35. PALEOMAGNETICS OF TERTIARY SEDIMENTS FROM THE SOUTHWEST ROCKALL PLATEAU, DEEP SEA DRILLING PROJECT LEG 81[1]

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ABSTRACT

Paleomagnetic data are tabulated for DSDP Sites 552, 553, 554, and 555, drilled on the southwest margin of Rockall Plateau. No interpretation of these data has been given; because the results provide a particularly valuable record of Paleogene and Neogene magnetostratigraphy they have, however, been provided here for use by the community.

INTRODUCTION

This chapter presents data from the shipboard and post-cruise paleomagnetic studies of sediments and basalts cored on the southwest margin of Rockall Plateau during Leg 81 of the International Phase of Ocean Drilling of the Deep Sea Drilling Project (DSDP). (See Table 1, at end of chapter, and Figs. 1–3.)

The study was intended to extend the results earlier obtained during Leg 48 by Hailwood (1979). It was thought that the paleomagnetic study would provide a useful source of information with which to constrain both the age and eruption history of the lavas thought largely to compose the suite of dipping reflectors. It was also thought that, by providing a more exact chronology, the identification of magnetic polarity reversals might help in understanding the closely spaced events that preceded and heralded the breakup of Greenland and Rockall. Finally, it was hoped that detailed paleomagnetic studies of the late Neogene and Quaternary would contribute to studies of the evolution of North Atlantic paleoceanography and climate (Zimmerman, this volume; Backman, this volume). Unfortunately, time constraints, and changing circumstances in German universities since 1981 which were beyond the control of the senior author (the shipboard paleomagnetist), did not allow preparation of a written report. As the observations are of potentially great value, however, they have been tabulated for future reference, pending a subsequent full report.

PALEOMAGNETIC TECHNIQUES

Paleomagnetic measurements on Leg 81 were carried out with the equipment installed on *Glomar Challenger*—a "Digico" computerized spinner magnetometer for measurement of discrete samples having volumes in the range of 10 to 20 cm^3, and a Schonstedt AF demagnetizer enclosed in a mu-metal shield. A variable speed, reversible, motor-driven system allowed automatic increase of the demagnetizing field to a predetermined peak value, and smooth down to zero. The noise level of the magnetometer was usually in the range of 2×10^{-4} A/m to 6×10^{-5} A/m, and satisfactory repeatability of measurements was possible for most samples using an integration time corresponding to 2^3 to 2^5 revolutions.

Additional shipboard measurements were made on HPC cores using the long core spinner. In the case of many samples, further post-cruise studies were carried out in the paleomagnetic laboratories at Bonn and at Zurich to confirm and extend the initial measurements made at sea. At Bonn University the specimens were measured with an UGF 4 spinner magnetometer produced by Geofisika, Brno (CSSR). The sample rotates at 88 revolutions per second; the integration time is 1 or 10 seconds. Demagnetization experiments were carried out with the motor-driven system described above but also incorporating a two-axis tumbling system. During demagnetization, the Earth's magnetic field was compensated down to values 50 nT using Helmholtz coils 1.4 m in diameter. The magnetic behavior of the RM vector was plotted automatically by means of demagnetization curves (Ir/Io) and Zijderveld diagrams. The paleomagnetic work at Bonn University was limited by the resolution of the spinner magnetometer (2×10^{-5} A/m) and by the inconsistency of the specimen.

Post-cruise studies were continued at Zurich University, using a two-axis cryogenic magnetometer for the measurements. The demagnetization experiments were carried out with a Schonstedt AF demagnetizer as has been described. The results were plotted by means of Ir/Io-curves only.

Although the shipboard instruments, the spinner magnetometer, and the AF demagnetizer at Bonn University are still calibrated in the cgs measurement system, the SI metric system is established at Zurich. Since the SI system should be used in all future paleomagnetic work, all data presented here have been converted to this system.

Table 1. Compilation of paleomagnetic results, Leg 81.

Sample (interval in cm)	Decl.	Incl.	Intensity (A/m)	AFD ($\times 10^{-1}$ mT)	Decl.	Incl.	Intensity (A/m)	χ ($\times 4\pi$ SI units)
Hole 552								
1-1, 73–75	208	−21	3.26×10^{-3}					
1-1, 142–144	131	6	1.82×10^{-3}	480	95	73		
1-2, 85–87	280	54	8.80×10^{-3}	640	304	50	2.75×10^{-3}	
1-2, 131–133	199	58	7.72×10^{-3}	320	157	70	2.99×10^{-3}	
1-3, 11–13	313.3	4.1	4.76×10^{-4}					
2-1, 30–32	34.8	−41.8	1.5×10^{-5}					
2-1, 80–82	230	67.5	3.7×10^{-5}					
2-1, 100–102	217	38.1	9.0×10^{-6}					
3-1, 75–77	173.8	27.9	1.3×10^{-5}					
3-2, 75–77	196.2	5.0	3.0×10^{-6}					
3-3, 54–56	15.0	−54.0	8.0×10^{-6}					
3-4, 75–77	207	−21.1	3.0×10^{-6}					
3-5, 130–132	273.1	5.5	1.0×10^{-5}					
3-6, 75–77	352.3	−32.2	7.0×10^{-6}					
4-1, 136–138	90.0	33.4	2.4×10^{-5}					
4-3, 75–77	234.0	3.9	9.0×10^{-6}					
4-4, 68–70	132.0	18.0	3.6×10^{-5}					
5-1, 80–82	261.0	−8.3	3.6×10^{-5}					
5-3, 109–111	112.8	−15.0	2.2×10^{-5}					
5-4, 20–22	174.3	23.0	2.7×10^{-5}					
5-5, 20–22	204	19	2.33×10^{-5}					
6-1, 19–21	194	−20	1.52×10^{-4}					
6-2, 19–21	135	−22	1.05×10^{-3}					
6-3, 19–21	141	−55	1.46×10^{-4}					
6-4, 19–21	325	19	1.29×10^{-4}					
7-1, 109–111	107	14	9.12×10^{-5}					
7-2, 123–125	188	41	8.46×10^{-4}	480	57	1	1.89×10^{-5}	
7-3, 140–142	21	21	1.07×10^{-3}					
7-4, 78–80	33.7	−46.9	1.0×10^{-5}					
8-1, 100–102	182.5	−14.6	1.3×10^{-5}					
8-3, 100–102	195.0	23.0	1.3×10^{-5}					
8-4, 19–21	207.0	37.0	1.3×10^{-5}					
8-4, 71–73	204.0	31.0	4.94×10^{-2}	400	162	51	7.46×10^{-5}	
9-1, 70–72	113.7	−66.9	7.65×10^{-3}	500	243	−70	5.5×10^{-4}	
9-2, 70–72	295.4	−29.5	9.36×10^{-4}					
9-3, 70–72	274.1	−49.6	4.49×10^{-3}					
9-4, 70–72	1.6	−64.4	2.49×10^{-3}					
9-5, 70–72	193.8	−42.8	7.07×10^{-3}					
12-1, 60–62	100.1	−44.7	1.06×10^{-3}					
12-1, 60–62	104.4	−63.7	1.15×10^{-2}					
12-3, 60–62	106.8	−14.8	5.14×10^{-3}					
12-4, 60–62	239.4	−45.0	9.09×10^{-3}					
12-5, 60–62	340.2	−61.4	9.75×10^{-3}					
12-6, 60–62	70.9	−45.5	1.39×10^{-3}					
12-7, 48–50	285.5	36.0	1.07×10^{-2}					
13-1, 119–121	213.9	69.4	2.91×10^{-3}	320	308	47	2.5×10^{-3}	
14-1, 94–96	336.3	71.0	3.50×10^{-3}	720	23	43	2.7×10^{-3}	
14-2, 27–29	22.5	71.6	2.18×10^{-2}	500	239	58	1.5×10^{-3}	
14-3, 140–142	281.5	74.3	6.61×10^{-3}	400	345	50	2.5×10^{-3}	
14-2, 15–17	65.0	61.4	2.91×10^{-3}	640	169	63	2.9×10^{-3}	
16-1, 74–76	150.7	−56.9	5.02×10^{-3}	700	156	−54	1.9×10^{-3}	
17-1, 29–31	334.3	49.6	9.09×10^{-4}	500	252	−46	1.8×10^{-5}	
18-1, 58–60	267	−48	7.6×10^{-3}	400	189	−36	6.8×10^{-3}	
18-2, 19–21	176.8	−44.8	1.86×10^{-2}	200	177	−50	1.2×10^{-2}	
21-1, 77–79	219	−38	7.2×10^{-3}	320	169	−19	1.5×10^{-3}	
21-1, 86–88	38.3	−77.2	5.01×10^{-3}	320	162	−53	7.0×10^{-4}	
21-1, 117–119	227.9	−45.6	1.15×10^{-2}	320	109	−37	1.2×10^{-3}	
21-1, 134–136	217.9	−73.3	1.87×10^{-2}	400	32	−60	1.3×10^{-3}	
21-1, 142–144	160.3	−3.9	1.44×10^{-2}	320	146	−3	2.4×10^{-3}	
21-2, 5–7	326.7	−66.3	2.34×10^{-2}	480	173	−65	4.2×10^{-3}	
21-2, 15–17	264.1	10.5	5.83×10^{-3}					
21-2, 36–38	4.6	55.1	2.45×10^{-3}	50	10	42	1.2×10^{-4}	
21-2, 65–67	261	−63.8	4.85×10^{-2}	240	14	−61	8.7×10^{-3}	
21-2, 85–87	183.9	−79.6	4.84×10^{-2}	240	306	−66	6.7×10^{-3}	
21-2, 104–106	34.1	−78.3	5.40×10^{-2}	320	8	−43	2.8×10^{-3}	
21-2, 110–112	45.2	50.4	1.22×10^{-2}	150	27	−30	6.7×10^{-4}	
21-2, 129–131	202.8	−63.9	8.00×10^{-2}	240	325	−55	6.0×10^{-3}	
21-3, 5–7	223.5	−67.9	4.61×10^{-2}	320	165	−63	2.6×10^{-3}	
21-3, 25–27	277	−61	6.6×10^{-2}					
21-3, 78–80	316	−67	6.9×10^{-1}	480	239	−66	1.6×10^{-2}	
22-1, 59–61	341.4	−55.5	6.66	480	181	−64	3.7×10^{-1}	
22-2, 66–68	82.1	−68.7	10.3	400	173	−52	3.5×10^{-1}	
23-2, 6–8	336.7	−55.9	6.79	400	343	−50	3.3×10^{-1}	

Table 1. (Continued).

Sample (interval in cm)	Decl.	Incl.	Intensity (A/m)	AFD ($\times 10^{-1}$ mT)	Decl.	Incl.	Intensity (A/m)	χ ($\times 4\pi$ SI units)
Hole 552A								
1-1, 47–49	291	67	1.83×10^{-2}					
1-1, 80–82	27	18	1.87×10^{-2}					
1-2, 93–95	316	58	1.77×10^{-2}					
3-1, 115–117	55	68	1.28×10^{-2}					
3-2, 115–117	254	65	4.13×10^{-2}					
3-3, 135–137	253	57	2.50×10^{-2}					
4-1, 117–119	342	29	8.91×10^{-2}	700	350	20	6.62×10^{-2}	
4-2, 115–117	316	21	7.32×10^{-3}	700	281	55	2.86×10^{-3}	
4-3, 113–115	249	17	9.01×10^{-3}					
5-1, 53–55	32	61	2.45×10^{-2}	500	40	56	8.24×10^{-3}	
5-2, 53–55	27	72	4.33×10^{-3}	700	246	-3	1.62×10^{-3}	
5-3, 14–16	288	50	8.35×10^{-3}	400	312	-26	1.48×10^{-3}	
5-4, 14–16	266	-6	9.53×10^{-4}					
7-1, 145–147	20	71	2.79×10^{-2}					
7-2, 105–107	224	-80	1.39×10^{-4}					
7-3, 102–104	70	73	1.44×10^{-2}					
8-1, 142–144	213	-84	1.42×10^{-2}					
8-2, 141–143	180	-35	5.8×10^{-4}					
8-3, 108–110	272	-38	1.17×10^{-2}					
9-1, 136–138	237	-61	3.14×10^{-2}					
9-2, 106–108	248	-57	4.19×10^{-3}					
9-3, 136–138	195	-10	5.39×10^{-4}					
10-1, 125–127	268	-45	5.5×10^{-5}					
10-2, 24–26	170	-15	4.55×10^{-3}					
10-3, 114–116	57	24	7.2×10^{-4}					
11-2, 104–106	165	19	9.45×10^{-4}					
11-4, 6–8	297	15	1.30×10^{-3}					
12-2, 104–106	112	58	1.48×10^{-3}					
12-3, 93–95	186	-53	1.70×10^{-4}					
14-1, 113–115	270	-87	5.90×10^{-4}					
14-3, 113–115	220	14	3.00×10^{-5}					
15-1, 113–115	137	-28	1.05×10^{-4}					
15-2, 113–115	357	-10	1.50×10^{-5}	80	254	30	1.39×10^{-5}	
15-3, 113–115	317	11	1.65×10^{-4}					
16-1, 117–119	330	-15	3.63×10^{-5}					
16-2, 117–119	115	-18	1.40×10^{-4}					
16-3, 106–108	297	-9	3.21×10^{-4}					
17-1, 106–108	73	62	1.03×10^{-4}					
18-2, 63–65	181	-41	1.60×10^{-4}					
18-3, 63–65	237	39	1.57×10^{-4}					
19-1, 107–109	189	-49	8.00×10^{-5}					
19-2, 107–109	200	-61	1.00×10^{-4}					
19-3, 107–109	16	-42	2.75×10^{-5}					
20-1, 63–65	197	-73	2.96×10^{-3}					
20-2, 63–65	69	42	1.63×10^{-4}					
21-1, 130–132	54	-5	1.39×10^{-2}					
21-2, 130–132	236	-50	1.20×10^{-4}					
21-3, 49–51	184	-14	2.45×10^{-5}	160	211	54	7.15×10^{-6}	
22-1, 130–132	117	-16	1.82×10^{-4}					
22-2, 130–132	163	-26	5.00×10^{-5}					
22-3, 49–51	111	-39	2.17×10^{-5}	240	323	44	8.10×10^{-6}	
23-1, 89–91	71	-50	8.27×10^{-5}					
23-2, 89–91	261	-2	3.42×10^{-5}					
23-3, 89–91	297	-66	1.37×10^{-5}	320	297	60	7.64×10^{-6}	
24-1, 89–91	30	18	4.13×10^{-5}	120	62	37	8.08×10^{-6}	
24-2, 89–91	308	-53	1.10×10^{-4}					
24-2, 106–108	263	-53	2.20×10^{-5}					
24-3, 89–91	90	-55	1.75×10^{-5}					
25-1, 88–90	17	-39	4.04×10^{-5}					
25-2, 29–31	189	14	4.25×10^{-5}	320	169	60	1.08×10^{-5}	
25-3, 110–112	318	-37	5.61×10^{-5}					
26-1, 19–21	126	10	5.91×10^{-3}					
26-1, 39–41	161	-63	9.65×10^{-5}	400	317	-59	2.7×10^{-5}	
26-1, 59–61	231	-50	1.62×10^{-4}					
26-1, 79–81	338	-19	9.00×10^{-5}					
26-1, 99–101	248	-1	9.00×10^{-5}					
26-1, 119–121	78	14	7.7×10^{-4}					
26-1, 139–141	80	-2	6.6×10^{-4}					
26-2, 19–21	313	15	1.4×10^{-4}					
26-2, 39–41	99	-25	1.60×10^{-4}					
26-2, 59–61	13	67	6.00×10^{-5}					
26-2, 79–81	333	-68	3.15×10^{-5}	240	319	-73	2.67×10^{-5}	
26-2, 119–121	76	18	2.4×10^{-4}					
26-2, 139–141	66	14	1.2×10^{-4}					
26-3, 19–21	76	-1	1.1×10^{-4}					

Table 1. (Continued).

Sample (interval in cm)	Decl.	Incl.	Intensity (A/m)	AFD ($\times 10^{-1}$ mT)	Decl.	Incl.	Intensity (A/m)	χ ($\times 4\pi$ SI units)
Hole 552A (Cont.)								
26-3, 39–41	35	31	2.0×10^{-4}					
26-3, 59–61	149	−69	3.55×10^{-5}					
26-3, 79–81	65	21	8.00×10^{-5}					
26-3, 99–101	91	−11	6.00×10^{-5}					
26-3, 119–121	46	−20	4.00×10^{-5}					
26-3, 140–142	85	−36	1.10×10^{-4}					
27-1, 19–21	75	−72	1.00×10^{-4}					
27-1, 39–41	25	−7	9.00×10^{-5}					
27-1, 58–60	62	−25	1.00×10^{-4}					
27-1, 79–81	42	−18	3.00×10^{-5}					
27-1, 101–103	24	28	5.00×10^{-5}					
27-1, 139–141	46	39	4.00×10^{-5}					
27-2, 19–21	199	−71	4.9×10^{-4}					
27-2, 39–41	92	12	2.2×10^{-4}					
27-2, 59–61	329	48	5.92×10^{-5}					
27-2, 79–81	280	60	8.00×10^{-5}					
27-2, 99–101	75	23	3.00×10^{-5}					
27-2, 119–121	146	70	2.70×10^{-4}					
27-2, 139–141	117	71	1.00×10^{-4}					
27-3, 19–21	7	79	5.00×10^{-5}					
27-3, 40–42	9	15	3.00×10^{-5}					
27-3, 59–61	214	46	7.57×10^{-5}					
27-3, 79–81	324	59	9.00×10^{-5}					
27-3, 99–101	11	48	3.00×10^{-5}					
27-3, 119–121	353	43	5.00×10^{-5}					
27-3, 141–143								
27-4, 11–13	34	59	6.00×10^{-5}					
28-1, 19–21	176	13	1.00×10^{-4}					
28-1, 69–71	313	−68	5.84×10^{-3}					
28-1, 89–91	67	38	1.40×10^{-4}					
28-1, 112–114	29	54	1.10×10^{-4}					
28-1, 136–138	209	−40	6.50×10^{-4}					
28-2, 11–13	307	73	5.00×10^{-5}	120	288	73	2.15×10^{-5}	
28-2, 30–32	43	73	1.00×10^{-4}					
28-2, 49–51	171	69	7.38×10^{-5}					
28-2, 69–71	337	63	7.00×10^{-5}					
28-2, 89–91	341	60	9.00×10^{-5}					
28-2, 112–114	8	44	1.80×10^{-4}					
28-2, 135–137	237	81	2.10×10^{-4}					
28-3, 12–14	241	68	3.47×10^{-5}	320	234	67	1.66×10^{-5}	
28-3, 30–32	148	−12	1.00×10^{-4}					
28-3, 49–51	164	−51	8.00×10^{-5}					
28-3, 69–71	65	−82	1.29×10^{-4}					
28-3, 112–114	169	−54	1.10×10^{-4}					
28-3, 125–127	228	−58	1.40×10^{-4}					
28-3, 146–148	186	−3	3.50×10^{-4}					
28-4, 11–13	163	−45	7.00×10^{-5}					
28-4, 32–34	13	−79	9.50×10^{-5}					
29-1, 142–144	205	25	2.21×10^{-5}	320	238	−50	6.15×10^{-6}	
29-2, 142–144	50	−15	4.30×10^{-4}					
29-3, 142–144	90	88	6.77×10^{-5}	160	78	79	4.28×10^{-5}	
30-1, 117–119	146	17	4.00×10^{-5}					
30-2, 117–119	150	−55	3.00×10^{-5}					
30-3, 117–119	174	−32	9.00×10^{-5}					
31-1, 81–83	286	−58	6.00×10^{-5}					
31-2, 49–51	211	−39	5.49×10^{-5}					
31-3, 48–50	274	−68	5.26×10^{-5}					
32-1, 73–75	160	−76	1.74×10^{-3}					
32-2, 73–75	159	−16	3.86×10^{-4}					
32-3, 73–75	163	26	3.65×10^{-4}					
33-1, 137–139	176	71	5.69×10^{-4}	160	102	13	2.27×10^{-5}	
33-2, 137–139	81	53	1.46×10^{-3}	320	155	81	1.73×10^{-4}	
33-3, 137–139	91	49	9.58×10^{-5}					
34-1, 110–112	110	12	6.61×10^{-5}					
34-2, 110–112	132	−60	1.29×10^{-4}					
35-1, 130–132	332	13	2.61×10^{-5}					
35-2, 130–132	174	28	1.26×10^{-3}					
35-3, 130–132	143	61	2.00×10^{-3}					
36-1, 35–37	169	44	6.66×10^{-5}	320	186	46	2.11×10^{-5}	
36-2, 35–37	32	−57	1.83×10^{-2}	640	358	−43	1.47×10^{-3}	
36-3, 35–37	131	−57	1.26×10^{-2}					
36-3, 135–137	251	−16	1.90×10^{-4}					
37-2, 56–57	214	73	1.31×10^{-2}					
37-2, 73–74	170	67	2.53×10^{-2}					
37-2, 118–119	92	−8	4.77×10^{-3}	320	338	−66	1.88×10^{-3}	

Table 1. (Continued).

Sample (interval in cm)	Decl.	Incl.	Intensity (A/m)	AFD ($\times 10^{-1}$ mT)	Decl.	Incl.	Intensity (A/m)	χ ($\times 4\pi$ SI units)
Hole 552A (Cont.)								
37-3, 26–28	351	−42	4.18×10^{-2}					
37-3, 56–57	344	−60	2.11×10^{-2}					
37-3, 73–75	317	−73	1.91×10^{-2}					
37-3, 118–119	328	−20	8.44×10^{-2}					
38-1, 135–137	64	−75	2.86×10^{-2}					
38-2, 135–137	267	−62	1.88×10^{-2}					
38-3, 135–137	169	−57	2.04×10^{-2}					
Hole 553A								
4-2, 53–55	119	−11	3.5×10^{-4}					
4-3, 85–87	62	13	2.6×10^{-4}					
4-4, 53–55	7	13	9.1×10^{-4}					
4-5, 53–55	112	69	1.9×10^{-4}					
4-6, 53–55	8	75	1.9×10^{-4}	480	29	75	4.25×10^{-4}	
4-7, 30–32	219	−40	3.2×10^{-4}					
5-1, 91–93	243	−9	2.6×10^{-4}					
5-2, 91–93	87	−1	7.0×10^{-4}					
5-3, 91–93	347	−64	5.6×10^{-4}					
5-4, 91–93	152	18	4.8×10^{-4}					
5-5, 91–93	161	5	3.3×10^{-4}	240	205	32	7.1×10^{-4}	
5-6, 91–93	176	−68	5.8×10^{-4}	320	147	55	1.2×10^{-4}	
6-1, 20–22	204	58	1.1	420	256	64	2.5×10^{-4}	
6-3, 20–22	143	75	1.1					
6-4, 20–22	168	62	8.7×10^{-4}	640	54	69	2.36×10^{-4}	
6-5, 15–17	229	37	6.0×10^{-4}					
6-6, 15–17	261	18	9.6×10^{-3}					
7-1, 120–122	119	−47	1.3×10^{-3}					
7-5, 37–39	151	−6	3.5×10^{-4}	320	193	−21	7.7×10^{-5}	
7-5, 119–121	132	−47	8.5×10^{-4}					
8-1, 113–115	225	4	3.25×10^{-4}	200	219	−42	2.6×10^{-4}	
8-2, 19–21	252	13	1.2×10^{-3}	600	277	−14	7.2×10^{-4}	0.36
8-3, 113–115	163.3	77.1	4.90×10^{-4}					2.0
8-3, 136–138	34	10	9.3×10^{-4}	320	77	−29	9.6×10^{-4}	
9-1, 89–91	245.8	−41.2	4.63×10^{-4}					0.41
9-2, 88–91	200	−45	1.9×10^{-3}					
9-3, 90–92	322	−73	1.1×10^{-3}					
9-4, 21–23	101.1	52.9	4.22×10^{-4}					0.7
9-5, 55–57	346	56	5.4×10^{-3}	320	311	49	2.0×10^{-4}	1.95
9-5, 136–138	285.8	71.3	4.08×10^{-3}					1.9
9-6, 15–17	138	−48	9.8×10^{-3}	320	110	−56	2.7×10^{-3}	2.9
9-6, 57–59	106	−40	5.8×10^{-3}	240	81	−49	5.7×10^{-3}	2.2
10-1, 118–119	140.5	76.8	1.42×10^{-3}					2.1
10-2, 29–31	28	57	9.3×10^{-3}	320	29	70	2.3×10^{-3}	2.5
10-3, 88–90	103.8	62.2	3.01×10^{-2}					4.4
10-4, 16–18	354	69	2.0×10^{-2}					6.5
10-5, 10–12	175	68	5.1×10^{-3}	480	172	−43	1.7×10^{-3}	2.0
10-6, 62–64	166.1	76.2	1.37×10^{-2}					3.2
10-7, 42–44	3.8	−34.4	9.04×10^{-3}	320	180	−65	1.04×10^{-3}	4.9
11-1, 19–21	229.0	−13.0	1.2×10^{-3}	320	353	−45	7.1×10^{-3}	6.2
11-2, 26–28	55.5	−57.0	2.94×10^{-2}					14.8
11-3, 77–79	253.6	57.5	1.01×10^{-2}	320	80	37	1.4×10^{-3}	2.6
11-4, 26–28	268.2	64.4	2.03×10^{-2}					4.6
11-5, 45–47	310.0	67.0						0.0
11-6, 3–5	217.5	−26.1	3.0×10^{-2}	320	65	−57	6.0×10^{-3}	4.1
11-6, 58–60	276.8	63.0	2.39×10^{-2}	240	114	33		7.0
12-1, 44–46	239.6	62.9	2.18×10^{-2}					5.6
12-2, 25–27	71	51	1.4×10^{-1}	160	97	49	4.8×10^{-2}	
12-3, 19–21	36.7	71.3	4.80×10^{-2}					12.4
12-4, 19–21	103.5	70.9	2.70×10^{-2}	160	124	19	1.2×10^{-2}	11.8
13-1, 23–25	26.9	69.1	6.84×10^{-2}					10.5
13-2, 99–101	180.1	58.8	1.51×10^{-2}	160	71	−22	5.0×10^{-3}	7.6
14-1, 12–14	224.9	62.8	3.15×10^{-2}	240	147	−42	3.5×10^{-3}	10.5
14-1, 52–54	275	−45	4.0×10^{-2}	480	331	−68	1.6×10^{-2}	
14-2, 107–109	156.7	12.4	4.30×10^{-3}					7.9
14-4, 46–48	72.7	−70.4	2.93×10^{-4}					8.8
14-5, 33–35	201.8	−25.2	2.62×10^{-4}					7.4
14-7, 30–32	89.3	−50.8	1.25×10^{-2}					2.0
15-1, 47–49	114.7	−62.8	1.00×10^{-2}					1.6
15-2, 109–111	286.5	−36.8	1.95×10^{-2}	480	83	17	8.9×10^{-3}	7.3
15-3, 142–144	67.9	67.8	1.84×10^{-2}	160	146	30	3.5×10^{-2}	16.6
15-4, 63–65	186.9	70.9	8.17×10^{-2}					13.0
18-1, 104–106	105.5	−6.0	5.75×10^{-2}	240	199	−12	1.9×10^{-2}	9.9
18-2, 37–40	343.3	19.0	1.45×10^{-2}					12.7
19-1, 54–56	33.0	−55	1.24×10^{-2}	160	309	−65	8.4×10^{-3}	4.8

Table 1. (Continued).

Sample (interval in cm)	Decl.	Incl.	Intensity (A/m)	AFD ($\times 10^{-1}$ mT)	Decl.	Incl.	Intensity (A/m)	χ ($\times 4\pi$ SI units)
Hole 553A (Cont.)								
19-2, 38–40	76.2	78.2	1.76×10^{-2}					5.0
19-3, 101–103	221.8	87.7	1.67×10^{-2}					6.9
19-4, 64–66	118.3	81.3	4.18×10^{-2}	160	256	63	8.9×10^{-3}	8.2
20-1, 39–41	320.4	−53.4	4.03×10^{-3}					5.7
20-2, 40–42	310.7	59.5	6.95×10^{-3}					3.3
20-3, 42–44	193.6	76.1	1.17×10^{-2}					2.8
20-4, 43–44	253.3	78.5	1.15×10^{-2}	100	13.0	−46.3	1.41×10^{-3}	4.1
20-5, 45–47	270.4	77.4	3.99×10^{-3}	300	42.5	−53.7	2.02×10^{-4}	3.0
20-6, 22–24	273.8	54.5	1.25×10^{-2}					4.7
21-1, 102–104	321.0	−43.0	2.2×10^{-3}					2.7
21-2, 100–102	63.0	−50.0	1.1×10^{-3}					3.1
21-3, 54–56	104.4	62.8	1.36×10^{-4}					2.5
21-4, 99–101	122.5	46.5	3.09×10^{-2}					6.4
21-5, 13–15	51.6	54.4	3.17×10^{-2}					6.0
22-1, 108–110	15.1	75.0	4.05×10^{-3}	100	322.8	−45.5	3.80×10^{-3}	5.2
22-2, 95–97	256.9	−10.9	3.6×10^{-5}					1.4
22-3, 44–46	184.1	−15.4	2.3×10^{-5}					1.6
22-4, 101–103	10.3	−39.5	1.16×10^{-3}					3.2
22-5, 57–59	54.9	7.3	2.61×10^{-4}					1.6
23-1, 19–21	107.9	−64.9	3.04×10^{-2}					6.3
23-2, 19–21	237.0	1.6	1.56×10^{-3}	400	187.9	−52.9	1.94×10^{-2}	3.9
23-3, 19–21	63.1	−58.7	2.69×10^{-2}					6.9
23-4, 12–14	277.4	−77.1	2.00×10^{-2}	300	259.8	−63.0	1.97×10^{-2}	7.4
23-5, 13–15	66.0	−66.0	1.86×10^{-2}					6-0
24-1, 14–16	170.1	−43.2	1.67×10^{-2}	300	172.6	−54.9	7.22×10^{-3}	6.5
24-2, 63–65	43.7	27.9	1.07×10^{-2}	250	29.0	−3.6	9.44×10^{-4}	3.1
25-1, 72–74	232.2	−25.4	2.04×10^{-2}	250	275	−44.4	7.1×10^{-3}	8.7
25-2, 78–80	263.4	59.1	3.69×10^{-2}					18.6
26-2, 71–73	60.0	78.7	4.24×10^{-3}					9.5
27-1, 105–107	147.2	54.5	1.26×10^{-2}	300	243.0	−66.4	1.12×10^{-3}	11.0
27-2, 10–12	16.4	30.0	1.91×10^{-2}	100	35.9	−56.6	1.95×10^{-2}	18.8
27-3, 11–13	37.2	39.1	7.05×10^{-4}					13.3
27-4, 13–15	272.6	33.6	2.78×10^{-3}	450	292.6	−55.0	2.30×10^{-3}	13.5
27-5, 31–33	171.1	5.0	9.77×10^{-3}					10.6
27-6, 40–42	22.9	17.8	1.74×10^{-3}	50	0.4	−53.4	9.27×10^{-4}	10.6
34-1, 11–13	88.8	54.7	4.57×10^{-2}	300	28.8	53.5	5.18×10^{-3}	14.4
35-1, 70–72	211.4	−34.4	1.89×10^{-2}	200	192.2	65.9	2.13×10^{-2}	11.6
35-1, 70–81	92.2	−58.3	1.63×10^{-1}	400	99.1	−61.1	1.84×10^{-3}	14.0
36-1, 46–48	64.3	40.1	1.53×10^{-2}	400	61.3	52.7	6.40×10^{-3}	5.5
36-1, 93–95	359.4	64.7	1.08×10^{-2}	400	295.1	−50.4	2.5×10^{-3}	6.7
36-2, 21–23	324.5	44.7	1.95×10^{-2}	150	343.1	−34.3	2.16×10^{-2}	8.7
36-3, 13–15	31.6	−83.1	7.6×10^{-5}					2.6
37-1, 25–27	296.3	51.9	2.94×10^{-4}					2.9
37-2, 89–91	230.6	61.0	3.56×10^{-3}	200	228.4	57.8	8.36×10^{-4}	2.6
37-3, 31–33	152.0	81.5	2.37×10^{-3}	200	75.7	65.1	1.95×10^{-4}	2.7
37-4, 138–140	17.5	77.0	2.70×10^{-2}	750	276.1	−24.9	8.89×10^{-3}	4.2
38-1, 24–26	146.2	−56.2	10.37					123.8
38-2, 36–38	247.8	−65.7	4.45	480	77	−65	5.22×10^{-1}	98.3
39-1, 90–92	119.7	−56.2	1.54	450	213.2	−60.3	2.31×10^{-1}	108.6
40-1, 95–97	16.5	−34.0	8.74×10^{-1}	450	23.2	−48.3	1.66×10^{-1}	154.7
40-2, 19–21	7.0	−48.9	8.05×10^{-1}	120	188	−47	7.29×10^{-1}	285.0
40-3, 124–126	38.9	5.4	1.00	100	355.5	−42.2	5.12×10^{-1}	98.3
41-2, 30–32	49.1	−63.0	2.17					91.6
41-2, 128–130	261.7	−66.8	2.15	240	91	−63	6.02×10^{-1}	65.2
42-1, 112–114	119.6	−55.4	1.83	200	121.2	−53.5	7.84×10^{-1}	183.8
42-2, 37–39	4.3	−55.6	1.83					92.0
43-1, 80–82	122.2	−37.2	5.14	240	296	−49	2.50	190.7
43-2, 52–54	111.1	8.4	6.59×10^{-1}	200	116.5	−46.7	4.10×10^{-1}	260.4
43-3, 35–37	273.6	−27.9	2.18	720	67	−53	1.13×10^{-1}	110.0
46-4, 29–31	143.7	−21.2	2.42		145.8	−22.1	2.10×10^{-1}	60.4
46-5, 79–81	146.5	−21.6	4.11	240	326	−29	3.23	74.0
46-6, 5–7	299.1	−27.1	1.67	320	119	−23	1.00	69.1
47-1, 58–60	107.6	27.7	1.54	400	296	−33	8.29×10^{-1}	65.0
47-2, 132–134	131.4	−38.3	2.60	640	314	−40	2.57×10^{-1}	76.4
47-3, 80–82	332.2	−28.5	2.86	400	158	−28	1.25	67.6
47-4, 66–68	297.9	−37.4	1.60	240	126	−33	8.05×10^{-1}	78.8
48-1, 22–24	336.3	−50.7	3.08	480	166	−33	6.48×10^{-1}	103.4
48-2, 8–10	210.6	−54.2	4.51	120	28	−55	3.94	113.6
48-3, 119–121	134.5	−53.8	5.42	400	322	−54	6.54×10^{-1}	82.0
48-4, 29–31	82.6	−54.2	2.50	240	254	−56	7.24×10^{-1}	87.7
48-5, 79–81	284.2	−55.4	6.14	640	83	−59	3.20×10^{-1}	79.2
48-6, 110–112	4.4	−47.0	2.93	80	181	−55	2.50	105.0
49-1, 10–12	220.4	−49.6	2.97	240	44	−65	6.34×10^{-1}	103.5
49-2, 10–12	133.7	−56.5	5.66	240	307	−65	2.98	87.1
49-3, 10–12	71.7	−62.6	5.97	480	237	−59	7.23×10^{-1}	77.6

Table 1. (Continued).

Sample (interval in cm)	Decl.	Incl.	Intensity (A/m)	AFD ($\times 10^{-1}$ mT)	Decl.	Incl.	Intensity (A/m)	χ ($\times 4\pi$ SI units)
Hole 553A (Cont.)								
49-4, 19–21	148.1	−59.8	5.97	640	327	−62	5.66×10^{-1}	87.3
49-5, 14–16	216.6	−61.4	6.13	240	36	−61	4.13	83.6
49-6, 49–51	341.6	−62.0	5.22	240	165	−61	3.77	93.5
49-6, 97–99	170.0	−66.4	3.40	160	181	−65	3.32	197.2
50-1, 128–130	281.3	−52.6	2.90	480	117	−53	2.02×10^{-1}	60.0
50-2, 123–125	122.2	−48.2	3.02	240	299	−55	8.46×10^{-1}	53.9
50-3, 88–90	299.2	−48.2	1.99	400	124	−54	1.62×10^{-1}	61.6
51-1, 88–90	358.9	−48.2	2.78	80	178	−48	2.28	72.5
51-2, 63–65	1.2	−48.1	3.11	160	182	−48	2.27	48.8
51-3, 30–32	11.4	−55.4	2.97	240	188	−57	1.19	43.7
52-1, 21–23	108	−35	2.46	160	118	−55	5.61×10^{-1}	54.0
52-2, 59–61	207	−51	4.72	640	215	−50	5.76×10^{-1}	69.8
52-3, 24–26	131	−9	1.5	320	137	−10	8.42×10^{-1}	
52-4, 41–43	290.1	−48.4	2.77	240	107	−49	1.62	162.4
53-1, 87–89	252.2	−56.0	2.61	400	85	−55	3.46×10^{-1}	76.5
53-2, 83–85	265.9	−60.8	2.32	240	74	−59	5.93×10^{-1}	93.6
53-3, 15–17	151.7	−59.8	2.52	880	29	−63	6.49×10^{-2}	133.1
53-3, 142–144	92.5	−65.6	5.83	240	289	−75	1.91	84.1
53-4, 24–26	276.3	−61.8	3.30	160	123	−63	1.90	62.4
53-4, 63–65	289.3	−64.0	5.76	320	131	−62	1.04	86.3
54-1, 3–5	99.6	−66.3	4.37	480	248	−72	6.85×10^{-1}	86.1
54-2, 3–5	271.5	−64.1	3.31	640	83	−64	2.57×10^{-1}	100.4
54-2, 60–62	261.0	−74.0	3.77	400	267	−73	1.21	
54-3, 119–121	128.8	−62.4	5.09	320	335	−62	1.25	96.1
54-4, 105–107	125.6	−59.9	5.38	120	317	−63	4.29	89.6
54-5, 75–77	143.3	−61.4	4.36	480	330	−63	8.58×10^{-1}	119.1
55-1, 100–102	155.8	−30.7	2.28	240	320	−35	3.59×10^{-1}	138.8
55-2, 75–77	288.8	−53.3	13.20	400	105	−56	3.23	145.9
55-2, 140–142	45.0	−51.6	24.61	640	223	−54	2.90	282.0
55-3, 77–79	295.4	−59.4	4.04	240	121	−61	2.63	68.0
55-4, 75–77	8.9	−13.9	7.04×10^{-1}	320	177	−45	4.15×10^{-1}	227.8
55-5, 75–77	202.7	−53.3	4.33	320	41	−67	6.67×10^{-1}	92.0
55-6, 93–95	339.3	−58.3	3.86	640	159	−55	3.99×10^{-1}	75.9
56-1, 52–54	147.8	−55.5	1.89	880	338	−62	1.67×10^{-1}	41.2
56-2, 35–37	41.9	−64.1	1.81	480	228	−79	1.99×10^{-1}	26.5
56-3, 34–36	3.1	−68.3	1.64	720	169	−72	1.07×10^{-1}	30.4
57-1, 109–111	191.6	−52.5	17.35	640	15	−48	1.34	141.5
57-2, 30–32	226.6	−46.4	5.97	480	54	−49	1.39	71.9
58-1, 43–45	131.1	−46.8	2.00	480	308	−51	8.35×10^{-1}	29.1
58-1, 133–135	196.0	−46.0	2.64	400	201	−52	6.24×10^{-1}	
58-2, 67–69	261.3	−44.7	1.49	480	75	−53	2.02×10^{-1}	62.8
58-2, 129–131	38.7	−57.0	1.74	320	206	−53	3.44×10^{-1}	83.2
59-1, 53–55	202.0	−46.3	5.09	640	26	−47	4.11×10^{-1}	81.1
59-2, 107–109	257.6	−48.5	2.99	320	59	−50	4.18×10^{-1}	74.8
59-3, 114–116	318.0	−52.8	4.15	640	134	−54	1.71×10^{-1}	46.4
59-4, 101–103	114.4	52.9	3.48	400	298	−63	2.32×10^{-1}	58.5
Hole 554								
2-3, 101–103	77	−76	8.31×10^{-3}					
2-4, 131–133	119	43	9.29×10^{-3}					
2-5, 96–98	275	3	4.22×10^{-4}					
2-6, 38–40	354	69	1.70×10^{-2}					
3-2, 136–138	248	1	2.05×10^{-3}					
3-4, 61–63	241	−53	1.86×10^{-2}					
3-5, 35–37	6	−86	1.67×10^{-2}					
3-6, 40–42	318	47	1.06×10^{-2}					
3-6, 100–102	317	27	9.36×10^{-3}					
5-2, 76–78	170	22	9.25×10^{-4}					
5-3, 135–137	348	7	3.22×10^{-4}	400	319	52	9.67×10^{-5}	
5-5, 78–80	186	30	3.54×10^{-4}					
5-6, 78–80	126	54	4.92×10^{-4}	40	324	8	7.60×10^{-5}	
6-5, 144–146	90	82	1.57×10^{-4}					
6-6, 91–93	46	−31	1.03×10^{-5}					
7-3, 134–136	116	24	6.96×10^{-5}					
8-4, 45–47	153	60	1.10×10^{-4}					
Hole 554A								
1-1, 91–93	184	21	5.54×10^{-4}					
2-1, 110–112	181	31	5.83×10^{-4}					
2-2, 110–112	106	75	3.59×10^{-3}					
3-1, 20–22	184	−86	1.36×10^{-3}	320	108	54	1.46×10^{-4}	
3-2, 20–22	216	63	1.61×10^{-3}	480	304	70	8.69×10^{-4}	
3-3, 20–22	188	77	2.42×10^{-4}					

Table 1. (Continued).

Sample (interval in cm)	Decl.	Incl.	Intensity (A/m)	AFD ($\times 10^{-1}$ mT)	Decl.	Incl.	Intensity (A/m)	χ ($\times 4\pi$ SI units)
Hole 554A (Cont.)								
3-4, 20–22	317	26	1.49×10^{-3}					
4-2, 10–12	277	54	6.55×10^{-4}					
4-2, 30–32	294	83	9.20×10^{-5}					
4-2, 50–52	61	73	6.50×10^{-3}					
4-2, 70–72	290	85	2.58×10^{-3}					
4-2, 95–97	273	39	5.20×10^{-5}					
4-2, 118–120	113	89	1.91×10^{-4}					
4-2, 138–140	190	72	2.62×10^{-3}					
4-3, 23–25	337	66	6.46×10^{-4}					
4-3, 58–60	308	57	2.76×10^{-3}					
4-3, 80–82	340	74	4.66×10^{-4}					
4-3, 118–120	253	-20	5.87×10^{-4}					
4-4, 20–22	345	48	1.70×10^{-4}					
5-1, 29–31	193	21	1.58×10^{-3}					
5-1, 70–72	304	55	9.50×10^{-5}					
5-1, 99–101	318	3	1.59×10^{-3}	400	287	44	3.02×10^{-4}	
5-1, 130–132	334	61	5.16×10^{-4}					
5-2, 10–12	205	22	1.40×10^{-5}					
5-2, 41–43	32	72	7.40×10^{-4}					
5-2, 80–82	281	71	1.66×10^{-3}					
5-2, 110–112	60	53	1.96×10^{-3}					
5-2, 146–148								
5-3, 22–24	85	67	5.67×10^{-3}					
5-3, 52–54	188	13	1.88×10^{-3}					
5-3, 80–82	355	59	6.86×10^{-4}					
5-3, 118–120	289	46	6.79×10^{-4}					
5-4, 15–17	296	46	6.00×10^{-5}					
5-4, 58–60	27	61	5.13×10^{-2}					
5-4, 137–139	357	59	6.07×10^{-2}					
6-1, 86–88	52	56	4.48×10^{-2}					
6-2, 83–85	355	64	8.28×10^{-2}					
6-2, 115–117	19	55	4.89×10^{-2}					
6-3, 29–31	133	72	6.67×10^{-1}					
7-1, 110–112	59	56	1.34×10^{-1}					
7-2, 29–31	113	-57	2.69×10^{-1}	200	107	-55	1.25×10^{-1}	
7-3, 61–63	200	64	4.13×10^{-1}					
7-4, 34–36	99	-62	4.00×10^{-1}					
8-1, 36–38	301	-19	1.77					
8-1, 55–57	346	-44	8.45×10^{-2}	200	338	49	9.28×10^{-3}	
8-1, 84–86	252	9	1.79					
9-1, 110–112	157	54	2.42	150	158	45	7.5×10^{-1}	
10-1, 66–68	18	51	3.14					
14-1, 70–72	16	-47	3.59	150	11	-47	8.41×10^{-1}	
Hole 555								
1-1, 131–133	221.7	82.9	1.2×10^{-2}					1.5
1-2, 98–100	48.8	24.0	4.0×10^{-4}					2.2
1-2, 112–114	224.1	8.3	7.7×10^{-2}					3.3
1-3, 89–91	121.5	67.5	1.7×10^{-2}					3.1
2-2, 35–37	61	62	2.1×10^{-2}					
2-4, 12–14	91.8	62.7	2.4×10^{-2}					2.0
3-1, 15–17	330.9	56.3	2.4×10^{-3}					2.0
3-1, 90–92	179	-55	3.3×10^{-3}					
3-3, 76–78	205.2	57.8	1.0×10^{-3}					0.9
3-4, 74–76	98.7	53.7	1.4×10^{-4}					
3-5, 75–77	201	-44	1.3×10^{-5}					
3-5, 18–20								
6-3, 126–128	213	7	8.2×10^{-5}	120	206	23	2.2×10^{-5}	
8-5, 23–25	19	16	3.8×10^{-5}	80	49	16	8.5×10^{-6}	
9-2, 131–133	59	-25	2.1×10^{-5}					
11-3, 41–43	23	-29	2.1×10^{-5}					
12-2, 99–101	102	36	6.4×10^{-5}	240	294	-10	5.3×10^{-6}	
14-1, 35–37	225	-42	3.6×10^{-5}	240	7	-12	3.0×10^{-5}	
15-1, 102–104	232	-13	9.0×10^{-6}					
16-4, 11–13	258	-25	2.0×10^{-5}					
17-3, 32–34	166	-47	2.4×10^{-5}					
18-2, 50–52	126	70	1.6×10^{-5}					
19-2, 75–77	105	-67	6.5×10^{-5}					
22-1, 135–137	110	-40	2.7×10^{-5}	160	120	-48	1.2×10^{-5}	
24-1, 67–69	137	-83	3.2×10^{-3}	480	336	-66	9.7×10^{-4}	
24-4, 67–69	193	-23	5.6×10^{-4}	480	183	23	1.8×10^{-4}	
24-7, 35–37	162	4	1.3×10^{-3}	320	152	10	4.2×10^{-4}	
25-3, 23–25	339	-7	1.2×10^{-3}					
25-5, 24–26	152	24	1.6×10^{-3}	480	123	32	3.9×10^{-4}	

Table 1. (Continued).

Sample (interval in cm)	Decl.	Incl.	Intensity (A/m)	AFD ($\times 10^{-1}$ mT)	Decl.	Incl.	Intensity (A/m)	χ ($\times 4\pi$ SI units)
Hole 555 (Cont.)								
26-5, 45-47	196	44	1.5×10^{-5}					
26-6, 35-37	73	10	1.1×10^{-3}	400	88	-7	3.1×10^{-4}	
27-1, 16-18	52	-72	9.3×10^{-3}					3.4
27-2, 31-33	152	31	3.0×10^{-3}	160	353	28	2.5×10^{-3}	
27-2, 95-97	79.9	-8.1	15.45					8.5
27-2, 117-119	149	-13	9.8×10^{-3}	320	126	75	7.3×10^{-3}	8.3
27-3, 13-15	162	11	5.0×10^{-3}	480	93	-52	1.6×10^{-3}	9.1
28-1, 5-7	213.5	61.7	1.8×10^{-2}					10.4
30,CC 5-7	133.6	-33.0	1.9×10^{-2}					13.3
31-1, 111-113	95.0	33.7	1.0×10^{-1}					25.7
32-1, 86-88	251.0	59.9	1.4×10^{-1}					
32-2, 119-121	224.8	74.9	1.2×10^{-1}					21.9
32-3, 136-138	69.8	74.3	1.6×10^{-1}					21.6
32-4, 84-86	66.7	73.5	9.2×10^{-2}					31.5
32-5, 70-72	319.0	10.5	2.2×10^{-2}					27.0
32-6, 14-16	259.9	50.8	1.9×10^{-2}					17.8
33-1, 125-127	309.0	-14.5	6.8×10^{-2}					22.7
33-2, 69-71	328.3	73.0	8.5×10^{-3}					14.4
33-3, 103-105	321.7	52.7	3.2×10^{-2}					17.8
33-4, 120-104	292.3	50.8	4.1×10^{-2}					18.9
33-5, 129-131	104.5	40.7	4.3×10^{-2}					9.9
33-6, 27-31	291.6	5.1	6.5×10^{-2}					12.9
34-1, 21-23	255.1	-1.2	1.4×10^{-4}					4.6
34-2, 97-99	87.3	5.3	1.2×10^{-2}					11.4
34-3, 99-101	104	0	7.1×10^{-2}	160	75	-25	2.6×10^{-2}	22.7
34-4, 30-32	291.6	-55.6	1.5×10^{-1}					15.6
34-4, 60-62	227.3	10.3	5.9×10^{-4}					2.9
34-5, 87-89	223.1	0.9	4.1×10^{-2}					41.9
35-1, 6-8	270.2	-13.4	7.1×10^{-3}					5.5
36-1, 35-37	31.7	3.9	3.7×10^{-3}					3.4
36-1, 104-106	308.5	-33.9	6.0×10^{-3}					4.1
36-2, 12-14	256.1	3.1	2.4×10^{-3}					2.9
37-1, 77-79	104	38	8.8×10^{-2}	480	3	-28	1.6×10^{-2}	6.7
37-1, 77-79	273.2	55.7	8.2×10^{-5}					
37-2, 100-102	64.3	58.8	1.5×10^{-2}					2.5
38-1, 118-120	177.4	14.5	4.1×10^{-2}					16.6
38-2, 122-124	180.3	10.4	2.5×10^{-2}					11.8
38-3, 124-126	183.4	76.8	5.8×10^{-4}					2.6
39-1, 97-99	231.5	66.6	2.3×10^{-2}					13.1
39-2, 109-111	206.0	54.1	2.3×10^{-2}					12.9
39-3, 114-116	56.0	13.1	3.6×10^{-2}					11.1
39-4, 93-95	350.7	-18.9	4.6×10^{-2}					13.7
39-5, 76-78	287.5	-41.6	6.7×10^{-2}					15.1
39-6, 81-83	344.2	-12.7	4.7×10^{-2}					14.1
39-7, 22-24	21.5	77.1	3.0×10^{-3}					5.1
40-1, 26-28	255.4	-27.6	7.6×10^{-2}					12.4
40-3, 19-21	194.0	15.2	1.0×10^{-3}					2.8
40-4, 54-56	3.9	-58.0	1.3×10^{-2}					6.9
40-5, 35-37	269.6	59.6	7.9×10^{-4}					2.7
40-6, 115-117	171.8	-18.8	1.8×10^{-2}					9.2
41-1, 108-110	240.7	5.5	7.8×10^{-4}					3.1
41-2, 104-106	115.0	-34.4	8.3×10^{-4}					2.2
41-3, 103-105	335.0	24.8	5.6×10^{-3}					3.2
41-4, 100-102	328.2	-58.2	2.3×10^{-2}					11.1
41-5, 10-12	284.9	30.8	4.3×10^{-2}					11.6
42-1, 73-75	125.0	-51.3	2.0×10^{-2}					5.7
42-2, 126-128	12.5	14.3	1.7×10^{-2}					11.6
42-3, 97-99	87.1	-30.0	3.5×10^{-2}					12.0
42-4, 8-10	74.7	-27.0	1.2×10^{-2}					10.9
43-1, 135-137	15.4	19.4	9.5×10^{-4}					2.1
43-3, 91-93	292.0	-24.5	5.8×10^{-3}					2.9
43-4, 13-15	283.4	-27.6	7.7×10^{-3}					2.8
43-5, 70-72	328.1	-15.1	1.4×10^{-3}					2.9
44-1, 48-50	72.2	52.4	6.8×10^{-4}					2.6
44-2, 89-91	254.3	-15.5	7.4×10^{-4}					2.9
45-1, 66-68	266.1	0.4	7.9×10^{-3}					5.0
45-3, 82-84	71.7	42.4	2.9×10^{-4}					2.9
46-1, 23-25	178.7	-29.4	3.3×10^{-2}					7.8
46-2, 63-65	333.8	-60.6	1.1×10^{-1}					28.3
46-2, 95-97	208.7	-47.4	4.7×10^{-2}					9.5
46-3, 88-90	67.9	-52.2	1.1×10^{-1}					18.6
46-4, 92-94	273.2	-42.6	5.4×10^{-2}					13.0
46-5, 76-78	28.4	-57.1	1.6×10^{-2}					4.7
46-6, 40-42	321.4	-61.8	3.5×10^{-3}					2.1
47-1, 144-146	207.5	-57.5	6.2×10^{-4}					2.0

Table 1. (Continued).

Sample (interval in cm)	Decl.	Incl.	Intensity (A/m)	AFD ($\times 10^{-1}$ mT)	Decl.	Incl.	Intensity (A/m)	χ ($\times 4\pi$ SI units)
Hole 555 (Cont.)								
47-2, 126–128	67.9	71.6	1.4×10^{-4}					1.9
47-3, 31–33	316.3	74.4	3.6×10^{-4}					2.5
47-4, 71–73	358.4	77.6	2.4×10^{-4}					2.4
48-1, 103–105	112	53	9.0×10^{-4}	240	19	54	1.9×10^{-4}	2.4
48-2, 7–9	341.5	43.8	1.4×10^{-3}					2.4
48-3, 96–98	110.3	−41.5	2.7×10^{-2}					5.2
48-4, 95–97	94.2	−60.2	1.1×10^{-2}					12.5
51-1, 26–28	47.4	−16.4	4.0×10^{-3}					9.5
52-1, 102–104	350.7	−34.0	3.8×10^{-4}					2.2
52-3, 76–78	151.4	−37.2	2.3×10^{-3}					13.1
53-1, 93–95	138.8	−45.1	6.8×10^{-4}					2.4
53-2, 61–63	65.0	2.9	9.7×10^{-4}					2.6
53-3, 33–35	267.5	37.9	2.6×10^{-3}					2.2
53-4, 114–116	225.9	−3.8	3.1×10^{-3}					2.4
53-6, 70–72	247.2	42.5	1.0×10^{-3}					2.2
54-4, 85–87	269.6	20.0	1.8×10^{-3}					2.5
54-2, 122–124	289	−13	9.1×10^{-4}	320	361	−45	2.8×10^{-4}	2.5
54-3, 97–99	343.5	−9.5	1.2×10^{-3}					2.5
54-4, 77–79	173	−3	2.0×10^{-3}					3.5
54-5, 95–97	254.3	4.4	6.7×10^{-3}					7.2
54-6, 52–54	207.9	−29.1	1.1×10^{-3}					5.4
55-1, 59–61	118	−12	2.7×10^{-3}					5.7
56-1, 121–123	273	10	6.7×10^{-3}	480	286	0	2.2×10^{-3}	3.2
56-2, 47–49	90	−49	1.1×10^{-2}					4.9
56-3, 53–55	328.0	−43.7	2.1×10^{-2}					5.4
56-4, 114–116	180.1	−5.1	1.5×10^{-2}					7.0
56-5, 43–45	176.1	−3.8	1.7×10^{-2}					6.4
56-6, 124–128	61.9	−20.5	1.4×10^{-2}					6.9
58-1, 44–46	183	13	3.2×10^{-4}	320	190	−28	5.6×10^{-5}	0.2
58-2, 133–135	110.6	61.5	5.6×10^{-4}					1.8
58-3, 128–130	286.2	34.8	7.9×10^{-4}					2.1
58-4, 98–100	281.1	−2.3	7.7×10^{-4}					1.9
58-5, 26–28	306.4	27.4	4.3×10^{-4}					1.8
59-2, 23–25	322.2	36.2	9.0×10^{-4}					2.2
59-3, 55–57	108.4	79.7	8.7×10^{-4}					2.0
59-4, 89–91	60	−25	1.3×10^{-3}	240	130	25	2.2×10^{-4}	1.5
59-5, 129–131	169	13	3.9×10^{-4}	320	87	−27	7.9×10^{-5}	1.9
59-6, 89–81	244.9	57.6	3.0×10^{-4}					1.8
60-1, 80–82	85.3	82.3	4.3×10^{-4}					2.0
60-2, 10–12	181	24	3.5×10^{-4}	240	187	−8.3	4.5×10^{-5}	1.9
60-3, 7–9	308.5	68.7	2.5×10^{-4}					2.0
60-4, 95–97	263.7	57.7	3.9×10^{-5}					1.9
60-5, 97–99	208	48	4.4×10^{-4}					1.9
60-6, 8–10	156	35	4.5×10^{-4}	320	166	31	1.1×10^{-4}	2.1
60-7, 12–14	168	1	8.5×10^{-4}					1.9
61-1, 32–34	220.6	61.4	1.9×10^{-4}					2.8
61-2, 9–11	173	58	1.3×10^{-3}	320	145	25	3.2×10^{-4}	2.5
61-2, 36–38	49.8	75.5	2.5×10^{-4}					2.5
61-3, 117–119	144	77	2.4×10^{-4}					2.4
61-4, 64–66	14.6	77.0	1.9×10^{-4}					1.9
61-5, 40–42	127	−14	2.7×10^{-4}	400	106	−35	4.0×10^{-5}	1.7
61-6, 15–17	259	−16	4.1×10^{-4}					2.3
62-1, 89–91	106	25	2.6×10^{-3}	240	115	61	8.4×10^{-4}	
62-1, 107–109	328.6	71.5	2.3×10^{-3}					2.0
62-2, 19–21	40.8	70.3	7.6×10^{-4}					1.9
62-3, 60–62	11.5	81.1	4.1×10^{-4}					2.1
62-4, 42–44	314.2	67.6	2.8×10^{-3}					3.5
62-5, 66–68	352	−49	2.6×10^{-3}					4.5
63-1, 7–9	158	−42	6.2×10^{-2}					
63-1, 107–119	232.1	−41.6	3.6×10^{-2}					13.8
64-1, 20–22	222	−43	2.0×10^{-2}					
64-2, 35–37	149.9	−27.2	6.7×10^{-3}					4.2
64-3, 34–36	12.3	−40.0	9.2×10^{-3}					7.5
64-4, 72–74	291.1	−30.9	1.4×10^{-2}					7.5
64-4, 81–83	327.5	−42.5	2.4×10^{-2}					8.3
64-5, 12–14	259.3	−62.7	2.1×10^{-2}					6.5
65-1, 94–96	307.8	−31.3	1.6×10^{-2}					6.1
65-2, 30–32	310.7	−57.4	2.1×10^{-2}					6.2
66-1, 45–47	33.9	−72.5	9.8×10^{-3}					10.1
67-1, 47–49	296.7	−61.3	8.8×10^{-3}					7.8
67-2, 123–125	225.4	−18.6	2.7×10^{-2}					6.9
67-3, 10–12	292.8	−31.4	2.1×10^{-2}					10.4
67-4, 113–115	273.4	−32.4	1.3×10^{-1}					34.0
68-1, 48–50	181.3	6.0	1.8×10^{-3}					8.1
68-2, 24–26	270.0	0.0	1.7×10^{-2}					14.2

Table 1. (Continued).

Sample (interval in cm)	Decl.	Incl.	Intensity (A/m)	AFD ($\times 10^{-1}$ mT)	Decl.	Incl.	Intensity (A/m)	χ ($\times 4\pi$ SI units)
Hole 555 (Cont.)								
68-2, 56–58	320.5	−51.5	3.0					91.2
68-3, 33–35	101.0	−54.3	5.1					91.5
69-1, 86–88	105.9	−59.8	3.0					89.2
69-1, 85–87	358	−66	3.0	640	154	−63	1.1×10^{-1}	
69-2, 61–63	219.5	−46.3	4.9					80.4
69-2, 60–62	53	−44	5.3	480	128	−16	8.2×10^{-2}	
69-3, 62–64	52.9	−51.2	4.4					72.0
69-3, 61–63	205	−64	3.9	320	189	−48	9.6×10^{-2}	
69-4, 67	55.5	−53.1	2.8					66.2
69-4, 66–68	198	−76	2.5	640	199	−46	8.9×10^{-2}	
69-5, 25	260.8	−8.8	1.8×10^{-2}					12.0
69-5, 27–29	75	−11	3.0×10^{-2}	640	170	−44	7.5×10^{-3}	
69-6, 33	267.0	−30.9	1.2×10^{-2}					7.0
70-1, 117	66.8	−70.4	1.4					78.5
70-1, 116–118	97	−42	7.6×10^{-1}	480	169	−23	9.9×10^{-3}	
70-2, 15	35.1	−59.8	1.6					85.6
70-2, 14–16	158	−65	1.4	400	112	−39	4.4×10^{-3}	
70-2, 40–42	116	−64	2.8×10^{-2}	240	343	−56	1.0×10^{-2}	11.4
71-1, 11–13	89	−14	3.2×10^{-2}	880	176	−20	1.5×10^{-2}	
72-1, 98–100	323	24	2.4×10^{-2}	480	178	−81	9.0×10^{-3}	4.9
72-2, 7–9	31	−53	1.2	480	357	−64	1.4×10^{-2}	72.8
72-2, 31–33	78	−2	2.5×10^{-2}	240	125	−37	4.7×10^{-3}	5.5
72-3, 109–111	113	−37	2.0×10^{-2}	240	131	−38	3.3×10^{-3}	4.4
73-2, 120–122	95	−19	3.9×10^{-2}	880	178	−39	1.5×10^{-2}	7.5
73-3, 68–70	89	2	2.9×10^{-2}	880	180	−28	2.3×10^{-2}	7.2
73-4, 45–47	106	−14	3.4×10^{-2}	160	425	−39	1.0×10^{-2}	11.4
73-5, 36–38	94	−35	1.7×10^{-2}	240	184	−15	7.1×10^{-3}	7.8
74-1, 22–24	338.6	−19.4	3.3×10^{-2}					7.9
74-2, 116–118	50	−36	9.3×10^{-2}	880	1	−40	2.5×10^{-3}	6.5
74-3, 47–49	175	−55	1.6	240	180	−58	1.2×10^{-1}	74.7
75-1, 73–75	182.3	−52.8	2.1×10^{-2}					3.2
75-2, 36–38	80	−33	8.8×10^{-1}	320	38	−40	2.6×10^{-2}	53.0
75-2, 43–45	52	−37	3.3	480	130	−51	1.7×10^{-2}	88.8
76-1, 48–50	358	−50	2.0	480	2	−43	4.3×10^{-2}	63.6
76-2, 23–25	97	−36	3.9	400	118	−31	5.2×10^{-2}	102.6
76-2, 124–126	23	−46	4.2	880	354	−40	1.8×10^{-2}	79.8
76-3, 25–27	25	−42	1.7	400	36	−55	4.0×10^{-2}	65.5
76-4, 78–80	214	−54	3.1	480	194	−40	8.0×10^{-2}	76.0
76-5, 33–35	88	−35	2.9	480	129	−43	2.8×10^{-2}	87.6
77-1, 91–93	215	29	2.2×10^{-1}	880	178	−52	5.6×10^{-2}	8.6
77-3, 67–69	219	−71	1.3×10^{-2}	400	348	−49	5.2×10^{-2}	7.4
77-5, 81–83	240.2	41.6	2.5×10^{-2}					4.4
78-1, 67–69	57	−46	5.3×10^{-1}	880	164	−57	4.5×10^{-2}	6.8
78-3, 28–30	52.2	−63.3	1.8×10^{-1}					6.7
79-1, 34–36	185.4	−54.5	3.7×10^{-2}					5.5
79-3, 127–129	69	−76	4.5×10^{-3}	880	153	−44	9.1×10^{-5}	2.2
80-3, 39–41	28	−72	6.5×10^{-1}	320	259	−45	3.4×10^{-2}	96.6
80-3, 125–127	90	−38	4.9×10^{-1}	160	145	−64	1.2×10^{-1}	78.2
81-1, 100–102	82	−13	1.2	320	31	−48	1.2×10^{-1}	93.4
81-2, 88–90	102	−21	1.4	480	148	−23	3.0×10^{-2}	63.0
81-3, 86–88	71	−9	1.4	160	72	−33	1.9×10^{-1}	99.5
82-1, 99–101	146	−48	2.1×10^{-2}	140	252	−78	1.2×10^{-2}	9.4
82-1, 129–131	92	−36	1.4	160	130	−49	3.1×10^{-1}	93.4
82-3, 102–104	326	−59	4.3	320	328	−53	1.9×10^{-1}	94
83-1, 30–32	80	−12	7.6×10^{-1}	160	115	−43	8.1×10^{-2}	71.8
84-1, 126–128	67	−33	4.2×10^{-3}	720	359	−58	9.2×10^{-4}	4.4
84-1, 142–144	85	−14	5.0×10^{-3}	240	107	−58	1.3×10^{-3}	6.8
85-1, 47–49	134	8	1.9×10^{-2}	320	149	−13	3.8×10^{-3}	9.2
85-2, 107–109	220	−52	1.3×10^{-1}	480	255	−52	1.3×10^{-2}	6.0
86-1, 26–28	94	−49	6.2×10^{-3}	320	220	−53	6.5×10^{-4}	7.2
86-2, 44–46	38	14	5.6×10^{-3}	320	341	−39	1.7×10^{-3}	8.6
86-3, 124–126	147	−27	6.1×10^{-3}	480	167	−24	1.1×10^{-3}	6.5
87-1, 39–41	106	−45	5.1×10^{-3}	480	178	−58	1.1×10^{-3}	7.8
87-2, 10–12	9	−15	7.1×10^{-3}	320	292	−56	2.7×10^{-3}	10.0
87-3, 60–62	108	−9	1.8×10^{-2}	320	11	−43	3.8×10^{-3}	10.0
87-4, 16–18	58	−28	7.2×10^{-3}	240	28	−52	2.5×10^{-3}	6.5
87-5, 31–33	73	−4	1.1×10^{-2}	320	59	−39	1.8×10^{-3}	7.7
87-5, 120–122	41	−45	6.0×10^{-3}	240	6	−53	3.3×10^{-3}	5.0
88-1, 130–132	206	−79	1.8×10^{-3}	720	229	−68	4.9×10^{-4}	3.1
88-2, 30–32	43	−27	7.1×10^{-3}	480	345	−49	1.3×10^{-3}	8.5
88-3, 33–35	44	19	8.2×10^{-3}	640	41	−72	1.4×10^{-3}	6.2
88-4, 26–28	58	−17	7.8×10^{-3}	720	72	−31	7.8×10^{-4}	6.8
88-5, 4–6	60	−34	2.6×10^{-3}	320	91	−66	7.8×10^{-4}	3.2
89-1, 113–115	81	−43	1.5×10^{-3}	880	150	−62	2.8×10^{-4}	3.0
90-1, 62–64	247	−72	5.7	640	14	−66	1.9×10^{-4}	146.0

Table 1. (Continued).

Sample (interval in cm)	Decl.	Incl.	Intensity (A/m)	AFD (×10⁻¹ mT)	Decl.	Incl.	Intensity (A/m)	χ (×4π SI units)
Hole 555 (Cont.)								
90-1, 115–117	107	−63	11.0	480	132	−65	1.2×10^{-1}	94.5
90-2, 87–89	64	−35	2.8	120	49	−61	1.6	111.8
90-3, 86–88	100	−9	2.1	60	144	−22	4.1×10^{-1}	125.0
90-4, 69–71	81	−15	1.8	160	59	−59	4.2×10^{-1}	100.5
91-1, 43–45	121	−28	1.6	80	185	−62	7.0×10^{-1}	129.7
91-2, 97–99	88	−18	3.7×10^{-3}	320	221	−49	8.3×10^{-4}	7.5
92-1, 94–96	303	36	3.0×10^{-3}	720	338	−38	4.0×10^{-4}	5.5
92-2, 86–88	82	−54	1.6×10^{-3}	480	132	−67	4.3×10^{-4}	5.4
93-1, 80–82	105	0.	1.3×10^{-2}	400	110	−37	1.9×10^{-3}	8.4
93-2, 53–55	92.2	16.1	12.7	75	134.3	−88.2	1.207	7.3
93-3, 80–82	57	−22	1.5×10^{-2}	160	33	−43	4.7×10^{-3}	7.8
94-1, 88–90	110	−20	6.4×10^{-3}	320	132	−33	8.2×10^{-4}	4.7
94-2, 24–26	241.1	−36.1	2.4×10^{-5}					2.0
95-1, 30–32	110	−45	4.0	320	125	−45		34.4
95-1, 45–47	96	−29	4.4	240	116	−41	6.8×10^{-1}	142.1
95-1, 143–145	145	−32	3.6	880	153	−38	3.8×10^{-1}	75.4
95-2, 101–103	33	−41	7.2	720	28	−51	7.8×10^{-1}	65.6
96-1, 114–116	69	−40	7.6	640	62	−44	2.8×10^{-1}	94.5
96-2, 105–110	194	−42	5.3	480	195	−55	1.4×10^{-1}	87.5
96-3, 79–81	155	−44	8.2	640	160	−51	1.3×10^{-1}	98.9
96-4, 56–58	118	−23	3.0	480	135	−51	1.5×10^{-1}	105.6
96-5, 97–99	355	−49	3.2	720	350	−50	3.1×10^{-1}	66.0
96-6, 90–92	342	−42	2.8	480	333	−50	1.3×10^{-1}	88.6
97-1, 88–90	295	−44	1.9	880	326	−52	3.5×10^{-1}	66.4
97-3, 109–111	98	−19	2.2	720	105	−44	5.5×10^{-1}	73.5
97-5, 4–6	64	−38	4.2	480	47	−42	2.0	63.5
97-7, 9–11	240	−47	2.3	480	248	−50	1.3	64.3
98-2, 143–145	223	−40	2.4	240	224	−44	1.9	81.5
98-4, 73–75	223	−43	4.5	720	204	−46	4.3×10^{-1}	76.0
98-5, 67–67	49	−39	9.0	320	42	−42	1.6	97.2
98-6, 18–20	72	−41	7.4	880	63	−42	2.3×10^{-1}	64.4
98-7, 32–34	289.4	44	7.6	500	294	48	1.2	68.1

SAMPLING

In the relatively soft, unconsolidated and semiconsolidated sediments encountered in the upper parts of the holes, paleomagnetic samples were taken by pushing plastic tubes (2.2 cm long and 2.5 cm in diameter) into the split core sections by means of a specially designed plunger supported by an aluminum bridge. The ends of the tubes were sealed with adhesive tape. In the more highly lithified material and basalts encountered at deeper levels, either 2.5 cm-diameter cylindrical samples were drilled from the cores or cube-shaped samples were cut by means of a diamond saw and trimmed to shape using a stainless steel scalpel. In all cases an orientation arrow pointing in the uphole direction was carefully placed on the sample before it was removed from the core. Where inclined bedding was encountered and judged to have resulted either from nonvertical drill penetration or from local movement of portions of the core during drilling, the orientation arrow was aligned perpendicular to the bedding rather than parallel to the core liner.

ASSIGNMENT OF POLARITY

Unlike conventional piston or gravity cores, DSDP cores are drilled by means of a rotating drill pipe (except in the uppermost, very soft sediments). This process can cause relative rotation (called "disking") between different parts of the core section, with consequent apparent changes in the declination of magnetic remanence. Furthermore, the absolute azimuthal orientation of the cores is not normally measured, and relative azimuthal orientation is not maintained, from one 9.5-m core to the next. For this reason the declination of remanence magnetization is of limited use, except within individual cores in which disking is absent, or in the uppermost few cores at each site, which are commonly drilled without rotation. During Leg 81 a limited number of oriented cores were taken.

Consequently, in this study, magnetic polarity has been assigned on the basis of the inclination of the stable component of remanent magnetization alone. Since all sites are situated at moderate to high latitudes in the Northern Hemisphere, positive magnetic inclinations are taken to signify normal polarity and negative inclinations are taken to indicate reversed polarity. Occasionally, in a series of samples taken from undisturbed portions of the same drill core, polarity reversals detected on the basis of changes in sign of magnetic inclination were corroborated by abrupt changes in declination of approximately 180°.

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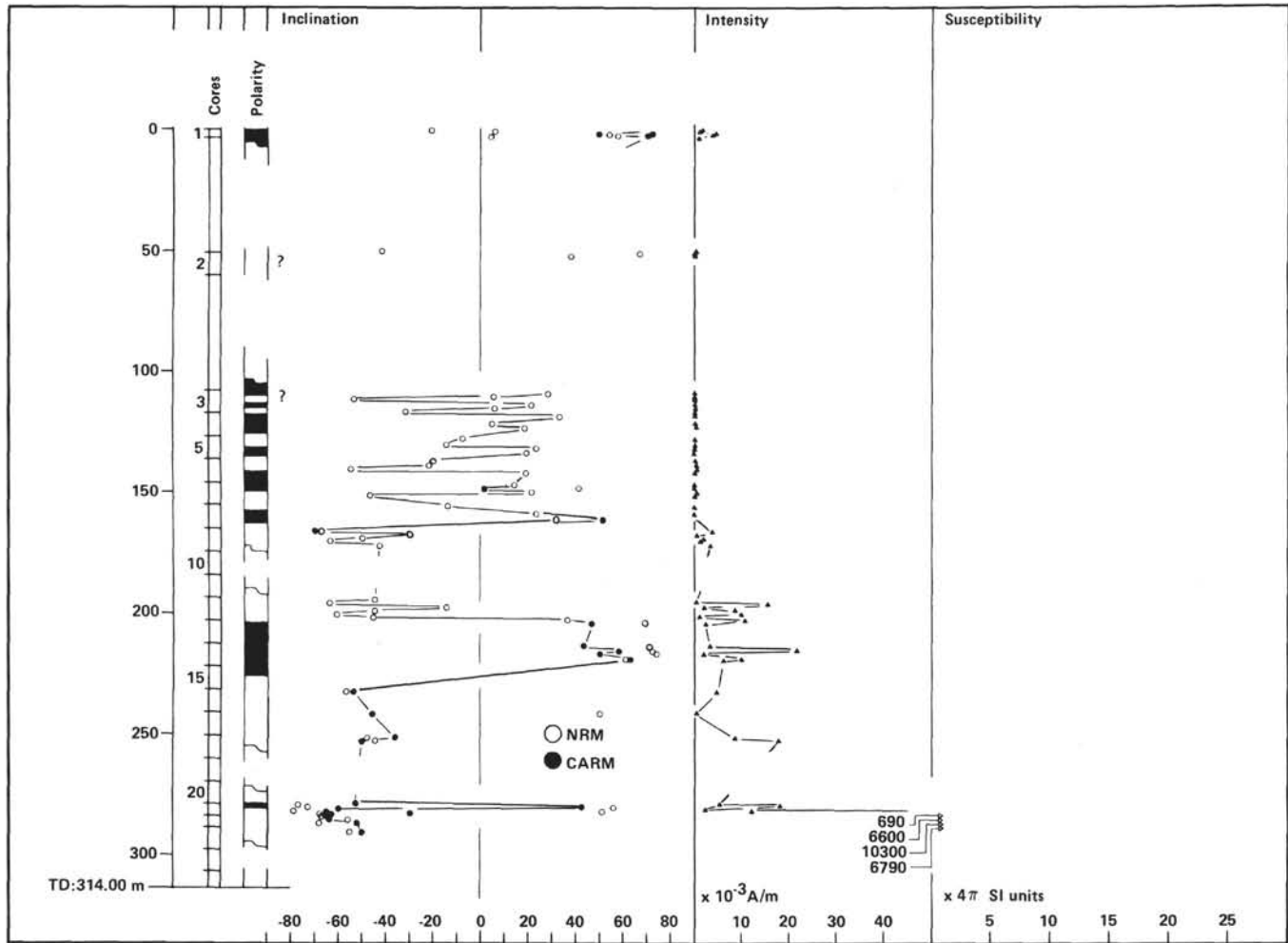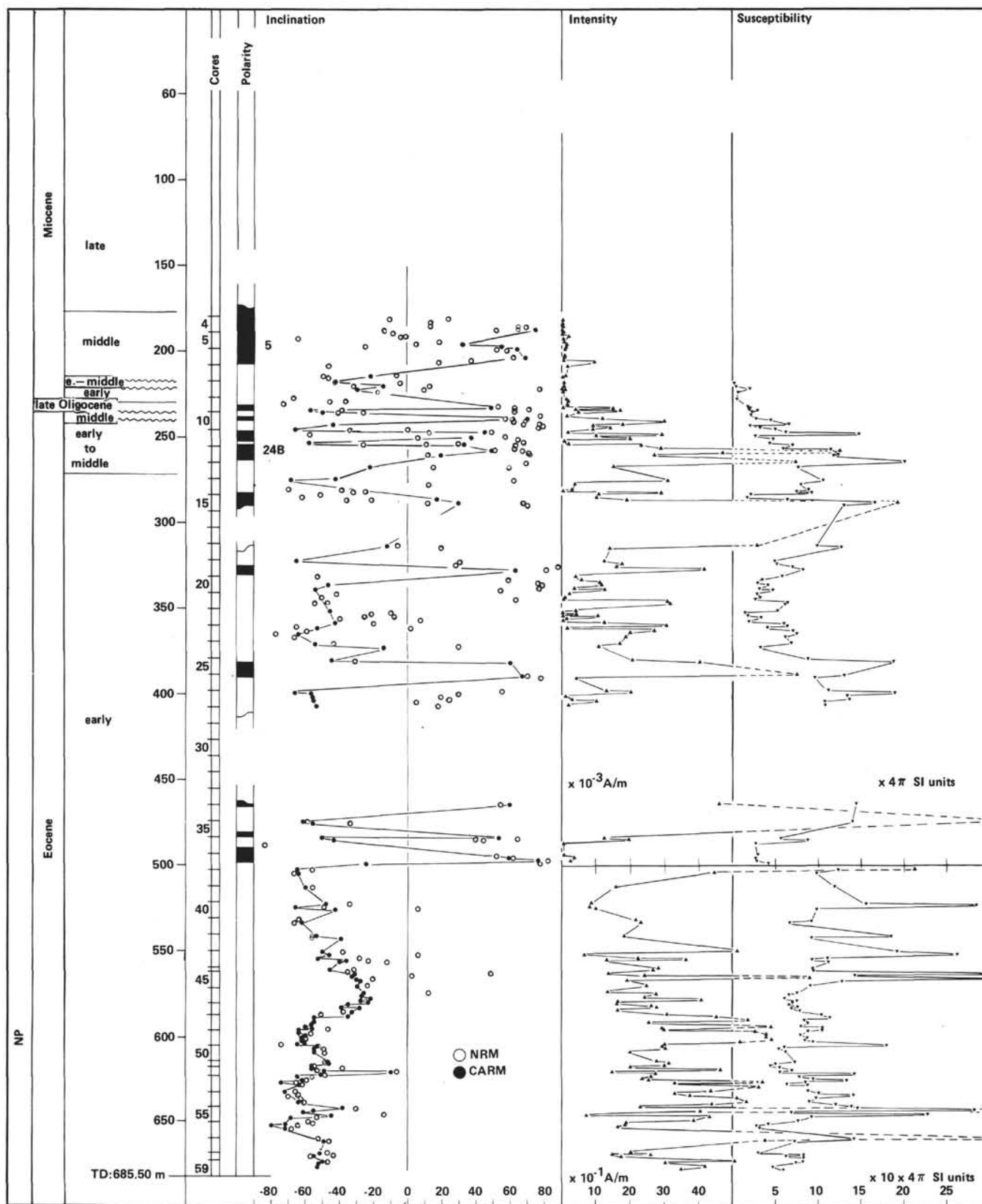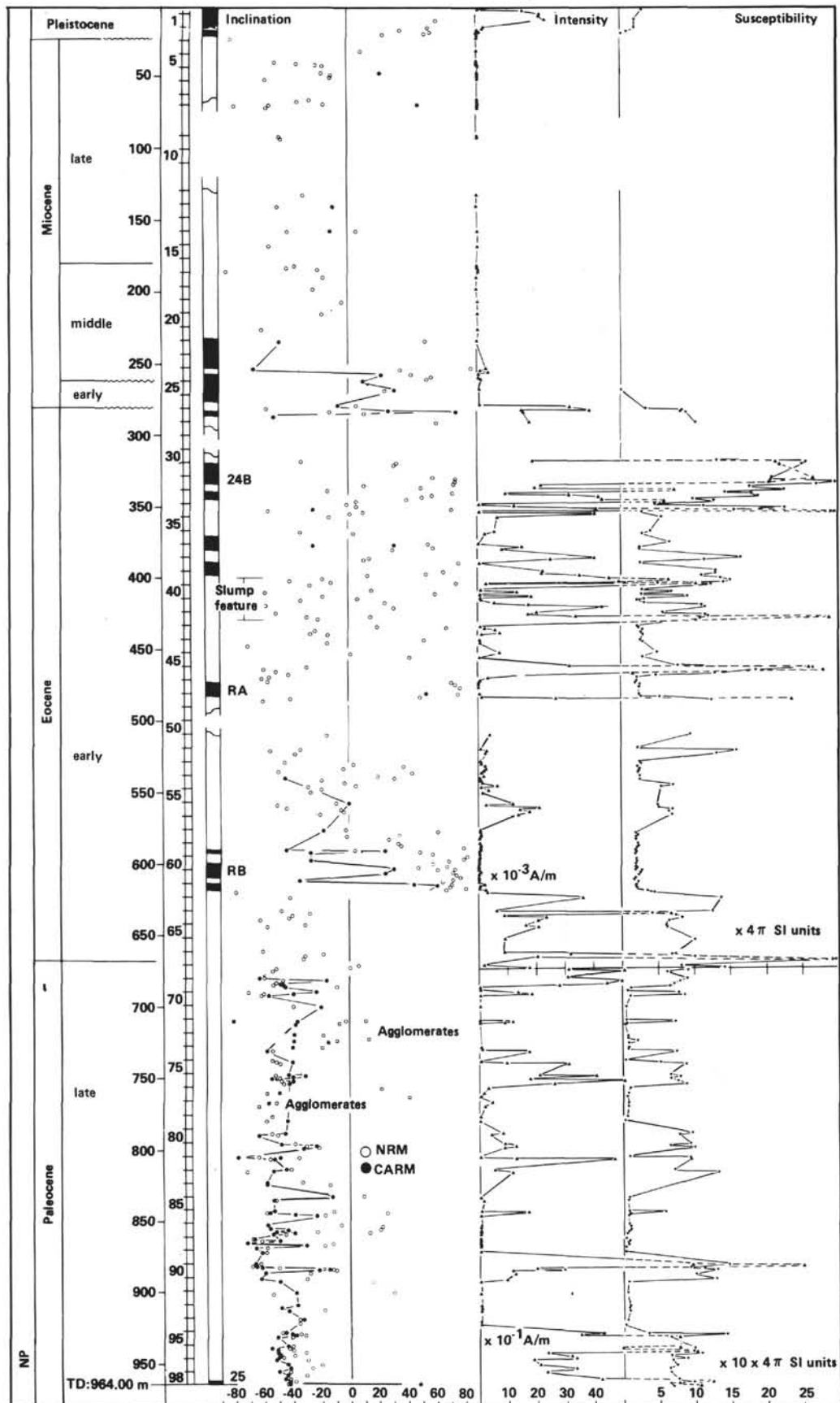
Figure 1. Paleomagnetics, Site 552.

Figure 2. Paleomagnetics, Site 553.

Figure 3. Paleomagnetics, Site 555.