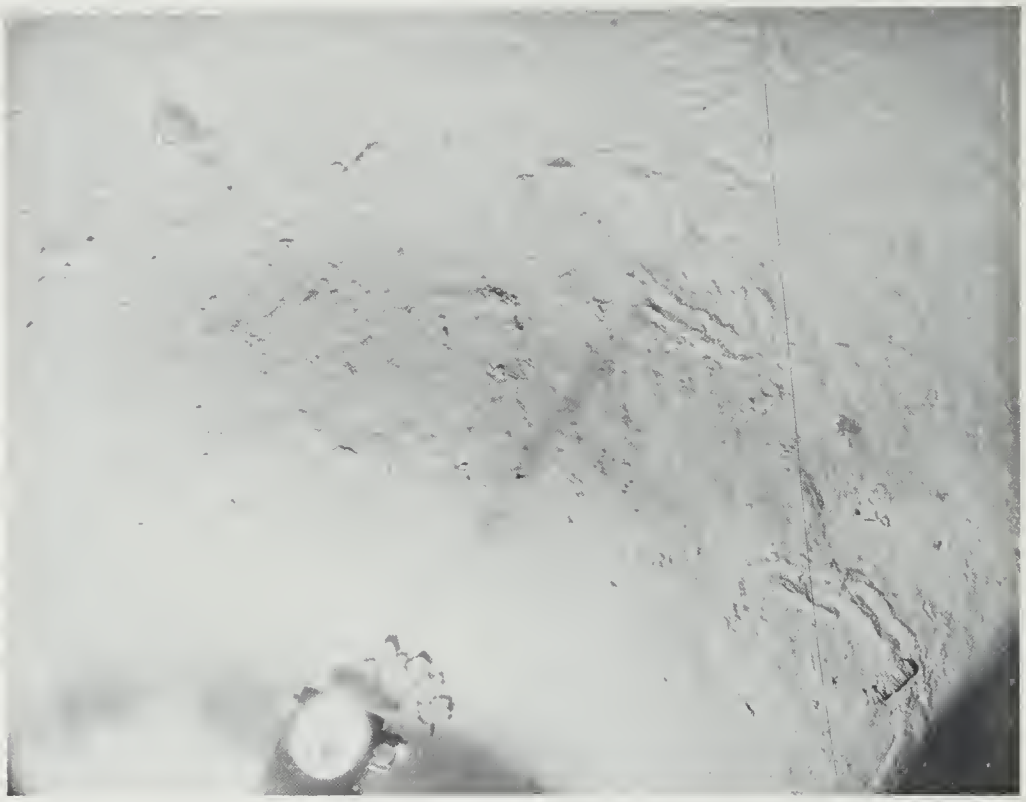
K55—8

K56—11

K56—12

K57—1

K57 — 6



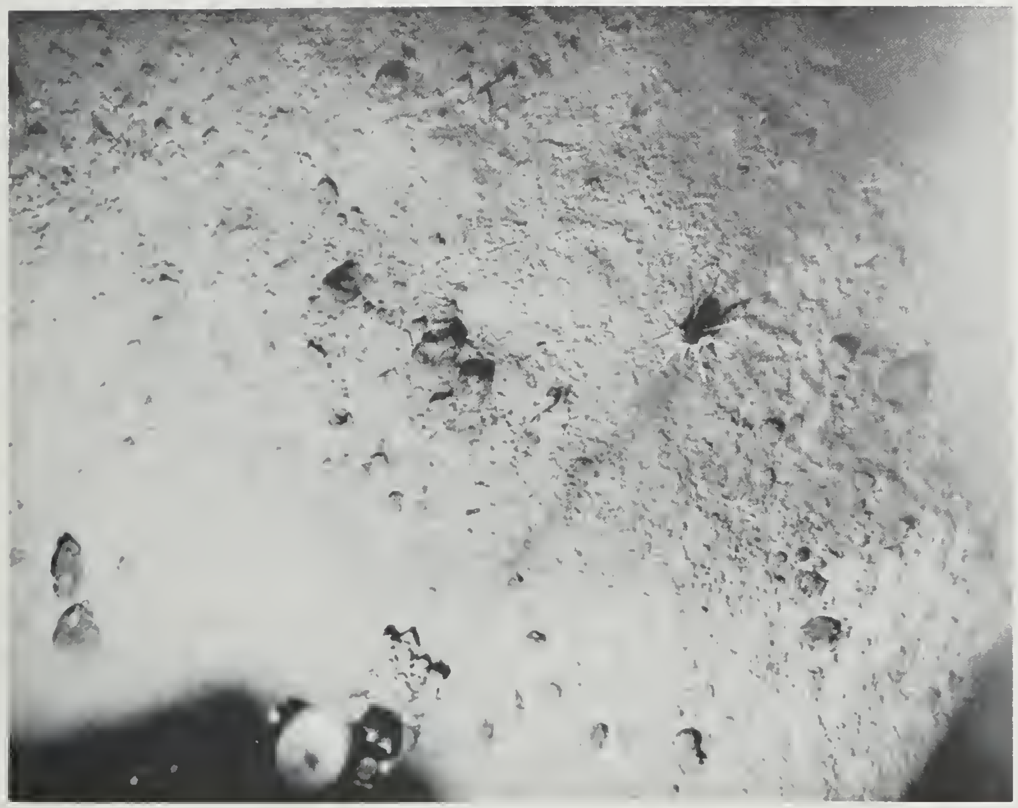
K58 — 3

K58 — 7

K59 — 1

K59—3

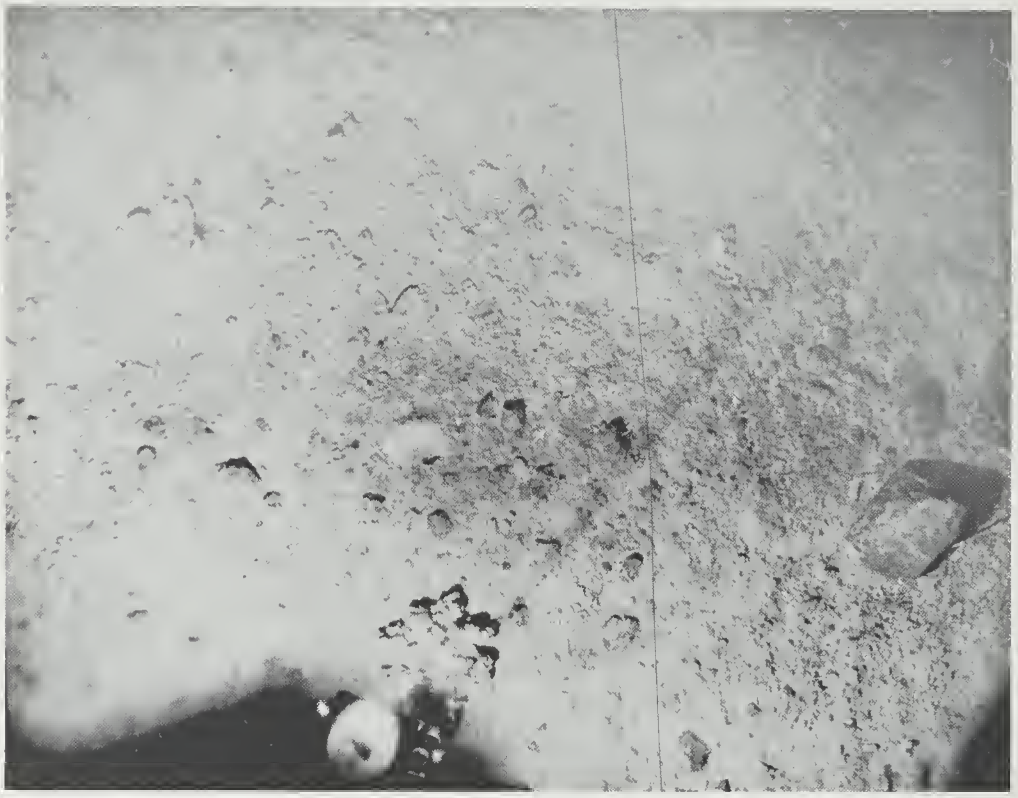
K59—7



K60—1

K60—3

K60—5



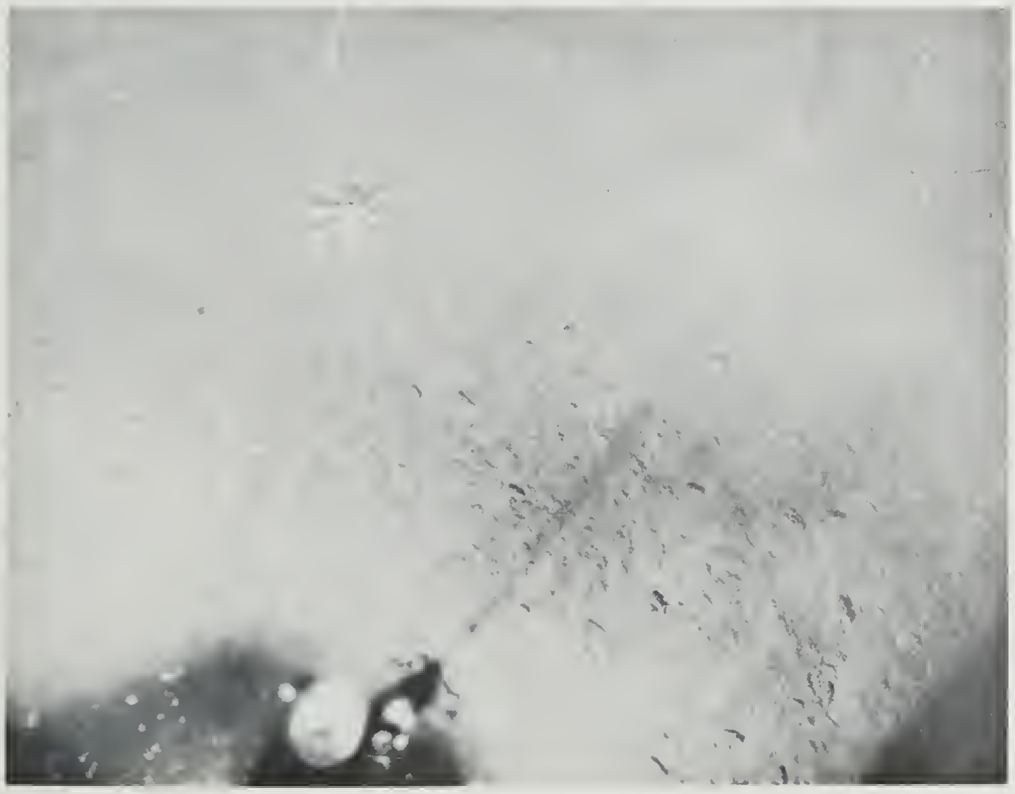
K60—8

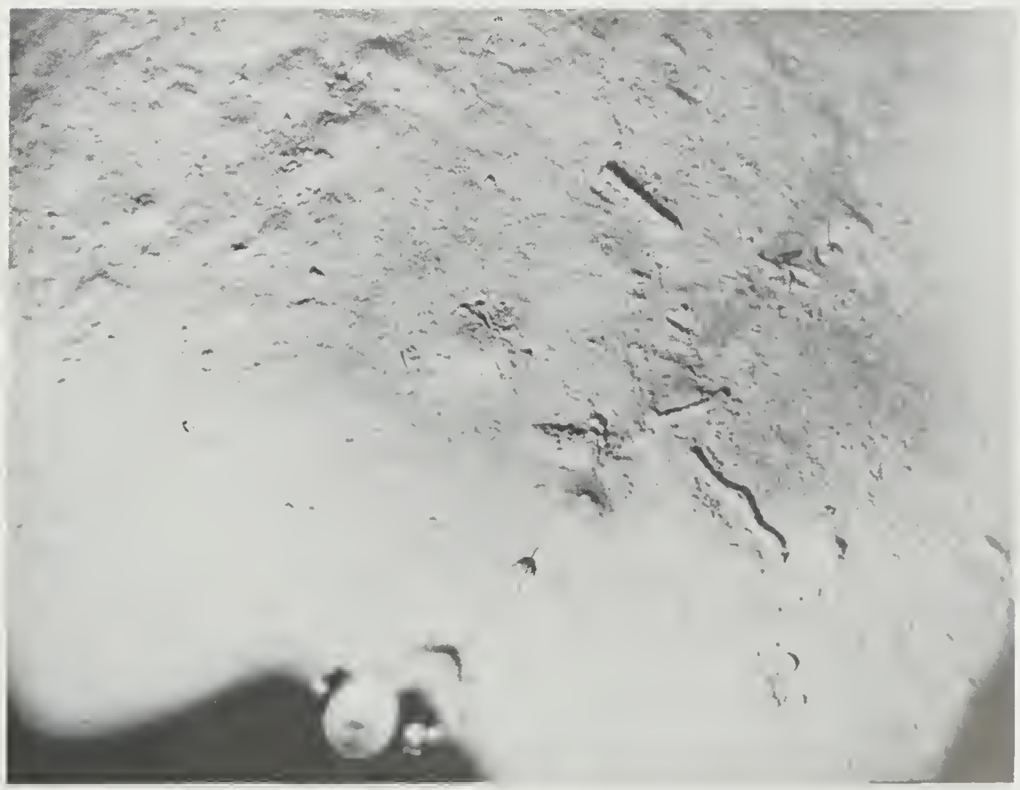
K60—10

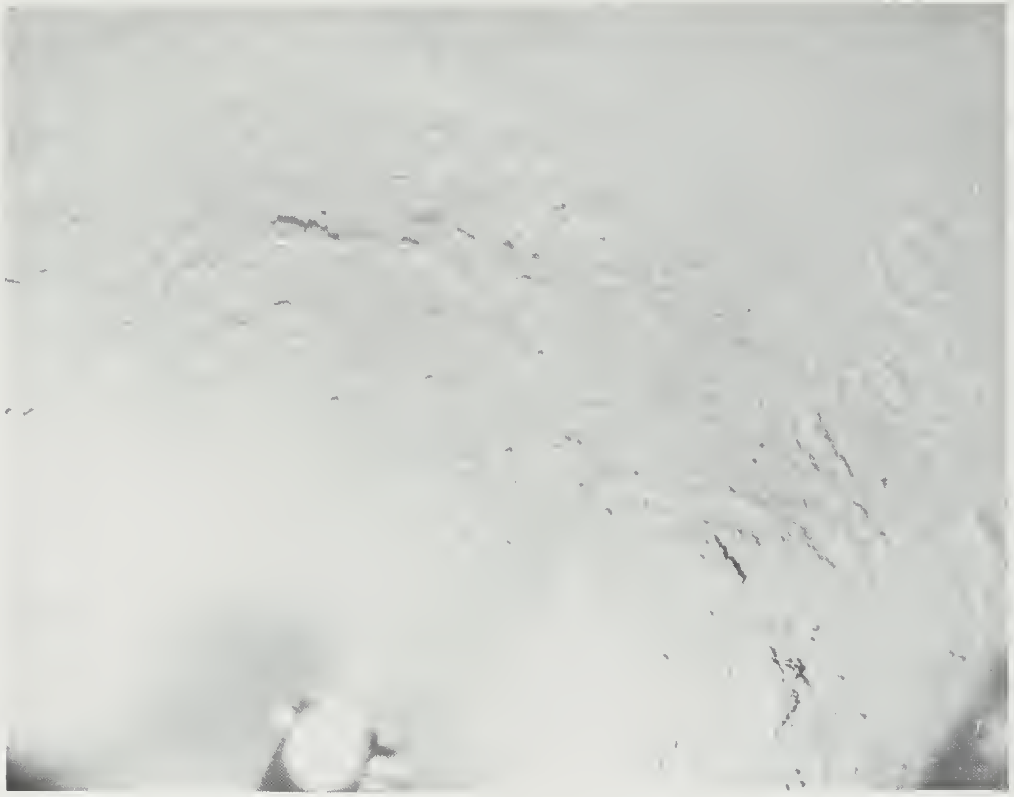
K61— 1

K61—10

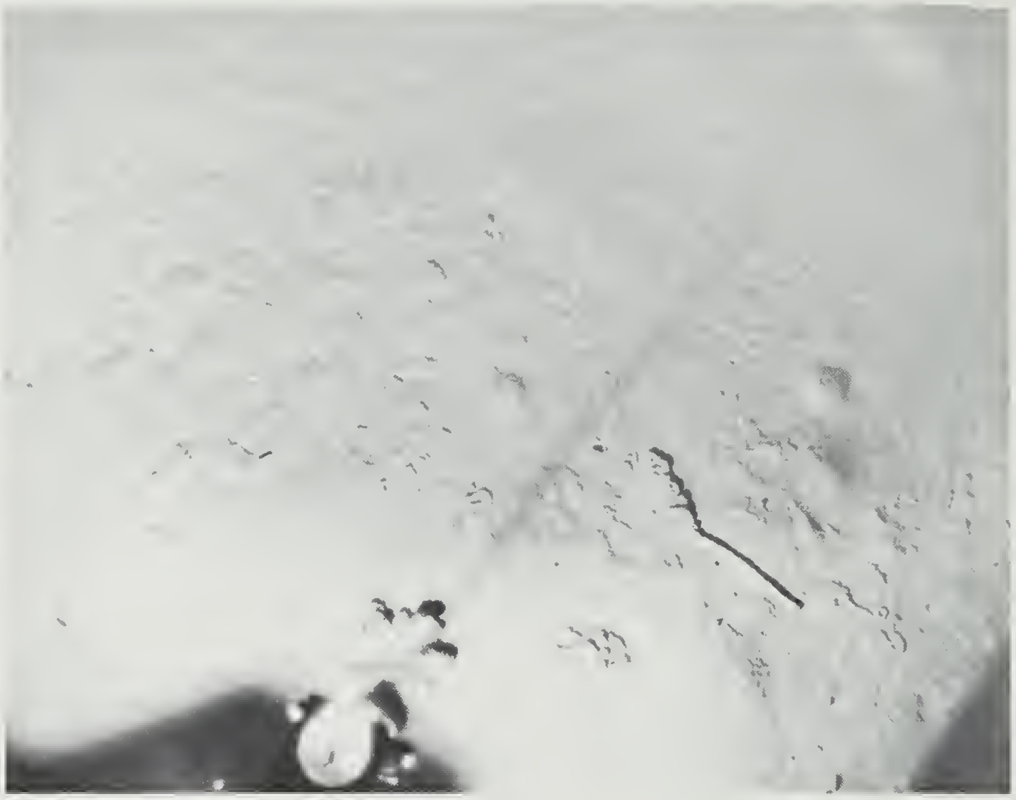
K61—15







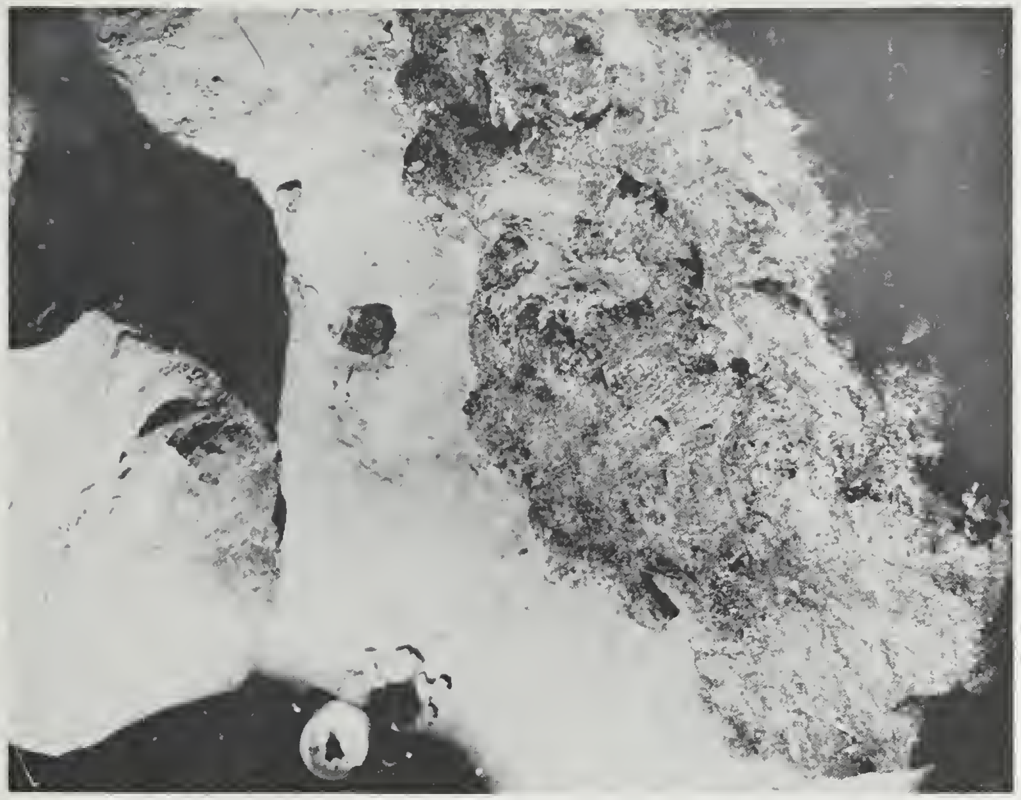
K62—7



K62—15

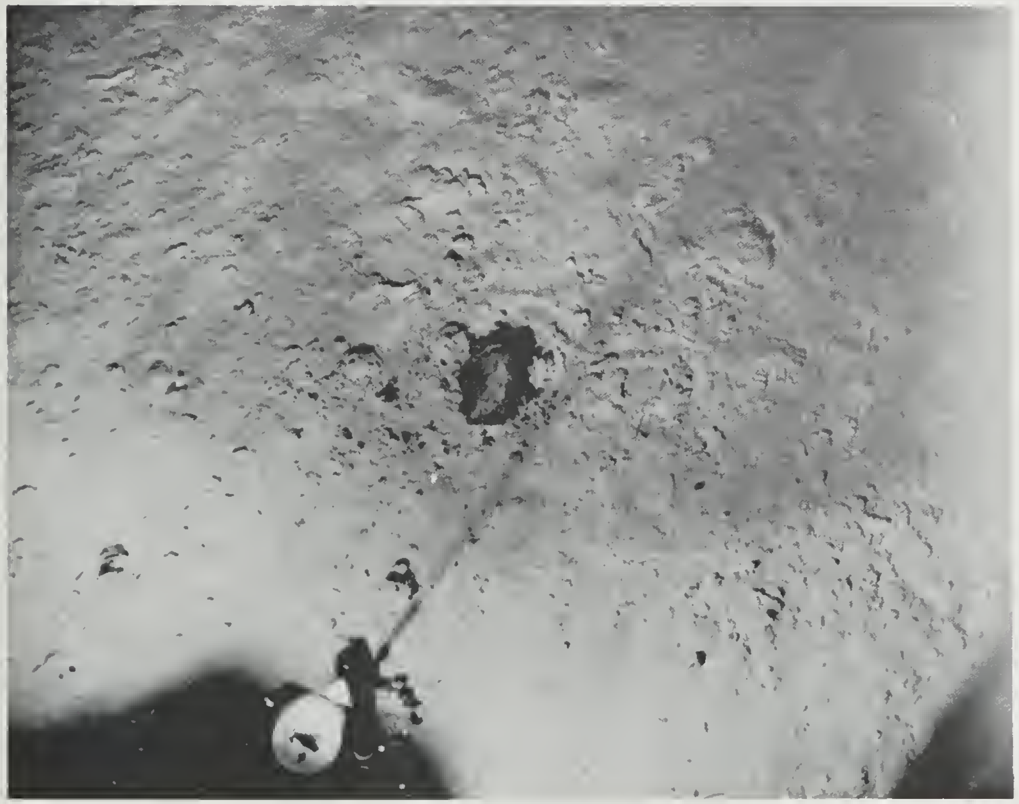
K63—2

K63—4



K63—5

K63—6



K64—1

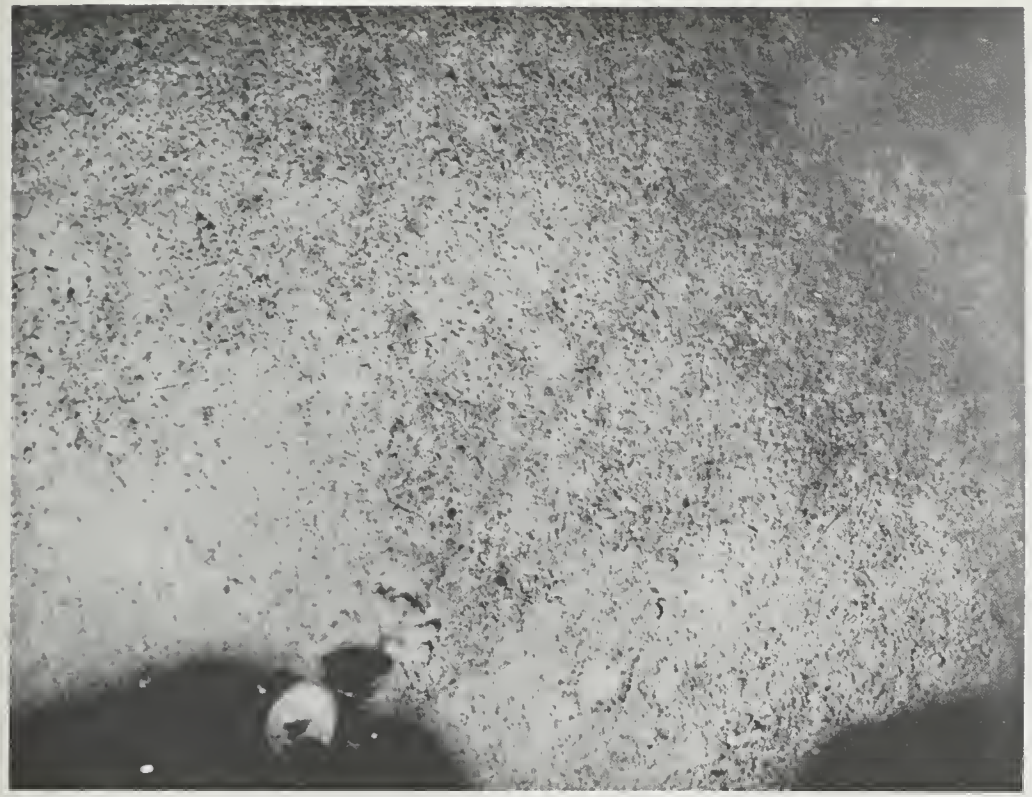
K64—6

K64—9

K65—1

K65—2

K65—3



K66 —1

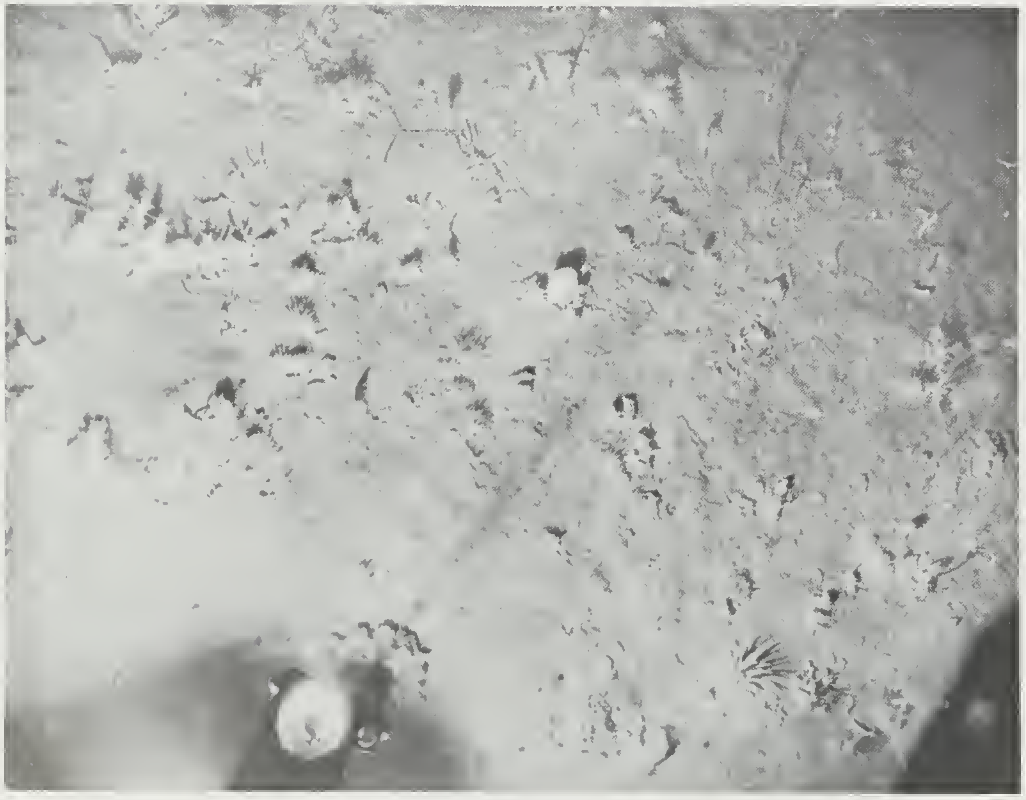
K66—2

K66—3

K66—8

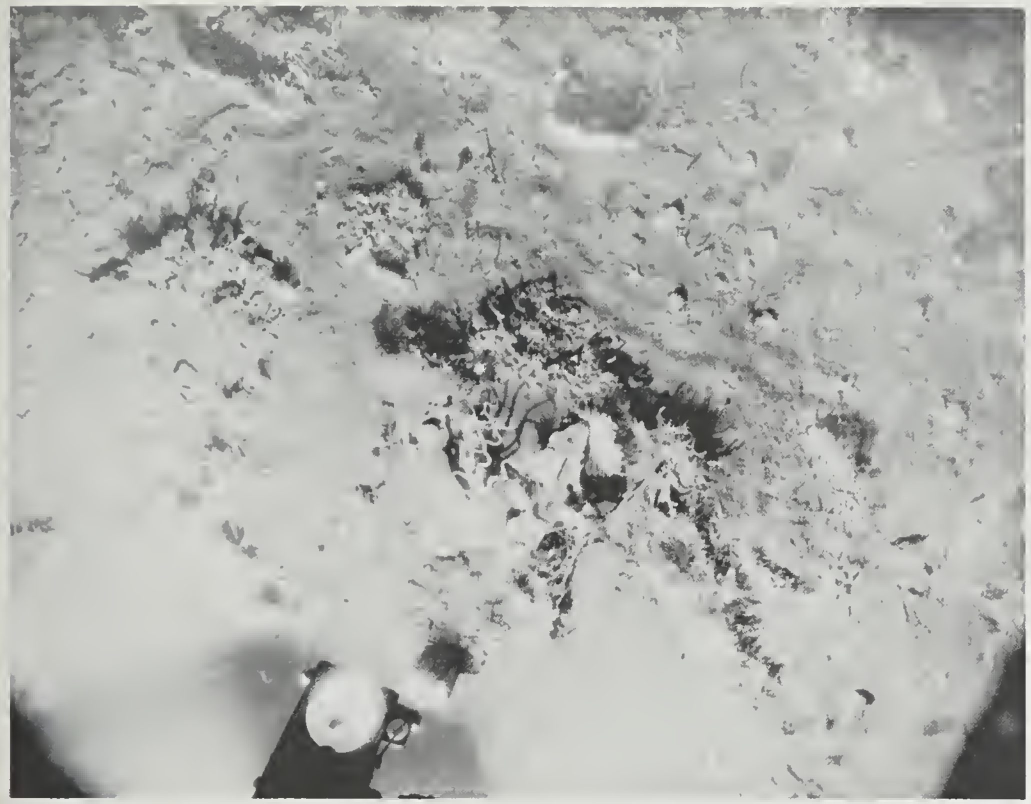
K67—5

K67—9



K68—1

K68—2



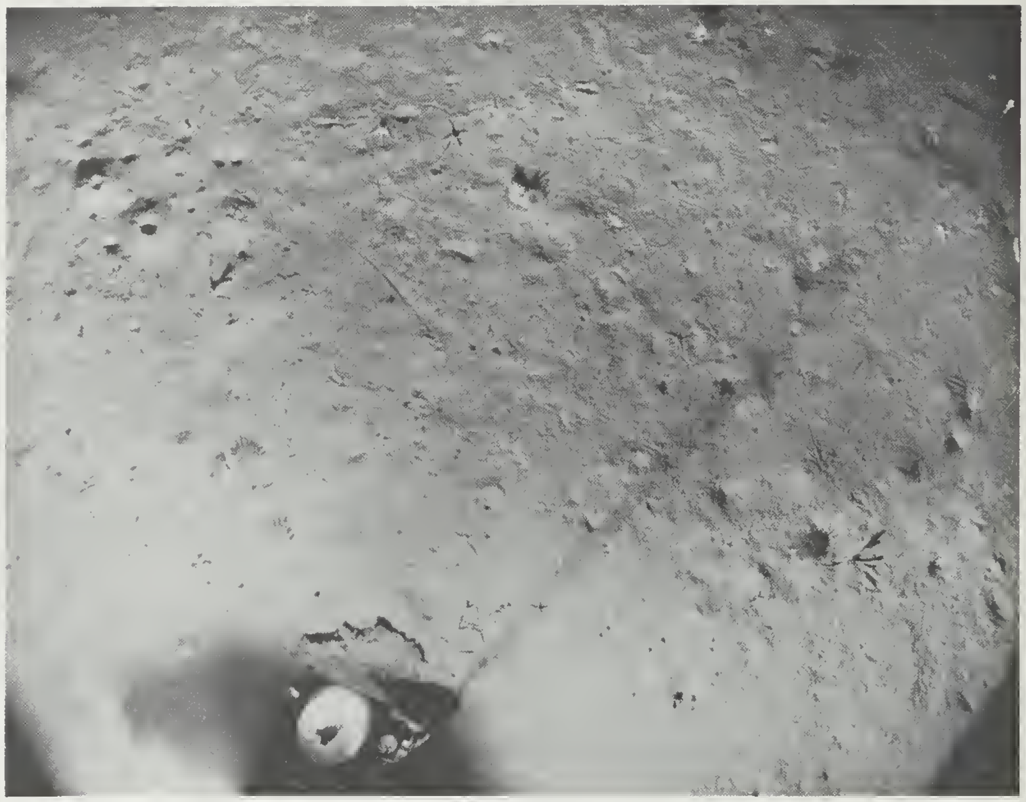
K68—3

K68—4

K68—7

K69—3

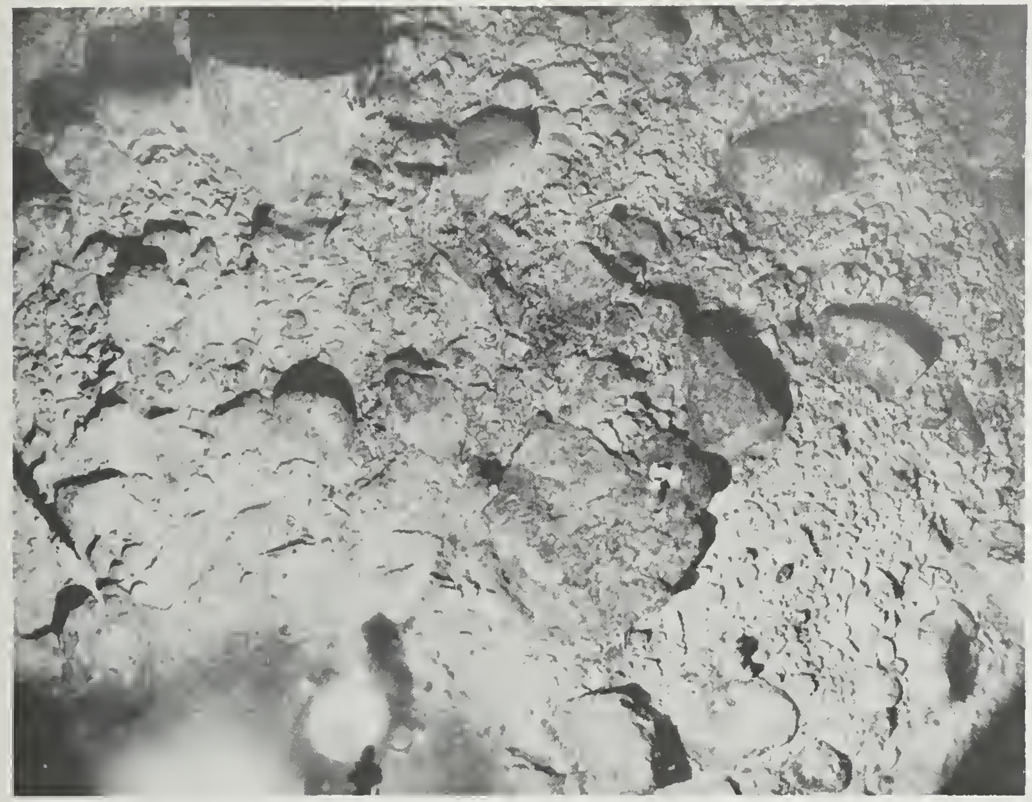
K69—7



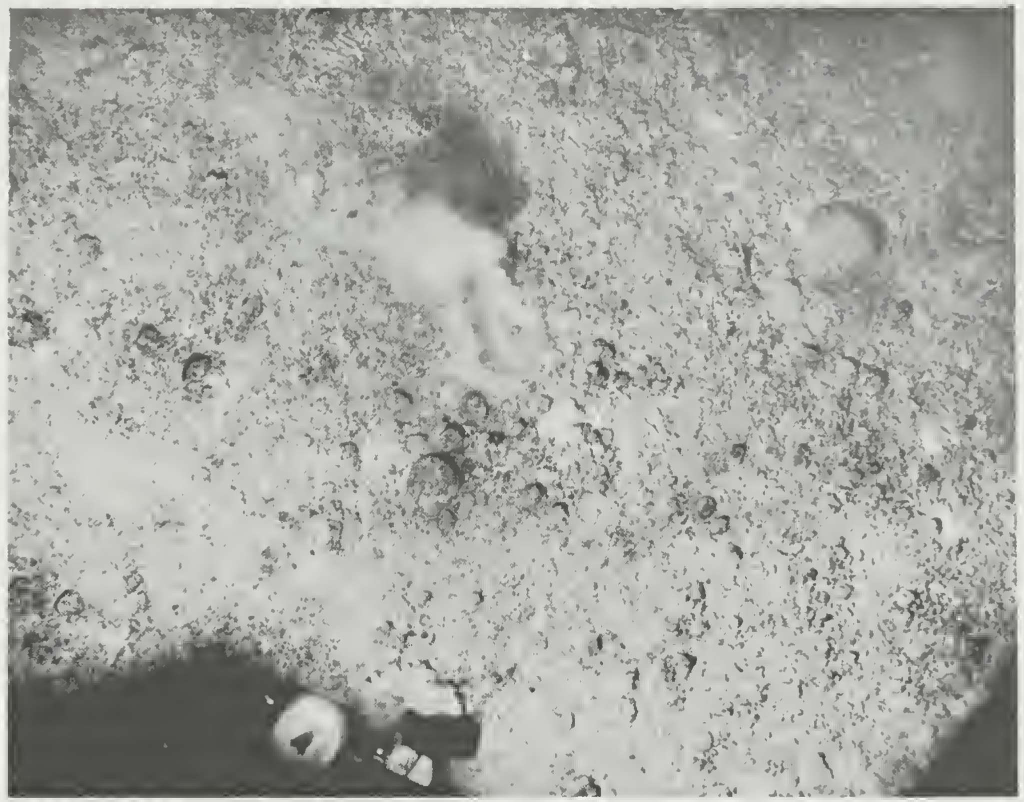
K69—9

K70—3

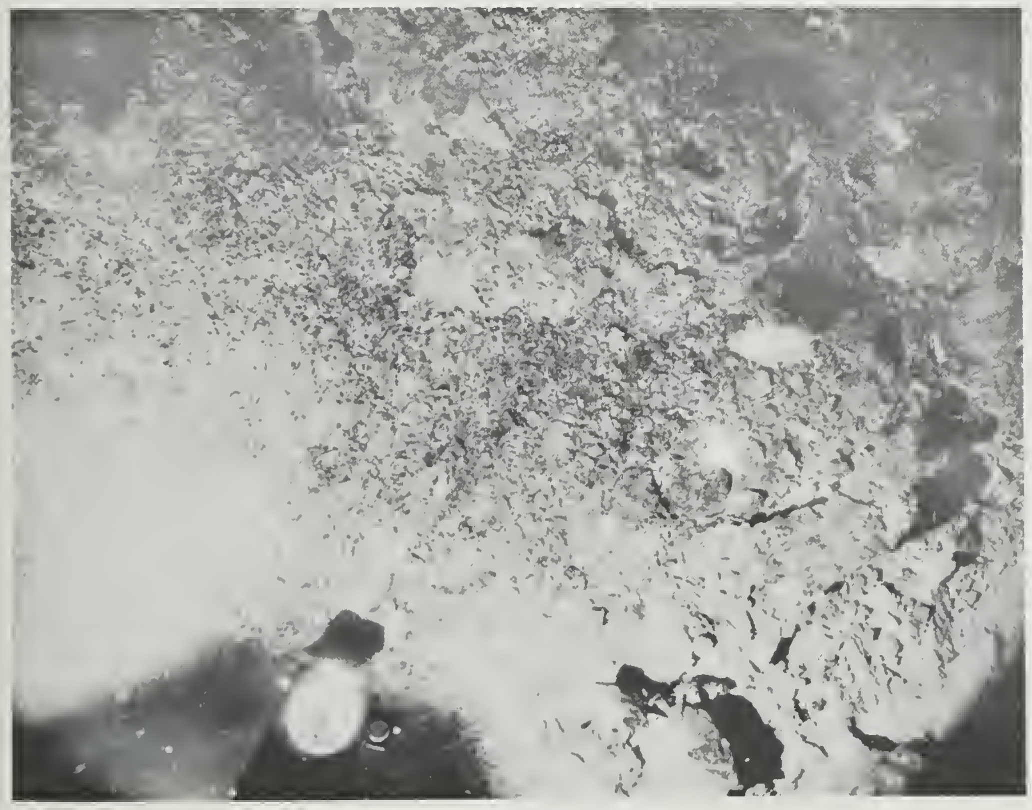
K70—4



K70—5



K70—7



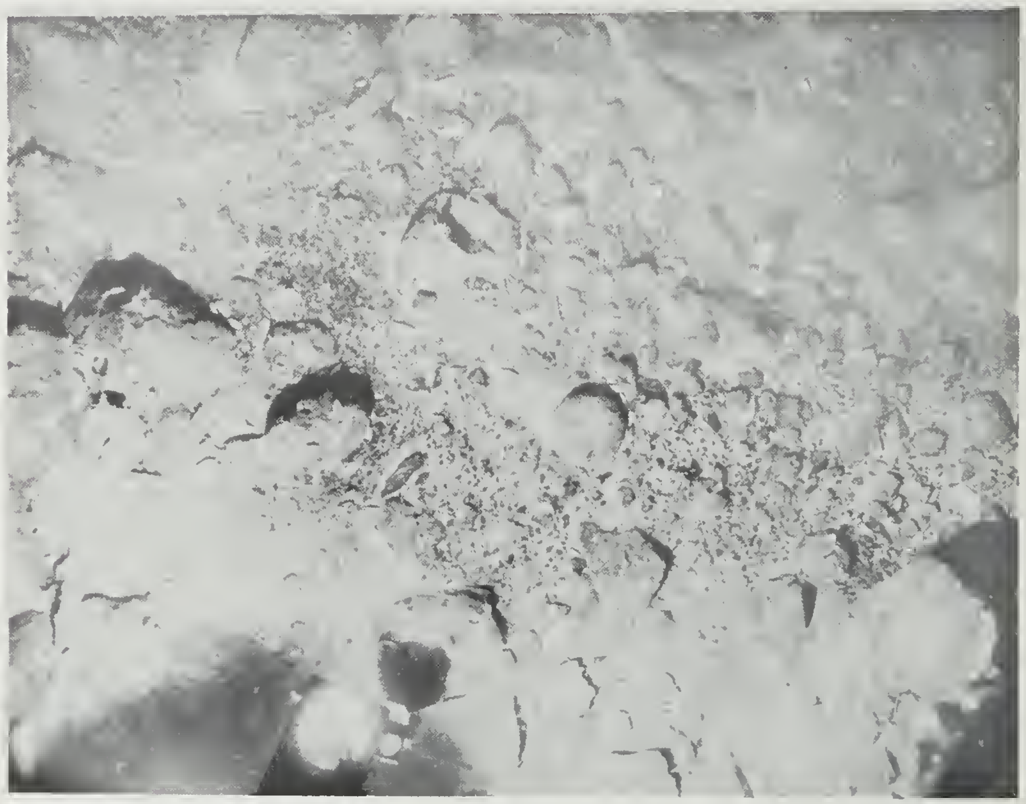
K70—10

K71—6

K71—8

K71—10

K71—13



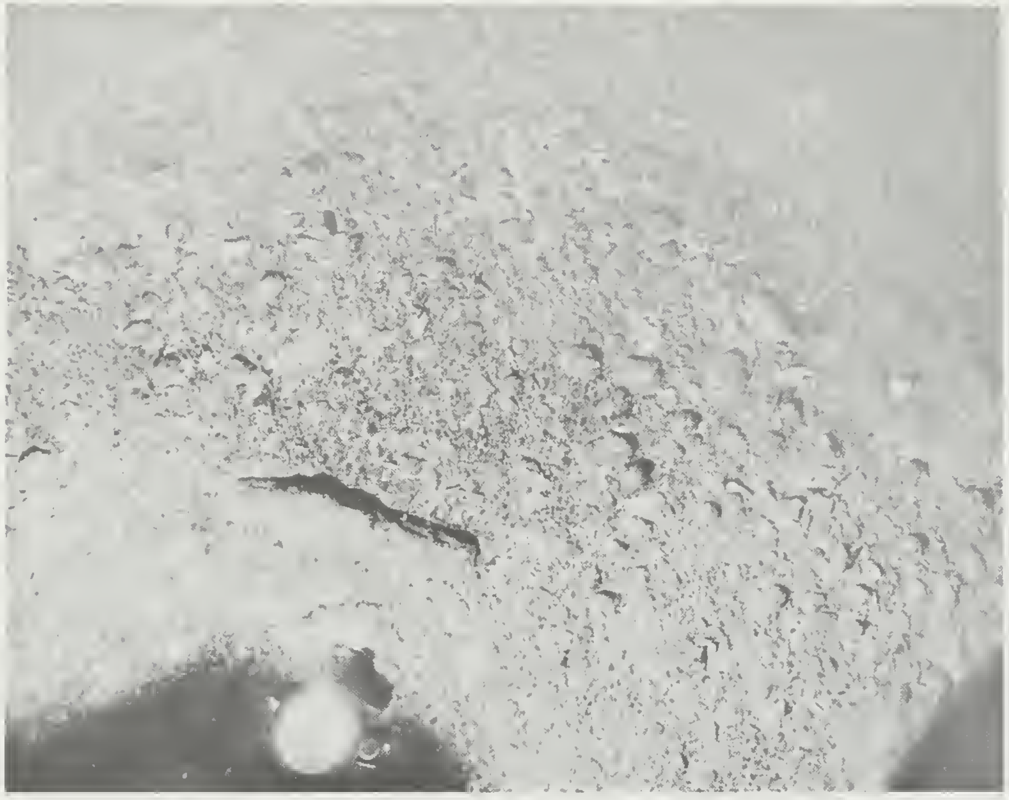
K72—2

K72—3

K72—4

K72—5

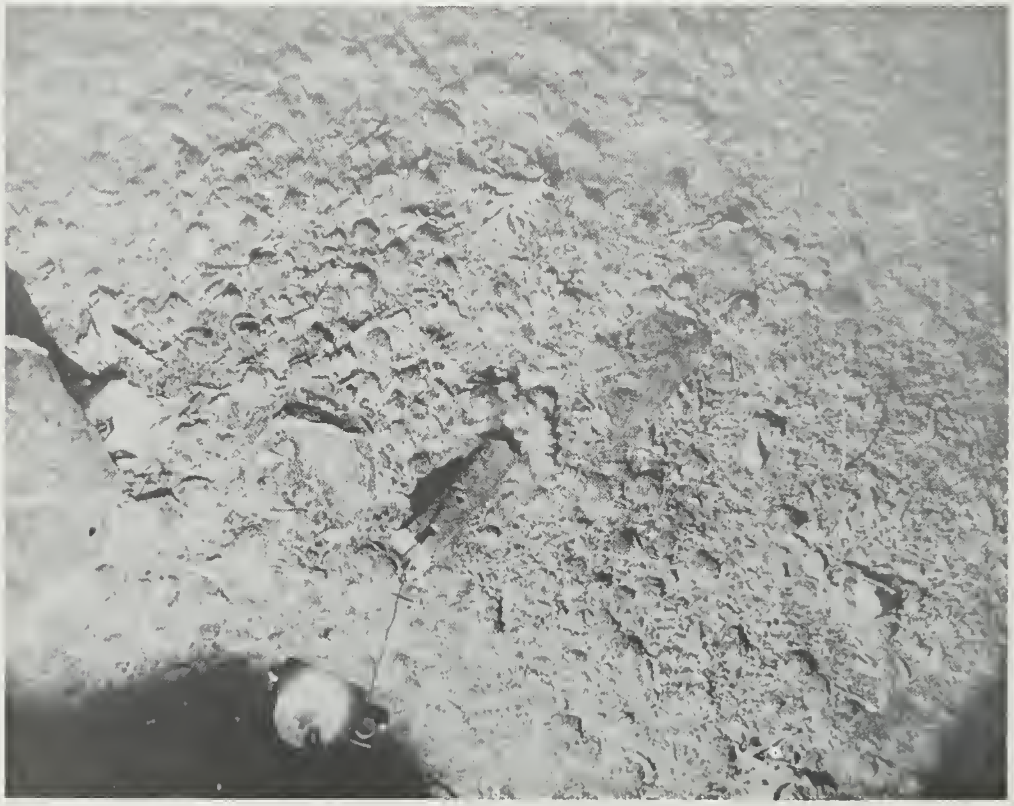
K72—6



K72—7

K72—8

K72—9



K72—11

K72—12

K73—1

K73—2

K73—7

K73—8

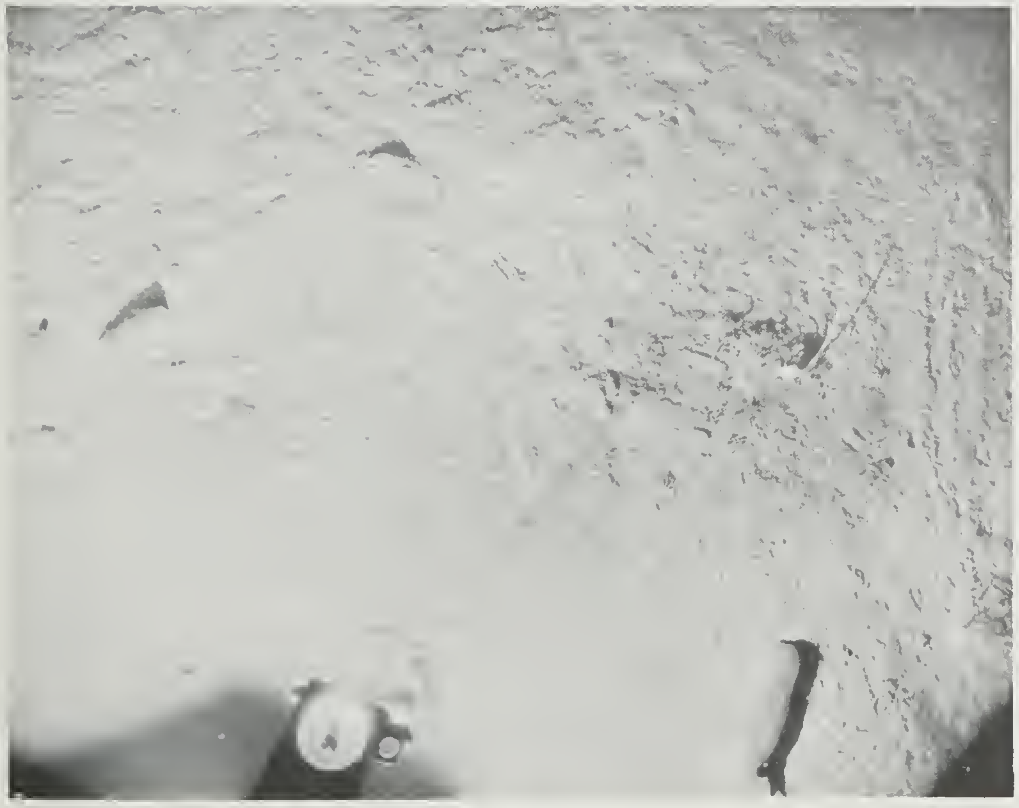
K74—3

K74—6

K74—8

K75—1

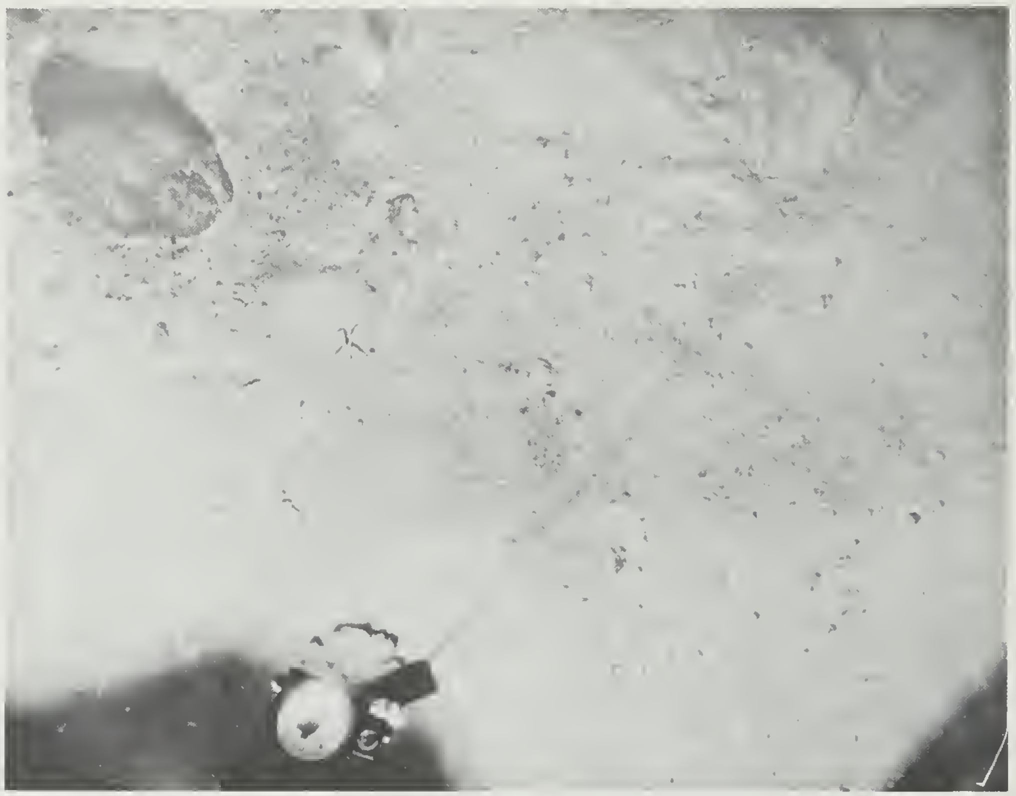
K75—2



K76—3

K76—5

K77—4



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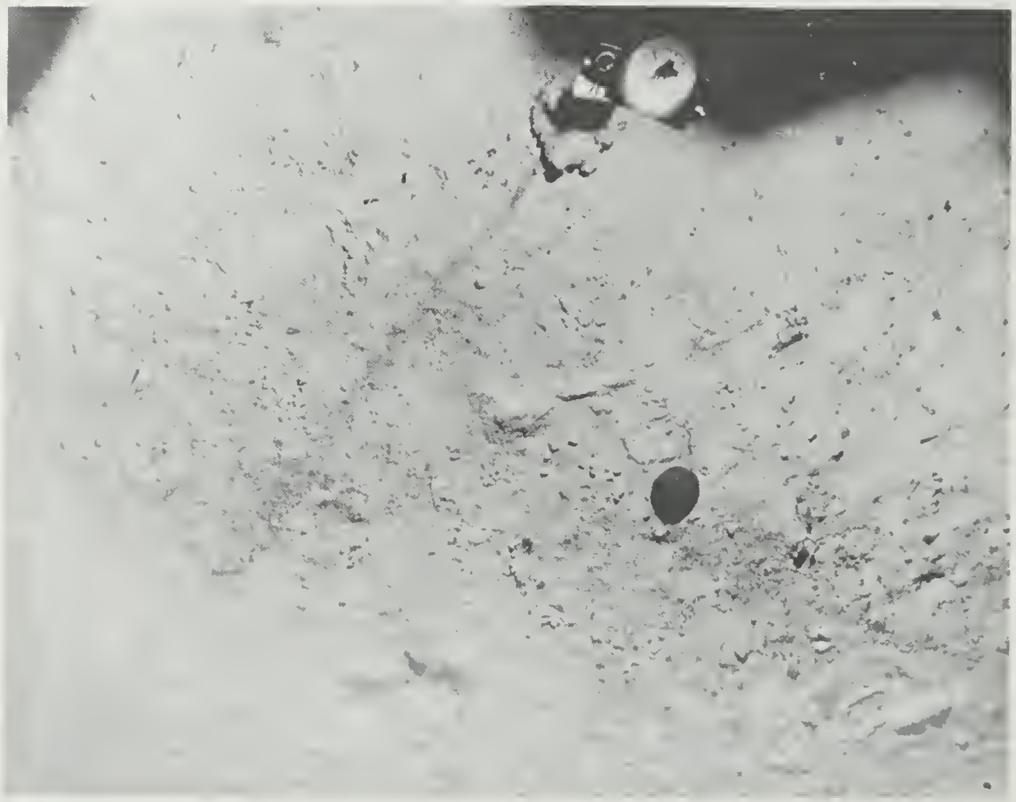

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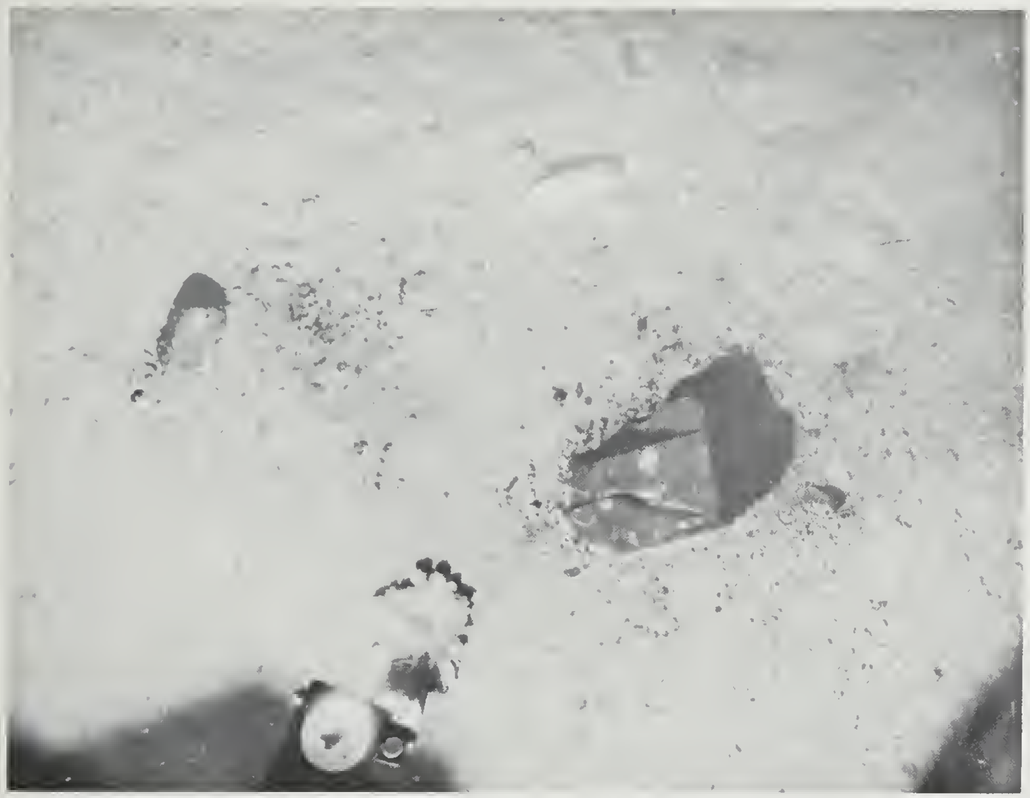

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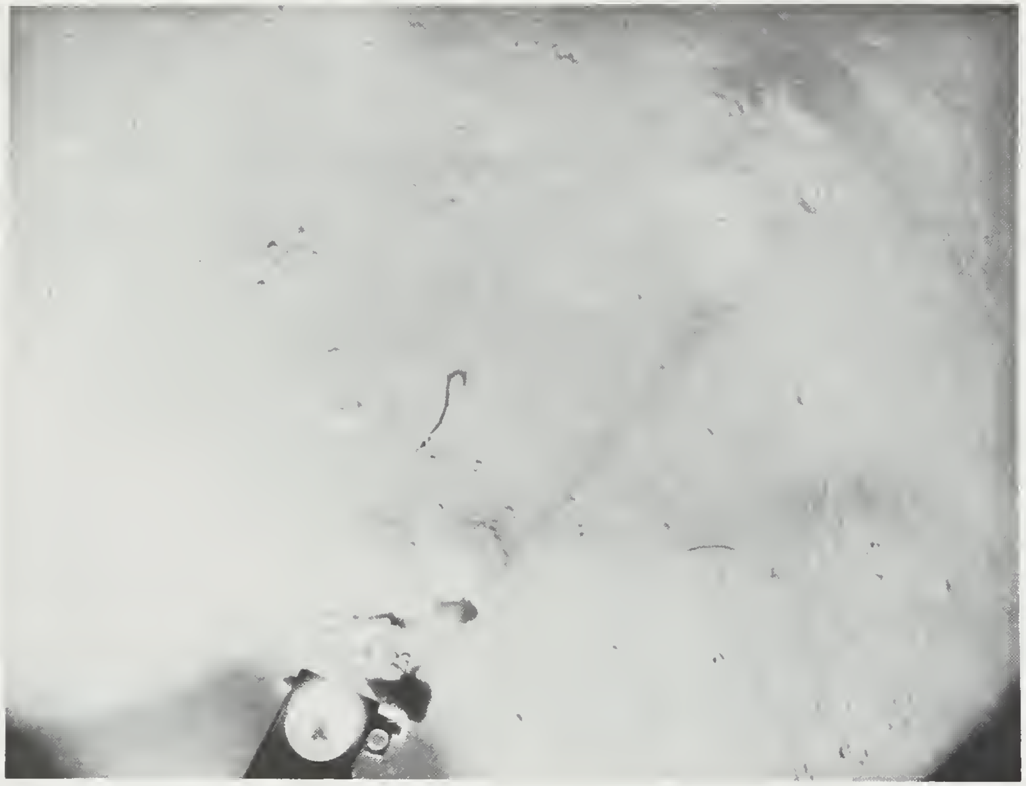
K78—2

K78—4



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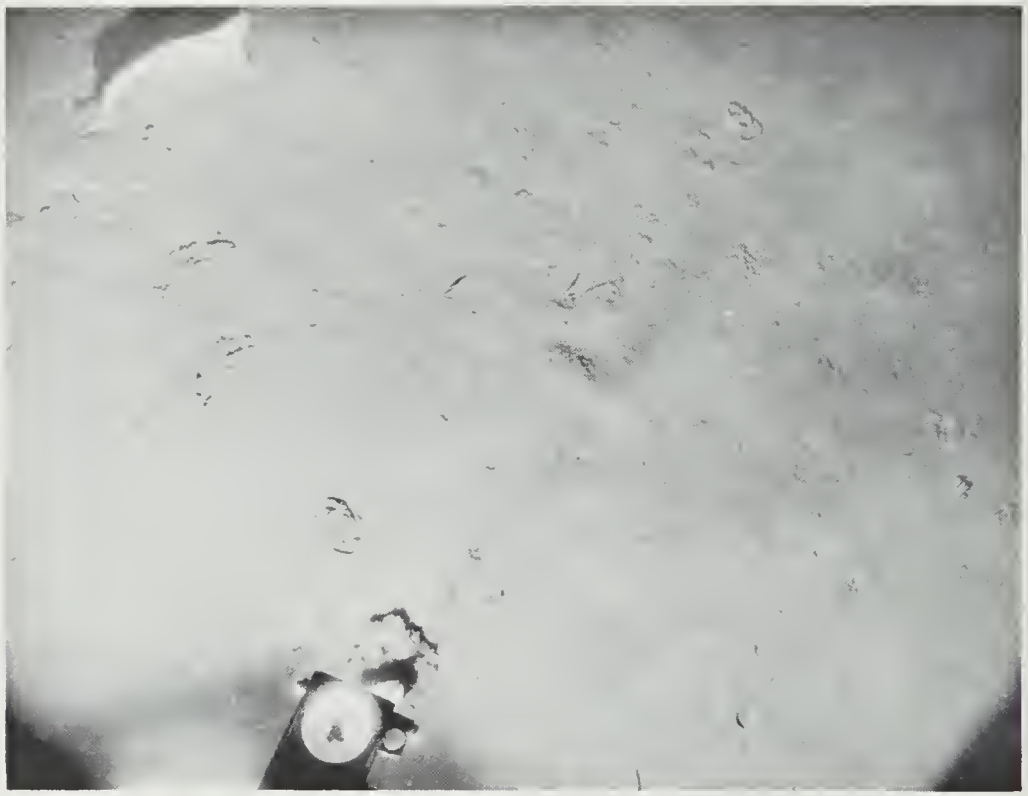

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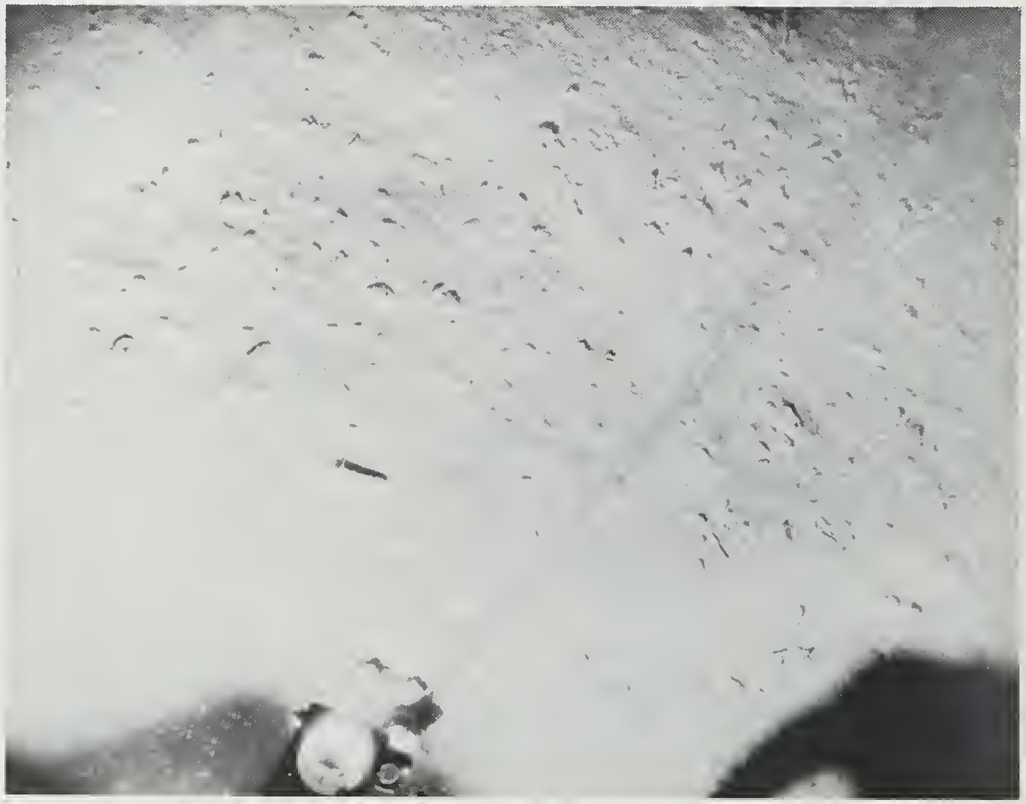
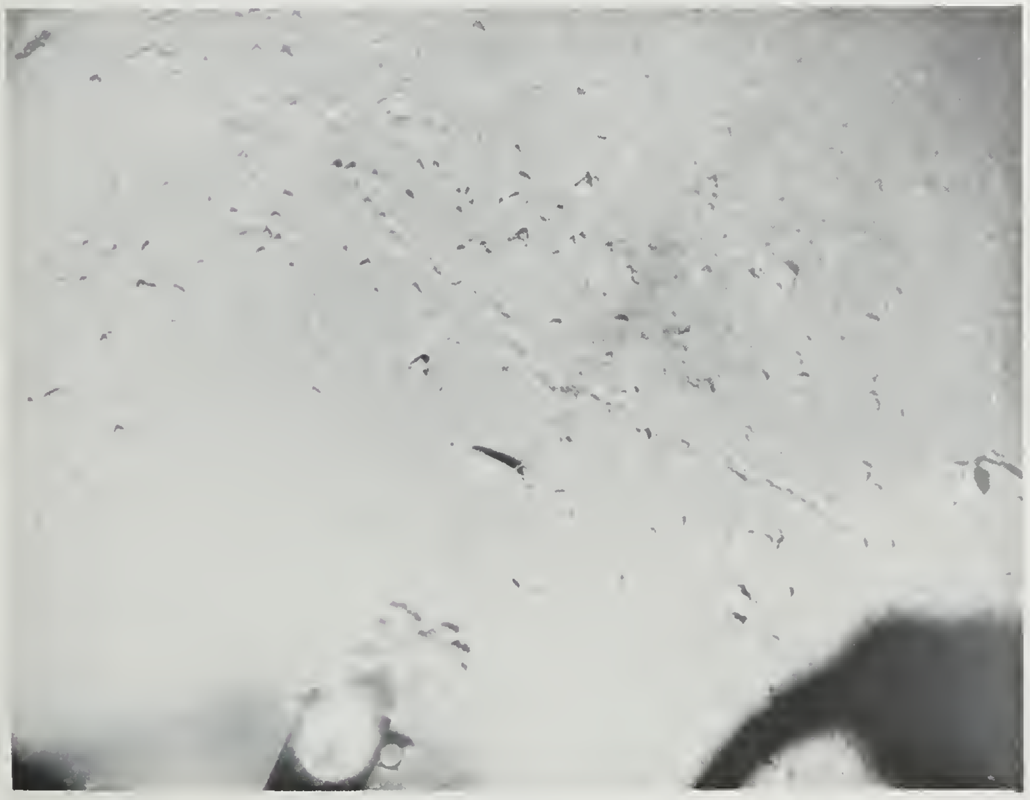
K78—20



K79—1

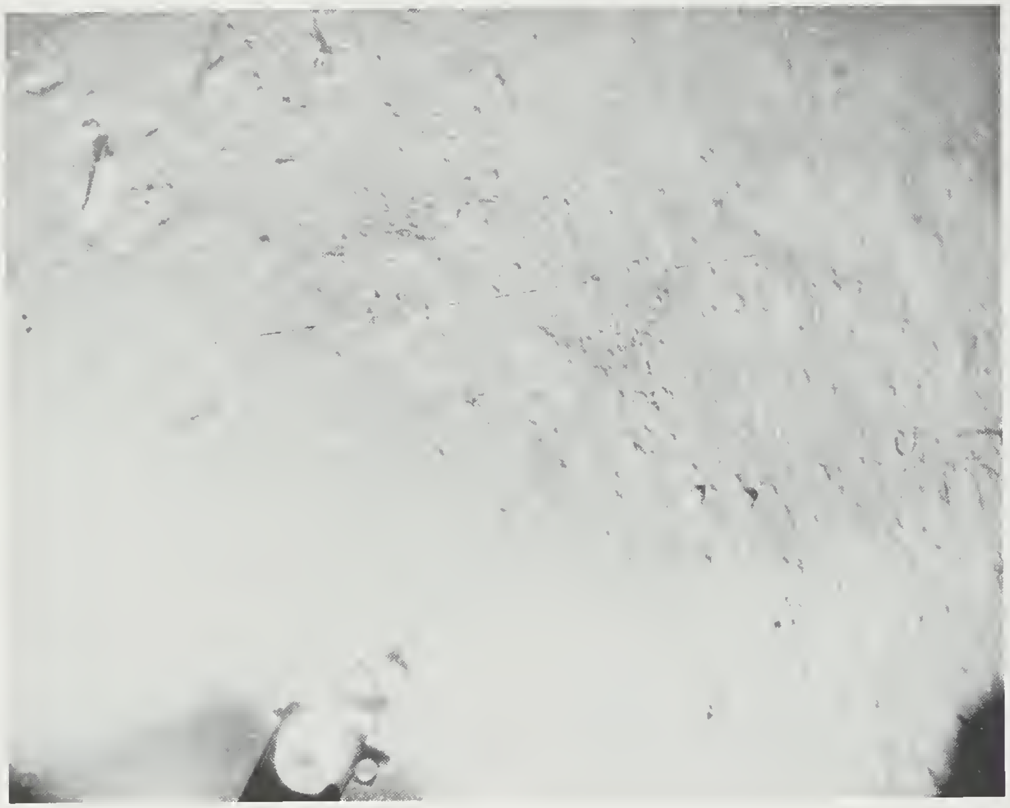
K79—5

K79—6



K79—9

K80—1



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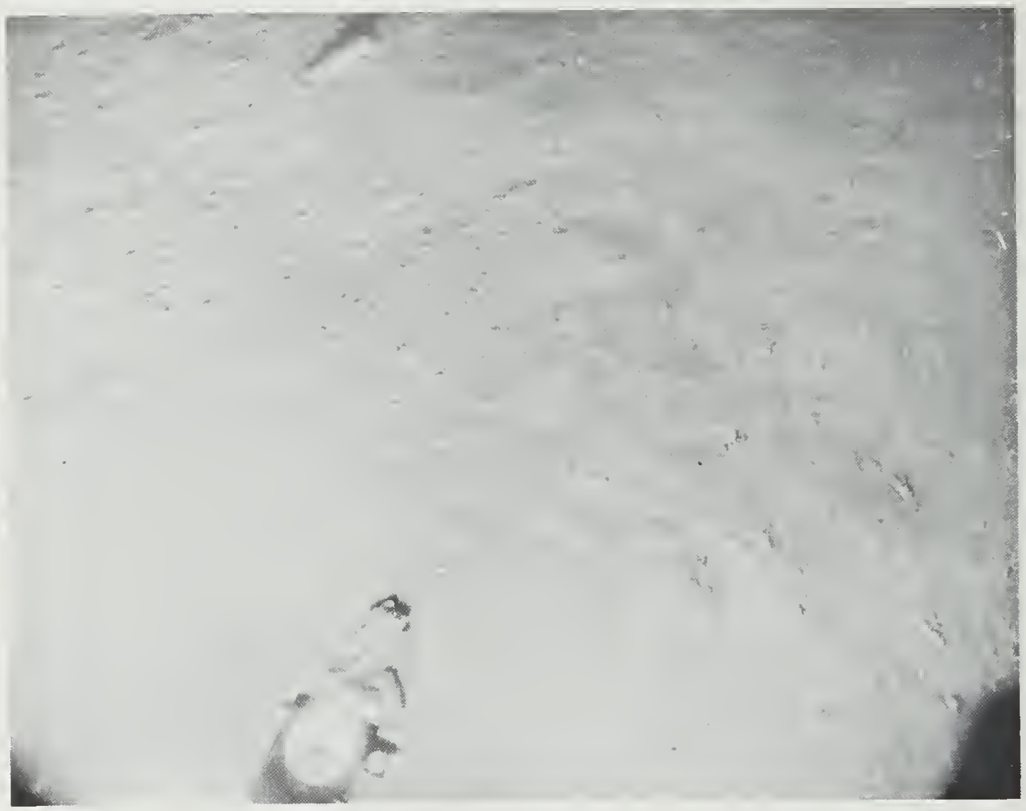

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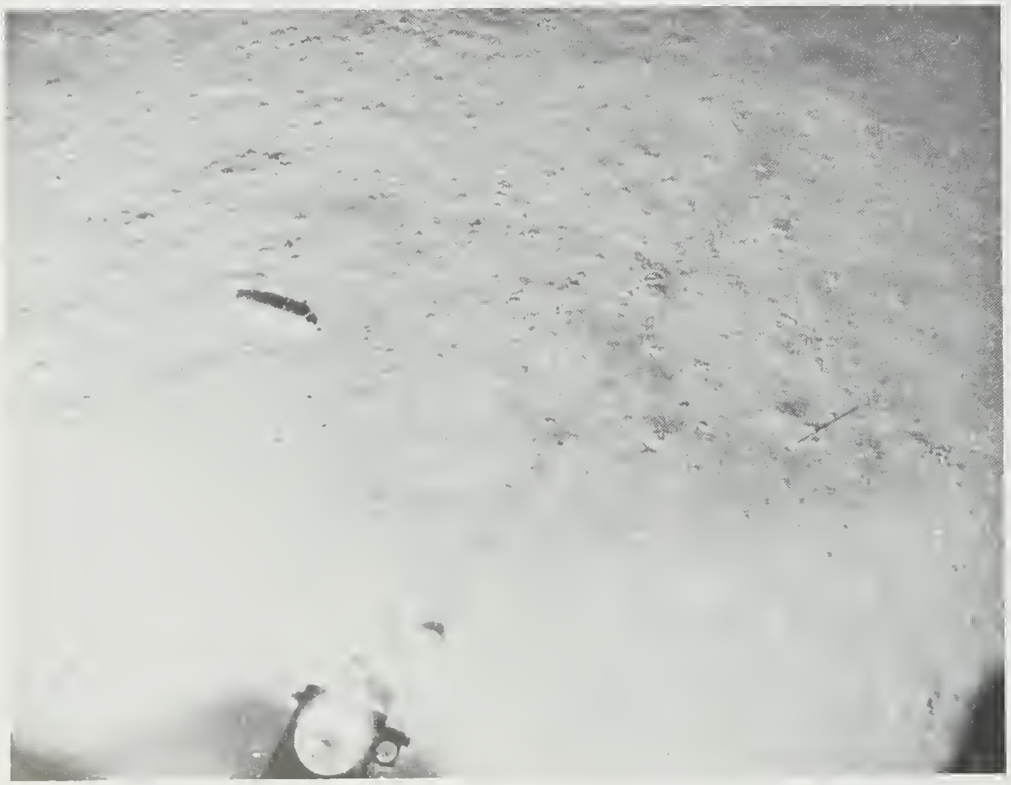
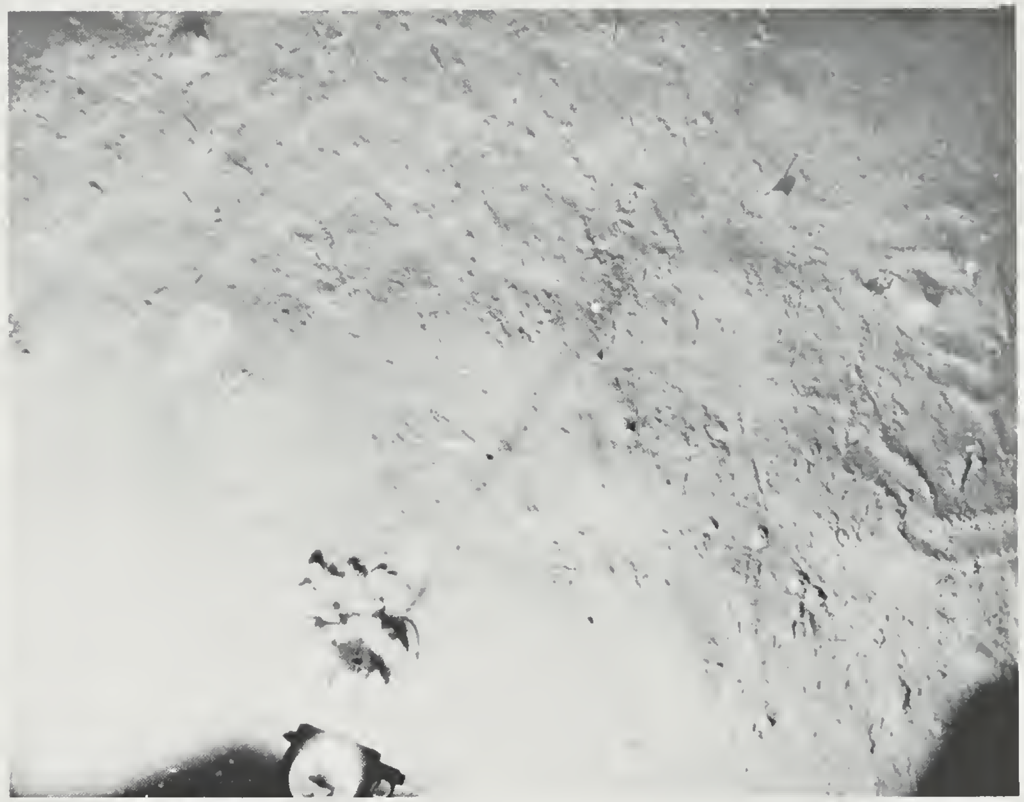


K80—8

K81—1


K81 — 6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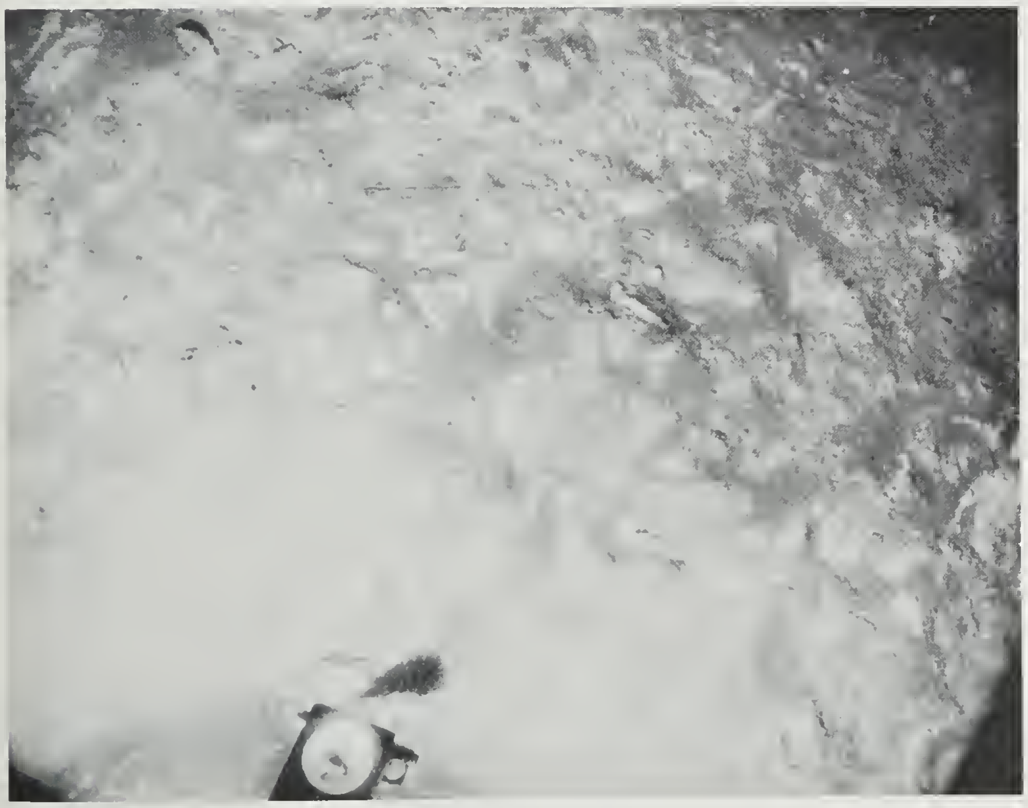
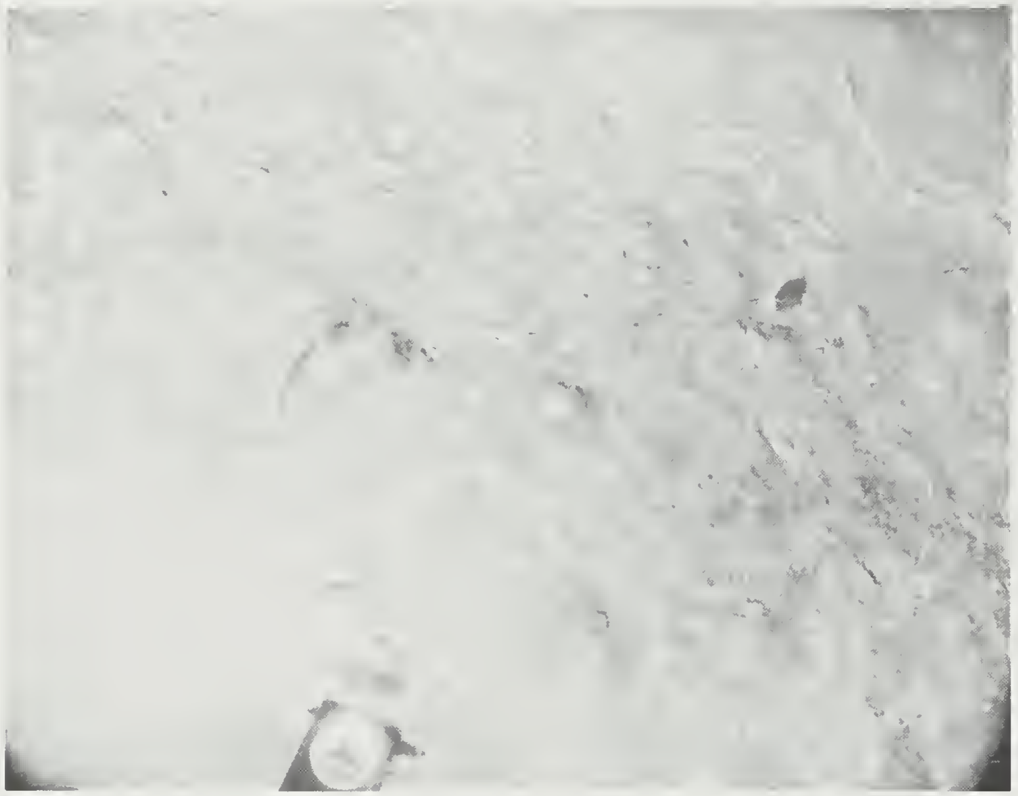

K82 — 4

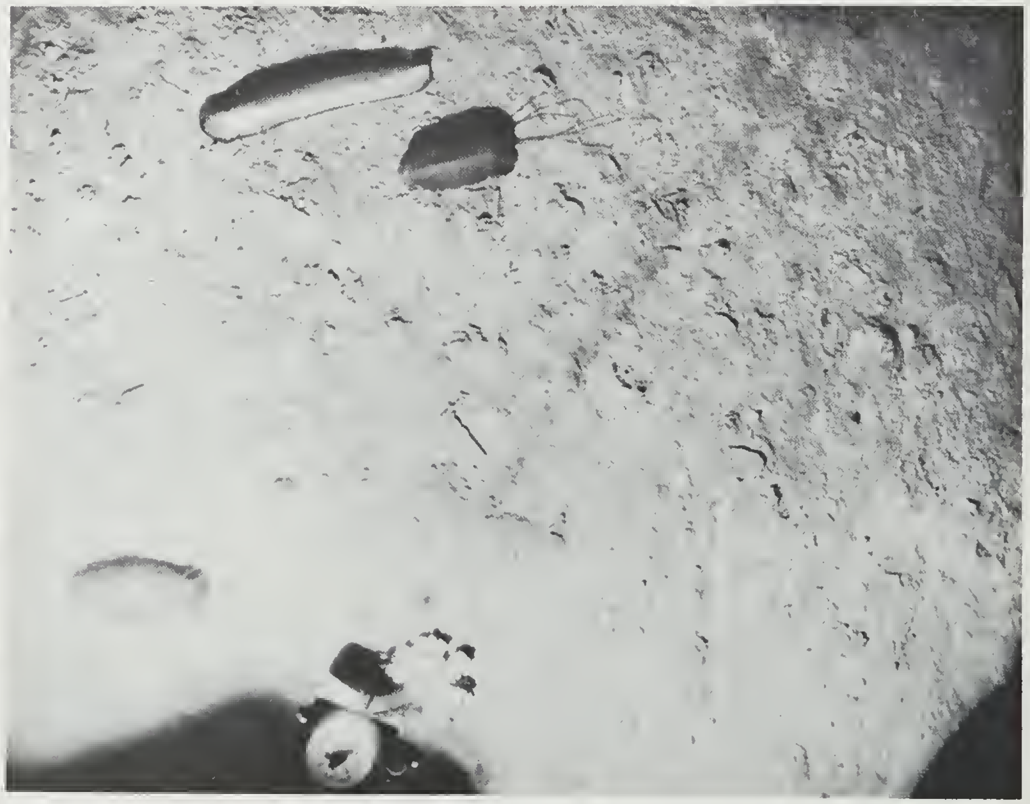

K82 — 7



K82—11

K83—3

K83—5



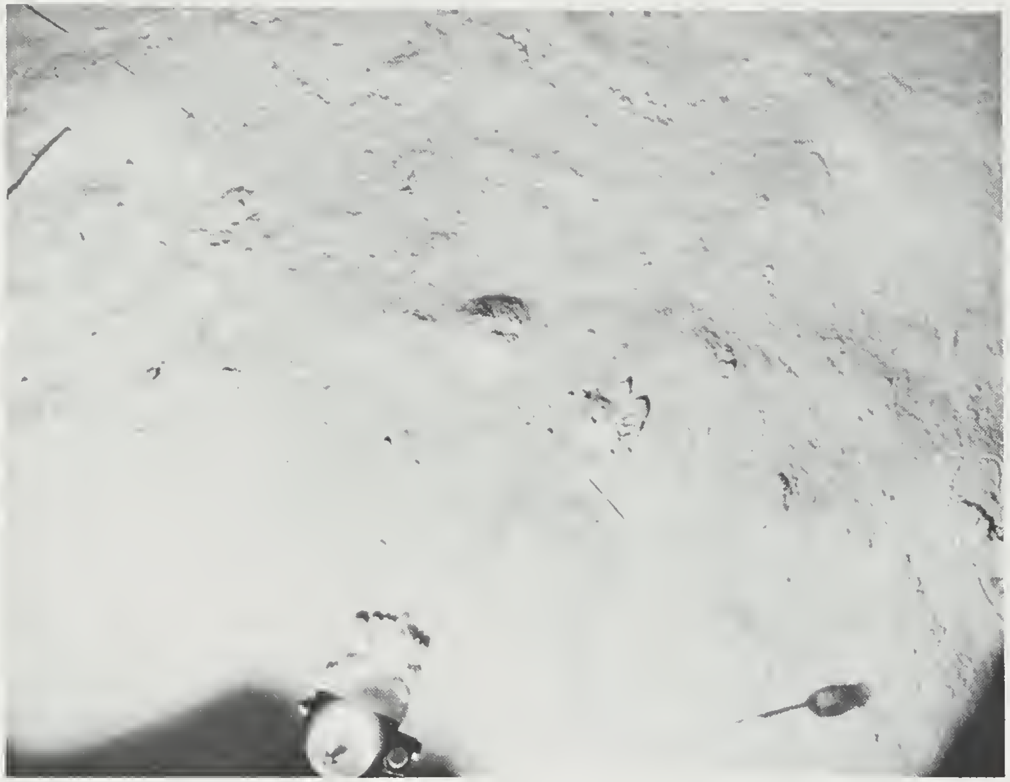
K83—8

K83—10

K84—4

K84—5

K85—3



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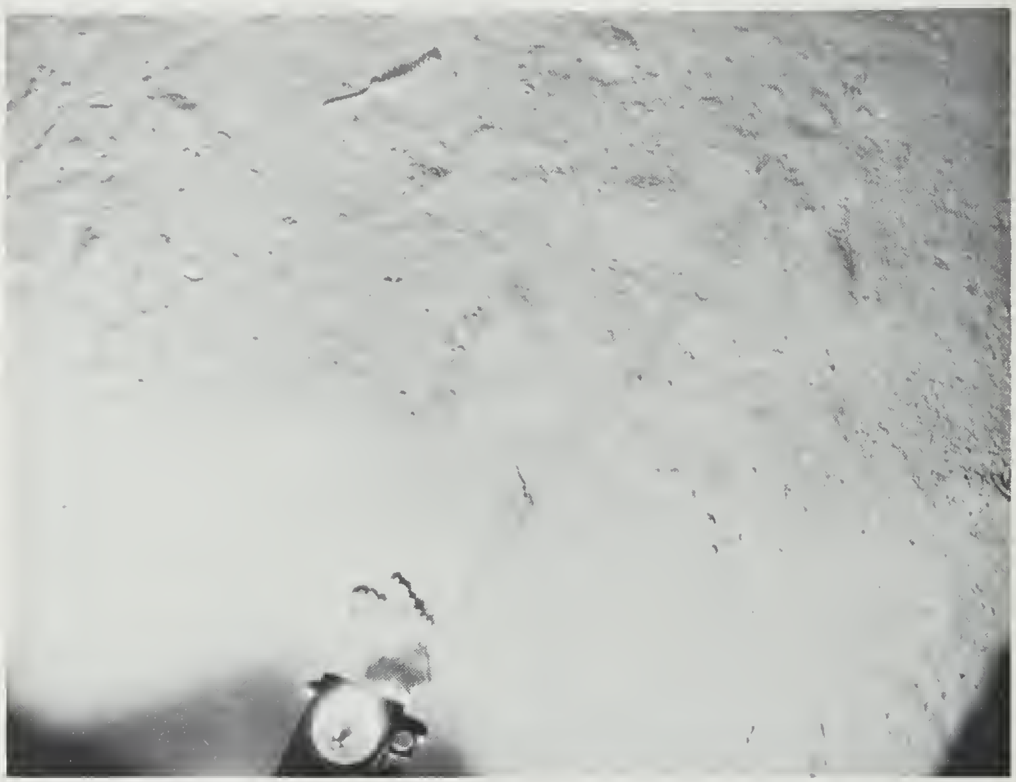

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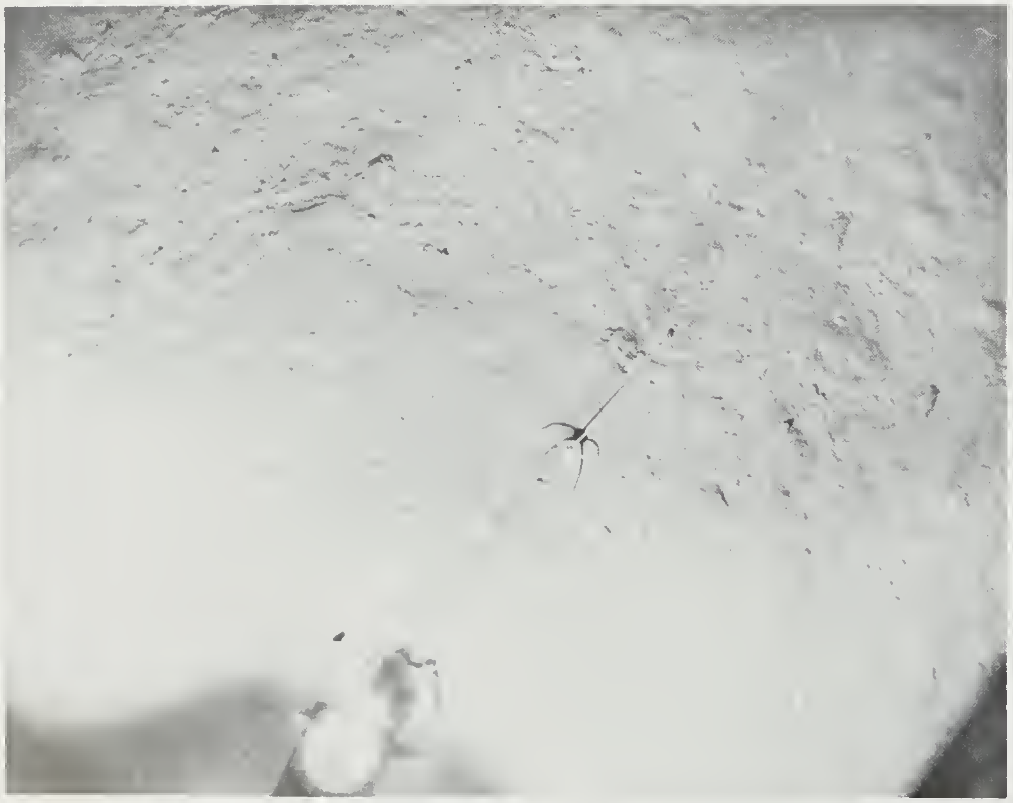
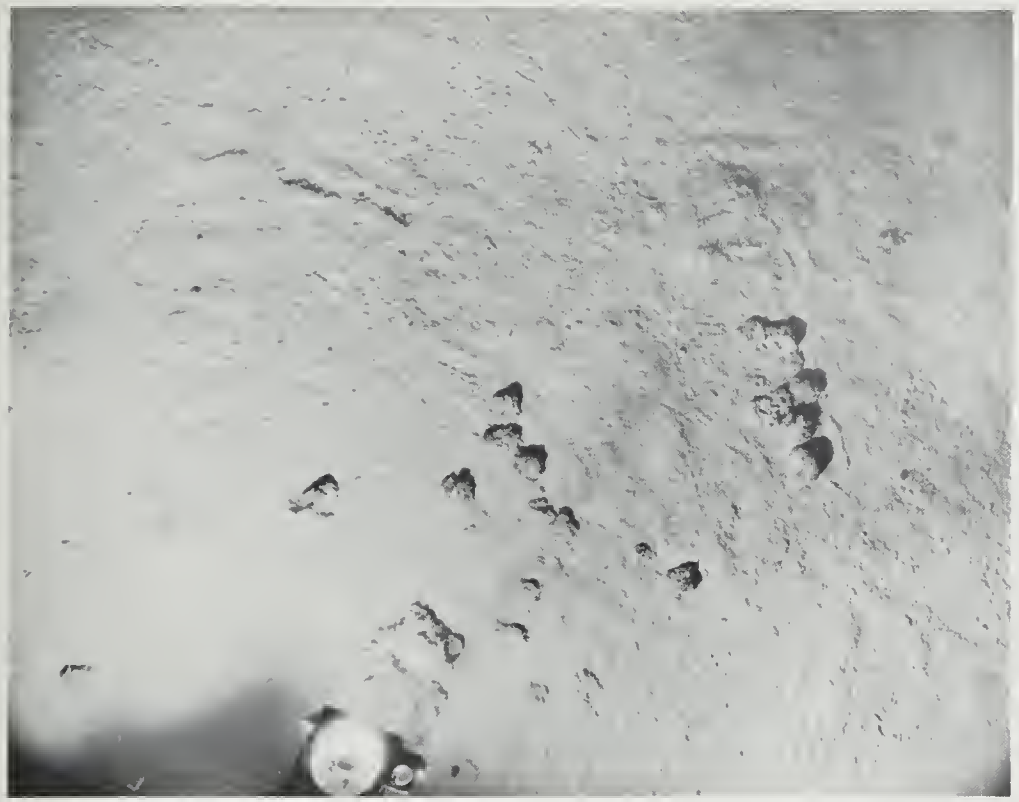
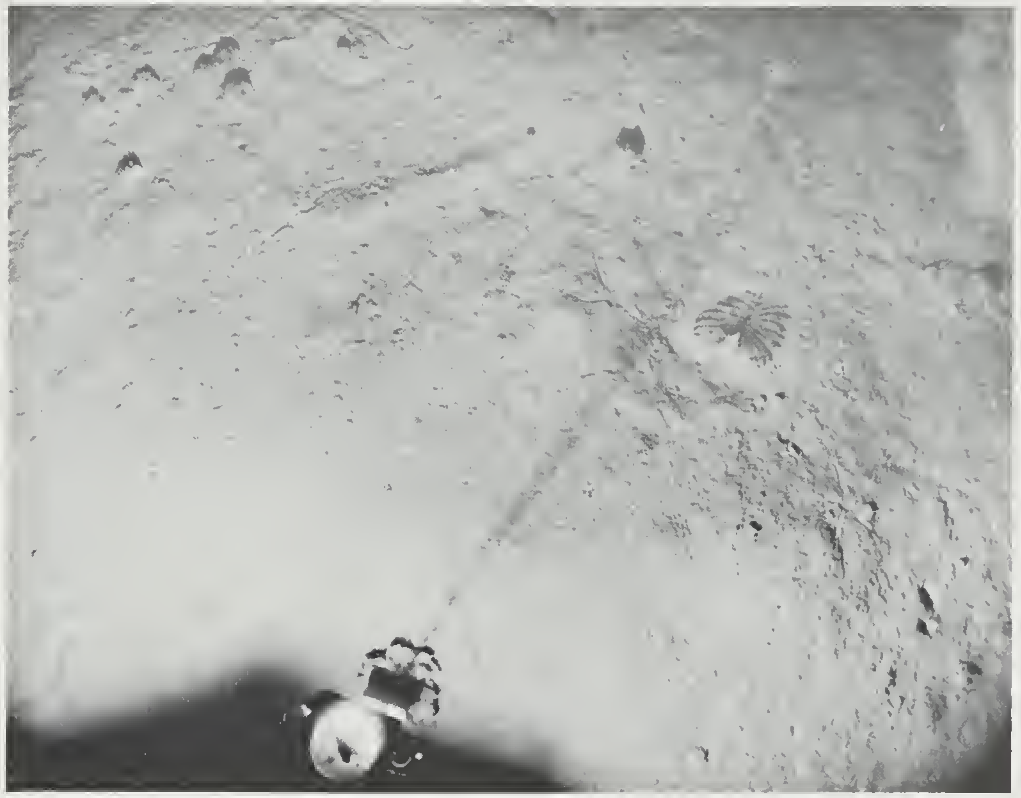


K85—10

K85—11

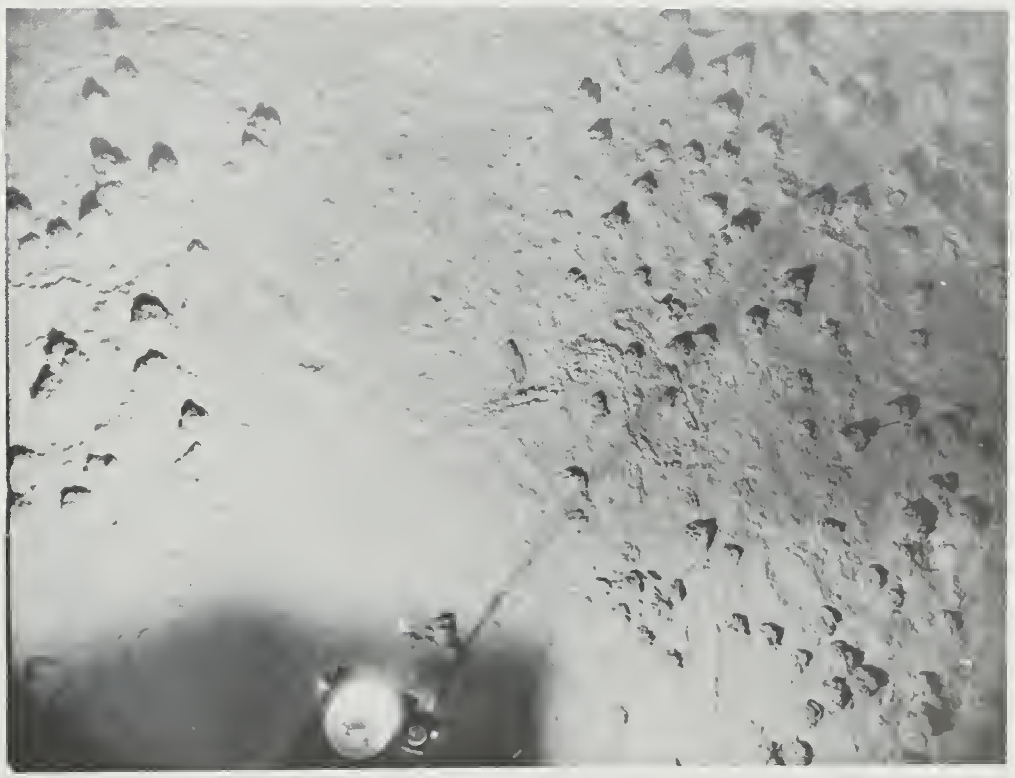


K86—6



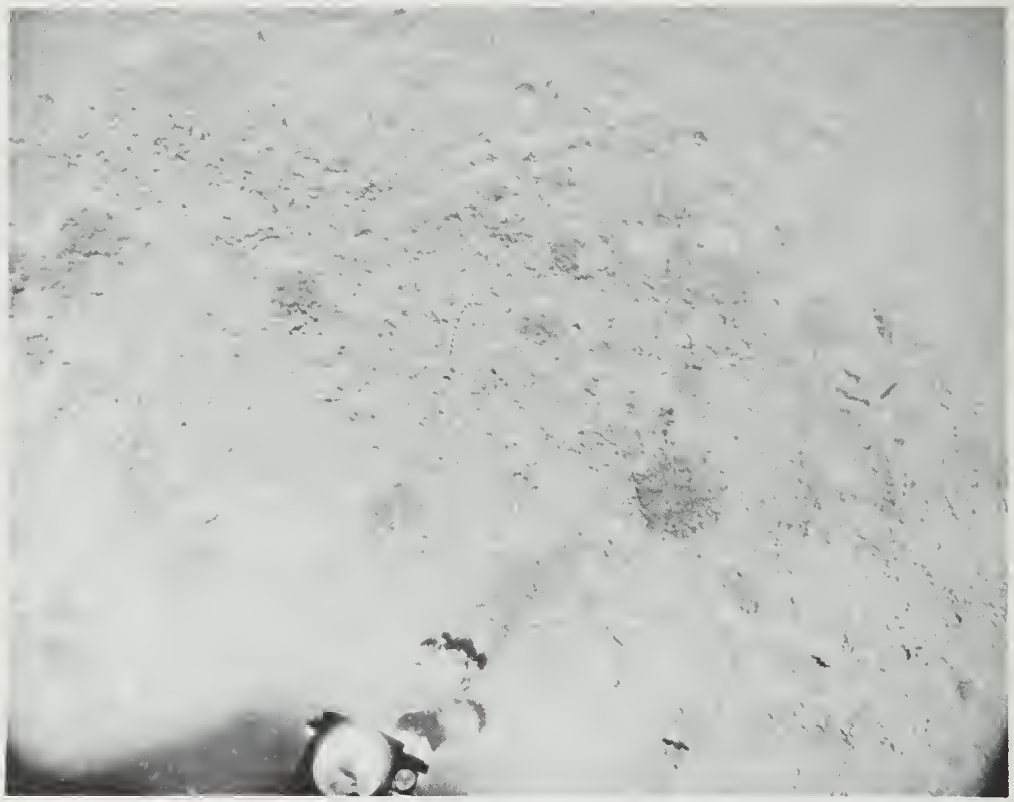
K86—10

K86—13



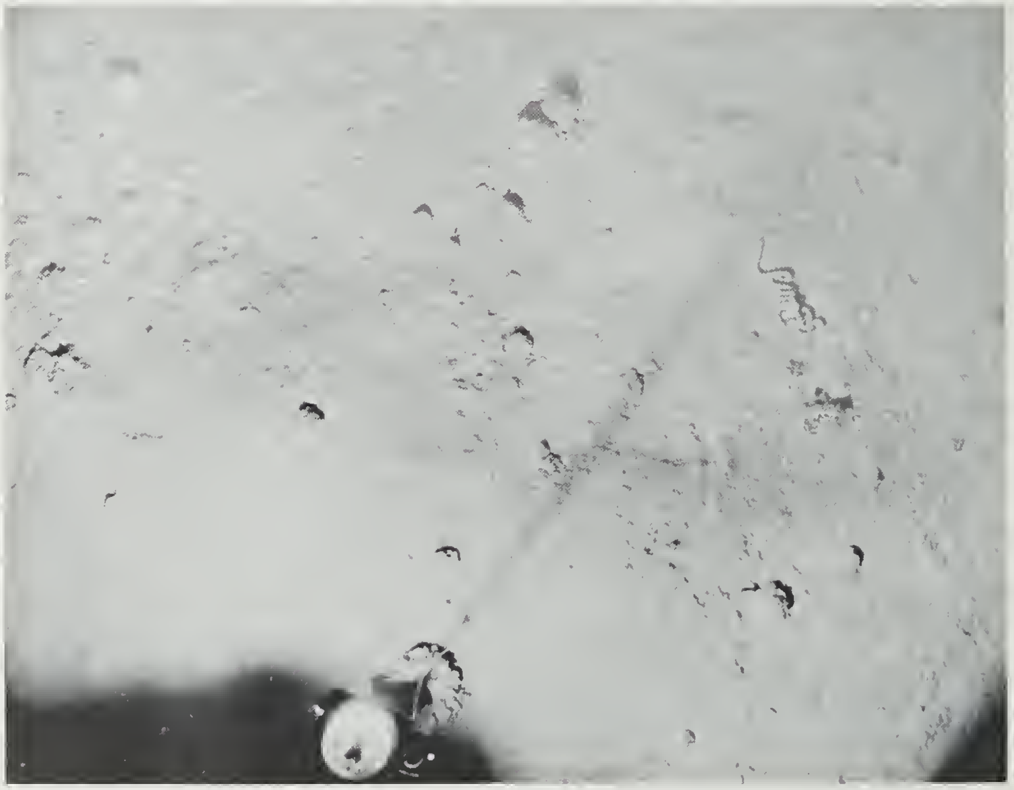
K86—14

K87—1



K87—2

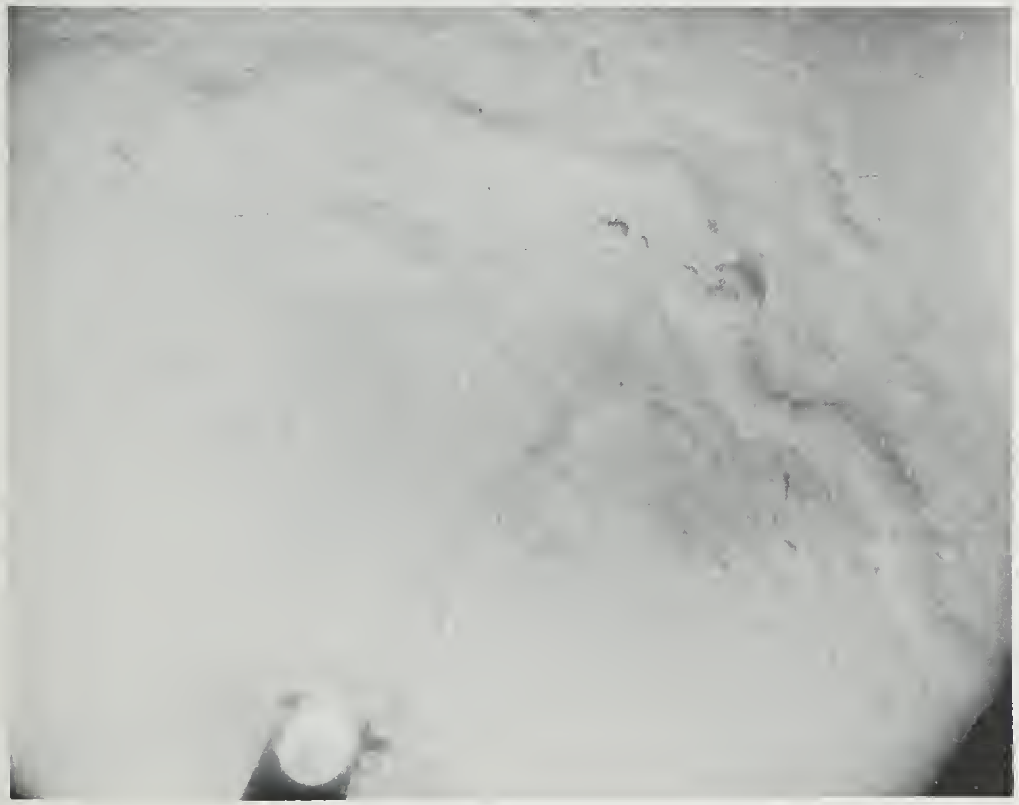
K88—4



K88—5

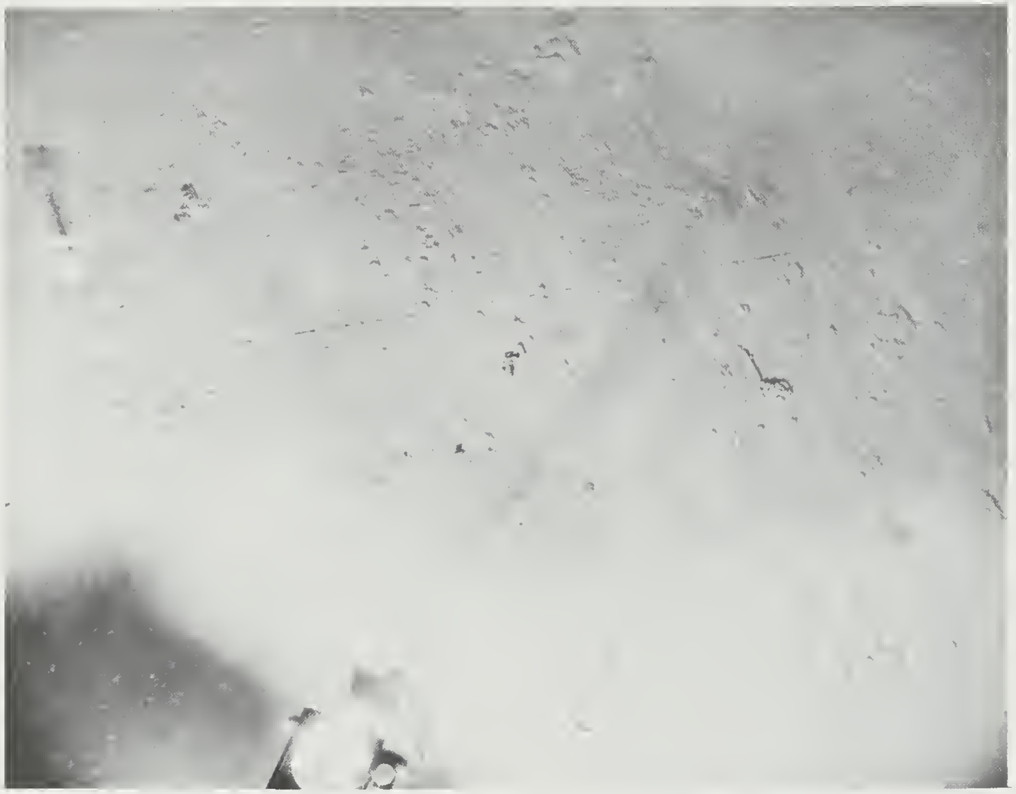
K89—2

K89—5



K90—1

K91—6



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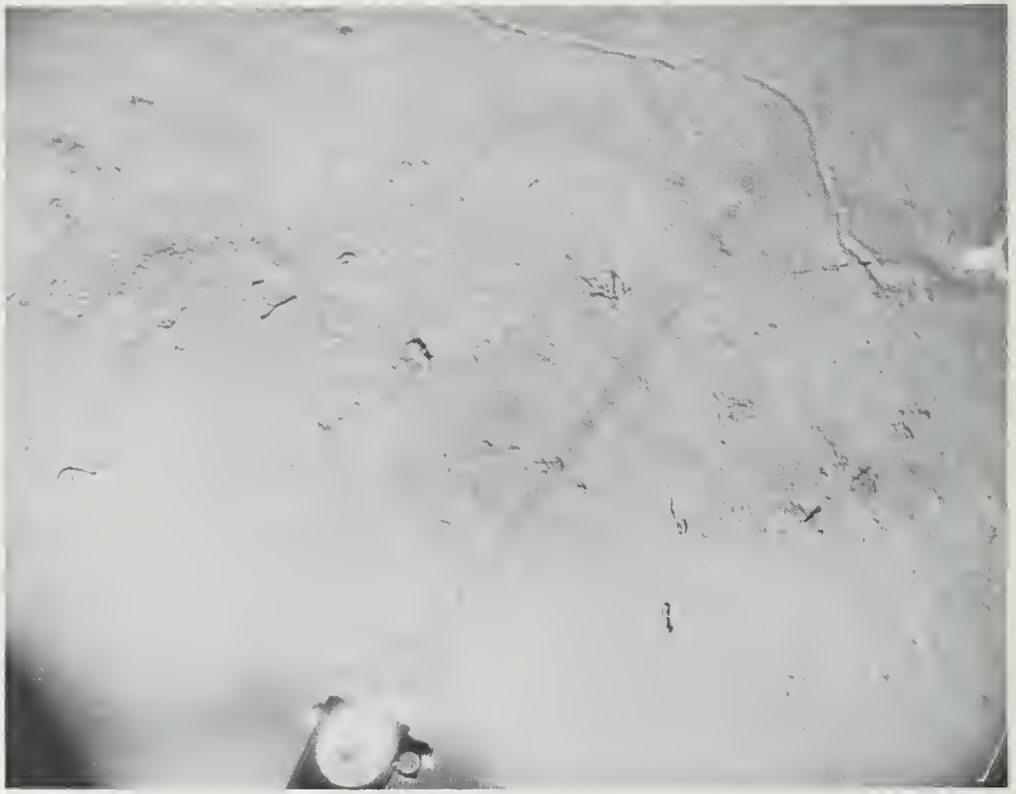

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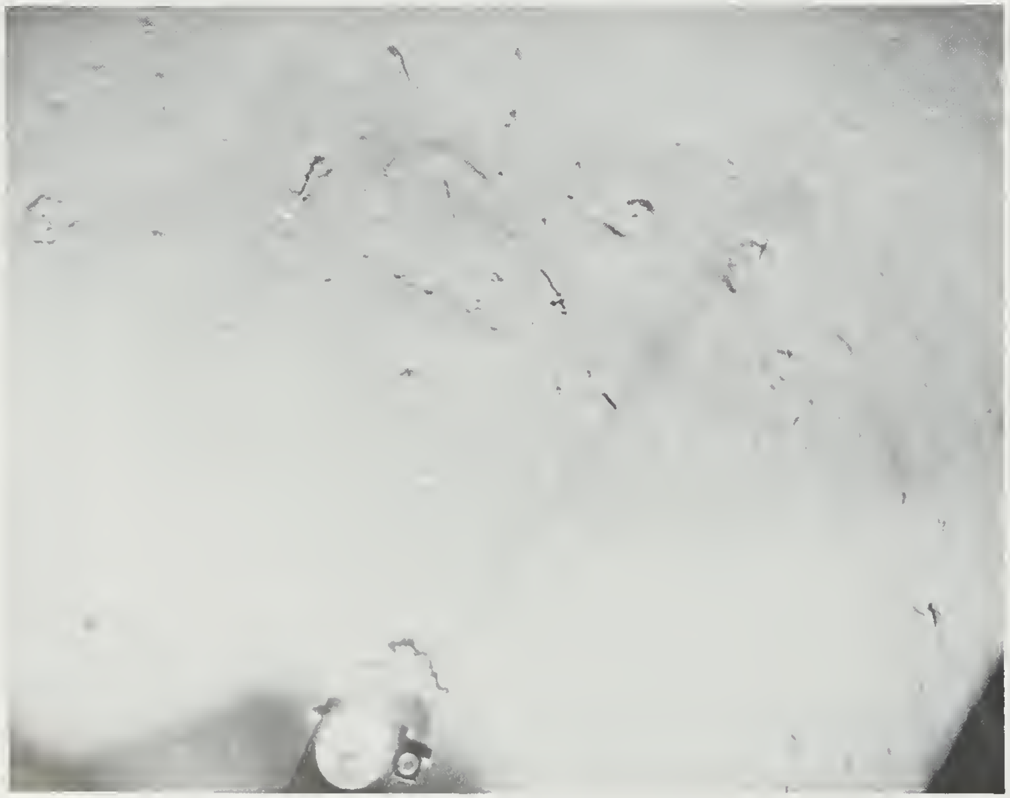


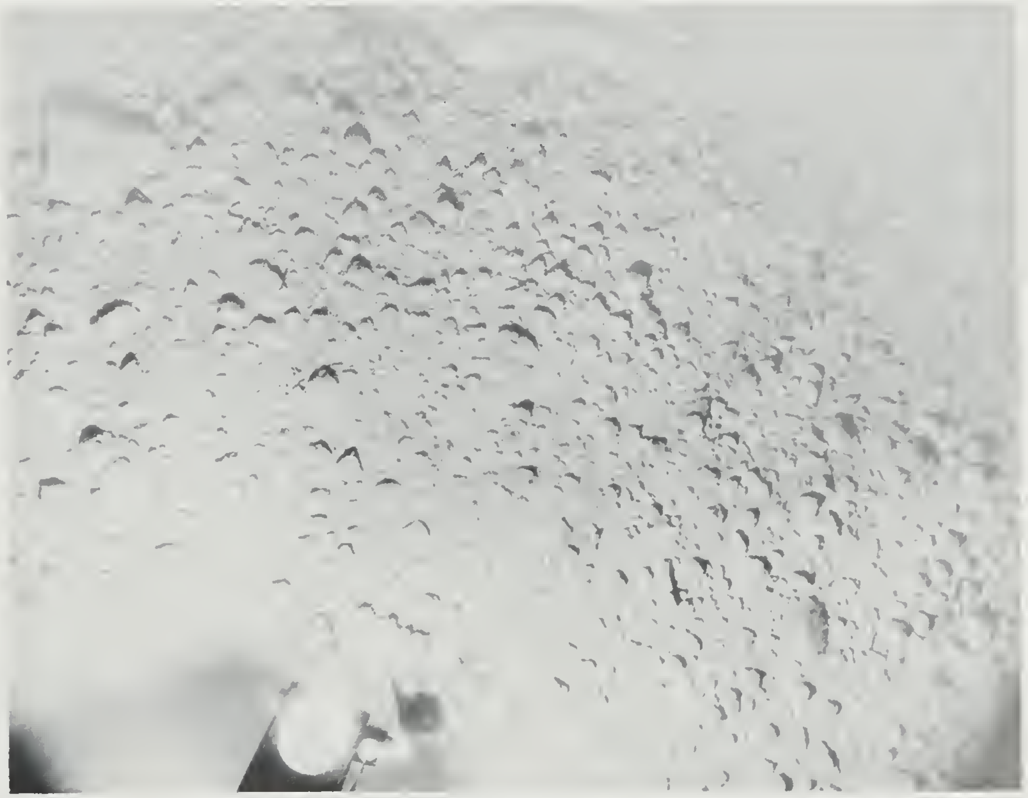
K92—1

K92—5

K92—10

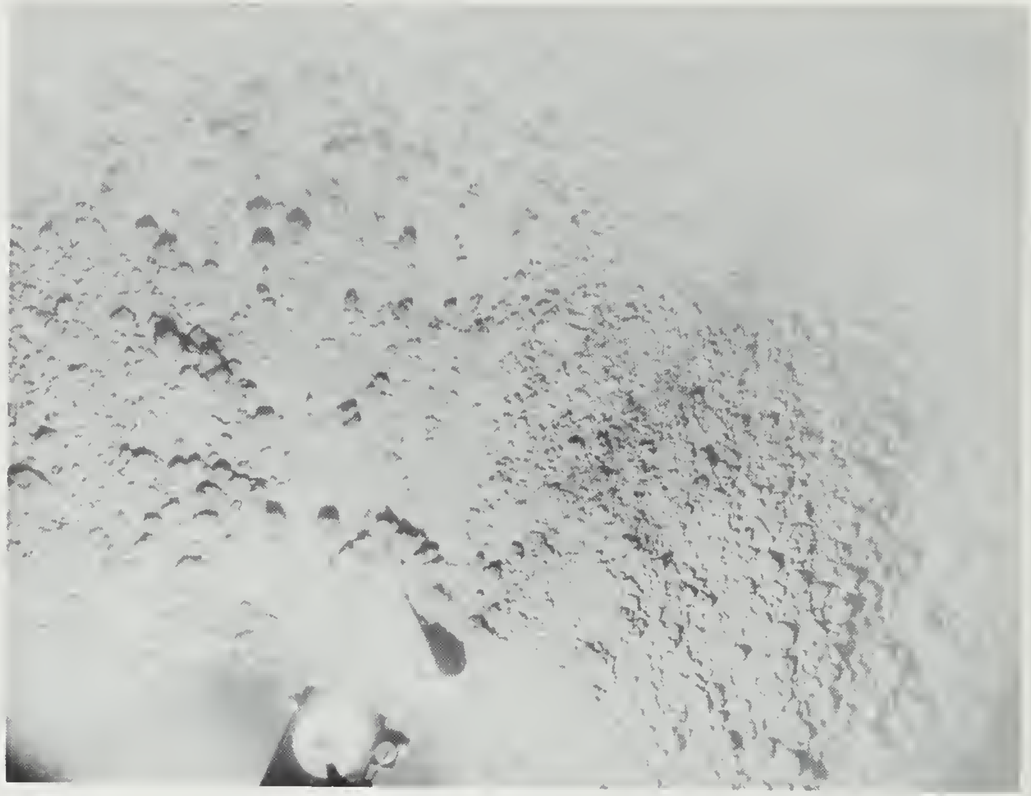
K93—7

K93—14



K94—2

K94—3



K94—4

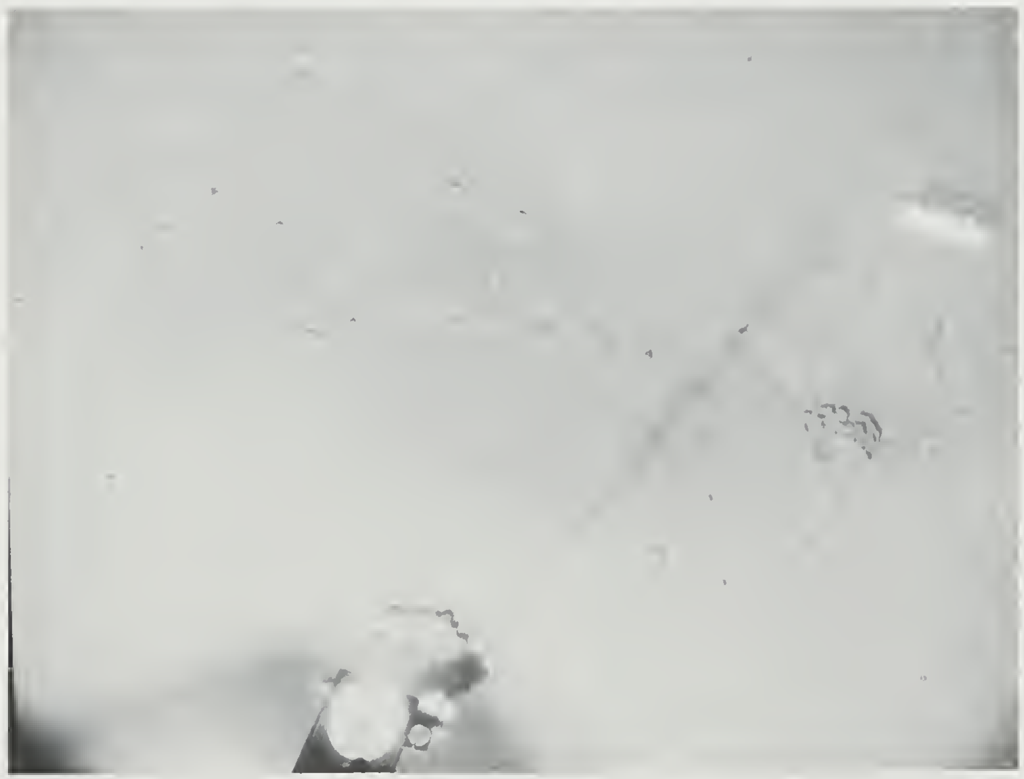
K94—11

K95—1

K95—7

K95—9

K96—2



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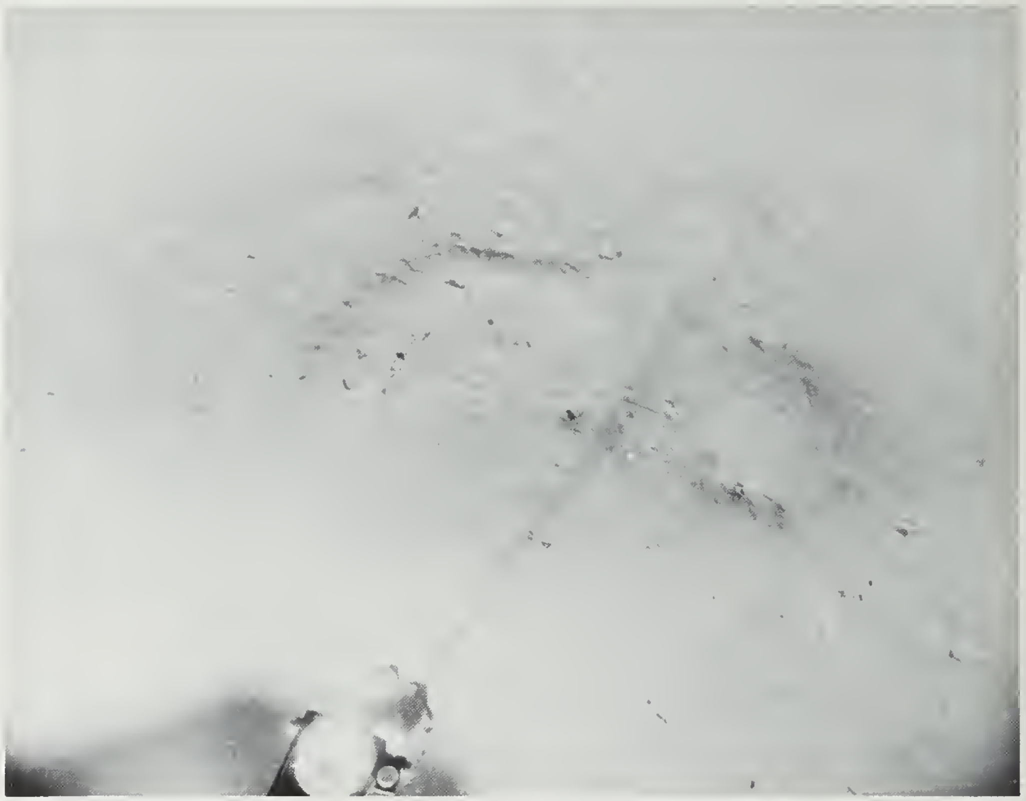
K96 — 6



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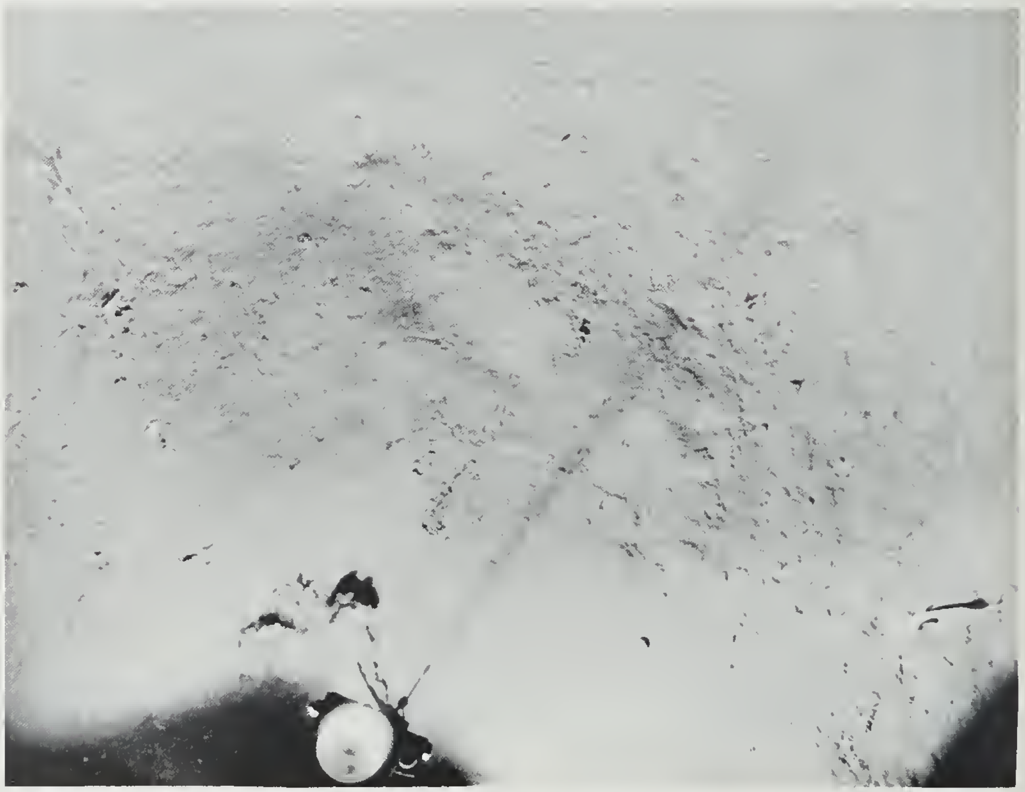
K97—1



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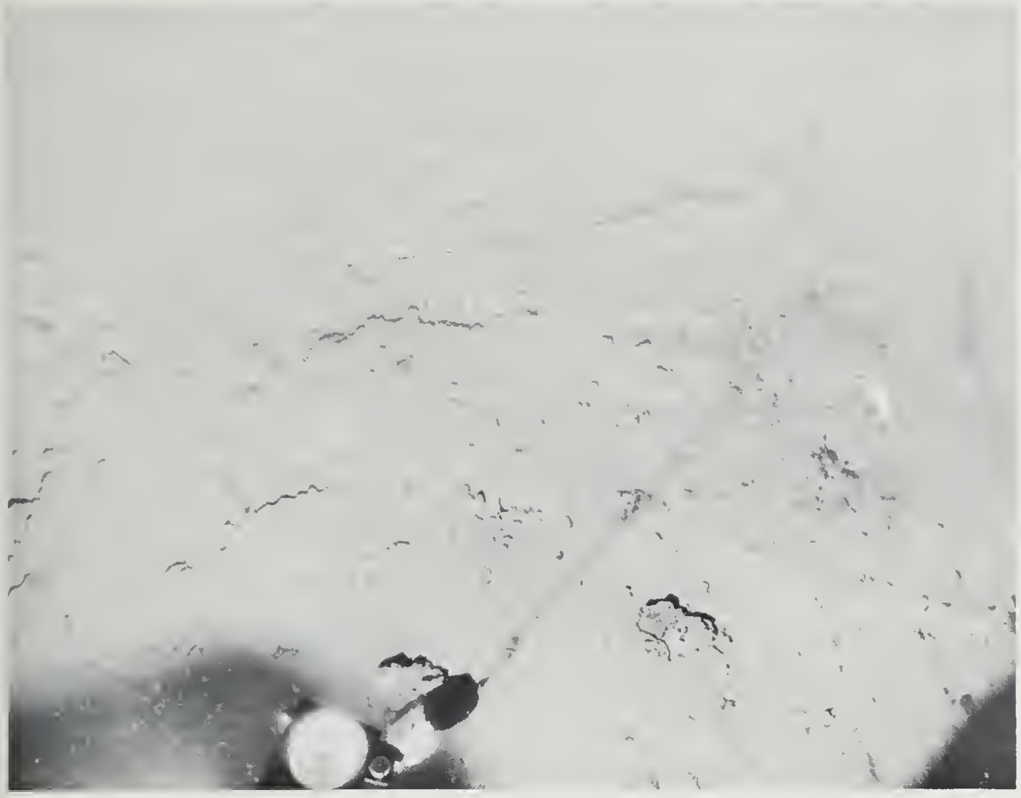
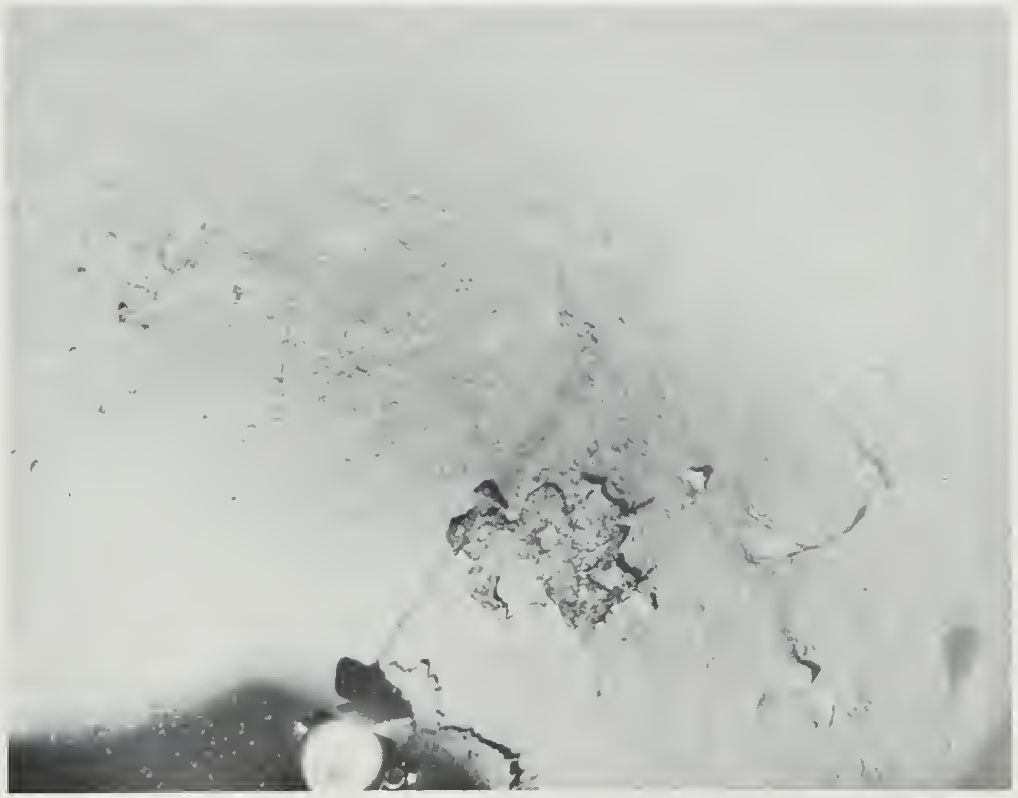


K97—8

K97—9

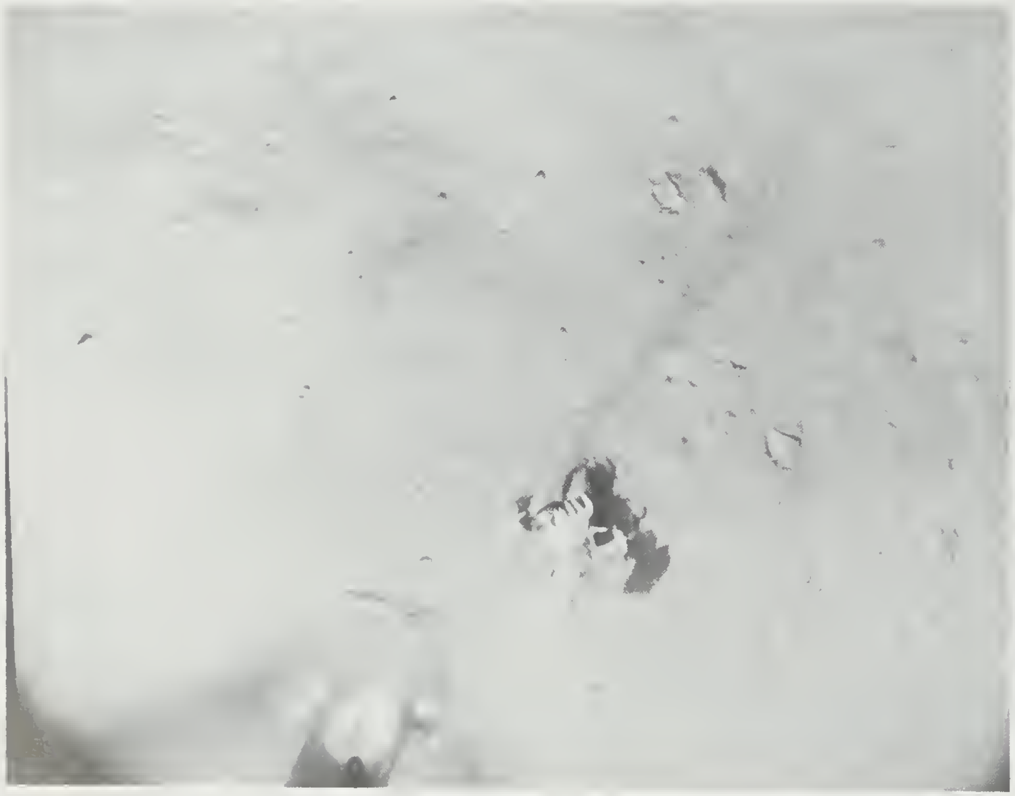
K97—11



K97—12

K98—4

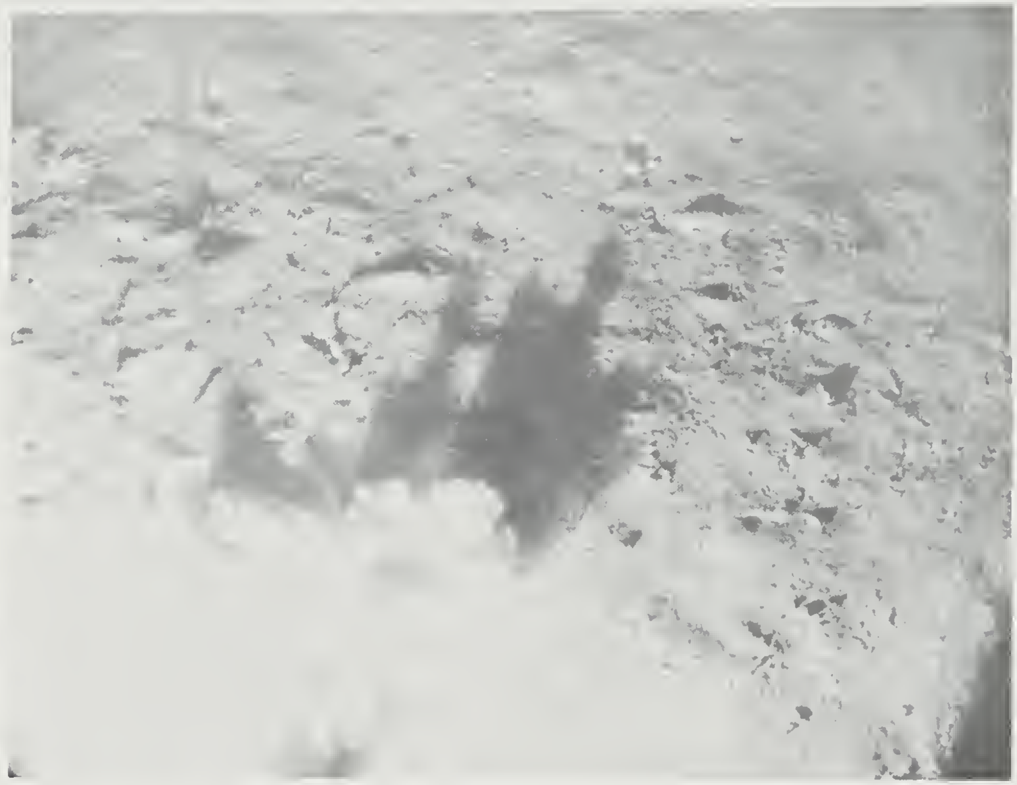
K98—6



K98—8

K99—1

K99—6

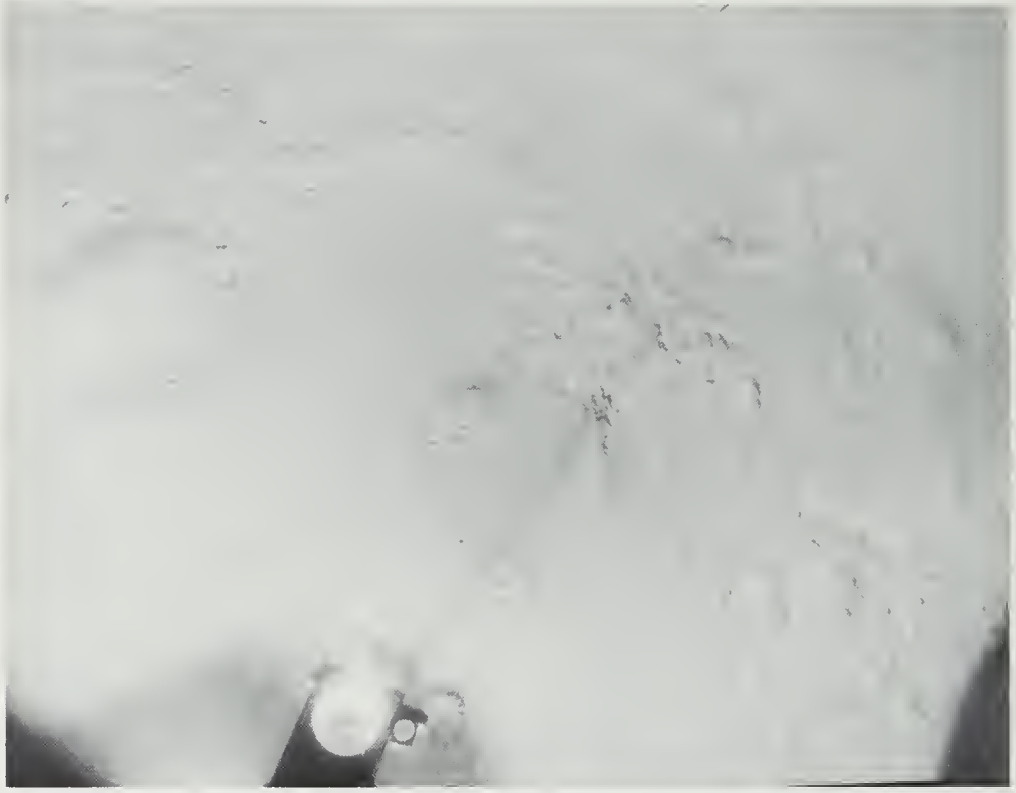


K99—10

K100—15

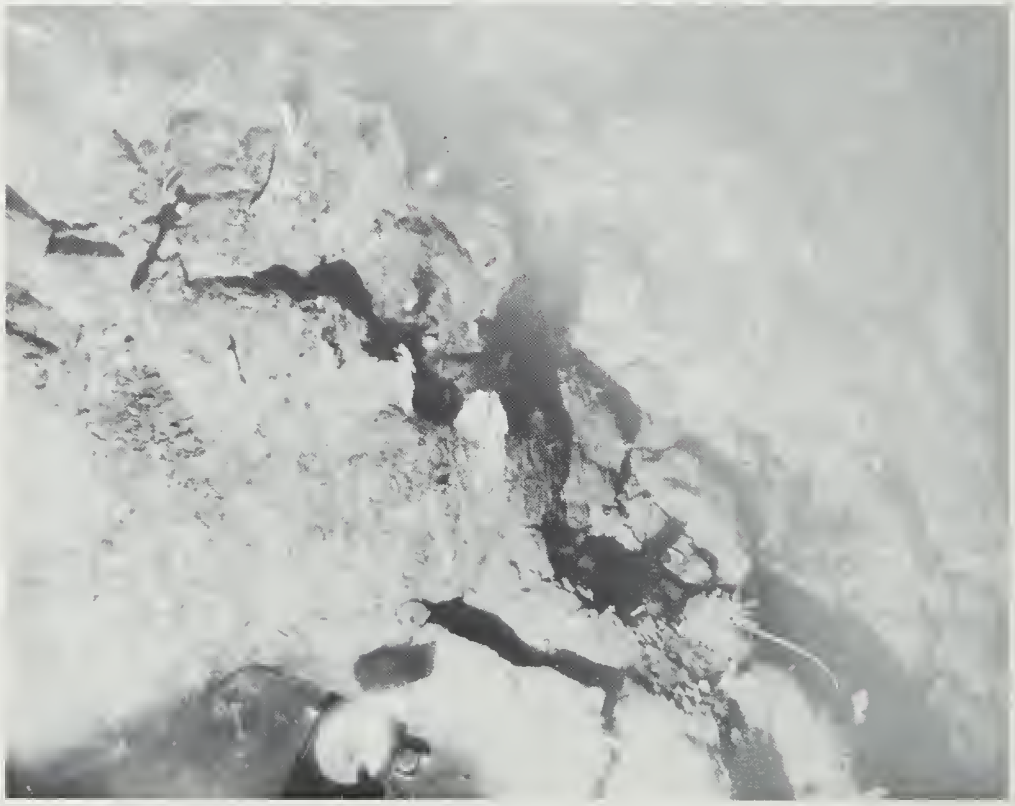
K100—16

K101 — 2



K101—3

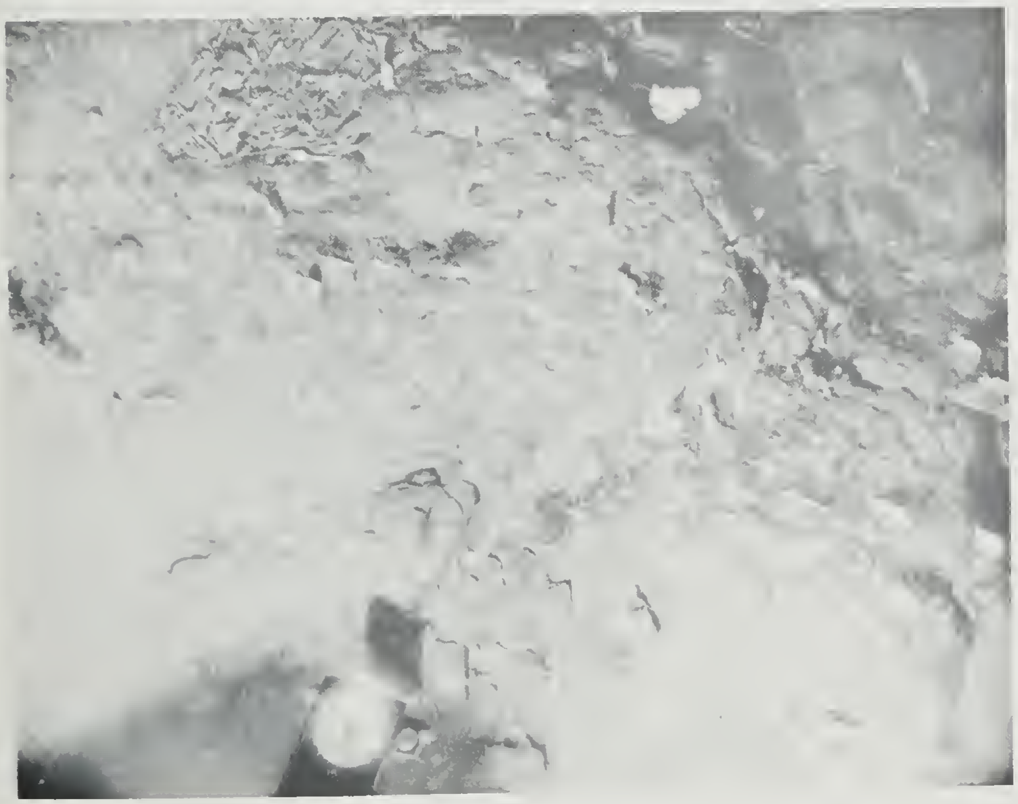
K102—3



K102—5

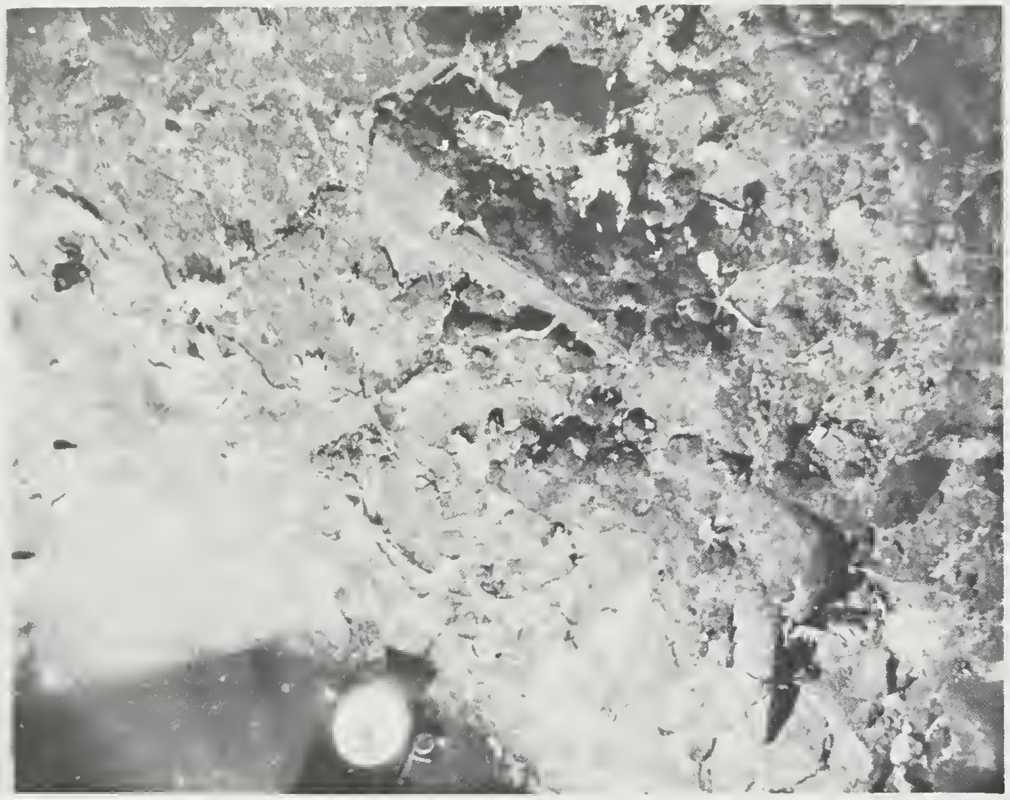
K102—6

K102—7



K102—8

K102—11



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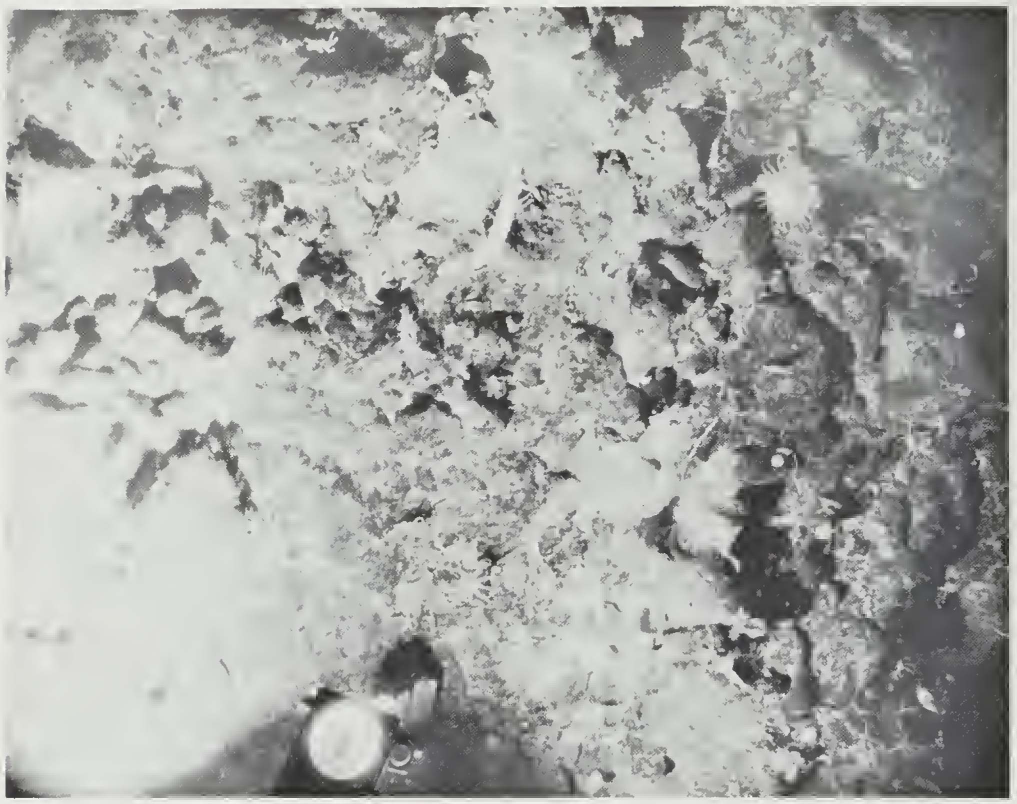
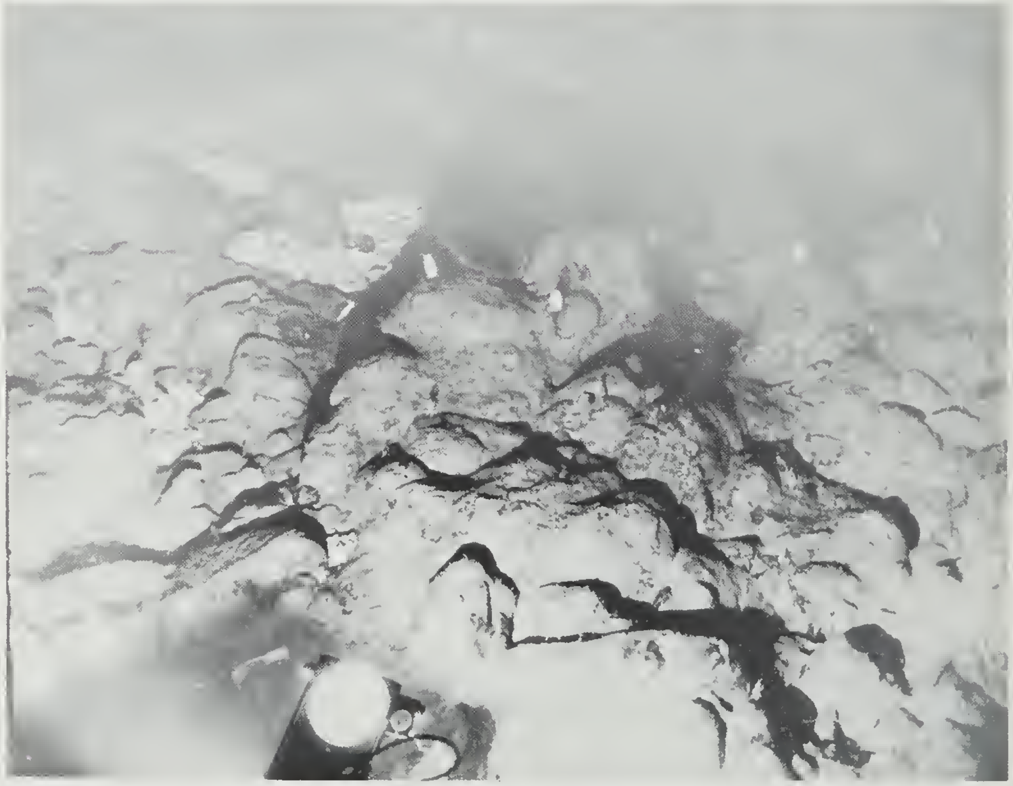


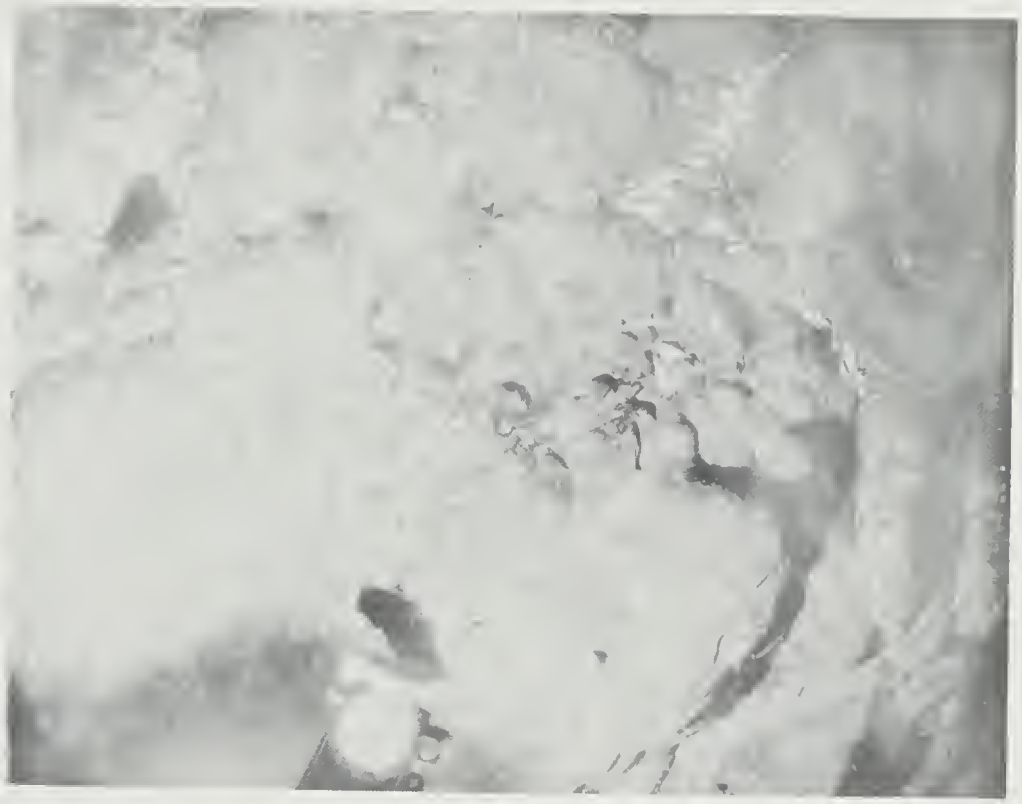
K102—14

K102—16



K102—19

K102—20



K102—21

K102—22

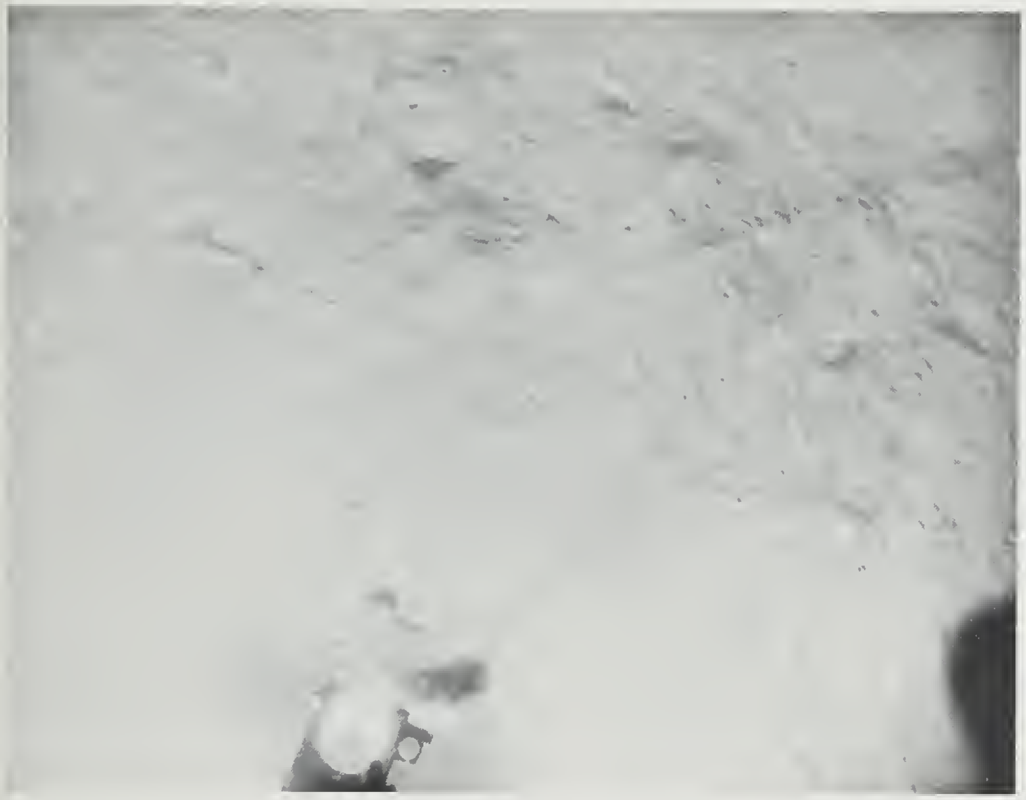
K103—3

K103—5

K103—11

K103—16

K103—17



K104—5

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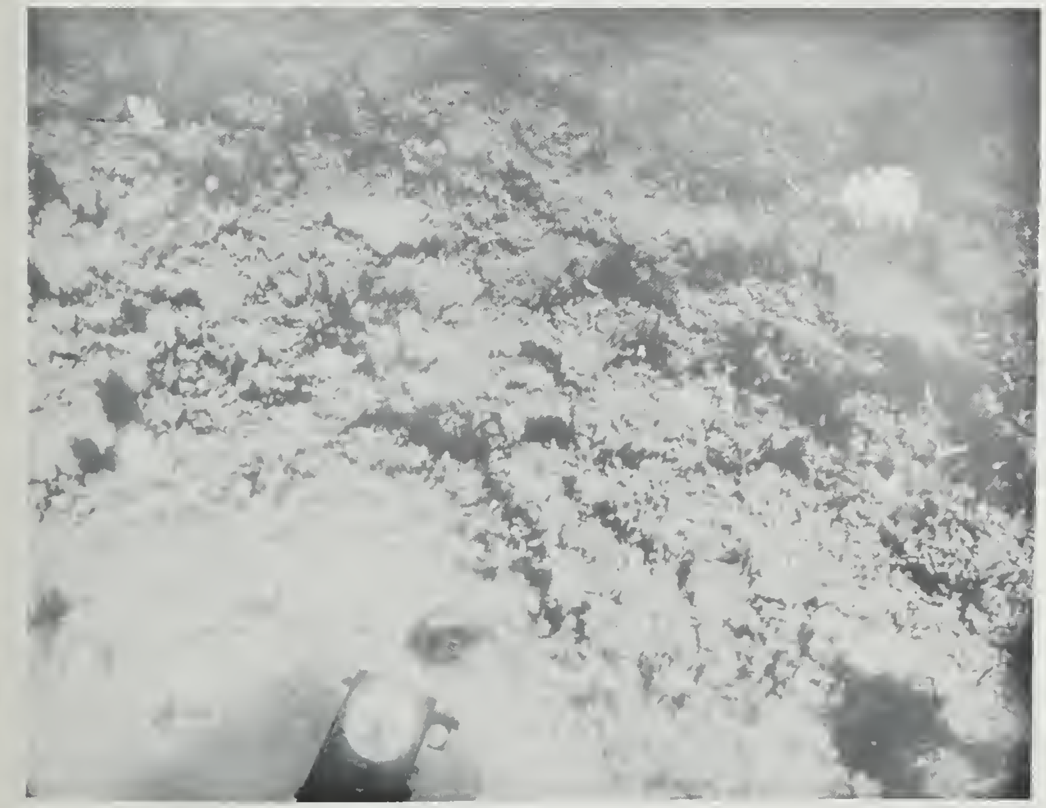
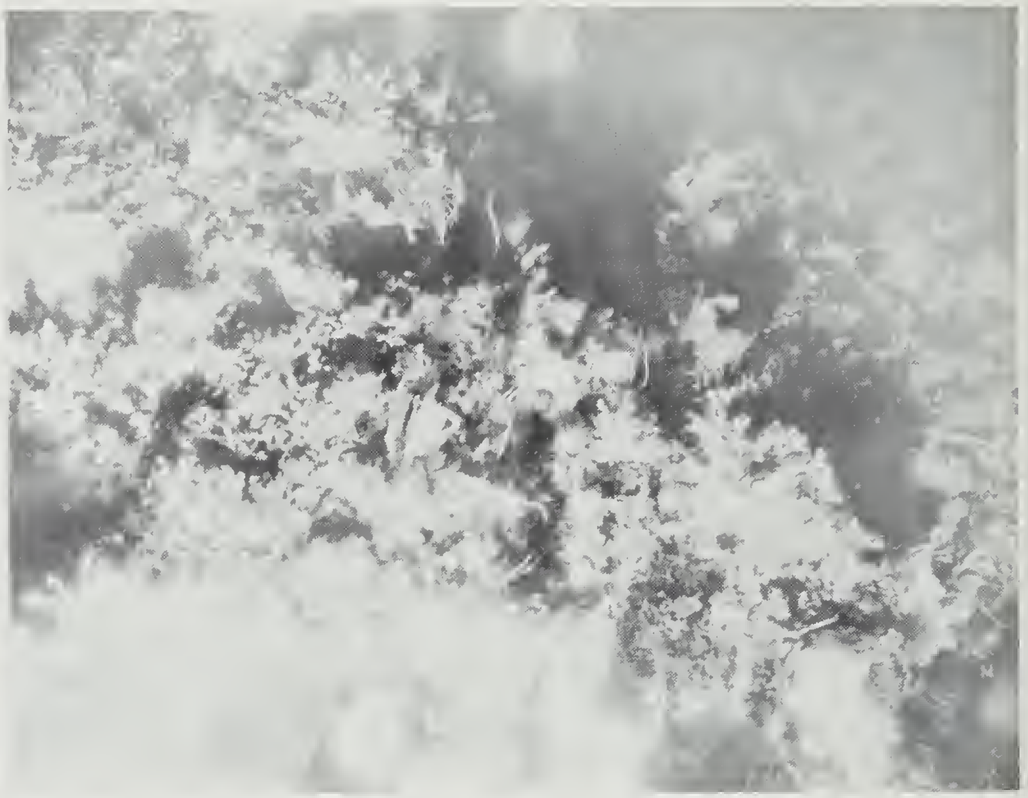


K105—2

K105—7

K105—9



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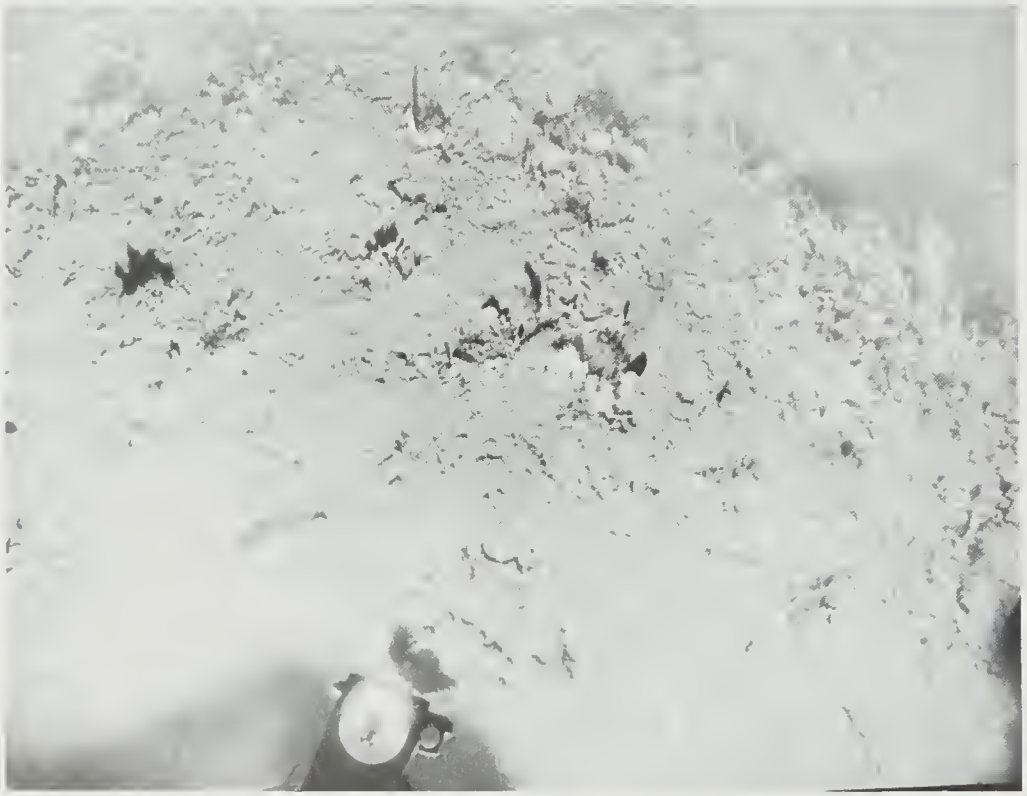
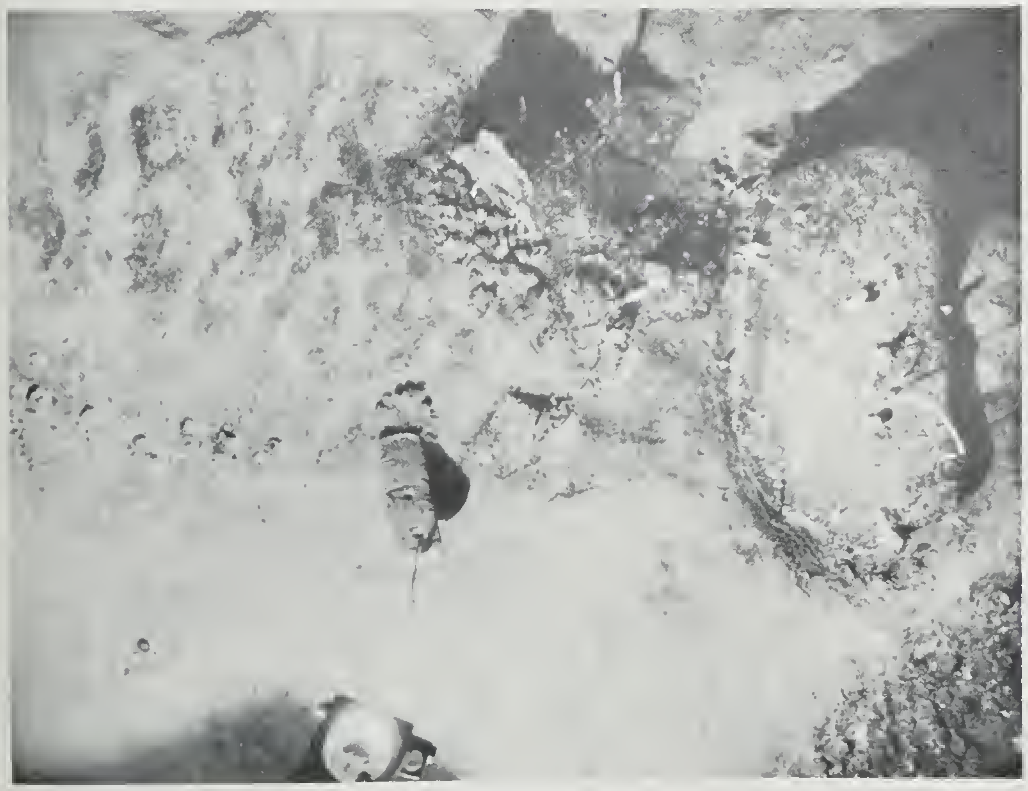


K105—13

K105—15

K105—16

K106—2



K106—3

K106—4

K106—5

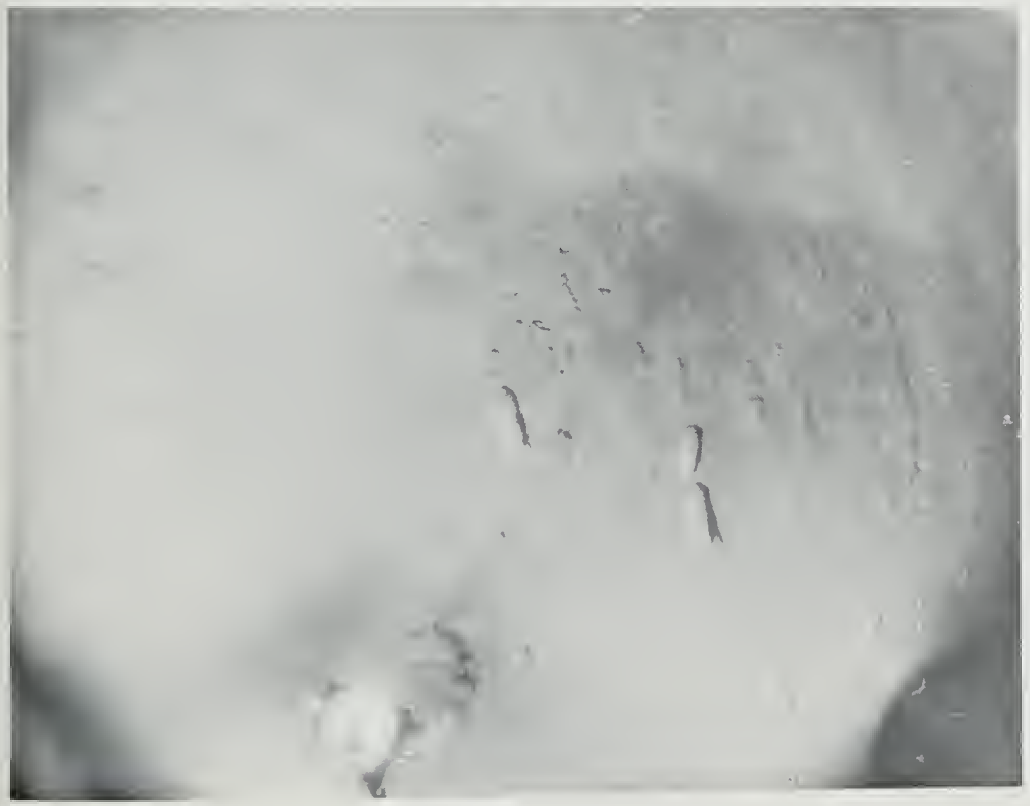
K106—18

K106—20

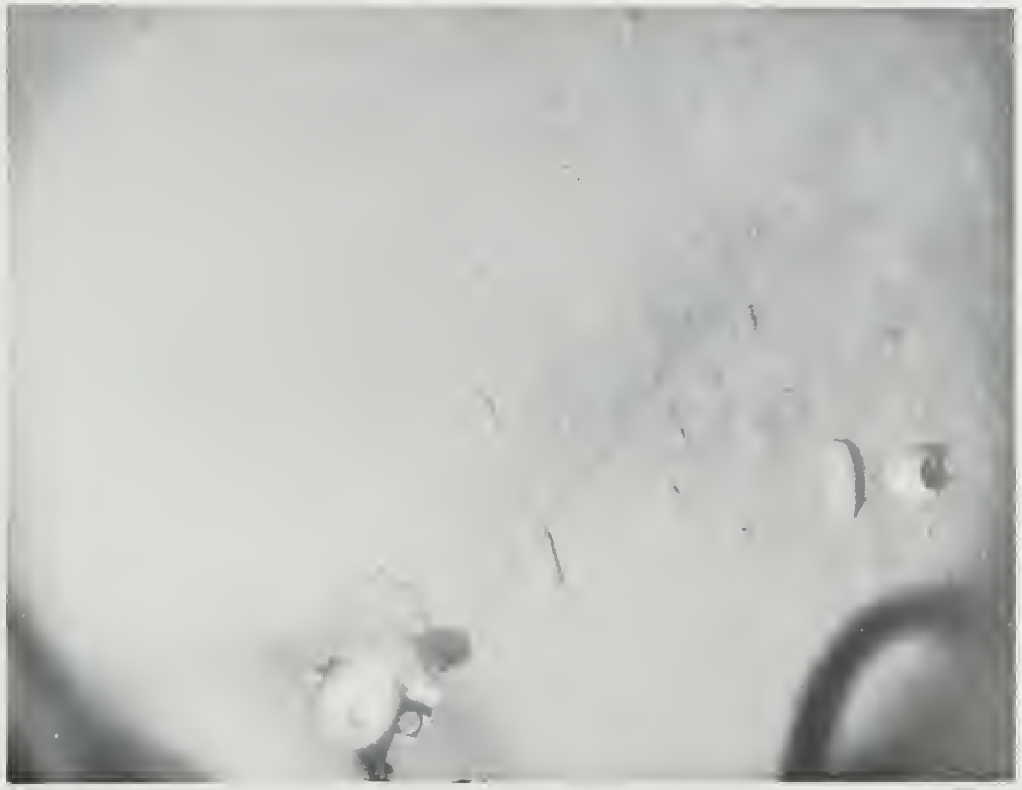
K106—21

K106—24

K107—1



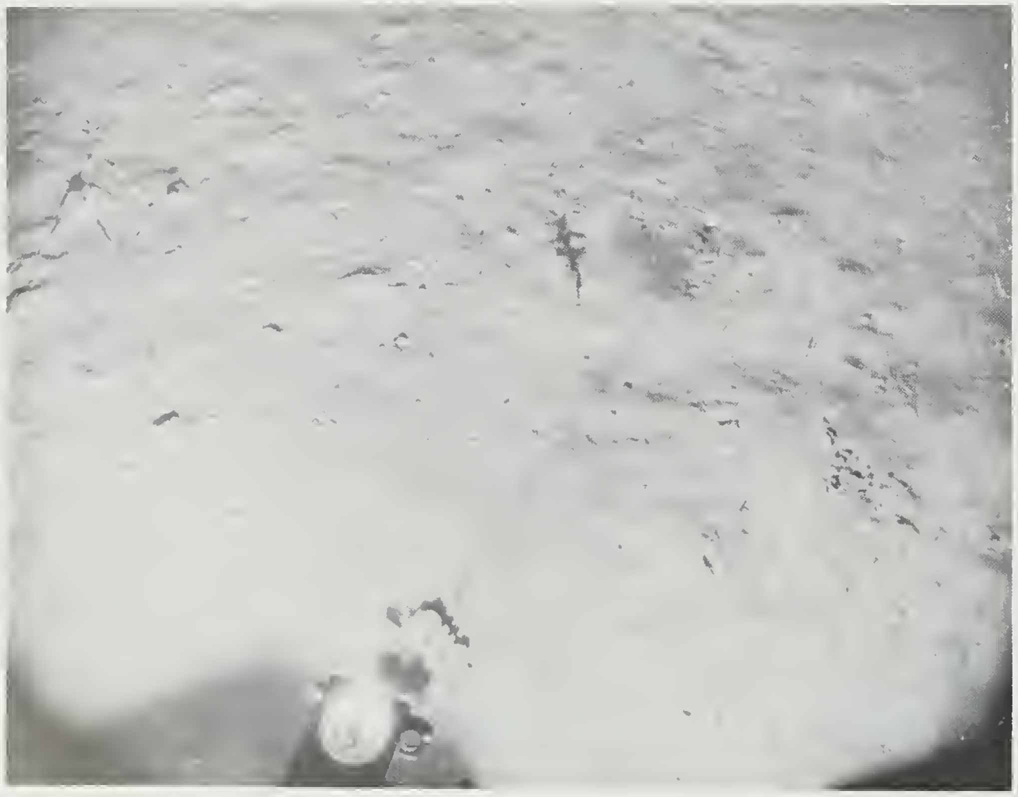
K109—13



K109—15

K110—9

K110—10



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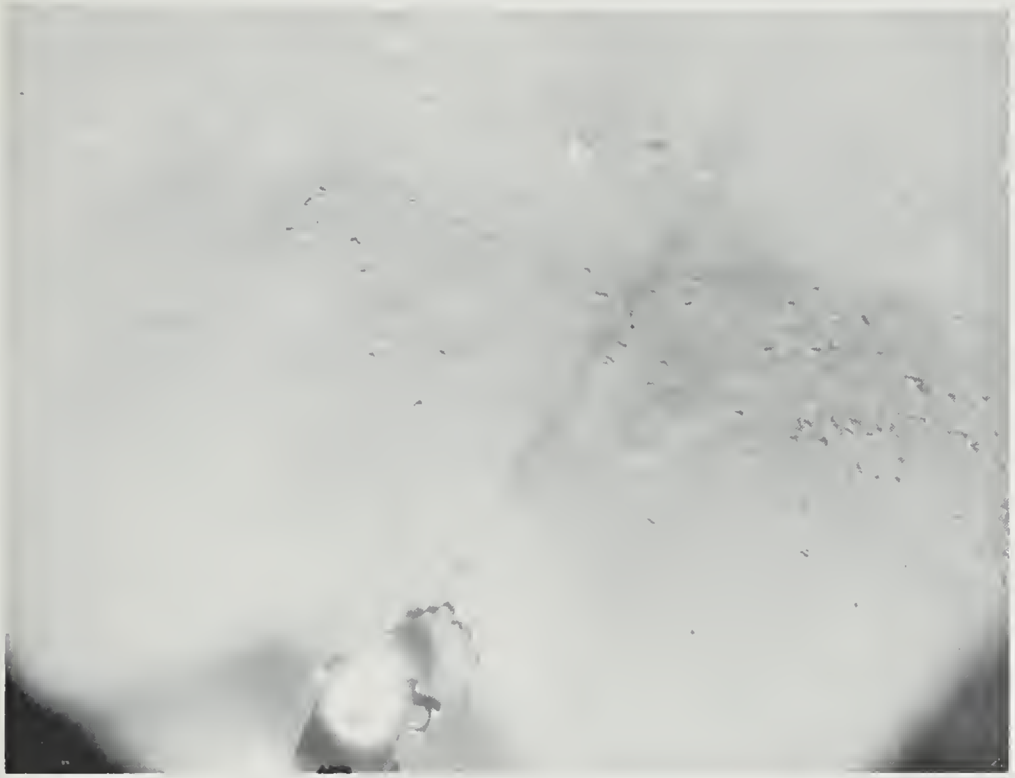
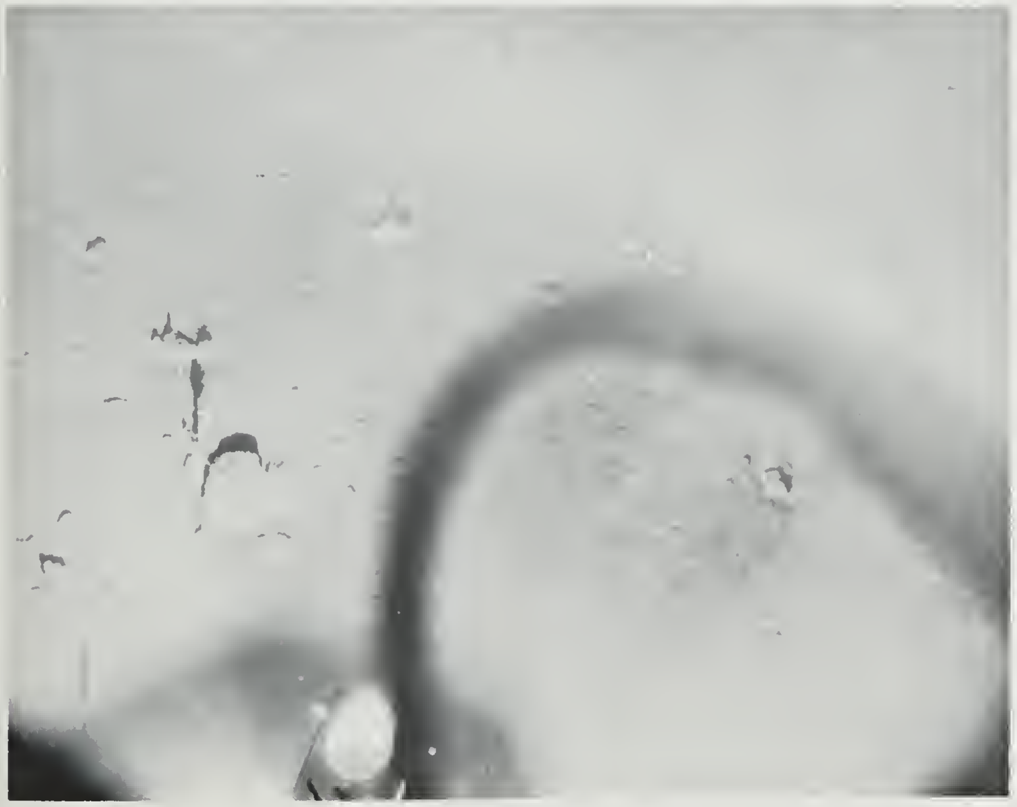
K111—7



K111—8

K112— 2



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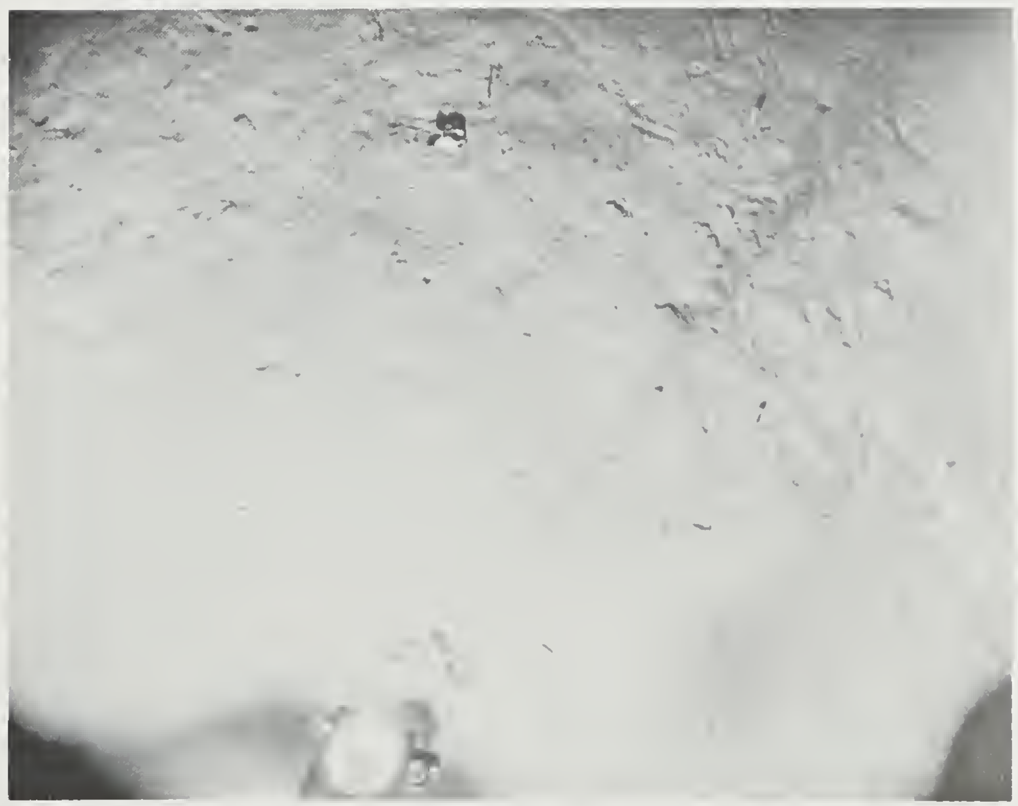
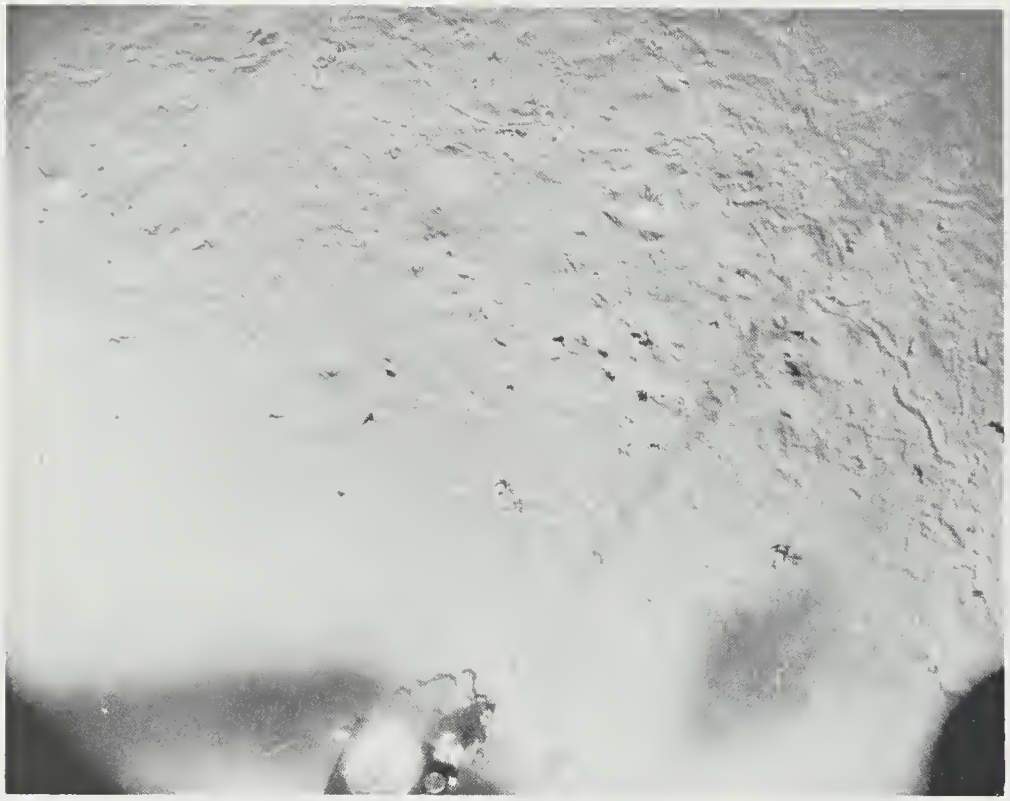


K113—1



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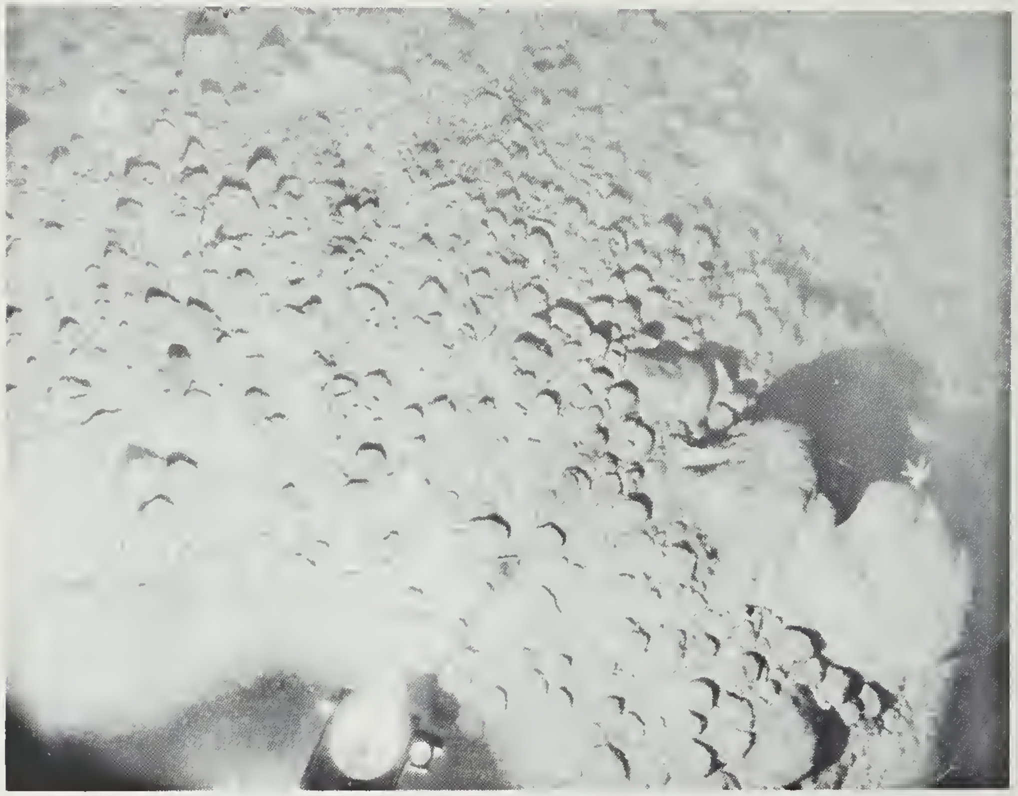


K114—1

K114—2

K114—4

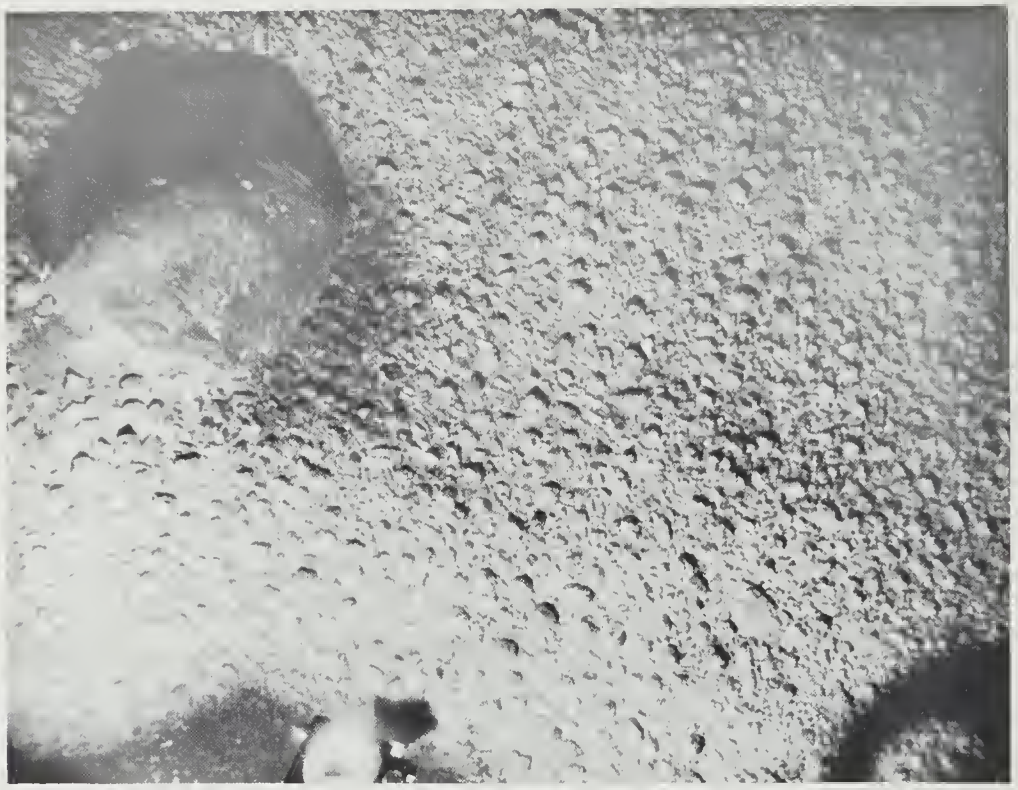
K114—5

K114—8

K115—2

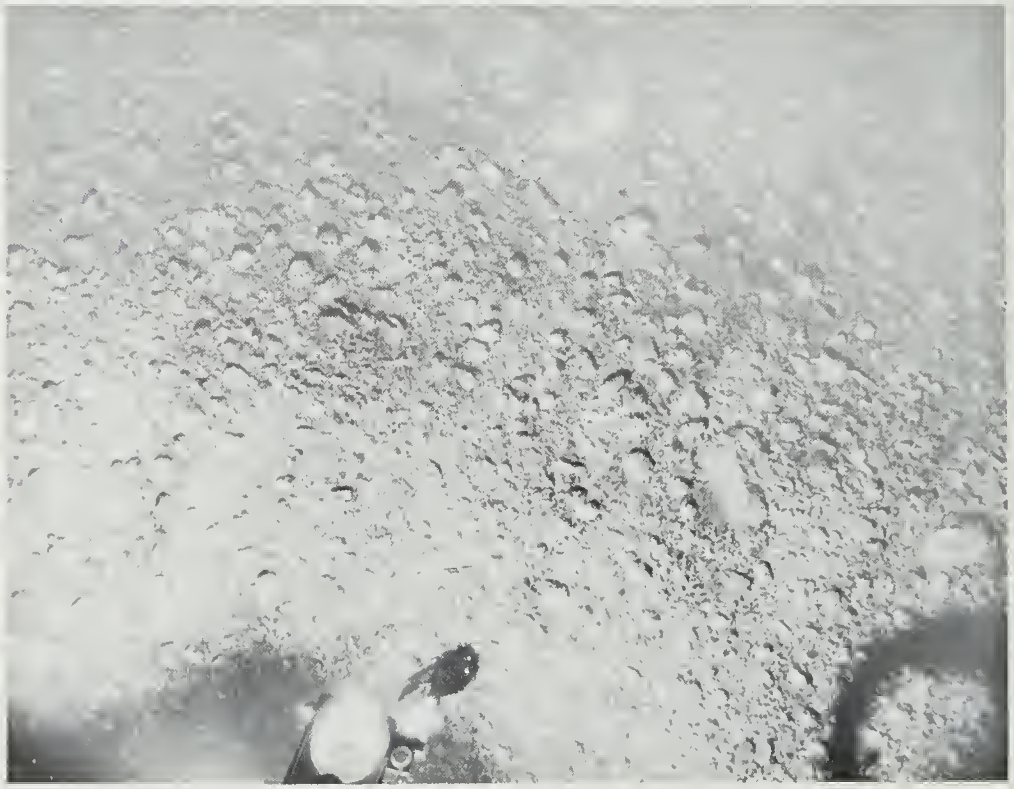
K115—3

K116—8

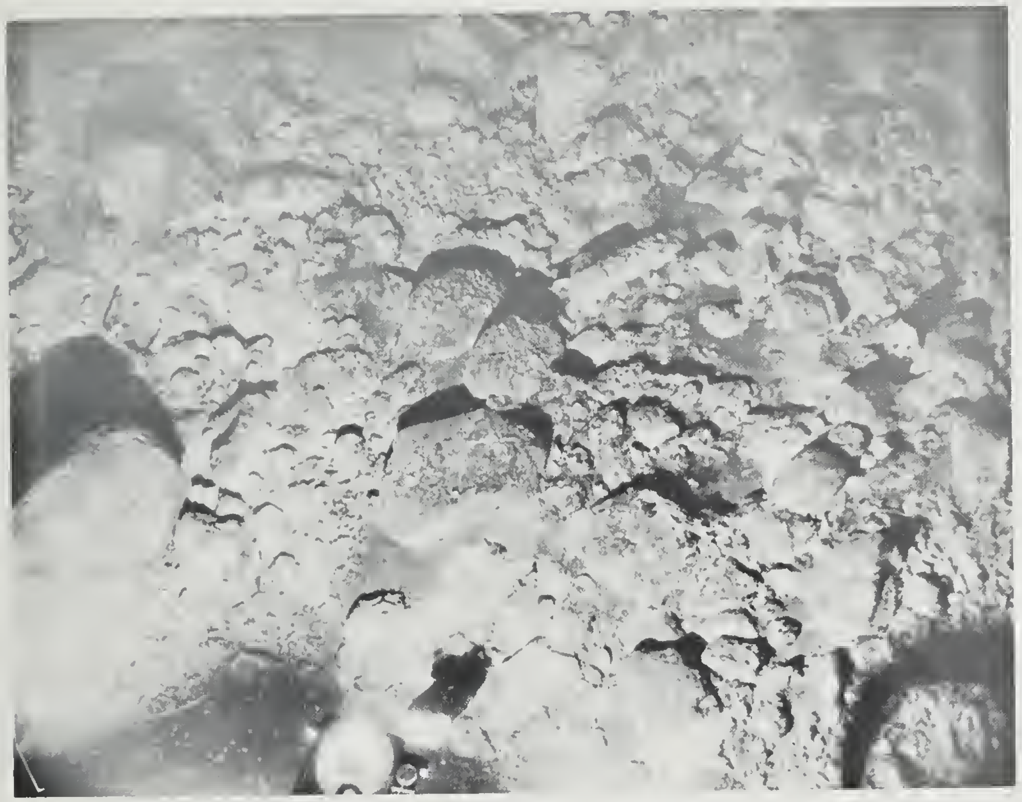


K117—1

K117—2



K117—5



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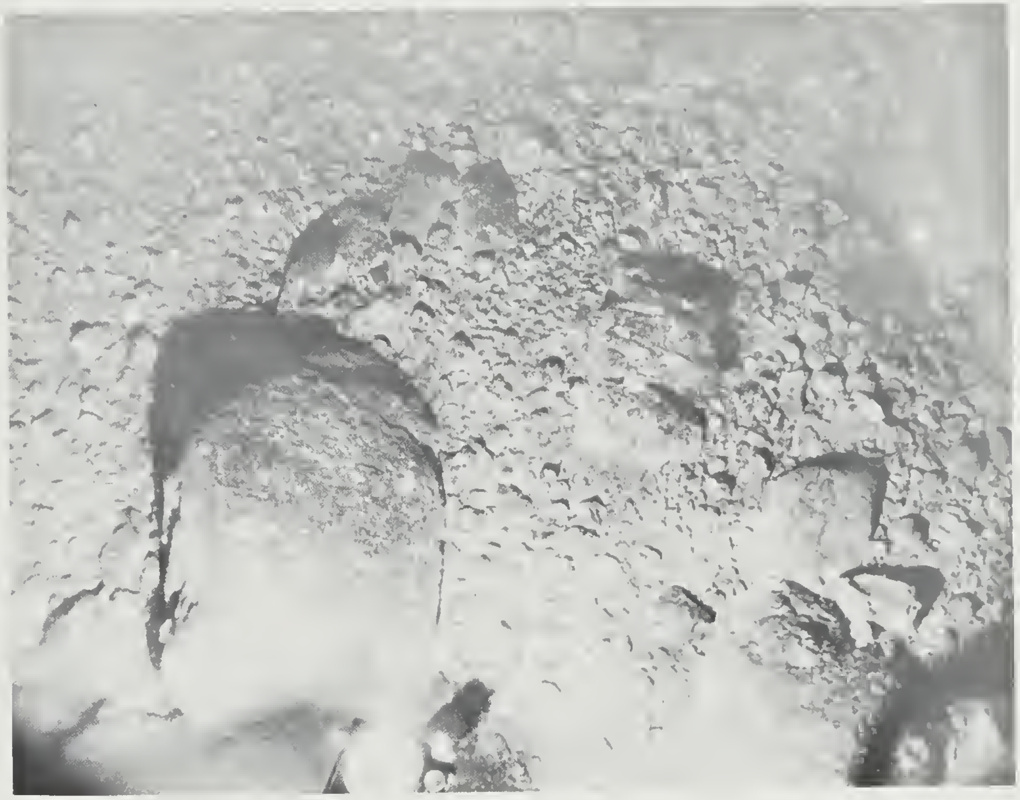
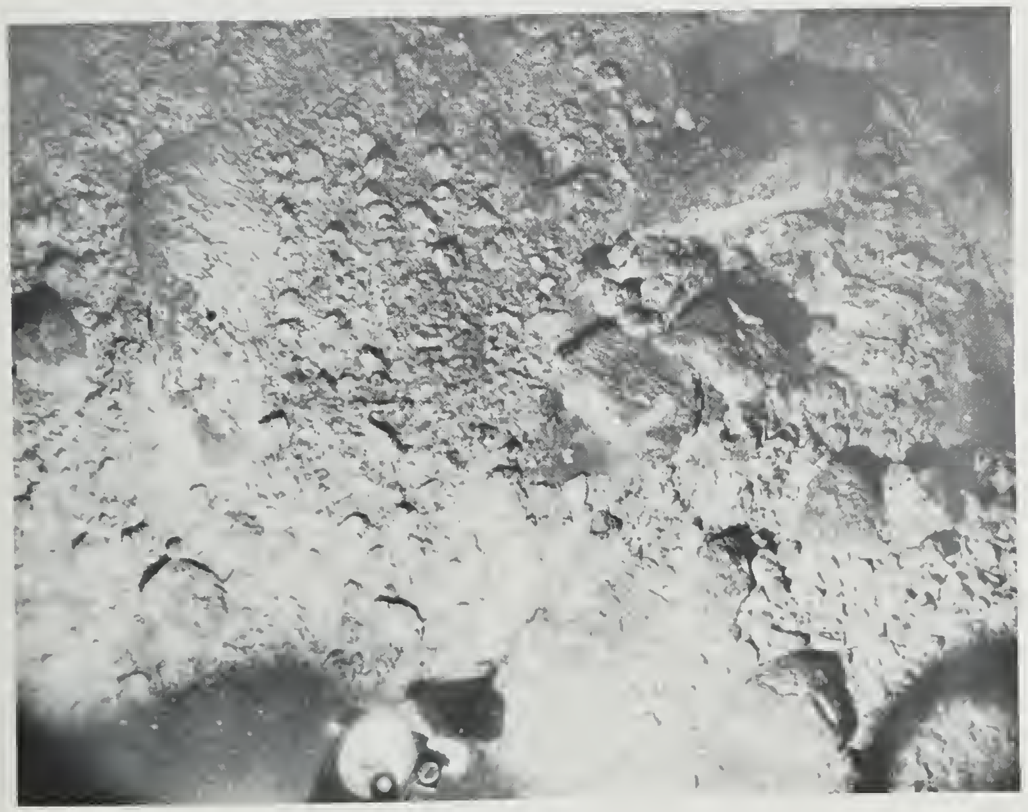
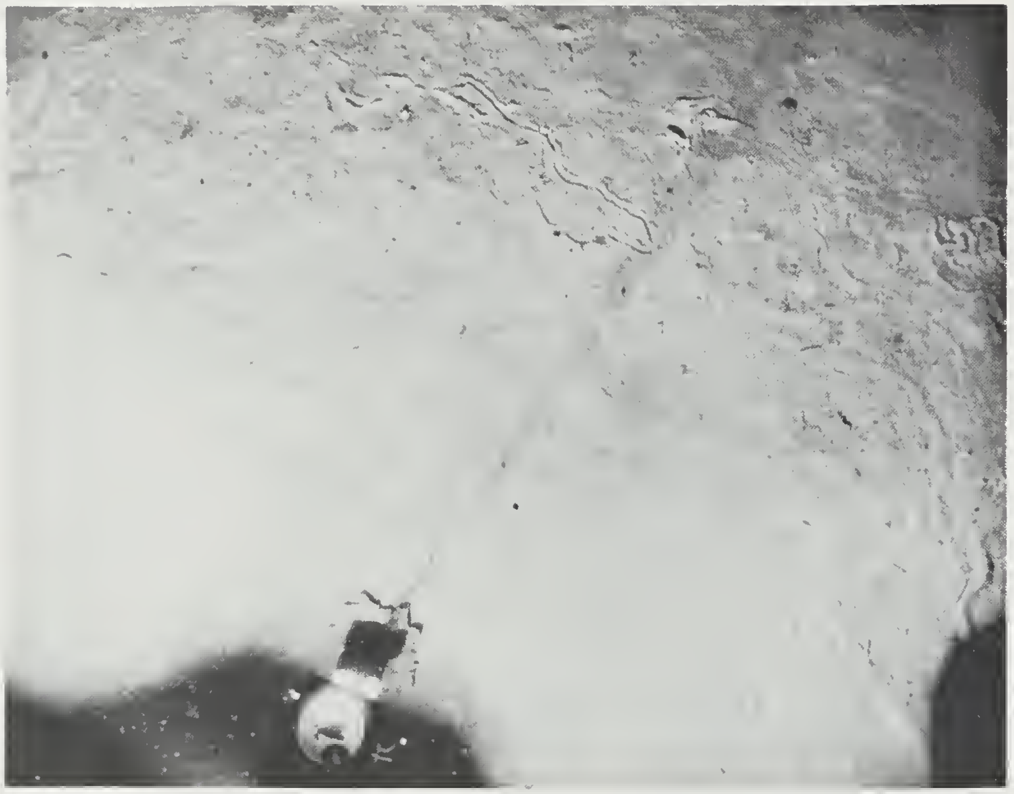


K117—7



K117—8

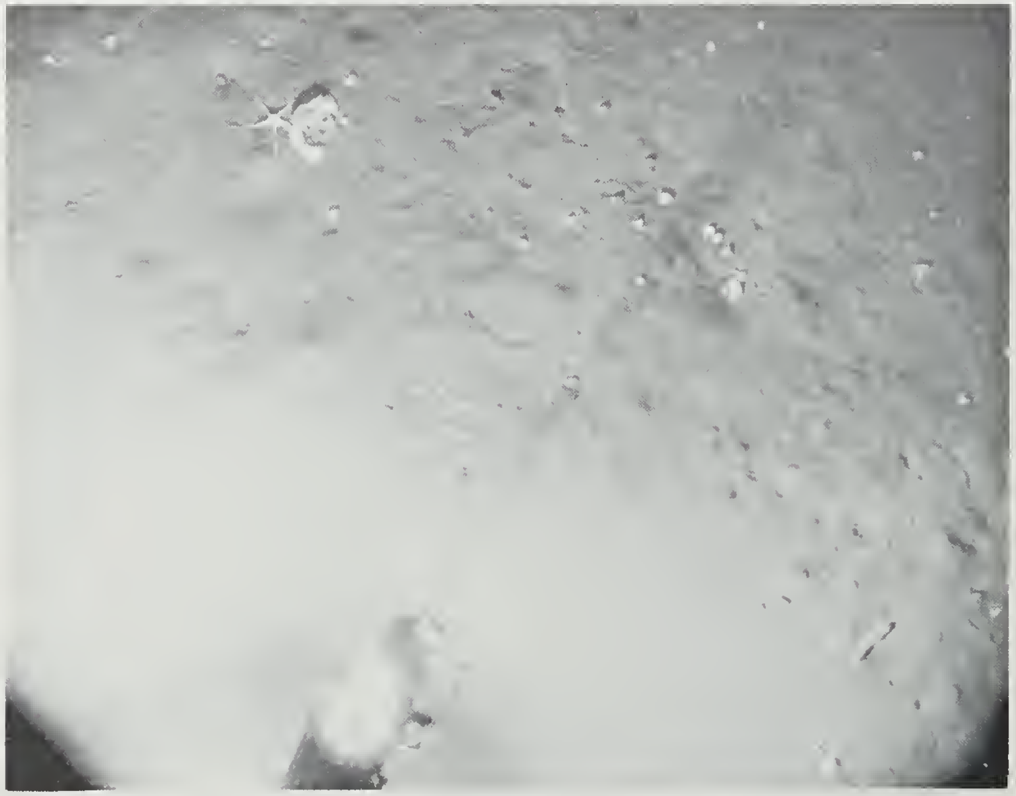
K118—1



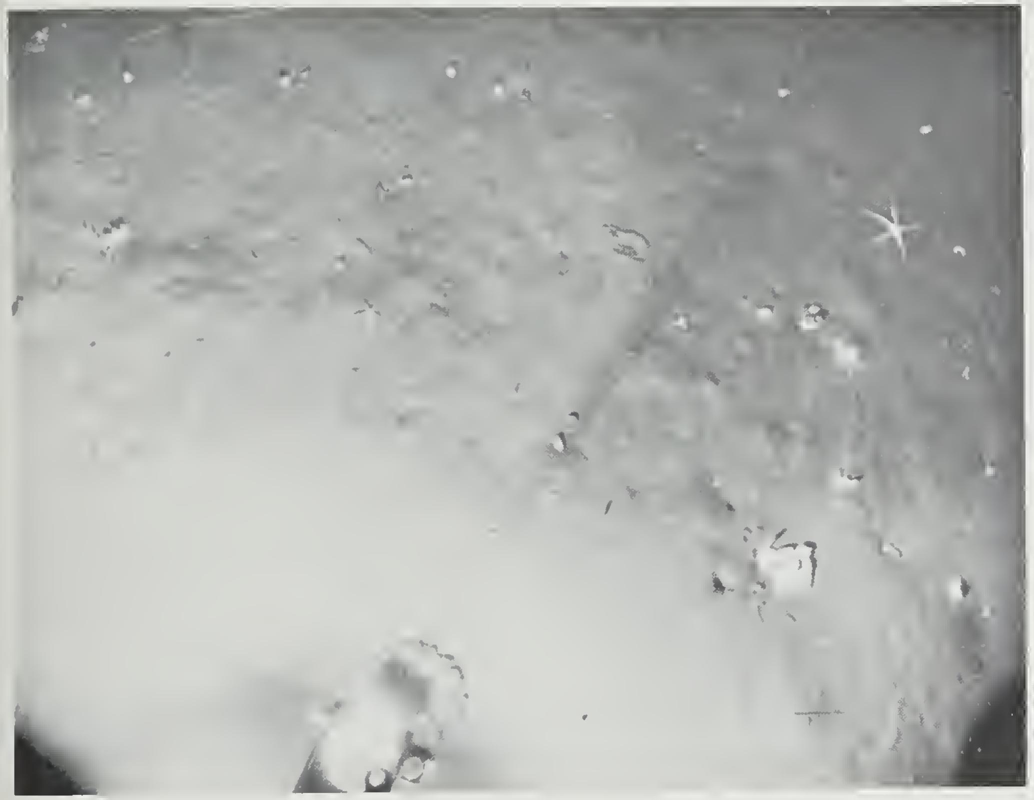
K118—3

K119—2

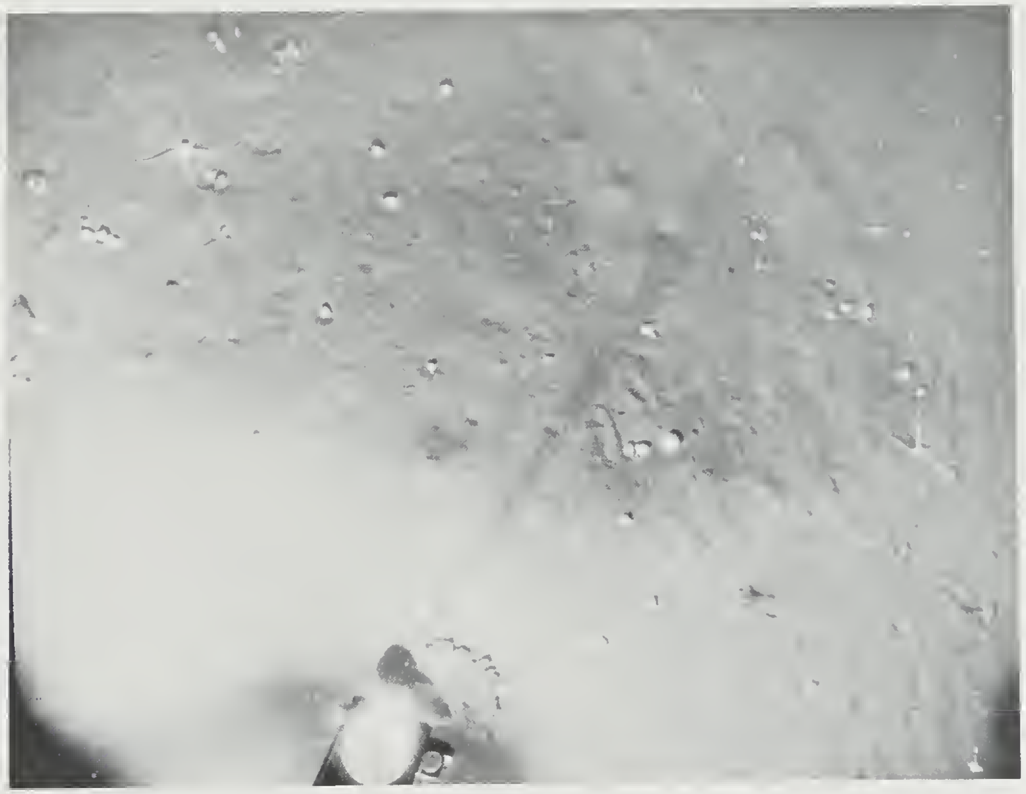
K119—6



K120—1

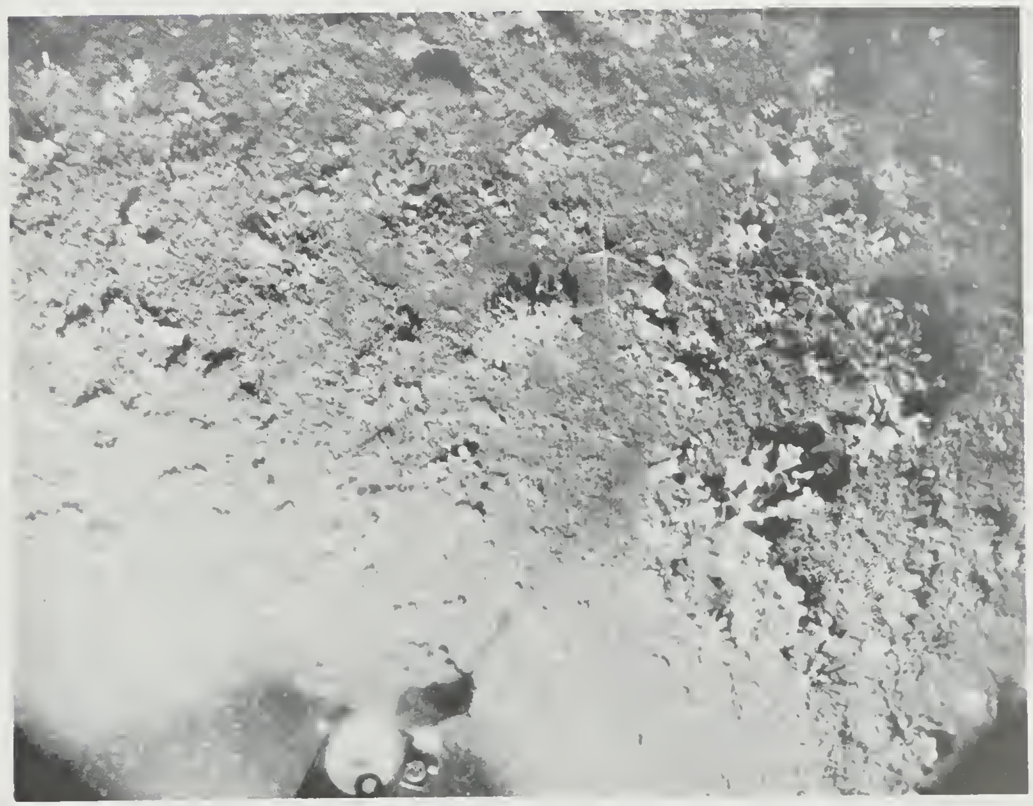


K120—2



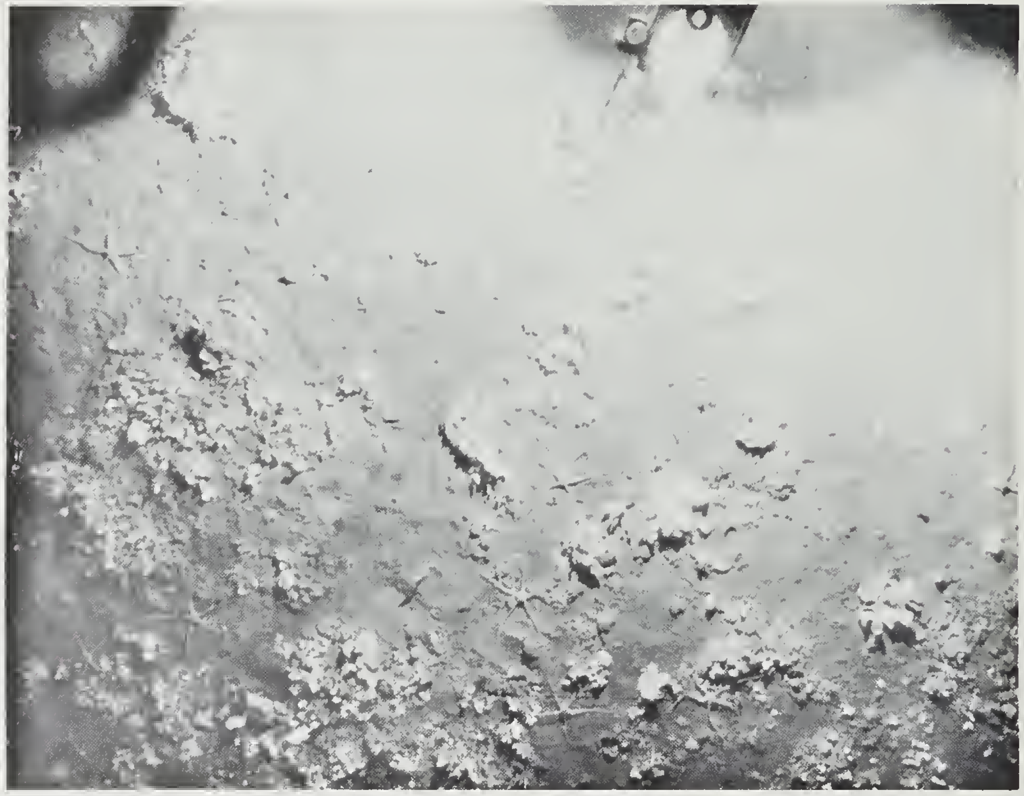
K120—6

K120—8

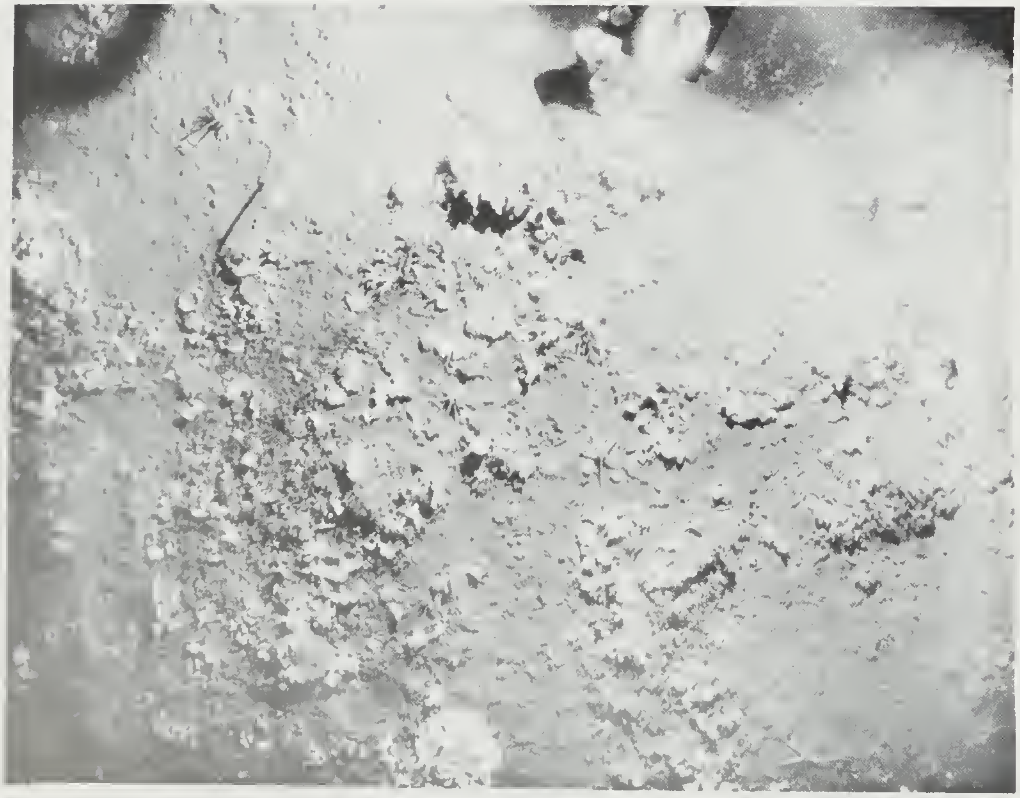


K121— 3

K121 — 6

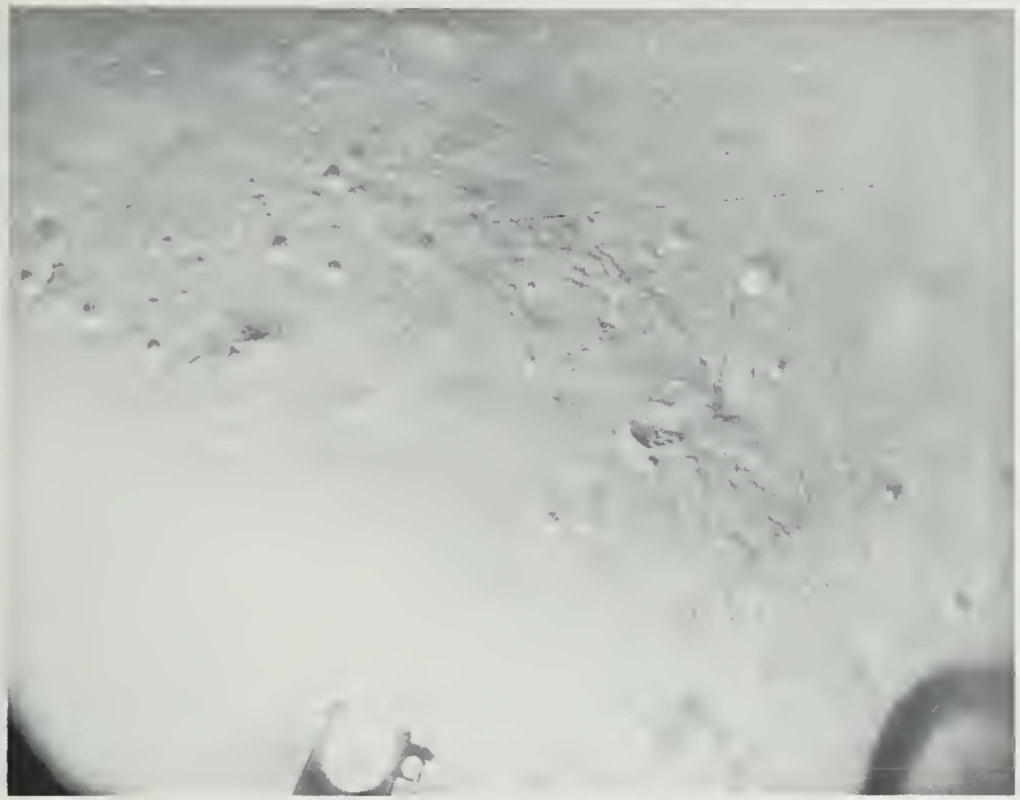


K121 — 8



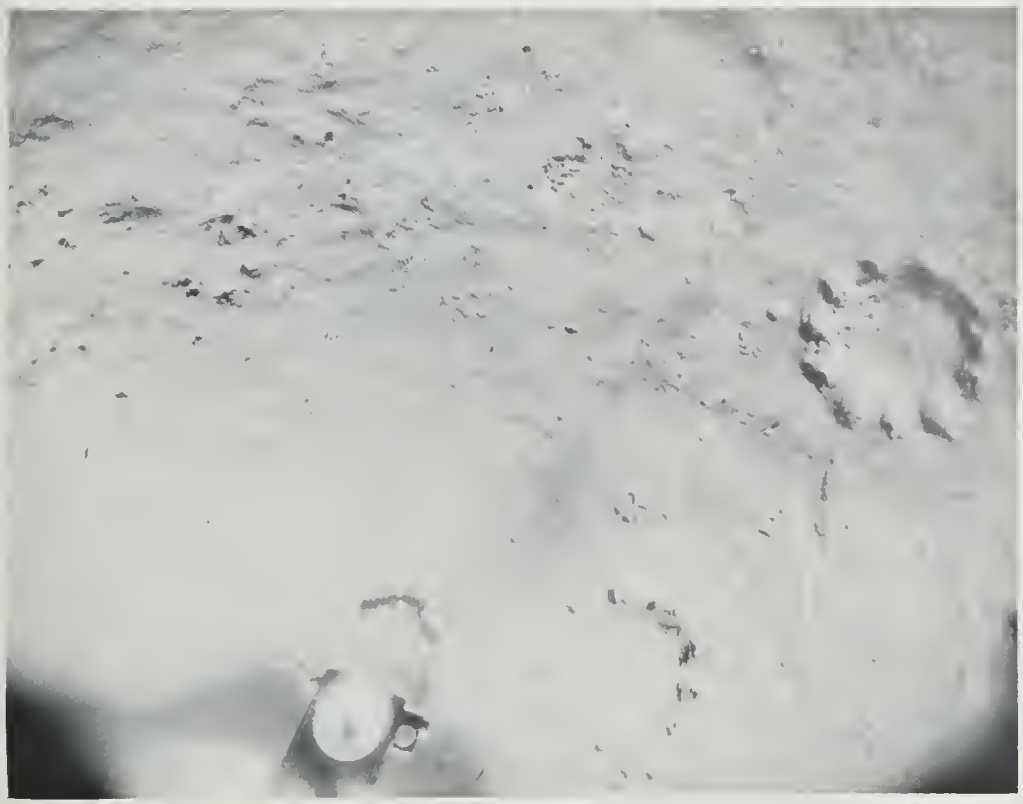
K121 — 10

K122 — 2



K122 — 10

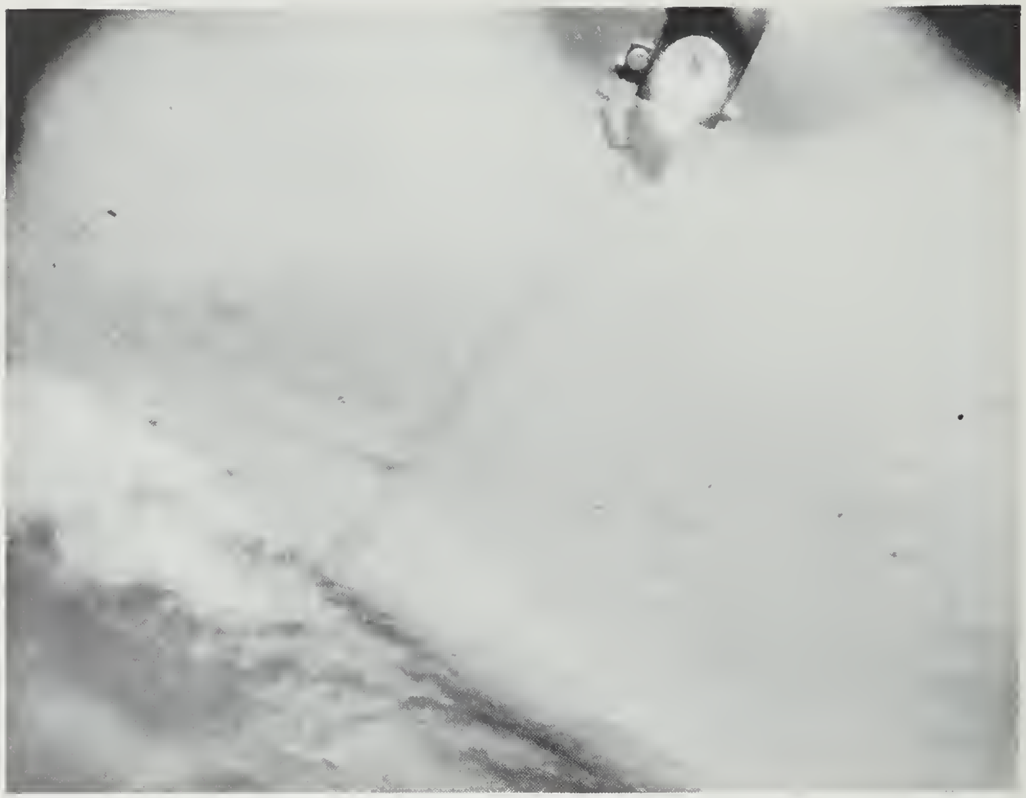
K123 — 5



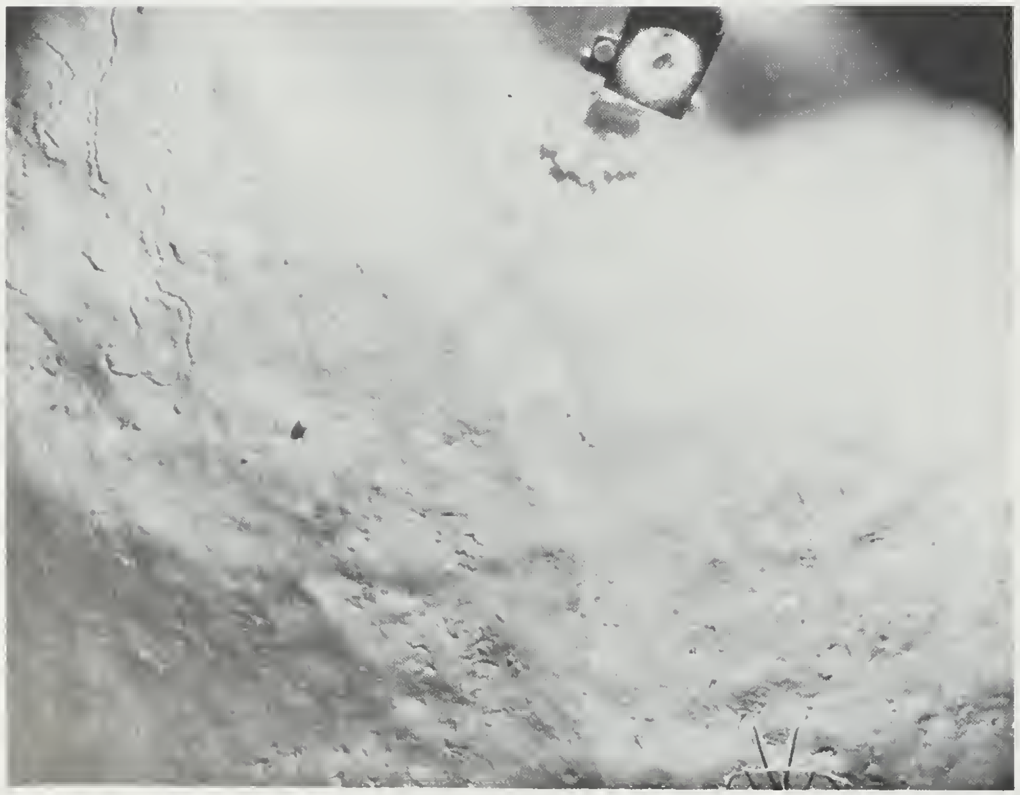
K123 — 6

K123 — 7

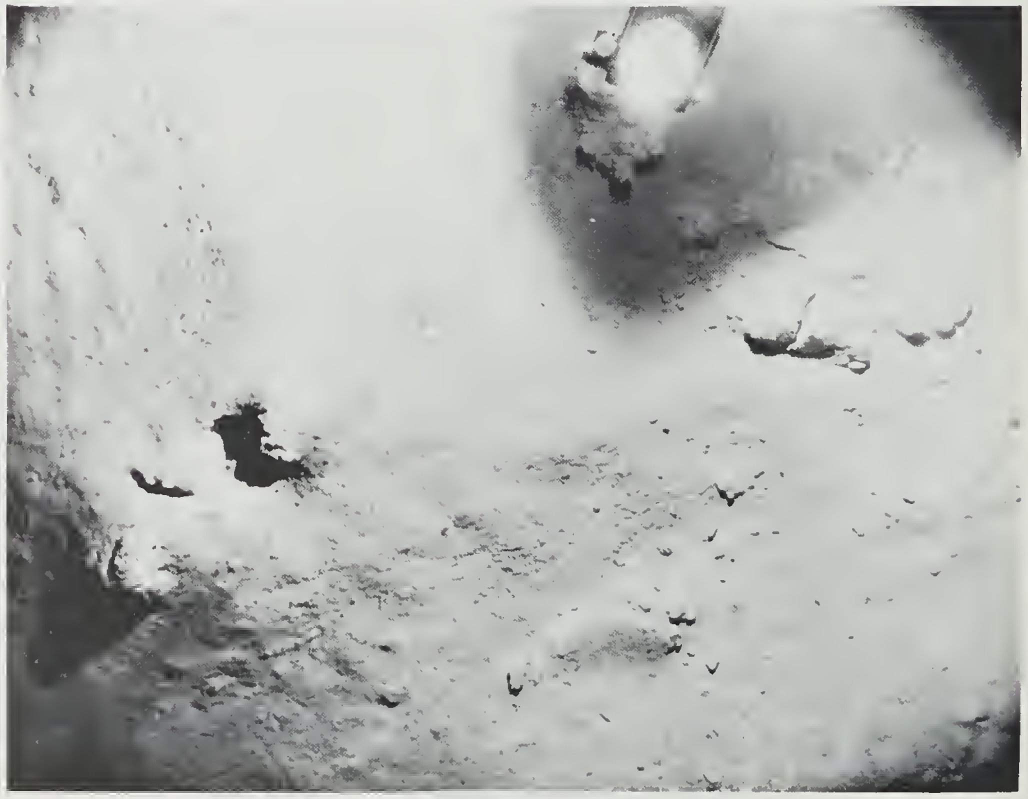
K124—1



K124—2



K125—4

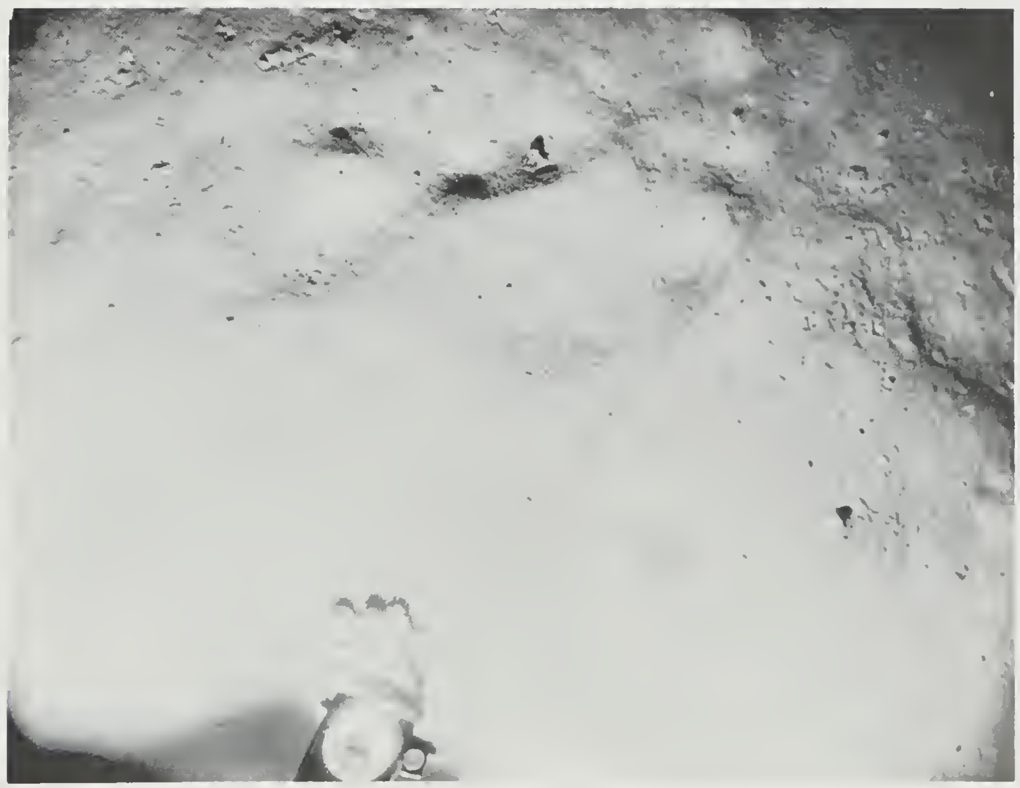


K125—6

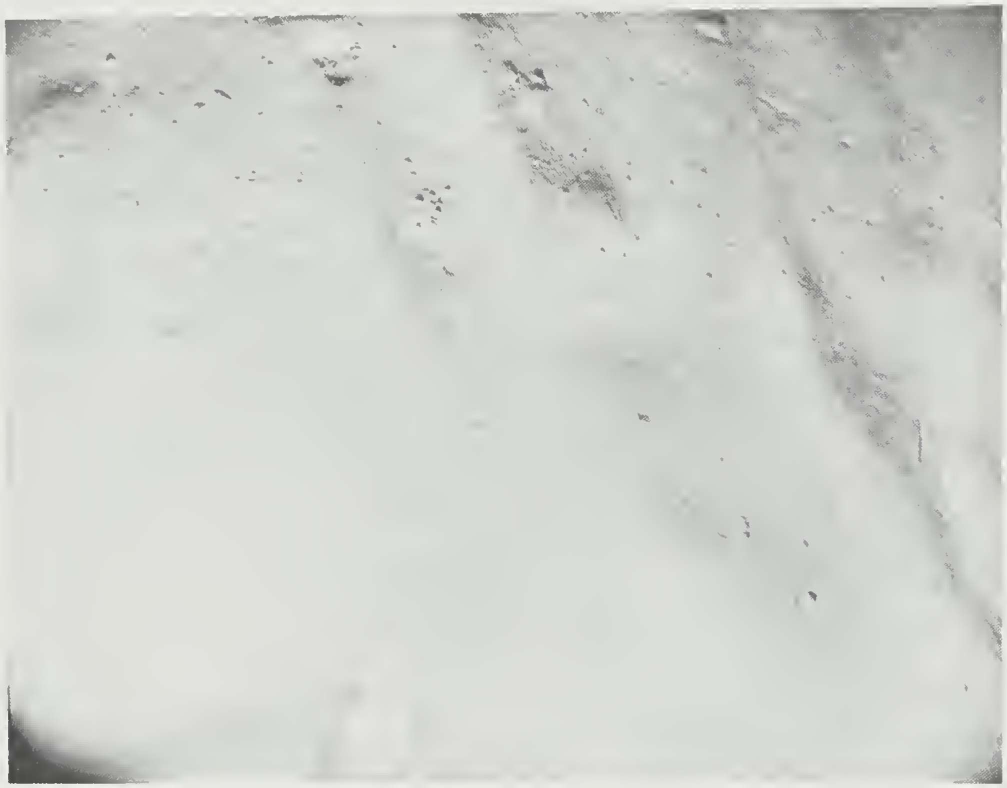
K125 —9

K126 — 1

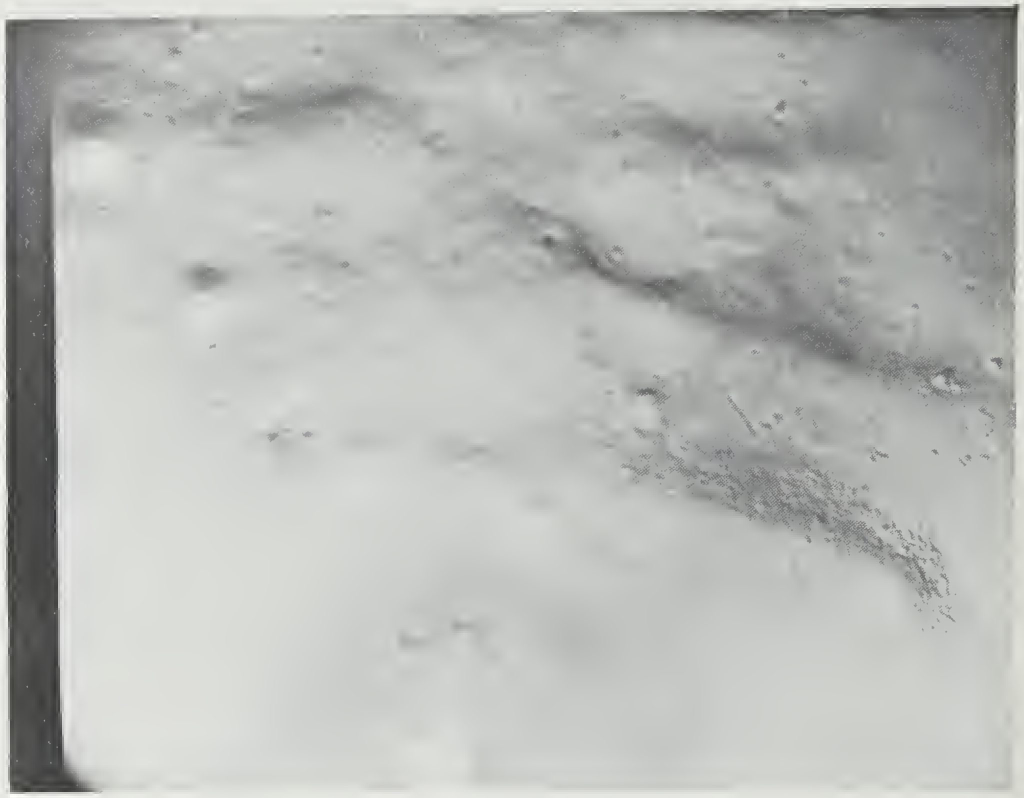
K126 —2



K127— 1

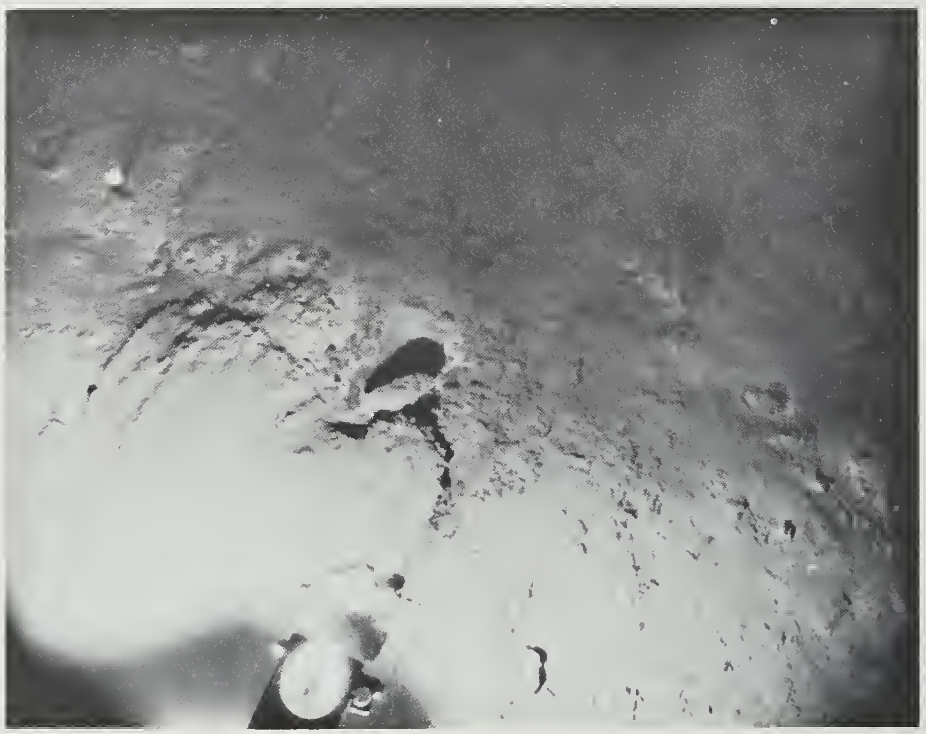


K127 —7

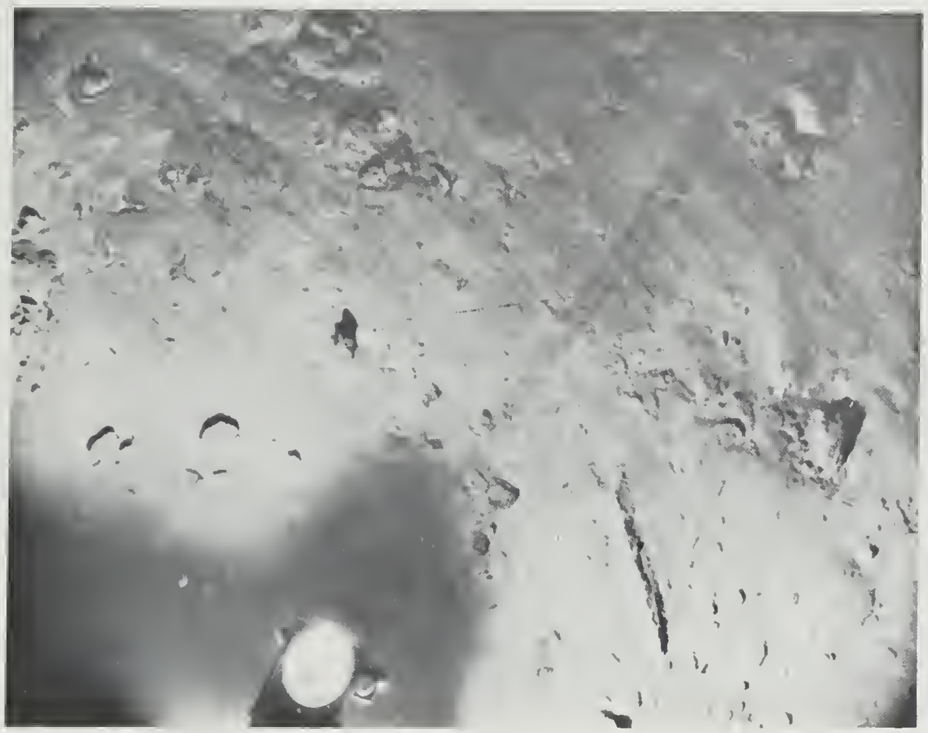


K127 — 9

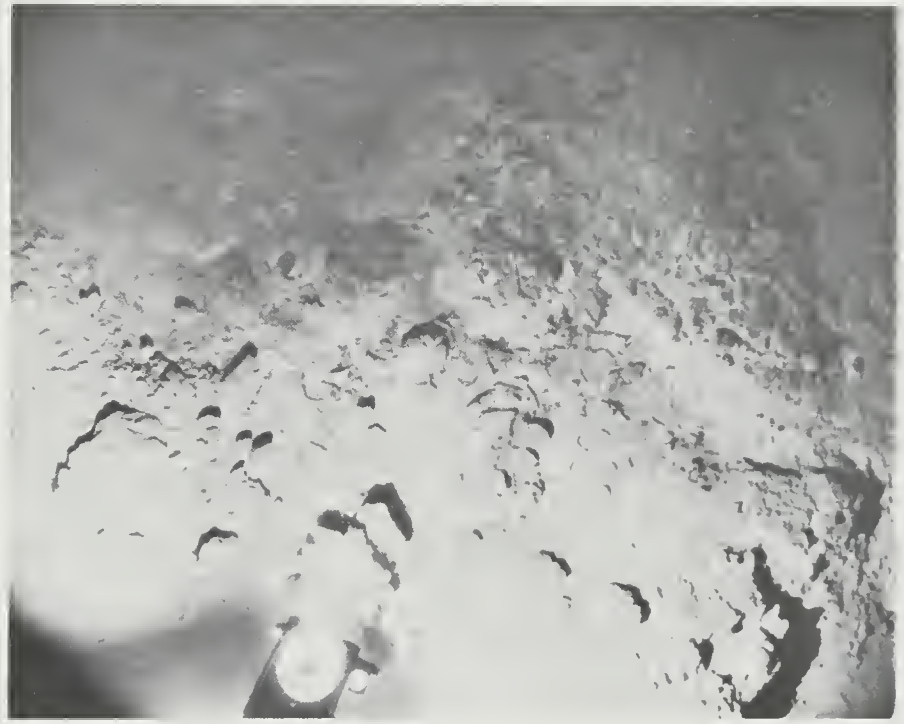
K128 — 4



K128—5

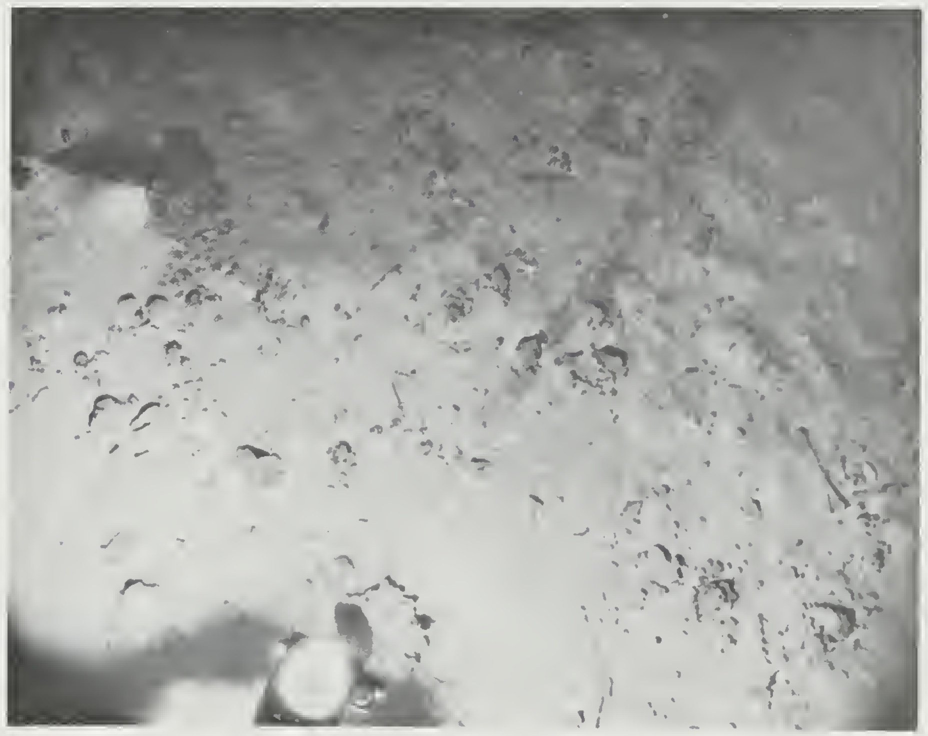


K128—7

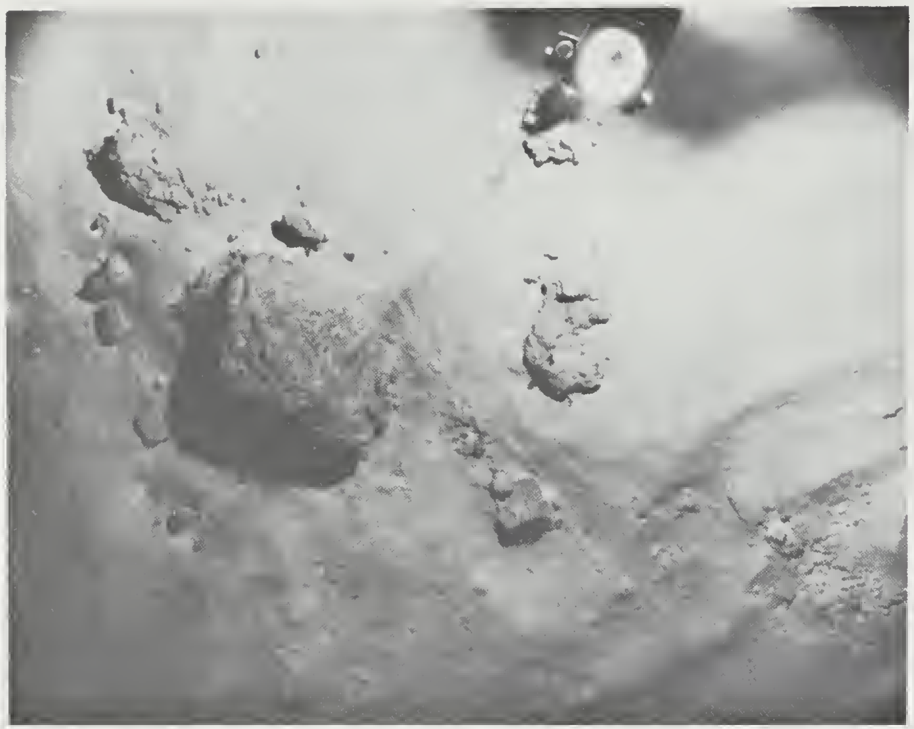


K128—8

K129—2

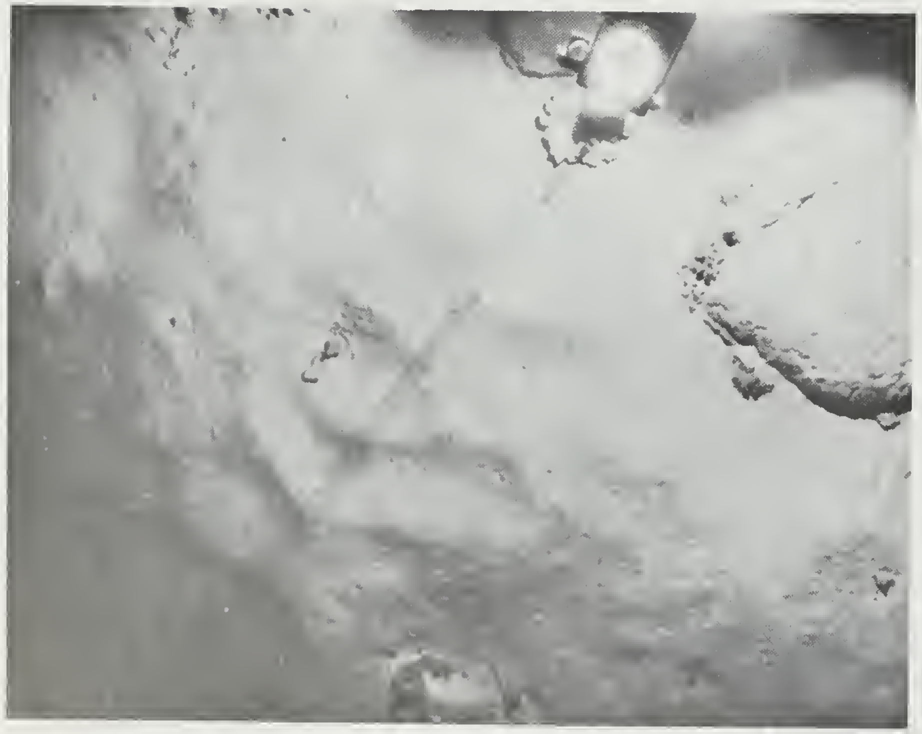


K129—4

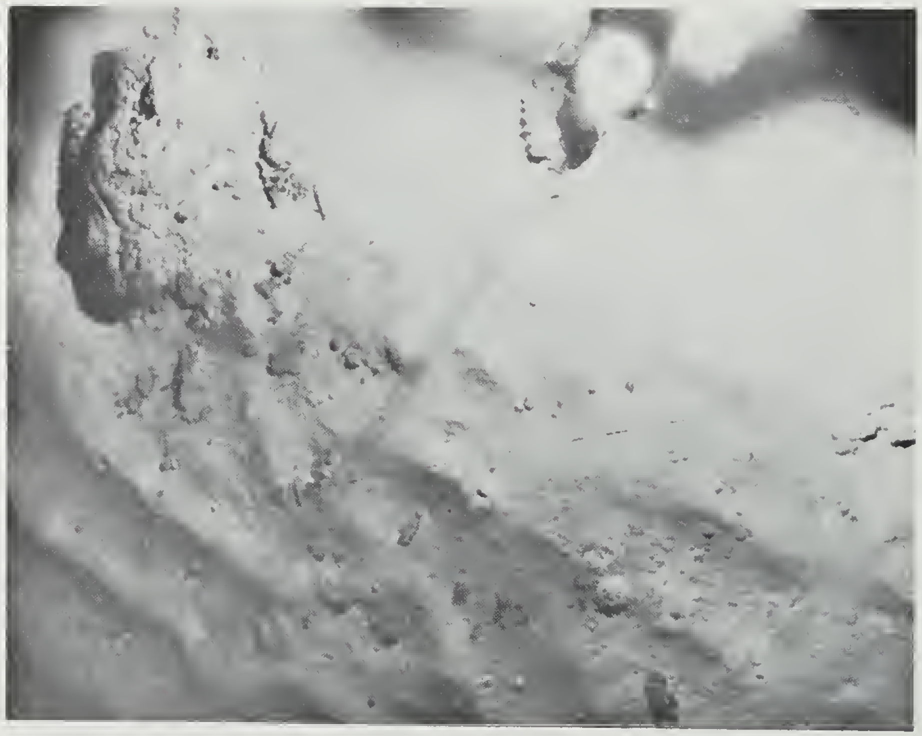


K129—6

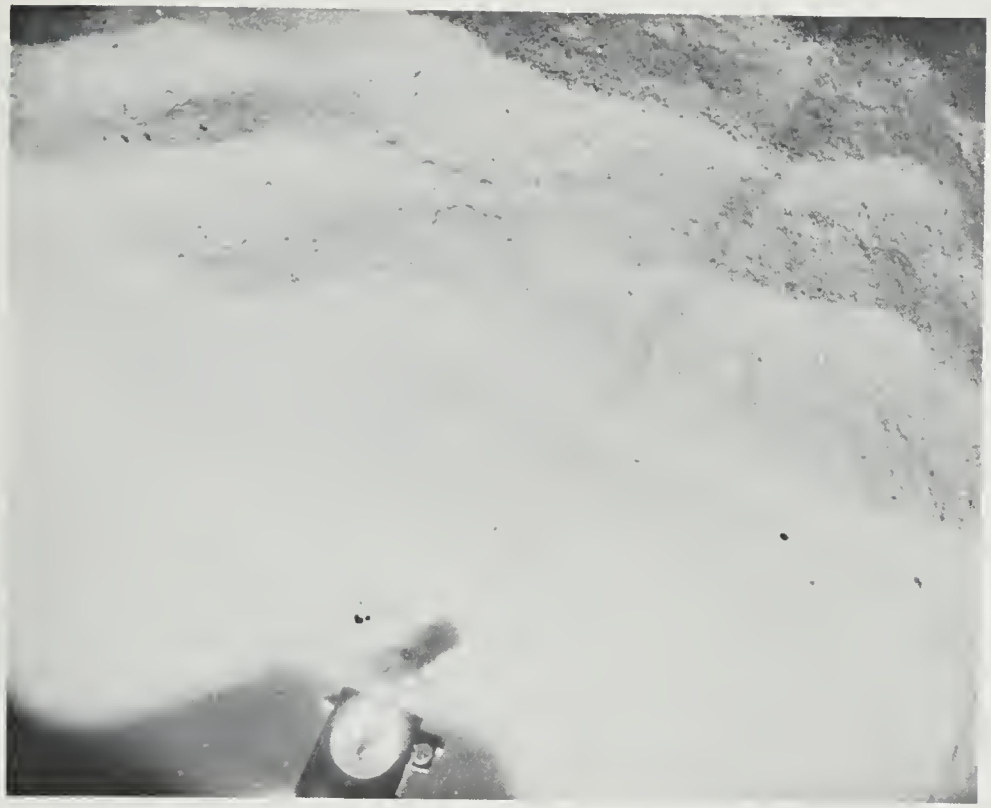
K129—7



K129—9



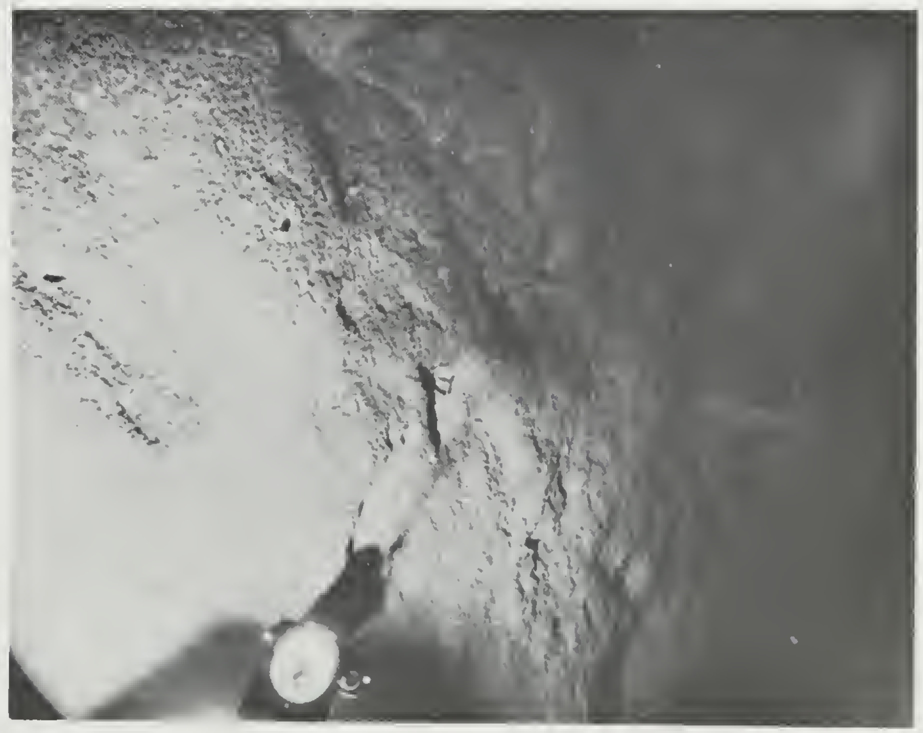
K129—10



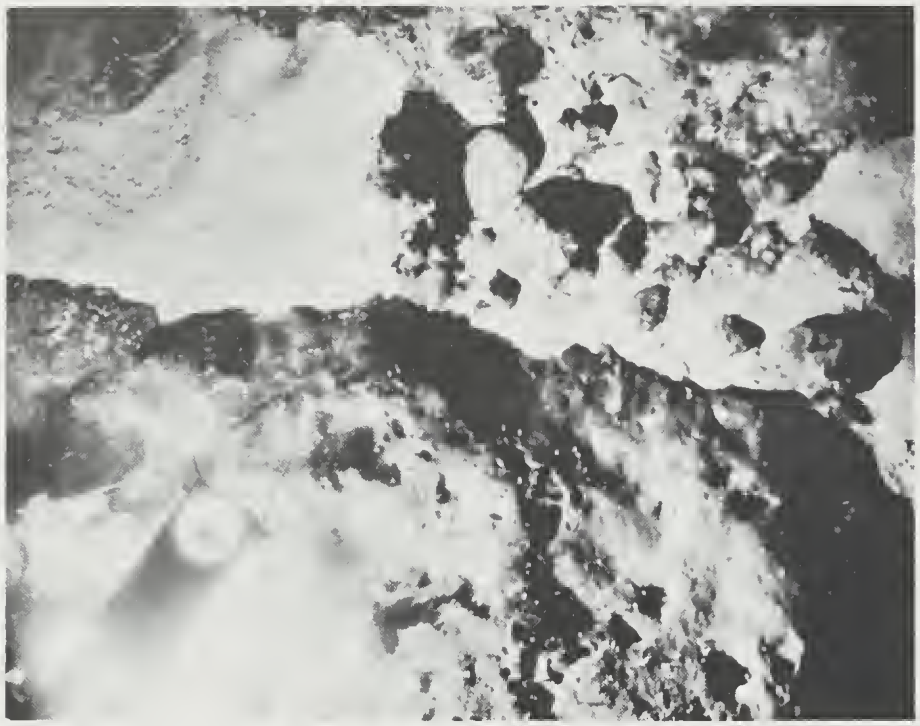
K130—2

K130—10

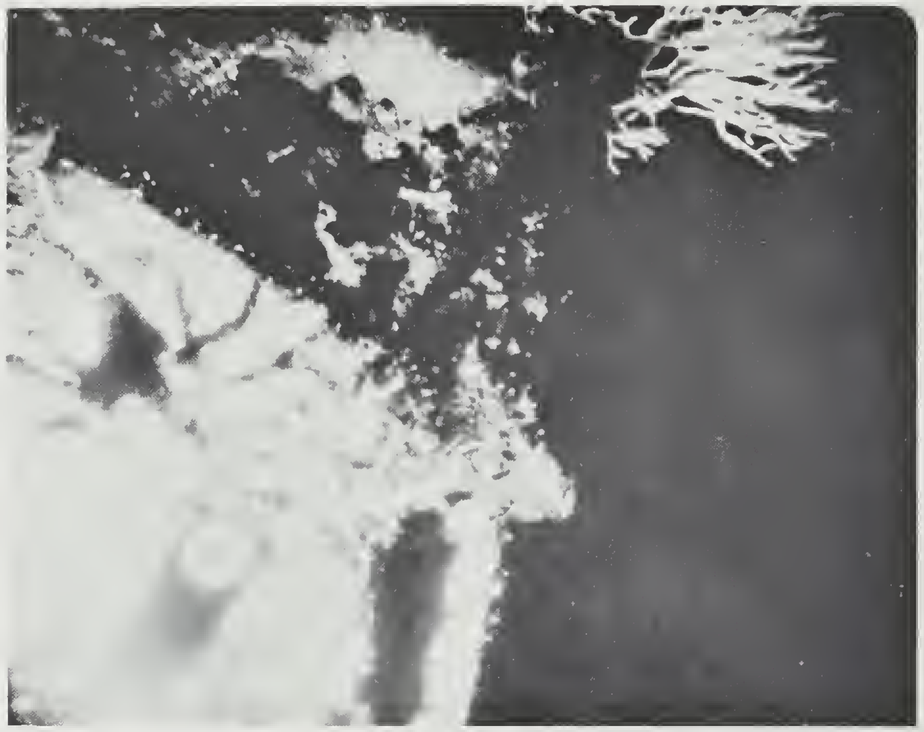
K131—2



K131—3



K131—4



K131—5

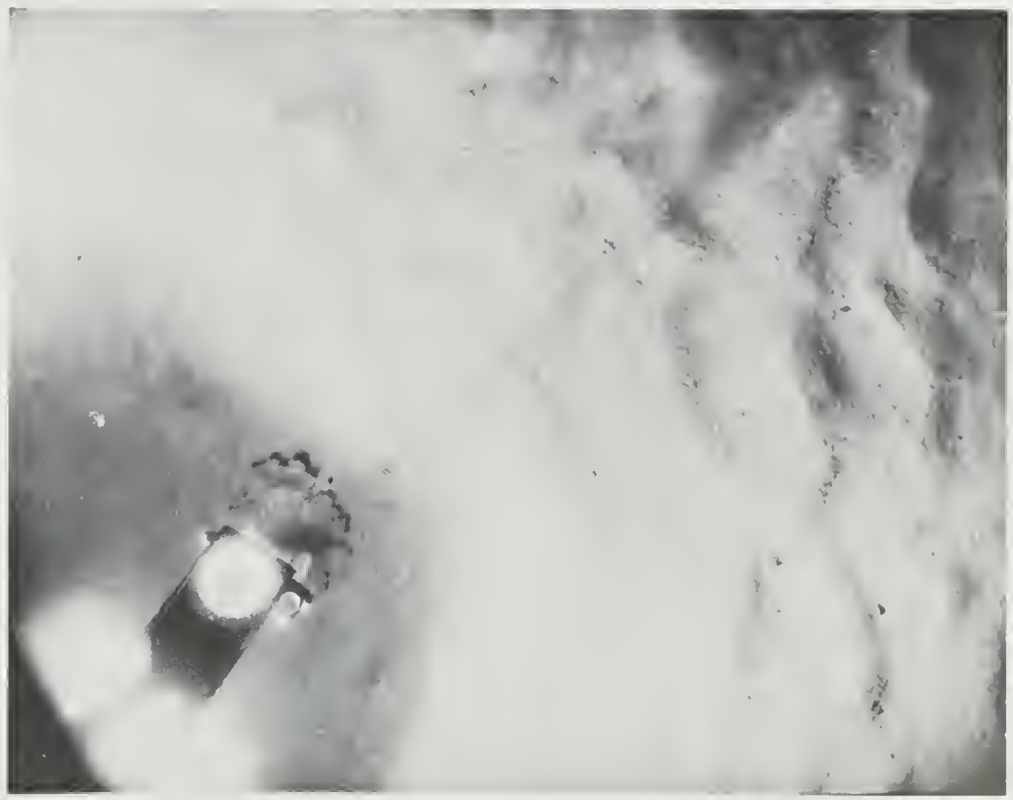
K132—4

K132 —6

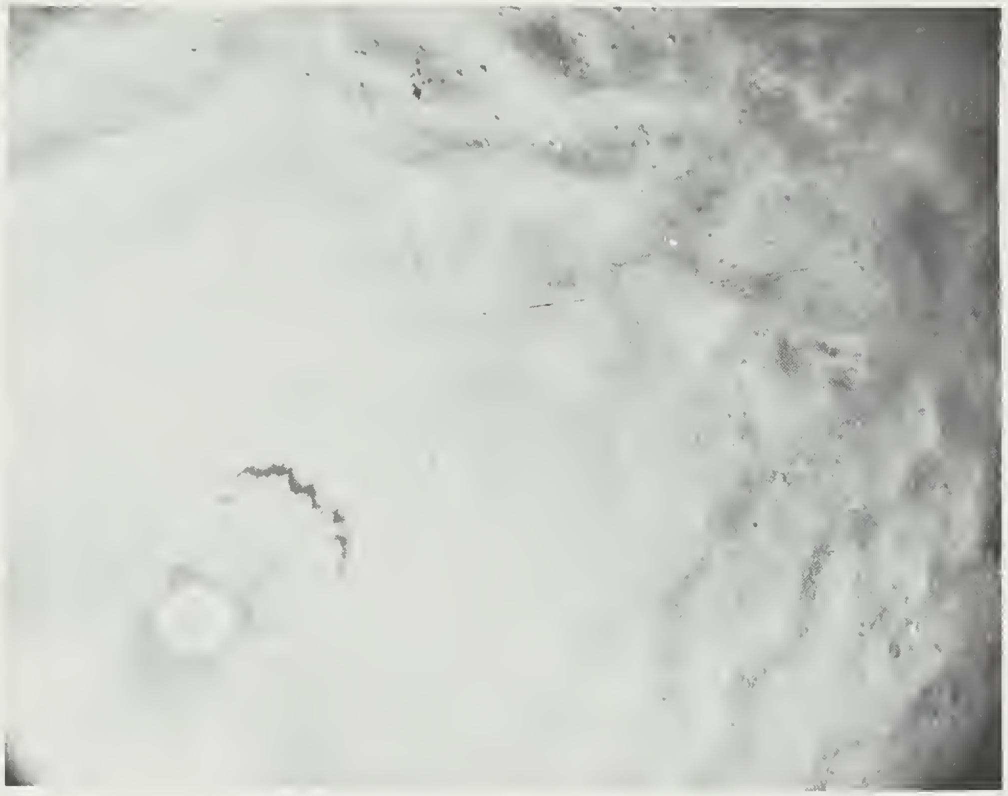
K133—1

K133—7

K134—1



K134—4



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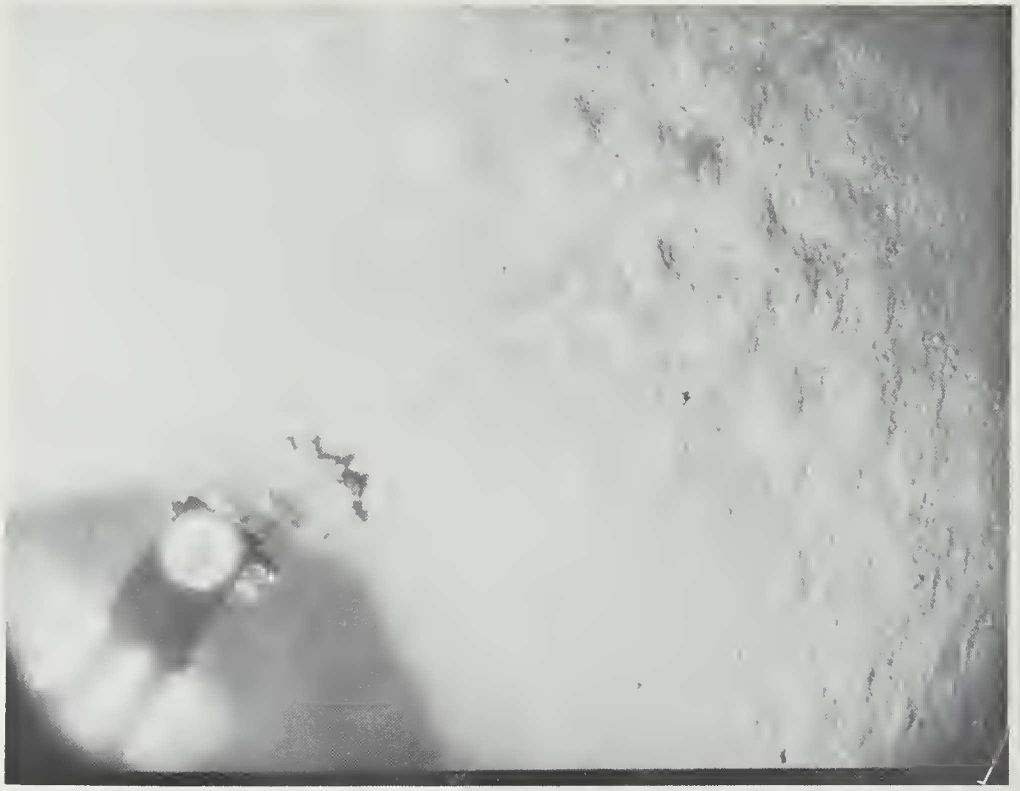
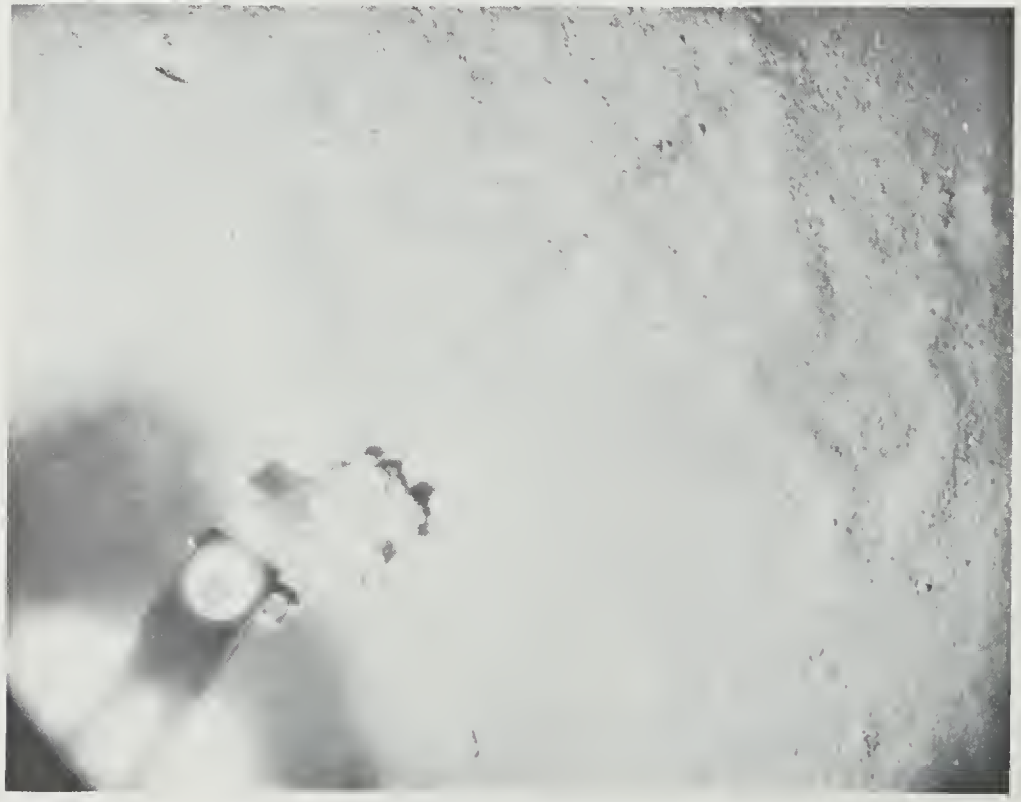


K135—4

K135—5

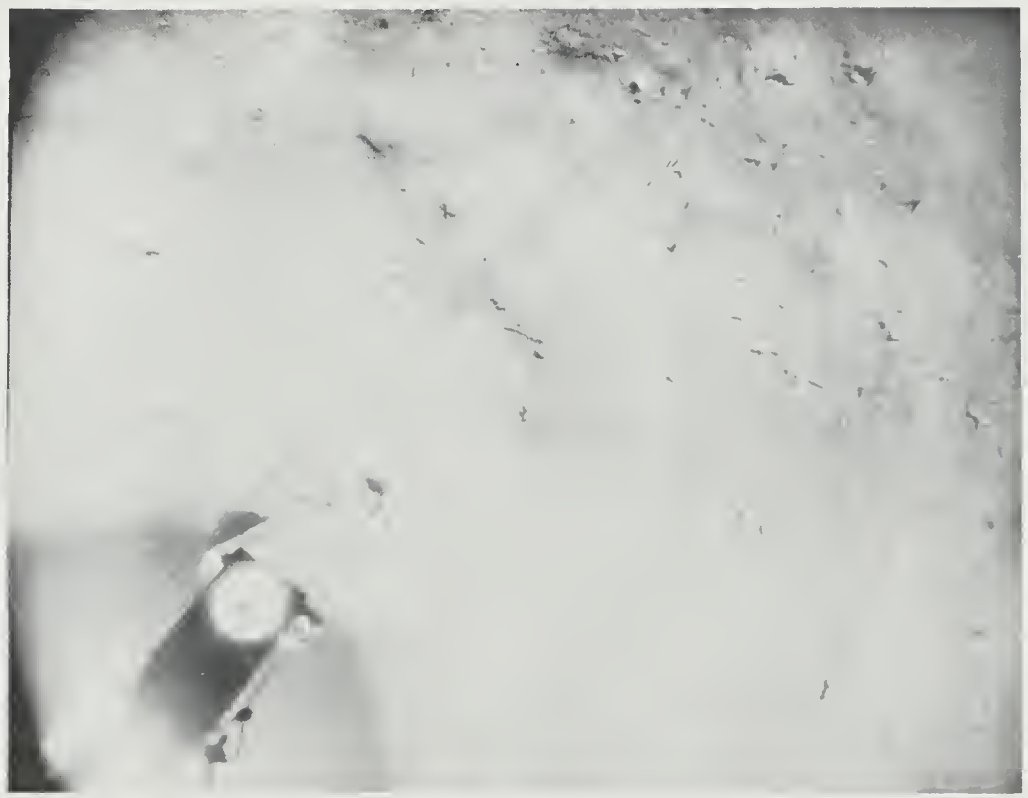


K136—2

K137—1

K137—8

K137—9

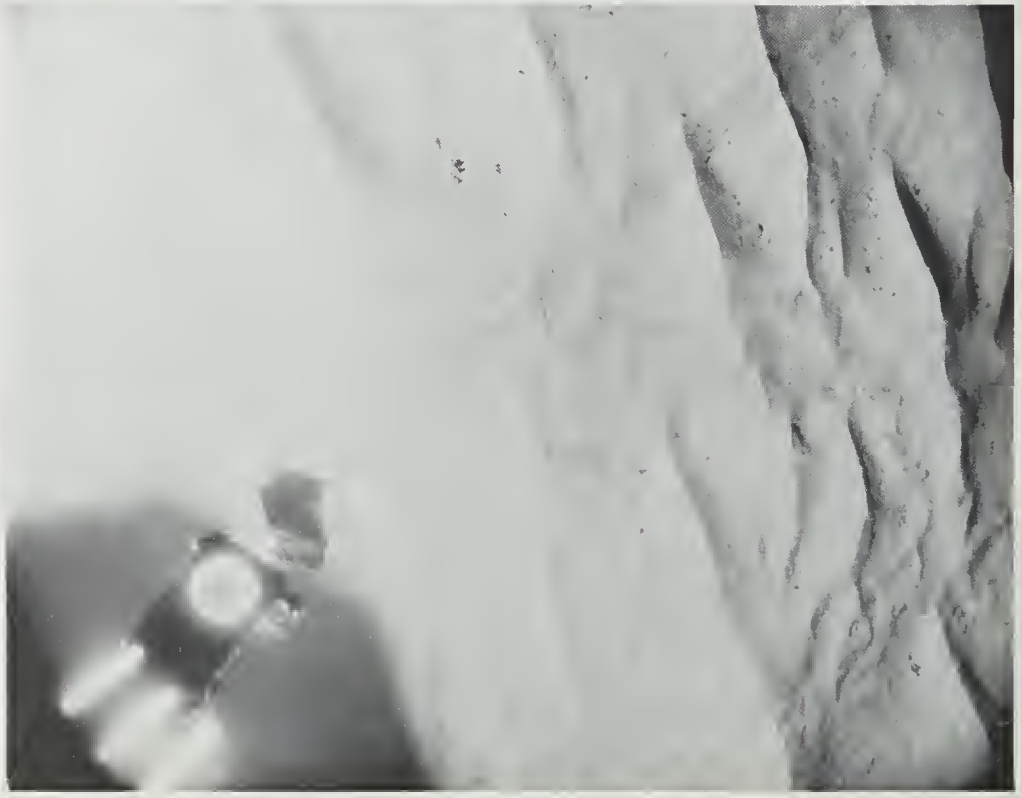


K137—10

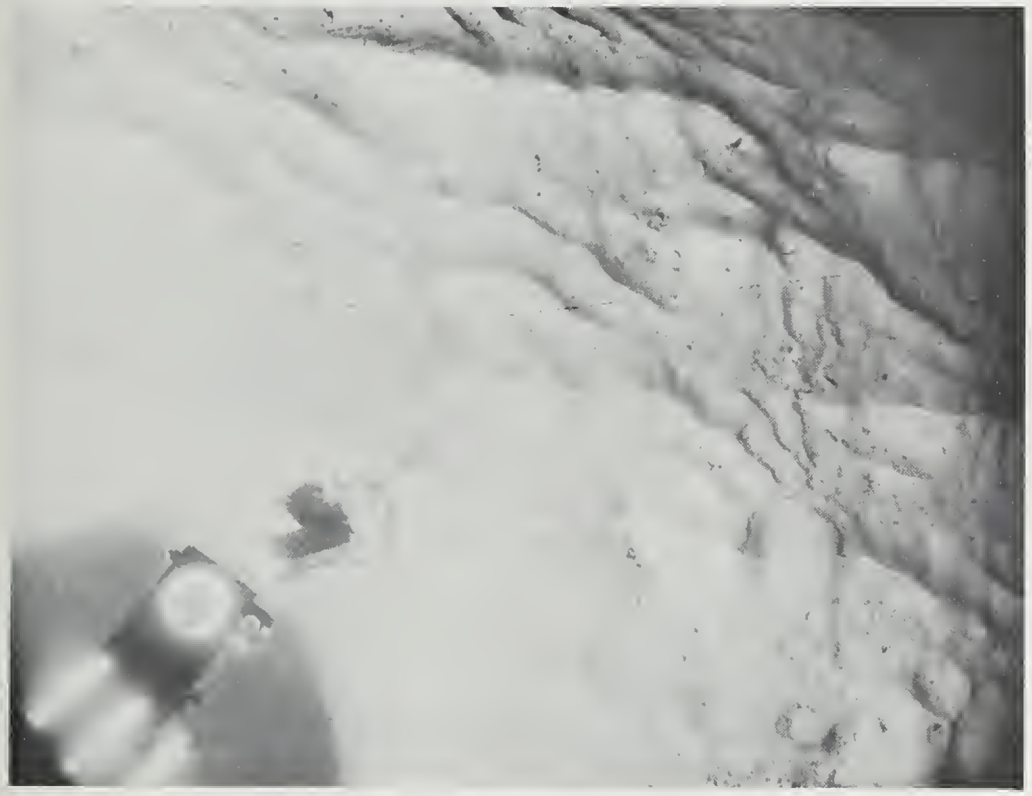
K138— 1

K138—7

K139—2

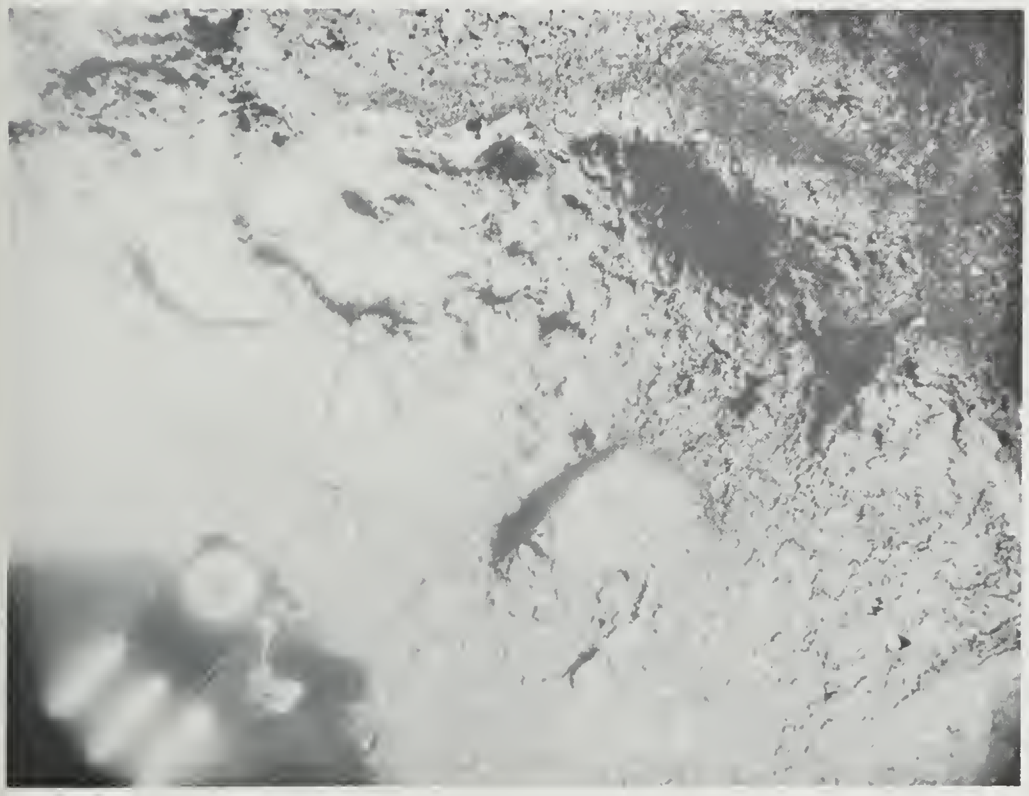


K140—2

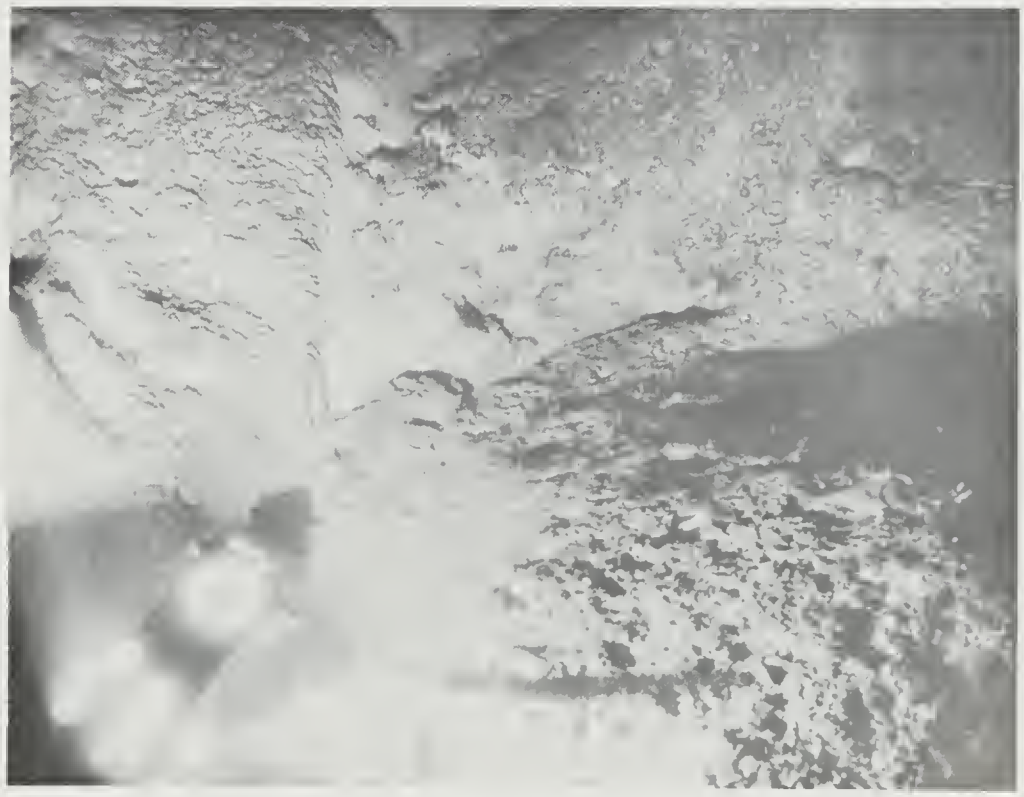


K140—3

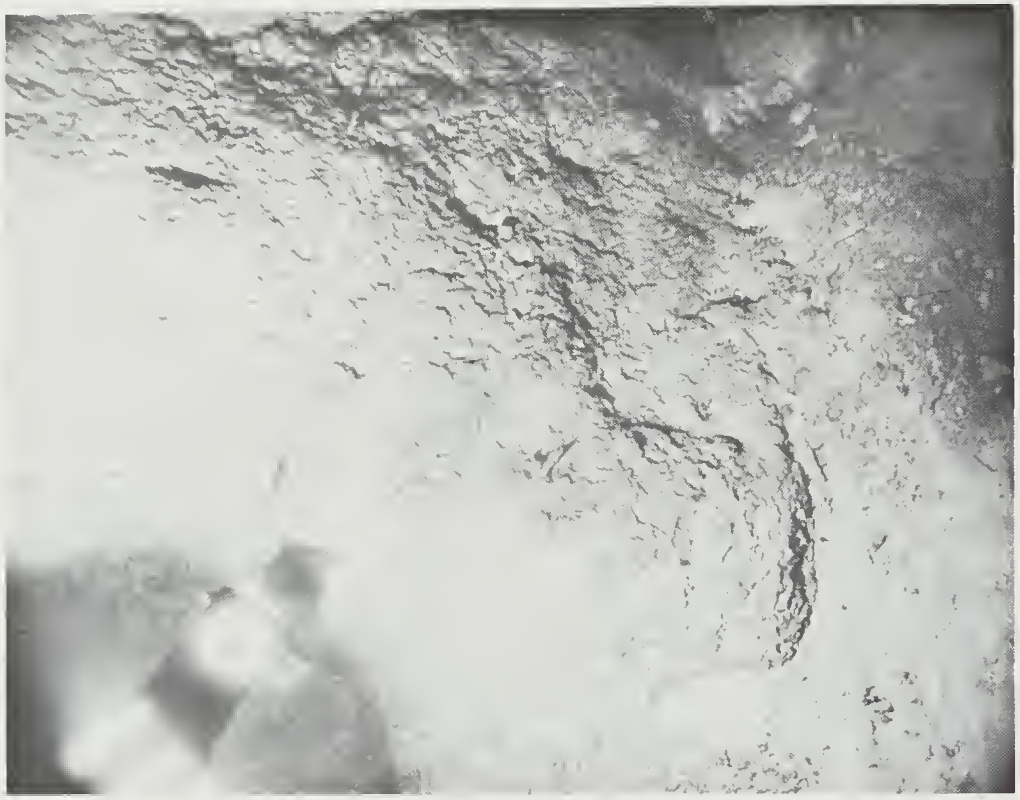
K140—6



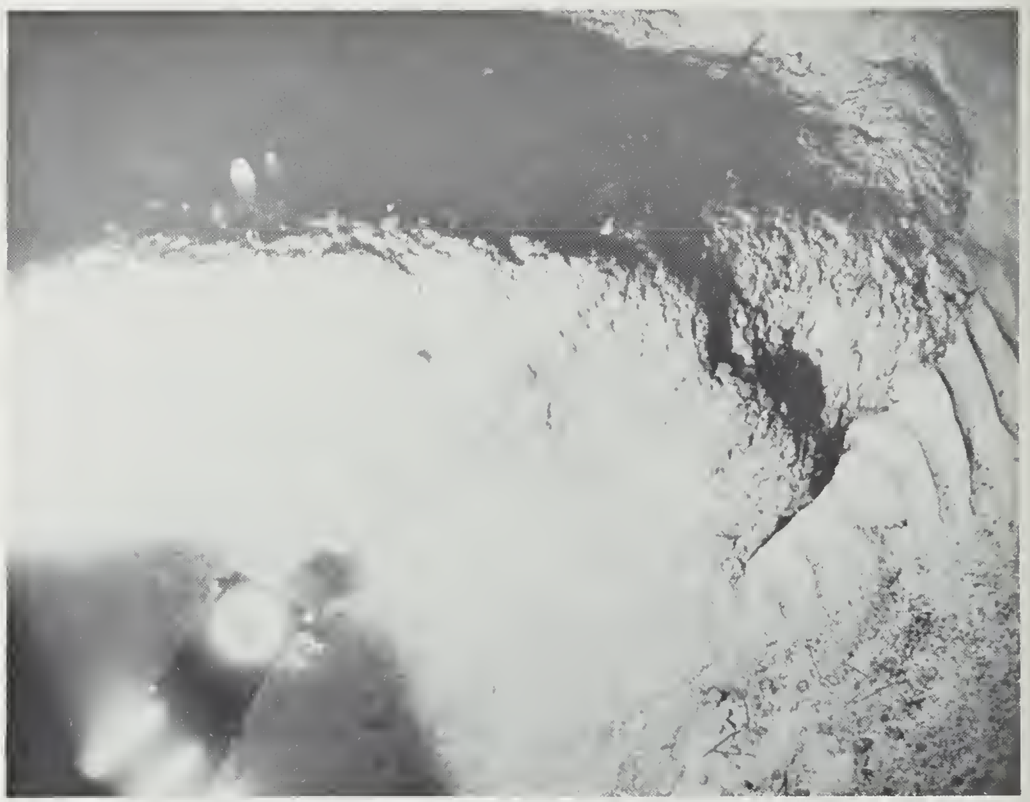
K140—8



K140—9



K140—10



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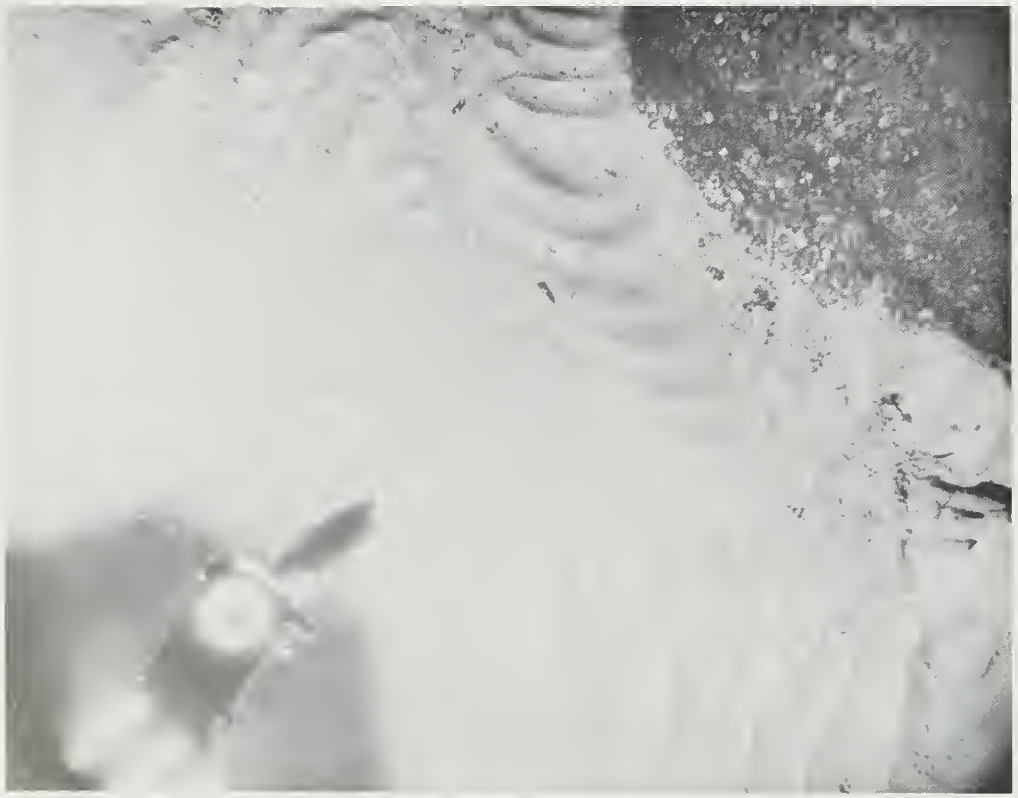
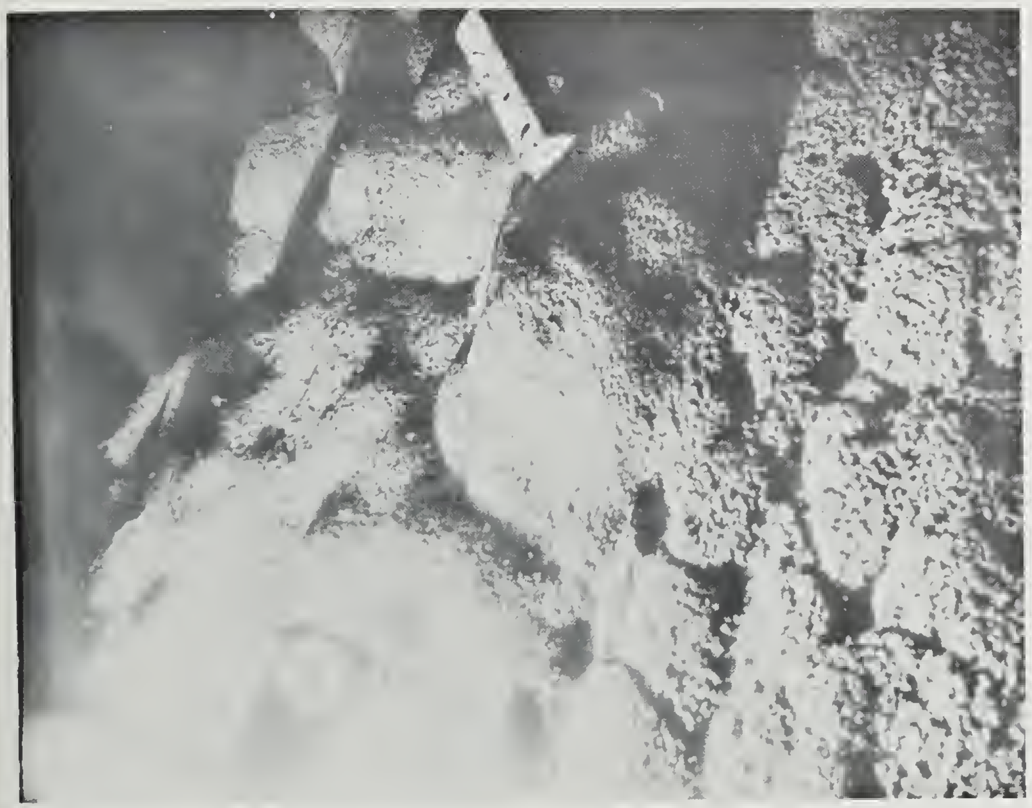


K140—12

K141—1

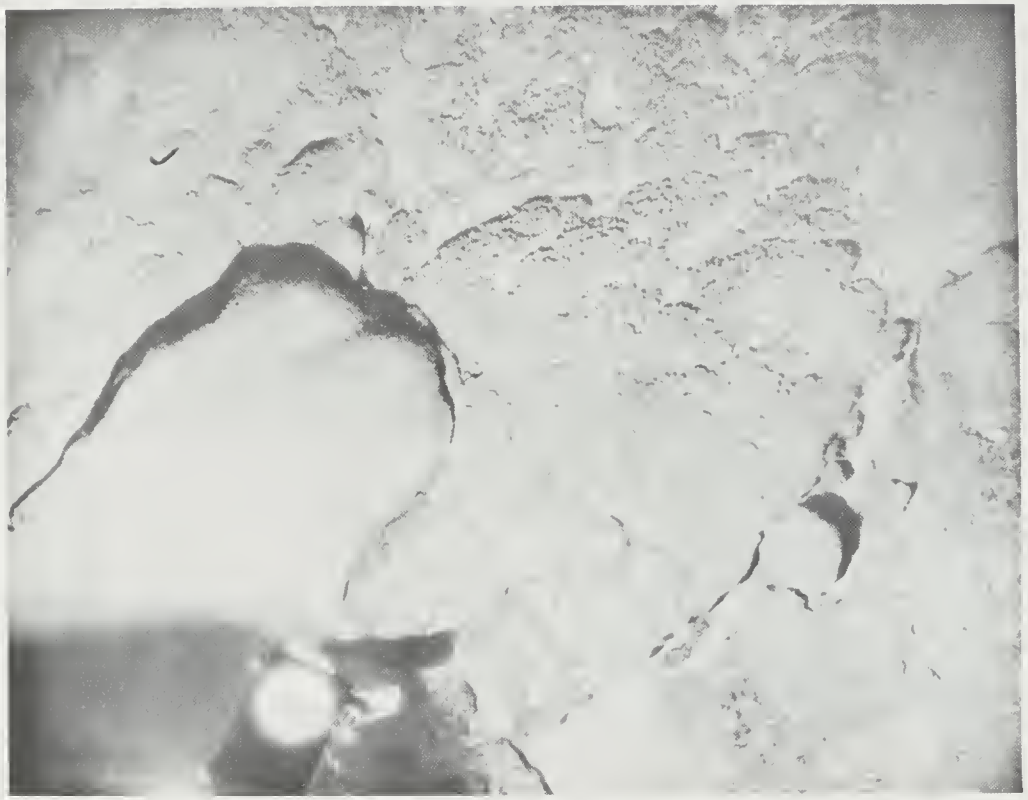
K141—2

K141—8

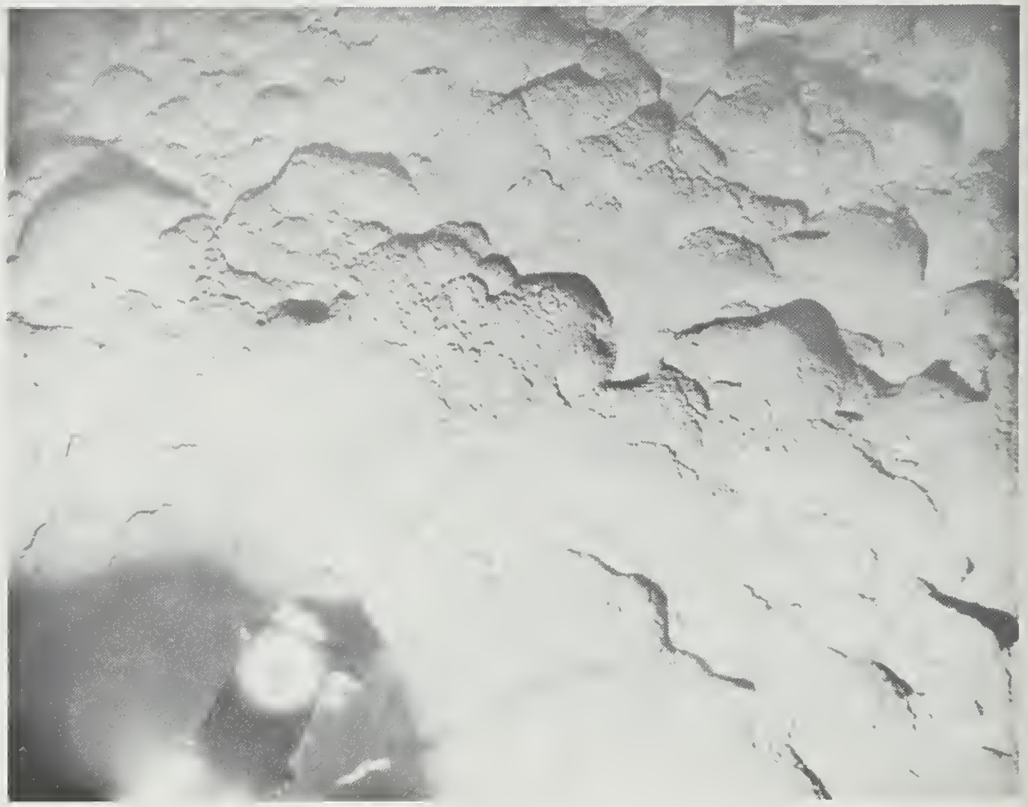


K141—9

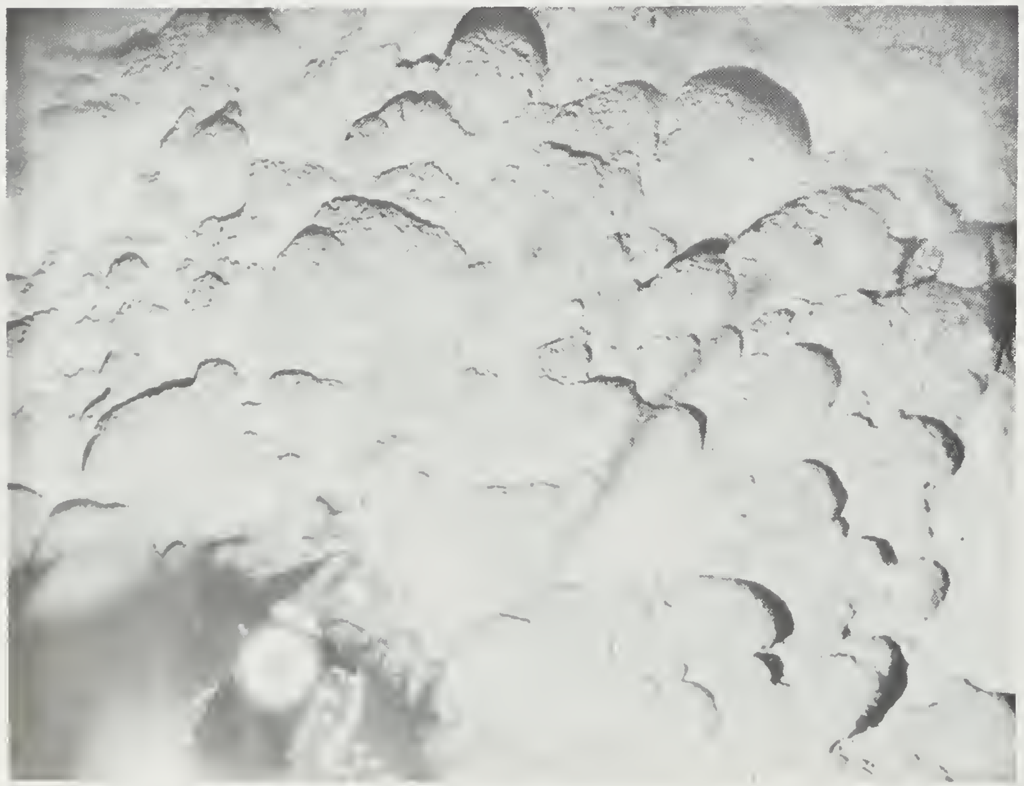
K141—14



K141—18



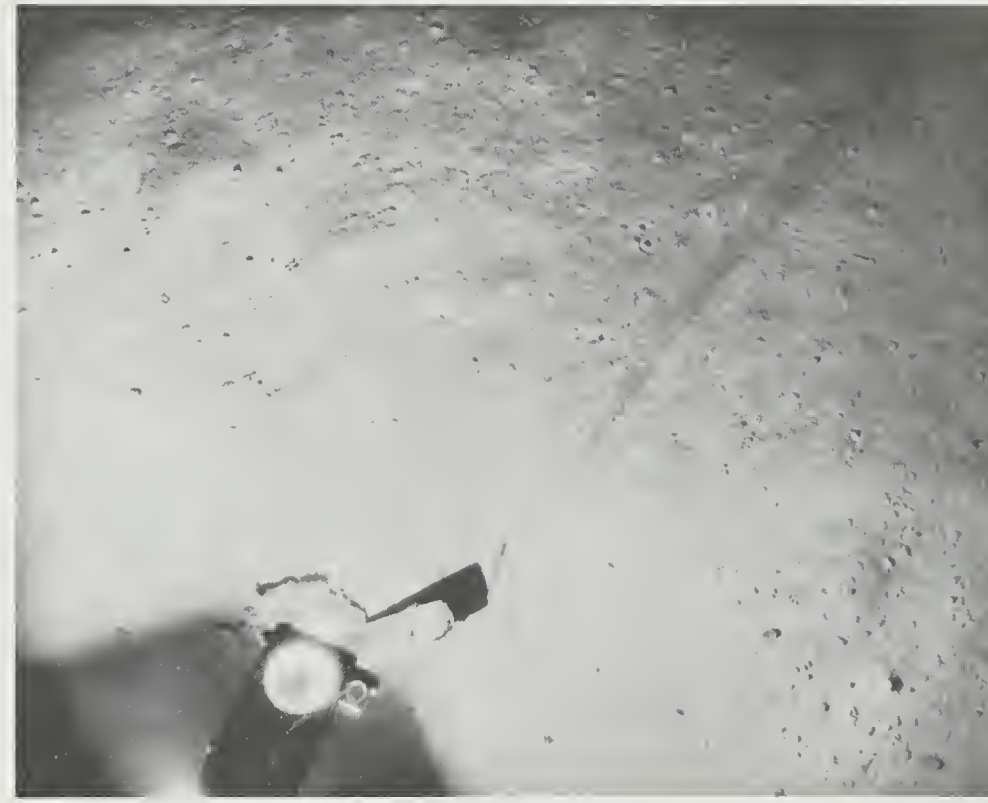
K141—25



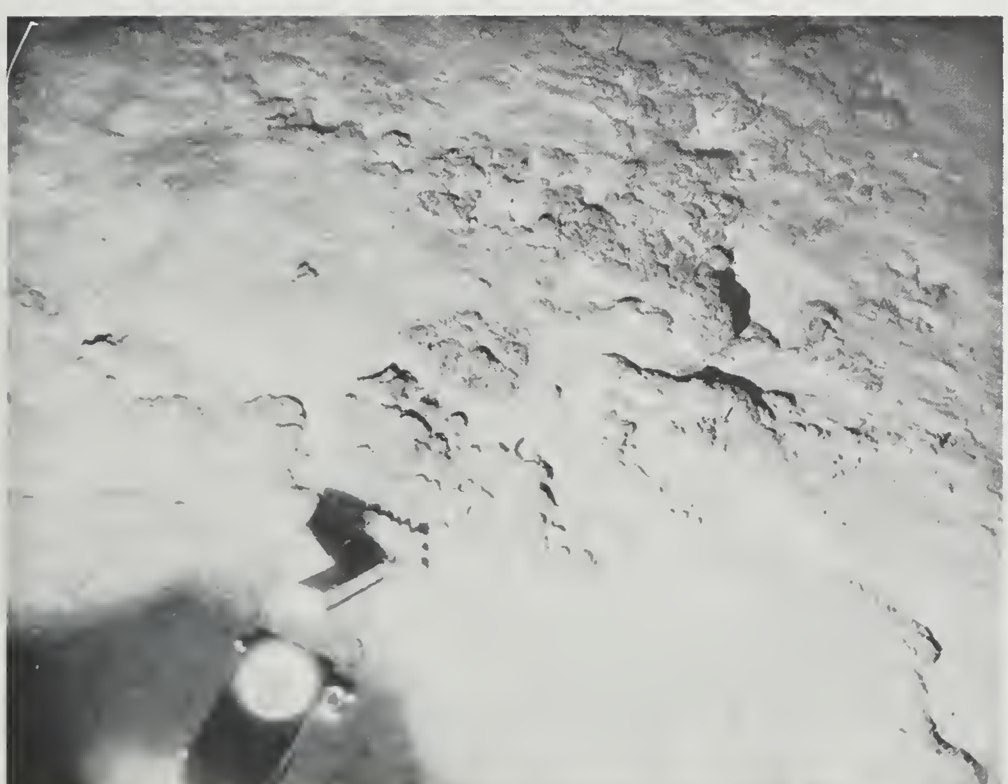
K141—27

K142—5

K142—6



K142—9

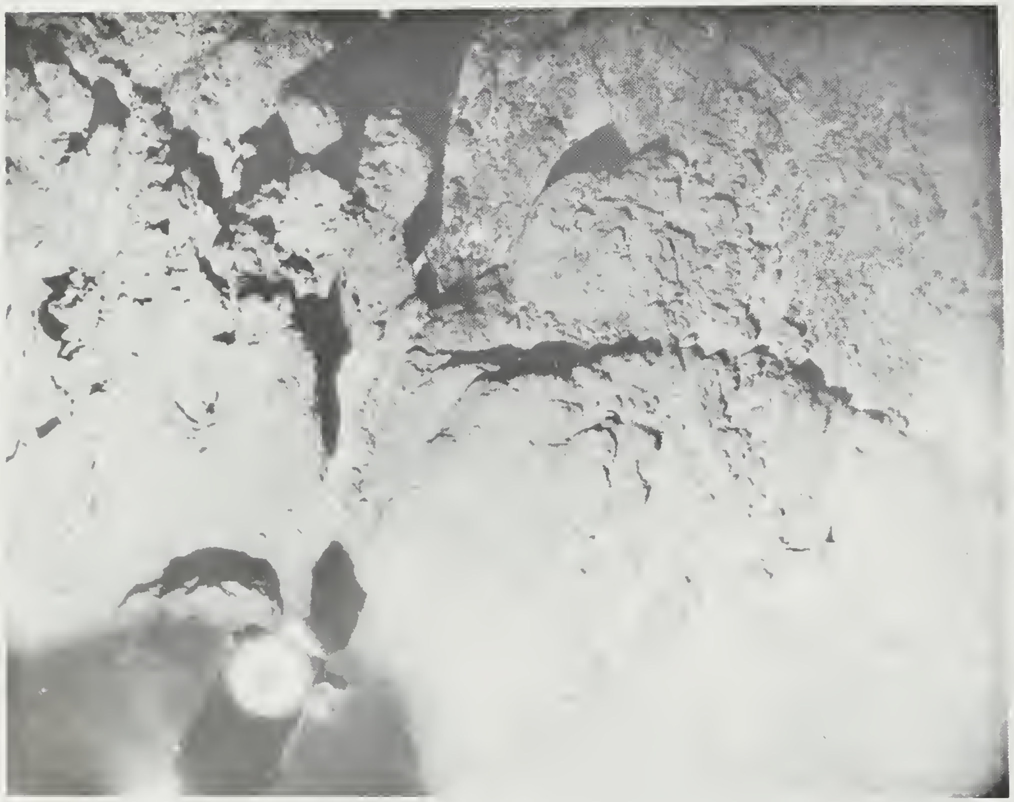


K143—4

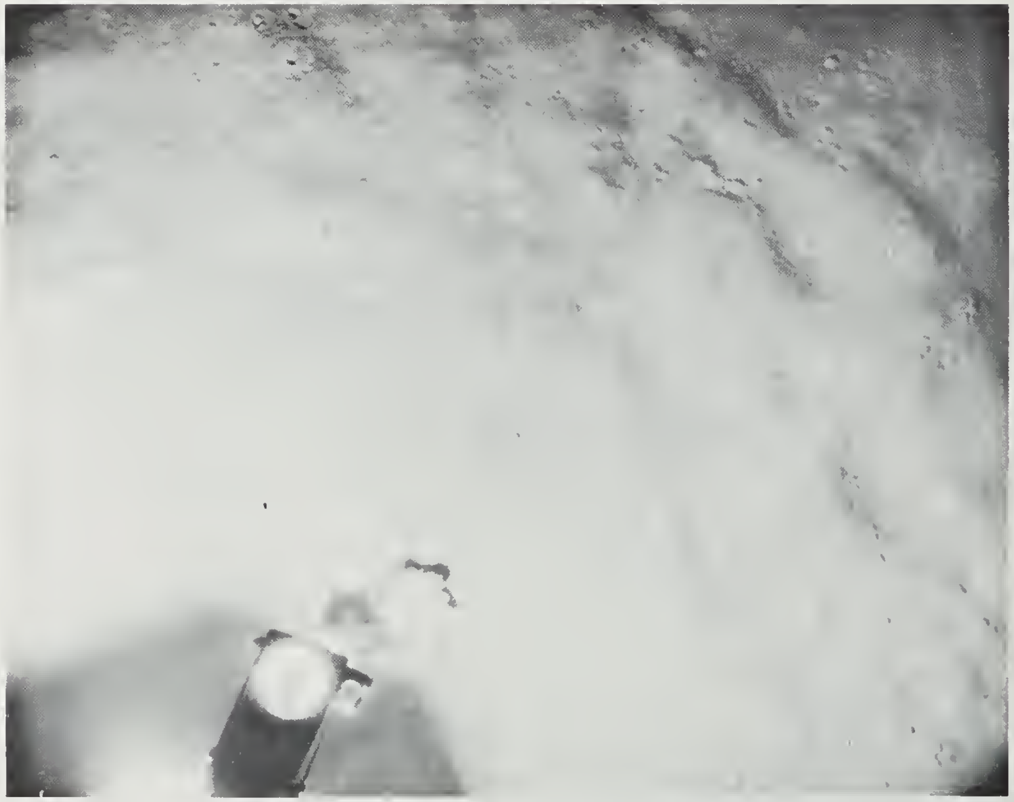
K143—5

K143—6

K143—7



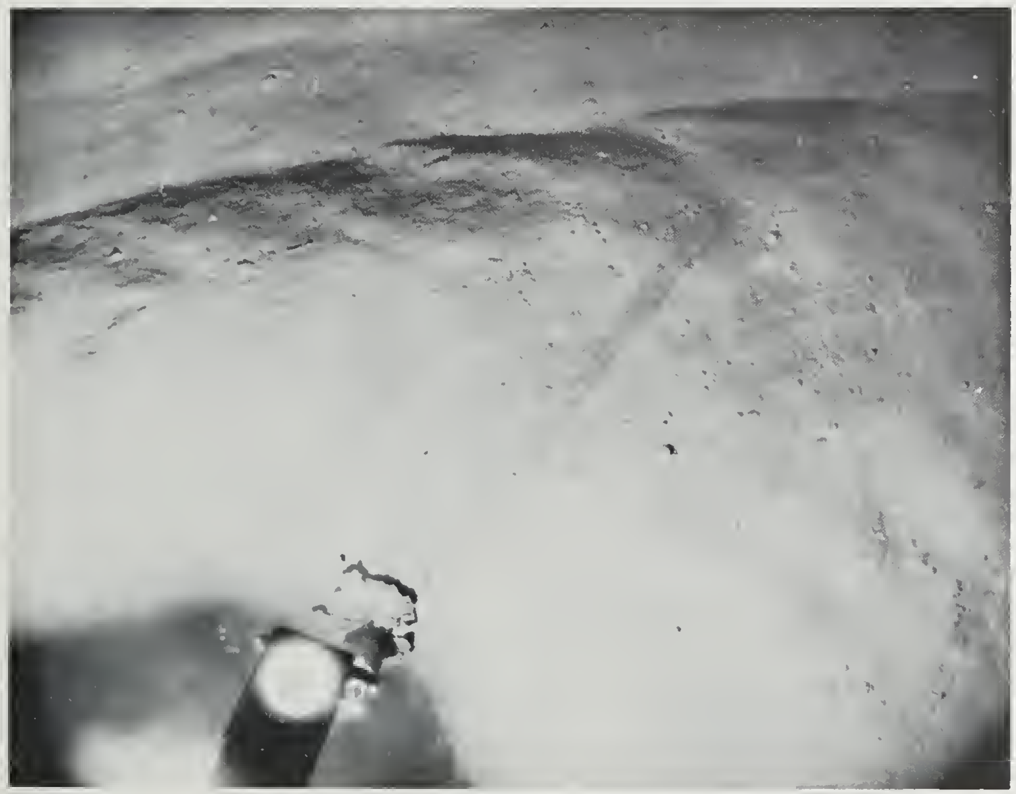
K143—8



K144—7

K145 — 6

K146 — 2



K146 — 5

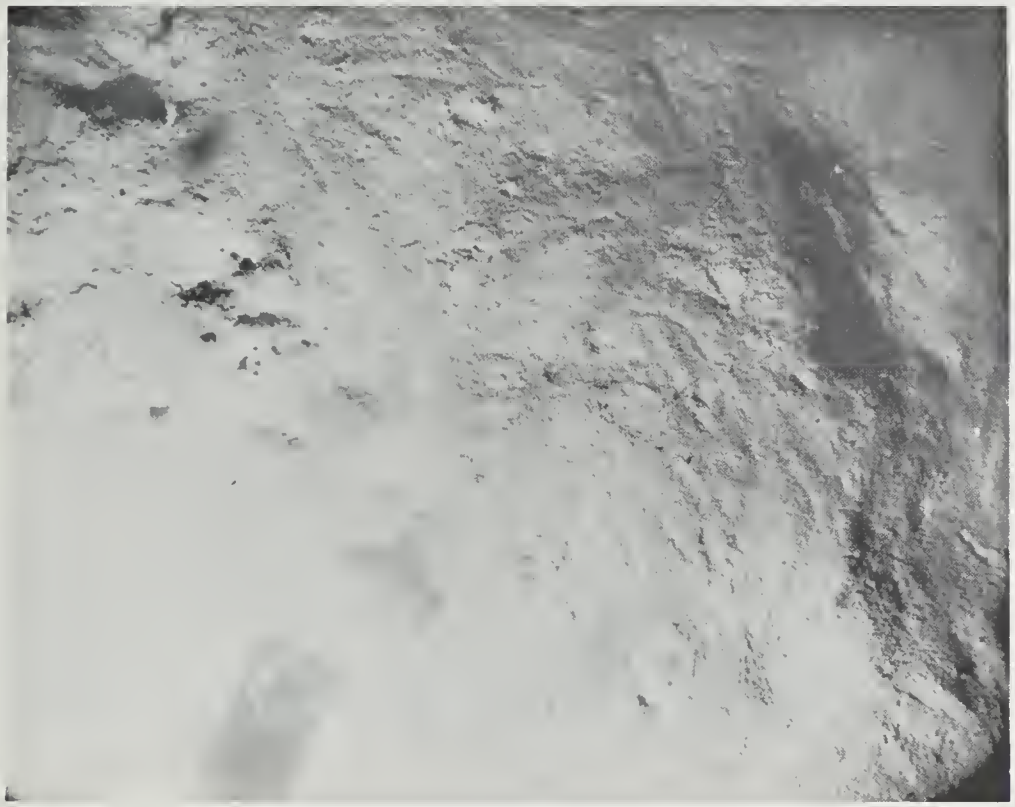
K146 — 8

K147—3

K148—4

K148—7

K149—1



K149—6

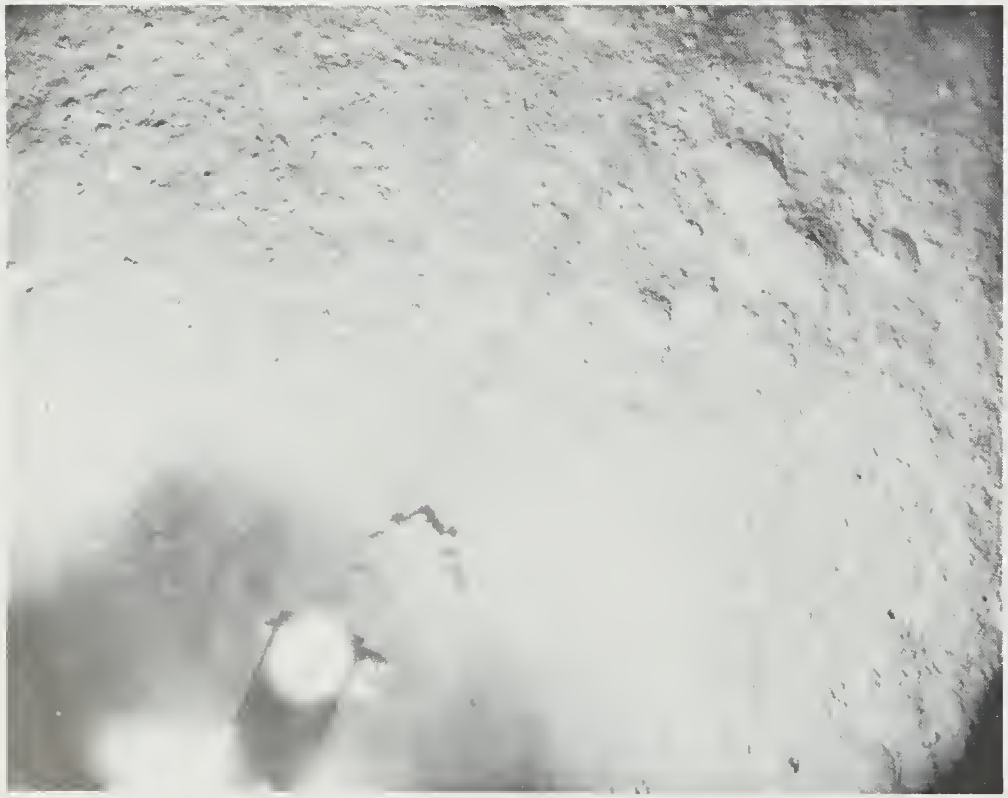
K150—6

K151—6

K152—6

K152—7

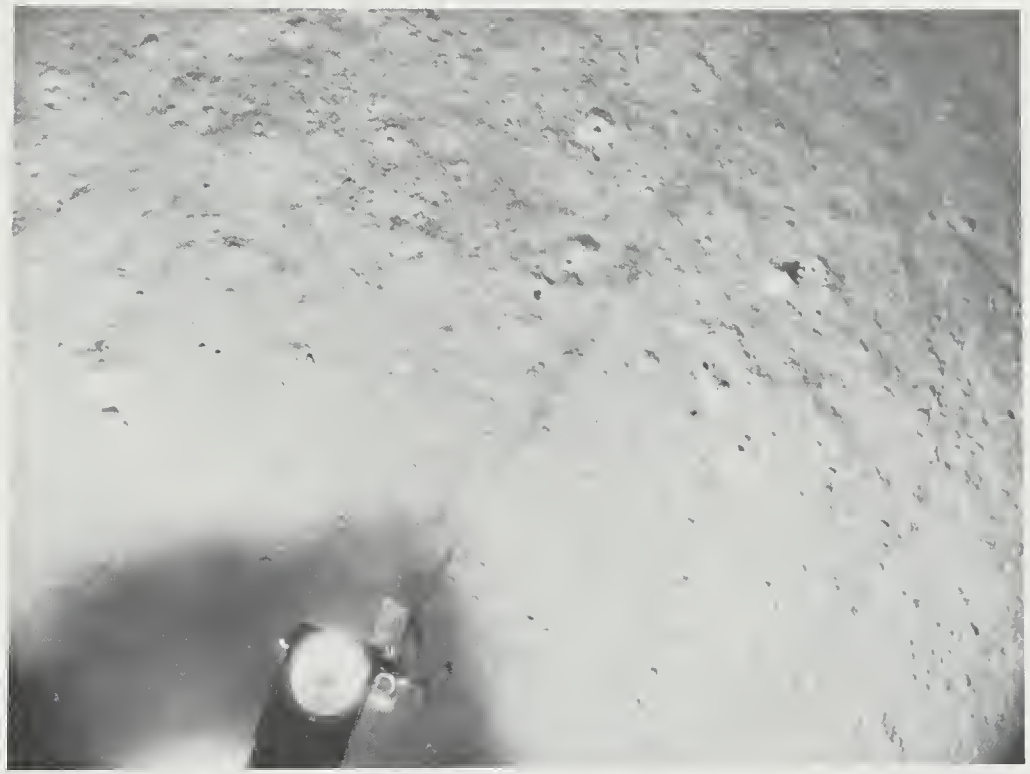
K153— 1



K153 —4

K154—3

K154—6



K155—3

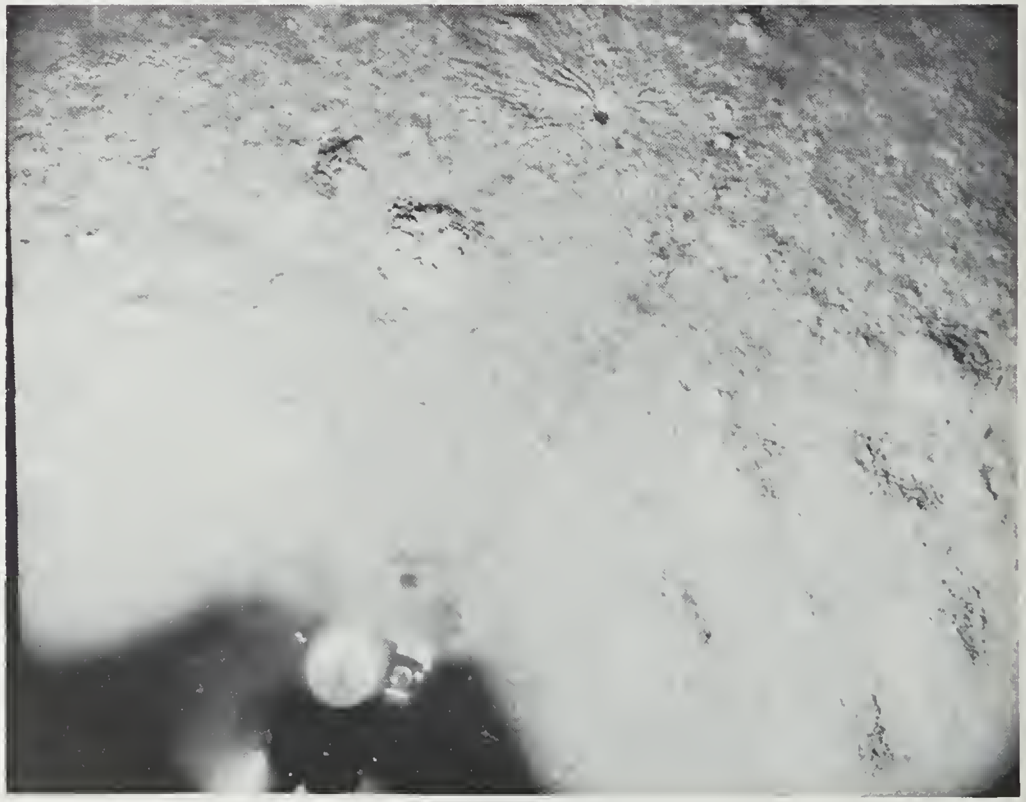
K156—3

K156—4

K157—1

K158—3

K159—1



K159—3

K159 —8

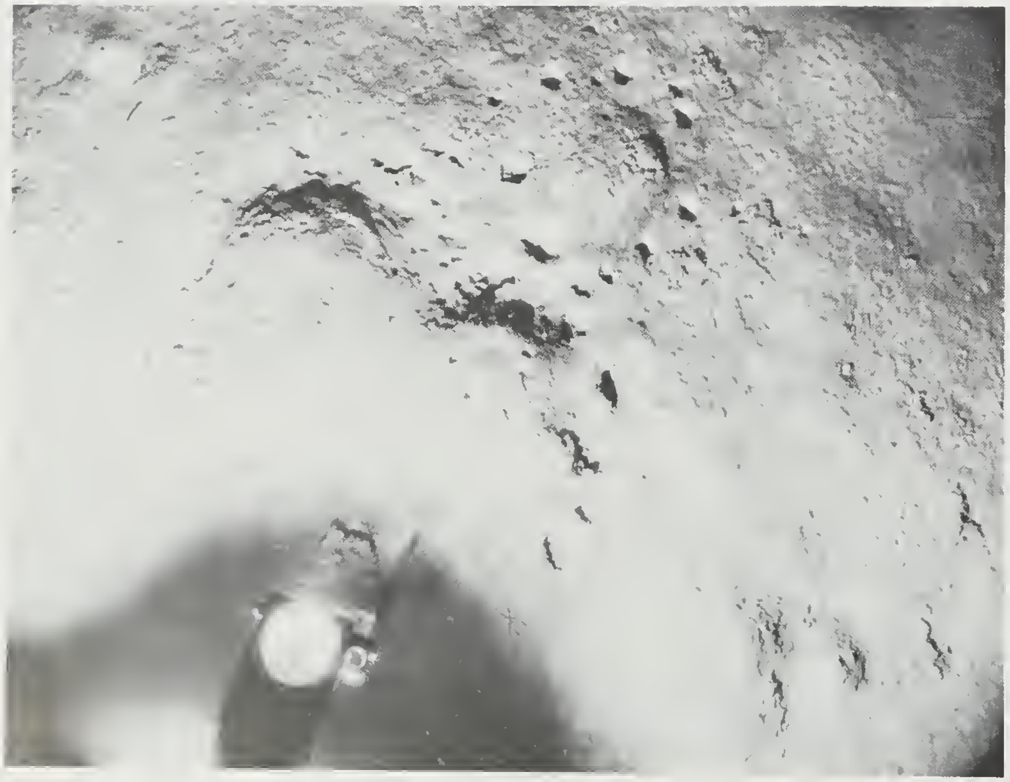
K160 —2

K160 —4

K161 — 1

K161—3

K162—1



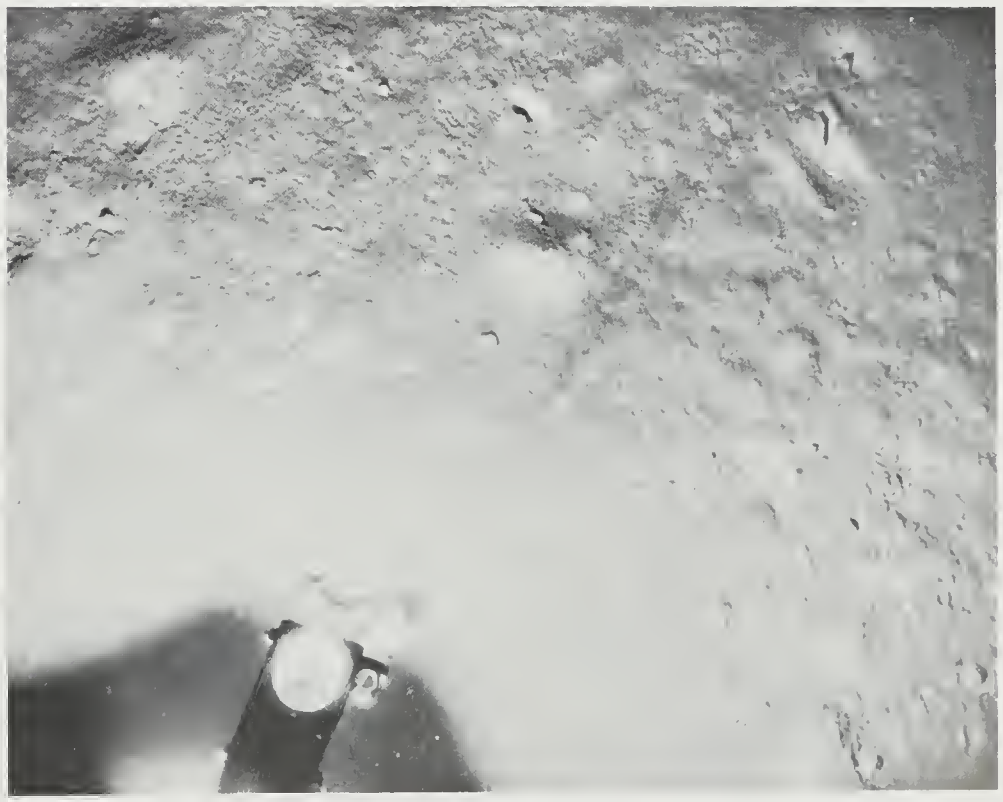
K162—2

K162—6

K163—1

K163—5

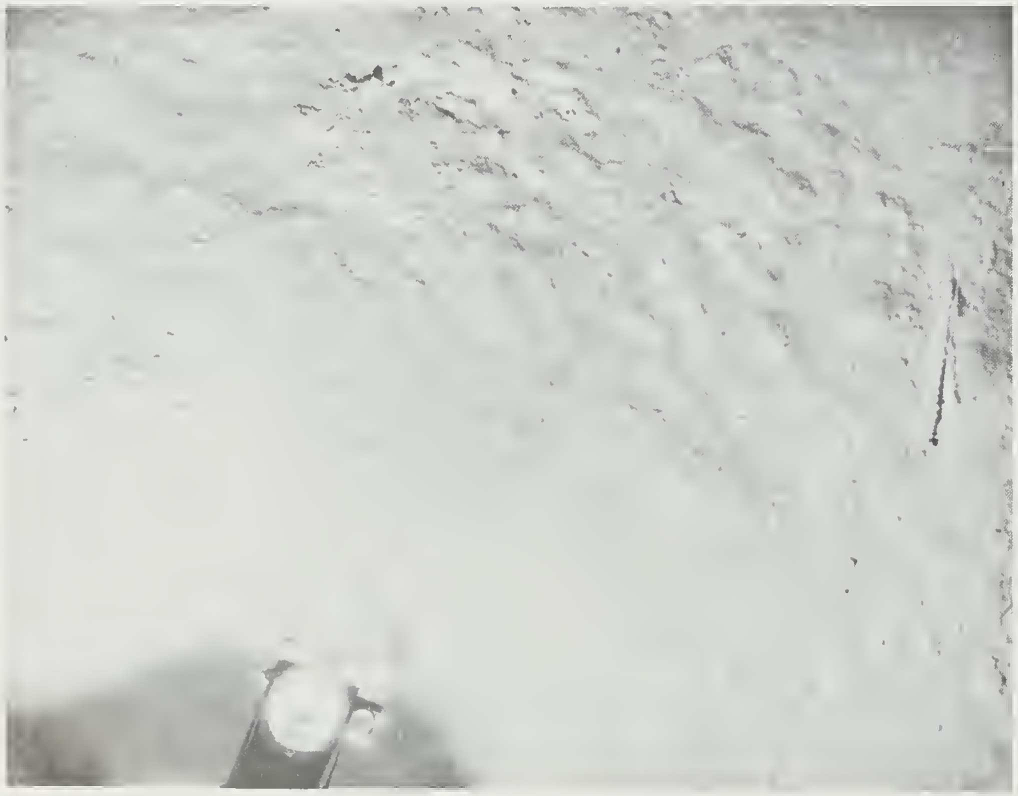
K164—2



K164—5

K164—6

K165—1

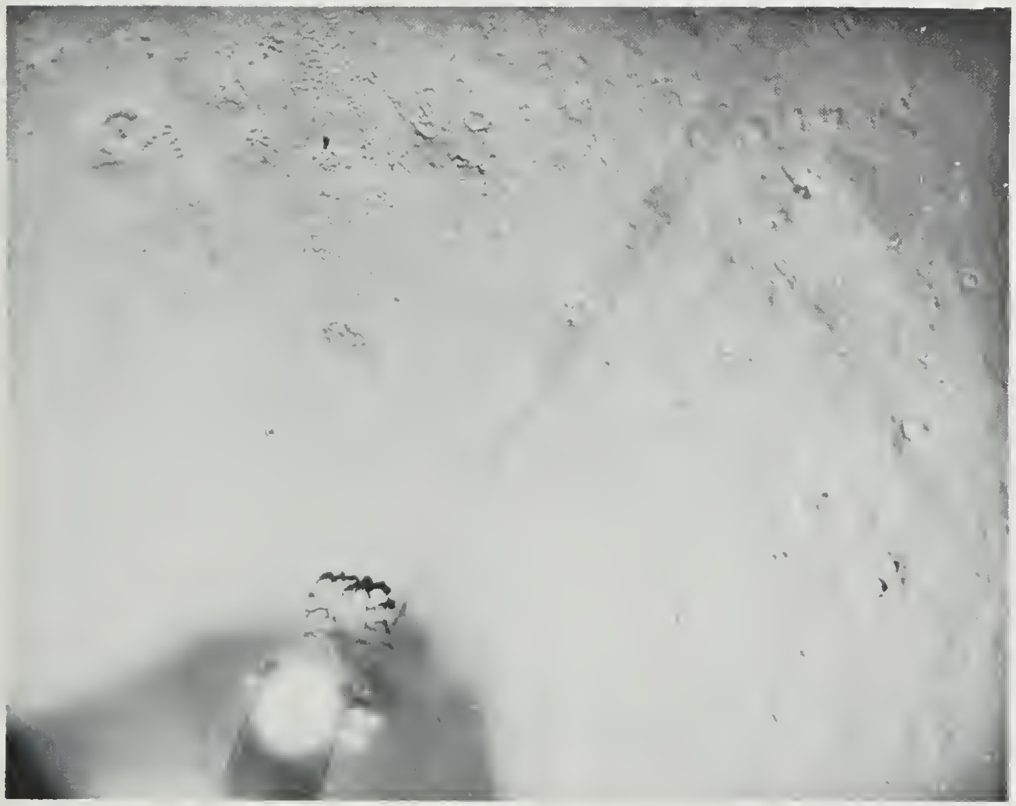


K165—4

K166—1

K166—2

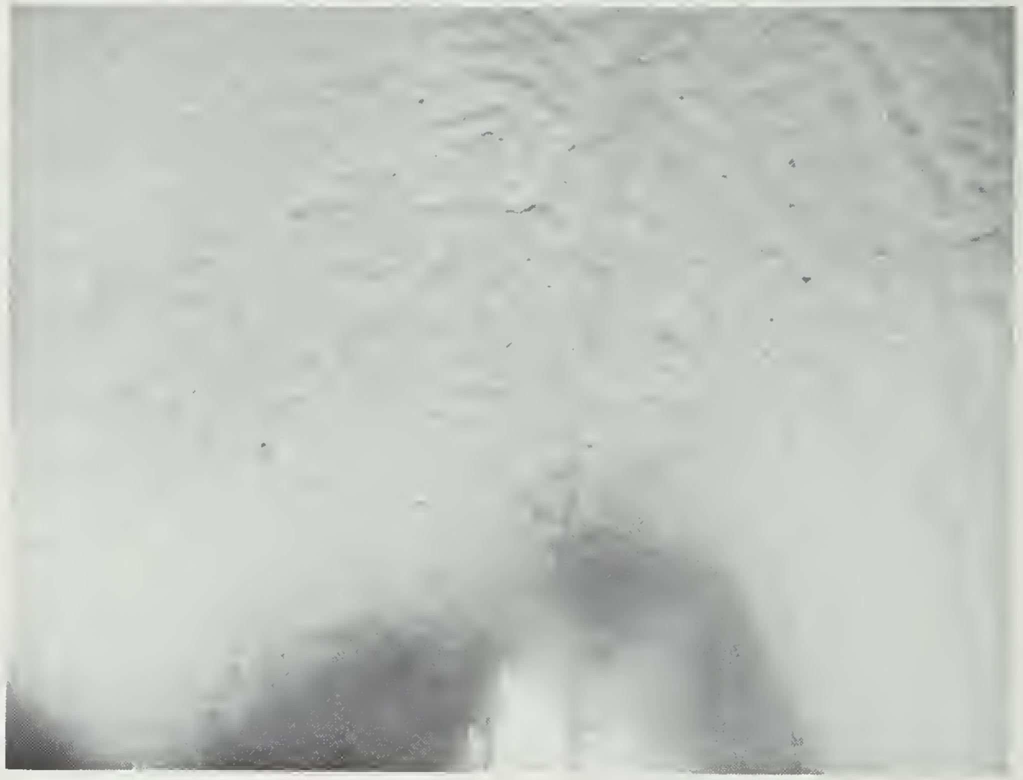
K166—5



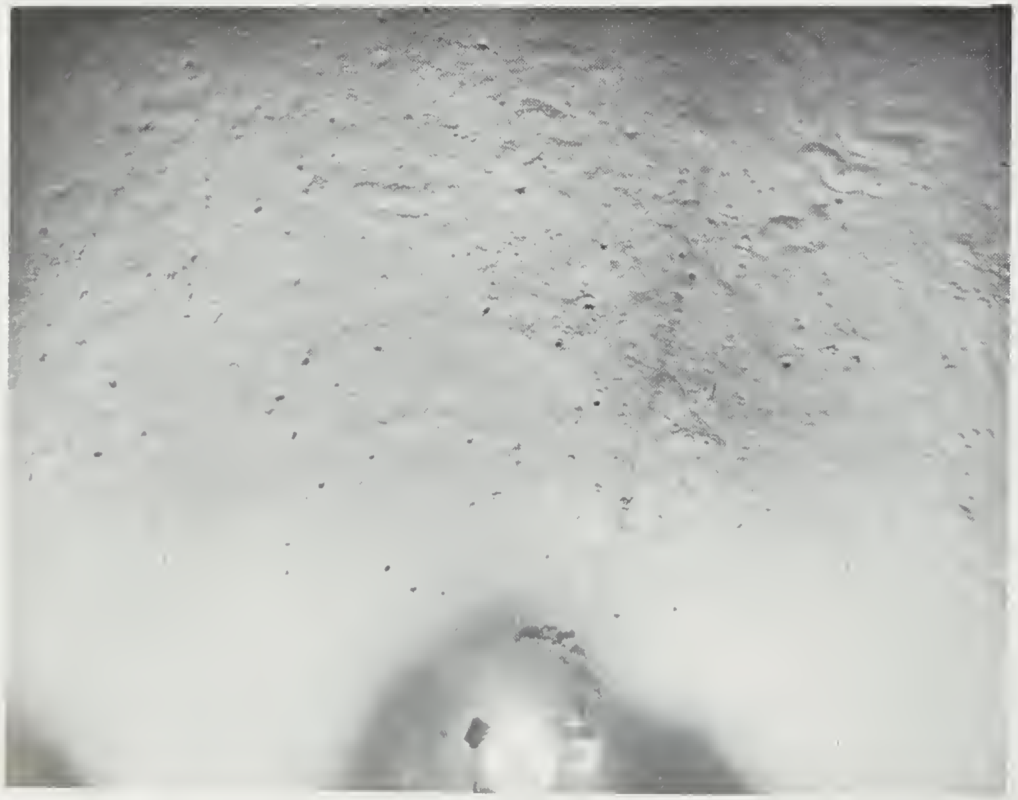
K166—6

K167—12

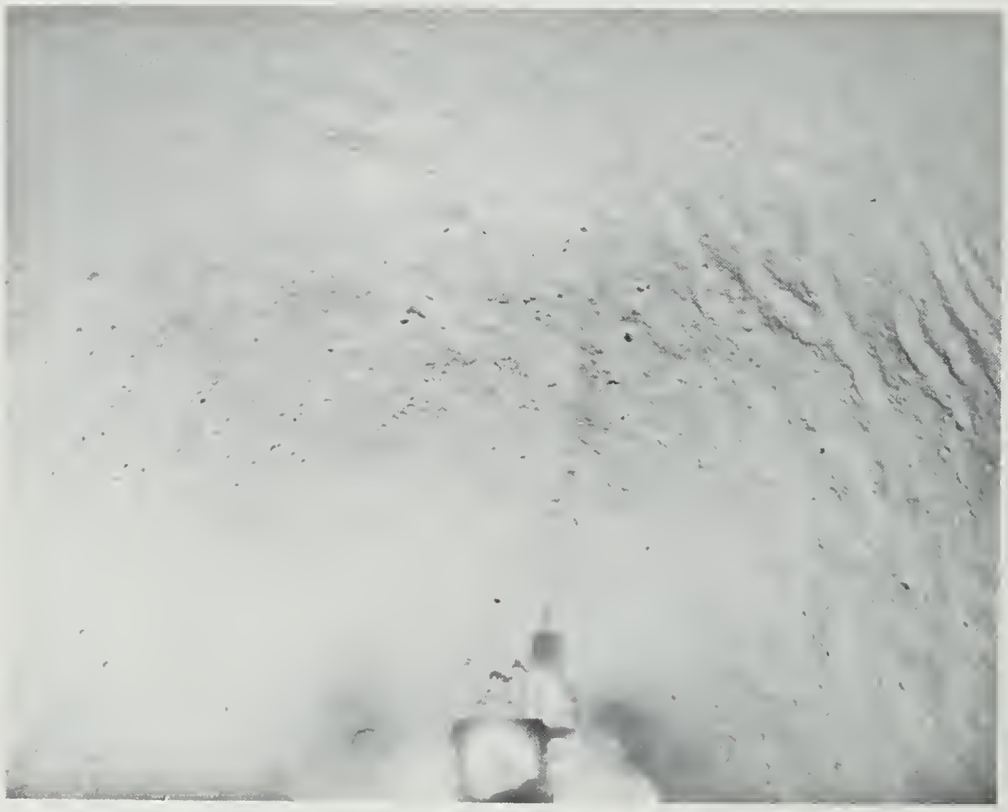
K168—4



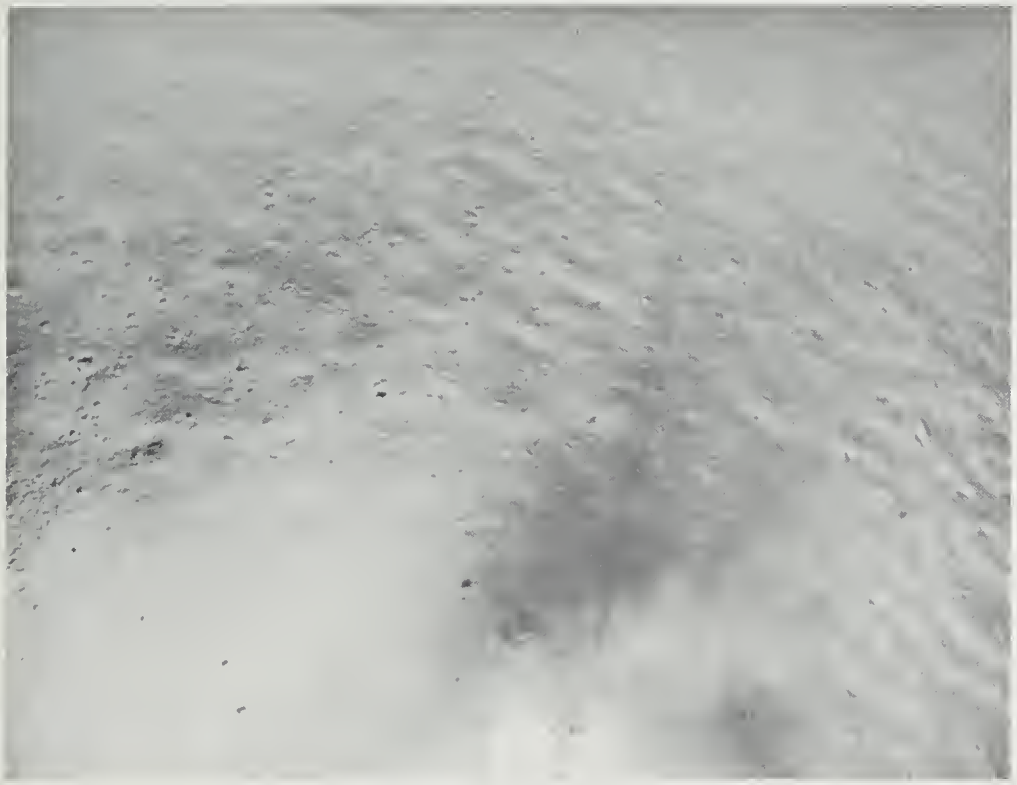
K168—8



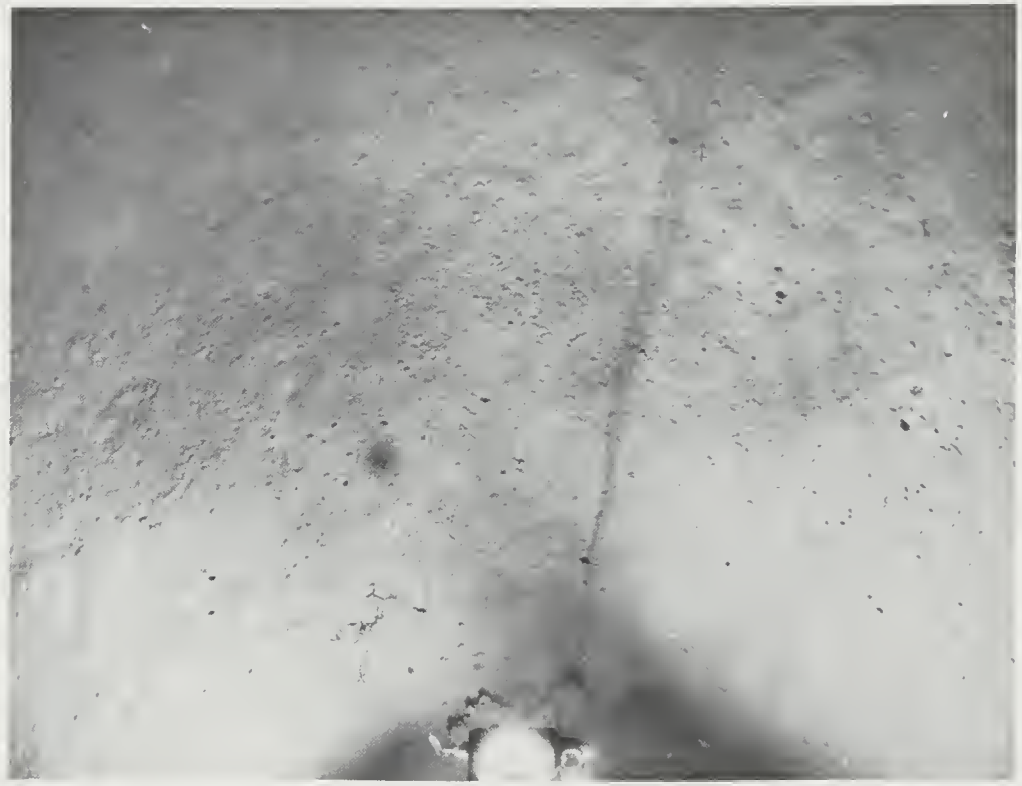
K169—2



K170—2



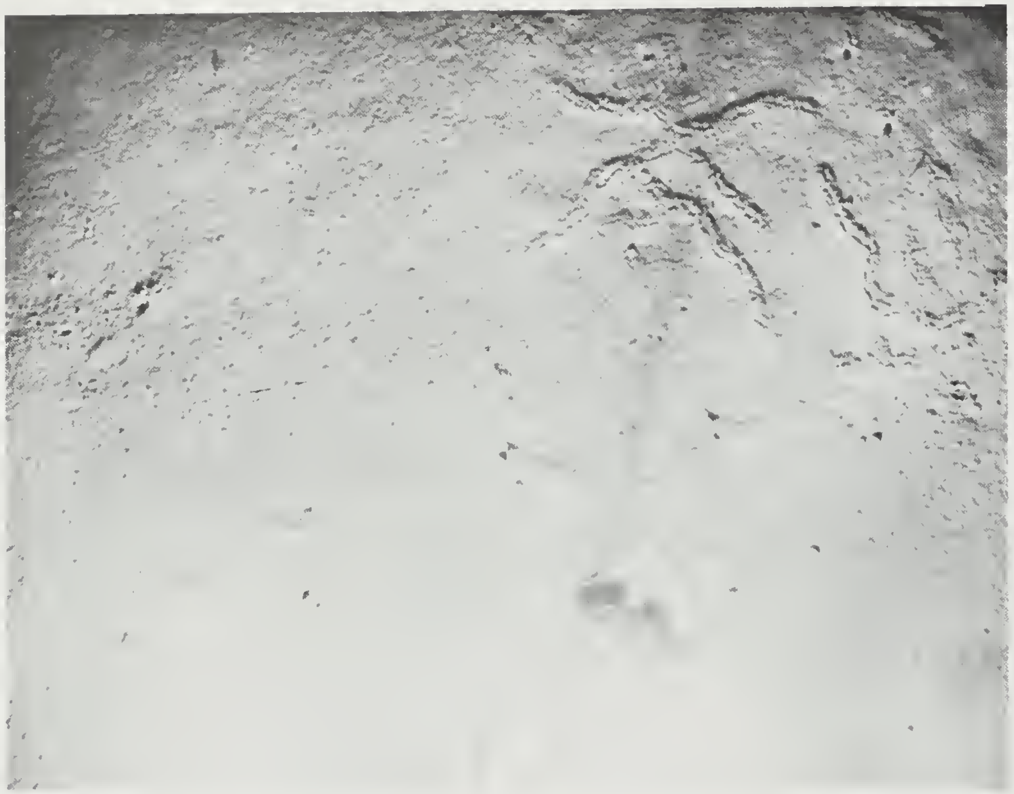
K170—3



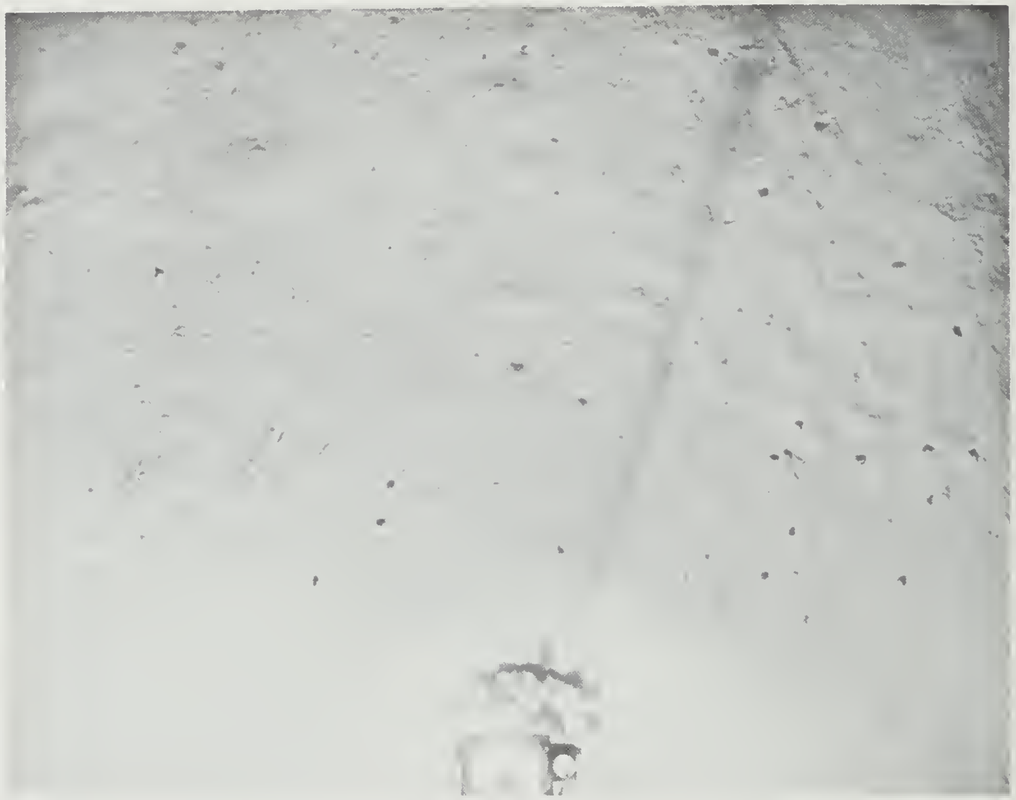
K170—5

K171—4

K171—9

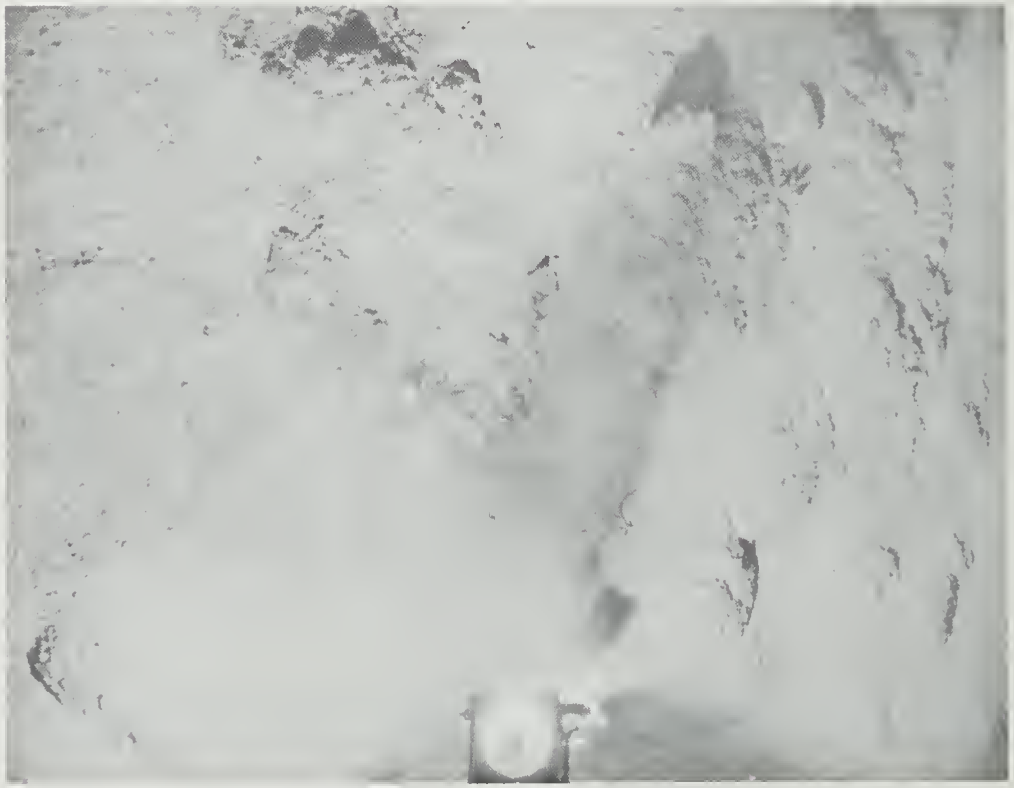


K171—10



K172—1

K172—8

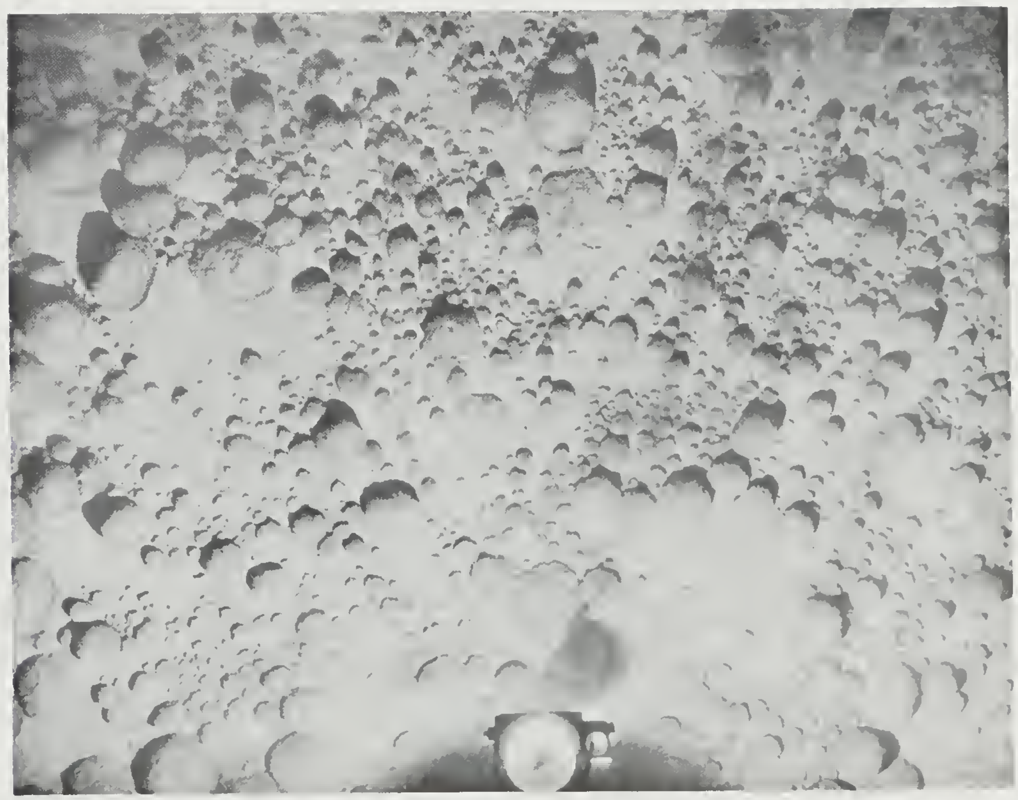


K172—9

K172—11

K172—12

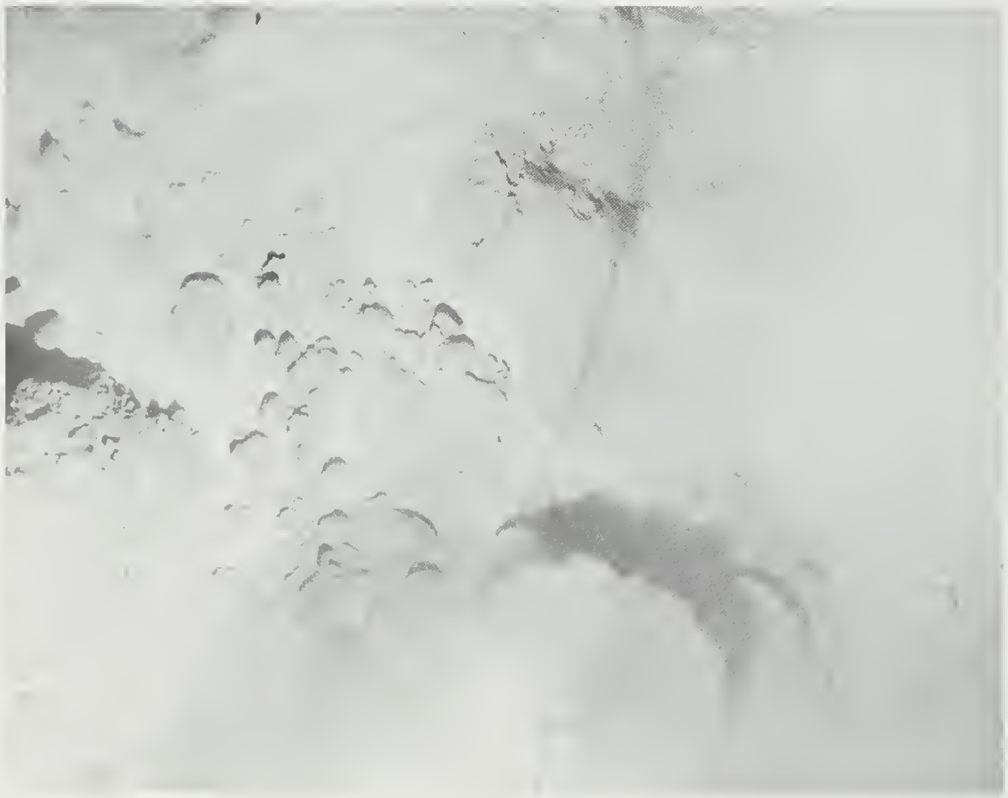
K173—2



K173—3

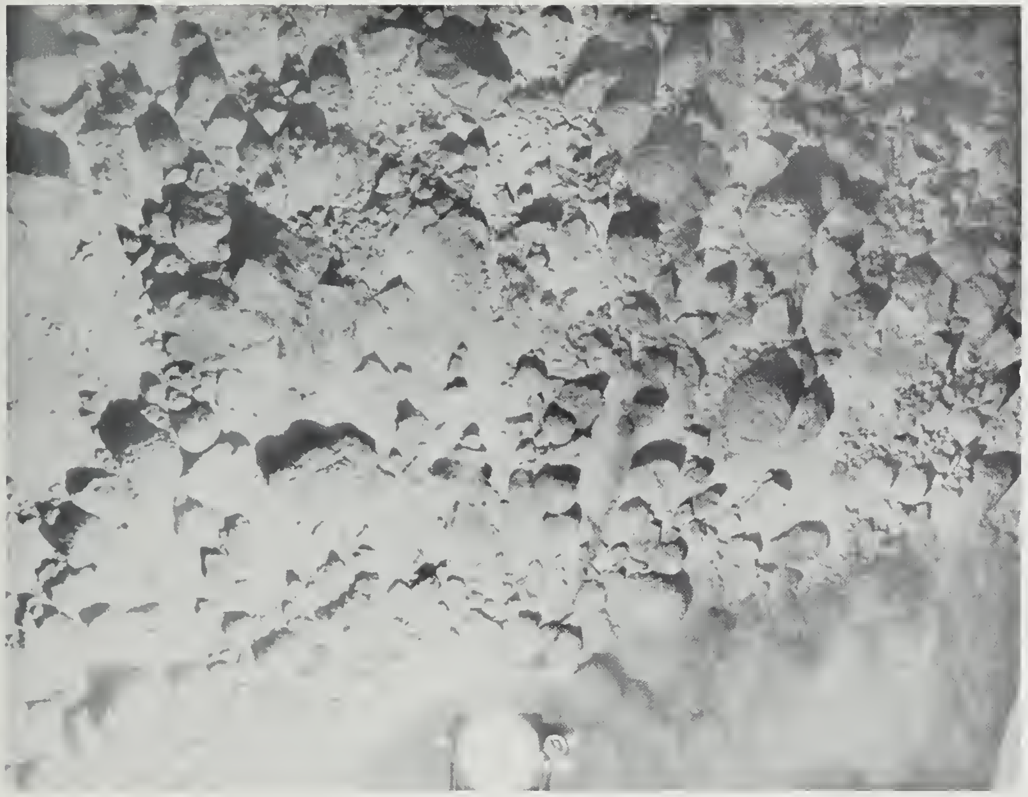
K173—5

K173—8



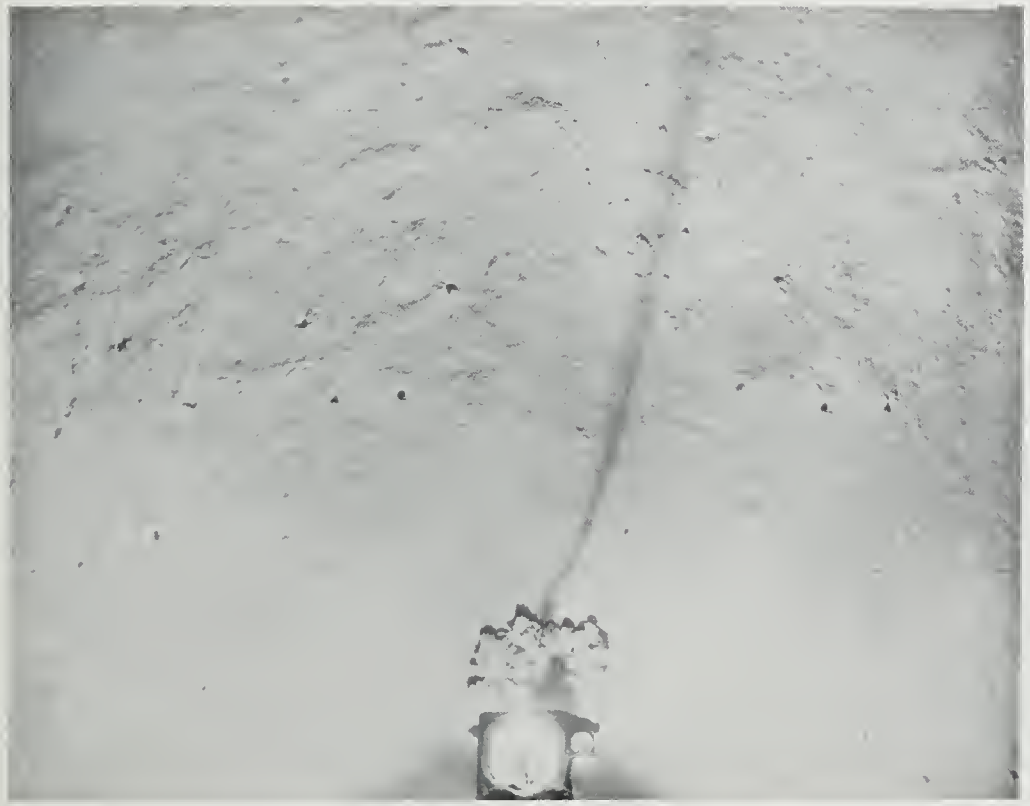
K173—9

K173—10

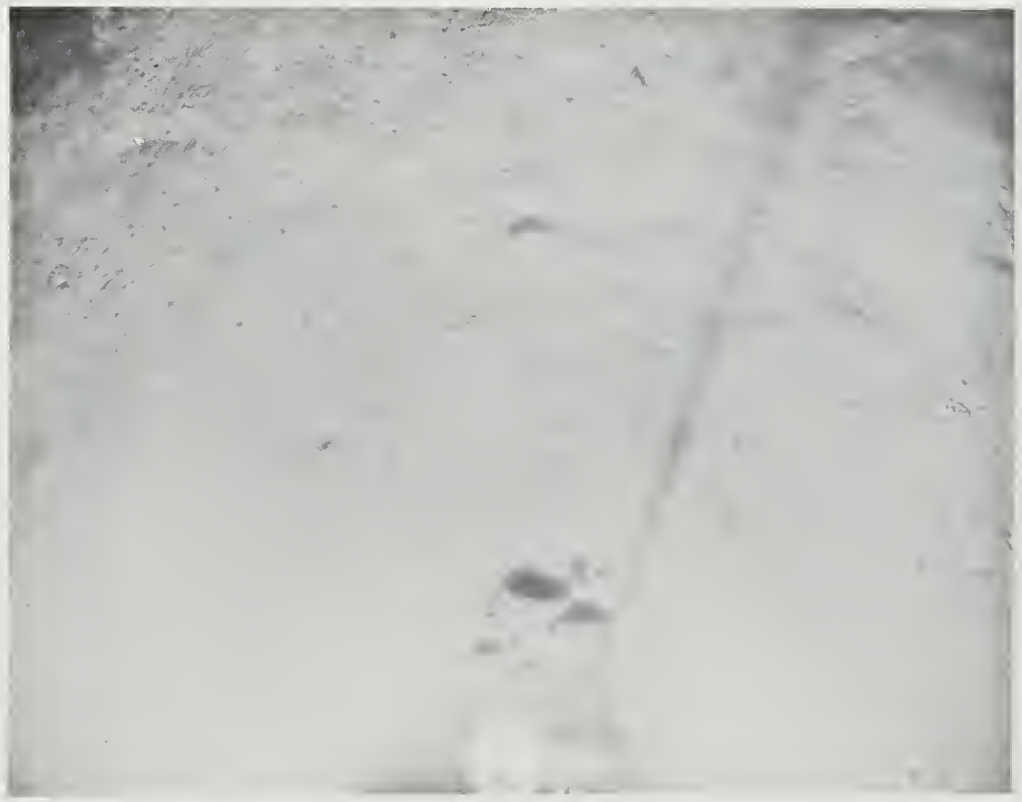


K173—13

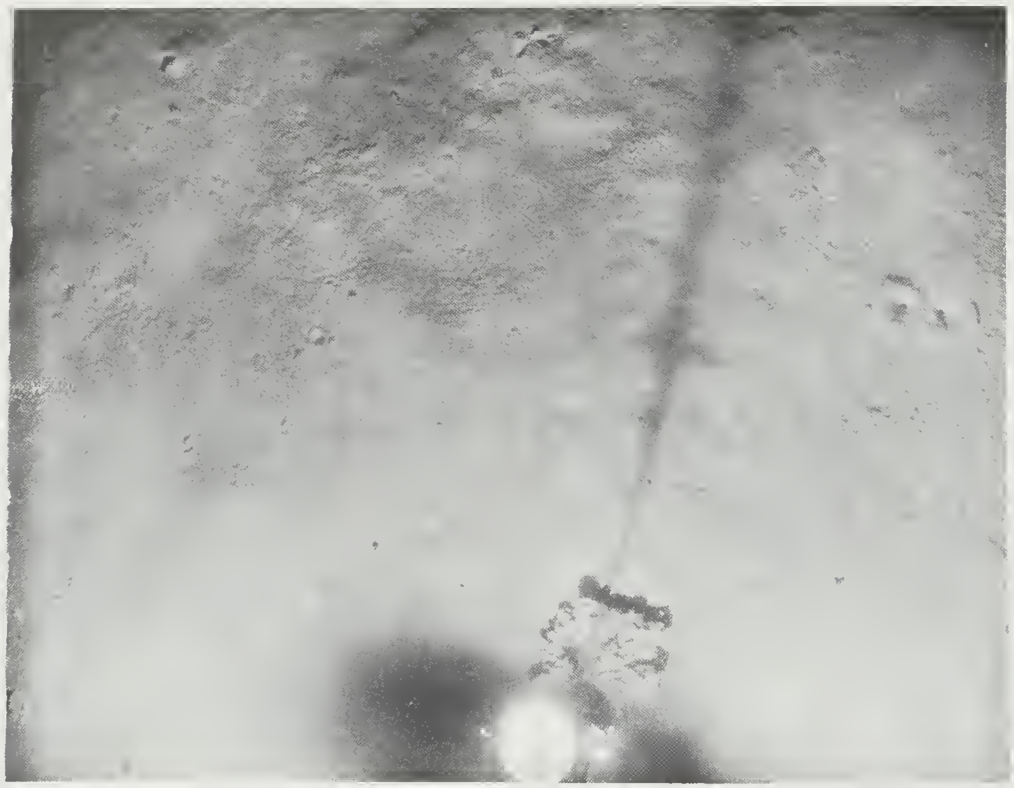
K174—4



K174—14

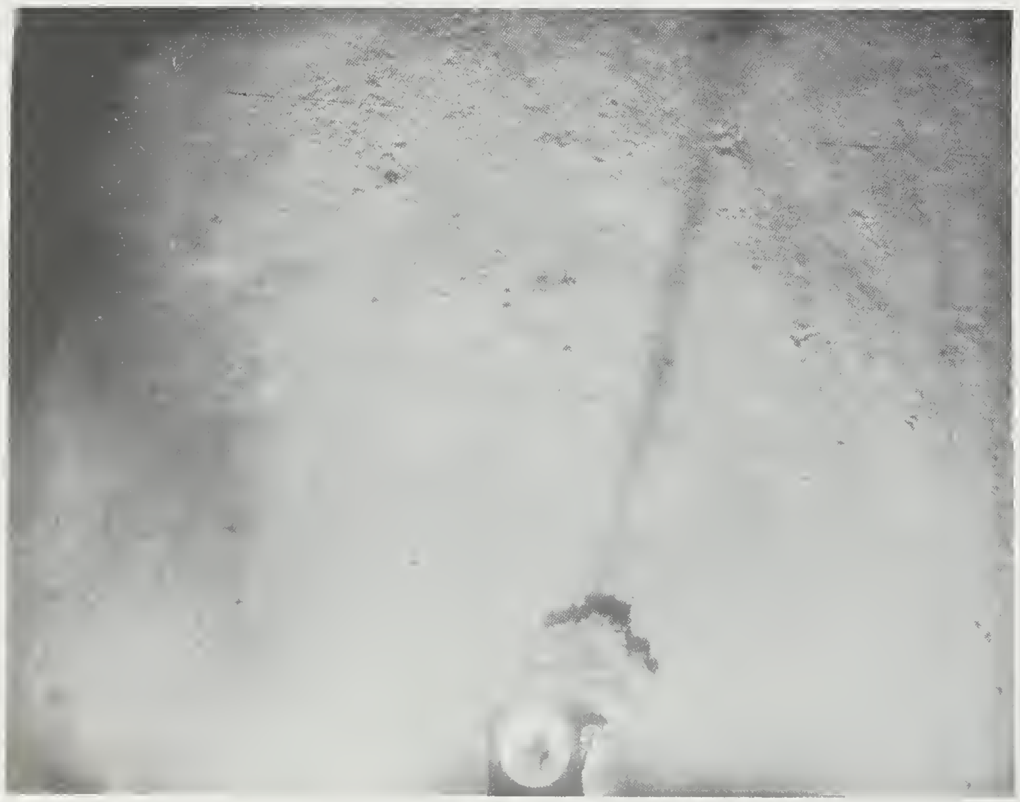


K175—2



K175—5

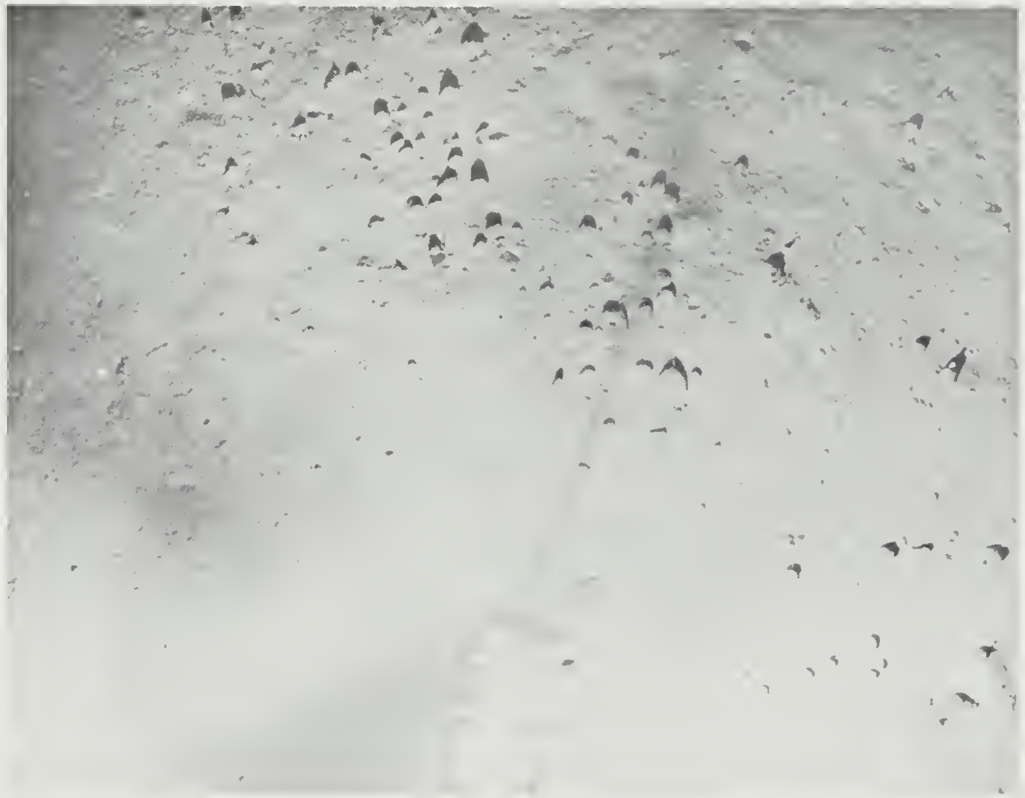
K176—5



K177—5

K178—10

K179—2



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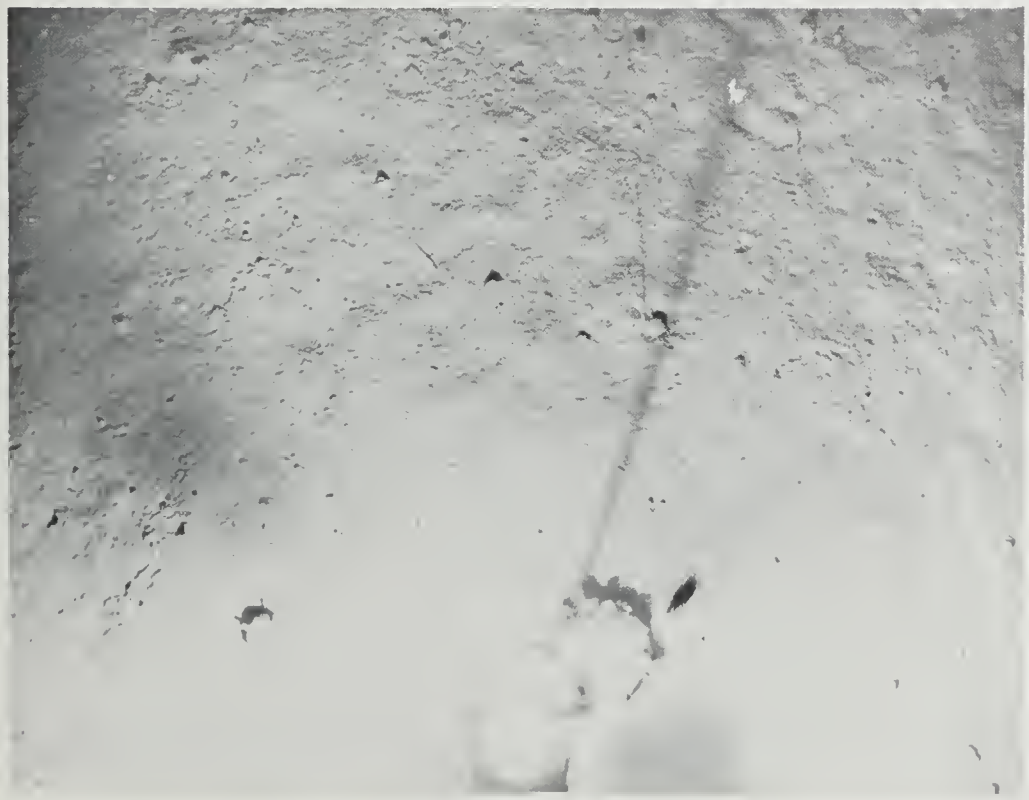

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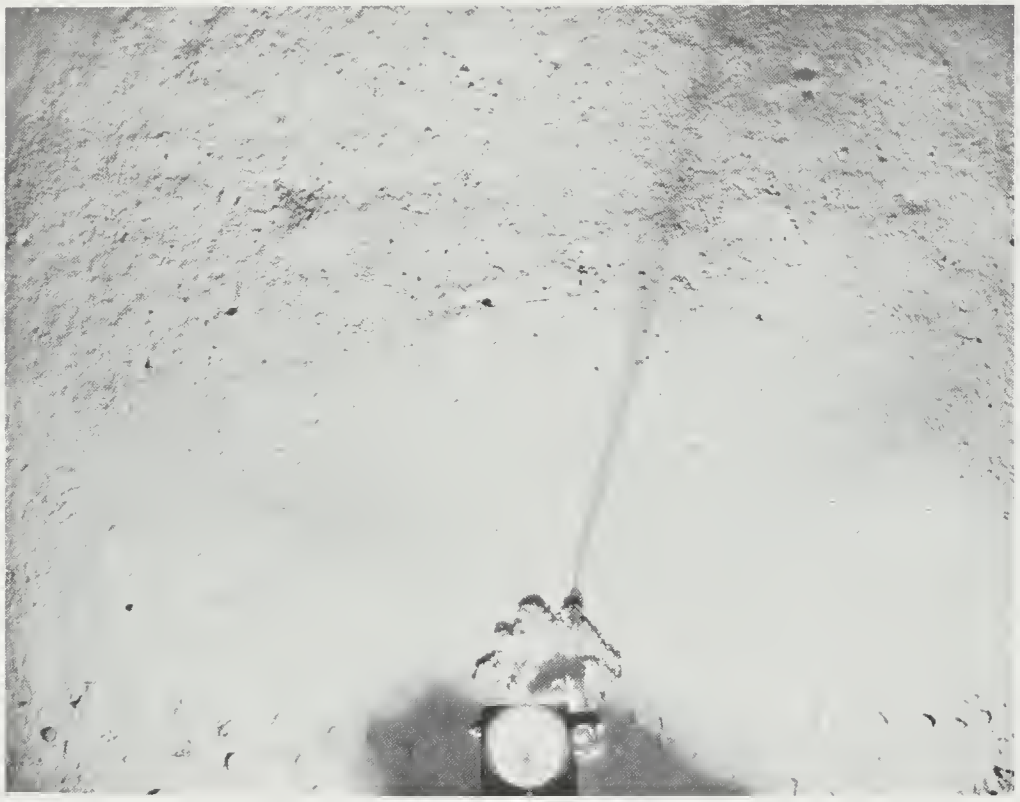
K179—9



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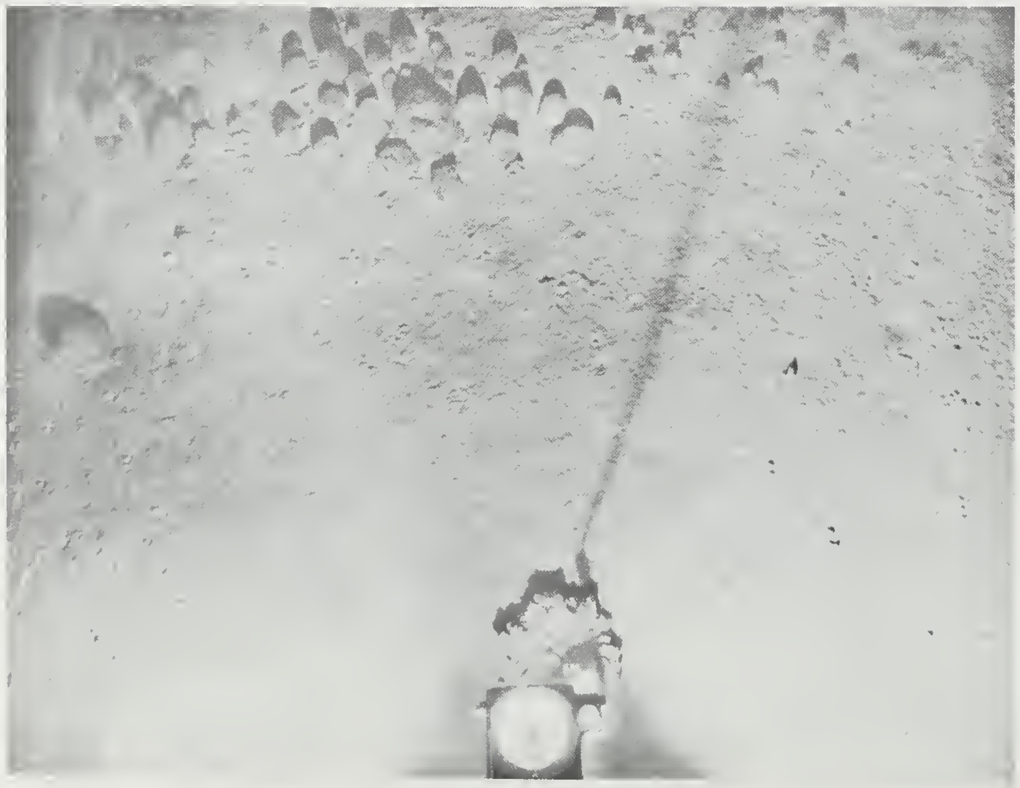

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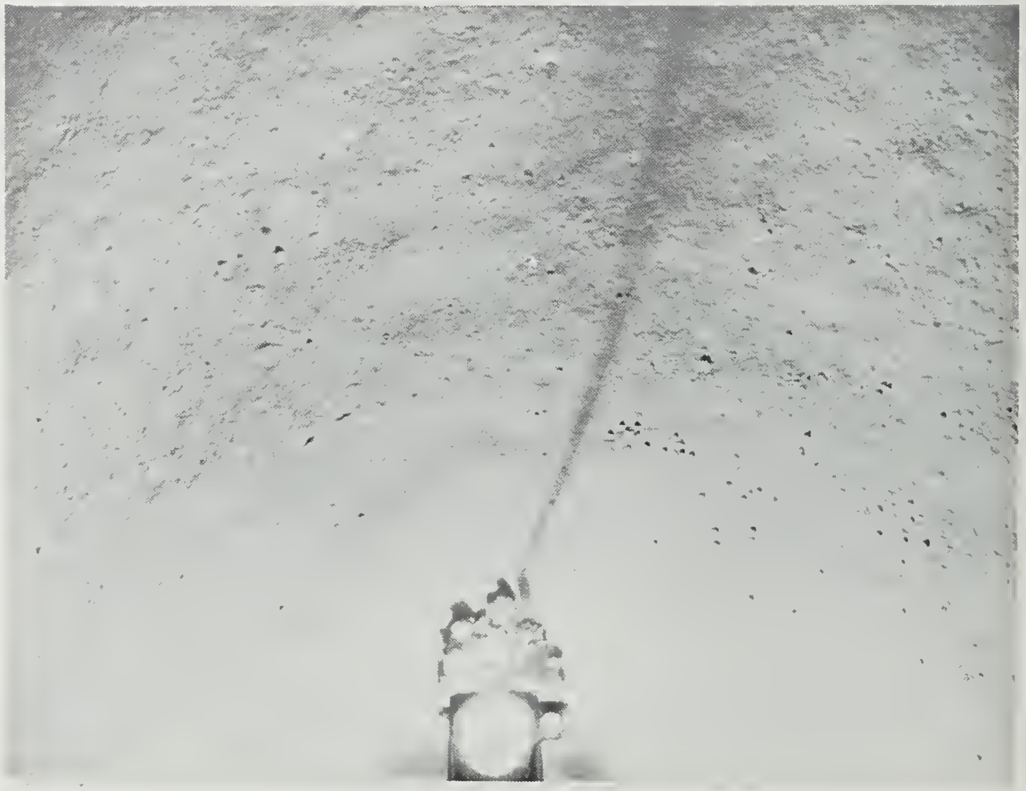

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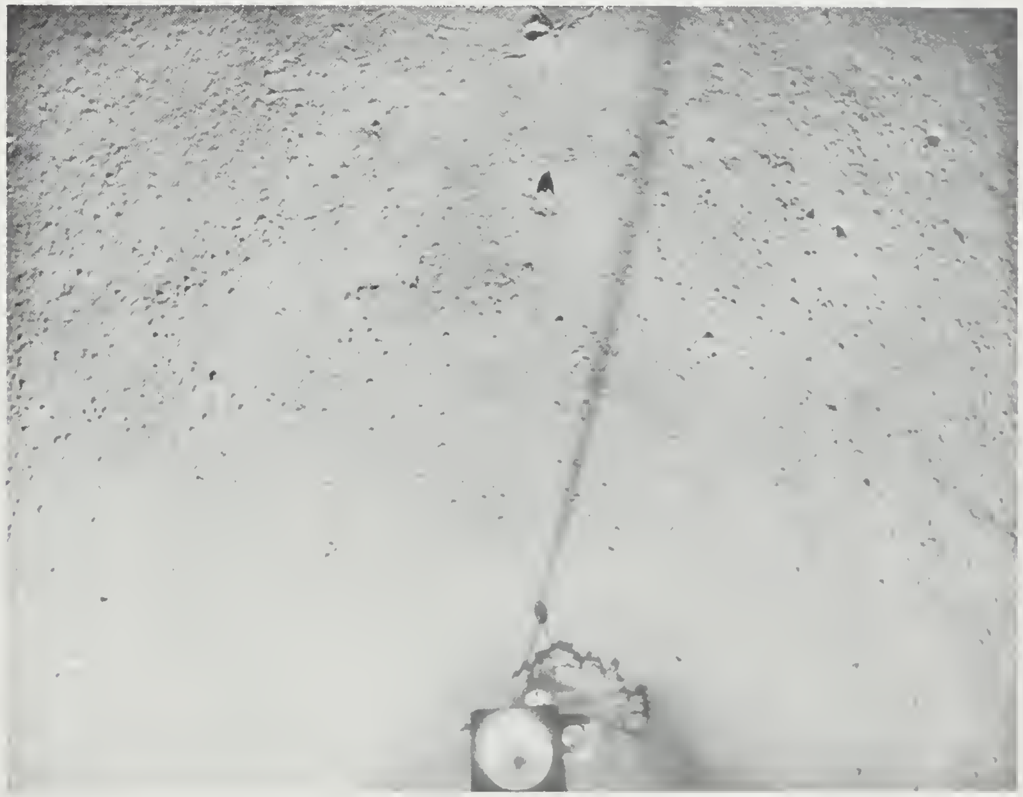
K180—10

K180—11

K180—13



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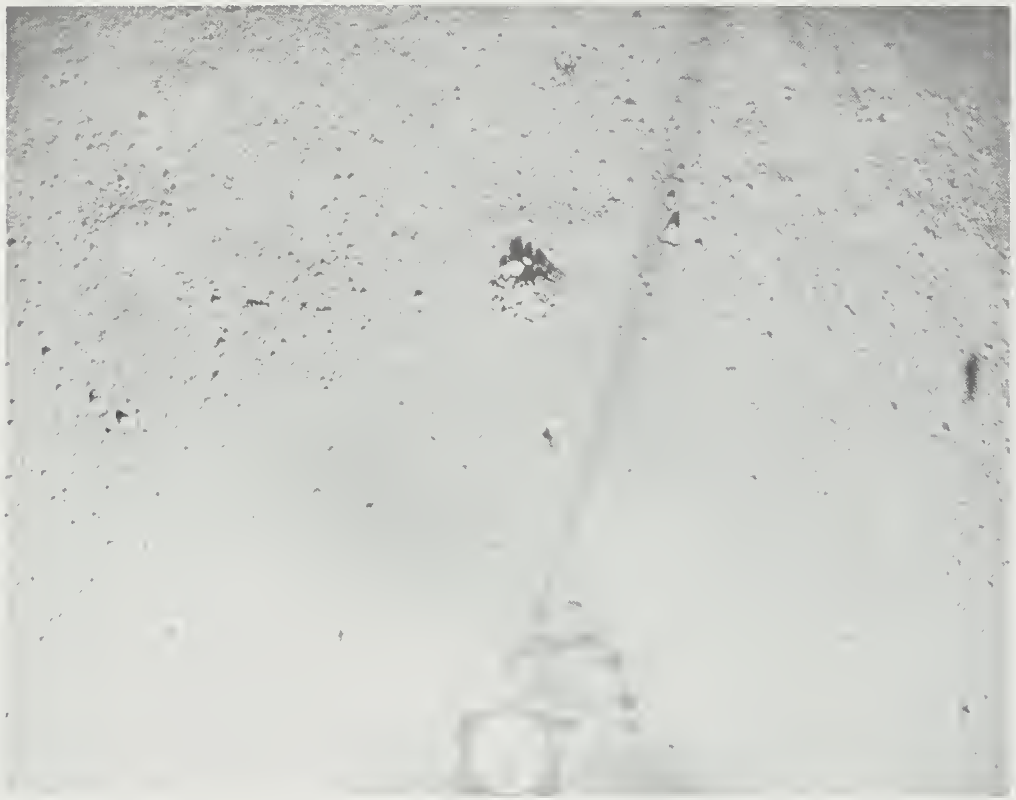

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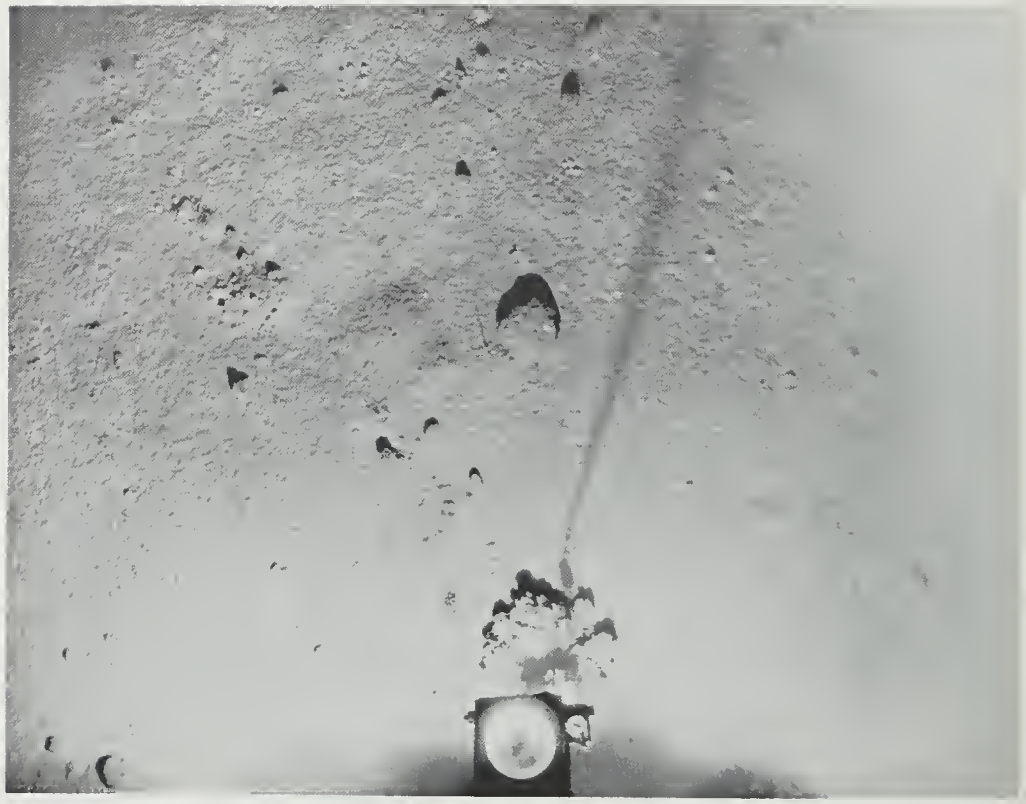
K181 — 13

K182 — 1



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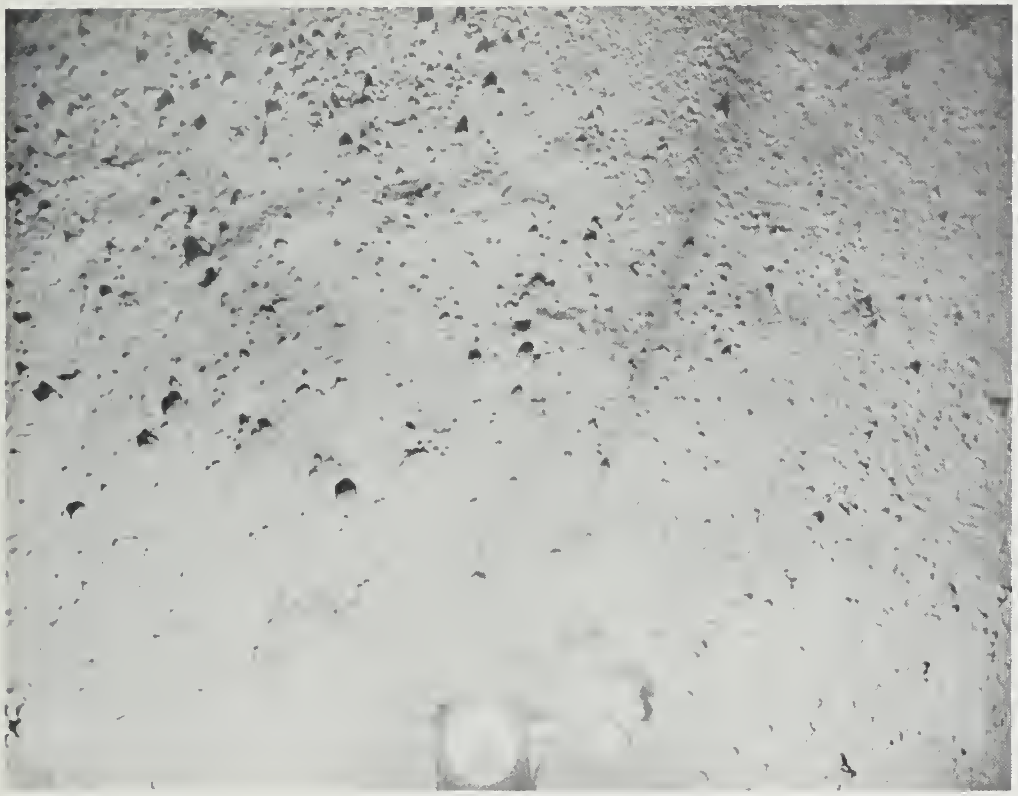

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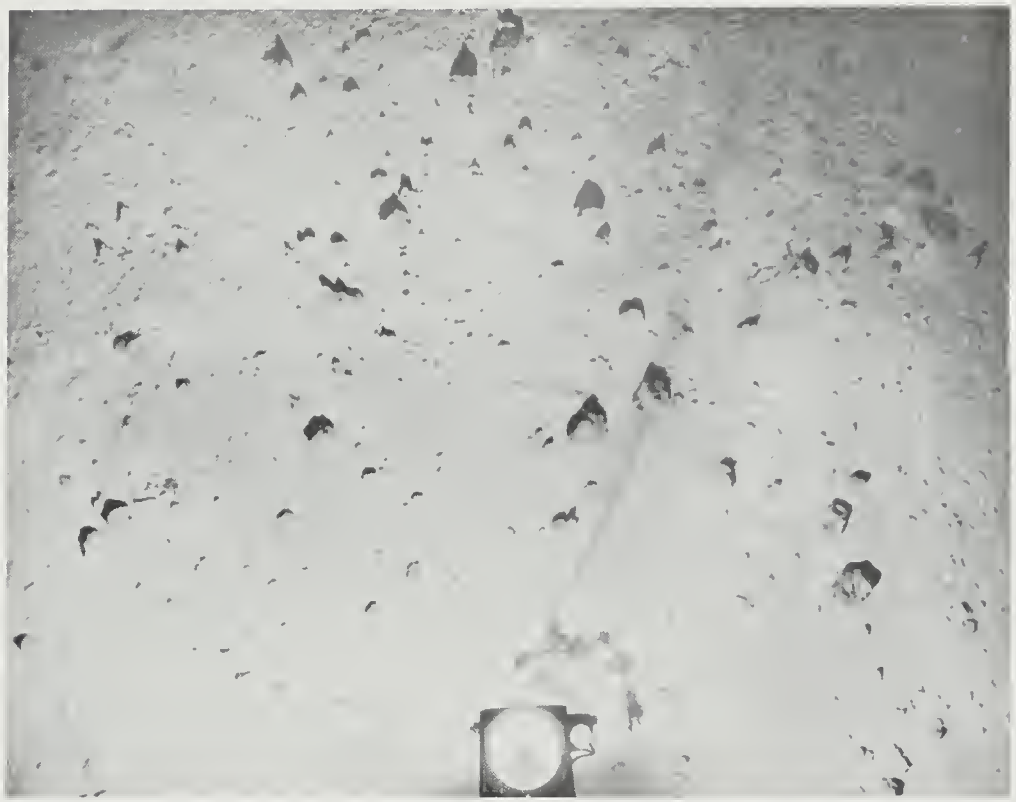


K183—2

K183—3

K183—8

K184—2

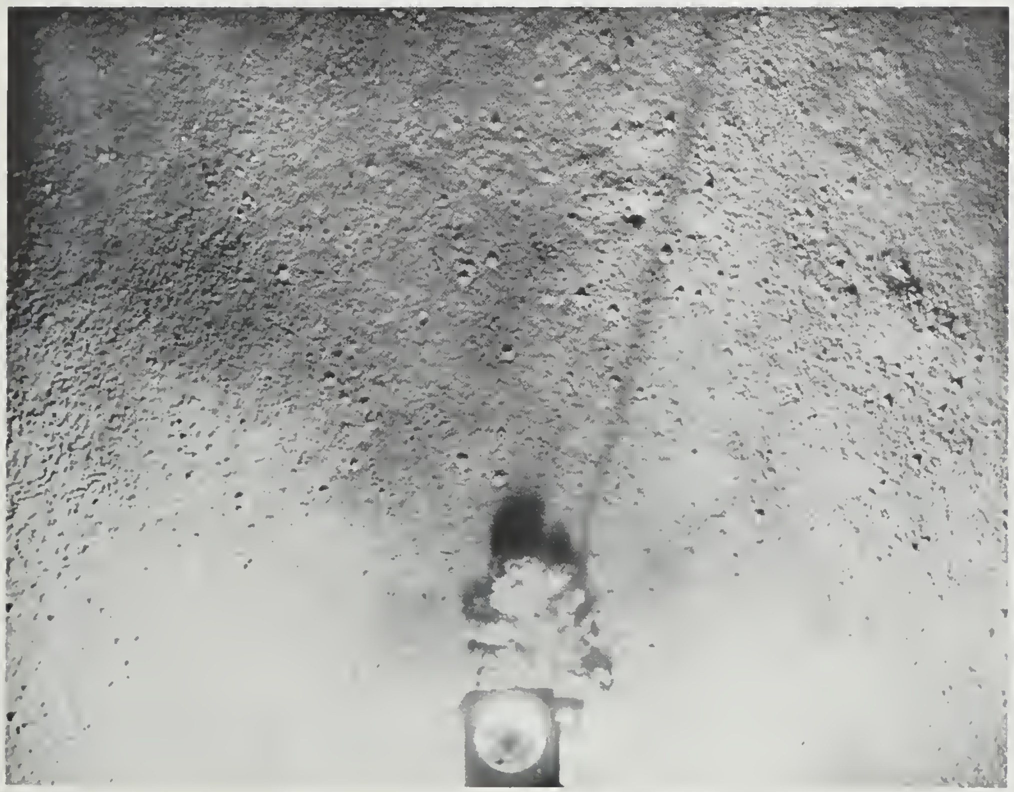
K184—10

K185— 1

K185—2

K185 —3

K185 — 5



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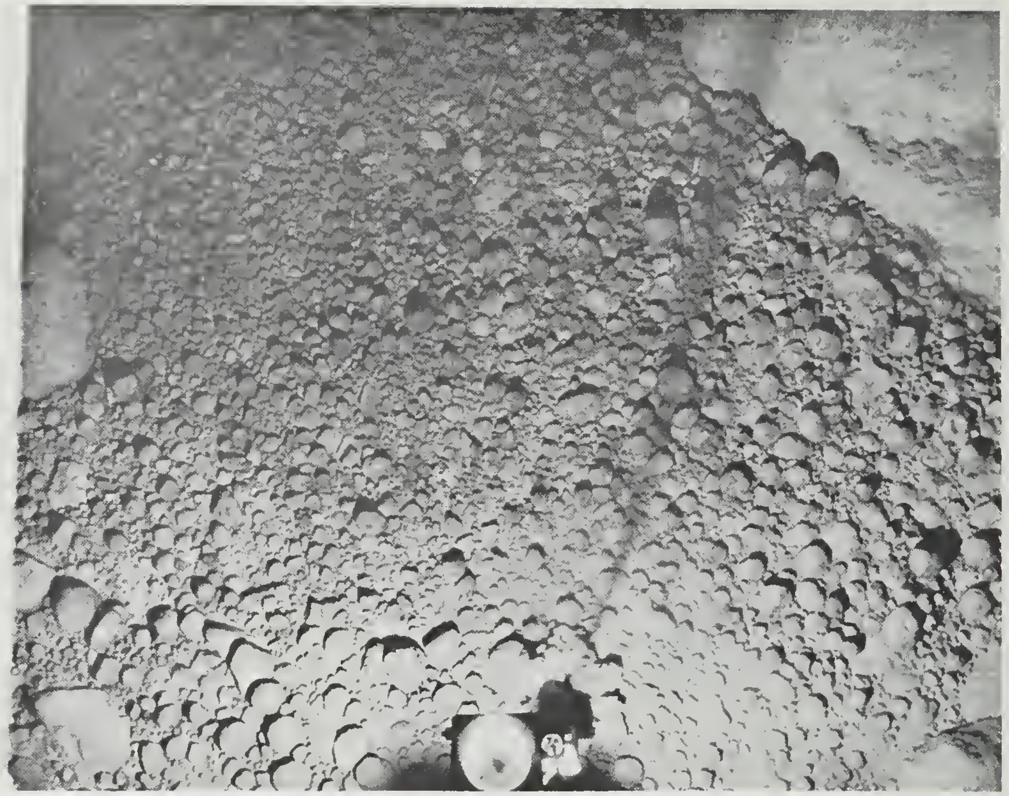
K186 — 1

K186—16



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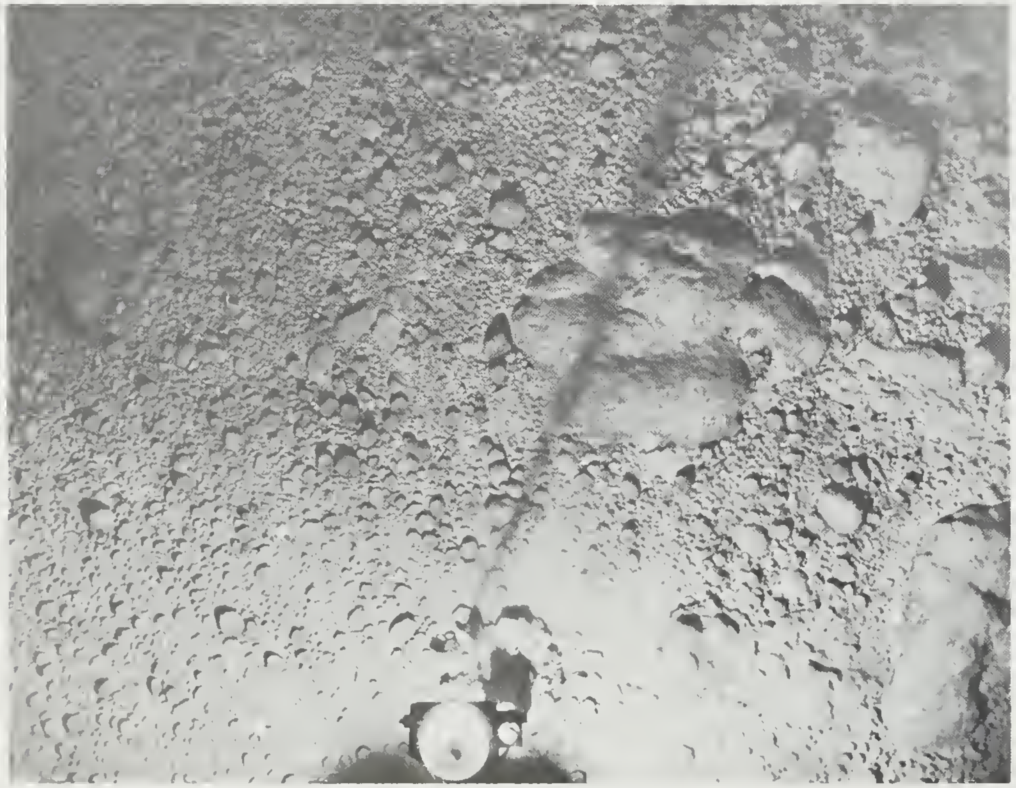

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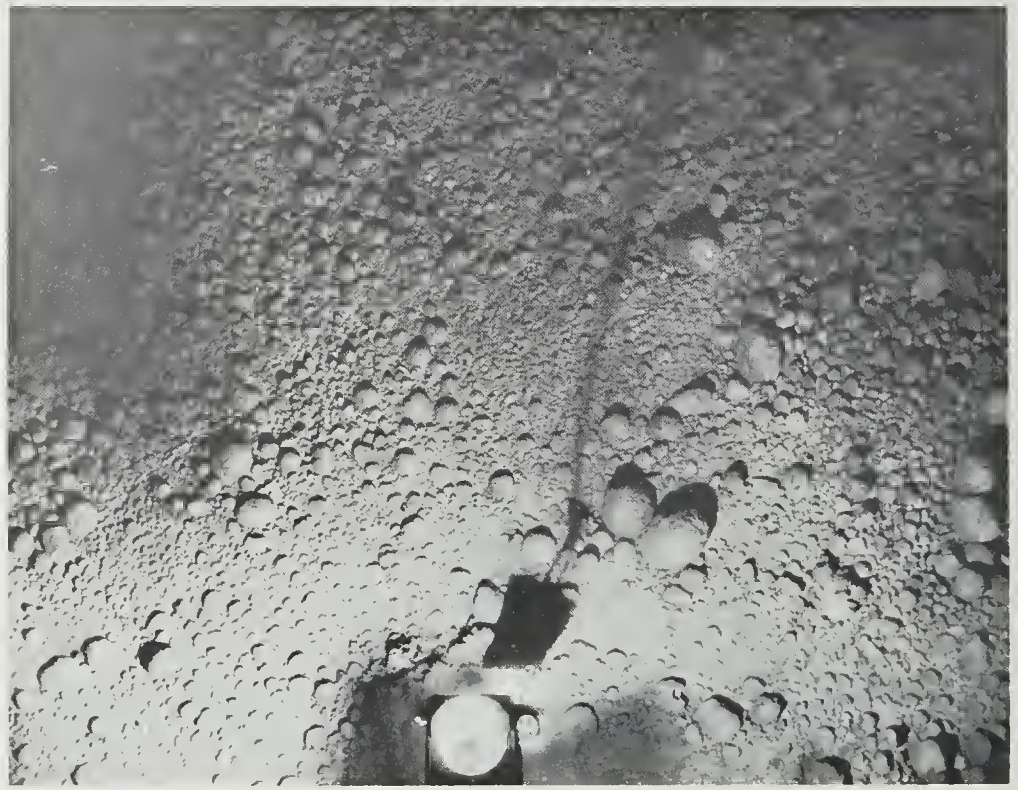

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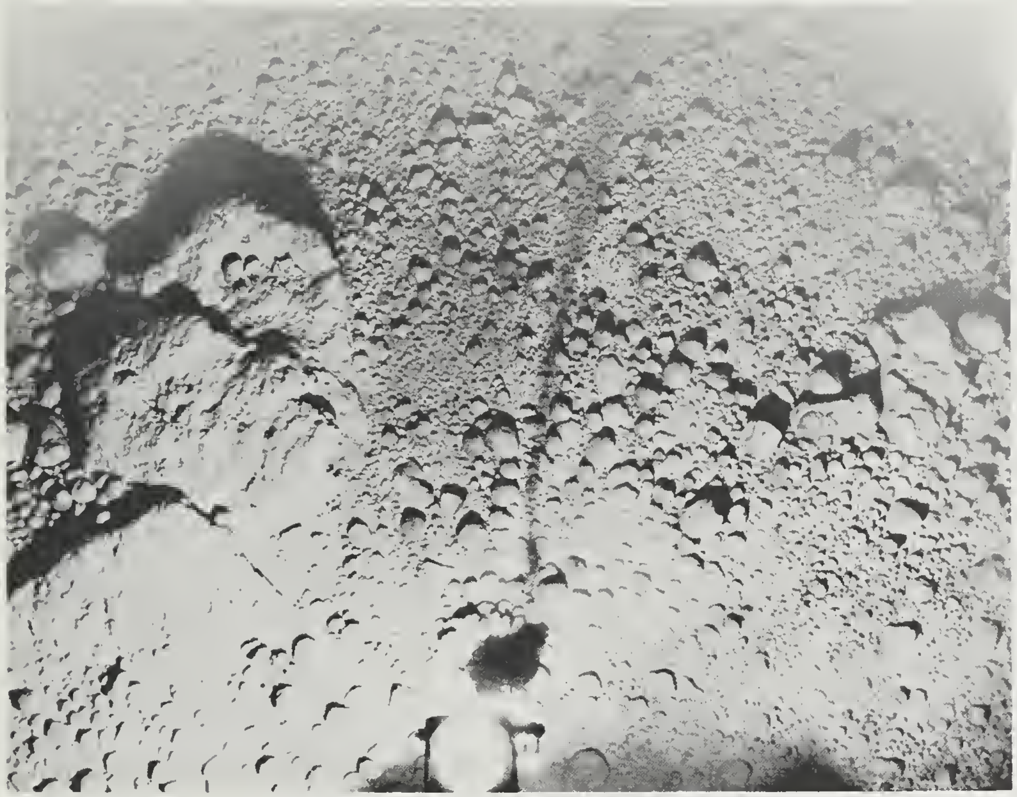

K186—21

K186—23

K187—3

K187—13

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13. ABSTRACT

This technical report is a bottom camera, nephelometer and in vitro turbidity data compilation collected during cruise 15 of the Research Vessel Robert D. Conrad from September 30, 1971 to August 1, 1972. A brief description of the instrumentation and data reduction procedures is presented.

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