DEPARTMENT OF THE INTERIOR

U.S. GEOLOGICAL SURVEY

Grain-size Parameters and Constituent Grain Composition of Surface Sediment in Navarin Basin Province, Bering Sea

by

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INTRODUCTION

A total of 314 sediment cores and grab samples were collected in an 80,000 km^2 area of Navarin basin province, northern Bering Sea during four cruises in 1980, 1981, and 1982 (Fig.1). Various analyses were performed on subsamples taken from the cores and grab samples in order to describe the properties of the surface and near- surface sediment. We report the final results of grain-size analyses and compositional studies and present preliminary interpretations based on these analyses. Two previous open-file reports (Karl and Carlson, 1982b; Karl and Carlson, 1984) described preliminary grain-size results. The figures in this report have been reproduced from the best available copies. Better reproductions, especially of the station location map , Figure 1, are found in the open-file reports referenced above.

DATA COLLECTION

Twenty-two gravity cores and 33 grab samples were collected in spring 1980 from the USCG ice breaker POLAR STAR during cruise PST-80-BS; 104 gravity cores, 10 grab samples and 1 dredge sample were collected in summer 1980 during NOAA ship DISCOVERER cruise DC 4/5-80-BS/NB; 88 gravity cores 10 grab samples, 6 box cores, and 5 vibracores were collected in summer 1981 during DISCOVERER cruise DC 2/3-81-BS/NB; and 25 gravity cores and 11 grab samples were collected in summer 1982 during cruise L10-82-BS of the USGS vessel S.P. LEE. The cores obtained on the POLAR STAR cruise, a cruise of opportunity whose main purpose was to follow the pack ice, were collected at random sites as time permitted. The other three cruises were combination seismic-reflection profiling and sampling cruises. The seafloor samples were collected at intersections of seimic grid lines and at key locations of stratigraphic, sedimentologic, and environmental hazard significance.

No core splitting equipment was available on the POLAR STAR. PST-80-BS cores were stored at Adak, Alaska from late May to late July and then transferred to the DISCOVERER and split and

subsampled on board. DC 4/5-80-BS/NB and DC 2/3-81-BS/NB cores were split and described on board ship. The split cores were placed in D-tubes and kept with subsamples in cold storage. Cores from L10-82-BS were not split on board. These cores were left in cold storage on the ship and unloaded at the end of the field season. The cores were split, described, and subsampled in the USGS laboratories at Palo Alto. The cores are archived at the U.S. Geological Survey cold storage facilities in Palo Alto and Redwood City, California.

Navigation was by Loran C and satellite; position accuracies are probably on the order of 0.5 km.

METHODS

Grain-size analysis:-- Subsamples obtained from gravity cores and grab samples were soaked in H_2O_2 solution or acetone solution to remove oxidizable organic matter disaggregate the samples. The samples were next wet sieved on a 63 μm screen to separate the mud and the sand fraction . If gravel (>2 mm) was present, it was separated from sand by dry sieving. The fine-sediment fraction (<63 μm) was analyzed by standard pipette method and the sand-size material analyzed by standard rapid settling tube (RSA) method. Statistical parameters were calculated as moment measures.

Constituent grain composition analysis:-- A split of the sand-size fraction of the subsamples was obtained for grain composition analysis. Analysis was performed by visual identification of between 300 and 400 sand grains with the aid of a binocular microscope using a magnification of 50X. Statistical parameters were calculated for grain composition and their relation to water depth.

RESULTS

Grain-size analysis:-- Table 1 contains the results of grain-size analyses done on 276 samples. Of these, 204 are surface samples, which in the case of cores is defined as being from the upper 30 cm. The variation in textural parameters across the study area is shown in Figures 2 through 5. These maps show that grain-size properties of surficial sediment present in a fairly contiguous band on the outer shelf and upper slope differ considerably from the properties of sediment on the adjacent shelf and slope. This

band is best defined by the sand/mud ratio (fig. 5); all sediment within this band has a sand/mud ratio equal to or greater than 1. Sand/mud ratios of samples within the band have a mean of 4.2 with a standard deviation of 7.6. Mean grain-size of these samples is 3.7 Φ with a standard deviation of 0.8. Samples on the shelf outside the band of sandy sediment have an average sand/mud ratio of 0.3 with a standard deviation of 0.2 and an average grain-size of 6.2 Φ with a standard deviation of 0.9. Samples on the slope and rise have a mean sand/mud ratio of 0.2 with a standard deviation of 0.2 and a mean grain-size of 6.9 Φ with a standard deviation of 0.9.

Sediment within the shelf break band, then, is markedly sandier and coarser than that on the shelf and slope. The boundaries of the shelf break band generally lie between the 150 and 500m bathymetric contours, but deviate from this at the submarine canyons. The other feature of note on the textural parameter maps is a zone of fine-grained and poorly sorted sediment on the shelf in the northern part of the study area. Grain-size properties in this zone compare closely with those of typical slope and rise samples (Figs. 6 and 7).

Constituent grain composition:-- Table 2 contains the results of compositional analyses done on 224 samples of which 149 are surface samples (upper 30 cm). Figures 8 and 9 show the variation across Navarin basin province of detrital grains and biogenic grains. Contour patterns on these two maps are essentailly the inverse of one another. Figure 8 reveals that there are zones in which the biogenic constituents are concentrated. High percentages of biogenic constituents occur on the shelf in water shallower than 150 m and on the slope and rise. The shelf break is generally a region of low percentages of biogenic constituents. The 20% isopleth defines a very sinuous pattern. Areas on the shelf between the submarine canyons show high percentages of biogenic grains, whereas the canyons themselves and the area on the shelf adjacent to the canyon heads show very low percentages of biogenic grains. Most of the biogenic grains are diatom remains (Table 2). Glauconite is present in a few samples generally in trace amounts; two samples, however, are >40% glauconite (Table 2). Volcanic shards and mica flakes generally constitute 1-5% of many of the samples and attain maximum values of 15-17% in a few samples (Table 2).

DISCUSSION AND INTERPRETATION

The predominance of fine silt- and clay- size material in the rise and slope samples is typical of deep water environments. The abundance of diatoms in the biogenic component of the slope and rise sediments reflects nutrient-rich upwelled water (Handa and Tanoue, 1981). Depositional conditions in these environments during low stands of sea level in the Pleistocene probably would not have been appreciably different than present-day conditions. This, however, is not true of the shelf, shelf break sand zone, and canyon heads. The fine sediments in the northern section of the shelf may indicate that relict sediment from lower sea level stands is being diluted with finer material following flooding of the shelf. This interpretation is consistent with the high percentages of biogenic grains, mostly diatoms, found in the sediment covering this area (Fig. 8; Table 2). Alternatively, this area may be a sediment sink owing to differential basin subsidence (Carlson et al., 1982). The zone of coarse sediment at the shelf edge and in the canyon heads could reflect, in part, deposition at times of lower sea levels when shorelines were at or near these areas (Karl and Carlson, 1982). Individual sand zones in the canyon heads that are distinguished by large sand waves and sets of inclined beds cover areas as great as 1400 km^2 and are as thick as 100 m. This sand could have accumulated at the mouths of streams that crossed the exposed continental shelf. Alternatively, the sand zones might reflect modern processes that supply sufficient energy to winnow sediment at these sites. The Bering Slope Current which flows northwestward parallel to the shelf break, and internal waves, which may be focused in and adjacent to heads of the submarine canyons, are potential mechanisms to supply energy to winnow sediments. Patterns in the biogenic constituent percent suggest that the submarine canyons influence current systems on the shelf, thereby influencing sedimentation (Fig. 8). These patterns are very similar to the regional variation in total suspended matter (Karl and Carlson, in press).

The primary textural patterns on the shelf probably reflect the pelagic depositional environment since the Holocene transgression. The band of relatively coarse sediment along the outer shelf and upper slope may reflect material deposited by small glacial streams at the shoreline during the low stands of sea level in the Pleistocene. This relict sediment is presently being diluted by modern fine-

grained sediment, but there is sufficient energy at the shelf break to maintain the coarse nature of this zone relative to the shallower parts of the shelf and deeper parts of the slope. Preliminary analysis of the seismic stratigraphy of the Navarin basin province and the fact that present day fluvial sources are more than 300 km away support this hypothesis. The large submarine canyons seem to affect deposition on the shelf by controlling current regimes as indicated by the patterns of biogenic material on the shelf.

ACKNOWLEDGEMENTS

We thank J.M. Fischer, B. Lamb, and C. Larkin for their efforts in the reduction of part of the data presented herein.

REFERENCES

Carlson, P.R., Fischer, J.M., Karl, H.A., and Larkin, C., 1984, Isopach map of seismic unit A, youngest sedimentary sequence in Navarin basin: in Karl, H.A. and Carlson, P.R. (eds.), Surface and near-surface geology, Navarin basin province: results of the 1980-81 field seasons: U.S. Geological Survey Open-File Report 84-89, p. 33-38.

Handa, N. and Tanoue, E., 1981, Organic matter in the Bering Sea and adjacent areas: in D.W. Hood and J.G. Calden (editors), The Eastern Bering Sea Shelf: Oceanography and Resources, Univ. Washington Press, Seattle, pp. 359-381.

Karl, H.A. and Carlson, P.R., 1982a, Large sand waves in Navarinsky Canyon head, Bering Sea: Geo-Marine Letters, v. 2, p. 157-162.

Karl, H.A. and Carlson, P.R., 1982b, Location and description of sediment samples: Navarin basin province, Bering Sea, 1980-1981: U.S. Geological Survey Open-File Report 82-958, 5p., 2 figs.

Karl, H.A. and Carlson, P.R., 1984, Textural variation of surficial bottom sediment accumulation: in

Karl, H.A. and Carlson, P.R. (eds.), Surface and near-surface geology, Navarin basin province: results of the 1980-81 field seasons: U.S. Geological Survy Open-File Report 84-89, p. 15-20.

Karl, H.A. and Carlson, P.R., in press, Surface current patterns defined by suspended sediment distribution over the outer continental margin, Bering Sea: Marine Geology.

LIST OF FIGURES

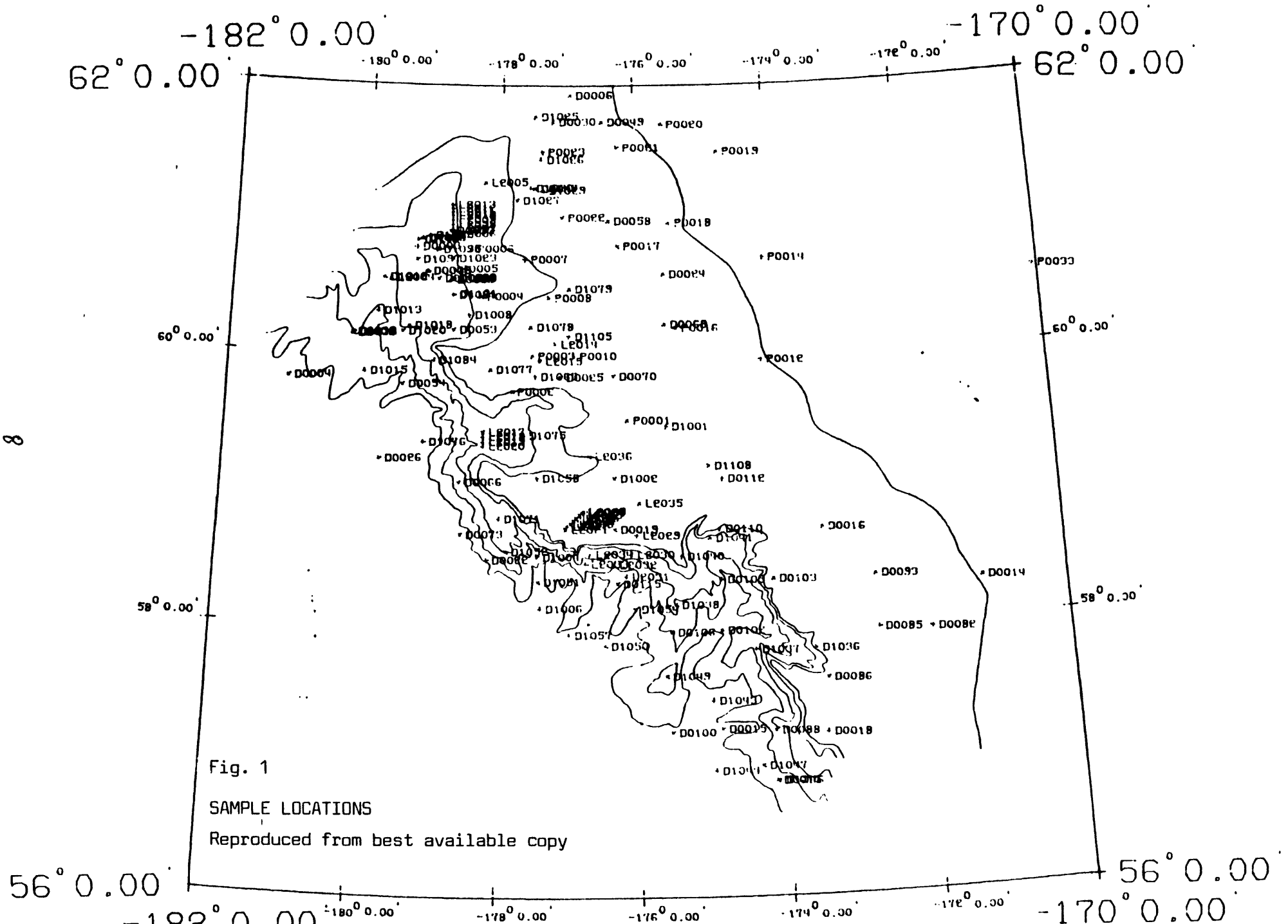

Fig. 1

SAMPLE LOCATIONS

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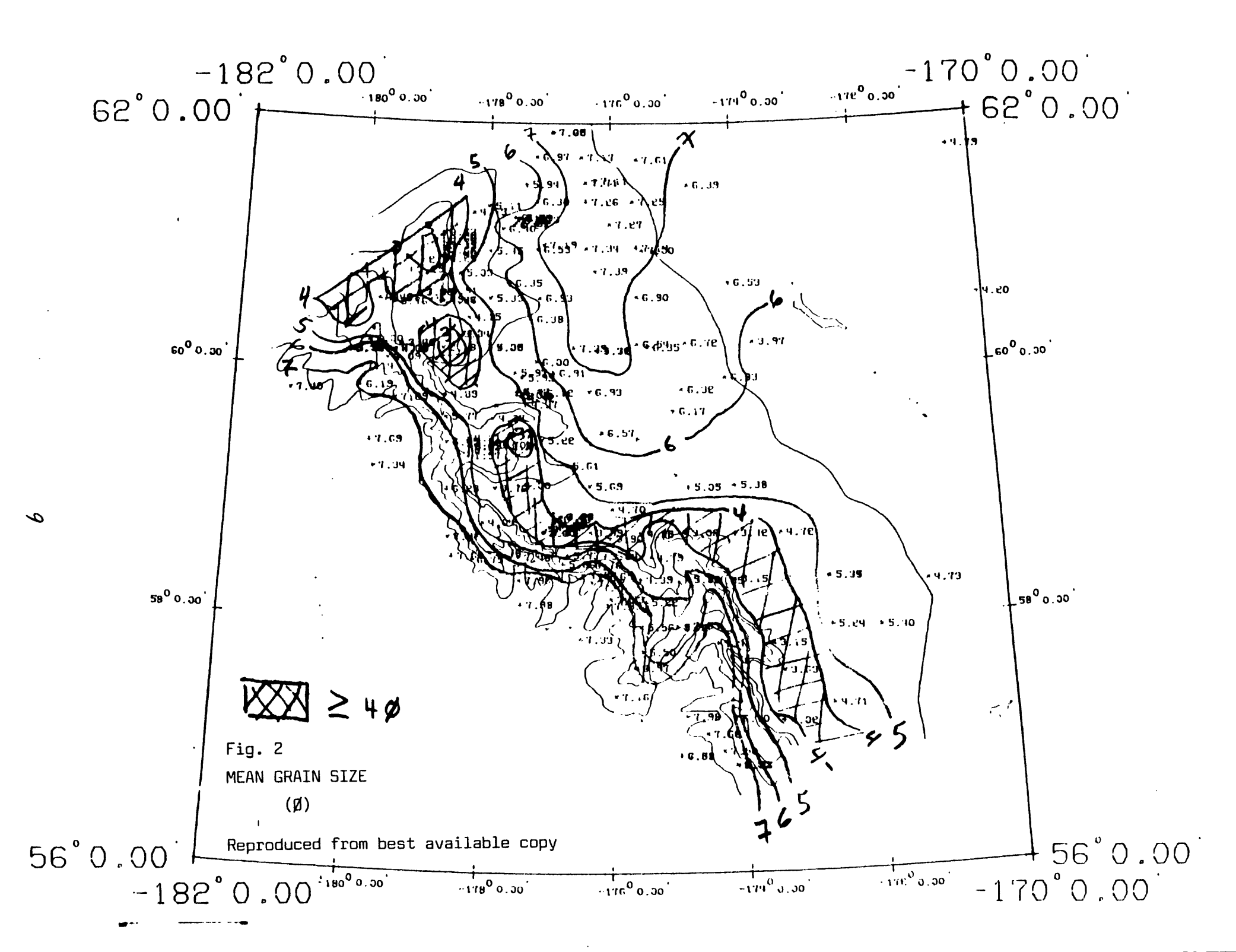

Fig. 2

MEAN GRAIN SIZE

(ø)

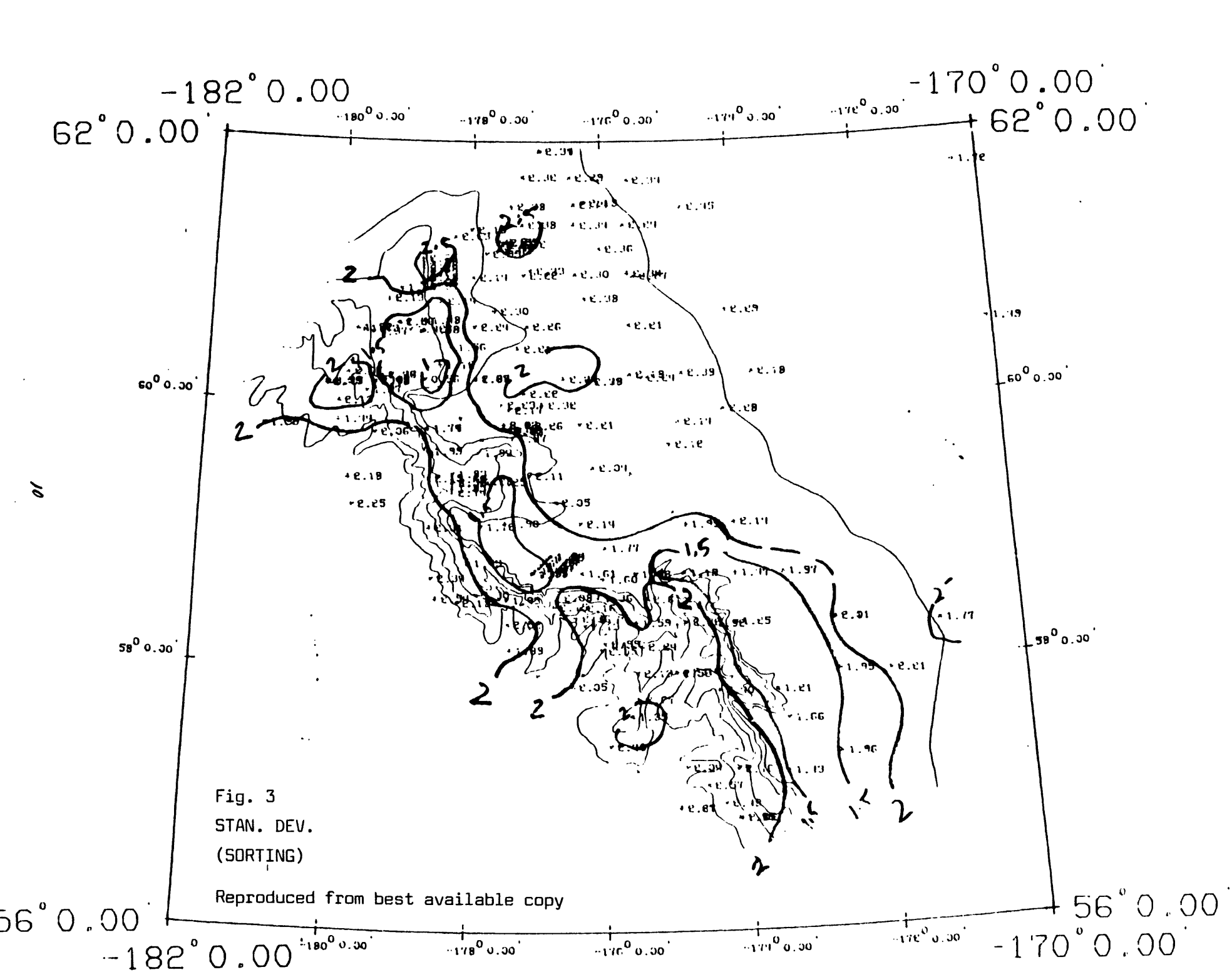

Fig. 3
STAN. DEV.
(SORTING)

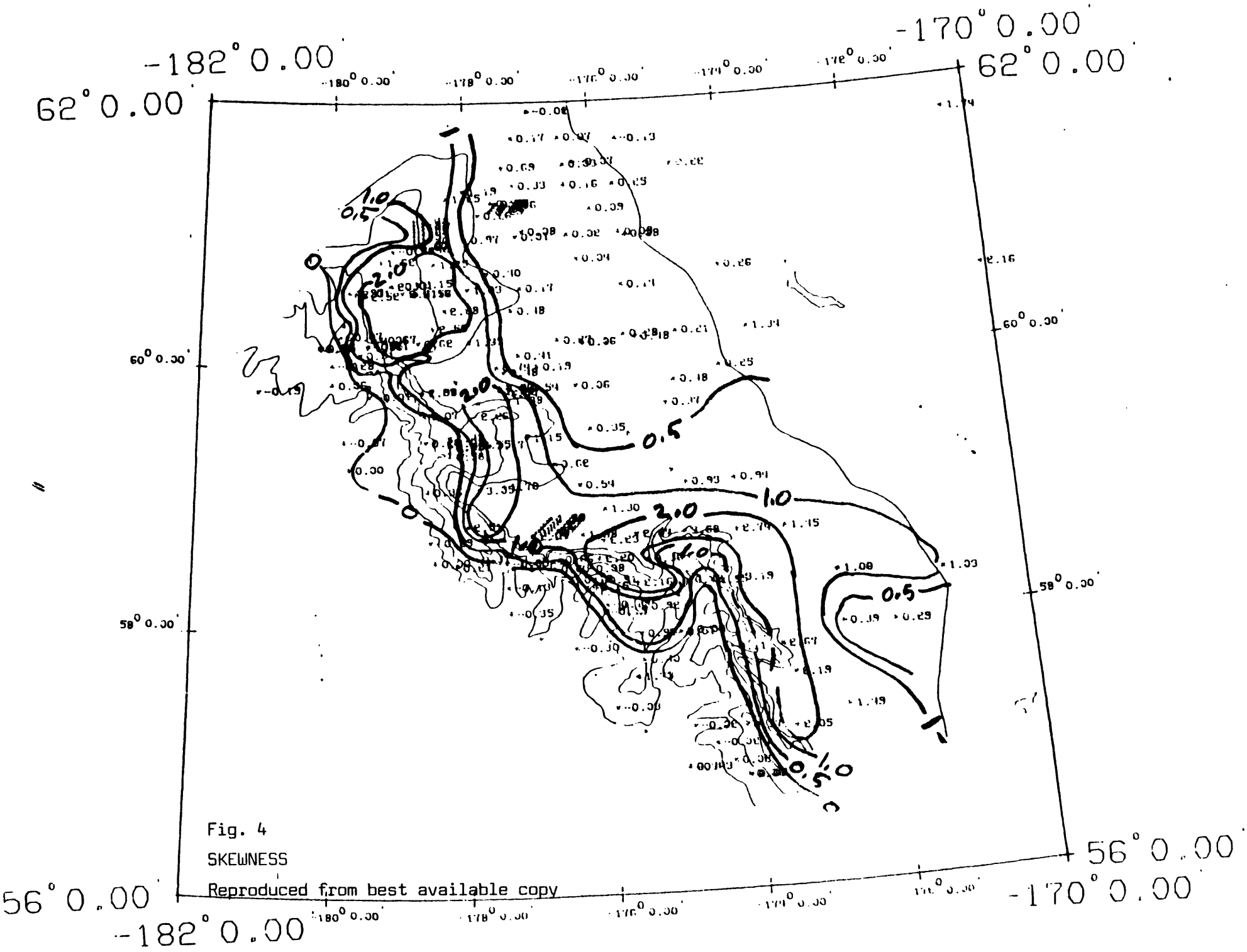

Fig. 4

SKEWNESS

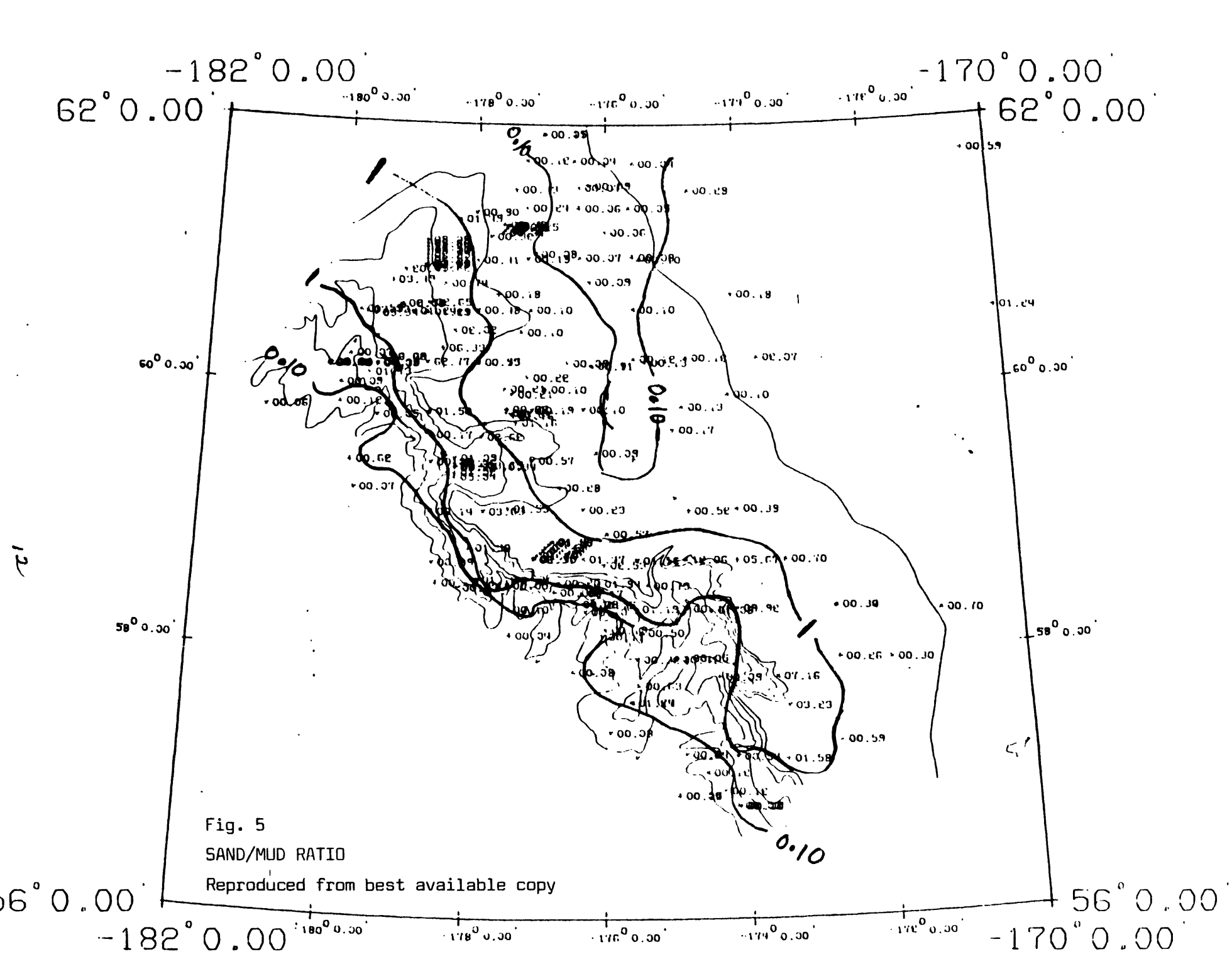

Fig. 5

SAND/MUD RATIO

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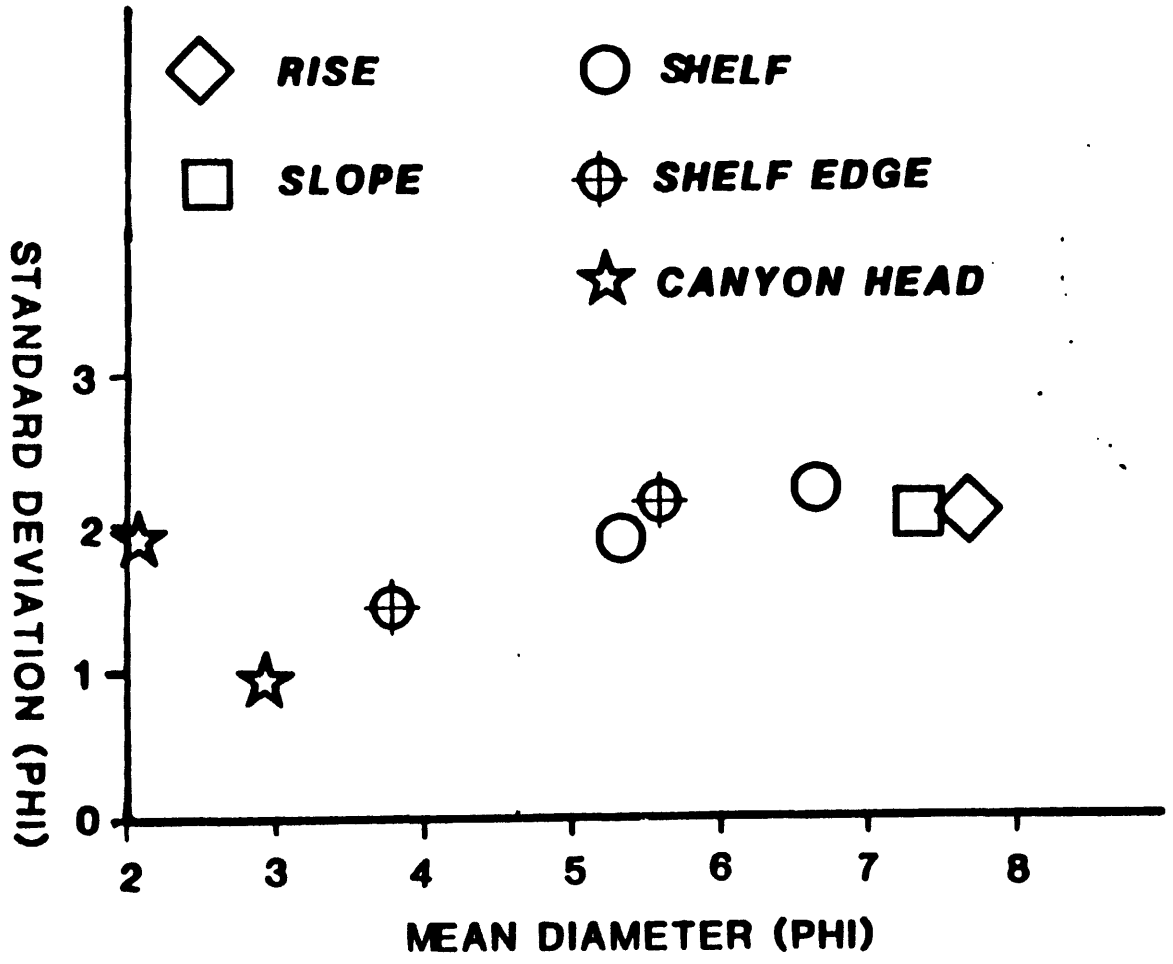

Figure 6. Plot of mean diameter vs. standard deviation.
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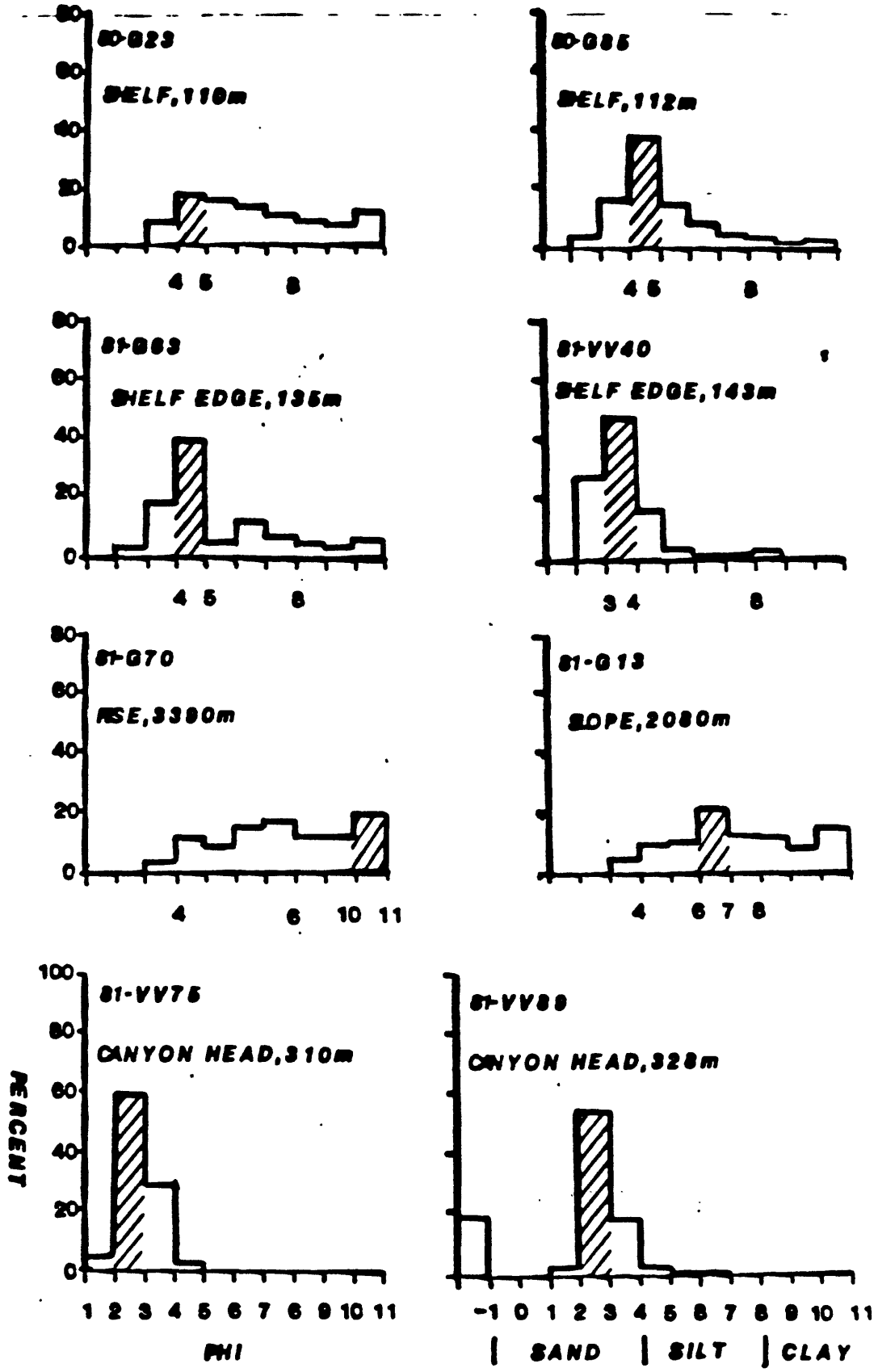

Figure 7. Histograms of selected samples. Modes identified by hachuring; dominant mode is hatchured in biomodal samples.

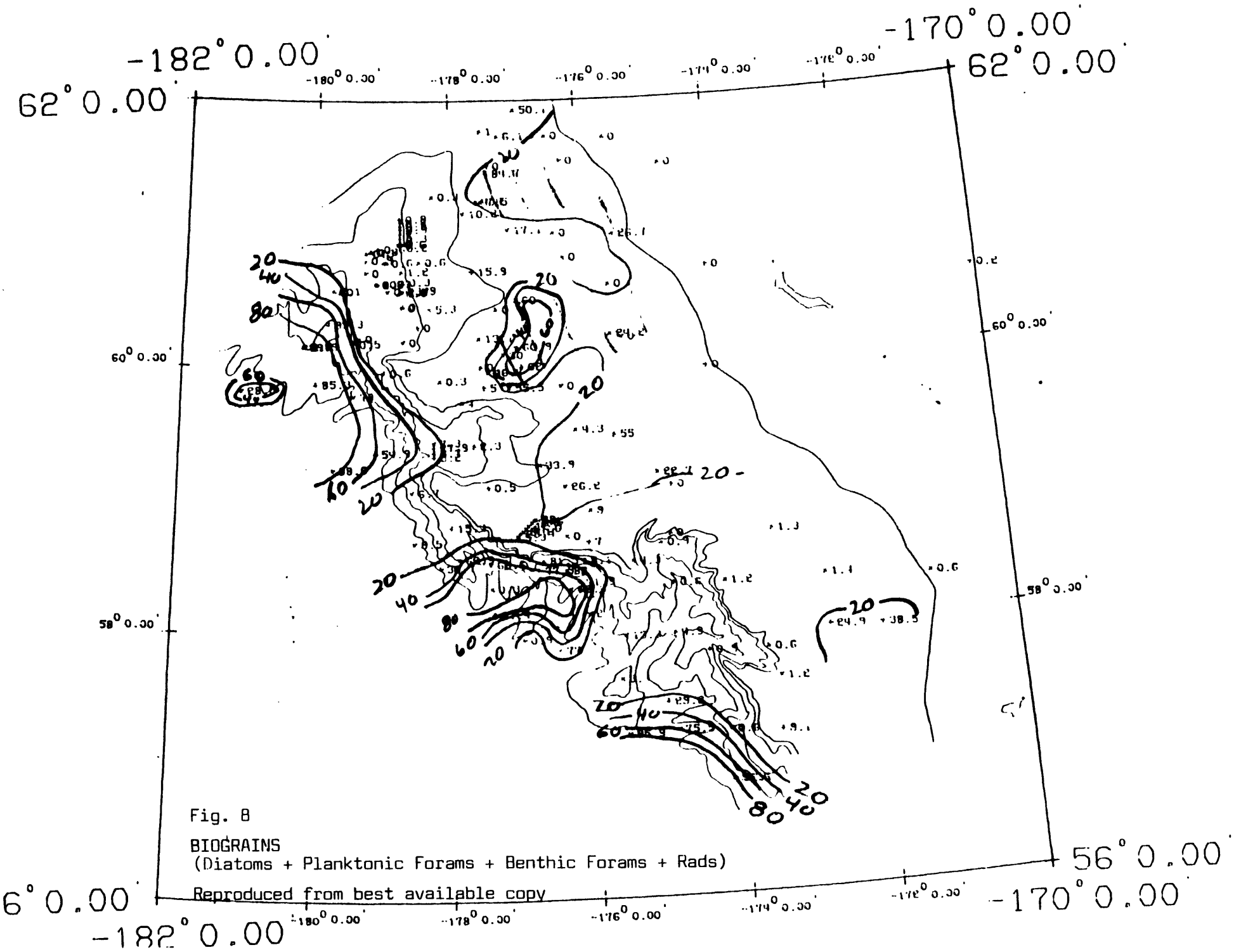

Fig. 8

BIOGRAINS
(Diatoms + Planktonic Forams + Benthic Forams + Rads)

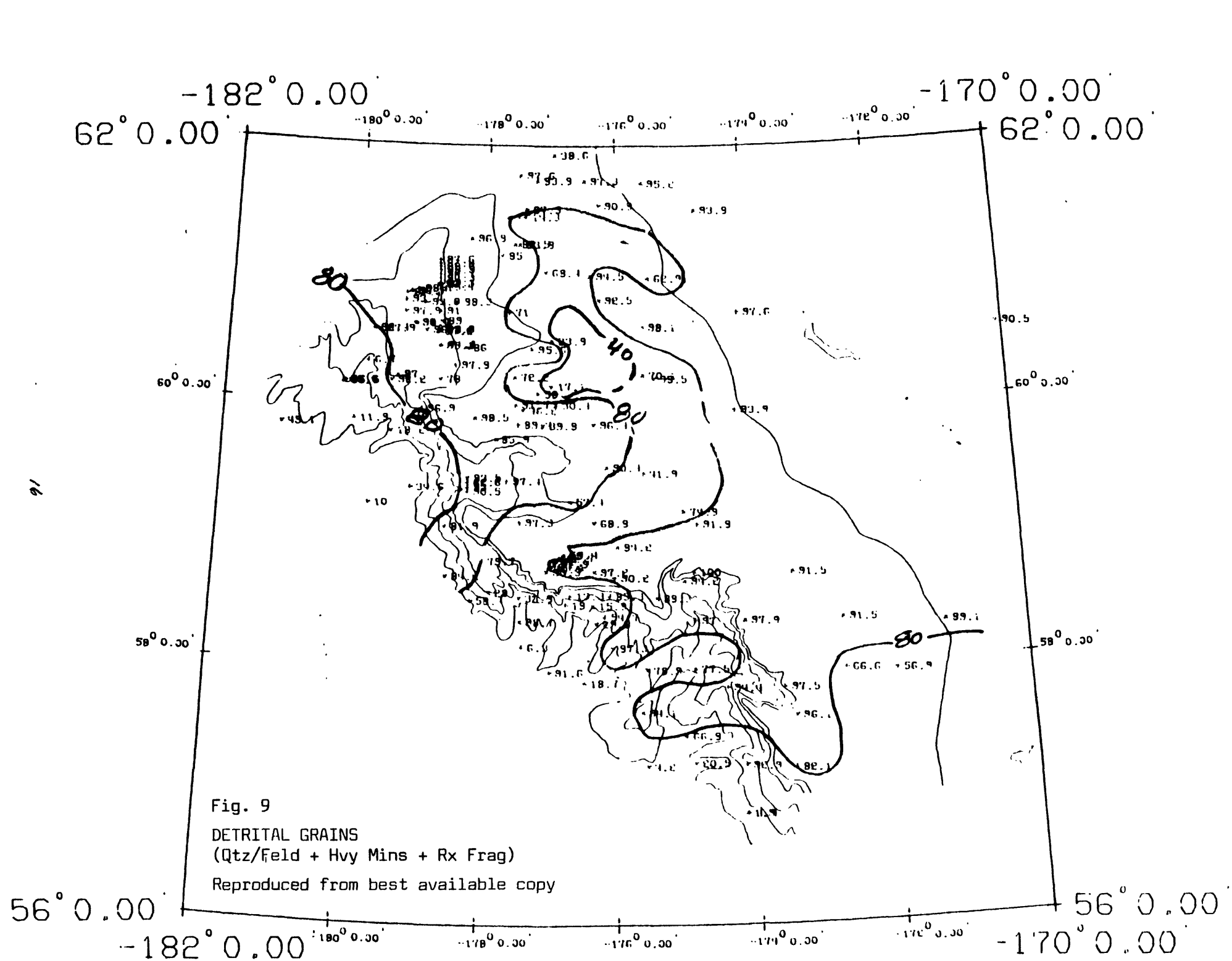

Fig. 9

DETRITAL GRAINS
(Qtz/Feld + Hvy Mins + Rx Frag)

TABLES

1. Grain-size parameters for all samples
2. Compositional parameters for all samples

TABLE 1

LAT	LON	CRUISE	STA #	DEPTH (CM) IN CORE	WATER DEPTH (M)	% GRAVEL	% SAND	% SILT	% CLAY	SAND/MUD	MEAN SIZE (Φ)	SORTING	SKEWNESS	KURTOSIS
60.80333	-179.28334	DC80003	001	0524	00.0	77.7	16.8	05.5	03.49	3.25	2.13	1.62	01.97	
59.81834	-181.10333	DC80004	006	3222	00.0	05.4	50.7	43.9	00.06	7.40	1.99	-0.19	-01.26	
61.93000	-176.96833	DC80005	010	0113	00.0	10.0	53.2	36.8	00.11	7.05	2.34	-0.01	-01.16	
61.93000	-176.96834	DC80006	007	0113	00.0	04.6	50.3	45.1	00.05	7.62	2.31	-0.02	-01.37	
60.57167	-178.93668	DC80007	007	0288	00.0	55.5	40.7	03.8	01.24	4.19	1.42	2.41	07.37	
60.62500	-179.11167	DC80011	001	0340	00.0	72.1	24.1	03.8	02.58	3.65	1.53	2.33	06.41	
60.62500	-179.11167	DC80012	025	3164	00.0	05.8	50.6	43.6	00.06	7.46	2.26	-0.01	-01.21	
56.85833	-174.17334	DC80013	004	2962	00.0	02.6	50.7	46.7	00.03	8.03	1.85	0.06	-00.85	
58.28833	-171.18666	DC80014	007	0091	00.0	41.1	50.9	08.0	00.70	4.73	1.77	1.03	00.54	
57.24667	-174.88499	DC80015	001	3420	00.0	03.6	48.2	48.2	00.04	7.98	2.04	-0.02	-00.90	
58.71333	-173.40334	DC80016	004	0120	00.0	41.1	50.3	08.6	00.70	4.72	1.87	1.45	01.78	
57.41167	-175.94167	DC80017	012	2481	00.0	07.2	54.6	38.2	00.08	7.16	2.40	-0.03	-01.24	
57.20500	-173.46167	DC80018	006	0134	00.0	61.2	35.2	03.6	01.58	4.02	1.43	2.05	05.41	
58.72667	-176.32666	DC80019	005	0133	00.0	59.5	36.6	03.9	01.47	3.99	1.61	1.98	04.92	
59.10167	-174.08500	DC80020	005	0120	00.0	27.3	58.1	14.6	00.38	5.38	2.14	0.94	00.07	
58.49667	-178.16000	DC80022	016	2842	00.0	03.3	66.5	30.2	00.03	6.75	2.18	0.21	-01.09	
60.24167	-174.81167	DC80023	010	0110	00.0	10.4	60.0	29.6	00.12	6.72	2.38	0.21	-01.08	
60.60833	-175.59167	DC80024	010	0117	00.0	09.3	59.3	31.4	00.10	6.80	2.21	0.14	-00.91	
59.84667	-177.11333	DC80025	013	0140	00.0	15.9	62.1	22.0	00.19	6.12	2.26	0.54	-00.73	
59.23000	-179.73167	DC80026	012	3373	00.0	06.5	52.9	40.6	00.07	7.34	2.25	0.00	-01.13	
60.20333	-177.93333	DC80027	001	0150	00.0	42.1	45.7	12.2	00.73	5.02	2.07	1.31	00.85	
60.20334	-177.93334	DC80028	008	0150	00.0	35.6	54.2	10.2	00.55	4.95	1.88	1.43	01.42	
61.19000	-176.02667	DC80029	013	0109	00.0	06.0	55.7	38.3	00.06	7.27	2.36	0.09	-01.26	
61.73000	-177.23334	DC80030	013	0120	00.0	10.4	55.1	34.5	00.12	6.87	2.32	0.17	-01.22	
61.33167	-178.01667	DC80032	018	0150	00.0	44.5	40.4	15.1	00.80	5.11	2.18	1.19	00.17	
60.92334	-178.78000	DC80033	001	0210	00.0	74.4	20.3	05.3	02.91	3.91	1.18	0.60	10.00	
60.54667	-179.51333	DC80035	001	0868	00.0	77.0	19.5	03.5	03.34	3.76	1.37	2.52	07.40	
60.15833	-180.18333	DC80036	010	1924	00.0	76.4	18.3	05.3	03.24	3.50	1.99	1.78	02.98	
59.43833	-179.80500	DC80037	001	2856	00.0	05.8	49.7	44.5	00.62	7.69	2.18	-0.07	-00.99	
60.16667	-179.46000	DC80038	001	0990	00.0	58.1	34.7	07.2	01.39	4.33	1.78	1.81	03.11	
60.56167	-178.75832	DC80039	001	0220										
60.56167	-178.75833	DC80040	001	0220										
60.97167	-177.98833	DC80041	015	0150	00.0	29.2	55.3	15.5	00.41	5.45	2.14	0.97	-00.04	
61.18167	-177.60167	DC80043	002	0148	00.0	23.9	48.5	27.6	00.31	6.24	2.41	0.29	-01.09	
61.19833	-177.57000	DC80044	010	0138	00.0	24.3	48.1	27.6	00.32	6.24	2.48	0.36	-01.14	
61.21833	-177.53833	DC80045	004	0137	00.0	33.4	43.0	23.6	00.50	5.80	2.52	0.49	-01.02	
61.23833	-177.50667	DC80046	006	0134	00.0	29.2	44.4	26.4	00.41	6.09	2.53	0.38	-01.15	
61.24000	-177.50833	DC80047	007	0134	00.0	33.7	43.4	22.9	00.51	5.81	2.55	0.55	-01.02	
61.37167	-177.23333	DC80048	005	0124	00.0	19.2	52.1	28.7	00.24	6.30	2.38	0.33	-01.11	
61.73000	-176.48833	DC80049	009	0108	00.0	03.8	57.7	38.5	00.04	7.17	2.29	0.07	-01.40	
61.37167	-176.42000	DC80050	015	0110	00.0	05.7	55.2	39.1	00.06	7.26	2.34	0.16	-01.27	
60.98667	-177.20333	DC80051	010	0123	00.0	15.2	54.1	30.7	00.18	6.53	2.22	0.01	-01.20	
60.59333	-177.95667	DC80052	006	0159	00.0	32.6	51.6	15.8	00.48	5.33	2.24	1.03	00.00	
60.19333	-178.70168	DC80053	001	0295	00.0	98.4	01.6	00.0	62.77	2.18	0.56	0.62	05.47	
59.78667	-179.43167	DC80054	001	2929	00.0	04.8	51.9	43.3	00.05	7.69	2.06	-0.01	-01.03	
59.82167	-178.64500	DC80055	001	0160	00.0	59.9	33.3	06.8	01.50	4.33	1.74	1.98	03.67	
59.82168	-178.64501	DC80056	002	0159	00.0	60.2	33.9	05.9	01.51	4.29	1.71	2.07	04.28	
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61.00167	-175.59500	DC80060	010	0106	00.0	07.4	57.9	34.7	00.08	7.14	2.34	0.08	-01.18	
59.44000	-178.59833	DC80065	001	1609	00.0	07.1	66.9	26.0	00.08	6.45	2.19	0.26	-00.99	
59.06500	-178.57833	DC80066	005	1336	00.0	12.5	62.8	24.7	00.14	6.23	2.31	0.36	-00.85	
60.23667	-175.59167	DC80069	010	0117	00.0	10.4	62.8	26.8	00.12	6.54	2.18	0.28	-00.85	
59.85500	-176.34167	DC80070	016	0142	00.0	09.4	58.2	32.4	00.10	6.93	2.21	0.06	-00.93	
59.46667	-177.09333	DC80071	005	0150	00.0	36.0	49.5	14.5	00.57	5.22	2.11	1.15	00.33	
59.07833	-177.81833	DC80072	001	0140	00.0	78.4	19.7	01.9	03.63	3.76	1.12	3.05	01.90	
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59.87333	-174.88000	DC80081	009	0117	00.0	11.5	65.3	23.2	00.13	6.32	2.14	0.48	-00.72	
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58.35167	-172.69000	DC80094	008	0108	00.0	23.2	63.6	13.2	00.30	5.34	2.01	1.06	00.51	
57.22500	-175.56667	DC80100	023	3232										
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59.42333	-177.85333	DC81065	010	0436	00.0	78.4	19.9	01.7	03.65	3.70	1.28	3.55	19 29	
59.41150	-178.24150	DC81066	010	0580	00.0	12.3	74.7	13.0	00.14	6.03	2.35	0.78	03.37	
59.64333	-178.62000	DC81068	010	1048	00.0	14.8	77.3	07.9	00.17	5.77	1.99	1.07	04.56	
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60.15000	-176.98834	DC81105	cc	0144	00.0	06.7	62.2	31.1	00.07	7.06	1.96	0.22	-00.86	
59.18667	-174.99500	DC81108	001	0132										
60.01738	-179.99890	LE82001	001	2674	00.0	07.8	60.1	32.1	00.09	7.14	2.13	-0.28	02.48	
60.14833	-180.19667	LE82002	001	2047	00.0	38.2	42.9	18.9	00.62	5.46	2.49	0.55	02.20	
60.23973	-179.87002	LE82003	001	2294	00.0	06.1	64.8	29.1	00.07	7.00	2.07	-0.07	02.36	
60.56667	-179.64999	LE82004	001	1376	00.0	78.9	16.7	04.4	03.73	3.37	1.73	2.01	07.32	
61.28000	-178.27333	LE82005	001	0153	00.0	59.7	28.1	12.2	01.49	4.73	2.23	1.25	03.41	
60.90000	-178.75166	LE82006	001	0202	00.0	84.9	12.2	02.9	05.62	3.23	1.57	2.40	09.83	
60.93333	-178.75166	LE82007	001	0205	01.0	77.2	16.5	05.3	03.58	3.43	2.02	1.63	06.01	
60.96667	-178.75999	LE82008	001	0213	00.0	71.5	22.0	06.5	02.51	3.66	2.18	1.40	04.53	
61.00000	-178.75999	LE82009	001	0208	00.0	74.7	18.1	07.2	02.95	3.35	2.23	1.57	04.83	
61.03333	-178.75999	LE82010	001	0206	01.1	78.8	14.9	05.2	04.00	3.15	2.14	1.63	05.67	
61.05833	-178.76500	LE82011	001	0205	57.4	34.8	05.6	02.2	11.77	0.60	2.56	1.45	04.97	
61.08333	-178.76666	LE82012	001	0203	00.0	78.4	17.0	04.6	03.62	3.20	1.98	1.83	06.36	
61.11167	-178.77000	LE82013	001	0200	53.6	35.4	08.5	02.5	08.05	0.73	2.64	1.41	04.75	
60.09167	-177.19167	LE82014	001	0138	00.0	17.8	62.9	19.3	00.22	6.00	2.22	0.41	02.36	
59.96500	-177.42166	LE82015	001	0138	00.0	17.2	64.1	18.7	00.21	5.99	2.17	0.48	02.45	
59.47538	-178.24920	LE82016	001	0277	00.0	52.2	41.7	06.1	01.09	4.41	1.83	1.48	04.95	
59.43834	-178.25166	LE82017	001	0382	00.0	71.0	25.1	03.9	02.46	3.92	1.62	2.01	07.36	
59.40500	-178.25000	LE82018	001	0625	23.7	53.0	16.9	06.4	03.29	2.21	3.02	0.89	03.27	
59.36667	-178.25000	LE82019	001	0852	00.0	50.6	42.1	07.3	01.02	4.57	1.83	1.61	05.06	
59.33334	-178.25166	LE82020	001	0739	41.6	41.9	14.3	02.2	05.04	1.57	2.74	0.56	02.82	
58.72500	-177.03334	LE82021	001	0130	00.0	64.2	32.3	03.5	01.80	3.83	1.55	2.04	08.06	
58.75000	-177.01334	LE82022	001	0130	00.0	62.9	33.0	04.1	01.70	3.92	1.71	1.74	06.30	
58.85833	-176.78334	LE82023	001	0125	01.1	59.1	35.1	04.7	01.47	3.98	1.84	1.29	05.78	
58.85000	-176.80000	LE82024	001	0124	00.0	60.1	34.8	05.1	01.50	4.07	1.82	1.58	05.44	
58.83334	-176.83167	LE82025	001	0126	00.0	60.9	34.5	04.6	01.56	3.96	1.81	1.61	05.60	
58.80833	-176.88333	LE82026	001	0124	01.2	54.4	38.5	05.9	01.25	4.16	1.94	1.15	05.15	
58.78833	-176.91833	LE82027	001	0127	00.0	58.0	37.1	04.9	01.38	4.12	1.77	1.60	05.67	
58 76667	-176.95833	LE82028	001	0126	01.0	58.3	35.9	04.8	01.45	4.07	1.84	1.29	05.73	
58.68167	-176.02667	LE82029	001	0137	00.0	71.7	24.3	04.0	02.53	3.80	1.60	2.23	08.42	
58.54000	-176.10167	LE82030	001	0385	00.0	64.7	32.8	02.5	01.84	3.84	1.36	2.20	10.01	
58.38000	-176.17500	LE82031	001	2852	04.0	09.1	53.9	33.0	00.15	6.65	2.74	-0.81	03.80	
58.46667	-176.35167	LE82032	001	2186	00.0	14.7	59.0	26.3	00.17	6.76	2.16	-0.08	02 37	
58.47334	-176.74834	LE82033	001	1864	00.0	24.4	60.6	15.0	00.32	5.66	2.15	0.63	02.55	
58.54333	-176.68333	LE82034	001	0845	00.0	16.7	67.8	15.5	00.20	5.77	2.08	0.66	02.72	
58.91833	-175.98666	LE82035	001	0131	00.0	36.4	57.2	06.4	00.57	4.70	1.77	1.30	04.79	
59.26500	-176.70000	LE82036	001	0146	00.0	22.1	64.6	13.3	00.28	5.61	2.05	0.62	02.92	
59.52834	-176.14999	PS80001	001	0145	00.0	08.1	66.5	25.4	00.09	6.57	2.04	0.35	-00.78	
59.73667	-177.83501	PS80002	001	0162										
60.00500	-177.53334	PS80003	017	0132	00.0	17.1	63.5	19.4	00.21	5.87	2.23	0.74	-00.40	
60.44000	-178.30667	PS80004	001	0158	00.0	66.8	28.6	04.6	02.02	4.15	1.56	2.28	05.60	
60.64167	-178.71001	PS80005	001	0196	00.0	72.6	23.5	03.9	02.65	3.91	1.48	2.15	05.41	
60.79000	-178.47166	PS80006	001	0165	00.0	42.4	45.9	11.7	00.74	5 03	2.14	1.25	00.57	
60.71667	-177.65167	PS80007	001	0145	00.0	15.0	58.4	26.6	00.18	6.35	2.30	0.40	-00.99	
60.43267	-177.29150	PS80008	011	0147	00.0	09.2	64.6	26.2	00.10	6.38	2.21	0.48	-00.96	

60.00500	-176.91667	PS80010	009	0140	00.0	09.4	59.6	31.0	00.10	6.91	2.32	0 19	-01.02
59.70057	-175.01817	PS80011	017	0122	00.0	14.6	62.3	23.1	00.17	6.17	2.12	0.37	-00.90
59.96400	-174.18483	PS80012	014	3164	00.0	08.9	58.9	32.2	00.10	6.83	2.28	0.25	-01.15
60.24067	-173.73583	PS80013	001	0078	00.0	67.4	24.8	07.8	02.07	3.97	2.18	1.34	01.10
60.71500	-174.10500	PS80014	001	0086	00.0	15.6	55.8	28.6	00.18	6.53	2.29	0.26	-01.06
60.20833	-175.42000	PS80016	001	0120	00.0	11.5	63.0	25.5	00.13	6.35	2.24	0.48	-00.85
60.81500	-176.26500	PS80017	015	0117	00.0	08.0	53.8	38.2	00.09	7.39	2.38	0.04	-01.10
60.98167	-175.50166	PS80018	015	0103	00.0	08.8	55.3	35.9	00.10	7.00	2.27	0.08	-01.22
61.50000	-174.74333	PS80019	001	0082	00.0	22.0	49.3	28.7	00.28	6.39	2.45	0.22	-01.14
61.70667	-175.58501	PS80020	015	0094	00.0	04.1	49.0	46.9	00.04	7.61	2.34	-0.13	-01.05
61.53833	-176.26666	PS80021	004	0106	00.0	08.5	55.1	36.4	00.09	7.11	2.18	-0.07	-00.88
61.02500	-177.09666	PS80022	010	0122	00.0	07.5	56.2	36.3	00.08	7.19	2.43	0 08	-01 12
61.50834	-177.40334	PS80023	008	0125	00.0	30.0	53.2	16.8	00.43	5.84	2.38	0.69	-00 76
62.00833	-176.43333	PS80025	011	0102	00.0	04.7	66.7	28.6	00.05	7.57	2.17	0.12	-00 95
62.17333	-168.98667	PS80026	001	0035	00.0	80.2	18.7	01.1	04.04	3.44	1.09	2.07	06.66
61.73833	-170.37167	PS80027	006	0047	00.0	36.9	57.4	05.7	00.59	4.79	1.72	1.74	02.95
61.28133	-169.86017	PS80028	001	0044	00.0	32.9	60.1	07.0	00.49	4.92	1.80	1.46	01.95
61.78667	-168.14333	PS80029	001	0027	00.0	87.2	11.1	01.7	06.78	3.52	1.19	3.25	14.54
61.72833	-167.13333	PS80030	001	0024	00.0	86.8	10.0	03.2	06.59	3.75	1.33	3.74	15.11
61.24517	-167.15083	PS80031	001	0022	00.0	90.4	07.6	02.0	09.43	3.49	1.11	3.42	15.41
60.52400	-168.24367	PS80032	001	0030	00.0	15.3	72.9	11.8	00.18	4.82	1.52	1.38	01.54
60.53500	-170.07001	PS80033	001	0037	00.0	55.4	40.5	04.1	01.24	4.20	1.49	2.16	05.91

TABLE 2

LAT	LON	CRUISE	STA #	DEPTH (CM) IN CORE	WATER DEPTH (M)	QUARTZ %	HEAVY MIN (%)	ROCK FRAG (%)	MICA (%)	VOL GLASS (%)	DIATOM (%)	PLAN. FORM %	BEN. FORM %	RAD %	PYRITE %	GLAUC %	OTHER %	FELD STAIN %	# GRAINS	CORE TYPE *
60.80333	-179.28334	DC80003	001	0524	46.4	00.3	47.0	00.0	05.4	00.6	00.0	00.3	00 0	00.0	00.0	00 0	00 0	00 0	334	VV
59.81834	-181.10333	DC80004	006	3222	19.1	00.0	30.0	04.4	18.0	08.2	00.0	00 0	20 3	00.0	00.0	00 0	00 0	00 0	367	GC
61.93000	-176.96834	DC80006	007	0113	16.1	00.5	22.0	00.9	10.4	49.2	00 0	00.0	00.9	00.0	00.0	00.0	00 0	00 0	423	GC
60 57167	-178.93668	DC80007	001	0288	62.6	01.9	31.9	00.6	03.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00 0	00 0	361	GC
60.62500	-179.11164	DC80008	001	0360	43.3	00.9	47.4	00.9	06.9	00.6	00.0	00.0	00 0	00.0	00.0	00.0	00 0	00 0	333	GB
60 62500	-179.11165	DC80009	001	0353	41.5	01.2	48.0	00.3	06.6	02.4	00.0	00.0	00 0	00.0	00.0	00.0	00 0	00 0	322	GB
60 62500	-179.11166	DC80010	001	0350	65.1	01.8	27.4	01.2	02.7	01.8	00.0	00.0	00 0	00.0	00.0	00.0	00 0	00 0	329	GB
60.62500	-179.11167	DC80012	025	3164	55.3	00.3	26.4	03.5	04.4	02.7	00.0	00.0	07.4	00.0	00.0	00.0	00 0	00 0	367	GC
56.85833	-174.17334	DC80013	004	2962	01.1	00.0	00.8	00.0	01.5	95.3	00.0	00.0	01.3	00.0	00.0	00.0	00 0	00 0	613	GC
58 28833	-171.18666	DC80014	007	0091	58.1	03.3	27.7	03.9	06.4	00.6	00 0	00 0	00 0	00.0	00.0	00.0	00 0	01 1	361	GC
57.24667	-174.88499	DC80015	018	3420	07.6	01.1	11.8	01.5	02 5	74.0	00.0	00.0	01.5	00.0	00 0	00 0	00 0	00 0	527	GC
58 71333	-173.40334	DC80016	004	0120	60.1	00.9	30.5	00.9	06.3	01.3	00.0	00.0	00 0	00.0	00 0	00.0	00 0	00 9	318	GC
57.20500	-173.46167	DC80018	006	0134	53.5	02.1	26.5	01.2	07.8	09.1	00.0	00.0	00 0	00.0	00.0	00.0	00 0	00 0	340	GC
58.72667	-176.32666	DC80019	005	0133	71.9	03.8	21.5	00.8	02.0	00.0	00.0	00.0	00 0	00.0	00 0	00.0	00 0	00 0	391	GC
58 49667	-178.16000	DC80022	016	2842	43.3	00.2	14.9	04.8	06.1	06.6	00.0	00.0	24.1	00.0	00.0	00.0	00 0	00 0	457	GC
60 60833	-175.59167	DC80024	010	0117	61.4	00.8	35.9	01.1	00.8	00.0	00.0	00.0	00 0	00.0	00.0	00.0	00 0	00 6	357	GC
59.84667	-177 11333	DC80025	013	0140	18.9	00.9	20.0	01.3	03.4	55.3	00.0	00.0	00.2	00.0	00.0	00.0	00 0	00 0	470	GC
59 23000	-179 73167	DC80026	012	3373	05.8	00.7	03.5	00.0	01.4	86.5	00.0	00.0	02.1	00.0	00.0	00.0	00 0	00 0	622	GC
61.73000	-177.23334	DC80030	013	0120	53.2	00.0	30.6	00.9	08.9	04.9	00.0	00.0	01.2	00.0	00.3	00 0	00 0	00 9	327	GC
60 92334	-178 78000	DC80033	001	0210	45.0	00.6	44.7	01.2	07.9	00.6	00.0	00.0	00 0	00.0	00.0	00.0	00 0	00 0	340	GC
60 15833	-180 18333	DC80036	010	1924	32.0	00.3	23.3	00.0	01.1	02.2	00.0	00.0	00 0	00.0	00.0	41.1	00 0	00 3	348	GC
60.56167	-178.75832	DC80039	001	0220	65.5	00.0	21.7	03.1	05.6	04.1	00.0	00.0	00 0	00.0	00.0	00.0	00 0	00 0	319	GB
60 56167	-178 75833	DC80040	001	0220	55.8	07.9	23.5	04.3	05.9	02.6	00.0	00.0	00 0	00.0	00.0	00.0	00 0	00 0	303	GC
61 24000	-177.50833	DC80047	007	0134	55.7	00.9	27.2	01.2	07.5	07.2	00.0	00.0	00.3	00.0	00.0	00.0	00 0	00 0	334	GC
61.73000	-176.48833	DC80049	009	0108	69.2	01.6	26.5	01.1	01.6	00.0	00.0	00.0	00 0	00.0	00.0	00.0	00 0	00 0	373	GC
60 19333	-178.70168	DC80053	001	0295	47.5	02.4	28.1	00.0	01.4	00.0	00.0	00.0	00 0	00.0	20.6	00.0	18 7	417	SH
59 78667	-179 43167	DC80054	001	2929	05.2	00.4	12.6	01.1	02.7	75.5	00.0	00.0	02.5	00.0	00.0	00.0	00 0	00 0	554	GC
60 99834	-176.40666	DC80058	015	0118	63.3	03.4	27.8	01.7	03.8	00.0	00.0	00.0	00 0	00.0	00.0	00.0	00 0	00 7	291	GC
59 06500	-178.57833	DC80066	005	1336	50.9	00.4	30.6	01.4	03.6	05.3	00.0	00.0	01.4	00.0	06.0	00 4	01 4	281	GC
60 23667	-175.59167	DC80069	010	0117	36.8	00.5	32.8	00.5	05.2	24.2	00.0	00.0	00 0	00.0	00.0	00.0	00 0	00 0	364	GC
59.85500	-176.34167	DC80070	016	0142	54.9	02.2	39.3	02.5	01.1	00.0	00.0	00.0	00 0	00.0	00.0	00.0	01 1	366	GC
58.68167	-178 53667	DC80073	010	3250	41.8	00.3	42.1	03.8	02.5	08.2	00.0	00.5	00.8	00.0	00.0	00.0	00 0	00 0	364	GC
57.93834	-171.93668	DC80082	008	0105	33.5	00.5	22.9	00.0	04.6	38.5	00.0	00.0	00 0	00.0	00.0	00.0	00 0	00 0	415	GB
57 95834	-172.67833	DC80085	010	0112	29.2	01.3	36.1	00.5	08.0	24.9	00.0	00.0	00 0	00.0	00.0	00.0	00 0	00 0	377	GC
57 60500	-173.42000	DC80086	001	0143	45.7	02.1	48.3	01.8	00.9	01.2	00.0	00.0	00 0	00.0	00.0	00.0	00 0	00 0	337	GB
57.22833	-174.16333	DC80088	008	1252	49.6	01.2	42.1	00.6	05.9	00.6	00.0	00.0	00 0	00.0	00.0	00.0	00 0	00 0	321	GC
58 35167	-172 69000	DC80093	001	0108	72.2	12.8	06.5	00.2	06.0	01.4	00.0	00.0	00 0	00.0	00.0	00.0	00 9	00 0	430	VV
57 22500	-175.56667	DC80100	023	3232	01.6	00.0	02.6	00.0	00.0	95.2	00.0	00.3	00.3	00.0	00.0	00.0	00 0	00 0	307	GC
57.97500	-174.85667	DC80102	025	2960	52.1	00.9	24.5	05.2	12.2	02.1	00.0	00.0	02.7	00.0	00.0	00.3	00 0	00 0	328	GC
58 34667	-174.11333	DC80103	001	0134	67.8	00.7	29.6	00.0	00.9	01.2	00.0	00.0	00 0	00.0	00.0	00.0	00 0	00 0	408	SH
58.34833	-174.83833	DC80105	001	2050	59.7	00.0	37.3	00.9	01.5	00.3	00.0	00.0	00 0	00.3	00.0	00.0	00 0	00 0	335	GC
57.96500	-175.55167	DC80106	010	1785	12.7	00.0	66.2	01.7	06.1	12.7	00.0	00.0	00 0	00.6	00.0	00.0	00 0	00 0	347	GC
57.96500	-175.55167	DC80106	055	1785	23.0	00.3	68.3	01.9	00 5	04.7	00.0	00.0	01.3	00.0	00.0	00.0	00 0	00 0	379	GC
58.72167	-174.85001	DC80110	001	0164	49.3	03.4	47.3	00.0	00.0	00.0	00.0	00.0	00 0	00.0	00.0	00 0	00 0	00 3	349	SH
59.09000	-174.80000	DC80112	015	0129	63.4	00.3	28.1	00.7	07.5	00.0	00.0	00.0	00 0	00.0	00.0	00.0	00 0	00 7	295	GC
58 32667	-176.29167	DC80115	016	2870	19.3	00.0	10.5	00.3	01.5	66.6	00.0	00.0	01.8	00.0	00.0	00.0	00 0	00 0	399	GC
59 48150	-175 59500	DC81001	001	0135	25.4	00.5	16.0	01.8	01.3	53.2	00.0	01.8	00 0	00.0	00.0	00.0	00 0	00 0	393	GC
59.10033	-176.33400	DC81002	001	0143	42.6	01.8	24.4	01.8	03.2	24.4	00.0	01.1	00.7	00.0	00 0	00.0	00 0	00 0	282	GC
58 52167	-177.43333	DC81004	010	2816	17.3	01.5	15.0	00.6	05.0	59.1	00.0	00.0	01.5	00.0	00.0	00.0	00 0	00 2	521	GC
58 14333	-177.38667	DC81006	010	3395	03.0	00.3	03.0	01.1	05.2	84.7	00.0	00.0	02.7	00.0	00.0	00.0	00 0	00 3	364	GC
58 14333	-177.38667	DC81006	050	3395	20.7	00.7	18.1	02.0	06.6	49.9	00 0	00.0	02.0	00.0	00.0	00.0	00 0	00 0	441	GC
60 30333	-178.48000	DC81008	001	0212	78.6	04.4	14.8	01.3	00.3	00.0	00.0	00.0	00 0	00.0	00.0	00 3	00 3	01 3	317	VV
60 57167	-179.75166	DC81012	006	1683	77.4	11.8	03.2	03.5	00.0	01.6	00.0	00.0	00.5	00.0	00.0	02.0	00 8	400	GC
60.57167	-179.75166	DC81012	050	1683	75.7	07.2	03.0	02.8	04.2	01.2	00.0	00.0	00 0	00.0	00.0	05.9	00 8	472	GC
60.57167	-179.75166	DC81012	100	1683	80.3	08.6	02.1	02.7	02.4	01.8	00.0	00.0	00.3	00 0	00.0	01.8	01 5	336	GC
60 57167	-179.75166	DC81012	120	1683	75.1	02.3	14.8	04.3	01.3	00.6	00.0	01.0	00.3	00.0	00.0	00.3	01 3	305	GC
60 57167	-179.75166	DC81012	140	1683	63.1	03.7	16.1	04.7	01.5	03.8	00.0	02.5	00.9	00.3	00.3	03.1	00 6	323	GC
60.57167	-179.75166	DC81012	160	1683	44.6	01.8	14.1	05.7	01.1	15.7	01.3	01.3	00.5	01.8	01.1	11.0	00 8	383	GC
60.57167	-179.75166	DC81012	180	1683	50.7	01.6	20.4	04.2	00.8	03.8	00.0	01.8	00.0	09.6	00.3	07.0	07.0	385	GC
60.57167	-179.75166	DC81012	200	1683	75.0	11.3	01.6	05.5	00.5	02.2	00.0	00.3	00.0	00.0	00.0	03.6	00.0	364	GC
60.57167	-179.75166	DC81012	235	1683	46.8	01.8	23.4	08.3	01.8	04.2	00.3	00.9	00.0	00.0	00.0	12.5	11 9	328	GC
60.57167	-179.75166	DC81012	265	1683	70.1	03.8	17.4	01.7	00.0	00.6	00.6	00.6	00.6	00.0	01.7	02.9	00 6	344	GC
60.32167	-179.81833	DC81013	004	2080	08.7	00.0	00.0	00.0	00.0	92.6	00.0	00.0	00.7	00.0	00.0	00.0	00.0	00.0	300	GC
60.32167	-179.81833	DC81013	100	2080	11.8	01.2	16.4	01.4	06.2	61.9	00.0	00.0	01.1	00.0	00.0	00.0	00 0	00 0	562	GC
60.15333	-180.16499	DC81014	001	1826	88.5	19.9	07.1	00.3	00.9	00.0	00.6	00.0	00.3	00.0	02.1	00.3	00 0	327	GC
60.15333	-180.16499	DC81014	030	1826	85.5	16.0	14.1	00.3	00.9	00.0	00.0	00.0	00.3	00.0	02.3	00.6	00 0	348	GC
60.15333	-180.16499	DC81014	045	1826	71.0	17.4	07.1	01.1	00.8	01.2	00.0	00.0	00 0	00.0	00.0	01.4	00 0	353	GC

* VV = VAN VEEN SH = SHIPEK
GC = GRAVITY CORE GB = BOX CORE

60 15333 -180.16499 DC81014 065 1826 49.5 23 1 05.1 02.7 04.7 04.8 03.3 02.1 04.7 00 0 00 0 00 0 00 0 337 QC
60 15333 -180.16499 DC81014 150 1826 76.6 15.2 03.8 01.5 00.3 00.0 00.0 00.0 00 0 00.0 00 0 02 6 00 0 389 QC
60 15333 -180.16499 DC81014 205 1826 77.4 17.7 01.9 01.4 01.1 00.0 00.0 00.0 00.0 00.0 00 0 00 5 00 0 368 QC
60 15333 -180.16499 DC81014 305 1826 79.5 12.0 02.2 03.3 03.0 00.0 00.0 00.0 00.0 00.0 00.0 00 0 00 0 00 0 367 QC
60 15333 -180.16499 DC81014 405 1826 72.1 18.6 02.1 01.8 03.3 00.0 00.0 00.0 00.0 00.0 00.0 02 1 00 0 337 QC
60 15333 -180.16499 DC81014 505 1826 67.9 19.5 02.2 03.3 07.1 00.0 00.0 00.0 00.0 00.0 00.0 00 0 00 0 365 QC
59.87334 -179.99167 DC81015 010 2750 10.0 00.6 01.2 02.7 00.0 84.0 00.0 00.0 01.3 00.0 00.0 00 2 00 0 519 QC
59.87334 -179.99167 DC81015 100 2750 18.9 00.5 01.2 00.5 43 4 33.6 00 0 00.0 01.9 00.0 00.0 00 0 00 0 428 QC
59.87334 -179.99167 DC81015 200 2750 23.6 01.3 05.0 04.1 00.6 62.0 00.0 00.0 03.2 00.0 00.0 00 2 00 5 526 QC
59.87334 -179.99167 DC81015 275 2750 64.2 03.0 13.2 05.0 01.4 12.1 00.0 00.3 00.8 00.0 00.0 00 0 01 1 363 QC
59.87334 -179.99167 DC81015 284 2750 74.6 01.9 16.9 01.9 00.3 00.6 01.9 01.6 00 0 00 0 00.3 00 0 00 9 319 QC
59.87334 -179.99167 DC81015 285 2750 67.9 02.2 13.1 05.7 00.6 05.8 00.0 00.0 01.9 00.6 00 0 02 2 01 0 314 QC
59.87334 -179.99167 DC81015 300 2750 70.4 02.6 16.0 06.1 02.3 01.0 00.0 00.2 00.7 00 0 00 0 00.7 04 9 426 QC
59.87334 -179.99167 DC81015 385 2750 66.8 02.7 09.2 04.4 02.4 01.8 06.2 05.0 00.0 00 6 00 0 00 9 00 6 338 QC
59 87334 -179.99167 DC81015 400 2750 69.9 02.8 12.0 04.7 01.4 07.8 00.6 00.0 00.0 00 8 00.0 00 0 01 4 358 QC
60 21833 -179 35834 DC81018 001 0884 47.3 03.0 46.7 00.3 02.7 00.0 00.0 00.0 00.0 00 0 00 0 00 0 00.0 338 QC
60 21833 -179.35834 DC81018 010 0884 42.5 03.6 25.6 02.6 05.7 18.7 00.0 00.5 00.8 00.0 00 0 00.0 00 0 386 QC
60 21833 -179.35834 DC81018 050 0884 53.3 01.9 32.0 01.9 07.2 01.8 00.0 00.0 01.9 00.0 00.0 00 0 00 0 319 QC
60 21833 -179.35834 DC81018 200 0884 55.9 00.0 37.2 01.3 04.7 00.0 00.0 00.0 00.3 00.0 00.6 00 0 00.3 320 QC
60 17667 -179.44833 DC81020 010 1005 64.4 00.0 27.8 01.3 06.0 00.5 00.0 00.0 00 0 00.0 00 0 00.0 00 5 400 QC
60.17667 -179.44833 DC81020 050 1005 41.1 01.8 36.6 01.2 19.0 00.0 00.0 00.0 00.3 00.0 00 0 00.0 00 0 331 QC
60 17667 -179.44833 DC81020 065 1005 66.0 02.8 17.4 07.5 02.5 01.6 00.0 00.3 00 8 00.0 00.0 01.1 01.1 362 QC
60 17667 -179.44833 DC81020 075 1005 75.4 06.3 02.4 06.0 00.0 05.4 01.5 00.3 00.3 00.3 00 0 02 1 00.0 334 QC
60 17667 -179.44833 DC81020 200 1005 29.4 01.5 26.6 03.9 15.4 16.6 00.0 03.0 03.6 00.0 00.0 00.0 02 4 337 QC
60.17667 -179.44833 DC81020 300 1005 40.0 01.2 31.7 01.8 13.4 08.3 00.0 00.0 03.3 00.0 00.0 00.3 00.3 337 QC
60.17667 -179.44833 DC81020 374 1005 74.3 08.4 12.2 00.8 03.8 00.0 00.0 00.0 00.0 00.0 00.0 00.5 00.0 370 QC
60 71833 -178 73500 DC81023 001 0203 41.3 00.6 49.1 01.9 05.9 01.2 00.0 00.0 00.0 00.0 00.0 00.0 00 9 322 QC
61.77000 -177.50334 DC81025 010 0123 82.8 13.4 01.4 00.9 00.0 01.0 00.0 00.0 00.0 00.0 00.0 00.5 00.0 365 QC
61 77000 -177 50334 DC81025 210 0123 77.1 01.2 10.7 06.8 02.7 00.6 00.0 00.0 00.0 00.0 00.0 00.9 00 3 336 QC
61 45167 -177.42000 DC81026 012 0122 12.2 00.3 01.8 00.7 00.3 83.7 00.0 00.0 01.0 00.0 00.0 00.0 00 0 600 QC
61 15000 -177.78334 DC81027 010 0145 41.2 00.0 43.8 02.7 02.1 10.2 00.0 00.0 00.0 00.0 00.0 00.0 00.0 374 QC
61 15000 -177.78334 DC81027 100 0145 58.4 00.0 24 5 08.4 07.4 01.3 00.0 00.0 00.0 00.0 00.0 00.0 00 0 298 QC
61 22500 -177.39000 DC81029 065 0128 77.0 11.6 03.1 04.9 00.0 02.6 00.0 00.0 00.0 00.0 00.0 00.8 00.0 387 QC
61 24167 -177 58000 DC81030 010 0133 44.7 01.3 42.5 00.0 07.1 04.4 00.0 00.0 00.0 00.0 00.0 00.0 00.0 312 QC
61.24167 -177.58000 DC81030 050 0133 55.0 00.6 37.9 01.8 03.5 01.2 00.0 00.0 00.0 00.0 00.0 07.4 340 QC
57.82667 -173.56833 DC81036 001 0133 62.2 28 4 06.9 01.9 00.0 00.6 00.0 00.0 00.0 00.0 00.0 00 0 320 VV
57.82667 -173.56833 DC81036 010 0133 41.0 00.6 10.0 00.3 00.6 04.0 00.0 00.0 00.0 00 0 41.8 01.7 01.7 349 VV
57.82667 -174.39166 DC81037 010 1100 79.0 01.3 14.1 02.2 02.5 00.6 00.0 00.0 00.3 00.0 00.0 00.0 00.0 320 QC
57 82667 -174.39166 DC81037 050 1100 78.7 02.4 12.9 02.4 01.5 01.2 00.0 00.0 00.3 00.0 00.3 00.3 02.1 333 QC
57 82667 -174.39166 DC81037 110 1100 67.9 02.2 18.2 04.1 03.4 02.6 00.0 00.0 00.0 00.0 00.0 01.6 01.9 319 QC
57.82667 -174.39166 DC81037 125 1100 37.8 01.7 41.9 00.0 00.0 18.6 00.0 00.0 00.0 00.0 00.0 00.0 07.8 344 QC
57 82667 -174.39166 DC81037 200 1100 60.8 00.3 33.7 01.0 01.5 01.2 00.0 00.0 00.0 00.0 00.0 01.5 00 6 326 QC
57 82667 -174.39166 DC81037 300 1100 27.1 00.5 26.1 03.0 03.0 39.3 00.0 00.0 01.0 00.0 00.0 00.0 00.0 395 QC
58 16833 -175.48666 DC81038 049 1080 58.6 10.0 12.3 02.4 07.1 08.2 00.0 00.0 00.3 00.0 00.0 01.1 00.5 368 QC
58.16833 -175.48666 DC81038 100 1080 44.0 01.5 10.3 05.0 02.7 36.1 00.0 00.0 00.4 00.0 00.0 00.0 00.0 477 QC
58 16833 -175 48666 DC81038 200 1080 43.2 01.1 43.2 00.8 05.1 04.4 00.0 00.0 02.2 00.0 00.0 00.0 00.0 370 QC
58 16833 -175.48666 DC81038 220 1080 43.6 00.3 44.1 00.5 08.7 02.2 00.0 00.0 00.3 00.3 00.0 00.0 00.3 380 QC
58 16833 -175 48666 DC81038 300 1080 63.6 05 5 23.2 00.3 06.2 00.6 00.0 00.0 00.3 00.0 00.0 00.3 03.4 293 QC
58.16833 -175.48666 DC81038 345 1080 67.2 20.2 03.9 05.8 00.0 01.0 00.0 00.5 00.0 00.0 00.0 01 4 0 00 362 QC
58 16833 -175 48666 DC81038 375 1080 44.3 01.5 31.6 04.3 14.4 03.6 00.0 00.0 00.3 00.0 00.0 00.0 01.2 326 QC
58 52500 -175.39999 DC81040 001 0143 63.2 24.0 01.1 07.1 00.0 03.8 00.0 00.0 00.5 00.0 00.0 00.3 00 0 367 VV
58 65500 -174.99001 DC81041 010 0220 47.5 04.6 42.1 00.0 04.9 00.6 00.0 00.0 00.3 00.0 00.0 00.0 00.9 328 BC
58.65500 -174.99001 DC81041 019 0220 46.3 07.7 36.0 04.7 05.3 00.0 00 0 00.0 00.0 00.0 00.0 00.0 00 0 337 BC
57.45833 -175.00983 DC81043 001 3479 45.3 00.3 21.2 00.7 03.3 25.5 00.3 01.7 01.7 00.0 00.0 00.0 00 0 302 QC
56.93834 -174.98834 DC81044 225 3400 40.6 08.1 04.8 04.8 00.0 24.0 00.6 00.6 07.8 00.0 00.0 08.7 00 0 334 QC
56.85667 -174.14166 DC81046 011 2530 02.3 00.3 01.8 00.0 03.2 91.2 00.0 00.0 00.9 00.0 00.3 00.0 00 0 342 QC
56 85667 -174.14166 DC81046 045 2530 02.1 00.3 01.8 00.0 02.4 91.9 00.0 00.0 01.5 00.0 00.0 00 0 00 3 329 QC
56.85667 -174.14166 DC81046 060 2530 68.7 12.1 05.0 06.5 00.0 03 0 00.0 00.0 00.6 00.0 00.0 04.1 00.0 339 QC
56.97000 -174.35333 DC81047 125 2760 36.4 00.8 05.5 03.2 04.9 42.8 00.0 00.0 04.9 00.2 00.0 01.3 00 0 472 QC
57.64167 -175.63333 DC81049 001 1770 72.4 15.9 05.8 02.5 00.0 02.8 00.0 00.0 00.6 00.0 00.0 00.0 00 0 359 QC
57.64167 -175.63333 DC81049 010 1770 09.2 00.2 13.9 02.0 23.3 49.2 00.0 00.0 01.8 00.0 00.4 00.0 00 0 455 QC
57.64167 -175.63333 DC81049 050 1770 39.2 00.2 26.9 02.1 09.1 11.5 02.1 06.8 02.1 00.0 00.0 00.0 00 0 427 QC
57.64167 -175.63333 DC81049 065 1770 76.1 01.2 10.7 06.3 01.5 00.6 00.6 00.3 00.6 00.6 00.0 01 5 00 6 335 QC
57.64167 -175.63333 DC81049 100 1770 17.1 00.5 28.0 01.0 08.1 31.7 10.6 00.0 03.0 00.0 00.0 00 0 00 0 397 QC
57.64167 -175.63333 DC81049 200 1770 47.6 02.1 38.0 01.2 06.6 04.2 00.3 00.0 00.0 00.0 00.0 00 0 00 0 338 QC
57 64167 -175.63333 DC81049 300 1770 40.5 02.4 47.6 00.3 06.2 01.8 00 0 00.0 01.2 00.0 00 0 00.0 00 0 338 QC
57.64167 -175.63333 DC81049 400 1770 63.1 00.0 29.1 03.0 03.0 01.2 00.0 00.0 00.6 00 0 00.0 00 0 00 0 331 QC

57 64167	-175.63333	DC81049	500	1770	58 1	00.3	31.4	00.6	06 8	02.8	00.0	00.0	00.0	00 0	00 0	00 0	00 0	353	GC
57.87000	-176.47501	DC81050	010	3430	08.9	00.5	11.3	00.5	03 8	75.3	00.0	00.0	01.7	00 0	00 0	00 0	00 0	582	GC
57.87000	-176.47501	DC81050	100	3430	05.7	00.7	06.3	00.9	09.9	73 8	00.0	00.0	02.9	00.0	00 0	00 0	00 0	584	GC
57.87000	-176.47501	DC81050	200	3430	21.2	01.3	33.3	00.5	18.3	23.3	00.0	00.0	02 1	00.0	00.0	00 0	00 0	387	GC
57.87000	-176.47501	DC81050	300	3430	37.2	00 7	39 9	01.8	04.9	13.5	00.0	00.0	02.0	00.0	00.0	00 0	00 7	445	GC
57.87000	-176.47501	DC81050	400	3430	37.6	00 6	43.3	00 0	11.0	05.0	00.0	00.0	02.5	00.0	00.0	00 0	00 0	326	GC
58.34000	-177.41833	DC81051	001	3220	73.2	20.3	05.2	01.0	00.0	00.3	00.0	00 0	00.0	00.0	00.0	00 0	00 0	306	GC
58.34000	-177.41833	DC81051	125	3220	28.6	04.2	02.6	03.2	00.0	58.8	00.0	00.0	02 0	00.0	00.0	02 6	00 0	497	GC
58 55950	-177.88650	DC81052	010	1070	13.1	00.3	15.6	05 3	02.9	57.8	00.0	02 1	02 9	00.0	00 0	00.0	00 3	374	GC
58 14000	-176.04834	DC81054	012	3220	76.9	07.8	02.6	06.3	00.0	02 0	00.0	00.0	00 0	00.0	00.0	04 4	00 0	385	GC
57 95000	-176.98000	DC81057	001	3395	73.5	02.6	15.5	00.6	02.2	00.0	00 3	00 0	00 6	00 3	04 1	00 3	00 0	362	GC
59.10333	-177.45500	DC81058	001	0179	74.1	16.1	07.1	00.8	00.0	00.5	00 0	00 0	00 0	00 0	00 0	01 4	00 0	367	GC
59 85334	-177 49167	DC81063	023	0135	69.5	02.8	17.1	02.8	01 6	05.0	00 0	00.0	00.0	00 6	00 0	00 6	00 3	322	GC
59 85334	-177.49167	DC81063	033	0135	40.5	03.0	43.2	01.5	11.5	00.3	00.0	00 0	00.0	00.0	00 0	00 0	00 0	336	GC
59.85334	-177.49167	DC81063	055	0135	65 1	11.2	03.4	05.7	00.0	10.4	00 0	00.0	00.0	00 0	00 0	04 2	00 0	384	GC
58 80000	-178.00000	DC81071	001	0520	51.0	00.3	28.4	02.0	02.9	13.4	00 0	00.0	02.0	00.0	00 0	00 0	00.0	306	GC
59 41667	-177.65334	DC81075	001	0310	77.2	14.8	05.4	00.0	00.0	02.0	00.0	00.0	00.3	00 0	00.0	00 3	00 0	317	VV
59 35817	-179.10933	DC81076	010	3230	23.1	00.3	11.2	01.0	09.5	52.8	00.0	00.0	02 1	00.0	00 0	00.0	00 0	294	GC
59 90167	-178.15167	DC81077	001	0145	82.1	02.5	13.9	00.6	00.6	00.0	00.0	00.0	00.3	00.0	00 0	00 0	00 3	316	VV
60 21833	-177.55217	DC81078	010	0139	50.8	00.5	20.9	03.6	11.1	12.9	00.0	00.0	00.2	00.0	00.0	00.0	00 0	441	GC
60 50150	-176.98733	DC81079	010	0141	22.5	00.3	11.0	01.7	04.5	59.7	00.0	00.0	00.3	00.0	00 0	00.0	00 0	290	GC
60 45000	-178.72333	DC81081	001	0269	46.9	01.2	47.2	01.9	02.8	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00 0	322	VV
59.96500	-178.98666	DC81084	001	0780	79.9	04.1	12.9	02.2	00.0	00.6	00.0	00.0	00.0	00.0	00.3	00.0	00 6	318	GC
60 88667	-179 09166	DC81089	001	0328	70.8	05.8	21.5	00.3	01.0	00.6	00.0	00.0	00.0	00.0	00.0	00 0	00 6	312	VV
60 86500	-179.18333	DC81091	001	0410	55.5	00.8	41.6	00.5	00.5	00.0	00.0	00.0	00.0	00.0	01.1	00 0	00 0	373	GC
60 86667	-179.20166	DC81093	001	0420	46.2	01.8	48.7	00.0	00.3	00.3	00.0	00.0	00.0	00.0	02.7	00 0	00 0	329	VV
60 85334	-179.26334	DC81094	001	0438	50.9	00.0	35.2	00.3	02.9	00.3	00.0	00.0	00.0	00 0	00.0	10 4	00 0	383	VV
60 78334	-178 97332	DC81095	001	0255	51.8	00.9	40.9	00.9	04.9	00.6	00.0	00.0	00.0	00.0	00.0	00 0	00 0	328	VC
60 78334	-178.97333	DC81096	004	0250	49.6	00.9	42.4	00.6	06.2	00.0	00.0	00.0	00.0	00.0	00.3	00.0	00 0	323	BC
60 70834	-179.26834	DC81097	001	0432	50.7	00 9	46.3	01.8	00.3	00.0	00.0	00.0	00.0	00.0	00.0	00 0	00 0	337	BC
60 56833	-178.72166	DC81098	001	0220	48.1	03.2	39.7	02.6	03.7	02.4	00.0	00.0	00.3	00.0	00.0	00.0	00 0	345	GC
60 56833	-178.72166	DC81098	005	0220	57.7	01.1	31.2	00.9	07.9	00.6	00.0	00.0	00 6	00.0	00 0	00.0	00 0	352	GC
60 57500	-178.73000	DC81099	005	0220	34.3	00.3	37.2	02.8	11.6	12.7	00.0	00.0	01.1	00.0	00.0	00.0	00 0	361	VC
60.57500	-178.73001	DC81100	001	0222	47.6	00.0	40.0	00.3	07.7	03.8	00.0	00.0	00.6	00.0	00.0	00.0	00.0	313	VC
60 46000	-178.70334	DC81101	001	0269	49.3	00.0	44.9	00.0	05.8	00.0	00.0	00.0	00.0	00.0	00 0	00.0	00 0	345	BC
60.15000	-176.98834	DC81105	001	0144	12.2	04.1	00.8	12.7	00.0	60.9	00.0	00.0	00.0	00.2	00.0	09.1	00 0	483	GC
59.18667	-174.99500	DC81108	001	0132	45.4	00.0	29.4	00.6	01.9	21.4	00.0	01.0	00.3	00 0	00.0	00.0	00 0	313	GC
60.14833	-180.19667	LE82002	001	2047	16.7	00.5	27.5	00.5	14.4	37.6	00.0	00.0	02.3	00.0	00 0	00 5	00 0	436	GC
60 56667	-179.64999	LE82004	001	1376	47.1	00.8	50.0	01.3	00.8	00.0	00.0	00.0	00.0	00.0	00 0	00.0	00.3	394	GC
61 28000	-178.27333	LE82005	001	0153	54.2	01.4	41.2	02.3	00.6	00.0	00.0	00.3	00.0	00.0	00.0	00.0	00.0	354	GC
60 90000	-178.75166	LE82006	001	0202	52.6	00.5	42.6	00.7	03.4	00.2	00.0	00.0	00.0	00.0	00.0	00.0	00 0	409	GC
60 93333	-178.75166	LE82007	001	0205	60.6	00.0	38.5	00.0	00.9	00.0	00.0	00.0	00.0	00.0	00 0	00 0	00.0	312	GC
60 96667	-178.75999	LE82008	001	0213	45.4	04.5	44.4	04.5	00.6	00.3	00.0	00.0	00.0	00.0	00.0	00.3	00.0	311	GC
61.00000	-178.75999	LE82009	001	0208	50.3	00.0	44.4	00.0	03.3	02.0	00.0	00.0	00.0	00.0	00.0	00.0	00 0	306	GC
61 03333	-178.75999	LE82010	001	0206	56.2	00.0	42.6	00.0	00.3	00.9	00.0	00.0	00.0	00.0	00.0	00.0	00 0	317	GC
61 05833	-178.76500	LE82011	001	0205	50.7	01.6	46.3	00.4	00.2	00.8	00.0	00.0	00.0	00.0	00.0	00.0	00.0	486	GC
61.08333	-178 76666	LE82012	001	0203	46.9	00.0	49.5	00.7	02.2	00.7	00.0	00.0	00.0	00.0	00.0	00 0	00 0	307	GC
61 11167	-178 77000	LE82013	001	0200	52.3	00.0	45.3	00 0	01.6	00.8	00.0	00.0	00 0	00.0	00 0	00.0	00 0	377	GC
60.09167	-177 19167	LE82014	001	0138	18.2	00.0	39.8	02.5	09.5	30.0	00.0	00.0	00.0	00 0	00.0	00 0	00 0	400	GC
59 96500	-177.42166	LE82015	001	0138	26.9	00.0	19.3	00.7	06.4	45.8	00.0	00.0	00 9	00.0	00.0	00.0	00 0	450	GC
59 43834	-178.25166	LE82017	001	0382	39 9	00.0	43.6	04.1	05.1	06.4	00.0	00.0	00.9	00.0	00.0	00 0	00 0	316	GC
59.40500	-178.25000	LE82018	001	0625	26.5	01.3	34.8	01.3	05.8	27.3	00.0	00.0	00.5	00.0	02.5	00 0	00 0	396	GC
59 36667	-178.25000	LE82019	001	0852	54.9	00.6	27.5	02.8	07.5	06.4	00 0	00.0	00.3	00 0	00.0	00.0	00 3	362	GC
59 33334	-178.25166	LE82020	001	0739	51.0	00.3	39.2	00.5	02.8	04.2	00.0	00.0	01.0	00 0	01 0	00.0	00 0	389	GC
58 72500	-177.03334	LE82021	001	0130	54.9	01.2	34.2	00.6	03.8	05.0	00.0	00.0	00 3	00.0	00.0	00 0	00 0	320	GB
58.75000	-177.01334	LE82022	001	0130	31.0	00.8	38.7	02.1	04.0	22.9	00.0	00.0	00.5	00 0	00.0	00 0	00 0	377	GB
58 85833	-176.78334	LE82023	001	0125	31.5	00.0	27.9	00.8	00.8	38.2	00.0	00.0	00.8	00.0	00 0	00 0	00.0	393	GB
58.85000	-176.80000	LE82024	001	0124	57.6	00.6	26.8	01.9	05.0	07.5	00.0	00 0	00.6	00.0	00.0	00.0	00 0	318	GB
58.83334	-176.83167	LE82025	001	0126	60.1	01.3	21.3	00.8	08.9	06.8	00.0	00.0	00.8	00.0	00.0	00.0	00 0	383	GB
58 80833	-176.88333	LE82026	001	0124	50.4	01.5	26.8	00.6	08.0	12.7	00.0	00.0	00.0	00.0	00.0	00 0	00 0	339	GB
58.78833	-176.91833	LE82027	001	0127	54.1	00.4	27.3	01.1	05.5	11.6	00.0	00.0	00.0	00.0	00.0	00.0	00 0	275	GB
58.76667	-176.95833	LE82028	001	0126	43.5	00.6	40.0	02.7	08.1	04.8	00.0	00.0	00.3	00.0	00.0	00.0	00.0	333	GB
58 68167	-176.02667	LE82029	001	0137	46.3	00.9	43.0	00.3	02.5	07.0	00.0	00.0	00.0	00.0	00.0	00 0	00 0	319	GB
58.54000	-176.10167	LE82030	001	0385	39.7	00.3	45.3	01.2	05.4	07.2	00.0	00 0	00.9	00.0	00.0	00 0	00 0	335	GB
58.38000	-176.17500	LE82031	001	2852	24.7	00.2	29.8	00.7	02.8	39 7	00.0	00.0	02 1	00.0	00 0	00 0	00 0	423	GB
58 46667	-176.35167	LE82032	001	2186	08.3	00.0	07.5	00.7	01.5	81.0	00.0	00.0	01 0	00.0	00 0	00 0	00.0	588	GC
58.47334	-176.74834	LE82033	001	1864	10.1	00.0	07.9	01.5	02.7	76.6	00.0	00.0	01.2	00.0	00.0	00 0	00 0	585	GC

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58.54333 -176.68333 LE82034 001 0845 07.3 00.0 06.0 00.6 04.8 78.0 00.0 00.0 03.3 00.0 00.0 00 0 00 0 518 GC
58.91833 -175.98666 LE82035 001 0131 56.8 00.0 27.4 00.5 06.3 08.7 00.0 00.0 00.3 00.0 00 0 00.0 00 0 366 GC
59.26500 -176.70000 LE82036 001 0146 38.2 00.0 19.2 01.3 07.4 33.9 00.0 00.0 00.0 00.0 00.0 00.0 00 0 380 GC
59.52834 -176.14999 PS80001 001 0145 50.0 00.8 39.6 03.0 02.3 04.0 00.0 00.3 00.0 00.0 00.0 00.0 00 0 399 VV
59.73667 -177.83501 PS80002 001 0162 39.1 02.8 42.0 07.0 05.1 03.4 00.0 00.0 00.6 00.0 00.0 00.0 00 0 355 VV
60.00500 -177.53334 PS80003 017 0132 51.0 01.1 39.6 02.9 05.1 00.3 00.0 00.0 00.0 00.0 00.0 00.0 00 0 00.3 376 GC
60.44000 -178.30667 PS80004 001 0158 44.6 00.3 41.1 00.0 08.7 04.4 00.0 00.0 00.9 00.0 00.0 00.0 00 0 322 VV
60.64167 -178.71001 PS80005 001 0196 44.2 00.3 44.5 00.0 10.7 00.3 00.0 00.0 00.0 00.0 00.0 00.0 00.0 00.0 310 VV
60.79000 -178.47166 PS80006 001 0165 48.7 00.3 39.3 01.3 09.8 00.3 00.0 00.0 00.3 00.0 00.0 00.0 00 0 318 VV
60.71667 -177.65167 PS80007 001 0145 34.3 01.4 35.3 02.5 10.7 15.8 00.0 00.0 00.0 00.0 00.0 00.0 00.0 00.0 354 VV
60.43267 -177.29150 PS80008 011 0147 70.2 02.1 23.3 00.0 04.4 00.0 00.0 00.0 00.0 00.0 00.0 00.0 00 0 339 GC
60.00500 -176.91667 PS80010 009 0140 15.9 00.8 13.7 01.3 06.3 61.8 00.0 00.0 00.2 00.0 00.0 00 0 00.0 524 GC
59.96400 -174.18483 PS80012 014 3164 44.0 00.0 49.9 00.8 05.5 00.0 00.0 00.0 00.0 00.0 00.0 00 0 00.0 325 GC
60.71500 -174.10500 PS80014 001 0086 53.7 01.9 42.0 00.8 01.6 00.0 00.0 00.0 00.0 00.0 00.0 00 0 00.0 00 0 376 GC
60.20833 -175.42000 PS80016 001 0120 71.8 11.6 15.1 00.3 01.2 00.0 00.0 00.0 00.0 00.0 00.0 00 0 00.0 00 0 344 GC
60.81500 -176.26500 PS80017 015 0117 58.0 00.3 34.2 02.6 04.9 00.0 00.0 00.0 00.0 00.0 00.0 00 0 00.0 350 GC
60.98167 -175.50166 PS80018 015 0103 39.7 00.5 22.7 02.7 07.7 26.4 00.0 00.0 00.3 00.0 00.0 00 0 00.0 365 GC
61.50000 -174.74333 PS80019 001 0082 57.9 00.3 35.6 02.8 03.4 00.0 00.0 00.0 00.0 00.0 00.0 00 0 00.0 00.0 388 GC
61.70667 -175.58501 PS80020 015 0094 53.1 00.0 42.1 03.0 01.8 00.0 00.0 00.0 00.0 00.0 00.0 00.0 00.0 01.8 337 GC
61.53833 -176.26666 PS80021 004 0106 44.6 00.0 46.2 04.6 04.6 00.0 00.0 00.0 00.0 00.0 00.0 00.0 00.0 00.0 325 GC
61.02500 -177.09666 PS80022 010 0122 37.8 00.8 29.8 03.2 11.3 17.1 00.0 00.0 00.0 00 0 00.0 00.0 00.0 373 GC
61.50834 -177.40334 PS80023 008 0125 56.7 00.0 40.6 01.5 01.2 00.0 00.0 00.0 00.0 00.0 00.0 00.0 00.0 00.5 411 GC
60.53500 -170.07001 PS80033 001 0037 49.0 00.0 41.5 06.0 03.3 00.2 00.0 00.0 00.0 00.0 00.0 00.0 00 0 400 VV
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