

Report on DELP 1987 Cruises in the Ogasawara Area

Part V. Measurement of Three Components and Total Intensity of the Geomagnetic Field in the Ogasawara Trough

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Abstract

The three components and total intensity of the geomagnetic field were measured using STCM and a proton precession magnetometer during the DELP 1987 Ogasawara cruises. The total intensity anomalies are generally negative and small in amplitude in the trough, their lineation pattern can hardly be defined. However, the anomaly patterns of the three vector components of the geomagnetic field show widely distributed lineation features trending north-south over the trough. Two total intensity negative peaks in the northern and southern ends of the trough are located at around the same positions as the free air gravity negative anomaly peaks.

1. Introduction

In the Ogasawara (Bonin) Trough, geological and geophysical surveys have been carried out by many institutions. Among them the Geological Survey of Japan has made intensive surveys since 1979 (eg. MIYAZAKI *et al.*, 1981) and the Hydrographic Department of Japan Maritime Safety Agency also conducted intensive surveys along a series of track lines running north-south separated by 5 nautical miles from each other between 24 and 27 degrees north latitude including a sea-beam mapping survey (KASUGA

et al., 1988).

The trough carries a thick sedimentary sequence with unconformities, evidence of complicated tectonic development. HONZA and TAMAKI (1985) proposed that although the Ogasawara Trough is presently inactive in the fore-arc area, the trough had opened during the early to middle or late Oligocene. They proposed also that this sequence could be associated with the collision of the Ogasawara Plateau against the Ogasawara Island Arc; the opening was explained by tectonic erosion of the subducting Pacific lithosphere.

The objectives of the magnetic survey in DELP cruises were to aim at studying following problems.

1. Identification of magnetic anomaly lineations,
2. Determination of magnetization of the Kaikata Seamount.

Objective 1 is particularly designed for finding evidence of opening processes in the trough, and objective 2 is for obtaining some information about tectonic movement (migration and rotation) of the crustal material (Kaikata seamount) which is located on the eastern flank of the Shichito Iwo-Jima Ridge.

2. Method of Measurement

Three components and total intensity of the geomagnetic field were measured by STCM (Shipboard Three Component Magnetometer; ISEZAKI, 1985) and a proton precession magnetometer. The positioning of the survey ship were obtained by LORAN-C and occasionally by NNSS, and/or GPS (of satellite system) and, at the same time, the bathymetric water depths were measured by a Precision Depth Recorder (PDR). All these data were provided in a form of digital data which were transferred and saved on a floppy disk controlled by a portable desk top micro-computer.

The STCM was set up on the deck during the entire cruise period and the field around the magnetic sensor may have been affected by the additional magnetic fields produced by the metallic body of the research vessel. The true geomagnetic field was calculated by subtracting this field from the original field value. We measured this bias magnetic field induced by the ship by spinning the heading of the vessel by 360 degrees when we moved a certain distance in the north-south direction several times during the cruise (ISEZAKI, 1985).

Magnetic field values, i. e., total force, and three vector components were compared to those of IGRF-85 (International Geomagnetic Reference Field determined in 1985; IAGA DIVISION I, WG 1, 1985) and the local

geomagnetic anomalies were derived by subtracting both the general regional field and artificial biasing field.

3. Results

3-1. Magnetic anomaly lineations

The magnetic survey was conducted on three zigzag courses across the basin (Fig. 1) for finding the magnetic lineations. These tracks are limited to the southern half of the trough between 25°30'N and 26°30'N; there is only one track traversing the trough in the northern part along about 28°45'N latitude. It was found along these zigzag tracks that there exist

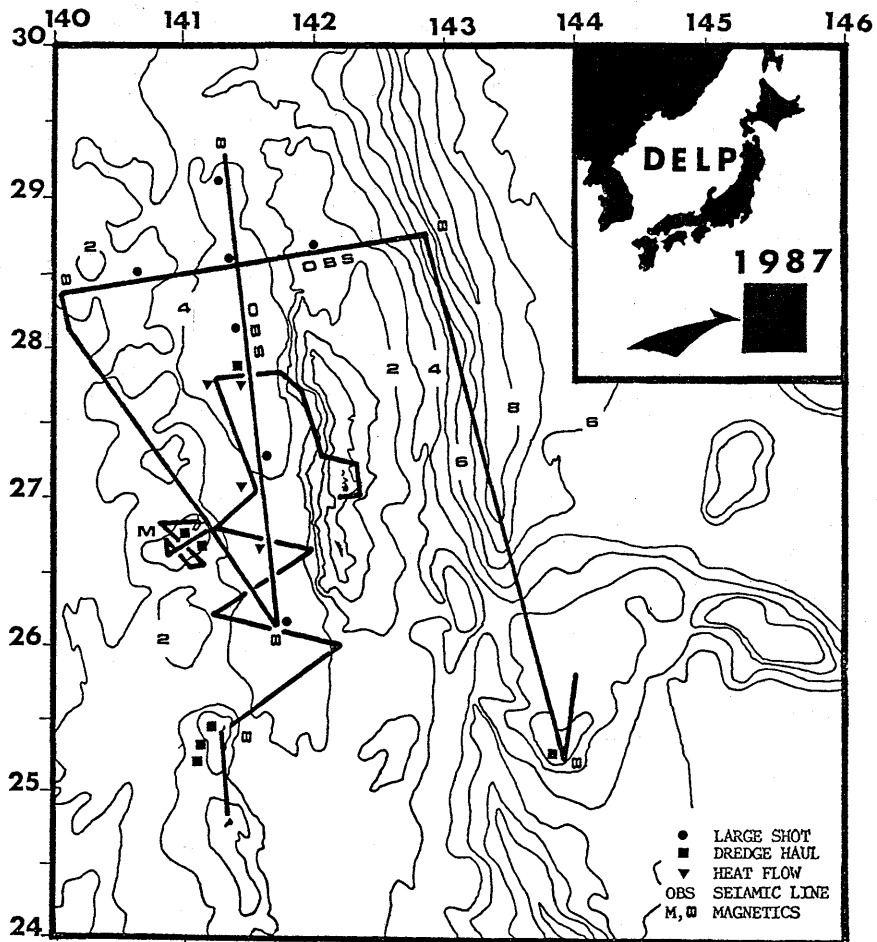


Fig. 1. Tracks of DELP cruises in the Ogasawara Trough. The bathymetric contours are at 1000 m intervals.

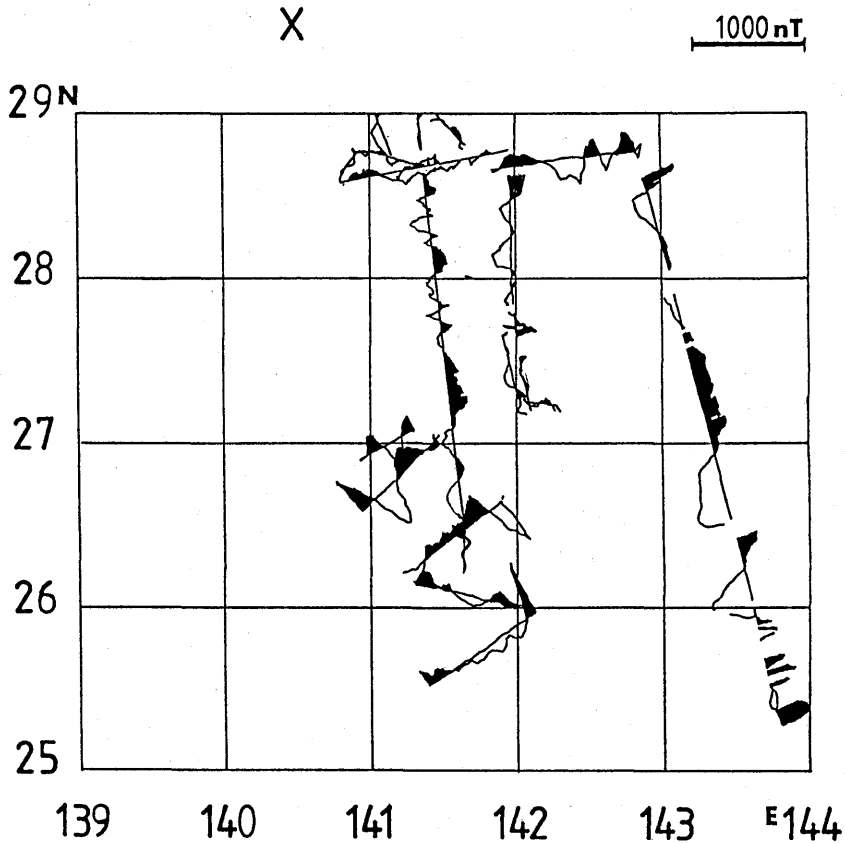


Fig. 2(a)

Fig. 2. Magnetic anomaly profiles along tracks for measuring the three component and total intensity anomalies.

a: Northward component (X); b: Eastward component (Y); c: Downward component (Z) and d: Total intensity P obtained by Proton magnetometer. Relative scale of amplitude of the field intensity is given by a horizontal bar of 1000 nT, on the top right side of each figure. Coordinates are given in degrees latitude and longitude. Track lines are referred to in Fig. 1.

clear lineations in the magnetic anomaly in Y and Z components in the southern part of the trough (Figs. 2b and 2c). The strike of lineation is nearly north-south; therefore, the X (geographical north) component anomaly of the geomagnetic field contributes little to the anomaly value (Fig. 2a).

We have one track line traversing the trough from east to west at about 28°45'N (Fig. 1). To see the correlation of magnetic anomaly pattern between the northern and southern parts, anomaly profiles along this track (28°45'N) together with the southern zigzag tracks are presented in

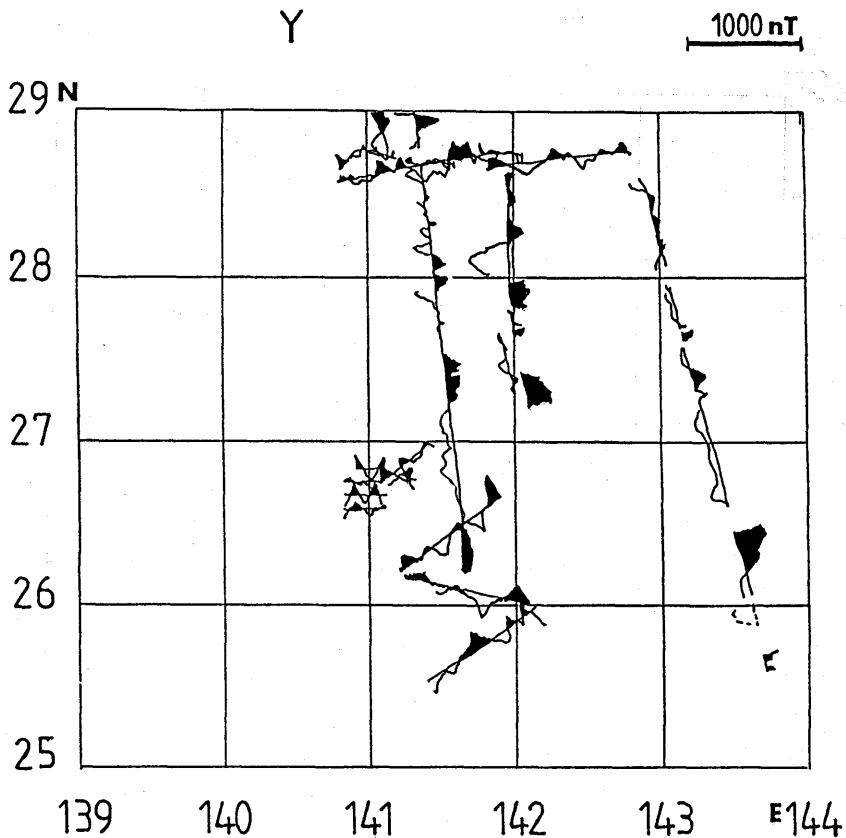


Fig. 2(b)

Fig. 3.

We conclude from these patterns that there are magnetic anomaly lineations which are continuous from the northern part to southern part of the trough area. This pattern is incorporated into the other geomagnetic measurements obtained by the Geological Survey of Japan (HONZA and TAMAKI, 1985) in which we can see a continuous trend of vague negative anomaly in geomagnetic total force running all through the trough area from north to south. We, therefore, consider that the magnetic anomaly patterns of three components of the geomagnetic field obtained by the present survey are also ubiquitous in the entire trough area.

We could not recover, some part of the total intensity anomalies measured solely by a proton magnetometer on board of R/V Tokaidaigakumaruru Nisei due to its occasional hardware malfunctioning on these zigzag tracks. There is, however, a large number of data of total intensity of

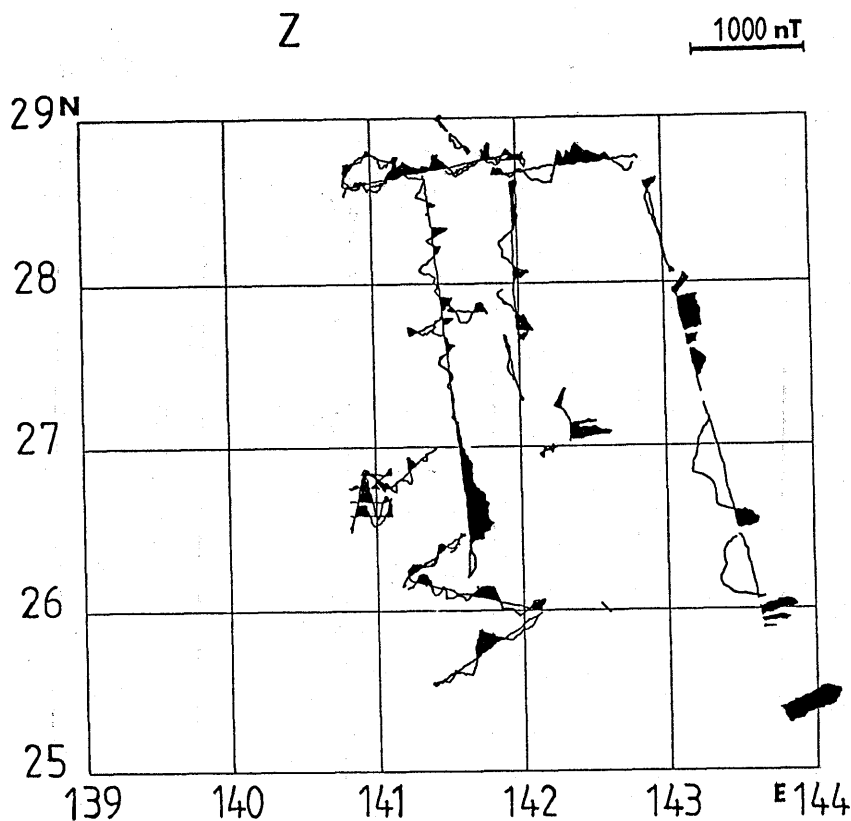


Fig. 2(c)

the geomagnetic field in the Ogasawara Trough to correct the defect in the present survey.

There is no good report on the systematic lineament of the geomagnetic field anomaly in the whole area of the trough to date. It is easy to show the difficulty of extracting any magnetic anomaly value of the geomagnetic total field intensity based upon a fact that the low angle of inclination of the geomagnetic field induces only a small component deflecting the ambient field. Because the strike of lineation is in general along the north-south direction, we could detect clearly only Y and Z component anomalies. Supposing that the magnetic body under observation extends to infinity in horizontal spread, the Y (E-W) component anomaly does not contribute to the total intensity anomaly. However, the Z component anomaly contribute to the total intensity anomaly, even if it is small. Even in case the inclination of the local geomagnetic field small as in the present case (dip angle: 37°), the deviation in the vector component Z is

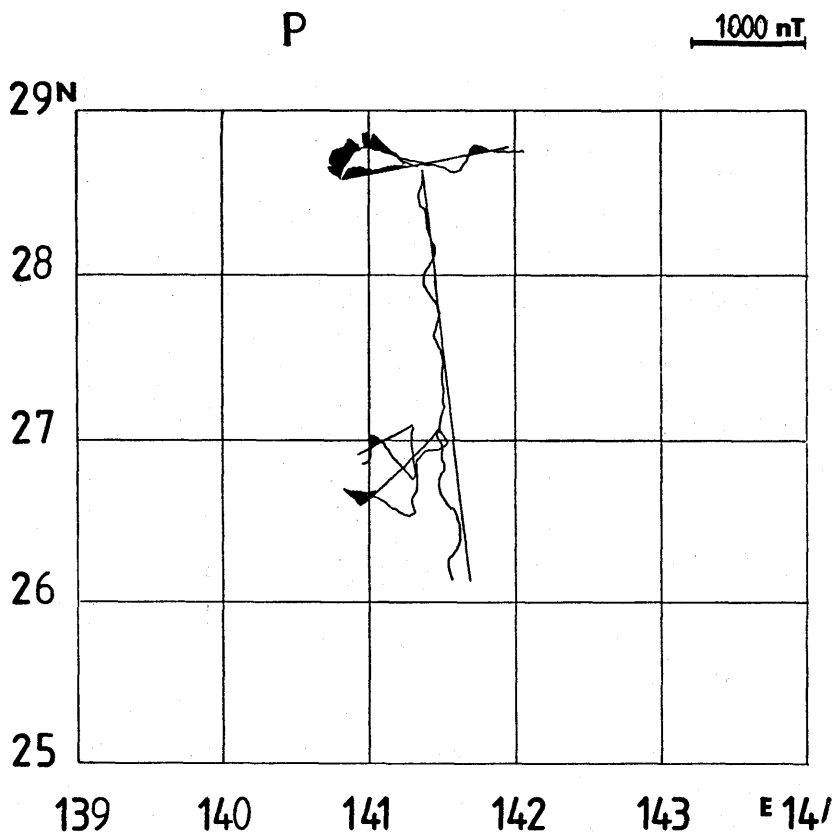


Fig. 2(d)

clearly definable. However, if we try to deduce the anomaly amplitude in the total geomagnetic intensity, it becomes less pronounced and gives rise to 0.6 times the amplitude of the vector component anomaly intensity.

3-2. Kaikata Seamount

This seamount is located on the volcanic front, the Shichito-Iwojima Ridge, about 65 km south of Nishinoshima Island which is presently active. The Shichito-Iwojima Ridge is characterized by many en echelon segments aligned northeast to southwest. These faults are believed to be remnants of old shear zones of Tertiary period (YUASA, 1983). It can be shown that this seamount had undergone some tectonic rotation based on the declination of magnetization. We can also find the latitudinal migration of the seamount from the inclination of magnetization, important information on the tectonics of the Philippine Sea Plate.

Although not all magnetic data on Kaikata Seamount have been ana-

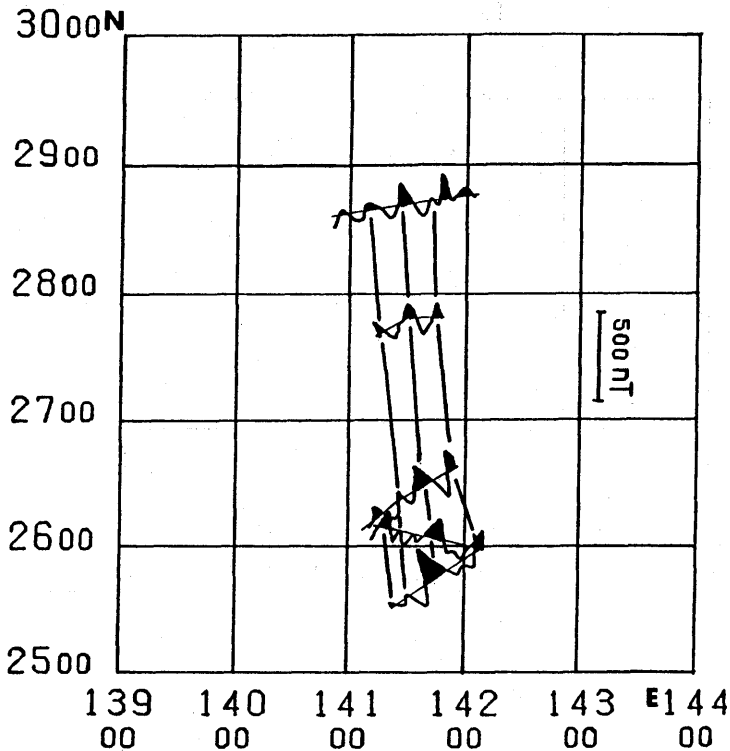


Fig. 3. Identification chart of the magnetic anomaly lineation patterns based on Z-component anomalies in the Ogasawara Trough area.

lyzed yet, two of the authors reported the tentative result of magnetization of this seamount using only total intensity anomalies, that is, -43° in declination and 50° in inclination (Fig. 4a and 4b) (ISHIKAWA and DEN, 1988). These values do not agree with those suggested by the tectonics of the Shichito-Iwojima Ridge and the Philippine Sea Plate: clockwise rotation and northward drift in general. This discrepancy may be due to three cases: poor quality of magnetic total intensity data, insensitivity of total magnetic field to anomaly configuration, or this seamount tilted in an isolated way from surrounding structures. We plan to analyze three component and total intensity data measured by this cruise (R/V Waka-shio-maru).

3-3. Relation to gravity anomalies

There is a positive free air gravity anomaly amounting to 380 mgal over the northern part (ca 28°N) of the Ogasawara Ridge. To the southwest in the Ogasawara Trough (23.3°N), there is also a large negative

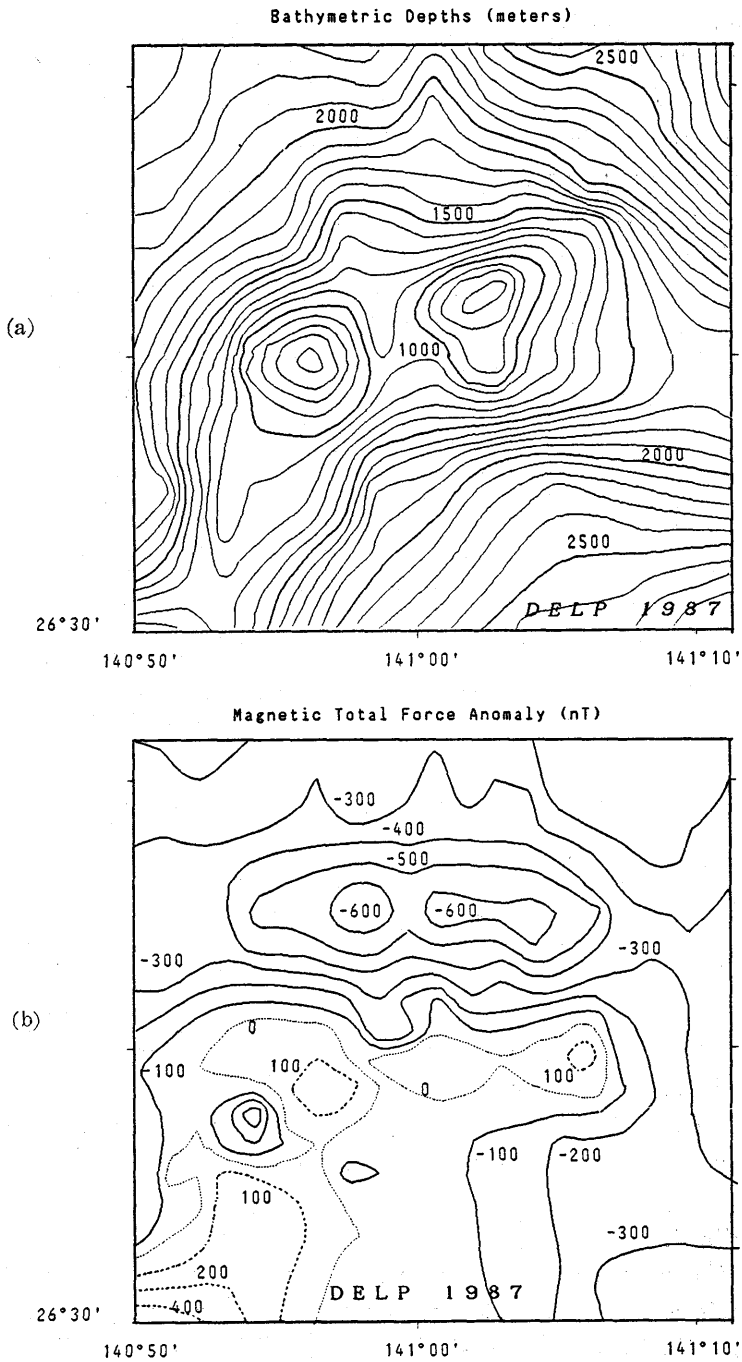


Fig. 4. Bathymetry and distribution of total force magnetic anomaly around the Kaikata Seamount. The location of these figures can also be referred to in Fig. 1. a: Bathymetry with contour lines every 100 meters. b: Magnetic total force anomaly every 100 nT reduced to IGRF85 (IAGA Division I, WG 1, 1986).

free air gravity anomaly of -120 mgal. (ISHIHARA *et al.*, 1983; GEOLOGICAL SURVEY OF JAPAN, 1982). The minimum anomaly of -120 mgal is located at about $26^{\circ}10'N$ in the trough, ca. 220 km to the west of the western edge of the Ogasawara Plateau which is presently colliding against the Ogasawara arc.

As for the total geomagnetic intensity anomalies, there are generally negative anomalies with low amplitude in the entire trough area. The minimum anomaly of about -200 nT is located at almost the same position ($26^{\circ}10'N$) as that of the minimum (negative) free air gravity anomaly. There is another weakly negative free air gravity anomaly peak of -60 mgal at about $29^{\circ}40'N$ in the northern part of the trough and also a negative peak of geomagnetic total intensity anomaly of about -200 – -500 nT at the same position (GEOLOGICAL SURVEY OF JAPAN, 1982). The bathymetric depth of the trough at around $26^{\circ}10'N$ and $29^{\circ}40'N$ are about 3500 m, while the deepest part of the trough is between these two points, around $28^{\circ}00'N$ where the sea depth is about 4150 m. These facts play an important role for discussing the crustal structure beneath the trough. The depression of the basement will usually decrease the intensity of magnetic total force anomaly if magnetization of the magnetic basement is induced by the geomagnetic field. However, the relation among magnetic anomaly, free air gravity and bathymetric depths in this trough does not seem to follow this general tendency and leaves us to do an interpretative simulation experiment in our further study.

Acknowledgment

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Appendix 1.

During the magnetic measurements, the research vessel was turned around occasionally to check the varying intensity of the permanent and induced magnetizations of the steel vessel. This measure allow us to remove the spurious field of the ship's body afterward by software in addition to actual geomagnetic field components. The positions and times of this routine operation are listed below.

Date and Time month-day-hour/min.	Latitude (deg-min. N)	Longitude (deg-min. E)
11-04-14/11	34-21.10	138-39.92
11-06-05/42	29-20.11	141-13.94
11-07-09/13	26-09.55	141-40.64
11-08-04/53	28-26.41	139-59.21
11-08-15/22	28-35.89	141-22.92
11-09-08/38	28-43.78	142-50.90
11-10-07/43	25-14.59	143-48.80
11-12-14/43	25-30.07	141-20.63

Appendix 2.

A list of field data of the three components of the geomagnetic field, total geomagnetic intensities and bathymetric depths are presented. We have to notice that the total intensities obtained by R/V Tokaidaigakumaruru Nisei are less reliable due to occasional malfunctioning of the data acquisition system during the whole cruise.

The list includes (from left to right blocks);

- 1: Sample time (year/month/day/hour/minute: i. g. 87 11 8 9 2)
- 2: IGRF-85 based deviation values of three components of the geomagnetic field (North/East/Down in nano Tesla, e. g. 35 -68 -17)
- 3: Total intensity (nT, e. g. 45536.0; six 9 figures indicate no-data)
- 4: Ship's position in latitude (degree/minute) and longitude (degree/minute, e. g. 35 12.36 139 46.24)
- 5: Water depth (meters, e. g. 2135; five 9s indicate no-data)

Data are presented every 10 minutes for the entire period of the present cruise. The first half of the record (Part I: from Nov. 8 through Nov. 20) was obtained by R/V Wakashio-maru and the other half (Part II: from Nov. 11 through Nov. 20) by R/V Tokaidaigakumaruru Nisei.

PART I

Geomagnetic data obtained by research vessel WAKASHIO-MARU
during the cruise DELP 1987

(Sheets of data list follow)

87 11	8 9 2	35	-68	-17	99999.9	35	12.36	139	46.24	99999
87 11	8 9 12	5	-14	20	99999.9	35	10.67	139	45.90	99999
87 11	8 9 22	-2	37	20	99999.9	35	8.98	139	45.58	99999
87 11	8 9 32	-7	38	-27	99999.9	35	7.30	139	45.21	99999
87 11	8 9 42	-34	1	-29	99999.9	35	5.65	139	45.03	99999
87 11	8 9 52	-14	-20	10	99999.9	35	4.06	139	44.59	99999
87 11	8 10 2	89	-20	22	99999.9	35	2.34	139	44.26	99999
87 11	8 11 13	-27	-30	7	99999.9	34	58.55	139	41.00	99999
87 11	8 11 23	-2	13	7	99999.9	34	59.96	139	40.03	99999
87 11	9 7 13	45	76	-84	99999.9	34	48.67	139	46.68	83
87 11	9 7 23	-26	-5	47	99999.9	34	46.68	139	47.05	777
87 11	9 7 33	-13	-59	45	99999.9	34	44.75	139	47.60	99999
87 11	9 7 43	-9	-57	9	99999.9	34	42.84	139	48.29	1579
87 11	9 7 53	8	-23	-12	99999.9	34	41.03	139	48.96	1635
87 11	9 8 3	-10	15	6	99999.9	34	39.16	139	49.71	1489
87 11	9 8 13	15	58	-28	99999.9	34	37.47	139	50.37	2132
87 11	9 8 52	-140	157	-68	45338.0	34	31.62	139	52.69	1611
87 11	9 9 2	-69	83	-33	45419.0	34	29.79	139	53.31	1582
87 11	9 9 12	-39	-56	28	45516.0	34	28.00	139	53.79	1481
87 11	9 9 22	17	-203	30	45549.0	34	26.25	139	54.73	1491
87 11	9 9 32	57	-280	32	45555.0	34	24.48	139	55.53	1563
87 11	9 9 42	97	-358	19	45570.0	34	22.65	139	56.32	1559
87 11	9 9 52	111	-397	20	45583.0	34	20.96	139	57.28	1528
87 11	9 10 2	125	-375	-14	45530.0	34	19.37	139	58.04	1446
87 11	9 10 12	145	-283	-86	45454.0	34	17.84	139	58.94	1411
87 11	9 10 22	135	-269	-160	45359.0	34	15.72	139	59.76	1392
87 11	9 10 33	113	-228	-206	45267.0	34	14.11	140	0.72	1374
87 11	9 10 43	58	-227	-207	45210.0	34	12.42	140	1.27	1364
87 11	9 10 53	20	-147	-193	45168.0	34	10.95	140	1.77	1348
87 11	9 11 3	-59	-136	-152	45124.0	34	9.46	140	2.42	1340
87 11	9 11 13	-122	-147	-137	45085.0	34	7.91	140	3.05	1311
87 11	9 11 23	-138	-156	-145	45048.0	34	6.61	140	1.08	1281
87 11	9 11 33	-87	-162	-204	45024.0	34	4.96	140	5.01	1242
87 11	9 11 43	-120	-202	-181	45006.0	34	3.54	140	5.85	1125
87 11	9 11 53	-180	-219	-147	44978.0	34	1.80	140	6.90	1042
87 11	9 12 3	-223	-158	-116	44936.0	34	0.09	140	7.64	982
87 11	9 12 13	-248	-91	-85	44910.0	33	58.39	140	8.20	880
87 11	9 12 23	-311	-71	-31	44906.0	33	56.75	140	8.73	799
87 11	9 12 33	-373	-103	20	44838.0	33	55.09	140	9.30	712
87 11	9 12 43	-446	-55	121	44855.0	33	53.51	140	9.87	647
87 11	9 12 53	-345	166	183	44874.0	33	51.94	140	10.55	421
87 11	9 13 41	-182	427	182	45105.0	33	49.54	140	12.12	366
87 11	9 13 51	-21	509	84	45032.0	33	48.04	140	12.85	401
87 11	9 14 1	-89	371	82	44947.0	33	46.57	140	13.59	610
87 11	9 14 11	-222	207	164	44921.0	33	45.02	140	14.18	612
87 11	9 14 21	-283	135	216	44953.0	33	43.43	140	14.62	594
87 11	9 14 31	-316	84	255	44932.0	33	41.88	140	15.06	554
87 11	9 14 41	-305	82	250	44930.0	33	40.34	140	15.48	494
87 11	9 14 51	-293	79	279	44892.0	33	38.78	140	15.91	440
87 11	9 15 1	-254	71	284	44986.0	33	37.23	140	16.34	266
87 11	9 15 11	-253	36	316	44964.0	33	35.67	140	16.72	299
87 11	9 15 21	-268	0	339	44939.0	33	34.11	140	17.10	220
87 11	9 15 31	-277	-1	369	44946.0	33	32.56	140	17.46	319
87 11	9 15 41	-273	35	434	44949.0	33	30.93	140	17.86	311
87 11	9 15 51	-224	89	420	45015.0	33	29.64	140	18.17	319
87 11	9 16 1	-140	122	337	44950.0	33	28.26	140	18.44	276
87 11	9 16 11	-117	81	286	44841.0	33	26.87	140	18.85	301
87 11	9 16 21	-86	44	272	44893.0	33	25.52	140	19.33	386
87 11	9 16 31	-93	-11	296	44898.0	33	24.15	140	19.84	430
87 11	9 16 41	-75	-26	268	44856.0	33	22.79	140	20.30	505

87	11	9	16	51	-42	12	205	44804.0	33	21.40	140	20.77	530
87	11	9	17	1	-37	61	193	44748.0	33	20.04	140	21.20	579
87	11	9	17	11	53	135	112	44759.0	33	18.71	140	21.62	622
87	11	9	17	21	135	209	41	44746.0	33	17.41	140	21.99	648
87	11	9	17	31	198	218	-28	44722.0	33	16.10	140	22.44	679
87	11	9	17	41	145	125	11	44683.0	33	14.78	140	22.92	713
87	11	9	17	51	86	-25	62	44676.0	33	13.46	140	23.41	772
87	11	9	18	1	136	-48	37	44677.0	33	11.82	140	24.02	820
87	11	9	18	11	231	6	-13	44696.0	33	10.41	140	24.51	883
87	11	9	18	21	349	147	-69	44717.0	33	8.94	140	25.02	982
87	11	9	18	31	478	316	-136	44733.0	33	7.76	140	25.41	1057
87	11	9	18	41	555	422	-181	44752.0	33	6.25	140	25.96	1079
87	11	9	18	51	589	411	-200	44731.0	33	4.73	140	26.53	1088
87	11	9	19	1	591	306	-183	44722.0	33	3.23	140	27.06	1097
87	11	9	19	11	556	202	-148	44748.0	33	1.71	140	27.69	1107
87	11	9	19	21	562	190	-191	44669.0	33	0.20	140	28.27	1138
87	11	9	19	31	600	244	-303	44579.0	32	58.69	140	28.86	1181
87	11	9	19	41	594	292	-365	44516.0	32	57.16	140	29.42	1236
87	11	9	19	51	561	271	-365	44463.0	32	55.65	140	30.03	1297
87	11	9	20	1	496	178	-299	44452.0	32	54.21	140	30.63	1355
87	11	9	20	11	512	79	-300	44450.0	32	52.56	140	31.36	1439
87	11	9	20	21	489	5	-285	44418.0	32	50.89	140	32.08	1542
87	11	9	20	31	477	11	-294	44385.0	32	49.25	140	32.88	1633
87	11	9	20	41	474	95	-315	44362.0	32	47.58	140	33.66	1704
87	11	9	20	51	451	144	-315	44340.0	32	45.84	140	34.30	1736
87	11	9	21	1	368	154	-268	44310.0	32	44.09	140	34.88	1763
87	11	9	21	11	293	137	-236	44278.0	32	42.34	140	35.46	1827
87	11	9	21	21	253	181	-222	44242.0	32	40.55	140	35.92	1917
87	11	9	21	31	221	170	-206	44209.0	32	38.77	140	36.36	2054
87	11	9	21	41	169	136	-158	44185.0	32	36.97	140	36.80	2103
87	11	9	21	51	130	115	-126	44172.0	32	35.20	140	37.24	2162
87	11	9	22	1	130	100	-152	44147.0	32	33.41	140	37.63	2202
87	11	9	22	11	114	55	-176	44096.0	32	31.62	140	38.02	2320
87	11	9	22	21	63	-10	-177	44046.0	32	29.80	140	38.41	2356
87	11	9	22	31	-8	-82	-143	44001.0	32	27.95	140	38.79	2369
87	11	9	22	41	-34	-84	-146	43965.0	32	26.10	140	39.22	2584
87	11	9	22	51	-66	-113	-122	43935.0	32	23.86	140	39.65	3090
87	11	9	23	1	-83	-129	-109	43916.0	32	22.33	140	39.94	2986
87	11	9	23	11	-89	-156	-95	43908.0	32	20.06	140	40.32	2560
87	11	9	23	21	-78	-156	-87	43906.0	32	18.58	140	40.60	2417
87	11	9	23	31	-83	-146	-46	43913.0	32	16.69	140	40.98	2453
87	11	9	23	41	-97	-117	11	43928.0	32	14.83	140	41.33	2453
87	11	9	23	51	-80	-75	33	43933.0	32	12.96	140	41.62	2556
87	11	10	0	1	-58	-70	27	43927.0	32	11.14	140	41.96	2589
87	11	10	0	11	-34	-70	-1	43910.0	32	9.32	140	42.37	2655
87	11	10	0	21	-50	-81	5	43880.0	32	7.50	140	42.69	2698
87	11	10	0	31	-61	-66	-5	43848.0	32	5.70	140	43.08	2704
87	11	10	0	41	-133	-90	46	43812.0	32	3.89	140	43.38	2626
87	11	10	0	51	-187	-93	68	43764.0	32	2.06	140	43.74	2571
87	11	10	1	1	-230	-85	85	43724.0	32	0.22	140	44.12	2587
87	11	10	1	11	-246	-46	96	43700.0	31	58.39	140	44.47	2461
87	11	10	1	21	-291	-62	144	43685.0	31	56.57	140	44.78	2500
87	11	10	1	31	-308	-113	166	43668.0	31	54.75	140	45.13	2583
87	11	10	1	41	-307	-139	159	43659.0	31	52.91	140	45.45	2717
87	11	10	1	51	-299	-146	147	43644.0	31	51.09	140	45.78	2986
87	11	10	2	1	-371	-179	213	43619.0	31	49.22	140	46.11	3047
87	11	10	2	11	-427	-193	262	43604.0	31	47.37	140	46.43	2799
87	11	10	2	21	-467	-215	296	43588.0	31	45.51	140	46.64	2934
87	11	10	2	31	-475	-284	289	43572.0	31	43.62	140	46.87	2888
87	11	10	2	41	-537	-404	343	43558.0	31	41.71	140	47.05	2981

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87 11 10 3 20	-270	-164	144	43624.0	31	34.30	140	47.76	2838
87 11 10 3 30	-249	-188	167	43638.0	31	32.39	140	47.91	2876
87 11 10 3 40	-204	-174	152	43636.0	31	30.47	140	48.11	2785
87 11 10 3 50	-163	-134	128	43623.0	31	28.54	140	48.26	2758
87 11 10 4 0	-125	-102	116	43610.0	31	26.59	140	48.44	2601
87 11 10 4 10	-88	-68	96	43604.0	31	24.67	140	48.64	2543
87 11 10 4 20	-79	-49	96	43584.0	31	22.71	140	48.87	2575
87 11 10 4 30	-50	44	59	43548.0	31	20.78	140	49.11	2597
87 11 10 4 41	-33	89	35	43531.0	31	18.75	140	49.34	2640
87 11 10 4 51	-10	46	10	43511.0	31	16.98	140	49.60	2664
87 11 10 5 1	24	45	-6	43487.0	31	15.21	140	49.87	2721
87 11 10 5 11	70	38	-26	43482.0	31	13.45	140	50.20	2804
87 11 10 5 21	83	56	-11	43488.0	31	11.68	140	50.52	2896
87 11 10 5 31	107	95	-27	43464.0	31	9.96	140	50.85	2973
87 11 10 5 41	134	131	-67	43432.0	31	8.24	140	51.18	2948
87 11 10 5 51	142	92	-97	43404.0	31	6.50	140	51.52	2920
87 11 10 6 1	138	48	-128	43356.0	31	4.76	140	51.84	2708
87 11 10 6 11	115	12	-139	43304.0	31	3.02	140	52.18	2661
87 11 10 6 21	120	57	-182	43253.0	31	1.26	140	52.49	2630
87 11 10 6 31	106	104	-193	43208.0	30	59.51	140	52.83	2623
87 11 10 6 41	100	141	-205	43171.0	30	57.62	140	53.16	2593
87 11 10 6 51	84	123	-174	43139.0	30	55.86	140	53.47	2561
87 11 10 7 1	62	55	-115	43126.0	30	54.13	140	53.81	2558
87 11 10 7 11	43	-11	-56	43112.0	30	52.60	140	54.27	2610
87 11 10 7 21	-1	-50	28	43096.0	30	50.90	140	54.78	2627
87 11 10 7 31	9	-36	70	43120.0	30	49.20	140	55.31	2711
87 11 10 7 41	30	-16	96	43157.0	30	47.46	140	55.86	2745
87 11 10 7 51	58	25	84	43127.0	30	45.63	140	56.43	2781
87 11 10 8 1	23	25	81	43082.0	30	43.83	140	56.99	2808
87 11 10 8 11	13	-8	50	43060.0	30	42.02	140	57.56	2845
87 11 10 8 21	-3	-37	36	43027.0	30	40.17	140	58.00	2855
87 11 10 8 31	27	-29	-8	42988.0	30	38.31	140	58.51	2867
87 11 10 8 41	10	-9	-15	42952.0	30	36.47	140	59.01	2903
87 11 10 8 51	13	14	-35	42920.0	30	34.42	140	59.59	2968
87 11 10 9 1	18	45	-47	42890.0	30	32.55	141	0.08	3094
87 11 10 9 11	41	51	-61	42875.0	30	30.71	141	0.57	3149
87 11 10 9 21	71	37	-95	42863.0	30	28.68	141	1.09	3162
87 11 10 9 31	83	31	-124	42829.0	30	26.83	141	1.55	3266
87 11 10 9 41	72	5	-148	42775.0	30	25.36	141	1.89	3301
87 11 10 9 51	41	-17	-152	42743.0	30	23.53	141	2.36	3330
87 11 10 10 1	-5	-28	-123	42703.0	30	21.66	141	2.83	3370
87 11 10 10 11	-51	47	-37	42666.0	30	19.80	141	3.31	3392
87 11 10 10 11 2	-102	97	74	42677.0	30	17.61	141	4.41	3423
87 11 10 10 11 12	-155	4	172	42671.0	30	15.76	141	4.86	3473
87 11 10 10 11 22	-163	-64	192	42659.0	30	13.91	141	5.33	3456
87 11 10 10 11 32	-135	-201	173	42666.0	30	12.05	141	5.79	3440
87 11 10 10 11 42	-69	-235	135	42679.0	30	10.20	141	6.25	3430
87 11 10 10 11 52	-20	-178	105	42685.0	30	8.35	141	6.65	3414
87 11 10 10 12 2	-10	-99	92	42665.0	30	6.34	141	7.07	3468
87 11 10 10 12 12	-17	-25	73	42642.0	30	4.32	141	7.43	3478
87 11 10 10 12 22	-13	25	50	42624.0	30	2.64	141	7.65	3517
87 11 10 10 12 32	4	54	25	42609.0	30	0.80	141	7.85	3563
87 11 10 10 12 42	43	79	-18	42591.0	29	59.17	141	8.08	3622
87 11 10 10 12 52	43	30	-19	42571.0	29	57.34	141	8.35	3685
87 11 10 10 13 2	56	-24	-21	42552.0	29	55.43	141	8.65	3758
87 11 10 10 13 12	47	-85	-5	42524.0	29	53.60	141	9.02	3818
87 11 10 10 13 22	80	-69	-40	42492.0	29	51.75	141	9.43	3901
87 11 10 10 13 32	104	-21	-80	42468.0	29	49.91	141	9.82	3937
87 11 10 10 13 42	119	-2	-107	42440.0	29	48.07	141	10.19	3989
87 11 10 10 13 52	111	31	-112	42409.0	29	46.25	141	10.63	4014

87	11	10	14	2	74	33	-87	42371.0	29	44.38	141	11.07	4025
87	11	10	14	12	57	62	-94	42330.0	29	42.53	141	11.56	4056
87	11	10	14	22	38	56	-96	42294.0	29	40.65	141	11.99	4039
87	11	10	14	32	17	44	-85	42268.0	29	38.87	141	12.38	3968
87	11	10	14	42	10	35	-78	42248.0	29	36.73	141	12.79	3943
87	11	10	14	52	-13	48	-49	42228.0	29	35.29	141	13.05	3956
87	11	10	15	2	-63	14	12	42214.0	29	33.53	141	13.35	3961
87	11	10	15	12	-100	-5	62	42203.0	29	31.70	141	13.73	3963
87	11	10	15	22	-102	-36	76	42198.0	29	29.91	141	14.05	3961
87	11	10	15	32	-95	-27	80	42189.0	29	28.12	141	14.38	3963
87	11	10	15	42	-102	-27	100	42171.0	29	26.36	141	14.69	3960
87	11	10	15	52	-89	1	101	42155.0	29	24.60	141	14.97	3957
87	11	10	16	2	-68	19	97	42141.0	29	22.82	141	15.26	3959
87	11	10	16	12	-68	-10	114	42127.0	29	21.05	141	15.58	3969
87	11	10	16	51	-7	7	6	42048.0	29	14.28	141	17.16	4001
87	11	10	17	1	13	-21	-17	42036.0	29	12.41	141	17.74	4005
87	11	12	18	26	2	-131	49	40982.0	27	4.87	141	29.72	3982
87	11	12	18	36	-47	-46	107	40958.0	27	3.83	141	28.56	3954
87	11	12	18	46	-52	49	99	40926.0	27	2.45	141	27.06	3928
87	11	12	18	56	-56	6	107	40933.0	27	1.09	141	25.59	3897
87	11	12	19	6	-48	-45	134	40971.0	26	59.73	141	24.06	3847
87	11	12	19	16	-12	-76	143	41007.0	26	58.36	141	22.53	3787
87	11	12	19	26	59	54	108	41041.0	26	56.97	141	21.02	3726
87	11	12	19	36	112	158	23	41065.0	26	55.59	141	19.51	3665
87	11	12	19	46	154	199	-58	40956.0	26	54.19	141	18.01	3508
87	11	12	19	56	188	153	-143	41020.0	26	52.83	141	16.53	3344
87	11	12	20	6	187	103	-230	40992.0	26	51.45	141	15.12	3218
87	11	12	20	16	122	27	-311	40806.0	26	50.12	141	13.71	3052
87	11	12	20	26	37	-73	-294	40766.0	26	48.78	141	12.24	2907
87	11	12	20	36	-2	-148	-245	40841.0	26	47.50	141	10.71	2601
87	11	12	20	46	-40	-175	-232	40829.0	26	46.19	141	9.06	2320
87	11	12	20	56	-246	-205	-179	40649.0	26	44.89	141	7.43	1703
87	11	12	21	6	-386	-98	38	40458.0	26	43.63	141	5.75	961
87	11	12	21	16	-388	-37	163	40982.0	26	42.40	141	4.04	570
87	11	12	21	26	-162	26	218	40860.0	26	41.19	141	2.40	856
87	11	12	21	36	-23	-46	139	41080.0	26	39.98	141	0.77	1262
87	11	12	21	46	125	19	136	41070.0	26	38.79	140	59.09	1337
87	11	12	21	56	191	99	116	41230.0	26	37.43	140	57.65	1402
87	11	12	22	6	296	131	90	41130.0	26	36.02	140	56.29	1412
87	11	12	22	45	-40	-60	54	40963.0	26	36.54	140	53.36	99999
87	11	12	22	55	29	130	-59	41044.0	26	38.26	140	53.29	1233
87	11	12	23	5	44	52	-15	41231.0	26	39.91	140	53.18	1142
87	11	12	23	15	-73	-165	56	40913.0	26	41.62	140	53.13	1264
87	11	12	23	54	-7	36	7	40932.0	26	47.92	140	52.80	2189
87	11	13	0	4	-9	-59	-3	40946.0	26	49.57	140	52.69	2239
87	11	13	0	43	13	-33	-42	41066.0	26	54.47	140	54.97	99999
87	11	13	0	53	-1	-26	-60	41050.0	26	55.16	140	56.36	99999
87	11	13	1	3	-7	36	-14	41065.0	26	55.84	140	57.74	99999
87	11	13	1	13	31	93	33	41095.0	26	56.54	140	59.12	99999
87	11	13	1	23	107	76	71	41179.0	26	57.29	141	0.55	99999
87	11	13	1	33	170	-13	76	41308.0	26	58.04	141	2.00	99999
87	11	13	1	43	128	-85	112	41285.0	26	58.73	141	3.43	99999
87	11	13	1	53	-9	-130	110	41173.0	26	59.45	141	4.86	99999
87	11	13	2	3	-158	-158	47	40946.0	27	0.17	141	6.34	99999
87	11	13	2	13	-231	-123	-81	40743.0	27	0.83	141	7.76	99999
87	11	13	2	23	-210	23	-171	40674.0	27	1.41	141	8.96	99999
87	11	13	2	33	-138	186	-163	40715.0	27	1.90	141	10.03	99999
87	11	13	2	43	-64	246	-97	40832.0	27	2.52	141	11.37	99999
87	11	13	2	53	23	176	-65	40926.0	27	3.20	141	12.78	99999
87	11	13	3	3	84	34	-8	40994.0	27	3.88	141	14.21	99999

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87	11	13	3	13	123	-80	46	41102.0	27	4.59	141	15.73	99999
87	11	13	3	23	105	-155	142	41137.0	27	5.25	141	17.14	99999
87	11	13	4	2	-18	45	43	41068.0	27	7.06	141	22.86	99999
87	11	13	4	12	6	12	-9	41041.0	27	7.24	141	24.88	99999
87	11	13	4	22	13	-66	-35	41029.0	27	7.38	141	26.36	99999
87	11	13	4	32	-4	-37	-6	41022.0	27	7.54	141	27.85	99999
87	11	13	4	42	-2	51	19	41009.0	27	7.71	141	29.39	99999
87	11	13	23	3	65	141	-85	99999.9	29	3.45	141	23.30	99999
87	11	13	23	13	6	46	-11	99999.9	29	2.31	141	24.52	99999
87	11	13	23	23	-58	-28	59	99999.9	29	1.18	141	25.79	99999
87	11	13	23	33	-62	-73	70	99999.9	29	0.07	141	27.06	99999
87	11	13	23	43	-38	-116	38	99999.9	28	58.93	141	28.32	99999
87	11	13	23	53	11	-138	-8	99999.9	28	57.82	141	29.60	99999
87	11	14	0	3	11	-45	-12	99999.9	28	56.59	141	30.99	99999
87	11	14	0	13	12	60	0	99999.9	28	55.48	141	32.16	99999
87	11	14	0	23	11	123	13	99999.9	28	54.24	141	33.35	99999
87	11	14	0	33	51	51	-27	99999.9	28	53.07	141	34.66	99999
87	11	14	0	43	54	-36	-46	99999.9	28	51.81	141	36.06	99999
87	11	14	0	53	45	-42	-68	99999.9	28	50.73	141	37.17	99999
87	11	14	1	3	-34	-16	5	99999.9	28	49.53	141	38.44	99999
87	11	14	1	13	-41	33	27	99999.9	28	48.22	141	39.52	99999
87	11	14	1	23	-33	38	58	99999.9	28	46.93	141	40.64	99999
87	11	14	2	2	-45	-113	20	99999.9	28	45.06	141	46.52	99999
87	11	14	2	12	12	-39	-4	99999.9	28	45.05	141	47.94	99999
87	11	14	2	22	37	29	-28	99999.9	28	45.00	141	49.26	99999
87	11	14	2	32	24	55	-34	99999.9	28	44.95	141	50.56	99999
87	11	14	2	42	8	58	-45	99999.9	28	44.91	141	51.90	99999
87	11	14	2	52	17	33	-48	99999.9	28	44.90	141	53.20	99999
87	11	14	3	2	25	29	-10	99999.9	28	44.91	141	54.45	99999
87	11	14	3	12	28	20	15	99999.9	28	44.89	141	55.72	99999
87	11	14	3	22	6	24	42	99999.9	28	44.90	141	57.06	99999
87	11	14	3	32	-13	39	48	99999.9	28	44.94	141	58.39	99999
87	11	14	3	42	-17	45	53	99999.9	28	44.97	141	59.67	99999
87	11	14	3	52	-14	13	44	99999.9	28	44.98	142	1.02	99999
87	11	14	4	2	-1	-54	-13	99999.9	28	45.00	142	2.33	99999
87	11	14	4	12	-17	-103	-74	99999.9	28	45.01	142	3.65	99999
87	11	14	4	53	-2	-4	-32	99999.9	28	45.32	142	4.30	99999
87	11	14	5	3	-5	-15	19	99999.9	28	45.43	142	3.13	99999
87	11	14	5	13	-6	21	46	99999.9	28	45.59	142	1.95	99999
87	11	14	5	23	7	21	9	99999.9	28	45.73	142	0.76	99999
87	11	14	5	33	-7	-10	-18	99999.9	28	45.89	141	59.62	99999
87	11	14	9	44	-2	29	5	99999.9	28	42.78	141	33.79	3217
87	11	14	9	54	15	-47	-18	99999.9	28	42.49	141	31.98	3230
87	11	14	10	4	-13	60	9	99999.9	28	42.13	141	29.83	3262
87	11	14	11	49	-24	15	30	99999.9	28	38.89	141	11.16	3298
87	11	14	11	59	0	14	13	99999.9	28	38.61	141	9.28	3291
87	11	14	12	9	11	28	-28	99999.9	28	38.22	141	7.41	3259
87	11	14	12	19	14	16	-21	99999.9	28	37.91	141	5.54	3190
87	11	14	12	29	18	2	-50	99999.9	28	37.59	141	3.63	3098
87	11	14	12	39	1.6	-34	-35	99999.9	28	37.22	141	1.58	3006
87	11	14	12	49	0	-63	2	99999.9	28	36.90	140	59.70	2870
87	11	14	12	59	0	-53	13	99999.9	28	36.59	140	58.02	2661
87	11	14	13	9	10	-23	22	99999.9	28	36.26	140	56.01	2566
87	11	14	13	19	11	27	9	99999.9	28	35.98	140	54.37	2346
87	11	14	13	29	-8	43	3	99999.9	28	35.66	140	52.51	2097
87	11	14	20	33	47	-64	-12	99999.9	28	36.10	140	55.17	3225
87	11	14	20	43	59	-34	-15	99999.9	28	36.24	140	56.03	3322
87	11	14	20	53	51	0	-21	99999.9	28	36.44	140	57.02	3404
87	11	14	21	3	61	-1	-57	99999.9	28	36.59	140	57.98	3475
87	11	14	21	13	70	-17	-65	99999.9	28	36.73	140	58.93	3561

87	11	14	21	23	72	-24	-73	99999.9	28	36.93	140	59.93	3651
87	11	14	21	33	65	-33	-72	99999.9	28	37.09	141	0.89	3715
87	11	14	21	43	69	-46	-92	99999.9	28	37.27	141	1.89	3779
87	11	14	21	53	53	16	-74	99999.9	28	37.46	141	2.88	3820
87	11	14	22	3	58	65	-75	99999.9	28	37.59	141	3.88	3870
87	11	14	22	13	4	134	-28	99999.9	28	37.80	141	4.85	3889
87	11	14	22	23	5	90	-18	99999.9	28	37.99	141	5.81	3909
87	11	14	22	33	-24	109	27	99999.9	28	38.14	141	6.78	3945
87	11	14	22	43	-7	61	28	99999.9	28	38.26	141	7.77	3960
87	11	14	22	53	-10	53	22	99999.9	28	38.48	141	8.75	4001
87	11	14	23	3	3	-23	25	99999.9	28	38.69	141	9.69	4021
87	11	14	23	13	1	-31	26	99999.9	28	38.80	141	10.69	4035
87	11	14	23	23	-18	2	48	99999.9	28	38.96	141	11.70	4038
87	11	14	23	33	-64	68	86	99999.9	28	39.17	141	12.67	4037
87	11	14	23	43	-110	137	117	99999.9	28	39.31	141	13.66	4034
87	11	14	23	53	-126	131	127	99999.9	28	39.51	141	14.60	4033
87	11	15	0	3	-82	50	89	99999.9	28	39.69	141	15.56	4038
87	11	15	0	13	-78	-1	84	99999.9	28	39.79	141	16.48	4049
87	11	15	0	23	-34	-66	36	99999.9	28	39.96	141	17.42	4054
87	11	15	0	33	-57	-27	54	99999.9	28	40.11	141	18.34	4076
87	11	15	0	43	-42	-27	35	99999.9	28	40.31	141	19.27	4069
87	11	15	0	53	-47	-33	36	99999.9	28	40.46	141	20.18	4062
87	11	15	1	3	-41	-90	29	99999.9	28	40.64	141	21.16	4075
87	11	15	1	13	-50	-138	23	99999.9	28	40.81	141	22.08	4068
87	11	15	1	23	-39	-168	18	99999.9	28	40.98	141	22.99	4041
87	11	15	1	33	-3	-127	-4	99999.9	28	41.14	141	23.99	4035
87	11	15	1	43	7	-69	8	99999.9	28	41.30	141	24.95	4051
87	11	15	1	53	10	-69	1	99999.9	28	41.48	141	25.97	4048
87	11	15	2	3	-43	-65	53	99999.9	28	41.64	141	26.91	4047
87	11	15	2	13	-49	-81	57	99999.9	28	41.81	141	27.83	4045
87	11	15	2	23	-35	-86	59	99999.9	28	41.97	141	28.79	4034
87	11	15	2	33	-3	-135	5	99999.9	28	42.13	141	29.84	4017
87	11	15	2	43	-40	-115	-8	99999.9	28	42.30	141	30.82	4001
87	11	15	2	53	-38	-120	-61	99999.9	28	42.46	141	31.80	3981
87	11	15	3	3	-55	-42	-55	99999.9	28	42.64	141	32.89	3974
87	11	15	3	13	-33	-2	-76	99999.9	28	42.83	141	33.97	3964
87	11	15	3	23	-50	97	-31	99999.9	28	42.98	141	34.86	3953
87	11	15	3	33	-42	145	-41	99999.9	28	43.17	141	35.85	3936
87	11	15	3	43	-23	168	-32	99999.9	28	43.36	141	36.84	3922
87	11	15	3	53	0	136	-47	99999.9	28	43.50	141	37.68	3915
87	11	15	4	3	27	107	-24	99999.9	28	43.67	141	38.66	3899
87	11	15	4	13	76	97	-29	99999.9	28	43.85	141	39.70	3883
87	11	15	4	23	121	72	-13	99999.9	28	44.03	141	40.70	3862
87	11	15	4	33	149	50	-15	99999.9	28	44.21	141	41.66	3839
87	11	15	4	43	202	-47	-30	99999.9	28	44.35	141	42.67	3829
87	11	15	5	22	-13	116	9	99999.9	28	45.01	141	46.62	99999
87	11	15	5	32	-10	46	22	99999.9	28	45.17	141	47.61	99999
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87	11	15	6	22	0	-61	-54	99999.9	28	46.00	141	52.67	2749
87	11	15	6	32	1	-36	-32	99999.9	28	46.14	141	53.60	2722
87	11	15	6	42	-5	-14	24	99999.9	28	46.31	141	54.61	2518
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87	11	15	9	15	59	-89	85	99999.9	28	45.32	141	48.41	3042
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87 11 15 9 35	5	-29	-19	41889.0	28	44.88	141	46.09	3702
87 11 15 9 45	1	31	-9	41884.0	28	44.71	141	44.90	3809
87 11 15 9 55	-22	67	-8	41886.0	28	44.52	141	43.78	3817
87 11 15 10 5	-64	144	-32	41877.0	28	44.23	141	42.62	3829
87 11 15 10 15	-21	85	-32	41841.0	28	43.91	141	41.47	3845
87 11 15 10 25	27	24	-60	41798.0	28	43.70	141	40.38	3875
87 11 15 10 35	28	-7	-50	41763.0	28	43.69	141	39.20	3895
87 11 15 10 45	-14	-6	-57	41736.0	28	43.47	141	38.05	3915
87 11 15 10 55	-48	30	-72	41718.0	28	43.29	141	36.65	3923
87 11 15 11 5	-51	-21	-75	41707.0	28	43.11	141	35.51	3941
87 11 15 11 15	-66	-17	-89	41704.0	28	42.90	141	34.59	3962
87 11 15 11 25	-25	-72	-56	41712.0	28	42.72	141	33.46	3971
87 11 15 11 35	-11	-86	-17	41729.0	28	42.53	141	32.32	3979
87 11 15 11 45	-15	-51	46	41753.0	28	42.37	141	31.16	3998
87 11 15 11 55	18	-10	44	41778.0	28	42.16	141	30.00	4017
87 11 15 12 5	32	30	80	41802.0	28	41.97	141	28.85	4034
87 11 15 12 15	67	57	87	41820.0	28	41.72	141	27.67	4045
87 11 15 12 56	60	10	-105	41859.0	28	40.87	141	22.78	4040
87 11 15 13 6	24	40	-51	41862.0	28	40.69	141	21.58	4057
87 11 15 13 16	22	39	-43	41866.0	28	40.49	141	20.39	4057
87 11 15 13 26	13	-16	-37	41875.0	28	40.27	141	19.23	4056
87 11 15 13 36	20	-44	-41	41885.0	28	40.06	141	18.09	4056
87 11 15 13 46	23	-66	-21	41893.0	28	39.87	141	16.89	4051
87 11 15 13 56	38	-35	-24	41903.0	28	39.65	141	15.74	4038
87 11 15 14 6	18	-21	1	41914.0	28	39.46	141	14.55	4033
87 11 15 14 16	-14	19	54	41925.0	28	39.28	141	13.45	4036
87 11 15 14 26	-46	38	82	41934.0	28	39.07	141	12.27	4038
87 11 15 14 36	-64	19	103	41940.0	28	38.91	141	11.09	4036
87 11 15 14 46	-72	11	101	41946.0	28	38.66	141	9.90	4026
87 11 15 14 56	-51	17	79	41948.0	28	38.45	141	8.72	3991
87 11 15 15 6	-17	37	32	41951.0	28	38.24	141	7.50	3962
87 11 15 15 16	-11	45	3	41948.0	28	38.04	141	6.29	3929
87 11 15 15 26	-13	9	-4	41947.0	28	37.83	141	5.10	3895
87 11 15 15 36	-18	-12	-11	41947.0	28	37.63	141	3.91	3849
87 11 15 15 46	-12	-15	-33	41956.0	28	37.42	141	2.63	3815
87 11 15 15 56	-22	-10	-34	41964.0	28	37.25	141	1.63	3756
87 11 15 16 6	-13	-17	-32	41982.0	28	37.06	141	0.52	3687
87 11 15 16 16	-20	-8	-3	42000.0	28	36.85	140	59.38	3585
87 11 15 16 26	-10	19	23	42014.0	28	36.63	140	58.25	3489
87 11 15 16 36	17	6	11	42022.0	28	36.44	140	57.16	3406
87 11 15 16 46	41	-28	6	42035.0	28	36.27	140	56.05	3318
87 11 15 16 56	67	-74	-28	42038.0	28	36.06	140	54.97	3197
87 11 15 17 6	67	-65	-20	42048.0	28	35.86	140	53.87	3025
87 11 15 17 16	62	-58	-22	42060.0	28	35.68	140	52.75	2878
87 11 15 17 26	-16	15	32	42037.0	28	35.50	140	51.65	2720
87 11 15 17 36	-30	42	18	41998.0	28	35.34	140	50.55	2605
87 11 15 17 46	-19	52	-21	41990.0	28	35.18	140	49.45	2455
87 11 15 17 56	-6	36	-61	41995.0	28	35.00	140	48.14	2352
87 11 15 18 41	22	-97	-85	42054.0	28	36.31	140	46.87	2184
87 11 15 18 51	8	-65	-29	42089.0	28	37.01	140	47.41	2363
87 11 15 19 1	-2	-42	-6	42100.0	28	37.70	140	47.93	2428
87 11 15 19 11	3	-21	-4	42120.0	28	38.40	140	48.49	2429
87 11 15 19 21	12	20	12	42147.0	28	39.06	140	49.05	2834
87 11 15 19 31	15	16	25	42153.0	28	39.72	140	49.58	2947
87 11 15 19 41	9	82	45	42164.0	28	40.44	140	50.16	2998
87 11 15 19 51	-2	112	50	42179.0	28	41.06	140	50.69	3064
87 11 15 20 1	-21	109	58	42172.0	28	41.72	140	51.27	3214
87 11 15 20 11	-37	54	42	42145.0	28	42.34	140	51.80	3214
87 11 15 20 21	-52	-3	28	42121.0	28	43.10	140	52.47	3322
87 11 15 20 31	-30	-8	-5	42118.0	28	43.64	140	52.95	3330

87	11	15	20	41	-22	5	-6	42119.0	28	44.36	140	53.61	3442	
87	11	15	20	51		9	-3	-20	42129.0	28	44.87	140	54.09	3507
87	11	15	21	1	26	-34	-32	42133.0	28	45.51	140	54.63	3498	
87	11	15	21	11	48	-108	-53	42146.0	28	46.14	140	55.21	3555	
87	11	15	21	50	-50	59	50	42163.0	28	47.03	140	58.11	3718	
87	11	15	22	0	-45	51	41	42155.0	28	46.79	140	59.04	3739	
87	11	15	22	10	-16	-10	17	42144.0	28	46.56	141	0.02	3809	
87	11	15	22	20	1	-8	3	42132.0	28	46.33	141	0.96	3826	
87	11	15	22	30	30	-14	-8	42115.0	28	46.07	141	1.90	3859	
87	11	15	22	40	7	-19	3	42099.0	28	45.80	141	2.82	3922	
87	11	15	22	50	26	-31	-28	42081.0	28	45.56	141	3.76	3897	
87	11	15	23	0	43	-21	-61	42062.0	28	45.29	141	4.67	3888	
87	11	15	23	10	74	-29	-86	42040.0	28	45.02	141	5.56	3922	
87	11	15	23	20	32	-16	-47	42020.0	28	44.74	141	6.51	3945	
87	11	15	23	30	17	-39	-15	42006.0	28	44.45	141	7.34	3951	
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87	11	15	23	50	-37	13	39	41985.0	28	43.86	141	9.13	3983	
87	11	16	0	0	-56	87	75	41964.0	28	43.59	141	10.00	3985	
87	11	16	0	39	16	-4	2	41928.0	28	42.85	141	13.25	4007	
87	11	16	0	49	-1	-62	16	41915.0	28	42.68	141	14.07	4008	
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87	11	16	3	27	-2	3	-27	41853.0	28	41.67	141	24.12	4044	
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87	11	16	3	57	4	16	0	41856.0	28	43.60	141	25.34	4042	
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87	11	16	6	10	34	-30	-22	41854.0	28	43.27	141	25.42	4044	
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87	11	16	6	30	-10	6	6	41858.0	28	41.84	141	24.57	4044	
87	11	16	6	40	-44	30	30	41860.0	28	41.13	141	24.13	4036	
87	11	16	11	46	-54	223	-20	41850.0	28	41.98	141	21.61	4052	
87	11	16	11	56	-57	118	46	41854.0	28	40.99	141	21.70	4055	
87	11	16	12	6	-40	-38	85	41859.0	28	40.01	141	21.86	4055	
87	11	16	12	16	-17	-134	59	41862.0	28	39.04	141	22.09	4056	
87	11	16	12	26	23	-171	4	41857.0	28	38.05	141	22.29	4057	
87	11	16	12	36	23	-119	-22	41850.0	28	37.02	141	22.48	4058	
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87	11	16	13	26	103	5	-119	41779.0	28	31.91	141	23.10	4070	
87	11	16	13	36	49	10	-69	41759.0	28	30.89	141	23.23	4078	
87	11	16	13	46	-31	2	5	41747.0	28	30.25	141	23.29	4083	
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87	11	16	14	6	-51	48	24	41725.0	28	29.34	141	23.20	4092
87	11	16	14	16	-32	31	42	41725.0	28	28.87	141	23.14	4093
87	11	16	14	26	-45	2	81	41716.0	28	28.43	141	23.13	4095
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87	11	16	15	25	-35	22	22	41712.0	28	24.33	141	24.18	4126
87	11	16	15	35	26	-41	-6	41718.0	28	23.52	141	24.35	4134
87	11	16	16	14	-263	79	152	41685.0	28	20.16	141	24.58	4143
87	11	16	16	24	-187	36	121	41673.0	28	19.14	141	24.56	4146
87	11	16	16	35	-86	-63	73	41665.0	28	18.17	141	24.71	4149
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87	11	16	16	55	48	-53	-43	41659.0	28	16.43	141	24.95	4149
87	11	16	17	5	75	-51	-58	41658.0	28	15.84	141	25.00	4154
87	11	16	17	15	28	-19	-28	41658.0	28	14.88	141	25.24	4155
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87	11	16	17	55	68	-175	50	41655.0	28	11.27	141	25.59	4155
87	11	16	18	5	102	-181	7	41648.0	28	10.45	141	25.73	4158
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87	11	16	18	35	118	80	-58	41624.0	28	7.80	141	26.20	4158
87	11	16	18	45	127	131	-110	41609.0	28	6.83	141	26.25	4158
87	11	16	18	55	143	123	-142	41587.0	28	5.65	141	26.30	4158
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87	11	16	19	15	116	79	-103	41536.0	28	3.97	141	26.49	4158
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87	11	16	19	35	1	-31	-16	41495.0	28	2.47	141	26.76	4157
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87	11	16	19	55	-18	74	-53	41458.0	28	0.92	141	26.96	4155
87	11	16	20	5	-48	128	-38	41445.0	28	0.15	141	27.07	4155
87	11	16	20	15	-74	142	-18	41433.0	27	59.38	141	27.14	4156
87	11	16	20	25	-96	139	4	41429.0	27	58.62	141	27.23	4156
87	11	16	20	35	-83	104	1	41421.0	27	57.87	141	27.29	4160
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87	11	16	20	55	-33	74	-28	41404.0	27	56.25	141	27.49	4147
87	11	16	21	5	-33	-35	23	41403.0	27	55.67	141	27.55	4144
87	11	16	21	15	-55	-168	70	41401.0	27	55.22	141	27.60	4144
87	11	16	21	25	-59	-189	74	41404.0	27	54.57	141	27.73	4141
87	11	16	21	35	-89	-138	103	41411.0	27	53.74	141	27.85	4139
87	11	16	21	45	-49	-63	73	41420.0	27	52.90	141	27.93	4142
87	11	16	21	55	1	-27	34	41428.0	27	52.08	141	28.06	4138
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87	11	16	22	15	44	-3	43	41436.0	27	50.40	141	28.16	4137
87	11	16	23	22	-160	31	129	41426.0	27	47.40	141	28.66	4147
87	11	16	23	32	-59	-35	73	41421.0	27	46.86	141	28.62	4143
87	11	16	23	42	-14	-21	38	41407.0	27	45.74	141	28.92	4148
87	11	16	23	52	39	28	-40	41393.0	27	44.79	141	28.89	4151
87	11	17	0	2	62	41	-86	41377.0	27	44.07	141	28.91	4152
87	11	17	0	12	136	-12	-120	41358.0	27	43.16	141	29.03	4149
87	11	17	0	22	120	-20	-95	41342.0	27	42.26	141	29.18	4149
87	11	17	0	32	48	-35	-25	41325.0	27	41.37	141	29.30	4148
87	11	17	0	42	-16	-21	1	41309.0	27	40.48	141	29.47	4146
87	11	17	0	52	-41	0	9	41295.0	27	39.60	141	29.60	4147
87	11	17	1	2	-40	8	19	41280.0	27	38.62	141	29.56	4146
87	11	17	1	12	-40	13	46	41271.0	27	37.69	141	29.70	4142
87	11	17	1	22	-54	15	76	41269.0	27	36.96	141	30.21	4138
87	11	17	2	16	33	195	-102	41279.0	27	32.12	141	30.53	4125
87	11	17	2	26	48	209	-113	41285.0	27	31.18	141	30.60	4119
87	11	17	2	36	91	202	-109	41285.0	27	30.22	141	30.68	4118

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87	11	17	2	46	111	167	-110	41276.0	27	29.26	141	30.80	4114
87	11	17	2	56	118	121	-116	41258.0	27	28.28	141	30.90	4112
87	11	17	3	6	138	86	-140	41236.0	27	27.31	141	31.02	4106
87	11	17	3	16	151	100	-159	41217.0	27	26.37	141	31.18	4101
87	11	17	3	26	133	117	-135	41205.0	27	25.45	141	31.29	4097
87	11	17	3	36	121	143	-121	41200.0	27	24.51	141	31.48	4089
87	11	17	3	46	79	163	-100	41195.0	27	23.55	141	31.63	4082
87	11	17	3	56	79	166	-120	41183.0	27	22.58	141	31.65	4078
87	11	17	4	6	73	131	-105	41165.0	27	21.62	141	31.79	4074
87	11	17	4	16	154	85	-150	41155.0	27	20.65	141	31.93	4070
87	11	17	4	26	187	63	-153	41156.0	27	19.69	141	32.06	4066
87	11	17	4	36	218	65	-177	41157.0	27	18.71	141	32.18	4057
87	11	17	4	46	202	96	-164	41148.0	27	17.74	141	32.29	4051
87	11	17	4	56	217	90	-177	41129.0	27	16.79	141	32.40	4046
87	11	17	5	6	219	42	-171	41106.0	27	15.84	141	32.53	4042
87	11	17	5	16	227	-9	-170	41095.0	27	14.91	141	32.65	4037
87	11	17	5	26	242	-24	-176	41091.0	27	13.95	141	32.80	4034
87	11	17	5	36	242	9	-186	41090.0	27	13.01	141	32.94	4030
87	11	17	5	46	175	-3	-119	41091.0	27	12.06	141	33.10	4026
87	11	17	5	56	96	-44	-48	41073.0	27	11.08	141	33.15	4020
87	11	17	6	6	48	-93	4	41043.0	27	10.10	141	33.26	4017
87	11	17	6	16	27	-130	21	41018.0	27	9.13	141	33.37	4010
87	11	17	6	26	24	-127	14	40996.0	27	8.16	141	33.47	4005
87	11	17	6	36	21	-137	26	40994.0	27	7.17	141	33.61	3998
87	11	17	6	46	13	-118	33	40991.0	27	6.21	141	33.76	3993
87	11	17	6	56	-64	-105	57	40976.0	27	5.11	141	33.94	3987
87	11	17	7	6	-156	-85	75	40948.0	27	4.04	141	34.06	3977
87	11	17	7	16	-209	-46	60	40922.0	27	3.06	141	34.11	3966
87	11	17	7	26	-189	-38	64	40905.0	27	2.27	141	34.17	3957
87	11	17	7	36	-135	-52	59	40909.0	27	1.29	141	34.28	3949
87	11	17	7	46	-127	-54	96	40923.0	27	0.32	141	34.46	3937
87	11	17	7	56	-79	-33	76	40931.0	26	59.34	141	34.56	3924
87	11	17	8	6	-37	-26	65	40927.0	26	58.37	141	34.65	3916
87	11	17	8	16	-19	-42	54	40921.0	26	57.43	141	34.85	3908
87	11	17	8	26	-69	-89	71	40904.0	26	56.48	141	34.97	3901
87	11	17	8	36	-123	-113	86	40878.0	26	55.52	141	35.06	3869
87	11	17	8	46	-154	-114	126	40860.0	26	54.55	141	35.14	3823
87	11	17	8	56	-152	-91	158	40859.0	26	53.61	141	35.23	3799
87	11	17	9	6	-138	-84	180	40871.0	26	52.69	141	35.38	3784
87	11	17	9	16	-110	-101	174	40872.0	26	51.78	141	35.51	3780
87	11	17	9	26	-73	-124	132	40863.0	26	50.84	141	35.62	3774
87	11	17	9	36	-74	-159	120	40848.0	26	49.87	141	35.75	3767
87	11	17	9	46	-82	-177	106	40829.0	26	48.92	141	35.92	3761
87	11	17	9	56	-129	-199	130	40802.0	26	47.95	141	36.03	3751
87	11	17	10	6	-129	-165	104	40773.0	26	46.99	141	36.18	3744
87	11	17	10	16	-133	-125	95	40752.0	26	46.02	141	36.32	3730
87	11	17	10	26	-157	-77	108	40740.0	26	45.03	141	36.43	3720
87	11	17	10	36	-203	-80	144	40731.0	26	44.05	141	36.59	3708
87	11	17	10	46	-304	-114	222	40722.0	26	43.05	141	36.69	3709
87	11	17	10	56	-357	-158	267	40716.0	26	42.06	141	36.80	3691
87	11	17	11	6	-427	-186	351	40720.0	26	41.10	141	36.90	3630
87	11	17	11	16	-429	-171	379	40733.0	26	40.14	141	37.01	3654
87	11	17	11	26	-393	-154	361	40737.0	26	39.19	141	37.13	3654
87	11	17	11	36	-379	-163	336	40730.0	26	38.25	141	37.31	3653
87	11	17	11	46	-401	-198	353	40727.0	26	37.24	141	37.40	3646
87	11	17	11	56	-445	-221	407	40743.0	26	36.11	141	37.50	3642
87	11	17	12	6	-439	-226	440	40766.0	26	35.35	141	37.60	3626
87	11	17	12	16	-396	-216	431	40785.0	26	34.17	141	37.74	3619
87	11	17	12	26	-378	-186	430	40789.0	26	33.29	141	37.83	3615
87	11	17	12	36	-363	-144	421	40778.0	26	32.39	141	37.92	3606

87 11 17 12 46	-361	-138	432	40771.0	26	31.39	141	38.05	3602
87 11 17 12 56	-342	-147	431	40773.0	26	30.37	141	38.16	3594
87 11 17 13 6	-249	-108	360	40773.0	26	29.36	141	38.24	3589
87 11 17 13 16	-200	-10	290	40762.0	26	28.33	141	38.46	3588
87 11 17 13 26	-145	113	188	40749.0	26	27.31	141	38.55	3585
87 11 17 13 36	-62	196	63	40736.0	26	26.29	141	38.64	3581
87 11 17 13 46	139	185	-106	40724.0	26	25.25	141	38.72	3573
87 11 17 13 56	223	153	-188	40716.0	26	24.27	141	38.93	3569
87 11 17 14 6	263	140	-242	40703.0	26	23.29	141	39.05	3564
87 11 17 14 16	249	177	-262	40688.0	26	22.28	141	39.17	3554
87 11 17 14 26	305	246	-316	40674.0	26	21.27	141	39.29	3546
87 11 17 14 36	338	246	-342	40651.0	26	20.26	141	39.43	3536
87 11 17 14 47	359	209	-373	40611.0	26	19.18	141	39.57	3531
87 11 17 14 57	378	114	-396	40576.0	26	18.21	141	39.70	3526
87 11 17 15 7	320	136	-375	40550.0	26	17.23	141	39.85	3520
87 11 17 15 17	301	171	-365	40536.0	26	16.30	141	39.98	3521
87 11 17 15 27	259	219	-348	40524.0	26	15.38	141	40.11	3515
87 11 17 15 37	259	202	-338	40513.0	26	14.50	141	40.26	3503
87 11 17 15 47	238	188	-313	40506.0	26	13.62	141	40.34	3496
87 11 17 15 57	242	141	-284	40504.0	26	12.76	141	40.42	3491
87 11 17 16 7	270	101	-280	40499.0	26	11.87	141	40.51	3482
87 11 17 16 17	270	72	-255	40499.0	26	10.99	141	40.59	3474
87 11 17 16 27	293	44	-247	40498.0	26	10.11	141	40.70	3471
87 11 17 16 37	272	13	-207	40496.0	26	9.26	141	40.83	3465
87 11 17 16 47	265	60	-191	40489.0	26	8.38	141	40.93	3455
87 11 19 0 34	-26	-7	25	42060.0	29	11.44	141	13.16	99999
87 11 19 0 44	22	1	-22	42073.0	29	12.63	141	11.53	99999
87 11 19 0 54	5	12	-7	42084.0	29	13.81	141	9.94	99999
87 11 19 1 4	-14	-8	16	42100.0	29	14.98	141	8.29	99999
87 11 19 2 3	21	26	-3	42204.0	29	20.97	141	0.18	99999
87 11 19 2 13	-46	-37	20	42206.0	29	22.21	140	58.41	99999
87 11 19 2 23	-31	-28	1	42219.0	29	23.46	140	56.60	99999
87 11 19 2 33	14	10	-13	42255.0	29	24.83	140	54.72	99999
87 11 19 3 44	-39	-8	28	42542.0	29	32.59	140	44.35	99999
87 11 19 3 54	-20	-59	2	42575.0	29	33.81	140	42.68	99999
87 11 19 4 4	6	-30	-18	42572.0	29	35.05	140	40.95	99999
87 11 19 4 14	19	39	-17	42600.0	29	36.40	140	39.09	99999
87 11 19 4 24	20	87	10	42652.0	29	37.65	140	37.32	99999
87 11 19 4 34	39	69	6	42690.0	29	38.92	140	35.63	99999
87 11 19 4 44	18	19	5	42711.0	29	40.19	140	33.91	99999
87 11 19 4 54	-29	-72	-6	42682.0	29	41.46	140	32.22	99999
87 11 19 6 7	-184	-62	-35	42537.0	29	50.83	140	22.51	99999
87 11 19 6 17	13	-26	-33	42641.0	29	52.90	140	22.39	99999
87 11 19 6 27	55	13	6	42764.0	29	54.82	140	22.32	99999
87 11 19 6 37	39	33	41	42830.0	29	56.76	140	22.29	99999
87 11 19 6 47	8	40	53	42840.0	29	58.71	140	22.29	99999
87 11 19 6 57	-6	35	16	42880.0	30	0.63	140	22.27	99999
87 11 19 7 7	-21	-14	-9	42873.0	30	2.59	140	22.26	99999
87 11 19 7 17	-9	-50	-65	42916.0	30	4.57	140	22.33	99999
87 11 19 8 17	-8	-45	-30	43020.0	30	16.21	140	23.14	99999
87 11 19 8 27	-9	-49	-35	43042.0	30	17.98	140	23.33	99999
87 11 19 8 37	0	-40	-11	43041.0	30	19.89	140	23.50	99999
87 11 19 8 47	-3	24	12	43031.0	30	21.80	140	23.68	99999
87 11 19 8 57	-10	94	43	43019.0	30	23.71	140	23.82	99999
87 11 19 9 7	13	126	48	43008.0	30	25.82	140	24.08	99999
87 11 19 9 17	53	98	58	43028.0	30	27.80	140	24.23	99999
87 11 19 9 27	31	-26	26	43067.0	30	29.74	140	24.42	99999
87 11 19 9 37	-49	-124	-73	42892.0	30	31.70	140	24.51	99999
87 11 19 10 46	23	7	-20	43188.0	30	44.55	140	23.15	99999
87 11 19 10 56	-9	-12	28	43197.0	30	46.40	140	22.72	99999

202 ISEZAKI, INOKUCHI, ISHIKAWA, ICHIKAWA, TAKAHASHI, INOUE and SUGIMOTO

87	11	19	11	6	-7	9	11	43174.0	30	48.31	140	22.23	99999
87	11	19	11	16	3	9	-13	43193.0	30	50.07	140	21.77	99999
87	11	19	11	26	7	9	-15	43206.0	30	51.82	140	21.37	99999
87	11	19	11	36	-15	-18	-6	43209.0	30	53.52	140	20.92	99999
87	11	19	11	46	-19	-21	-5	43194.0	30	55.31	140	20.48	99999
87	11	19	11	56	-6	-3	7	43221.0	30	57.04	140	20.20	99999
87	11	19	12	6	31	21	21	43297.0	30	58.73	140	19.84	99999
87	11	19	13	4	-4	11	52	43332.0	31	9.14	140	18.46	99999
87	11	19	13	14	-19	-25	-36	43280.0	31	10.94	140	18.22	99999
87	11	19	13	24	21	2	-95	43271.0	31	12.78	140	17.91	99999
87	11	19	13	34	-3	2	-17	43387.0	31	14.58	140	17.66	99999
87	11	19	13	44	0	10	78	43491.0	31	16.56	140	17.35	99999
87	11	19	16	55	-12	2	12	43612.0	31	46.69	140	13.32	99999
87	11	19	17	5	20	-18	-23	43664.0	31	48.49	140	13.10	99999
87	11	19	17	15	19	-9	-22	43716.0	31	50.31	140	12.88	99999
87	11	19	17	25	-23	15	26	43771.0	31	52.15	140	12.67	99999
87	11	19	18	14	45	44	32	43819.0	32	0.86	140	11.32	99999
87	11	19	18	24	-23	1	16	43768.0	32	2.68	140	11.02	99999
87	11	19	18	34	-46	-57	-6	43742.0	32	4.52	140	10.69	99999
87	11	19	18	44	-49	-54	4	43773.0	32	6.58	140	10.33	99999
87	11	19	18	54	-11	-13	-11	43805.0	32	8.47	140	10.01	99999
87	11	19	19	4	29	44	-34	43835.0	32	10.38	140	9.70	99999
87	11	19	19	14	43	30	-45	43864.0	32	12.32	140	9.50	99999
87	11	19	19	24	54	12	-46	43887.0	32	14.24	140	9.25	99999
87	11	19	19	34	-12	-37	17	43906.0	32	16.16	140	9.04	99999
87	11	19	19	44	-15	0	28	43916.0	32	18.07	140	8.88	99999
87	11	19	19	54	-29	9	43	43932.0	32	19.97	140	8.74	99999
87	11	19	20	44	-145	-138	82	44115.0	32	29.48	140	7.10	99999
87	11	19	20	54	-52	-46	15	44144.0	32	31.48	140	6.87	99999
87	11	19	21	4	50	49	-39	44185.0	32	33.48	140	6.61	99999
87	11	19	21	14	121	123	-56	44262.0	32	35.46	140	6.38	99999
87	11	19	21	24	105	95	-27	44314.0	32	37.46	140	6.18	99999
87	11	19	21	34	46	29	-4	44289.0	32	39.60	140	5.92	99999
87	11	19	21	44	-15	-21	-11	44287.0	32	41.56	140	5.69	99999
87	11	19	21	54	-22	-17	-22	44238.0	32	43.54	140	5.43	99999
87	11	19	22	4	-28	-3	13	44300.0	32	45.49	140	5.18	99999
87	11	19	22	14	10	20	19	44381.0	32	47.44	140	4.82	99999
87	11	19	22	24	-15	-18	18	44372.0	32	49.40	140	4.51	99999
87	11	19	22	34	-71	-89	16	44317.0	32	51.32	140	4.14	99999
87	11	19	23	33	0	4	-6	44456.0	33	1.71	140	0.81	99999
87	11	19	23	43	-42	-25	58	44532.0	33	3.40	139	59.89	99999
87	11	19	23	53	-75	-13	102	44561.0	33	5.04	139	58.95	99999
87	11	20	0	3	8	3	-15	44577.0	33	6.56	139	58.06	99999
87	11	20	0	13	53	3	-92	44558.0	33	8.29	139	57.22	99999
87	11	20	0	23	57	-2	-87	44618.0	33	9.87	139	56.78	99999
87	11	20	0	33	-9	3	26	44678.0	33	11.49	139	56.24	99999
87	11	20	2	5	-404	-127	25	45096.0	33	27.09	139	51.47	99999
87	11	20	2	15	-26	-49	-18	45237.0	33	28.85	139	50.96	99999
87	11	20	2	25	200	60	-40	45528.0	33	30.59	139	50.46	99999
87	11	20	2	35	204	102	5	45359.0	33	32.29	139	49.97	99999
87	11	20	2	45	-2	63	74	45275.0	33	33.92	139	49.38	99999
87	11	20	2	55	-156	-40	74	45175.0	33	35.51	139	48.68	99999
87	11	20	3	5	-42	-119	-179	45030.0	33	37.09	139	47.92	99999
87	11	20	6	41	-79	-106	-54	45518.0	34	7.46	139	43.17	99999
87	11	20	6	51	52	-58	-48	45589.0	34	8.92	139	42.99	99999
87	11	20	7	1	140	124	2	45603.0	34	10.27	139	42.75	99999
87	11	20	7	11	111	170	67	45598.0	34	11.49	139	42.19	99999
87	11	20	7	21	33	105	107	45593.0	34	12.94	139	41.51	99999
87	11	20	7	31	-26	-37	32	45544.0	34	14.72	139	40.74	99999
87	11	20	7	41	-78	-93	-56	45391.0	34	16.47	139	40.14	99999

87	11	20	11	47	22	7	-61	45534.0	34	56.37	139	40.00	99999
87	11	20	11	57	-7	8	-1	45517.0	34	58.05	139	41.14	99999
87	11	20	12	7	-8	-12	33	45604.0	34	59.78	139	42.32	99999
87	11	20	12	17	2	-31	18	45543.0	35	1.41	139	43.45	99999
87	11	20	12	27	-4	24	-32	45462.0	35	3.00	139	44.63	99999

PART II

Geomagnetic data obtained by research vessel TOKAI DAIGAKUMARU NISEI
during the cruise DELP 1987

(sheets of data list follow)

87 11	6 7 23	-20	62	15	42120.0	29	18.47	141	14.34	3977
87 11	6 7 33	8	-10	-2	42109.0	29	17.37	141	15.11	3985
87 11	6 7 43	10	-32	-10	42094.0	29	16.36	141	15.78	3989
87 11	6 7 53	-8	-1	3	42084.0	29	15.47	141	16.44	3994
87 11	6 8 32	88	108	-7	42039.0	29	10.86	141	18.64	4007
87 11	6 8 42	9	110	-1	42027.0	29	9.64	141	18.84	4005
87 11	6 8 52	-82	69	1	42025.0	29	8.36	141	19.02	4007
87 11	6 9 2	-110	19	3	42030.0	29	7.14	141	19.10	4009
87 11	6 9 12	-62	-10	12	42031.0	29	5.86	141	19.12	4010
87 11	6 9 22	25	-50	6	42032.0	29	4.66	141	19.24	4041
87 11	6 9 32	61	-108	-7	42025.0	29	3.52	141	19.44	4039
87 11	6 9 42	58	-178	-11	42061.0	29	2.50	141	19.64	4034
87 11	6 9 52	41	-200	-6	42028.0	29	1.06	141	19.84	4030
87 11	6 10 2	47	-163	-7	42064.0	28	59.86	141	20.04	4054
87 11	6 10 12	39	-8	-3	42021.0	28	58.66	141	20.24	4050
87 11	6 10 22	.13	153	-2	42004.0	28	57.46	141	20.44	4042
87 11	6 10 32	-5	208	4	42003.0	28	56.24	141	20.62	4039
87 11	6 10 42	-10	125	1	41879.0	28	54.96	141	20.74	4059
87 11	6 10 52	-3	29	5	41994.0	28	53.74	141	20.94	4052
87 11	6 11 2	-13	-1	8	41983.0	28	52.44	141	21.14	4045
87 11	6 11 12	-19	12	21	41933.0	28	51.14	141	21.32	4041
87 11	6 11 22	-17	6	6	41932.0	28	49.84	141	21.44	4035
87 11	6 11 32	-15	-24	-8	41874.0	28	48.54	141	21.62	4036
87 11	6 11 42	-11	-57	-17	41942.0	28	47.24	141	21.72	4040
87 11	6 13 10	-16	-109	30	41848.0	28	36.40	141	23.00	4057
87 11	6 13 20	48	-16	29	41837.0	28	35.20	141	23.10	99999
87 11	6 13 30	64	-23	14	41743.0	28	34.00	141	23.30	4059
87 11	6 13 40	56	-99	1	41805.0	28	32.80	141	23.50	4061
87 11	6 13 50	25	-207	-9	41777.0	28	31.60	141	23.70	4068
87 11	6 14 0	-19	-189	-38	41757.0	28	30.30	141	23.90	4080
87 11	6 14 10	-39	-33	-45	41649.0	28	29.10	141	24.00	4090
87 11	6 14 20	-50	177	-44	41704.0	28	27.80	141	20.20	4091
87 11	6 14 30	-58	265	-2	41661.0	28	26.50	141	24.30	4097
87 11	6 14 40	-57	205	12	41574.0	28	25.30	141	24.40	4120
87 11	6 14 50	-39	107	26	41701.0	28	23.90	141	24.60	4133
87 11	6 15 0	-18	54	13	41669.0	28	22.70	141	24.80	4134
87 11	6 15 10	-9	63	-2	41694.0	28	21.30	141	25.00	4138
87 11	6 15 20	-8	113	-7	41666.0	28	20.00	141	25.20	4141
87 11	6 15 30	-7	155	-10	41645.0	28	18.80	141	25.40	4147
87 11	6 15 40	4	167	0	41642.0	28	17.40	141	25.50	4149
87 11	6 15 50	13	49	3	41643.0	28	16.10	141	25.70	4150
87 11	6 16 0	25	-117	10	41522.0	28	14.80	141	25.80	4147
87 11	6 16 10	35	-311	6	41643.0	28	13.40	141	26.10	4149
87 11	6 16 20	64	-384	2	41644.0	28	12.10	141	26.30	4152
87 11	6 17 3	-155	309	-52	41553.0	28	6.41	141	27.26	4156
87 11	6 17 13	-212	348	-79	41565.0	28	5.08	141	27.43	4153
87 11	6 17 23	-280	235	-97	41532.0	28	3.68	141	27.53	4158
87 11	6 17 33	-303	39	-115	41490.0	28	2.28	141	27.63	4155
87 11	6 17 43	-312	-111	-109	41454.0	28	0.88	141	27.73	4155
87 11	6 17 53	-305	-193	-99	41441.0	27	59.48	141	27.80	4154
87 11	6 18 3	-270	-216	-84	41415.0	27	58.68	141	27.80	4158
87 11	6 18 13	-245	-165	-65	41318.0	27	58.11	141	27.80	4156
87 11	6 18 23	-232	-52	-46	41387.0	27	55.38	141	27.80	4141
87 11	6 18 33	-232	112	-27	41395.0	27	54.01	141	27.80	4138
87 11	6 18 43	-223	212	-8	41366.0	27	52.59	141	27.77	4146
87 11	6 18 53	-151	167	18	41410.0	27	51.10	141	27.70	4142
87 11	6 19 3	-52	26	45	41389.0	27	50.01	141	27.70	4136
87 11	6 19 13	64	-102	61	41379.0	27	48.74	141	27.73	4133
87 11	6 19 23	125	-128	61	41380.0	27	47.54	141	27.80	4143
87 11	6 19 33	144	-132	62	41420.0	27	46.31	141	27.86	4142

87	11	6	19	43	155	-164	56	41396.0	27	45.04	141	28.03	4140
87	11	6	19	53	151	-144	43	41368.0	27	43.84	141	28.16	4148
87	11	6	20	3	163	-31	40	41360.0	27	42.61	141	28.33	4150
87	11	6	20	13	186	105	47	41334.0	27	41.34	141	28.46	4148
87	11	6	20	23	209	130	69	41321.0	27	40.14	141	28.66	4145
87	11	6	20	33	236	79	76	41258.0	27	38.94	141	28.89	4142
87	11	6	20	43	240	-42	89	41288.0	27	37.77	141	29.13	4146
87	11	6	20	53	235	-75	98	41194.0	27	36.61	141	29.29	4137
87	11	6	21	3	195	-31	107	41250.0	27	35.34	141	29.56	4137
87	11	6	21	13	165	111	108	41275.0	27	34.11	141	29.79	4131
87	11	6	21	23	161	157	109	41280.0	27	32.81	141	30.06	4126
87	11	6	21	33	190	119	98	41288.0	27	31.51	141	30.11	4121
87	11	6	21	43	213	34	85	41284.0	27	30.24	141	30.14	4118
87	11	6	21	53	211	-27	70	41269.0	27	29.01	141	30.55	4114
87	11	6	22	3	188	28	55	41199.0	27	27.71	141	30.50	4111
87	11	6	22	13	170	114	41	41228.0	27	26.44	141	31.26	4102
87	11	6	22	23	153	189	45	41213.0	27	25.21	141	31.46	4094
87	11	6	22	33	148	115	48	41204.0	27	23.97	141	31.69	4083
87	11	6	22	43	153	20	45	41190.0	27	22.84	141	31.66	4078
87	11	6	22	53	144	-98	31	41173.0	27	21.61	141	30.86	4072
87	11	6	23	3	97	-174	26	41155.0	27	20.34	141	30.96	4068
87	11	6	23	13	53	-227	22	41154.0	27	19.14	141	32.53	4060
87	11	6	23	23	36	-214	1	41106.0	27	17.97	141	32.66	4055
87	11	6	23	33	51	-159	-10	41132.0	27	16.84	141	32.86	4044
87	11	6	23	43	62	-127	-17	41112.0	27	15.64	141	33.03	4038
87	11	6	23	53	64	-129	-4	41103.0	27	14.44	141	33.16	4036
87	11	7	0	3	70	-156	-6	41095.0	27	13.21	141	33.36	4032
87	11	7	0	13	68	-184	-19	41084.0	27	11.94	141	33.56	4025
87	11	7	0	23	49	-130	-46	41076.0	27	10.71	141	33.73	4020
87	11	7	0	33	21	-22	-80	41046.0	27	9.41	141	33.86	4014
87	11	7	0	43	7	116	-98	41019.0	27	8.14	141	34.03	4009
87	11	7	0	53	-7	144	-119	40945.0	27	7.12	141	34.13	4002
87	11	7	1	3	-39	61	-130	40946.0	27	6.40	141	34.29	3997
87	11	7	1	13	-79	-59	-129	40939.0	27	5.34	141	34.53	3987
87	11	7	1	23	-91	-124	-126	40956.0	27	3.90	141	34.57	3980
87	11	7	1	33	-104	-8	-111	40930.0	27	2.41	141	34.56	3967
87	11	7	1	43	-111	140	-100	40873.0	27	1.87	141	34.73	3955
87	11	7	1	53	-121	225	-71	40801.0	27	0.83	141	34.86	3942
87	11	7	2	3	-110	118	-64	40890.0	26	59.87	141	35.03	3929
87	11	7	2	13	-94	-33	-48	40862.0	26	58.74	141	35.13	3916
87	11	7	2	23	-63	-115	-41	40934.0	26	57.57	141	35.26	3907
87	11	7	2	33	-31	-108	-42	40824.0	26	56.44	141	35.43	3882
87	11	7	2	43	22	-44	-29	40798.0	26	55.12	141	35.56	3839
87	11	7	2	53	67	-64	1	40811.0	26	53.79	141	35.76	3801
87	11	7	3	3	117	-104	30	40874.0	26	52.97	141	35.99	3784
87	11	7	3	13	145	-172	36	40868.0	26	51.87	141	36.26	3777
87	11	7	3	23	155	-204	46	40774.0	26	50.74	141	36.49	3766
87	11	7	3	33	151	-177	28	40791.0	26	49.57	141	36.76	3758
87	11	7	3	43	64	-93	-6	40793.0	26	48.47	141	36.96	3747
87	11	7	3	53	-30	3	-44	40761.0	26	47.34	141	37.16	3737
87	11	7	4	3	-100	67	-54	40749.0	26	46.14	141	37.33	3719
87	11	7	4	13	-127	68	-42	40725.0	26	44.94	141	37.43	3706
87	11	7	4	23	-138	105	-16	40691.0	26	43.77	141	37.53	3700
87	11	7	4	33	-143	131	8	40723.0	26	42.67	141	37.63	3669
87	11	7	4	43	-123	129	27	40734.0	26	40.94	141	37.82	3650
87	11	7	4	53	-102	69	40	40735.0	26	38.31	141	38.13	3652
87	11	7	5	3	-97	-23	61	40683.0	26	37.91	141	38.26	3634
87	11	7	5	13	-90	-81	97	40698.0	26	37.81	141	38.46	3630
87	11	7	5	23	-73	-115	133	40770.0	26	34.38	141	38.63	3616
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87 11	7 5 43	-20	82	133	40777.0	26	31.71	141	38.96	3604
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87 11	7 6 23	-74	-103	15	40742.0	26	26.38	141	39.50	3579
87 11	7 6 33	-73	-91	-11	40690.0	26	25.01	141	39.50	3572
87 11	7 6 43	-83	-40	-33	40723.0	26	23.68	141	39.50	3565
87 11	7 6 53	-41	22	-37	40691.0	26	22.28	141	39.47	3560
87 11	7 7 3	17	64	-47	40630.0	26	20.85	141	39.40	3545
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87 11	7 7 23	13	169	-80	40590.0	26	17.98	141	39.40	3526
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87 11	7 10 0	99999	99999	99999	40413.0	26	14.30	141	36.00	3501
87 11	7 10 10	99999	99999	99999	40534.0	26	15.60	141	34.70	3509
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87 11	7 10 30	99999	99999	99999	40622.0	26	18.20	141	32.20	3509
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87 11	7 11 30	99999	99999	99999	40735.0	26	25.90	141	25.40	3453
87 11	7 11 40	99999	99999	99999	40795.0	26	27.20	141	24.20	3423
87 11	7 11 50	99999	99999	99999	40675.0	26	28.60	141	23.10	3395
87 11	7 12 0	99999	99999	99999	40816.0	26	29.90	141	22.00	3382
87 11	7 12 10	99999	99999	99999	40643.0	26	31.30	141	20.90	3333
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87 11	7 12 50	99999	99999	99999	40826.0	26	37.00	141	16.50	2887
87 11	7 13 0	99999	99999	99999	40620.0	26	38.40	141	15.40	2873
87 11	7 13 10	99999	99999	99999	40691.0	26	39.90	141	14.30	2852
87 11	7 13 20	99999	99999	99999	40684.0	26	41.20	141	13.20	2633
87 11	7 13 30	99999	99999	99999	40661.0	26	42.70	141	12.10	2430
87 11	7 13 40	99999	99999	99999	40708.0	26	44.10	141	11.00	2318
87 11	7 13 50	99999	99999	99999	40785.0	26	45.60	141	9.80	2223
87 11	7 14 0	99999	99999	99999	40899.0	26	47.00	141	8.60	2358
87 11	7 14 10	99999	99999	99999	41026.0	26	48.50	141	7.40	2334
87 11	7 14 20	99999	99999	99999	40976.0	26	49.90	141	6.20	2401
87 11	7 14 30	99999	99999	99999	40982.0	26	51.30	141	5.00	2513
87 11	7 14 40	99999	99999	99999	41060.0	26	52.40	141	3.80	2615
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87 11	7 15 30	99999	99999	99999	41270.0	27	0.20	140	58.70	99999
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87 11	7 16 10	99999	99999	99999	41577.0	27	6.40	140	54.50	2040
87 11	7 16 20	99999	99999	99999	41699.0	27	7.90	140	53.50	1490
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87	11	7	20	58	99999	99999	99999	41284.0	27	26.88	140	42.00	2621
87	11	7	21	8	99999	99999	99999	41302.0	27	28.62	140	41.10	2677
87	11	7	21	18	99999	99999	99999	41302.0	27	29.40	140	40.02	2078
87	11	7	21	28	99999	99999	99999	41526.0	27	30.46	140	39.00	2266
87	11	7	21	38	99999	99999	99999	41378.0	27	31.66	140	37.98	2562
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87 11	8 9 46	99999	99999	99999	41810.0	28	31.26	140	37.00	2577
87 11	8 9 56	99999	99999	99999	41740.0	28	31.36	140	38.50	2083
87 11	8 10 6	99999	99999	99999	41856.0	28	31.46	140	40.06	1569
87 11	8 10 16	99999	99999	99999	41657.0	28	31.56	140	41.60	1816
87 11	8 10 26	99999	99999	99999	41489.0	28	31.66	140	43.16	1990
87 11	8 10 36	99999	99999	99999	41493.0	28	31.82	140	44.76	1782
87 11	8 10 46	99999	99999	99999	41392.0	28	31.96	140	46.36	1969
87 11	8 11 25	36	53	-47	41258.0	28	32.35	140	52.15	2933
87 11	8 11 35	14	44	10	41803.0	28	32.50	140	53.65	3125
87 11	8 11 45	-21	-26	53	41383.0	28	32.65	140	55.15	3260
87 11	8 11 55	-36	-79	43	41598.0	28	32.80	140	56.65	3434
87 11	8 12 5	-24	-69	18	41925.0	28	33.00	140	58.20	3547
87 11	8 12 15	-12	-8	-20	41697.0	28	33.20	140	59.85	3635
87 11	8 12 25	9	30	-43	41706.0	28	33.45	141	1.50	3727
87 11	8 12 35	13	33	-44	41514.0	28	33.70	141	3.15	3799
87 11	8 12 45	18	26	-3	41799.0	28	33.90	141	4.85	3887
87 11	8 12 55	12	-21	65	41770.0	28	34.10	141	6.55	3931
87 11	8 15 24	99999	99999	99999	41774.0	28	36.10	141	23.08	4059
87 11	8 15 34	99999	99999	99999	41798.0	28	36.10	141	23.74	4058
87 11	8 17 35	-68	18	18	41634.0	28	35.45	141	23.40	4058
87 11	8 17 45	12	-3	7	41569.0	28	35.15	141	21.78	4062
87 11	8 17 55	60	-2	-29	41603.0	28	34.85	141	19.74	4068
87 11	8 18 5	17	-23	-17	41748.0	28	34.55	141	17.76	4062
87 11	8 18 15	-56	21	29	41769.0	28	34.25	141	15.66	4059
87 11	8 20 9	32	-26	39	41617.0	28	35.19	141	17.04	4055
87 11	8 20 19	4	-82	5	41339.0	28	35.29	141	18.30	4060
87 11	8 20 29	4	-62	-8	41427.0	28	35.57	141	19.68	4064
87 11	8 20 39	30	-18	-48	41212.0	28	35.60	141	20.88	4066
87 11	8 20 49	15	24	-26	41413.0	28	35.78	141	22.14	4061
87 11	8 20 59	5	58	-37	41445.0	28	35.98	141	23.46	4057
87 11	8 21 9	-22	75	-9	41303.0	28	36.18	141	24.66	4055
87 11	8 21 19	-40	94	-4	41223.0	28	36.38	141	25.98	4052
87 11	8 21 29	-45	61	19	99999.9	28	36.58	141	27.30	4046
87 11	8 21 39	-46	27	31	41419.0	28	36.78	141	28.56	4048
87 11	8 21 49	-36	-16	21	41236.0	28	36.98	141	29.88	4024
87 11	8 21 59	-17	-37	17	41393.0	28	37.18	141	31.08	4009
87 11	8 22 9	0	-34	18	41562.0	28	37.47	141	32.34	3990
87 11	8 22 19	30	-35	13	41225.0	28	37.59	141	33.66	3972
87 11	8 22 29	96	-41	-58	41644.0	28	37.78	141	34.86	3946
87 11	9 0 30	-43	84	46	41236.0	28	39.60	141	51.00	2068
87 11	9 0 40	-29	88	52	41184.0	28	40.00	141	50.52	2054
87 11	9 0 50	3	84	42	41080.0	28	39.90	141	53.82	1683
87 11	9 1 0	47	63	-2	41534.0	28	40.10	141	55.20	1736
87 11	9 1 10	77	40	-16	41286.0	28	40.30	141	56.58	2010
87 11	9 1 20	103	21	-27	41473.0	28	40.50	141	57.78	2152
87 11	9 1 30	102	3	5	41155.0	28	40.70	141	59.22	2524
87 11	9 1 40	96	-30	16	41207.0	28	40.80	142	0.48	2726
87 11	9 1 50	90	-63	23	41441.0	28	41.00	142	1.80	2716
87 11	9 2 0	97	-93	-11	41267.0	28	40.90	142	3.48	2642
87 11	9 2 10	107	-107	-63	41349.0	28	41.00	142	4.68	2056
87 11	9 2 20	80	-87	-94	41029.0	28	41.20	142	6.00	2233
87 11	9 2 30	57	-62	-107	41120.0	28	41.80	142	7.62	2385
87 11	9 2 40	25	-44	-104	41031.0	28	41.90	142	8.82	2533
87 11	9 2 50	11	-49	-123	41254.0	28	42.10	142	10.08	2588
87 11	9 3 0	0	-26	-141	41232.0	28	42.20	142	11.40	2607

87	11	9	3	10	0	-21	-149	41253.0	28	42.40	142	12.78	2598
87	11	9	3	20	-25	-3	-113	41309.0	28	42.80	142	13.98	2439
87	11	9	3	30	-77	40	-37	41067.0	28	43.00	142	15.42	2572
87	11	9	3	40	-158	83	54	41073.0	28	43.20	142	16.62	2820
87	11	9	3	50	-164	69	77	41267.0	28	43.40	142	17.88	2909
87	11	9	4	0	-189	17	93	41161.0	28	43.60	142	19.20	3013
87	11	9	4	10	-156	-1	72	41131.0	28	43.20	142	20.70	3151
87	11	9	4	20	-147	24	66	41198.0	28	43.40	142	22.08	3341
87	11	9	4	30	-160	53	96	41110.0	28	43.50	142	23.40	3644
87	11	9	4	40	-196	35	141	41077.0	28	43.70	142	24.60	3934
87	11	9	4	50	-205	-10	153	41299.0	28	43.80	142	25.80	4050
87	11	9	5	0	-118	-82	121	41134.0	28	44.00	142	27.18	4085
87	11	9	5	10	-19	-97	98	41204.0	28	44.10	142	28.38	4309
87	11	9	5	20	73	-74	81	41482.0	28	44.20	142	29.70	4377
87	11	9	5	30	97	-30	72	40879.0	28	44.20	142	31.02	4395
87	11	9	5	40	128	-32	45	41405.0	28	44.30	142	32.22	4399
87	11	9	5	50	106	-40	40	41374.0	28	44.30	142	33.60	4384
87	11	9	6	0	39	-21	20	41346.0	28	44.40	142	34.80	4352
87	11	9	6	10	-79	15	35	41029.0	28	44.50	142	36.12	4408
87	11	9	6	20	-115	39	37	41266.0	28	44.70	142	37.38	99999
87	11	9	6	30	-50	20	15	41426.0	28	44.90	142	38.82	99999
87	11	9	6	40	6	6	-34	40983.0	28	45.00	142	40.20	99999
87	11	9	6	50	4	-13	-46	41447.0	28	45.20	142	41.52	99999
87	11	9	7	0	36	9	-51	41215.0	28	45.30	142	42.90	99999
87	11	9	7	10	94	47	-95	41209.0	28	45.40	142	44.22	6337
87	11	9	7	20	169	82	-118	40832.0	28	45.60	142	45.48	6510
87	11	9	7	30	167	66	-112	41319.0	28	45.70	142	46.92	6676
87	11	9	7	40	93	-4	-62	41400.0	28	45.80	142	48.18	6893
87	11	9	8	19	99999	99999	99999	99999.0	28	44.49	142	51.12	7237
87	11	9	8	29	99999	99999	99999	41500.0	28	43.77	142	50.76	7219
87	11	9	8	39	99999	99999	99999	41460.0	28	43.70	142	50.88	7212
87	11	9	8	49	99999	99999	99999	41497.0	28	44.15	142	50.88	7198
87	11	9	9	46	303	-105	123	41220.0	28	35.94	142	52.50	7122
87	11	9	9	56	260	-91	57	41084.0	28	34.40	142	53.40	7277
87	11	9	10	6	92	-52	6	41213.0	28	32.78	142	54.18	7245
87	11	9	10	16	-70	-4	-29	41235.0	28	31.08	142	54.72	7266
87	11	9	10	26	-150	43	-38	41060.0	28	29.38	142	55.20	99999
87	11	9	10	36	-150	61	-29	41176.0	28	27.68	142	55.68	99999
87	11	9	10	46	-140	31	-39	41134.0	28	25.98	142	56.16	99999
87	11	9	10	56	-133	6	-24	41088.0	28	24.28	142	56.58	7273
87	11	9	11	6	-94	15	-25	41216.0	28	22.58	142	57.12	7073
87	11	9	11	16	-60	58	-13	40983.0	28	20.88	142	57.54	6945
87	11	9	11	26	-26	57	-11	41259.0	28	19.18	142	58.02	6542
87	11	9	11	36	-16	23	3	41092.0	28	17.48	142	58.44	6479
87	11	9	11	46	15	-4	3	41076.0	28	15.78	142	58.86	6402
87	11	9	11	56	36	18	-8	41139.0	28	14.14	142	59.28	6327
87	11	9	12	6	49	35	0	41083.0	28	12.48	142	59.76	6303
87	11	9	12	16	44	47	13	40363.0	28	10.84	143	0.24	6353
87	11	9	12	26	46	14	11	41107.0	28	9.18	143	0.78	6329
87	11	9	12	36	34	-45	8	41015.0	28	7.48	143	1.32	6243
87	11	9	12	46	39	-76	4	41115.0	28	5.78	143	1.80	5892
87	11	9	12	56	33	-82	36	41027.0	28	4.14	143	2.22	5622
87	11	9	13	41	-137	-77	201	40949.0	27	56.43	143	2.58	99999
87	11	9	13	51	-109	-61	192	40904.0	27	54.73	143	4.86	6212
87	11	9	14	1	-89	-57	177	40997.0	27	53.03	143	5.22	6073
87	11	9	14	11	-63	-18	162	40969.0	27	51.34	143	5.76	6178
87	11	9	14	21	-57	-26	171	41032.0	27	49.73	143	6.24	6512
87	11	9	14	31	-48	-37	174	40918.0	27	48.03	143	6.66	6504
87	11	9	14	41	-37	-58	178	40953.0	27	46.34	143	7.02	6495
87	11	9	14	51	-21	-37	170	40987.0	27	44.73	143	7.44	6489

87 11	9 15 1	6	13	166	40936.0	27	43.04	143	7.92	6717
87 11	9 15 11	37	79	134	40893.0	27	41.44	143	8.34	6894
87 11	9 15 21	63	110	110	40915.0	27	39.83	143	8.64	6992
87 11	9 15 31	70	89	77	40806.0	27	38.14	143	9.12	7023
87 11	9 15 41	66	16	64	40968.0	27	36.53	143	9.54	7148
87 11	9 15 51	68	-23	57	40904.0	27	34.84	143	9.84	99999
87 11	9 16 1	99	-35	81	40881.0	27	33.24	143	10.38	7553
87 11	9 16 11	131	-47	109	40744.0	27	31.64	143	10.86	7474
87 11	9 16 21	136	-51	124	40821.0	27	30.04	143	11.34	7903
87 11	9 16 31	121	-29	90	40668.0	27	28.44	143	11.76	7823
87 11	9 16 41	116	15	45	40760.0	27	26.83	143	12.36	7846
87 11	9 16 51	122	84	11	40771.0	27	25.15	143	12.84	99999
87 11	9 17 1	135	121	-2	40571.0	27	23.64	143	13.32	8042
87 11	9 17 11	125	93	3	40644.0	27	22.04	143	13.74	7995
87 11	9 17 21	106	31	13	40674.0	27	20.44	143	14.28	8076
87 11	9 17 31	110	11	11	40591.0	27	18.84	143	15.24	8108
87 11	9 17 41	125	-1	4	40663.0	27	17.24	143	18.96	8453
87 11	9 17 51	141	-3	-4	40560.0	27	15.63	143	15.84	8418
87 11	9 18 1	129	-6	-12	40678.0	27	13.94	143	16.32	8464
87 11	9 18 11	115	2	-7	40638.0	27	12.35	143	16.74	8517
87 11	9 18 21	119	-25	-5	40680.0	27	10.84	143	17.28	8742
87 11	9 18 31	145	-53	-24	40683.0	27	9.35	143	17.76	8824
87 11	9 18 41	166	-95	-54	40611.0	27	8.64	143	18.36	8734
87 11	9 18 51	153	-98	-99	40571.0	27	6.15	143	18.84	8726
87 11	9 19 1	106	-72	-132	40563.0	27	4.65	143	19.32	8723
87 11	9 19 11	66	-36	-160	40439.0	27	3.14	143	19.74	8734
87 11	9 19 21	42	-30	-170	40446.0	27	1.55	143	20.28	8586
87 11	9 19 31	44	-19	-181	40376.0	27	0.05	143	20.76	8416
87 11	9 19 41	31	-26	-197	40305.0	26	58.55	143	21.12	8297
87 11	9 19 51	2	-35	-218	40378.0	26	57.04	143	21.66	8320
87 11	9 20 1	-47	-47	-257	40276.0	26	55.44	143	22.02	7850
87 11	9 20 11	-105	-63	-271	40221.0	26	53.84	143	22.32	7754
87 11	9 20 21	-154	-39	-260	40261.0	26	52.24	143	22.74	7725
87 11	9 20 31	-185	-41	-213	40180.0	26	50.64	143	23.22	7354
87 11	9 20 41	-190	-32	-165	40219.0	26	49.04	143	23.70	7294
87 11	9 20 51	-190	-28	-127	40219.0	26	47.43	143	24.06	7197
87 11	9 21 1	-201	-30	-109	40218.0	26	45.73	143	24.54	7197
87 11	9 21 11	-214	-52	-108	40193.0	26	44.04	143	24.96	7111
87 11	9 21 21	-229	-99	-128	40085.0	26	42.43	143	25.44	6558
87 11	9 21 31	-222	-117	-153	40214.0	26	40.74	143	25.86	6319
87 11	9 21 41	-249	-78	-141	40031.0	26	39.13	143	26.34	5934
87 11	9 21 51	-275	-9	-99	40008.0	26	37.45	143	26.64	5767
87 11	9 22 1	-296	36	-28	40136.0	26	35.93	143	27.06	5484
87 11	9 22 11	-279	19	66	40030.0	26	34.24	143	27.54	5266
87 11	9 22 21	-209	36	152	40155.0	26	32.65	143	28.02	5176
87 11	9 22 31	-80	105	201	40211.0	26	31.14	143	28.44	4862
87 11	9 22 41	66	175	162	40490.0	26	29.54	143	28.56	4903
87 11	9 22 51	171	231	55	40446.0	26	27.93	143	25.86	4910
87 11	9 23 1	196	245	-71	40325.0	26	26.24	143	29.94	4733
87 11	9 23 11	177	272	-162	40257.0	26	24.62	143	30.48	4554
87 11	9 23 21	129	261	-202	40004.0	26	22.83	143	30.96	4529
87 11	9 23 31	73	218	-196	39978.0	26	21.13	143	31.44	4258
87 11	9 23 41	25	172	-193	40058.0	26	19.44	143	31.98	3384
87 11	9 23 51	18	152	-208	39894.0	26	17.84	143	32.52	3296
87 11	10 0 1	13	147	-246	39987.0	26	16.23	143	33.06	3182
87 11	10 0 11	-28	114	-290	39782.0	26	14.53	143	33.54	3135
87 11	10 0 21	-104	48	-293	39684.0	26	12.83	143	34.14	3003
87 11	10 0 31	-169	-19	-273	39778.0	26	11.13	143	34.56	2957
87 11	10 0 41	-211	-56	-237	39758.0	26	9.45	143	34.92	2871
87 11	10 0 51	-249	-72	-213	39767.0	26	7.93	143	35.34	2765

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87	11	10	1	1	-313	-67	-151	39685.0	26	6.24	143	35.82	2604
87	11	10	1	11	-357	-64	-48	39619.0	26	4.65	143	36.24	2445
87	11	10	1	21	-351	-81	81	39774.0	26	3.15	143	36.66	2398
87	11	10	1	31	-295	-118	207	39846.0	26	1.65	143	36.90	2471
87	11	10	1	41	-202	-154	288	40006.0	26	0.14	143	37.26	2475
87	11	10	1	51	-98	-200	321	40110.0	25	58.54	143	37.74	2481
87	11	10	2	1	7	-208	293	40016.0	25	56.96	143	38.10	2430
87	11	10	2	11	95	-172	218	40174.0	25	55.55	143	38.34	2501
87	11	10	2	21	143	-105	137	40026.0	25	54.05	143	38.70	2504
87	11	10	2	31	157	-63	59	40070.0	25	52.55	143	38.94	2571
87	11	10	2	41	151	-43	6	39967.0	25	51.05	143	39.24	2553
87	11	10	2	51	139	-19	-21	39922.0	25	49.54	143	39.60	2477
87	11	10	3	1	147	25	-24	39880.0	25	47.96	143	40.38	2538
87	11	10	3	11	161	106	-23	39891.0	25	46.56	143	40.14	2578
87	11	10	3	21	187	165	-38	39812.0	25	45.15	143	40.44	2599
87	11	10	3	31	194	184	-33	39747.0	25	43.65	143	40.74	2526
87	11	10	3	41	188	130	-15	39828.0	25	42.15	143	41.04	2535
87	11	10	3	51	160	66	19	39735.0	25	40.59	143	41.52	2544
87	11	10	4	1	168	44	39	39302.0	25	38.58	143	42.72	2475
87	11	10	4	11	208	62	48	39303.0	25	37.34	143	42.12	2572
87	11	10	4	21	265	68	-9	39893.0	25	35.74	143	42.54	2786
87	11	10	4	31	251	36	-88	39839.0	25	34.14	143	42.84	2803
87	11	10	4	41	179	0	-170	39618.0	25	32.54	143	43.14	2817
87	11	10	4	51	58	-16	-209	39512.0	25	31.02	143	43.74	2702
87	11	10	5	1	-137	-41	-222	39466.0	25	30.16	143	45.72	2611
87	11	10	5	11	-317	-45	-184	39306.0	25	28.74	143	45.96	99999
87	11	10	5	21	-454	-52	-118	39561.0	25	27.15	143	46.32	1913
87	11	10	5	31	-409	2	25	39323.0	25	25.64	143	46.50	1497
87	11	10	5	41	-175	43	203	39314.0	25	24.06	143	46.68	1424
87	11	10	5	51	94	21	401	39135.0	25	22.65	143	45.78	1385
87	11	10	6	1	273	-87	501	39717.0	25	21.16	143	46.56	1365
87	11	10	6	11	287	-171	542	39732.0	25	19.76	143	47.28	1366
87	11	10	6	21	271	-201	494	39701.0	25	18.34	143	47.94	1462
87	11	12	15	13	146	-108	23	40337.0	25	31.64	141	23.10	2233
87	11	12	15	23	107	-124	1	40199.0	25	32.44	141	24.36	2465
87	11	12	15	33	71	-75	-12	40384.0	25	33.21	141	25.56	2556
87	11	12	15	43	51	-24	-7	40173.0	25	33.94	141	26.82	2671
87	11	12	15	53	79	-16	-42	40359.0	25	34.68	141	28.08	2767
87	11	12	16	3	70	-8	-20	40323.0	25	35.31	141	29.28	2814
87	11	12	16	13	61	-14	-16	40372.0	25	36.01	141	30.54	2888
87	11	12	16	23	32	-39	-14	40348.0	25	36.68	141	31.74	2944
87	11	12	16	33	-5	-61	-35	40213.0	25	37.31	141	33.00	2984
87	11	12	16	43	-15	-62	-68	39678.0	25	38.01	141	34.26	3051
87	11	12	16	53	-25	-1	-85	39353.0	25	38.74	141	35.46	3084
87	11	12	17	3	-10	35	-89	38683.0	25	39.48	141	36.66	3126
87	11	12	17	13	-15	47	-59	39444.0	25	40.11	141	37.74	3143
87	11	12	17	23	-11	52	-49	39301.0	25	40.81	141	38.94	3176
87	11	12	17	33	-28	104	-3	40338.0	25	41.51	141	40.14	3198
87	11	12	17	43	-50	140	36	40299.0	25	42.24	141	41.40	3216
87	11	12	17	53	-81	139	80	40192.0	25	43.31	141	42.66	3222
87	11	12	18	3	-78	142	105	40395.0	25	44.44	141	43.86	3238
87	11	12	18	13	-58	138	140	40162.0	25	44.51	141	45.06	3250
87	11	12	18	23	-40	135	187	40386.0	25	45.24	141	46.26	3267
87	11	12	18	33	-50	84	180	40430.0	25	46.04	141	47.52	3280
87	11	12	18	43	-70	46	127	40315.0	25	46.84	141	48.66	3283
87	11	12	18	53	-92	-22	82	40398.0	25	47.64	141	49.86	3318
87	11	12	19	3	-107	-69	37	40277.0	25	48.41	141	51.06	3309
87	11	12	19	13	-96	-93	4	40277.0	25	49.14	141	52.14	3310
87	11	12	19	23	-66	-108	-35	40283.0	25	49.94	141	53.28	3309
87	11	12	19	33	-43	-112	-37	40342.0	25	50.77	141	54.48	3302

87 11 12 19 43	-42	-36	-49	40224.0	25	51.64	141	55.62	3306
87 11 12 19 53	-72	32	-51	40309.0	25	52.41	141	56.76	3305
87 11 12 20 3	-110	86	-40	39436.0	25	53.14	141	57.96	3287
87 11 12 20 13	-105	22	-41	39607.0	25	53.91	141	59.16	3244
87 11 12 20 23	-68	-31	-61	39767.0	25	54.64	142	0.24	3210
87 11 12 20 33	-39	-67	-63	40208.0	25	55.41	142	1.32	3230
87 11 12 20 43	-29	-13	-58	40267.0	25	56.11	142	2.46	3207
87 11 12 20 53	-10	80	-32	40126.0	25	56.81	142	3.60	3167
87 11 12 21 3	71	85	-10	40194.0	25	57.54	142	4.74	3101
87 11 12 21 13	229	-62	3	40309.0	25	58.28	142	5.88	3017
87 11 12 21 23	416	-173	4	40426.0	25	58.85	142	7.08	2930
87 11 12 22 8	-113	1	92	40379.0	26	0.50	142	6.84	2909
87 11 12 22 18	-85	1	61	40410.0	26	0.50	142	4.56	3071
87 11 12 22 28	-52	45	26	40394.0	26	0.66	142	3.48	3190
87 11 12 22 38	-14	102	-19	40342.0	26	0.86	142	2.04	3256
87 11 12 22 48	34	136	-67	40301.0	26	1.06	142	0.42	3294
87 11 12 22 58	39	135	-95	40385.0	26	1.18	141	58.80	3312
87 11 12 23 8	44	108	-75	40353.0	26	1.44	141	57.30	3326
87 11 12 23 18	41	35	-32	40374.0	26	1.66	141	55.74	3340
87 11 12 23 28	67	-10	-40	40358.0	26	1.94	141	54.30	3363
87 11 12 23 38	97	-3	-55	40450.0	26	2.16	141	52.80	3369
87 11 12 23 48	86	-7	-57	40413.0	26	2.44	141	51.30	3374
87 11 12 23 58	43	-73	-1	99999.0	26	2.74	141	49.74	3379
87 11 13 0 8	-3	-172	59	40347.0	26	3.04	141	48.18	3384
87 11 13 0 18	-38	-187	118	40464.0	26	3.42	141	46.62	3390
87 11 13 0 28	-51	-129	107	40490.0	26	3.74	141	45.00	3385
87 11 13 0 38	-67	-56	100	40381.0	26	4.12	141	43.44	3397
87 11 13 0 48	-76	-36	82	40472.0	26	4.44	141	41.88	3427
87 11 13 0 58	-59	-30	49	40429.0	26	4.82	141	40.38	3458
87 11 13 1 8	-43	-34	5	40417.0	26	5.14	141	38.82	3456
87 11 13 1 18	-29	-11	-36	40331.0	26	5.44	141	37.20	3459
87 11 13 1 28	-21	2	-35	40455.0	26	5.82	141	35.64	3464
87 11 13 1 38	-4	19	-13	40502.0	26	6.14	141	34.08	3457
87 11 13 1 48	27	-10	-30	40528.0	26	6.44	141	32.52	3444
87 11 13 1 58	45	-46	-60	40516.0	26	6.82	141	31.02	3427
87 11 13 2 8	54	-70	-82	40569.0	26	7.14	141	29.40	3412
87 11 13 2 18	0	-75	-27	40589.0	26	7.52	141	27.84	3381
87 11 13 2 28	8	-41	-16	40604.0	26	8.48	141	27.18	3315
87 11 13 2 38	40	-5	-34	40628.0	26	8.14	141	25.32	3255
87 11 13 2 48	105	40	-56	40665.0	26	8.32	141	23.70	3173
87 11 13 2 58	122	57	-17	40707.0	26	8.72	141	22.20	3111
87 11 13 3 8	136	52	46	40781.0	26	9.04	141	20.70	3022
87 11 13 3 18	121	48	80	40834.0	26	9.34	141	19.20	2897
87 11 13 3 28	-75	62	76	40853.0	26	9.96	141	16.20	2785
87 11 13 3 38	-285	122	-4	40799.0	26	10.26	141	15.48	2649
87 11 13 4 19	-40	10	-5	40621.0	26	12.72	141	12.30	2496
87 11 13 4 29	-93	106	26	40610.0	26	12.98	141	12.30	2646
87 11 13 4 39	-156	157	70	40663.0	26	13.81	141	15.90	2785
87 11 13 4 49	-174	142	71	40682.0	26	14.80	141	17.28	2864
87 11 13 4 59	-139	57	31	40652.0	26	15.80	141	18.36	2932
87 11 13 5 9	-74	-20	-33	40590.0	26	16.71	141	19.56	3016
87 11 13 5 19	-38	-20	-59	40601.0	26	17.61	141	20.70	3116
87 11 13 5 29	19	8	-65	40618.0	26	18.60	141	21.90	3134
87 11 13 5 39	45	36	-49	40666.0	26	19.42	141	23.10	3201
87 11 13 5 49	68	18	-15	40766.0	26	20.31	141	24.18	3314
87 11 13 5 59	69	-37	14	40828.0	26	21.12	141	25.38	3391
87 11 13 6 9	52	-101	45	40786.0	26	21.92	141	26.70	3420
87 11 13 6 19	43	-146	32	40630.0	26	22.72	141	27.90	3442
87 11 13 6 29	39	-123	-3	40693.0	26	23.52	141	29.16	3484
87 11 13 6 39	66	-88	-44	40673.0	26	24.32	141	30.36	3528

87	11	13	6	49	53	-35	-27	40683.0	26	25.03	141	31.68	3548
87	11	13	6	59	61	-15	-19	40735.0	26	25.82	141	32.94	3568
87	11	13	7	9	58	-5	1	40068.0	26	26.62	141	34.26	3580
87	11	13	7	19	58	-18	16	40712.0	26	27.51	141	35.64	3585
87	11	13	7	29	68	-25	16	40711.0	26	28.32	141	36.96	3588
87	11	13	7	39	57	-5	24	40769.0	26	29.12	141	38.28	3589
87	11	13	7	49	70	0	24	40764.0	26	29.92	141	39.54	3591
87	11	13	7	59	82	-45	54	40120.0	26	30.63	141	40.80	3595
87	11	13	8	9	129	-126	29	40729.0	26	31.42	141	42.24	3598
87	11	13	8	19	165	-148	-19	40618.0	26	32.13	141	43.68	3597
87	11	13	8	29	182	-84	-80	40678.0	26	32.83	141	45.06	3593
87	11	13	8	39	197	-15	-121	40584.0	26	33.44	141	46.44	3585
87	11	13	8	49	160	-2	-97	40619.0	26	34.13	141	47.88	3574
87	11	13	8	59	38	-5	-48	39950.0	26	34.74	141	49.26	3553
87	11	13	9	9	-119	16	20	40623.0	26	35.43	141	50.58	3512
87	11	13	9	19	-239	98	54	40599.0	26	36.13	141	51.96	3435
87	11	13	9	29	-291	164	65	40463.0	26	36.83	141	53.28	3375
87	11	13	9	39	-350	208	83	40604.0	26	37.62	141	54.66	3307
87	11	13	11	7	8	64	-21	40592.0	26	39.51	141	53.52	3351
87	11	13	11	17	11	-20	-22	40616.0	26	39.81	141	51.48	3472
87	11	13	11	27	-24	-39	39	40617.0	26	40.11	141	49.50	3564
87	11	13	11	37	-3	-20	33	40779.0	26	40.34	141	47.58	3608
87	11	13	11	47	13	61	-40	40789.0	26	40.54	141	45.66	3632
87	11	13	17	20	99999	99999	99999	40610.0	26	40.80	141	34.08	3660
87	11	13	17	30	99999	99999	99999	40709.0	36	41.20	141	32.40	3655
87	11	13	17	40	99999	99999	99999	40635.0	26	41.40	141	30.72	3656
87	11	13	18	55	7	-46	8	40612.0	26	45.20	141	18.30	3262
87	11	13	19	5	5	-20	-7	40632.0	26	45.90	141	16.74	3208
87	11	13	19	15	4	86	-8	40733.0	26	46.70	141	15.30	3115
87	11	13	19	25	-24	58	0	40685.0	26	47.55	141	13.86	2923
87	11	13	19	35	-1	-52	-2	40756.0	26	48.40	141	12.36	2875
87	11	13	20	14	19	103	66	40885.0	26	49.70	141	5.70	2373
87	11	13	20	24	-38	28	7	40887.0	26	49.66	141	3.84	2350
87	11	13	20	34	-8	-79	-46	40775.0	26	49.60	141	1.98	1715
87	11	13	20	44	17	-101	-48	40910.0	26	49.60	141	0.12	1954
87	11	13	20	54	32	-36	-12	40832.0	26	49.64	140	58.20	2104
87	11	13	21	4	14	43	31	40145.0	26	49.78	140	56.34	2099
87	11	13	21	14	-59	86	29	40895.0	26	49.94	140	54.66	2119
87	11	13	22	51	78	30	2	40797.0	26	44.99	140	50.58	2136
87	11	13	23	1	28	33	21	40368.0	26	44.91	140	52.38	2006
87	11	13	23	11	-33	2	-15	40079.0	26	45.00	140	54.18	1883
87	11	13	23	21	-76	-23	-31	40505.0	26	45.00	140	55.86	1776
87	11	13	23	31	-40	-2	-18	40086.0	26	45.00	140	57.60	1237
87	11	13	23	41	-1	-35	36	40564.0	26	45.00	140	59.28	1493
87	11	13	23	51	-9	-64	27	39694.0	26	45.00	141	1.08	1510
87	11	14	0	1	-36	-37	-6	39605.0	26	45.00	141	2.76	1495
87	11	14	0	11	6	38	-26	40411.0	26	45.01	141	4.56	1362
87	11	14	0	21	176	130	29	40468.0	26	45.10	141	6.24	1467
87	11	14	1	31	88	-51	49	41449.0	26	40.00	141	4.38	1141
87	11	14	1	41	4	109	-35	40931.0	26	40.00	141	2.40	776
87	11	14	1	51	-39	37	-152	40964.0	26	40.00	141	0.48	1152
87	11	14	2	1	-60	-82	-45	41041.0	26	40.00	140	58.62	1056
87	11	14	2	11	-147	-22	182	40956.0	26	40.00	140	56.70	402
87	11	14	2	21	-95	54	227	41227.0	26	40.00	140	54.84	720
87	11	14	2	31	41	90	65	41149.0	26	40.00	140	52.92	1278
87	11	14	2	41	116	-38	-143	41085.0	26	40.01	140	51.00	1645
87	11	14	3	53	-51	-93	-142	41003.0	26	35.07	140	49.56	1908
87	11	14	4	3	67	10	32	40677.0	26	35.03	140	51.48	1425
87	11	14	4	13	54	44	101	41163.0	26	35.07	140	53.70	835
87	11	14	4	23	-29	39	82	40964.0	26	35.06	140	55.56	1113

87 11 14 4 33	-130	-16	-47	41011.0	26	35.20	140	57.36	1528
87 11 14 4 43	-41	2	-87	40964.0	26	35.23	140	59.22	1838
87 11 14 4 53	40	-27	-80	40814.0	26	35.30	141	1.02	1838
87 11 14 5 3	73	-14	-43	40887.0	26	35.27	141	2.82	2198
87 11 14 5 13	4	0	60	40803.0	26	35.20	141	4.68	2273
87 11 14 6 26	17	26	6	40713.0	26	30.00	141	6.30	2715
87 11 14 6 36	-19	-19	3	40806.0	26	29.94	141	4.56	2662
87 11 14 6 46	15	25	5	40801.0	26	29.90	141	2.88	2626
87 11 14 7 25	-5	-33	-5	41063.0	26	33.70	140	58.44	1821
87 11 14 7 35	-5	-27	-36	41014.0	26	35.30	140	57.78	1640
87 11 14 7 45	13	50	70	41250.0	26	36.90	140	57.00	1346
87 11 14 11 43	-19	16	3	40950.0	26	37.14	140	54.36	997
87 11 14 11 53	33	-18	-11	40094.0	26	37.97	140	55.68	921
87 11 14 13 0	-152	-86	223	40436.0	26	43.80	141	3.78	949
87 11 14 13 10	-137	-34	16	40462.0	26	44.60	141	5.10	1250
87 11 14 13 20	-1	78	-82	40655.0	26	45.60	141	6.30	1749
87 11 14 13 30	110	106	-56	40817.0	26	46.40	141	7.50	2036
87 11 14 13 40	148	67	-4	40894.0	26	47.30	141	8.82	2267
87 11 14 13 50	102	-39	-7	40836.0	26	48.20	141	10.02	2645
87 11 14 14 0	55	-128	-66	40877.0	26	49.00	141	11.28	2847
87 11 14 14 10	6	-98	-90	40924.0	26	49.90	141	12.48	3053
87 11 14 14 20	5	0	-58	40577.0	26	50.80	141	13.68	3176
87 11 14 14 30	-20	65	46	40776.0	26	51.80	141	14.70	3235
87 11 14 14 40	-85	55	101	40672.0	26	52.70	141	15.78	3283
87 11 14 15 22	40	-46	-36	40745.0	26	56.26	141	20.58	3724
87 11 14 15 32	-15	12	17	40506.0	26	57.08	141	21.60	3765
87 11 14 15 42	-7	16	-6	40943.0	26	57.96	141	22.74	3810
87 11 14 15 52	-7	15	4	40959.0	26	58.78	141	23.94	3839
87 11 14 16 2	21	-43	-9	40883.0	26	59.66	141	25.02	3876
87 11 14 22 23	8	-63	1	40963.0	27	5.86	141	28.68	3972
87 11 14 22 33	1	-53	-12	40956.0	27	7.06	141	27.90	3977
87 11 14 22 43	26	-13	-20	40997.0	27	8.26	141	27.36	3973
87 11 14 22 53	33	19	-12	41072.0	27	10.63	141	26.82	3973
87 11 14 23 3	2	39	4	41056.0	27	13.36	141	26.10	3971
87 11 14 23 13	-47	47	17	41016.0	27	11.76	141	25.56	3965
87 11 14 23 23	-53	65	19	41055.0	27	12.96	141	25.02	3957
87 11 14 23 33	-43	23	22	41015.0	27	14.19	141	24.54	3959
87 11 14 23 43	-19	-24	14	41059.0	27	15.46	141	24.12	3960
87 11 14 23 53	-13	-75	7	41058.0	27	16.66	141	23.64	3953
87 11 15 0 3	24	-33	-19	41061.0	27	17.86	141	23.16	3971
87 11 15 0 13	49	30	-19	41120.0	27	19.06	141	22.68	3987
87 11 15 0 52	7	132	6	41168.0	27	23.74	141	20.40	4040
87 11 15 1 2	12	-24	-9	41224.0	27	24.94	141	19.80	4051
87 11 15 1 12	7	-72	-6	41210.0	27	26.16	141	19.26	4073
87 11 15 1 22	-12	-51	5	41268.0	27	27.44	141	18.72	4087
87 11 15 1 32	-9	-18	-1	41252.0	27	28.64	141	18.18	4099
87 11 15 1 42	-12	34	5	41194.0	27	29.84	141	17.58	4110
87 11 15 1 52	-17	42	2	41255.0	27	31.20	141	17.16	4114
87 11 15 2 2	-2	26	3	41297.0	27	32.98	141	16.98	4116
87 11 15 2 12	22	-25	-6	41232.0	27	33.96	141	16.50	4116
87 11 15 3 23	-64	13	75	41156.0	27	41.21	141	16.26	4129
87 11 15 3 33	-2	-20	25	41145.0	27	41.88	141	17.46	4132
87 11 15 3 43	66	-51	-39	41185.0	27	42.48	141	18.78	4129
87 11 15 3 53	33	-1	-38	41288.0	27	43.08	141	19.98	4121
87 11 15 4 3	-33	33	-41	41117.0	27	43.68	141	21.30	4119
87 11 15 4 13	-76	63	-31	41284.0	27	44.31	141	22.56	4119
87 11 15 4 23	-41	27	-24	41302.0	27	45.01	141	23.88	4116
87 11 15 4 33	36	-10	8	41248.0	27	45.68	141	25.20	4114
87 11 15 4 43	118	-48	6	41153.0	27	46.25	141	26.64	4113
87 11 15 4 53	105	-49	27	41255.0	27	46.78	141	27.96	4121

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87	11	15	5	3	9	-34	36	40934.0	27	47.38	141	29.34	4127
87	11	15	5	13	-74	11	36	41264.0	27	48.01	141	30.66	4131
87	11	15	5	23	-77	44	-17	41286.0	27	48.68	141	32.04	4133
87	11	15	19	17	-100	236	67	41266.0	27	49.67	141	28.68	4139
87	11	15	19	27	-76	-18	49	40976.0	27	49.77	141	30.72	4149
87	11	15	19	37	-45	-177	30	41316.0	27	49.87	141	32.70	4148
87	11	15	19	47	-8	-175	-23	41135.0	27	49.90	141	34.68	4154
87	11	15	19	57	115	-41	-109	41239.0	27	49.97	141	36.66	4149
87	11	15	20	7	147	116	-80	41189.0	27	49.93	141	38.58	4148
87	11	15	20	17	175	188	-43	41142.0	27	49.76	141	40.62	4133
87	11	15	20	27	30	115	51	41140.0	27	49.70	141	42.60	3940
87	11	15	20	37	-83	-23	81	41208.0	27	49.63	141	44.58	99999
87	11	15	20	47	-186	-149	26	41240.0	27	49.60	141	46.56	99999
87	11	15	22	12	35	2	22	41241.0	27	39.28	141	54.00	2880
87	11	15	22	22	-4	-18	24	41190.0	27	37.68	141	54.48	2879
87	11	15	22	32	5	-6	24	40945.0	27	36.24	141	55.02	2853
87	11	15	22	42	16	18	17	41075.0	27	35.06	141	55.50	2907
87	11	15	22	52	24	5	-13	41050.0	27	32.56	141	56.10	2986
87	11	15	23	2	12	19	-40	40923.0	27	30.86	141	56.58	3054
87	11	15	23	12	-17	0	-40	41111.0	27	29.14	141	57.12	2956
87	11	15	23	22	-45	-22	-31	41041.0	27	27.36	141	57.60	2822
87	11	15	23	32	-67	-31	-17	41080.0	27	25.66	141	58.08	2735
87	11	15	23	42	-71	19	1	41070.0	27	23.96	141	58.56	2707
87	11	15	23	52	-51	47	12	41026.0	27	22.26	141	58.98	2569
87	11	16	0	2	8	-6	14	40649.0	27	20.56	141	59.40	2404
87	11	16	0	12	56	-27	10	40126.0	27	18.86	141	59.94	2343
87	11	16	0	22	84	-6	30	40863.0	27	17.16	142	0.54	2172
87	11	16	1	1	-13	35	154	40288.0	27	14.11	142	5.28	167
87	11	16	1	11	-21	-88	35	99999.9	27	14.20	142	7.20	155
87	11	16	1	21	9	-47	-132	40345.0	27	14.20	142	9.00	152
87	11	16	1	31	39	42	-159	40509.0	27	14.20	142	10.80	114
87	11	16	1	41	25	77	-71	40104.0	27	14.20	142	12.60	136
87	11	16	1	51	0	31	46	40683.0	27	14.20	142	14.46	175
87	11	16	2	1	-36	-73	155	40358.0	27	14.19	142	16.32	256
87	11	16	2	40	159	-29	-226	40239.0	27	10.00	142	19.98	586
87	11	16	2	50	-163	10	-106	40393.0	27	8.70	142	20.22	303
87	11	16	3	0	-121	55	218	39675.0	27	6.80	142	20.58	222
87	11	16	3	10	-56	64	347	41951.0	27	4.90	142	20.58	252
87	11	16	3	20	132	-94	38	40989.0	27	3.10	142	20.40	314
87	11	16	3	30	82	-14	-394	40615.0	27	1.30	142	20.22	99999
87	11	16	4	9	2	12	10	39952.0	26	57.91	142	15.30	919
87	11	16	4	19	-22	-59	-17	39718.0	26	57.81	142	13.20	649
87	11	16	4	29	0	-38	11	40095.0	26	57.71	142	11.28	187
87	11	16	4	39	-9	53	10	40361.0	26	57.61	142	9.30	148
87	11	16	20	25	119	189	-247	40825.0	27	7.20	142	6.78	157
87	11	16	20	35	82	-268	-68	41089.0	27	8.85	142	6.48	161
87	11	16	20	45	9	-329	99	41340.0	27	10.55	142	6.12	154
87	11	16	20	55	-75	-113	187	41043.0	27	12.20	142	5.70	156
87	11	16	21	5	-94	119	118	41077.0	27	13.85	142	5.28	168
87	11	16	21	15	-65	203	54	40768.0	27	15.60	142	4.92	373
87	11	16	21	25	-47	201	-39	40768.0	27	17.35	142	4.50	935
87	11	16	21	35	14	165	-73	41058.0	27	19.10	142	4.08	1150
87	11	16	21	45	34	128	-50	40961.0	27	20.85	142	3.72	1163
87	11	16	21	55	24	132	-22	40939.0	27	22.60	142	3.30	1275
87	11	16	22	5	0	91	-29	40643.0	27	24.40	142	2.88	1403
87	11	16	22	15	-13	-5	-30	41012.0	27	26.15	142	2.58	1461
87	11	16	22	25	-14	-160	-19	40823.0	27	27.85	142	2.22	1640
87	11	16	22	35	8	-184	5	40730.0	27	29.55	142	1.80	1778
87	11	16	22	45	52	-99	40	40946.0	27	31.30	142	1.38	1968
87	11	16	23	30	187	81	53	40542.0	27	39.20	142	0.00	1715

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87 11 16 23 40	152	120	119	40509.0	27	41.00	141	59.40	1584
87 11 16 23 50	102	79	124	40271.0	27	42.70	141	59.70	1078
87 11 17 0 0	30	-5	128	39598.0	27	44.50	141	59.58	543
87 11 17 0 10	-26	-11	68	40844.0	27	47.30	141	59.52	129
87 11 17 0 20	-66	-9	59	40342.0	27	48.00	141	59.28	116
87 11 17 0 30	-63	126	-3	40336.0	27	49.90	141	58.98	115
87 11 17 0 40	-74	102	-77	40085.0	27	51.70	141	58.92	117
87 11 17 0 50	-33	166	-158	40307.0	27	55.60	141	58.68	114
87 11 17 1 0	-14	157	-189	40397.0	27	55.40	141	58.38	146
87 11 17 1 10	46	98	-151	39618.0	27	57.00	141	58.02	162
87 11 17 1 20	75	-22	-82	40709.0	27	58.40	141	57.42	123
87 11 17 1 30	50	-182	19	39884.0	28	1.10	141	58.32	330
87 11 17 1 40	14	-291	75	40737.0	28	2.90	141	58.20	924
87 11 17 1 50	-127	-326	95	41304.0	28	4.70	141	58.08	1088
87 11 17 2 0	-146	-341	3	40836.0	28	6.50	141	58.08	1492
87 11 17 2 10	-175	-274	-41	41013.0	28	8.30	141	58.08	1642
87 11 17 2 20	-99	-183	-88	40899.0	28	10.00	141	58.02	1889
87 11 17 2 30	-96	-54	-81	40726.0	28	11.80	141	58.02	2154
87 11 17 2 40	-49	57	-115	41113.0	28	13.60	141	58.02	2225
87 11 17 2 50	6	109	-113	41141.0	28	15.40	141	58.02	2399
87 11 17 3 0	26	121	-59	40679.0	28	17.20	141	58.02	2430
87 11 17 3 10	18	77	-7	41159.0	28	19.00	141	58.02	2414
87 11 17 3 20	-24	41	30	40862.0	28	20.80	141	57.90	2427
87 11 17 3 30	-57	19	38	41033.0	28	22.60	141	57.90	2427
87 11 17 3 40	-86	21	52	41065.0	28	24.30	141	57.90	2427
87 11 17 3 50	-75	47	53	40587.0	28	26.10	141	58.02	2409
87 11 17 4 0	-20	62	47	41044.0	28	28.00	141	58.02	2400
87 11 17 4 10	54	69	28	41029.0	28	30.00	141	57.78	2424
87 11 17 4 20	104	28	26	41279.0	28	31.60	141	57.60	2309
87 11 17 4 30	123	32	39	41127.0	28	33.50	141	57.48	2302
87 11 17 4 40	136	33	60	41324.0	28	35.60	141	57.30	2376
87 11 17 4 50	151	84	76	40933.0	28	37.20	141	57.30	2279
87 11 18 14 47	-14	-25	1	41659.0	28	32.91	141	28.56	4051
87 11 18 14 57	5	2	-3	41667.0	28	31.14	141	27.72	4064
87 11 18 16 14	239	-346	-287	41645.0	28	27.84	141	20.76	4113
87 11 18 16 24	261	-251	-267	41453.0	28	29.44	141	19.62	4117
87 11 18 16 34	270	-146	-207	41664.0	28	31.04	141	18.42	4095
87 11 18 16 44	237	-135	-114	41682.0	28	32.64	141	17.28	4074
87 11 18 16 54	193	-79	-63	41722.0	28	34.20	141	16.14	4060
87 11 18 17 4	134	-40	-64	41774.0	28	35.74	141	15.12	4052
87 11 18 17 14	89	31	-95	41675.0	28	37.38	141	14.10	4043
87 11 18 17 24	72	50	-117	41730.0	28	39.04	141	13.08	4034
87 11 18 17 34	44	42	-116	41905.0	28	40.64	141	12.12	4030
87 11 18 17 44	44	19	-121	41562.0	28	42.24	141	11.10	3986
87 11 18 17 54	21	-17	-118	41732.0	28	42.24	141	10.08	3986
87 11 18 18 4	10	-38	-125	41687.0	28	43.04	141	9.18	3989
87 11 18 18 14	-46	-89	-113	41967.0	28	47.04	141	8.40	3996
87 11 18 18 24	-68	-125	-107	42082.0	28	48.60	141	7.62	4000
87 11 18 18 34	-90	-106	-79	41955.0	28	50.14	141	6.90	4005
87 11 18 18 44	-82	-42	-68	41867.0	28	51.70	141	6.24	4000
87 11 18 18 54	-92	33	-51	41911.0	28	53.20	141	5.52	4009
87 11 18 19 4	-67	110	-37	41969.0	28	54.70	141	4.80	4006
87 11 18 19 14	-25	114	-8	41888.0	28	56.24	141	4.14	3997
87 11 18 19 24	15	84	34	41818.0	28	57.76	141	3.36	3991
87 11 18 19 34	44	37	53	42152.0	28	59.20	141	2.64	3958
87 11 18 19 44	48	2	64	41836.0	29	0.70	141	1.86	3918
87 11 18 19 54	46	-53	79	42312.0	29	2.20	141	1.08	3931
87 11 18 20 4	29	-111	107	42069.0	29	3.70	141	0.30	3912
87 11 18 20 14	4	-149	151	42146.0	29	5.20	140	59.58	3877
87 11 18 20 24	-47	-151	207	42188.0	29	6.74	140	58.80	3891

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87	11	18	20	34	-96	-167	251	42310.0	29	8.30	140	58.14	3919
87	11	18	20	44	-138	-162	286	42207.0	29	9.80	140	57.36	3916
87	11	18	20	54	-158	-139	280	42139.0	29	11.30	140	56.58	3909
87	11	18	21	4	-218	-141	276	42294.0	29	12.84	140	55.80	3875
87	11	18	21	14	-256	-131	241	42235.0	29	14.40	140	54.96	3781
87	11	18	21	24	-268	-65	230	42315.0	29	15.94	140	54.24	99999
87	11	18	21	34	-265	66	208	42322.0	29	17.50	140	53.46	99999
87	11	18	21	44	-259	167	153	42200.0	29	19.00	140	52.68	2738
87	11	18	21	54	-234	194	84	42174.0	29	20.54	140	51.90	2840
87	11	18	22	4	-164	164	49	42185.0	29	22.10	140	51.18	2993
87	11	18	22	14	-77	165	71	42287.0	29	23.72	140	50.40	3158
87	11	18	22	24	-14	144	127	42335.0	29	25.48	140	49.62	3071
87	11	18	22	34	-19	105	186	42421.0	29	27.02	140	48.84	3202
87	11	18	22	44	-80	116	216	42450.0	29	28.48	140	47.88	3228
87	11	18	22	54	-109	131	209	42280.0	29	30.14	140	47.04	3089
87	11	18	23	4	-98	145	186	42212.0	29	31.74	140	46.26	3396
87	11	18	23	14	-53	156	148	42242.0	29	33.34	140	45.42	3441
87	11	18	23	24	-46	160	101	42338.0	29	34.90	140	44.52	3374
87	11	18	23	34	-50	138	56	41981.0	29	36.44	140	43.62	3180
87	11	18	23	44	-28	109	28	42009.0	29	38.00	140	42.72	3250
87	11	18	23	54	-19	121	22	42384.0	29	39.54	140	41.82	3264
87	11	19	0	4	-25	160	-22	42318.0	29	41.14	140	40.92	3248
87	11	19	0	14	-29	167	-81	42082.0	29	42.78	140	40.14	3144
87	11	19	0	24	4	158	-136	42357.0	29	44.32	140	39.30	3079
87	11	19	0	34	45	112	-142	42332.0	29	45.70	140	38.34	2973
87	11	19	0	44	48	116	-131	42509.0	29	47.20	140	37.44	2901
87	11	19	0	54	22	129	-146	99999.9	29	48.74	140	36.54	2871
87	11	19	1	4	9	155	-176	42297.0	29	50.30	140	35.64	2842
87	11	19	1	14	56	187	-197	42211.0	29	51.84	140	34.68	2789
87	11	19	1	24	121	166	-166	42169.0	29	53.44	140	33.78	2758
87	11	19	1	34	149	123	-124	42466.0	29	54.96	140	33.00	2785
87	11	19	1	44	135	75	-86	42524.0	29	56.36	140	32.22	2697
87	11	19	1	54	114	88	-72	42387.0	29	57.72	140	31.50	2525
87	11	19	2	4	80	116	-60	42396.0	29	59.02	140	30.78	2472
87	11	19	2	14	24	87	-46	42565.0	30	0.28	140	30.06	2471
87	11	19	2	24	-3	74	-33	42331.0	30	1.52	140	29.52	2434
87	11	19	2	34	-3	67	-35	42704.0	30	2.82	140	28.86	2363
87	11	19	2	44	7	91	-42	42754.0	30	4.08	140	28.20	2281
87	11	19	2	54	4	78	-48	42327.0	30	5.32	140	27.66	2187
87	11	19	3	4	7	39	-76	42220.0	30	6.58	140	27.06	2151
87	11	19	3	14	54	-16	-112	42498.0	30	7.78	140	26.40	2134
87	11	19	3	24	143	-36	-131	42828.0	30	8.98	140	25.74	2127
87	11	19	3	34	221	-43	-70	42475.0	30	10.22	140	25.14	2130
87	11	19	3	44	198	-51	61	42897.0	30	11.48	140	24.54	2105
87	11	19	3	54	93	-51	174	42509.0	30	12.68	140	23.94	2034
87	11	19	4	4	-32	-39	200	42749.0	30	13.84	140	23.28	1998
87	11	19	4	14	-86	17	132	42974.0	30	15.02	140	22.68	1910
87	11	19	4	24	-36	11	71	42865.0	30	16.24	140	22.08	1875
87	11	19	4	34	46	-28	37	42910.0	30	17.34	140	21.54	1809
87	11	19	4	44	120	-53	43	42981.0	30	18.44	140	20.94	1801
87	11	19	4	54	125	-36	52	43002.0	30	19.54	140	20.34	1689
87	11	19	5	4	58	-74	81	43050.0	30	20.52	140	19.86	1625
87	11	19	5	14	-50	-146	76	43090.0	30	21.32	140	19.50	1569
87	11	19	5	24	-161	-226	38	42995.0	30	22.12	140	19.20	1521
87	11	19	5	34	-218	-310	-22	42939.0	30	22.92	140	18.90	1446
87	11	19	5	44	-219	-403	-91	42949.0	30	23.68	140	18.60	1333
87	11	19	5	54	-151	-440	-147	42955.0	30	24.42	140	18.30	1246
87	11	19	6	4	31	-355	-156	42970.0	30	25.22	140	18.00	1116
87	11	19	6	14	204	-83	-18	43251.0	30	26.06	140	17.70	801
87	11	19	6	24	273	137	-107	43673.0	30	26.96	140	17.28	333

87 11 19 6 34	79	111	-119	42849.0	30	28.10	140	16.68	588
87 11 19 6 44	-131	2	-240	42747.0	30	29.64	140	15.90	426
87 11 19 7 30	-26	63	-41	42809.0	30	37.00	140	12.72	1343
87 11 19 7 40	9	-27	-16	43000.0	30	38.70	140	12.00	1351
87 11 19 7 50	55	-87	17	43033.0	30	40.40	140	11.52	1440
87 11 19 8 0	39	-144	41	43217.0	30	42.00	140	10.92	1526
87 11 19 8 10	22	-25	43	43277.0	30	43.80	140	10.50	1556
87 11 19 8 20	4	46	56	43293.0	30	45.50	140	10.08	1624
87 11 19 8 30	-7	113	34	43294.0	30	47.20	140	9.78	1653
87 11 19 8 40	-29	18	-36	43233.0	30	48.90	140	9.42	1638
87 11 19 8 50	-36	-33	-143	43288.0	30	50.60	140	9.12	1654
87 11 19 9 35	-49	-143	8	43124.0	30	58.40	140	7.98	1608
87 11 19 9 45	-21	-48	18	43483.0	31	0.20	140	7.74	1569
87 11 19 9 55	20	114	3	43476.0	31	1.95	140	7.50	1521
87 11 19 10 5	103	240	-20	43521.0	31	3.70	140	7.20	1468
87 11 19 10 15	76	120	-23	43221.0	31	5.45	140	6.78	1394
87 11 19 10 25	38	-25	-33	43602.0	31	7.20	140	6.42	1280
87 11 19 10 35	-27	-97	-8	43486.0	31	9.00	140	6.18	1243
87 11 19 10 45	-80	-96	49	43572.0	31	10.75	140	5.88	1068
87 11 19 13 27	-131	57	-79	43408.0	31	37.08	140	16.08	1281
87 11 19 13 37	-5	-35	-76	43391.0	31	38.55	139	57.12	1274
87 11 19 13 47	80	-90	-1	43595.0	31	40.05	139	56.04	1221
87 11 19 13 57	106	-62	95	43601.0	31	41.55	139	54.90	1207
87 11 19 14 7	59	47	130	43522.0	31	43.05	139	53.82	1193
87 11 19 14 17	-5	103	99	43510.0	31	44.55	139	52.74	1122
87 11 19 14 27	-60	72	-21	43619.0	31	46.05	139	51.72	883
87 11 19 14 37	-37	-54	-113	43371.0	31	47.55	139	50.64	643
87 11 19 15 22	43	85	-67	43749.0	31	54.86	139	47.46	1121
87 11 19 15 32	66	-27	-67	43599.0	31	56.68	139	47.16	992
87 11 19 15 42	30	-41	23	43643.0	31	58.56	139	46.92	1017
87 11 19 15 52	-21	-38	120	43378.0	32	0.38	139	46.56	1099
87 11 19 16 2	-155	-16	97	43750.0	32	2.28	139	46.32	1214
87 11 19 16 12	-91	39	-40	43186.0	32	4.18	139	46.08	1292
87 11 19 16 22	14	70	-79	43728.0	32	6.10	139	45.84	1436
87 11 19 16 32	90	13	-20	43603.0	32	8.10	139	45.66	1506
87 11 19 16 42	41	-115	15	44009.0	32	10.08	139	45.36	1558
87 11 19 17 26	9	-14	-7	44048.0	32	18.44	139	44.52	1566
87 11 19 17 36	11	-24	8	44324.0	32	20.34	139	44.28	1532
87 11 19 17 46	-14	18	0	44452.0	32	22.24	139	44.04	1433
87 11 19 18 25	5	5	0	44304.0	32	29.30	139	41.70	1159
87 11 19 18 35	-27	-6	4	43973.0	32	31.10	139	40.92	1244
87 11 19 18 45	41	-5	-16	43765.0	32	32.90	139	40.08	1188
87 11 19 19 31	34	121	-22	44278.0	32	40.17	139	35.70	810
87 11 19 19 41	34	29	-27	44233.0	32	41.87	139	34.92	99999
87 11 19 19 51	12	-19	-15	44409.0	32	43.57	139	34.14	1088
87 11 19 20 1	-33	-91	32	44395.0	32	45.27	139	33.30	1013
87 11 19 20 11	-76	-162	32	44439.0	32	46.98	139	32.52	983
87 11 19 20 21	-77	-192	61	44556.0	32	48.77	139	31.74	1037
87 11 19 20 31	-20	-37	24	44770.0	32	50.47	139	30.90	619
87 11 19 20 41	80	160	-35	44749.0	32	52.17	139	30.12	853
87 11 19 23 34	40	-1	-8	44701.0	33	21.08	139	25.92	1710
87 11 19 23 44	-4	-52	-4	44693.0	33	22.78	139	25.86	1840
87 11 19 23 54	-26	-8	2	44602.0	33	24.44	139	25.80	1854
87 11 20 0 4	6	42	-1	99999.9	33	26.40	139	25.74	1858
87 11 20 0 14	14	54	12	99999.9	33	28.22	139	25.62	1851
87 11 20 0 24	-2	3	-3	99999.9	33	29.34	139	25.44	1708
87 11 20 0 34	-11	2	-9	99999.9	33	30.98	139	25.32	1703
87 11 20 0 44	13	-56	6	99999.9	33	32.64	139	25.14	1759
87 11 20 1 28	96	170	-172	99999.9	33	39.74	139	24.42	1665
87 11 20 1 38	30	-24	133	99999.9	33	41.46	139	24.24	1296

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87	11	20	1	48	-101	-191	182	99999.9	33	43.00	139	24.06	359
87	11	20	1	58	-174	-202	90	99999.9	33	44.58	139	23.82	1197
87	11	20	2	8	-32	-36	-119	99999.9	33	46.02	139	23.64	1643
87	11	20	2	18	154	211	-69	99999.9	33	47.34	139	23.46	1733

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DELP 1987年度 小笠原海域航海報告

V: 地磁気三成分及び全磁力異常分布探査

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1987年秋の DELP 航海により小笠原トラフ周辺海域において地磁気連続測定を行った。測定に於いては船舶用フラックスゲート地磁気三成分測定系ならびに曳航型プロトン磁力計により観測を行ったが、後者については航海中船上測定系に異常が出たことなどもあって完全な三成分対全磁力比較検討の材料とは成らなかったものの、全磁力についてはこの海域に於て地質調査所などから多くのデータが提供されているので、解析に支障は無いと思われる。

船舶上での三成分磁力測定はかねてから神戸大学理学部により信頼度の高いデータが得られる様に成ってきたが、本観測地域の例にもみられるように低緯度でかつ海底の基盤もまた低緯度で発生したと予測される地域の地磁気観測には三成分磁力計は必要不可欠なものである。この報告にも、従来より明瞭な地磁気縞模様の認められていなかったトラフ内にもその存在が確認されたことは、トラフがリフティングとオープニングによって形成されたことを示唆している。今後この縞模様が何時のものであるかを同定せねばならないが、そのためにはこの海域の基盤岩の年代などに関する資料を入手したいと考える。