

X. Geomagnetic Survey in the Mizuho Plateau-West Enderby Land Area, East Antarctica, 1969 - 1971

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1. Introduction

Measurements of geomagnetism were carried out in the Mizuho Plateau-West Enderby Land area by the oversnow traverses of JARE 10 and 11, in 1969 - 1970 and 1970 - 1971 respectively. Yoshida made the measurements along the route Syowa Station - S240 - Yamato Mountains - S170 - Syowa Station, and Yoshimura, along the route Syowa Station - S122 - Mizuho Camp - Y200 - Sandercock Nunataks - Mizuho Camp - S169 - Syowa Station, as shown in Fig. A attached to the end of this volume (Shimizu et al., 1972). Three components of geomagnetism, declination (D), inclination (I) and total force (F), were measured at 28 stations, whereas at 199 stations only total force (F) was measured during the travels (Table X-1). The results of measurements without correction are given in Tables X-2 and X-3.

Instruments used for the measurements were a fluxgate type magnetometer (Matsuo et al., 1962) with the brand name of G.I.T. TR-type magnetometer, manufactured by Sokkisha Co., Japan (JARE 10), and a G.S.I. magnetometer (Tsubokawa, 1951) (JARE 11), for declination D and inclination I; a proton magnetometer, GEONIX model PMM 611G (JARE 10 and 11), for total force F.

Table X-1: Measurements of geomagnetism in the Mizuho Plateau-West Enderby Land area in 1969 - 1971.

	Observer	Magnetic station			Area	Period
		D	I	F		
JARE 10	M. Yoshida	8	8	106	Mizuho Plateau	November 1969 - January 1970
JARE 11	A. Yoshimura	20	20	121	West Enderby Land	November 1970 - January 1971

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2. Measurements of Geomagnetism

Both D and I were measured at a distance of 100 m or more away from oversnow vehicles, where the magnetic disturbance caused by vehicles and sledges could be negligibly small. F was measured in a oversnow vehicle setting the sensor on the snow surface 30 m away from the vehicle by JARE 10, and 50 m away by JARE 11.

Procedure of measurements of 3 components of geomagnetism was as follows:

- i) Measurements of F, 10 times, at intervals of 6 sec,
- ii) measurements of D and I, once by JARE 10, and 4 - 8 times by JARE 11,
- iii) Again, measurements of F, 10 times at intervals of 6 sec.

3. Accuracy of the Measurements

The reading accuracy of the instruments were 0.3' (JARE 10) or 0.1" (JARE 11) for D and I, and 1γ for F. The range of accuracy of the time (G.M.T.) of the measurements was 1 min.

References

- Matsuo, T., A. Takagi and Y. Kato (1962): Aeromagnetic surveys over the Oshima Island. Sci. Rep. Tohoku Univ., Ser. 5, 15 (2), 65 - 80.
- Shimizu, H., R. Naruse, K. Omoto and A. Yoshimura (1972): Position of the station, surface elevation and thickness of the ice sheet, and snow temperature at 10 m depth in the Mizuho Plateau-West Enderby Land area, East Antarctica, 1969 - 1971. JARE Data Rep., 17 (Glaciology), 12-37.
- Tsubokawa, H. (1951): G.S.I. travelling magnetometer. Bull. Geogr. Survey Inst., 2 (4), 1 - 38.

Table X-2. Data of geomagnetism in Mizuho Plateau, 1969 - 1970.

Location and elevation of the magnetic station were referred to Shimizu et al. (1972).

F: total force, D: declination, I: inclination, H: horizontal component and Z: vertical component of geomagnetism.

Station No.	Latitude	Longitude	Elevation	Date	GMT	F	D	I	H	Z
Syowa St.	69° 00' S	39° 35' E		10 ^m 30 ^d 69 ^y	18 ^h 04 ^m	4602				
				2 13 70	18 39	4596				
				2 13 70	13 48		46° 22' W	-65° 29'	1907	-4181
				∕	14 38		46 18	-65 31	1904	-4182
S 17	69 01. 9	40 04	583 ^m	1 29 70	7 10	4588				
20	69 01. 5	40 12	653	1 29 70	6 15	4603				
22	69 01. 7	40 18	743	11 1 69	4 40	4602				
25	69 02. 2	40 27	844	1 28 70	9 22	4647				
30	69 03. 1	40 40	961	1 28 70	8 02	4644				
∕				∕	8 15	4644				
35	69 04. 4	40 54	1046	1 28 70	7 08	4661				
40	69 04. 7	41 07	1112	11 2 69	17 06	4676				
∕				11 6 69	9 41	4667				
∕				1 27 70	16 14	4671				
∕				1 27 70	16 53		47 18	-66 02	1897	-4268
45	69 04. 4	41 21	1179	11 6 69	15 24	4612				
∕				1 27 70	15 13	4650				
50	69 04. 2	41 35	1215	11 6 69	17 29	4661				
∕				1 27 70	13 36	4659				
55	69 04. 2	41 48	1271	11 7 69	10 16	4635				
∕				1 27 70	12 27	4646				
60	69 04. 6	42 02	1332	1 27 70	11 31	4643				
65	69 05. 8	42 15	1362	1 27 70	10 12	4652				
68	69 06. 2	42 23	1380	1 27 70	7 38	4659				

Station No.	Latitude	Longitude	Elevation	Date	GMT	F	D	I	H	Z
						$\times 10^r$			$\times 10^r$	$\times 10^r$
S 68	69° 06. 2'S	42° 23' E	1380 ^m	1 ^m 27 ^d 70 ^y	9 ^h 24 ^m	4657				
69	69 06. 4	42 26	1381	1 27 70	8 00	4661				
				1 27 70	9 00	4662				
70	69 06. 9	42 29	1388	11 8 69	12 34	4654				
∕				1 26 70	17 51	4670				
∕				1 27 70	9 29	4666				
∕				1 26 70	18 21		47° 51'W	-66° 06'	1890	-4266
∕				∕	18 46		47 49	-66 00	1898	-4262
75	69 12. 1	42 32	1435	1 26 70	16 19	4679				
80	69 17. 3	42 35	1473	1 26 70	14 56	4677				
85	69 22. 5	42 38	1522	1 26 70	13 16	4681				
90	69 27. 7	42 42	1560	11 9 69	12 11	4649				
∕				1 26 70	11 14	4681				
95	69 32. 8	42 46	1588	11 9 69	14 50	4650				
∕				1 26 70	9 45	4702				
100	69 38. 1	42 50	1630	11 9 69	17 40	4690				
∕				∕	17 41	4660				
∕				11 11 69	17 44	4693				
∕				1 25 70	18 33	4754				
105	69 43. 2	42 53	1656	11 11 69	9 52	4729				
∕				1 25 70	17 03	4756				
110	69 48. 5	42 56	1696	1 25 70	15 08	4757				
115	69 53. 8	43 01	1758	1 25 70	13 37	4733				
120	69 59. 0	43 04	1845	1 24 70	18 13	4732				
125	70 04. 2	43 07	1876	1 24 70	16 37	4754				

Station No.	Latitude	Longitude	Elevation	Date	GMT	F	D	I	H	Z
						$\times 10^7$			$\times 10^7$	$\times 10^7$
S 130	70° 09. 5S	43° 06' E	1900 ^m	11 ^m 12 ^d 69 ^y	13 ^h 57 ^m	4760				
〃				1 24 70	15 21	4750				
〃				〃	15 22	4755				
〃				〃	15 23	4756				
135	70 14. 6	43 06	1909	11 12 69	15 34	4743				
〃				1 24 70	12 35	4757				
〃				1 24 70	13 28		49° 12' W	-66° 10'	1922	-4351
140	70 19. 8	43 06	1934	1 24 70	10 47	4742				
145	70 25. 0	43 06	1944	11 13 69	10 34	4763				
〃				1 24 70	9 23	4757				
150	70 30. 0	43 04	1971	1 23 70	21 03	4769				
〃				1 24 70	7 54	4763				
155	70 35. 0	43 05	1992	11 13 69	15 47	4648				
〃				1 23 70	19 23	4775				
160	70 40. 2	43 06	2008	1 23 70	17 49	4780				
165	70 45. 3	43 07	2035	11 14 69	10 23	4787				
〃				1 23 70	16 07	4786				
170	70 50. 5	43 07	2034	1 22 70	20 30	4791				
〃				1 23 70	13 32		49 26	-66 46	1890	-4402
〃				1 23 70	14 22	4788				
175	70 53. 8	42 56	2036	11 16 69	13 33	4791				
180	70 58. 9	42 57	2075	11 16 69	13 40	4801				
185	71 04. 0	42 57	2114	11 16 69	16 28	4824				
190	71 09. 1	42 58	2180	11 17 69	17 57	4810				

Station No.	Latitude	Longitude	Elevation	Date	GMT	F	D	I	H	Z
						$\times 10^7$			$\times 10^7$	$\times 10^7$
S 205	71° 24. 5' S	43° 01' E	2303 ^m	11 ^m 19 ^d 69 ^y	10 ^h 40 ^m	4814				
210	71 29. 6	43 03	2332	11 19 69	14 10	4821				
215	71 34. 7	43 04	2374	11 19 69	16 48	4840				
220	71 39. 7	43 04	2410	11 20 69	9 53	4842				
225	71 44. 8	43 05	2462	11 20 69	13 18	4844				
230	71 49. 9	43 06	2506	11 20 69	16 03	4850				
240	72 00. 1	43 09	2591	11 22 69	15 26	4857				
"				11 23 69	16 52		49° 46' W	-67° 11'	1884	-4477
A 154	72 00. 8	42 47	2561	11 25 69	20 38	4851				
146	71 58. 9	42 34	2545	11 28 69	16 18	4843				
128	72 00. 9	41 50	2533	11 30 69	19 01	4842				
110	71 59. 9	41 12	2499	12 2 69	19 36	4834				
102	71 59. 3	40 49	2477	12 3 69	18 48	4823				
098	71 59. 2	40 35	2475	12 4 69	14 39	4819				
094	71 58. 2	40 20	2457	12 4 69	18 38	4804				
090	71 58. 3	40 08	2446	12 6 69	20 42	4799				
086	71 58. 2	39 54	2450	12 7 69	17 53	4812				
082	71 57. 5	39 41	2445	12 10 69	15 11	4787				
075	71 55. 3	39 24	2412	12 12 69	18 20		47 31	-66 39		
074	71 56. 4	39 21	2421	12 13 69	13 05	4776				
066	71 55. 6	39 01	2423	12 13 69	20 48	4784				
"				12 14 69	10 18	4779				
058	71 55. 3	38 30	2408	12 14 69	19 12	4769				
"				12 15 69	10 18	4762				

Station No.	Latitude	Longitude	Elevation	Date	GMT	F	D	I	H	Z
						$\times 10^7$			$\times 10^7$	$\times 10^7$
A 054	71° 55. 7'S	38° 20' E	2416 ^m	12 ^m 15 ^d 69 ^y	13 ^h 39 ^m	4765				
050	71 55. 5	38 02	2422	12 15 69	19 59	4761				
046	71 54. 6	37 49	2408	12 16 69	13 19	4762				
042	71 54. 8	37 34	2413	12 16 69	17 54	4765				
038	71 54. 6	37 15	2430	12 17 69	15 02	4749				
030	71 52. 8	37 00	2414	12 18 69	11 32	4726				
026	71 56. 8	36 50	2395	12 18 69	15 51	4718				
021	71 51. 3	36 39	2392	12 18 69	16 40	4726				
019	71 51. 9	36 34	2387	12 21 69	13 38	4730				
017	71 52. 6	36 27	2376	12 21 69	16 56	4718				
015	71 51. 7	36 23	2353	12 21 69	18 09	4714				
009	71 48. 9	36 20	2296	12 27 69	20 20	4711				
B 5	71 46	36. 1°	2182	12 31 69	19 08	4721				
12	71 44	35. 8	1991	1 2 70	11 00	4698				
Yamato B -1	71 37	35. 6	1952	1 7 70	8 18	4707				
Yamato B -3	71 36	35. 7	2078	1 7 70	9 25	4695				
23	71 33	35. 5	1750	1 7 70	17 48	4684				
31	71 27	35. 4	1700	1 8 70	18 00	4677				
36	71 23	35. 4	1635	1 8 70	20 34	4662				
37	71 22	35. 4	1632	1 11 70	10 25	4658				
C 6	71 19. 7	35° 59. 3'	1796	1 13 70	16 26	4693				
10	71 17. 6	36 10. 5	1768	1 13 70	17 54	4689				
15	71 15. 0	36 24. 4	1763	1 13 70	19 47	4682				
17	71 13. 9	36 30. 0	1759	1 15 70	9 29		44° 35'W			

Station No.	Latitude	Longitude	Elevation	Date	GMT	F	D	I	H	Z
						$\times 10^7$			$\times 10^7$	$\times 10^7$
C 37	71° 07. 9'S	37° 27. 5'E	1805 ^m	1 ^m 16 ^d 70 ^y	12 ^h 25 ^m	4731				
∕				1 17 70	9 03	4717				
44	71 07. 6	37 49. 4	1807	1 17 70	12 31	4712				
49	71 07. 2	38 05. 3	1792	1 17 70	15 07	4711				
55	71 06. 9	38 24. 3	1757	1 17 70	17 48	4714				
60	71 06. 7	38 40. 3	1729	1 17 70	19 55	4714				
∕				1 18 70	9 47	4707				
65	71 06. 4	38 56. 2	1737	1 18 70	11 07	4713				
70	71 06. 2	39 12. 1	1747	1 18 70	15 02	4722				
75	71 05. 9	39 28. 0	1749	1 18 70	17 40	4728				
80	71 05. 4	39 43. 9	1767	1 18 70	19 36	4732				
∕				1 19 70	13 28	4728				
∕				1 19 70	17 34		47° 03'W	-66° 29'	1886	-4335
85	71 05. 8	40 01. 0	1794	1 20 70	11 20	4728				
90	71 05. 8	40 17. 1	1802	1 20 70	13 46	4744				
94	71 05. 9	40 31. 8	1794	1 20 70	20 03	4746				
100	71 06. 0	40 52. 4	1823	1 21 70	10 39	4749				
105	71 06. 1	41 09. 5	1836	1 21 70	13 27	4755				
110	71 06. 3	41 26. 6	1889	1 21 70	15 23	4763				
115	71 06. 4	41 43. 6	1930	1 21 70	17 15	4760				
120	71 06. 6	42 00. 7	1984	1 21 70	19 27	4772				
125	71 03. 6	42 12. 3	1963	1 22 70	8 21	4769				
130	71 00. 5	42 23. 8	1978	1 22 70	10 26	4768				

Station No.	Latitude	Longitude	Elevation	Date	GMT	F	D	I	H	Z
						$\times 10^7$			$\times 10^7$	$\times 10^7$
C 135	70° 57.4'S	42° 35.4'E	1998 ^m	1 ^m 22 ^d 70 ^y	13 ^h 18 ^m	4766				
140	70 54.4	42 46.9	2002	1 22 70	15 03	4779				
145	70 51.3	42 58.5	2031	1 22 70	17 12	4782				

Table X-3. Data of geomagnetism in West Enderby Land, 1970 - 1971.

Location and elevation of the magnetic station were referred to Shimizu et al. (1972).

F: total force, D: declination, I: inclination, H: horizontal component and Z: vertical component of geomagnetism.

Station No.	Latitude	Longitude	Elevation	Date	GMT	F	D	I	H	Z
			m	m d y	h m	$\times 10^7$			$\times 10^7$	$\times 10^7$
S 17	69° 01. 9' S	40° 04' E	583	11 03 70	11 22	4580				
22	69 01. 7	40 18	743	11 03 70	12 57	4593				
27	69 02. 5	40 32	893	11 03 70	14 31	4654				
32	69 03. 6	40 46	994	11 04 70	06 35	4636				
37	69 04. 8	40 59	1074	11 04 70	08 28	4635				
42	69 04. 6	41 13	1138	11 04 70	10 38	4658				
47	69 04. 3	41 26	1184	11 04 70	12 16	4625				
52	69 04. 1	41 40	1227	11 05 70	09 06	4648				
57	69 03. 8	41 54	1276	11 08 70	07 40	4643				
62	69 05. 2	42 07	1341	11 08 70	11 06	4641				
67	69 06. 0	42 21	1363	11 08 70	13 08	4655				
70	69 06. 9	42 29	1388	11 09 70	06 33	4654				
72	69 09. 0	42 30	1409	11 09 70	07 52	4657				
77	69 14. 2	42 33	1451	11 09 70	10 31	4662				
82	69 19. 4	42 36	1489	11 09 70	12 57	4664				
87	69 24. 6	42 40	1534	11 09 70	15 31	4683				
92	69 29. 8	42 43	1568	11 10 70	06 49	4680				
97	69 34. 9	42 48	1605	11 10 70	09 05	4702				
102	69 40. 1	42 51	1636	11 10 70	14 30	4758				
112	69 50. 6	42 58	1736	11 11 70	08 19	4708				
117	69 55. 9	43 03	1774	11 11 70	09 31	4723				
122	70 01. 1	43 06	1853	11 12 70	17 40	4715	48° 38' W	-66° 33'	-4325	
150	70 30. 0	43 04	1971	01 16 71	15 26	4760				
169	70 49. 4	43 07	2035	01 12 71	15 32	4778				
Z 10	70 05. 8	43 14	1911	11 13 70	10 43	4738				

Station No.	Latitude	Longitude	Elevation	Date	GMT	F	D	I	H	Z
Z 22	70° 11. 5S	43° 24' E	1952 ^m	11 ^m 13 ^d 70 ^y	14 ^h 31 ^m	4718 ^{×10^r}			×10 ^r	×10 ^r
30	70 15. 3	43 30	1997	11 13 70	16 13	4732				
35	70 17. 7	43 34	2012	11 13 70	17 32	4750				
41	70 20. 5	43 38	2018	11 14 70	09 36	4764				
51	70 23. 4	43 43	2020	11 14 70	11 01	4779				
70	70 27. 8	43 50	2059	11 14 70	13 46	4771				
80	70 32. 2	43 58	2091	11 14 70	16 34	4782				
90	70 36. 3	44 06	2111	11 14 70	10 17	4789				
100	70 40. 5	44 14	2138	11 14 70	13 16	4803				
Mizuho Camp	70 42. 1	44 18	2169	11 16 70	13 50	4805	49° 54'W	-66° 50'	1890	-4418
				11 18 70	13 35	4808	49 50	-66 49	1893	-4420
Y 10	70 45. 6	44 30	2227	11 19 70	09 21	4811				
20	70 49. 2	44 44	2272	11 19 70	12 08	4817				
30	70 52. 7	44 57	2314	11 19 70	14 13	4822				
35	70 54. 2	45 05	2342	11 19 70	17 22	4827	50 56	-67 05	1880	-4446
100	71 15. 9	46 32	2545	11 22 70	14 54		52 14	-67 08		
135	71 26. 8	47 22	2644	11 24 70	18 32	4893	52 46	-67 25	1879	-4518
145	71 30. 0	47 36	2675	11 25 70	08 48	4898				
155	71 33. 1	47 50	2702	11 25 70	16 20	4910				
165	71 36. 2	48 04	2719	11 25 70	12 20	4918				
170	71 37. 4	48 12	2720	11 25 70	15 17	4936	53 31	-67 30	1890	-4560
180	71 40. 5	48 26	2777	11 26 70	08 41	4930				
190	71 43. 4	48 41	2809	11 26 70	10 27	4943				
200	71 46. 2	48 56	2819	11 26 70	14 28	4950	54 22	-67 51	1866	-4584
210	71 41. 1	49 02	2807	11 29 70	10 00	4957				

Station No.	Latitude	Longitude	Elevation	Date	GMT	F	D	I	H	Z
Y225	71°33.3S	49°09' E	2785 ^m	11 ^m 29 ^d 70 ^y	13 ^h 40 ^m	4944 ^{×10^r}			1852 ^{×10^r}	4574 ^{×10^r}
235	71 28. 2	49 14	2764	11 29 70	16 36	4936				
245	71 22. 9	49 20	2746	11 30 70	09 16	4920				
255	71 17. 8	49 26	2720	11 30 70	11 44	4916				
265	71 12. 5	49 31	2679	11 30 70	14 07	4921				
270	71 10. 0	49 34	2676	11 30 70	17 19	4935	54° 58'W	-67° 58'	1852	-4574
280	71 05. 2	49 42	2666	12 01 70	09 07	4924				
290	71 00. 0	49 48	2635	12 01 70	11 44	4931				
300	70 54. 9	49 53	2629	12 01 70	13 53	4935				
305	70 52. 4	49 56	2616	12 01 70	16 00	4927				
315	70 47. 3	50 02	2601	12 02 70	09 32	4925				
335	70 36. 9	50 13	2577	12 02 70	14 57	4921				
345	70 31. 6	50 19	2555	12 03 70	09 24	4921				
360	70 24. 0	50 28	2527	12 03 70	13 02	4909				
370	70 18. 8	50 33	2503	12 04 70	12 53	4891	54 46	-67 34	1867	-4521
380	70 13. 4	50 36	2475	12 06 70	09 39	4871				
390	70 08. 2	50 41	2433	12 06 70	12 05	4905				
400	70 02. 9	50 44	2399	12 06 70	14 05	4919				
405	70 00. 3	50 46	2388	12 06 70	16 50	4921	53 43	-68 00	1843	-4563
415	69 55. 1	50 50	2356	12 07 70	09 20	4912				
425	69 49. 8	50 55	2335	12 07 70	11 54	4911				
435	69 44. 5	50 59	2317	12 07 70	13 46	4920				
440	69 41. 9	51 01	2306	12 07 70	15 22	4917				
450	69 36. 7	51 05	2271	12 08 70	08 50	4898				
460	69 31. 4	51 09	2219	12 08 70	11 21	4907				

Station No.	Latitude	Longitude	Elevation	Date	GMT	F	D	I	H	Z
Y 470	69° 26. 1'S	51° 14' E	2204 ^m	12 ^m 08 ^d 70 ^y	13 ^h 15 ^m	4876 ^{×10^r}			×10 ^r	×10 ^r
475	69 23. 5	51 16	2181	12 08 70	17 38		53° 59' W	-67° 07'		
500	69 10. 6	51 26	2126	12 09 70	11 58	4863				
510	69 05. 3	51 30	2108	12 09 70	14 22	4865				
530	68 58. 2	51 48	2118	12 11 70	16 04	4867				
535	68 55. 5	51 49	2106	12 11 70	17 15	4855				
545	68 50. 3	51 53	2099	12 12 70	09 30	4837				
555	68 45. 0	51 57	2086	12 12 70	11 14	4834				
Sandercock Nunataks	68 37. 0	52 06	2056	12 13 70	15 21	4851	54 53	-67 33	1853	-4483
W 07	68 45. 1	51 36	2051	12 17 70	17 32	4828	54 48	-67 24	1856	-4458
13	68 51. 2	51 13	1962	12 18 70	16 48	4830	54 11	-67 18	1864	-4455
19	68 58. 7	50 51	1943	12 19 70	17 20	4831	54 06	-67 14	1869	-4455
22	69 01. 5	50 39	1909	12 23 70	14 17	4833				
26	69 05. 9	50 22	1881	12 23 70	19 16	4822				
29	69 09. 4	50 14	1856	12 25 70	14 43	4826				
33	69 16. 5	49 53	1851	12 25 70	20 23	4819	53 06	-66 54	1891	-4433
40	69 23. 4	49 28	1840	12 26 70	20 22	4822	53 17	-66 52	1894	-4434
55	69 41. 4	48 10	2107	12 31 70	13 16		52 13	-67 02		
230	69 53. 7	47 34	2254	01 02 71	19 35		52 17	-66 48		
				01 06 71	06 47	4811				
245	69 59. 7	47 16	2298	01 06 71	11 10	4812				
255	70 03. 6	47 04	2316	01 06 71	13 26	4805				
270	70 09. 4	46 46	2339	01 06 71	17 18	4827				
280	70 13. 3	46 34	2344	01 07 71	08 24	4817				
290	70 17. 0	46 23	2337	01 07 71	09 59	4823				

Station No.	Latitude	Longitude	Elevation	Date	GMT	F	D	I	H	Z
W300	70°20.6'S	46°11' E	2322 ^m	01 ^m 07 ^d 71 ^y	11 ^h 57 ^m	4818 ^{×10^r}			×10 ^r	×10 ^r
310	70 24.3	45 59	2301	01 07 71	13 24	4828				
320	70 28.0	45 47	2291	01 07 71	15 40	4813	51°14'W	-66°55'	1887	-4427
335	70 32.0	45 24	2288	01 08 71	08 53	4803				
345	70 34.8	45 09	2265	01 08 71	10 34	4801				
355	70 37.2	44 54	2246	01 08 71	12 11	4808				
365	70 39.8	44 38	2221	01 08 71	13 26	4797				
X 8	70 44.0	43 49	2097	01 12 71	11 04	4796				
14	70 46.4	43 27	2069	01 12 71	13 08	4781				