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3 **APPENDICES**
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6 **Appendix A.** Plots of susceptibility versus temperature (°C) for samples from **A1)**
7 Shangsi, **A2)** Langdai, and **A3)** Junggar localities.
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11 **Appendix B.** Results from Lowrie 3-axis IRM thermal demagnetization experiments
12 performed on samples from **B1)** Shangsi and, **B2)** Junggar localities. The three curves
13 represent magnetization along the soft (squares, 0.12T), medium (triangles, 0.4 T), and
14 hard (circles, 1.1 T) IRM axes.
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20 **Appendix C.** Equal area nets of the NRM data shown before (top) and after (bottom)
21 bedding corrections: **C1)** Shangsi, **C2)** Langdai, and **C3)** Junggar localities. Solid (open)
22 symbols indicate lower (upper) hemisphere projections. The present field direction is
23 given by a star.
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29 **Appendix D.** Typical Zijderveld demagnetization data for samples that attained stable
30 endpoints: **D1)** Shangsi, **D2)** Langdai, and **D3)** Junggar localities, shown in stratigraphic
31 coordinates. Pairs of specimens from the same sample which were subjected to AF
32 versus Thermal demagnetization are noted. Solid (open) symbols on the orthogonal
33 vector plots indicate the horizontal (vertical) component. Solid (open) symbols on the
34 stereoplots indicate lower (upper) hemisphere projections.
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41 **Appendix E.** Stereonets of sample demagnetization behavior from **E1)** Shangsi, **E2)**
42 Langdai, and **E3)** Junggar localities, shown in stratigraphic coordinates. Also shown are
43 the reference directions and their associated α_{95s} (upper left stereonet).
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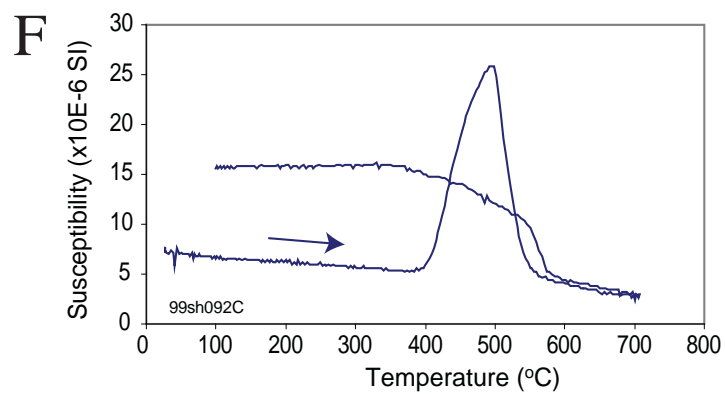
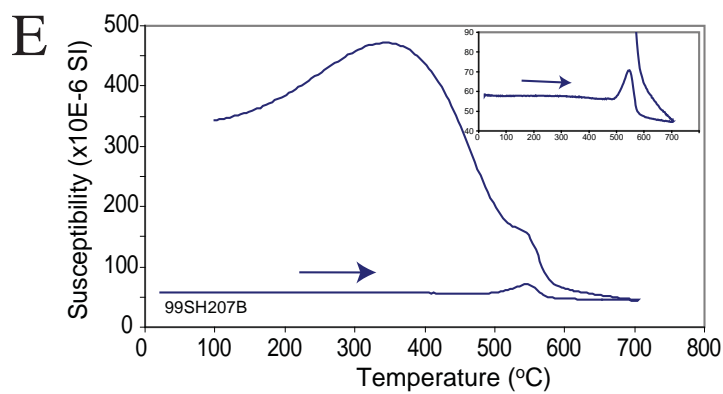
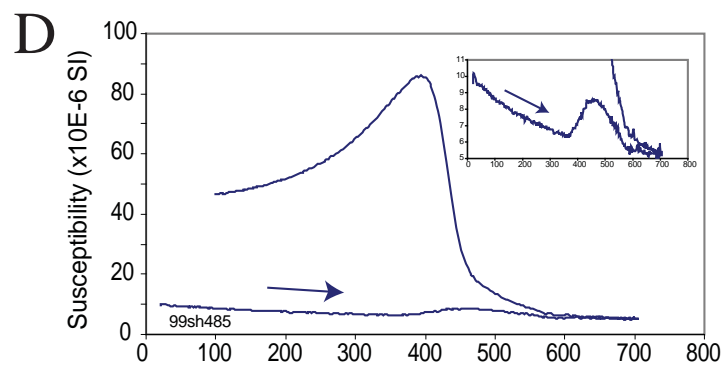
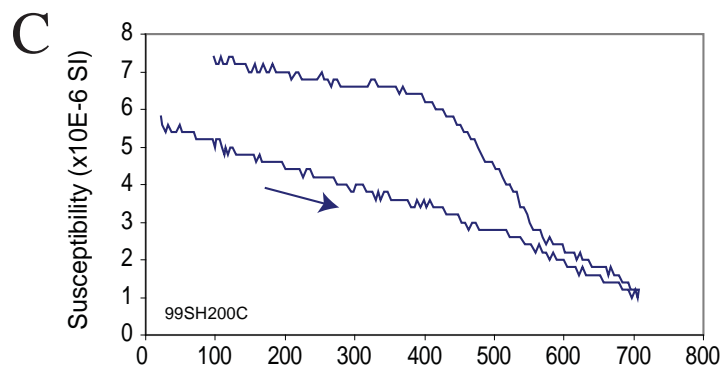
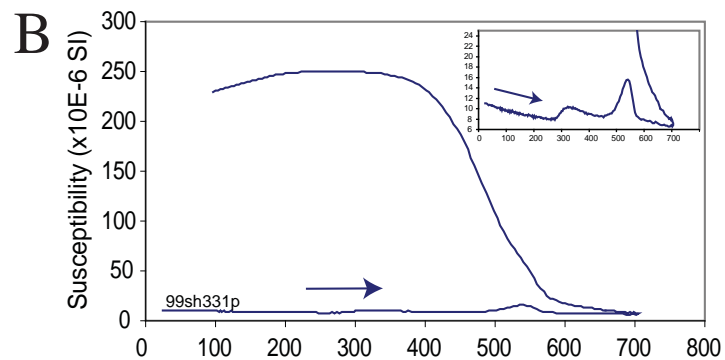
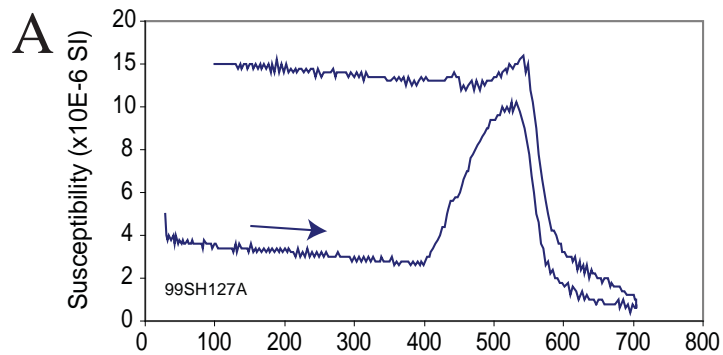
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49 **Appendix F.** Stereonets of best-fit great circles shown before (top) and after (bottom)
50 applying bedding corrections. **F1)** Samples from the southeastern Shangsi sections (SHR
51 & SHC). **F2)** Samples from the Langdai section at Zhongzhai. **F3)** Samples from all
52 three Junggar sections. Also shown are the reference directions (green squares) and their
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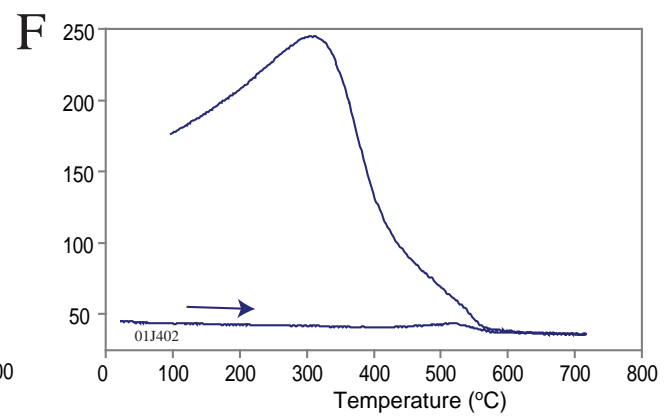
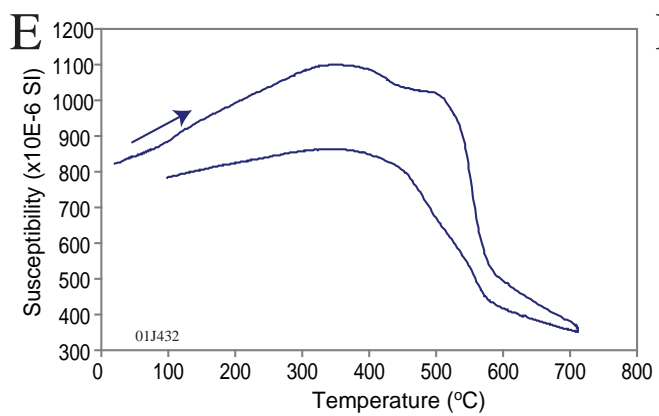
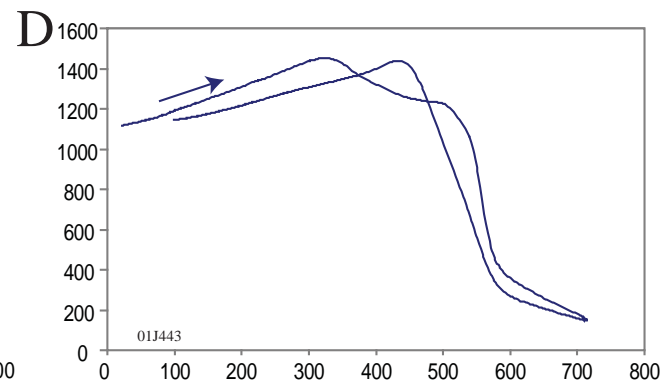
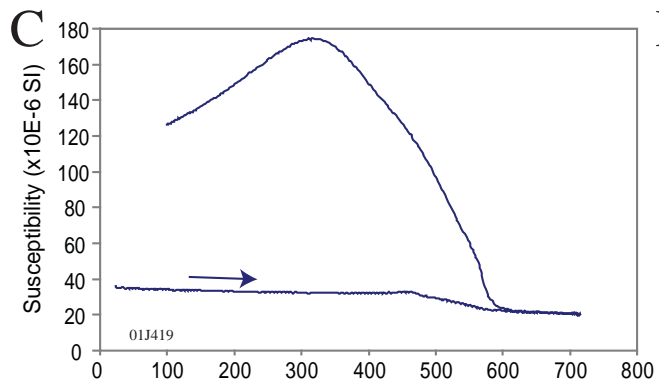
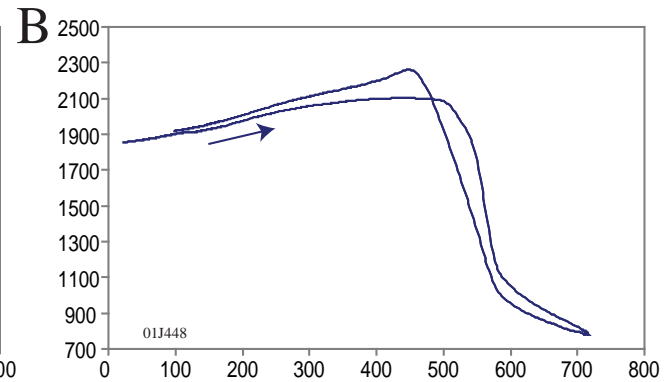
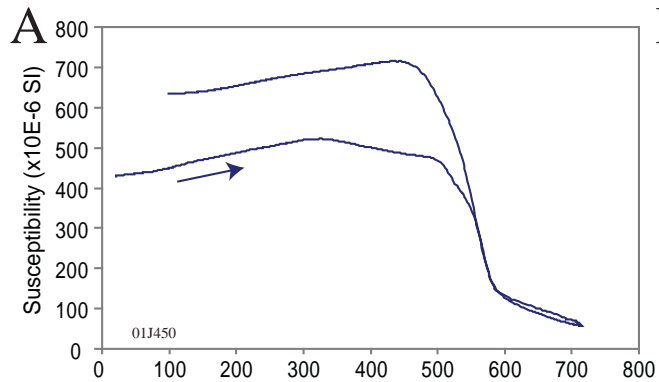
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3 associated α_{95} s and, the present field direction (star). Solid symbols indicate lower
4 hemisphere projections, and open symbols indicate upper hemisphere projections.
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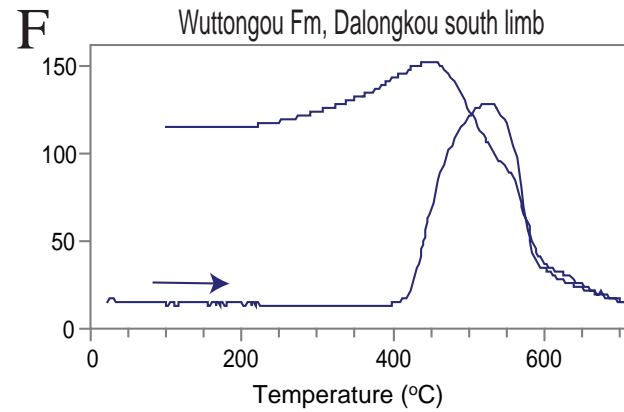
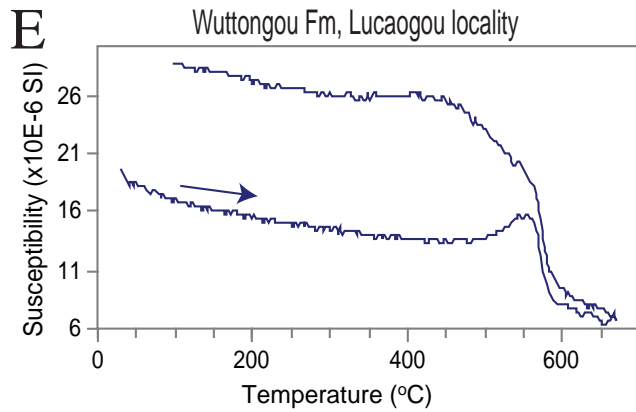
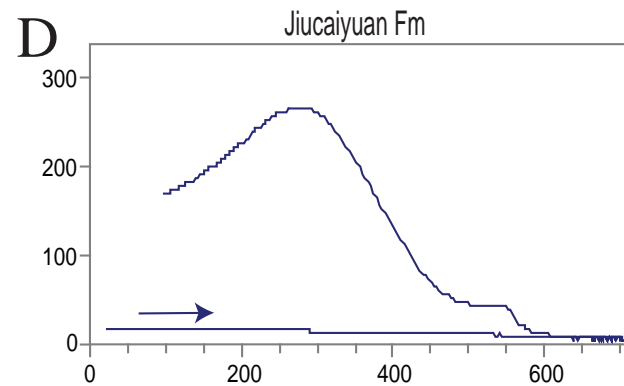
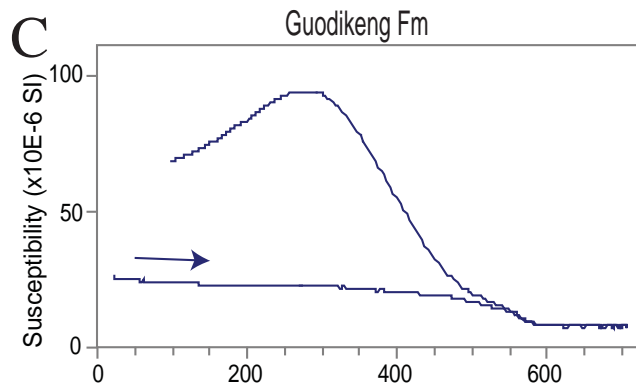
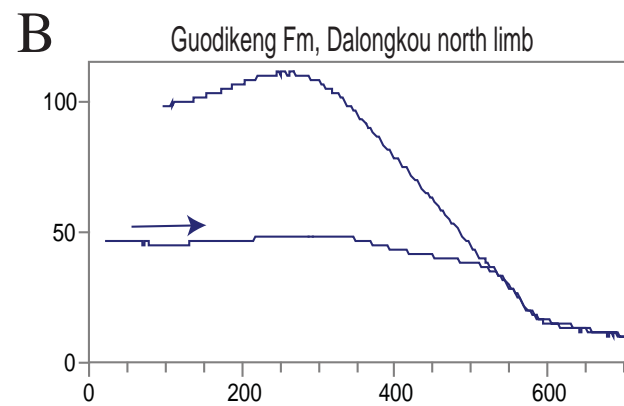
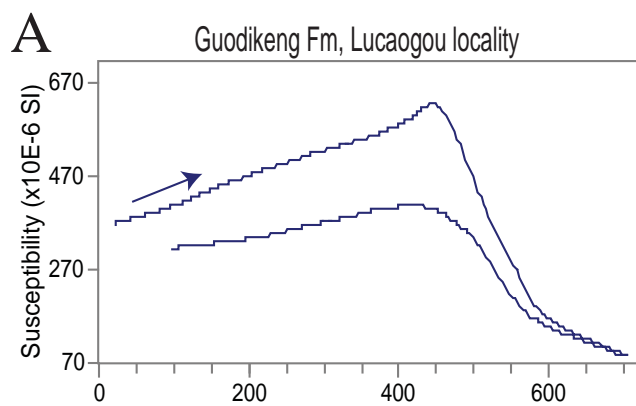
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8 **Appendix G.** Tables of best-fit sample directions and great circles from **G1)** Shangsi,
9 **G2)** Langdai, and **G3)** Junggar localities. Columns give (from left to right): section,
10 sample, stratigraphic position, line fit or great circle fit, number of demagnetization steps
11 used in fit, temperature (T) or field (M) range used in fit, Declination of fit direction or
12 declination of pole to great circle (in geographic coordinates), Inclination of fit direction
13 or inclination of pole to great circle (in geographic coordinates), Declination of fit
14 direction or declination of pole to great circle (in stratigraphic coordinates), Inclination of
15 fit direction or inclination of pole to great circle (in stratigraphic coordinates). Tables are
16 sorted by section and stratigraphic position.
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26 **Appendix H.** Declinations and inclinations of the best-fit sample directions, or of the
27 last point used in the great circle fit, and sample polarities for **H1)** Shangsi, **H2)** Langdai,
28 and **H3)** Junggar sections. Sample directions and polarities are shown for samples that
29 satisfy selection criteria discussed in text. Also shown are generalized
30 magnetostratigraphies that incorporate information from both line-fits, and from great
31 circle data. Appendix H1 also shows samples that did not fully meet the selection criteria
32 but which are still believed to reveal sample polarity (smallest squares on sample polarity
33 chart).
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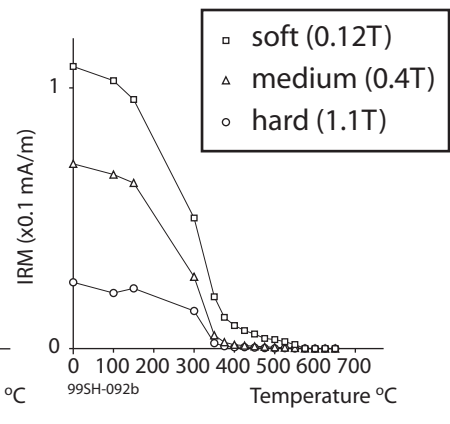
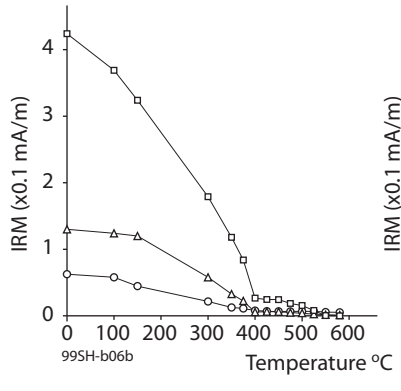
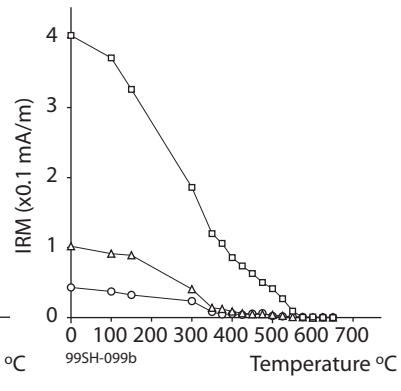
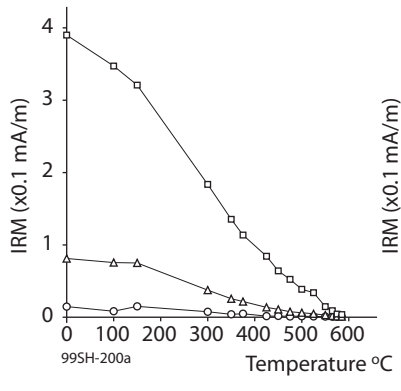
42 **Appendix I.** Tables of locality mean directions for **G1)** Shangsi, **G2)** Langdai, and **G3)**
43 Junggar localities. Columns give (from left to right): locality, number of samples use in
44 calculating mean, Declination of mean (in geographic coordinates), Inclination of mean
45 (in geographic coordinates), Declination of mean (in stratigraphic coordinates),
46 Inclination of mean (in stratigraphic coordinates), precision parameter, α_{95} .
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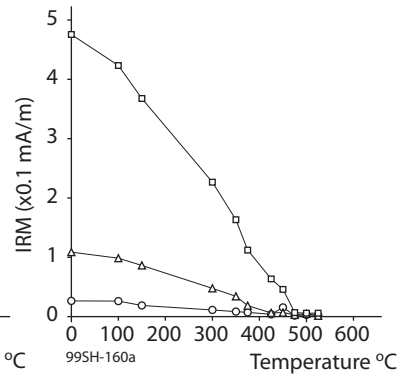
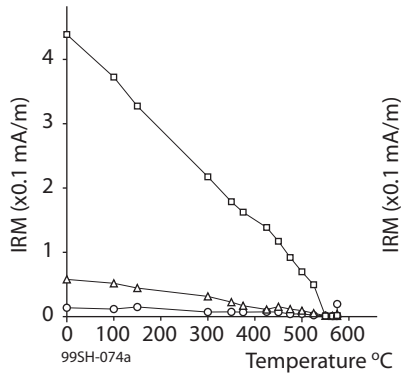


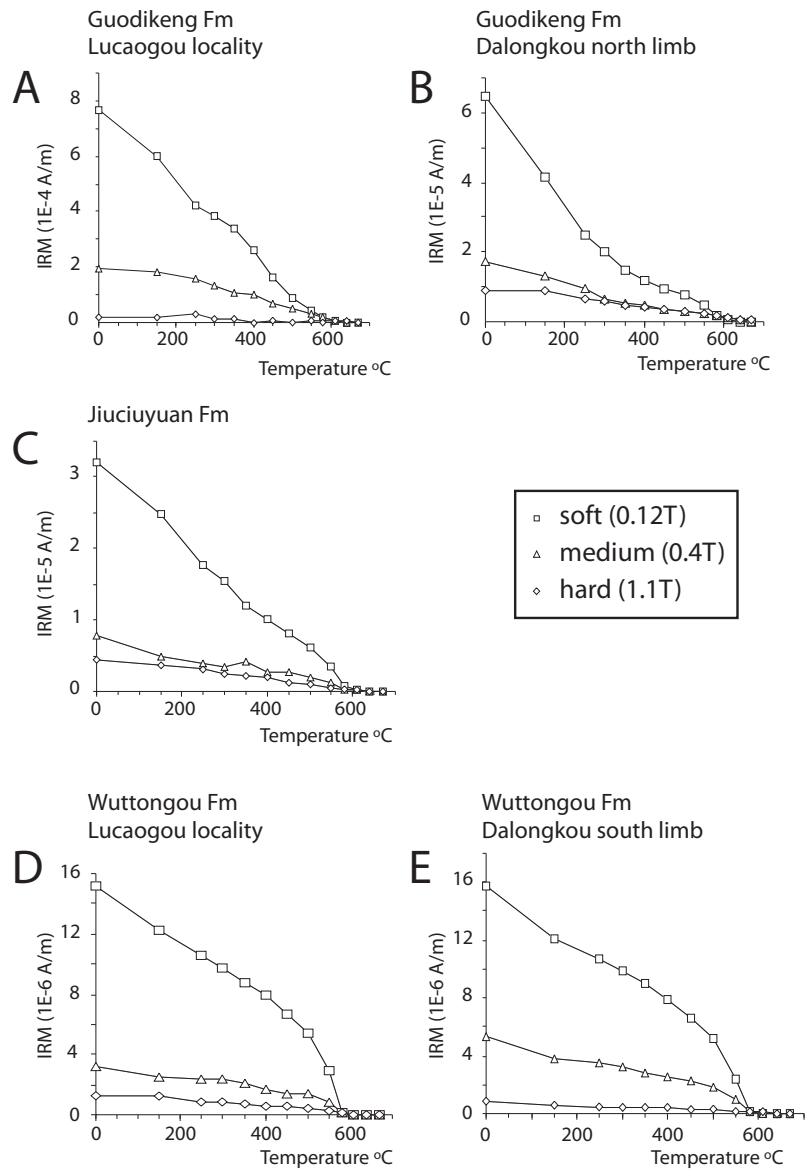


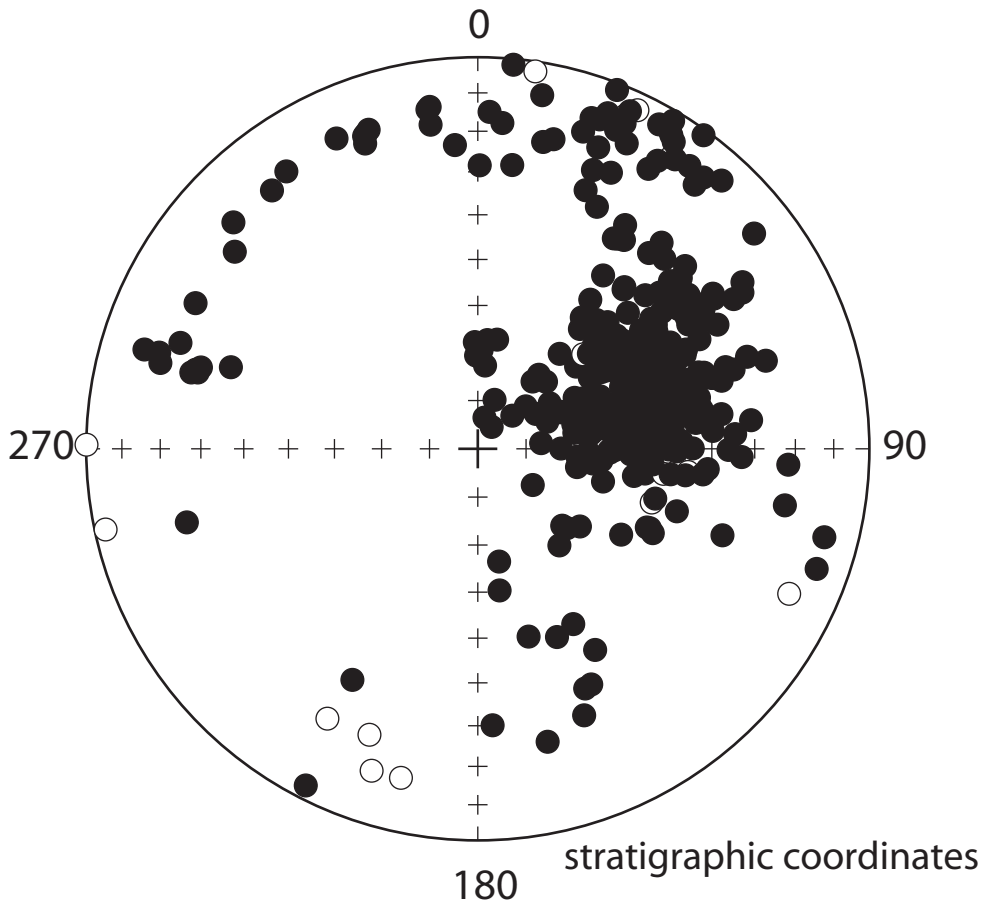
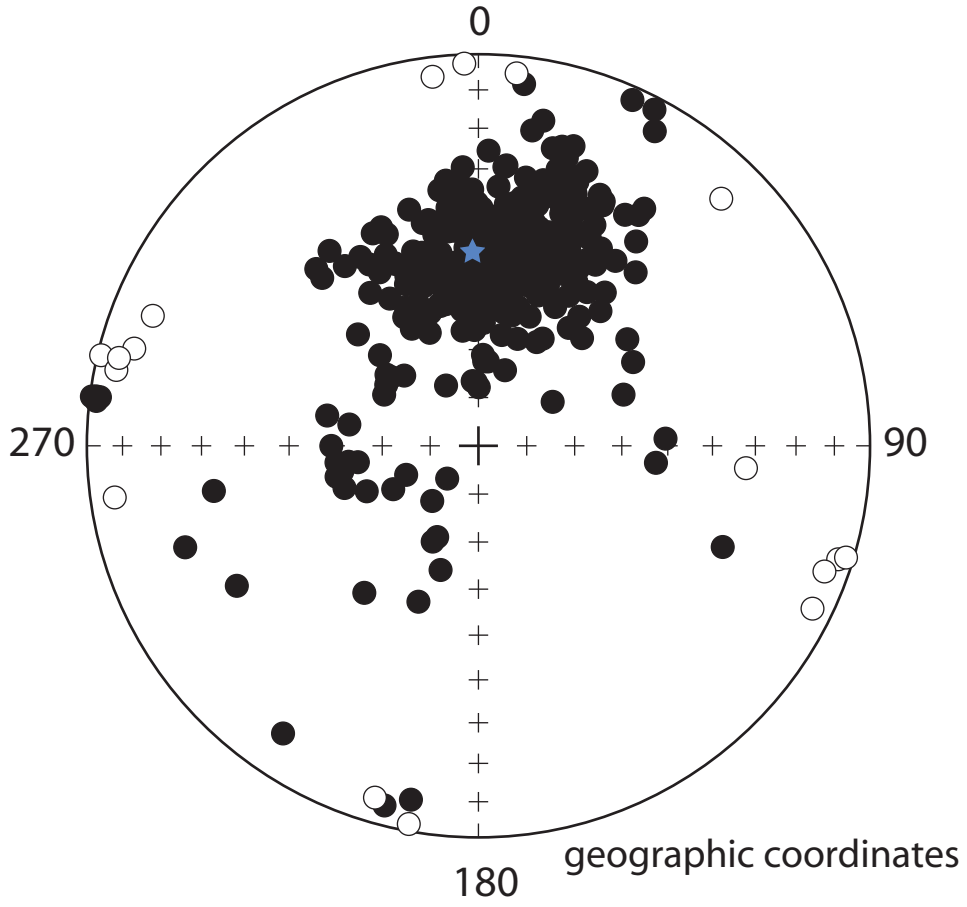
Appendix B1

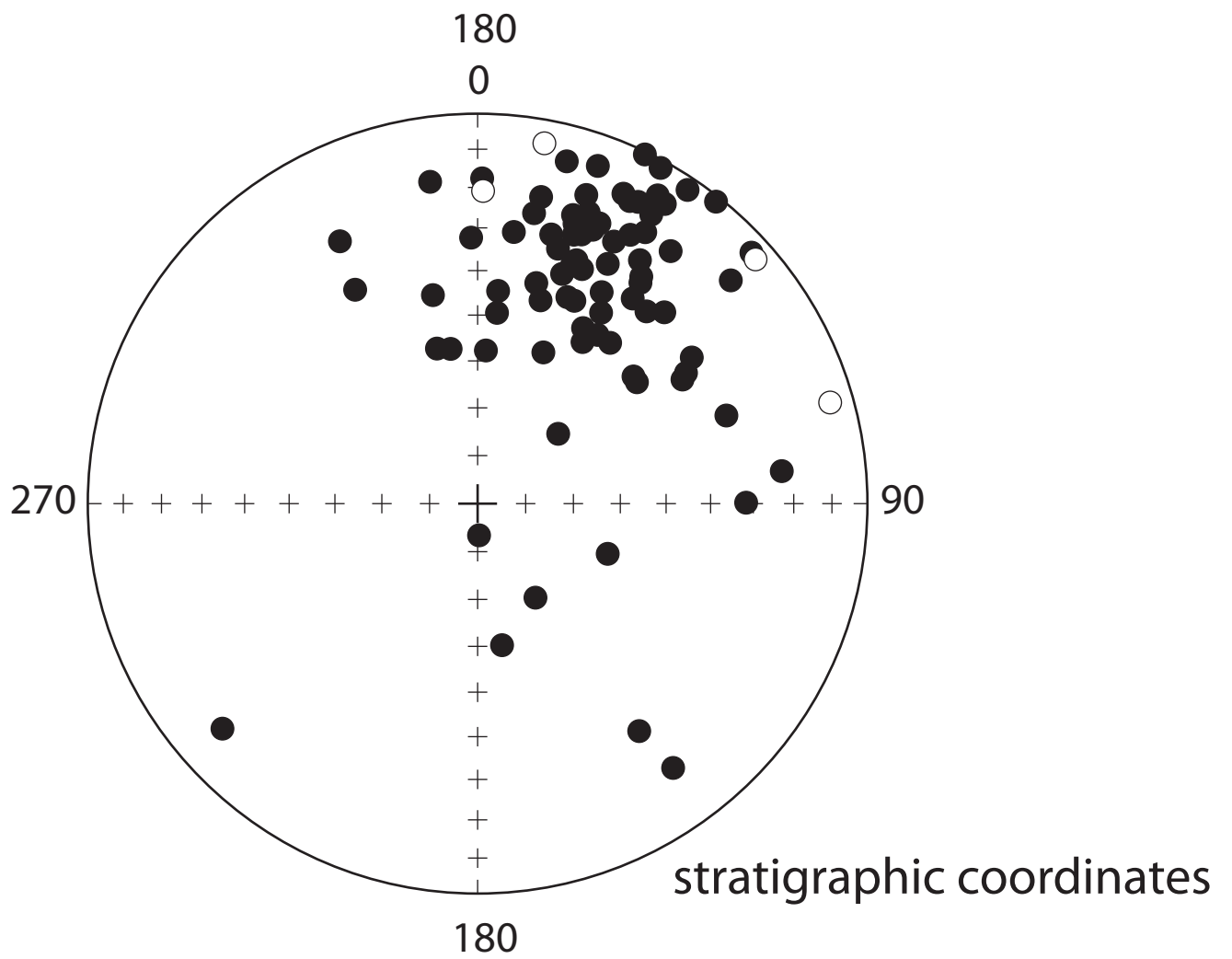
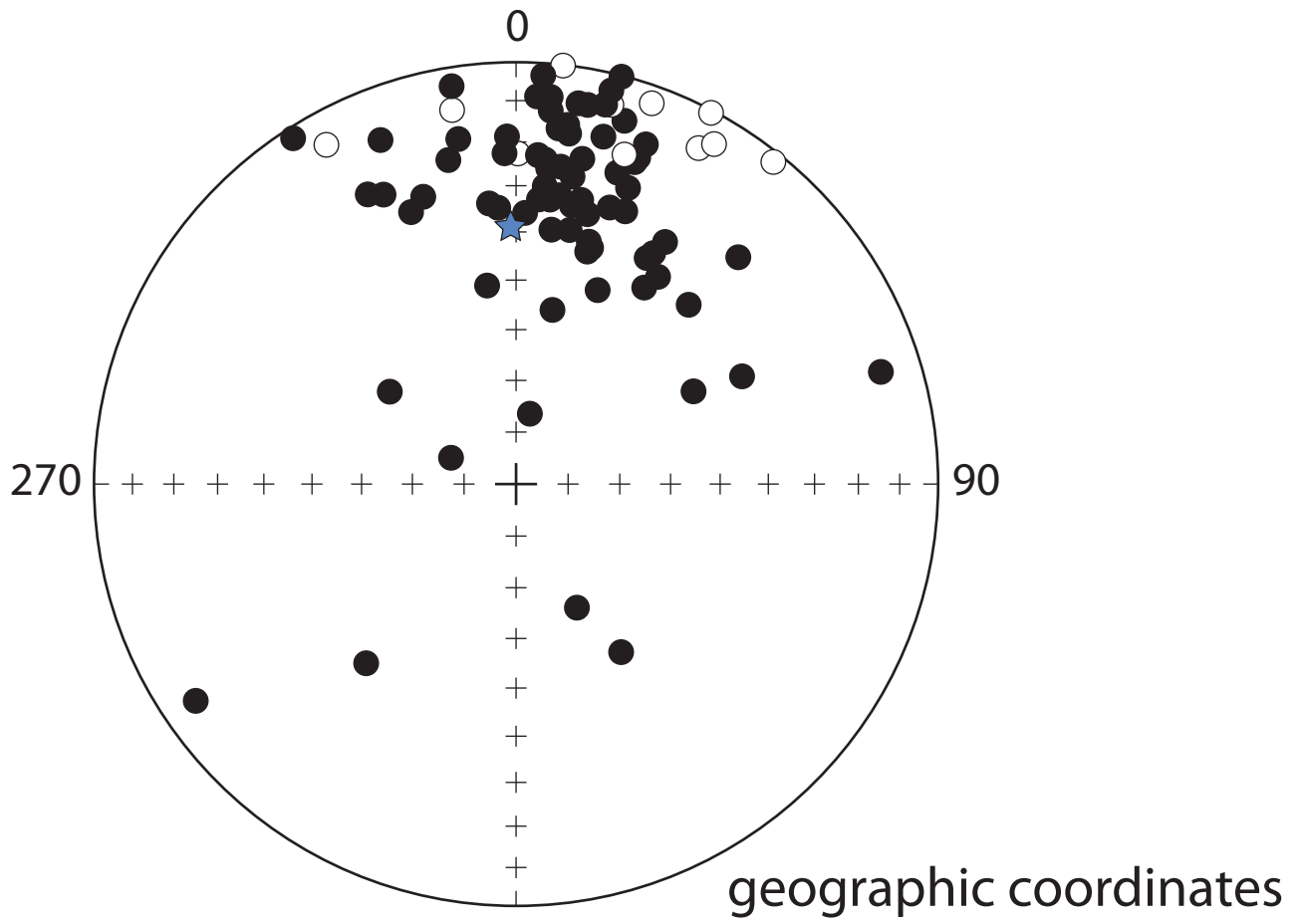


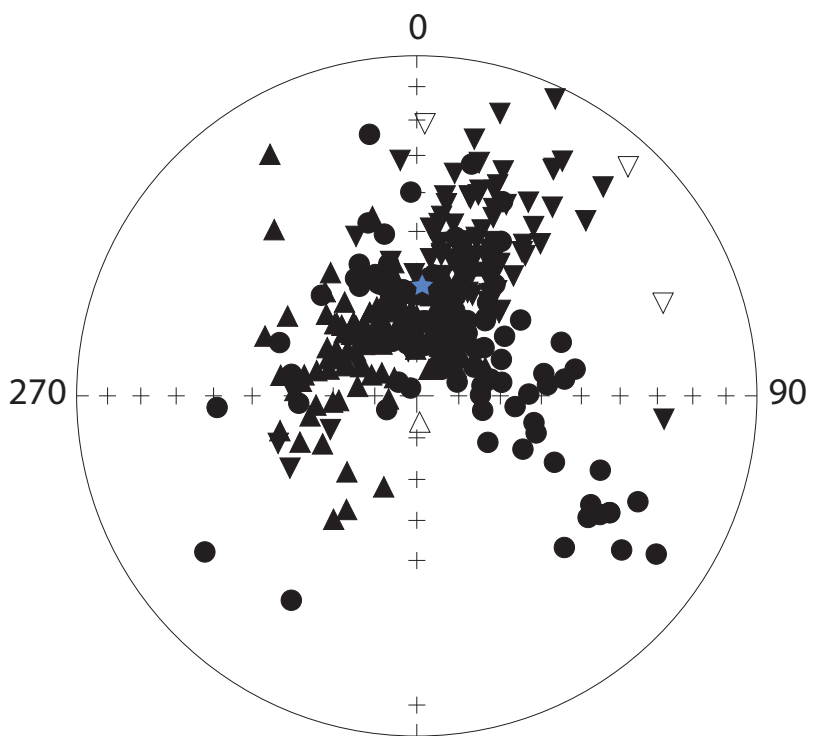
- soft (0.12T)
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- hard (1.1T)





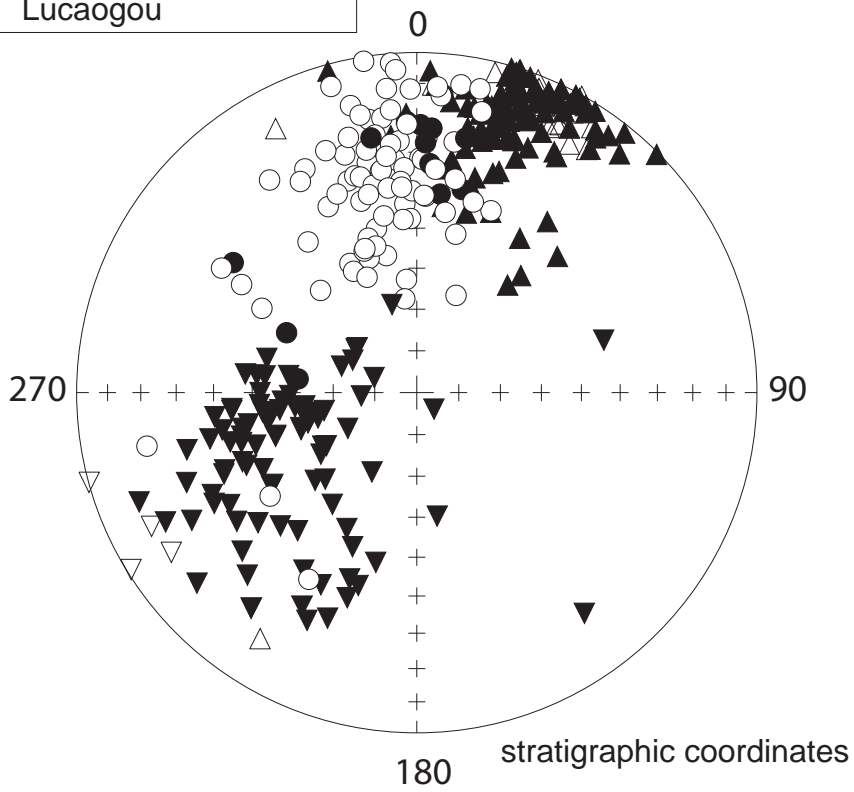




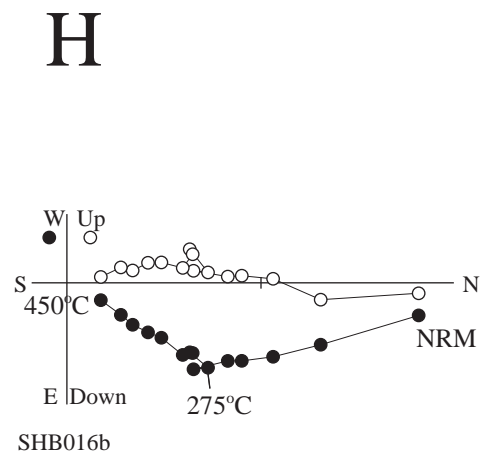
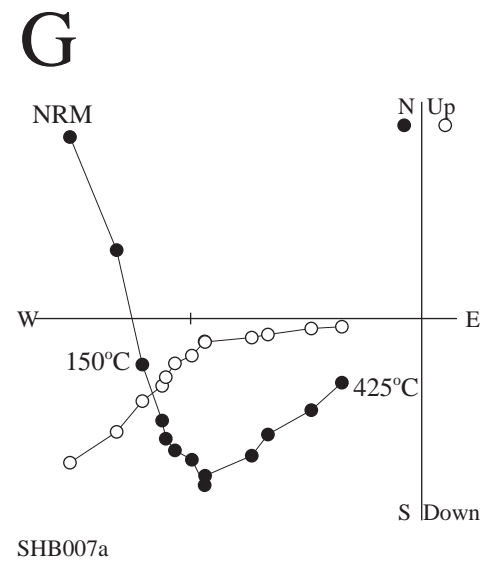
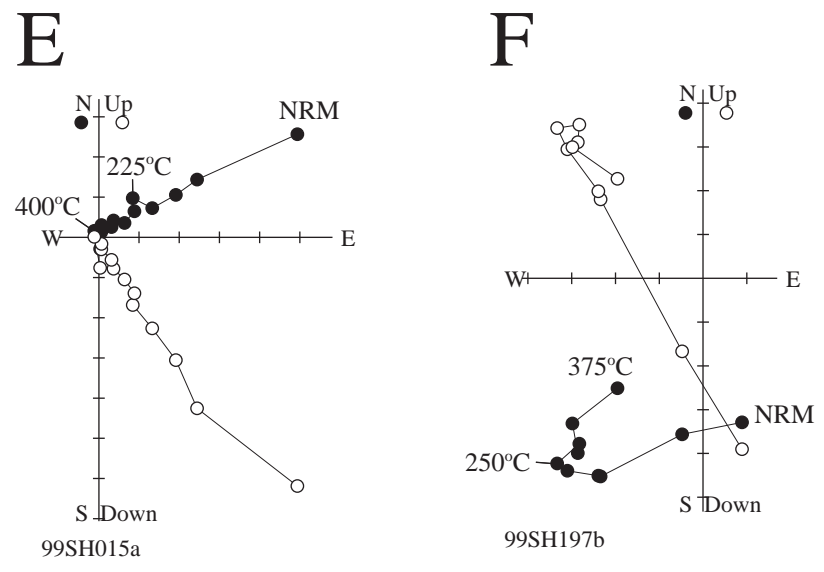
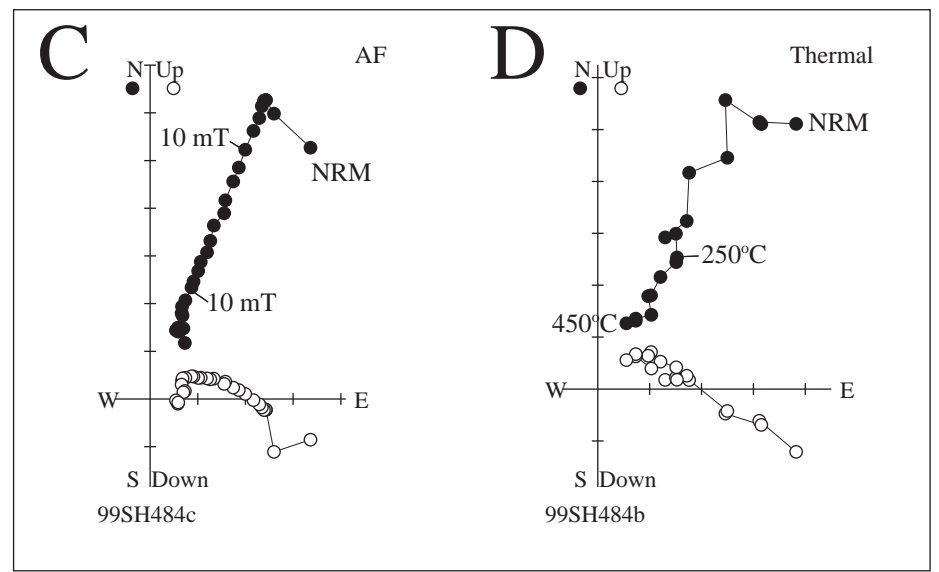
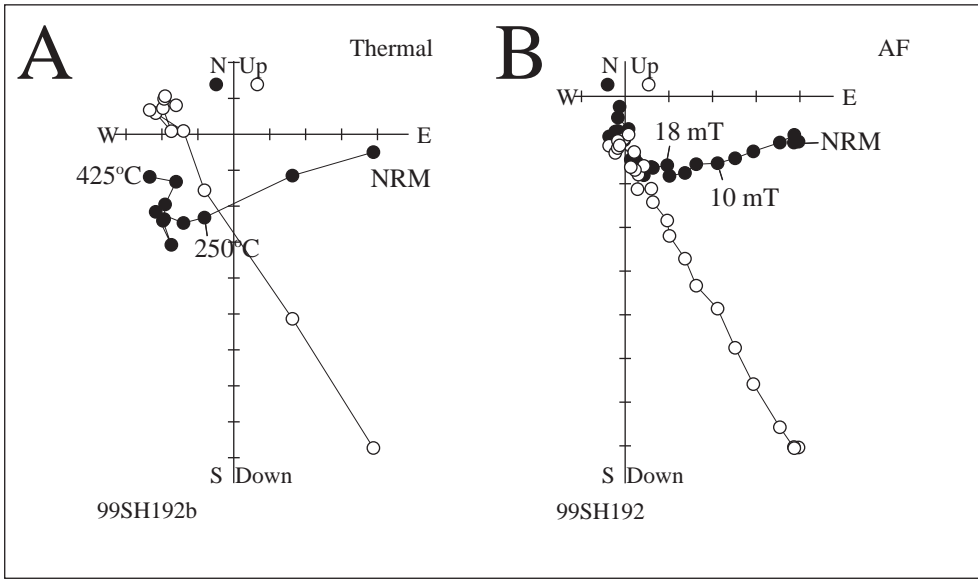


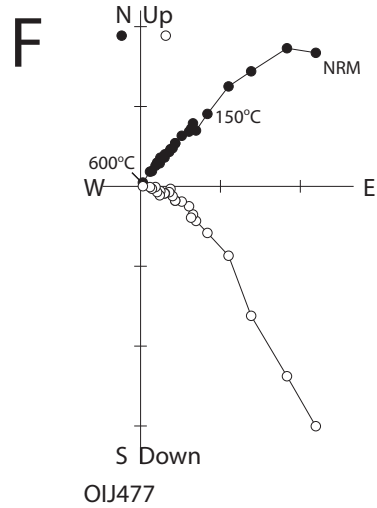
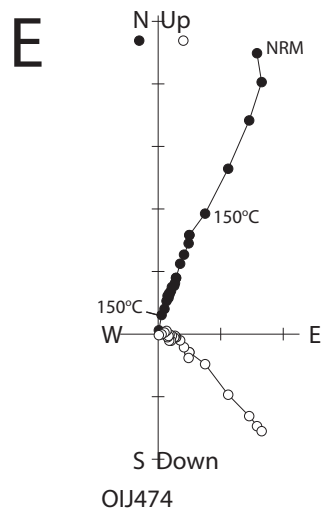
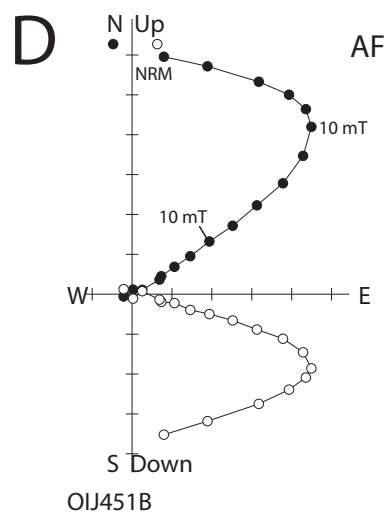
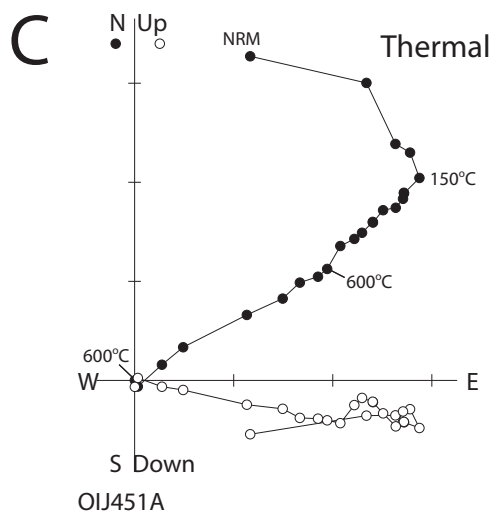
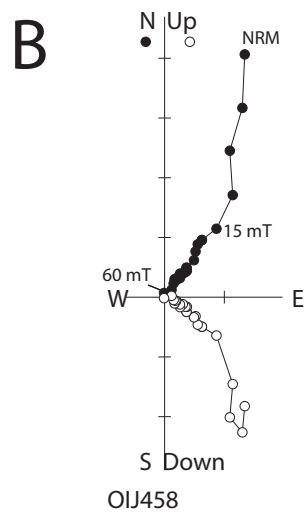
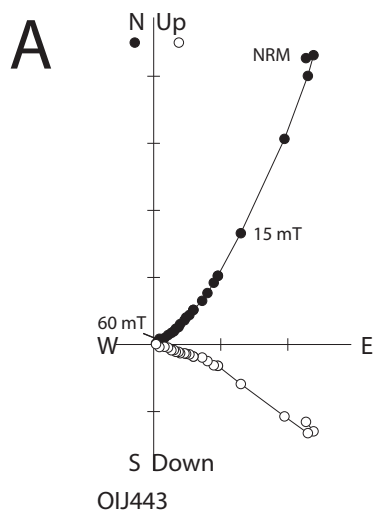
- ▲ Dalongkou North Limb
- ▼ Dalongkou South Limb
- Lucaogou

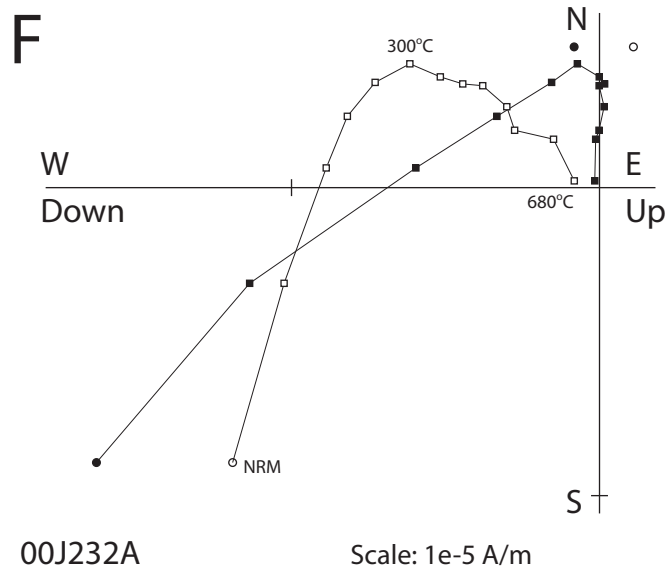
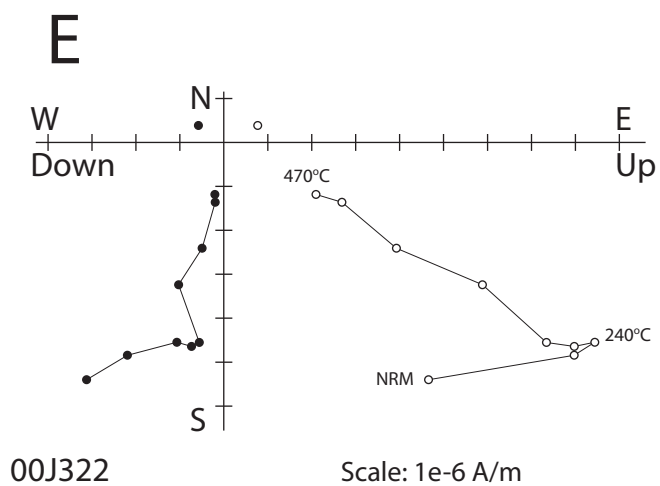
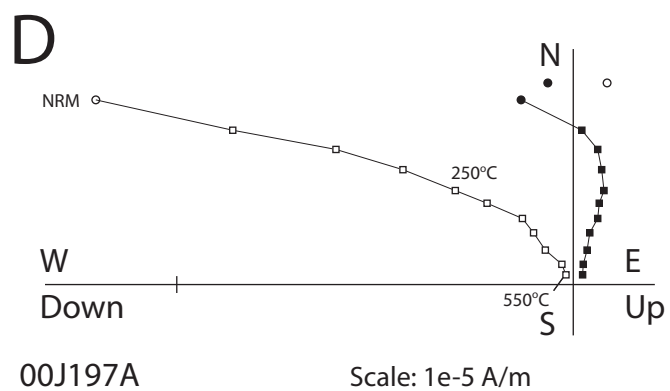
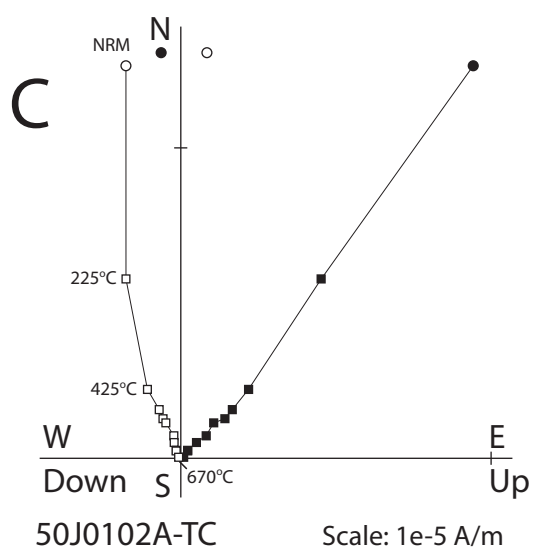
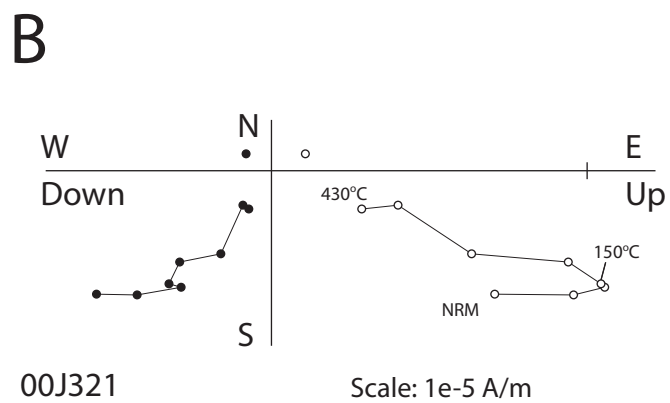
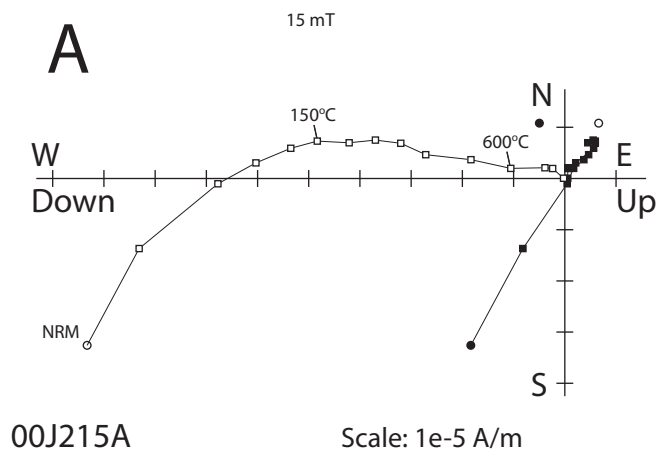
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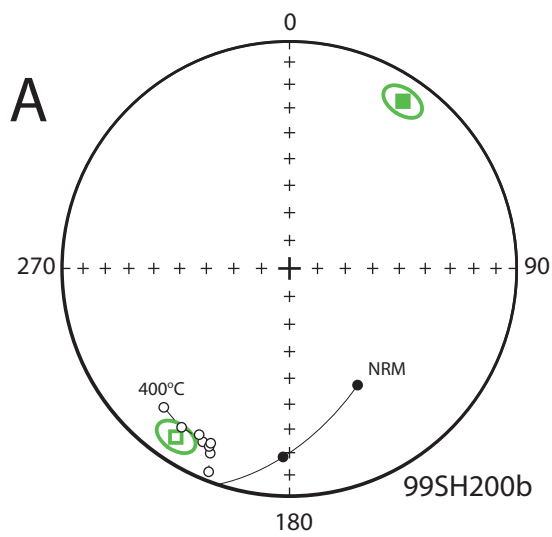


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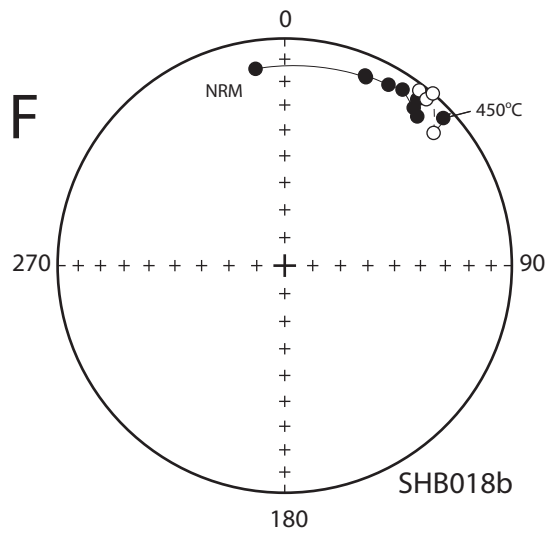
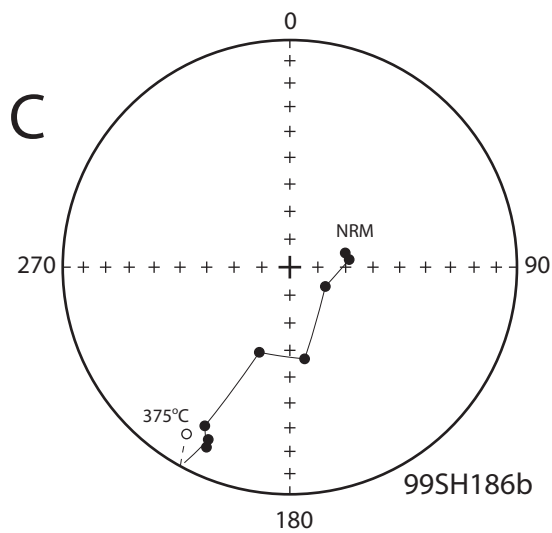
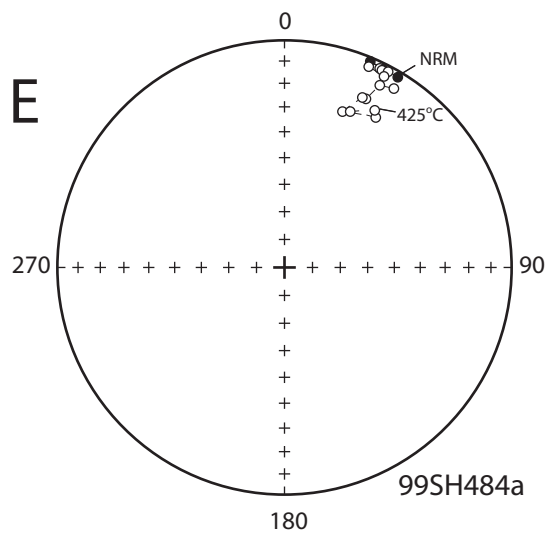
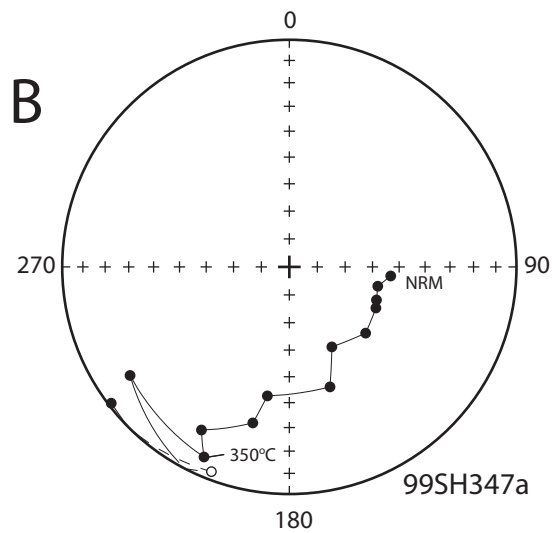
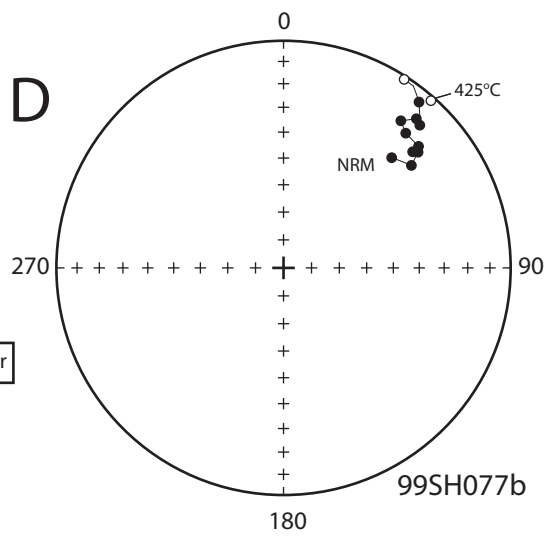


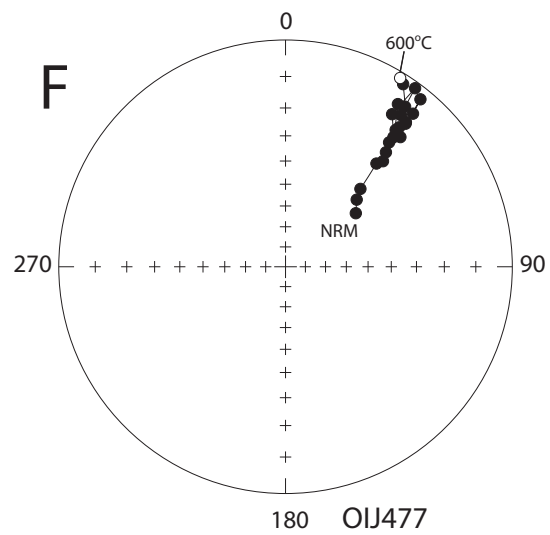
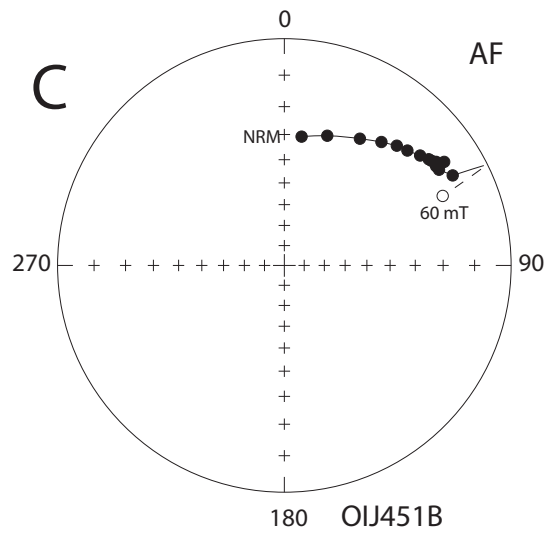
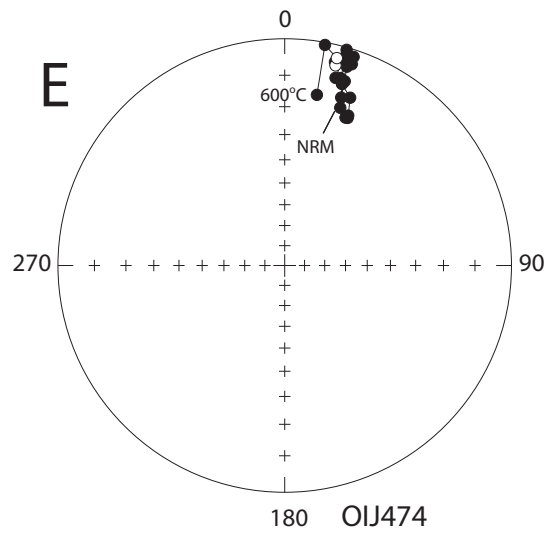
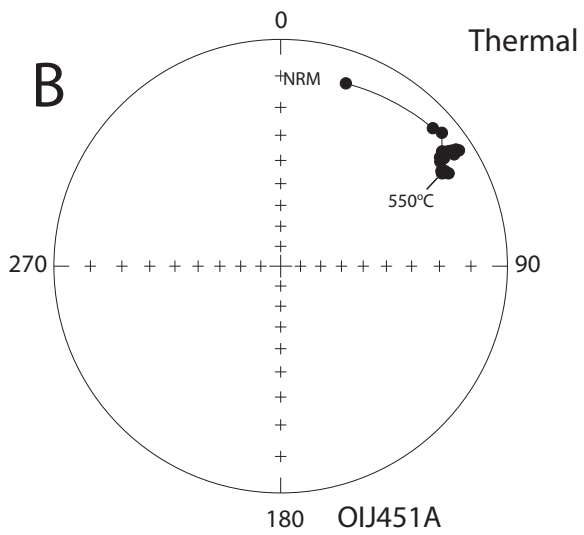
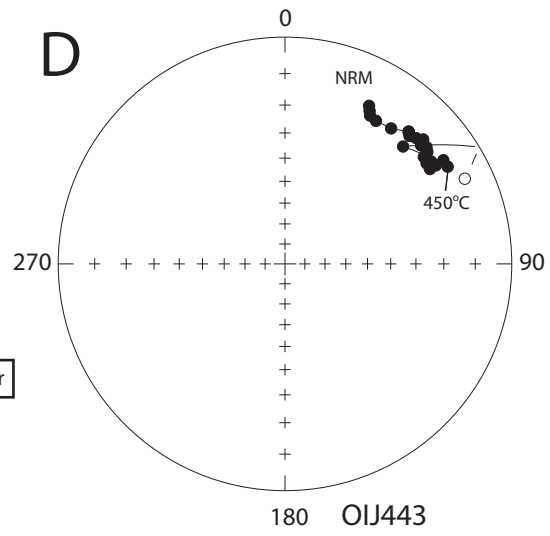
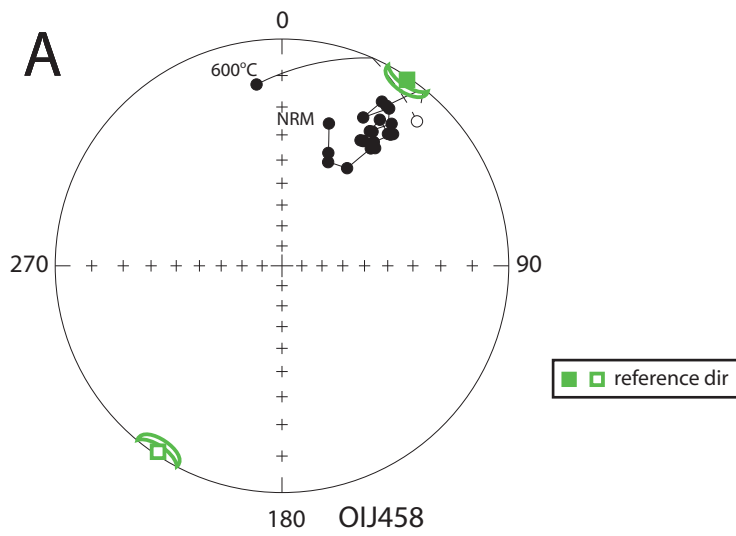


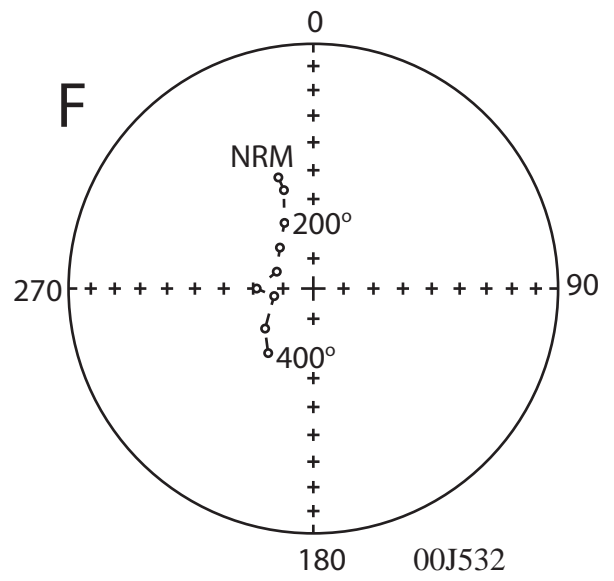
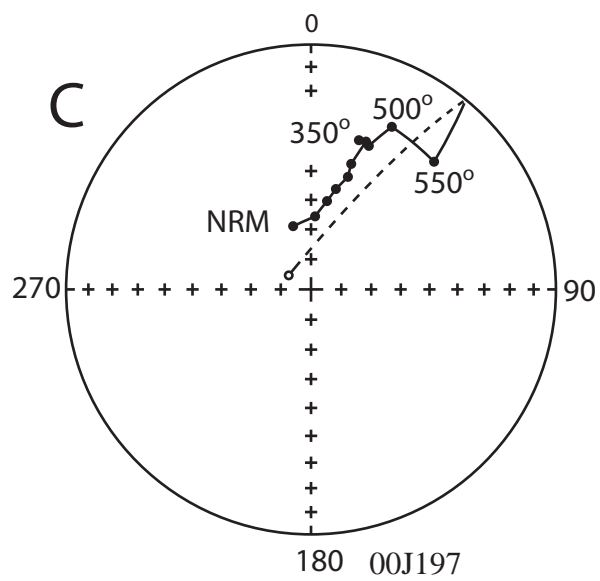
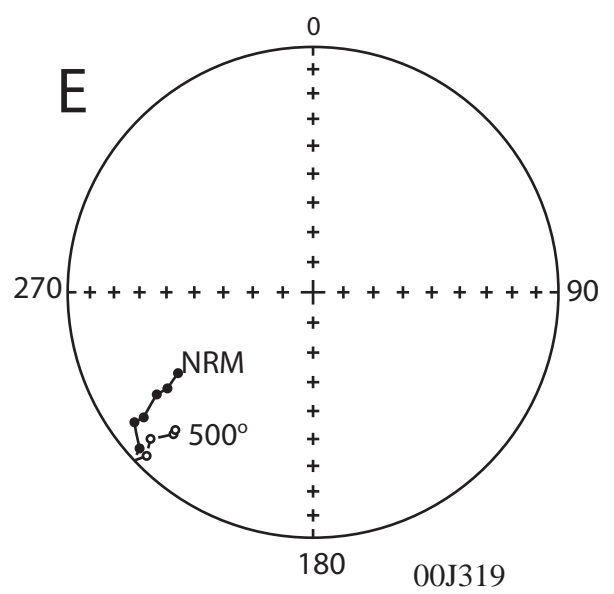
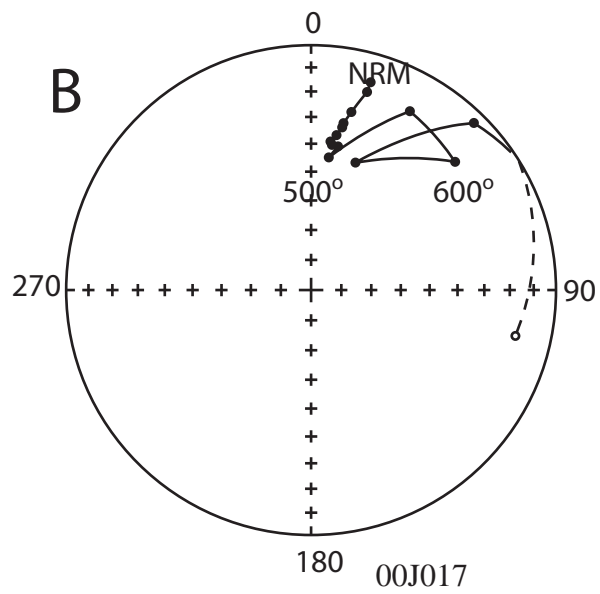
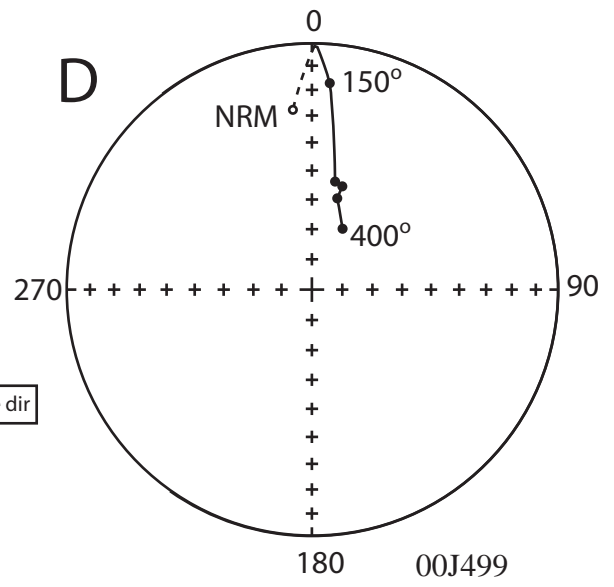
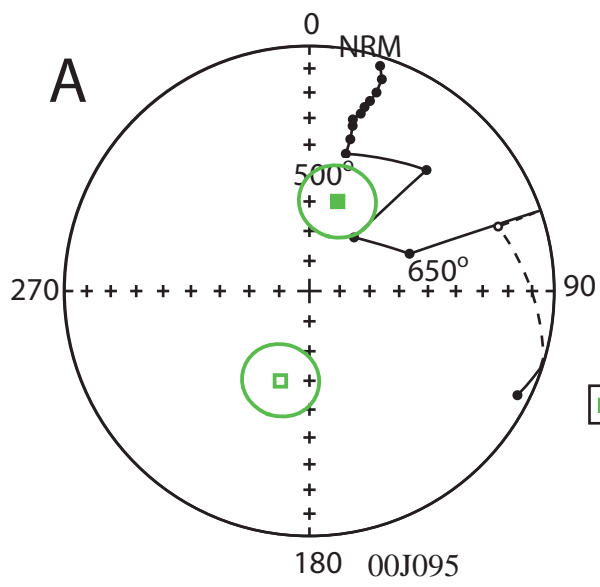


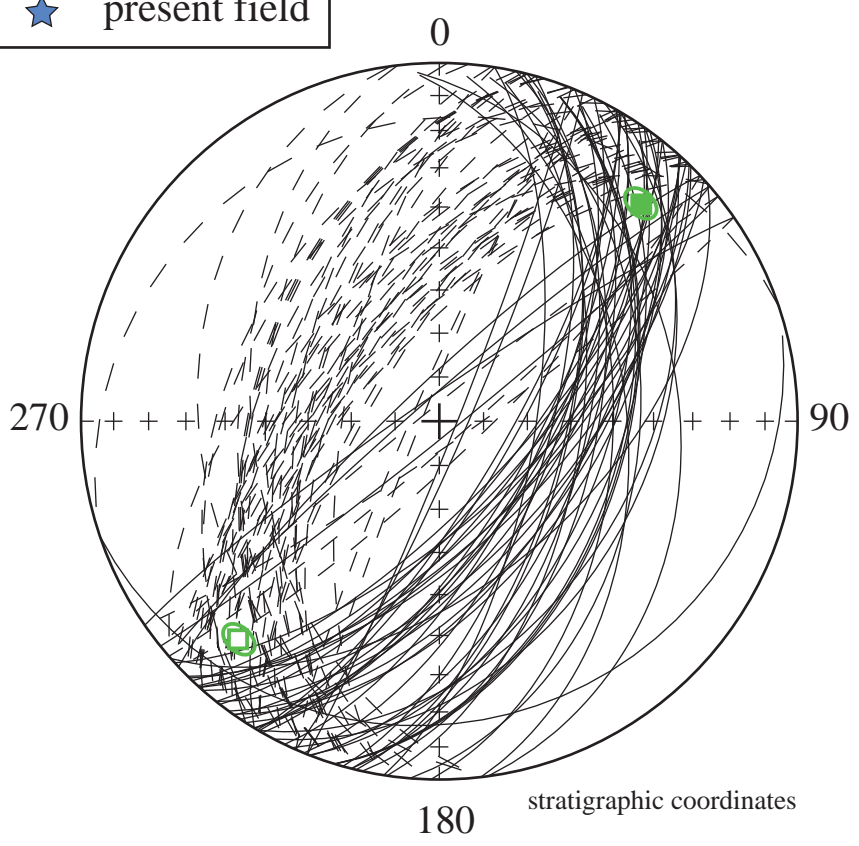
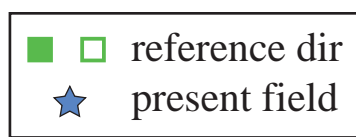
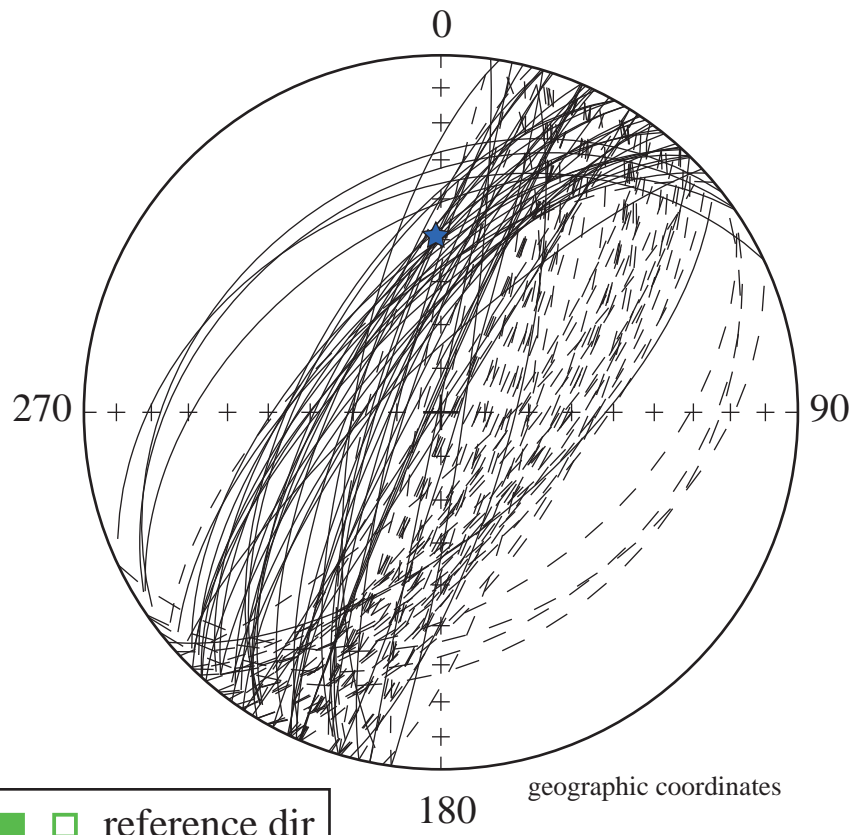


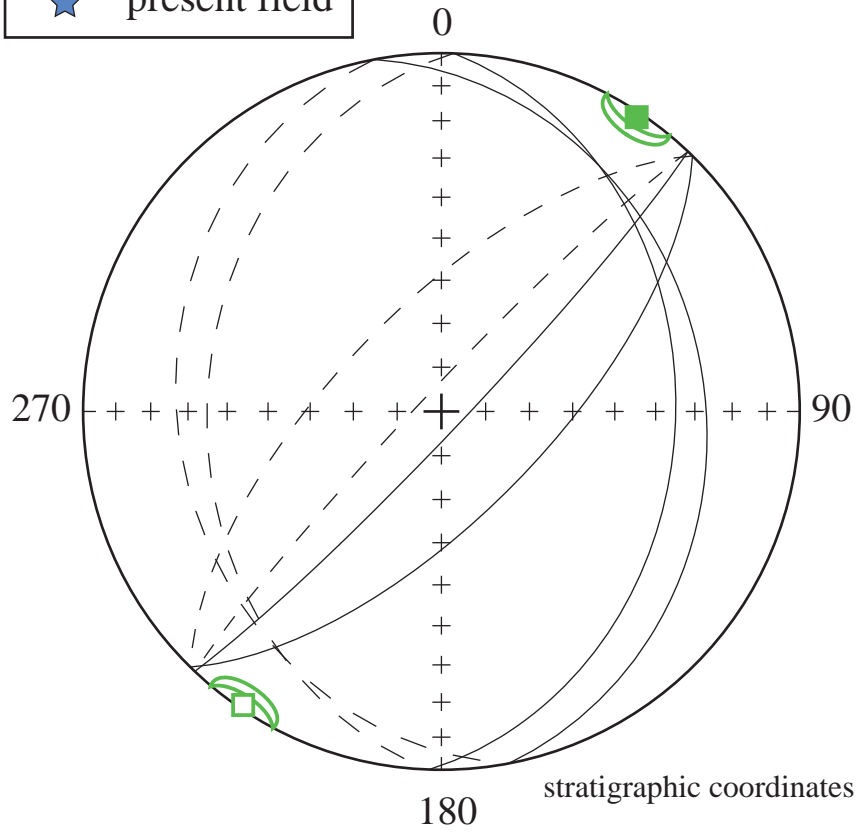
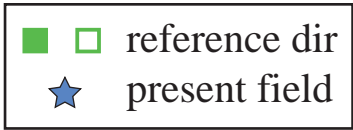
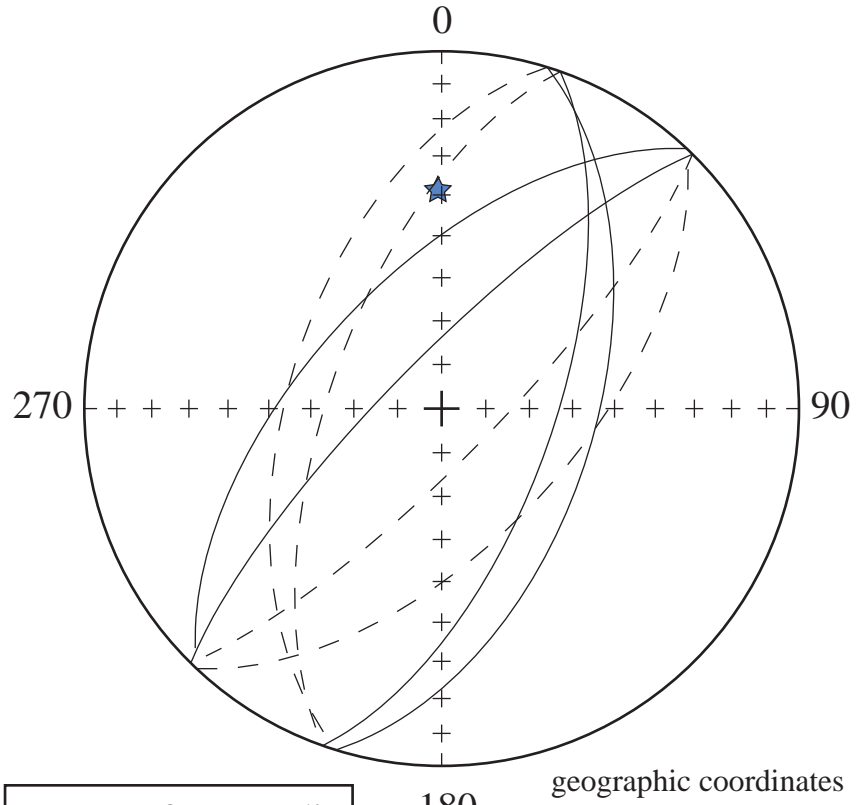
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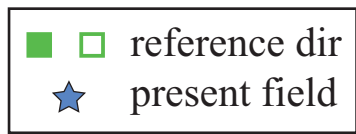
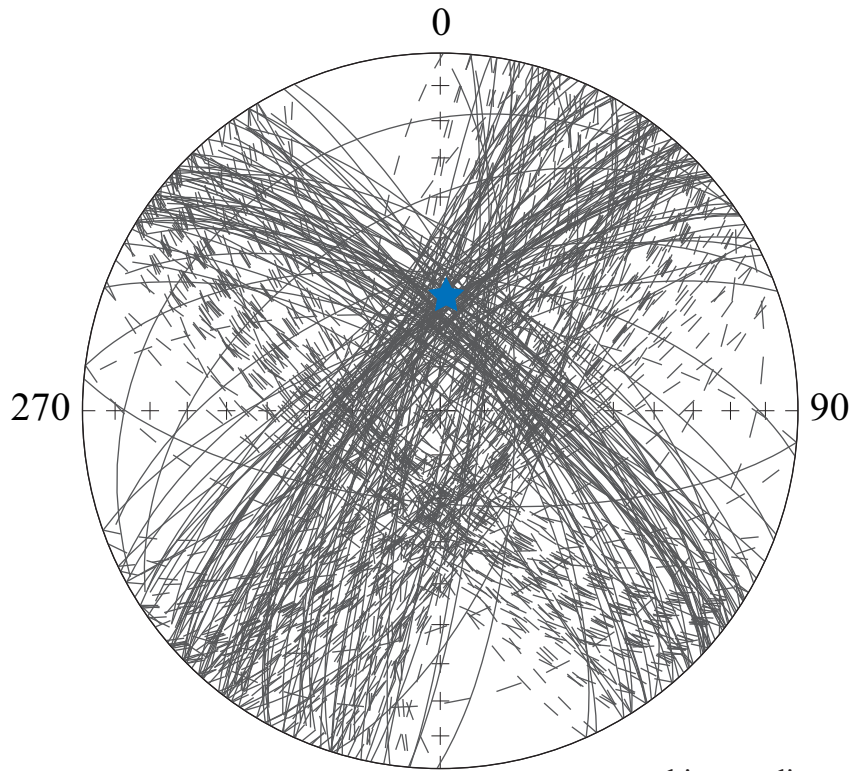






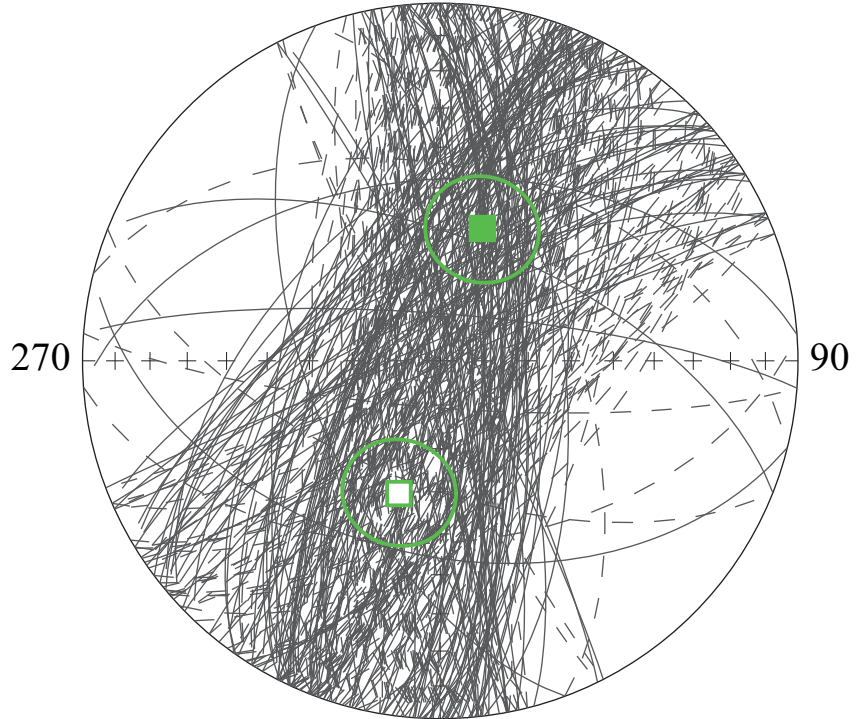






180 geographic coordinates

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180 stratigraphic coordinates

section	sample	position	LF/GC	n	range	Dg	Ig	Ds	Is
Shangsi C	99SH156	83.85	GC	7	T100-T250	115.6	23.4	115.6	-23.2
Shangsi C	99SH132	98.40	LF	5	T300-T400	216.2	-5.1	221.3	-6.2
Shangsi C	99SH131	98.70	LF	6	T275-T400	205.7	-10.3	218.2	-17.4
Shangsi C	99SH048	99.12	GC	13	NRM -T425	311.2	-17.8	311.3	30.2
Shangsi C	99SH049	99.20	GC	5	T325-T425	293.4	-2.1	286.9	43.4
Shangsi C	99SH053	99.50	GC	9	T225-T435	123.4	0.8	120.3	-46.8
Shangsi C	99SH055	100.20	LF	8	T225-T400	35.1	21.3	53.2	17.6
Shangsi C	99SH482a	100.60	GC	4	NRM -M022	295.1	-10.5	293.6	6.1
Shangsi C	99SH484c	101.30	GC	20	M004-M042	294.8	-13.5	291.6	3.8
Shangsi C	99SH057	102.10	LF	8	T200-T375	28.6	31.4	58.1	28.3
Shangsi C	99SH058	102.25	LF	7	T225-T375	39.2	34.8	66.9	23
Shangsi C	99SH059	102.25	LF	4	T300-T400	28.9	28.4	55.5	26.4
Shangsi C	99SH061	103.00	LF	6	T275-T400	22.9	25.8	49.6	29.3
Shangsi C	99SH062	103.00	LF	5	T300-T400	26.1	24.5	50.4	26.1
Shangsi C	99SH486a	103.15	LF	9	T175-T375	46.7	34.4	46.9	-5.6
Shangsi C	99SH486b	103.15	LF	9	T175-T375	42.7	32.1	43.5	-7.8
Shangsi C	99SH063	103.20	LF	7	T250-T400	31.7	30.2	58.7	25.4
Shangsi C	99SH064	103.20	LF	4	T300-T375	37.9	36.9	68.1	25.1
Shangsi C	99SH065	103.70	LF	5	T300-T400	23.5	30.2	54.2	31.3
Shangsi C	99SH066	103.80	LF	7	T250-T400	27.8	26.5	53.2	26.1
Shangsi C	99SH067	103.80	LF	9	T225-T425	22.6	29.2	52.7	31.4
Shangsi C	99SH069	103.80	LF	4	T350-T425	28	24.9	51.9	24.9
Shangsi C	99SH075	104.80	LF	8	T225-T400	33.5	30.3	59.8	24.2
Shangsi C	99SH074	104.80	GC	5	T100-T250	137.9	26.1	137.6	-21.5
Shangsi C	99SH076	105.00	LF	11	T200-T435	30.5	3.3	36.1	9.2
Shangsi C	99SH077	105.25	LF	9	T200-T400	18.8	31.4	52.7	35.3
Shangsi C	99SH078	105.40	LF	6	T250-T375	24	31.3	55.5	31.5
Shangsi C	99SH079	105.45	LF	6	T250-T375	25.6	32.8	57.8	31.2
Shangsi C	99SH080	105.54	LF	8	T150-T350	17.7	34.9	55.9	37.9
Shangsi C	99SH081	105.80	LF	10	T225-T425	17.7	22.5	43.4	31.1
Shangsi C	99SH082	105.80	LF	10	T200-T425	17.2	20.6	41.3	30.3
Shangsi C	99SH085	106.55	LF	4	T225-T300	33.7	34.6	63.8	26.6
Shangsi C	99SH088	107.10	LF	8	T150-T350	50.9	45	81.5	21.9
Shangsi C	99SH096	108.50	GC	7	T100-T250	128.4	29.9	128.5	-18.1
Shangsi C	99SH099	109.70	GC	8	T100-T300	298.1	-5.7	294.3	41.1
Shangsi C	99SH102	112.50	GC	10	T150-T375	319.9	26.8	341.2	72.8
Shangsi C	99SH103a	113.00	GC	14	NRM -T400	106.7	19.1	105.6	-25.2
Shangsi C	99SH109	115.20	GC	13	NRM -T400	119.1	30.7	120.2	-16.6
Shangsi C	99SH110	115.90	GC	8	T225-T400	121.9	-1.9	117.5	-49.2
Shangsi C	99SH112	116.80	LF	5	T300-T400	39.4	5	43.3	3.7
Shangsi C	99SH113	117.05	GC	12	NRM -T375	106.3	14.3	103.4	-29.6
Shangsi C	99SH114	117.60	LF	5	T325-T425	22.3	28.5	51.9	31.2
Shangsi C	99SH115	118.00	LF	4	T350-T425	25.4	12.5	39.8	19.2
Shangsi C	99SH116	118.50	LF	4	T300-T375	16.2	5	27.4	20.9
Shangsi C	99SH117	119.80	LF	5	T325-T425	22.9	7.1	33.8	17.4
Shangsi C	99SH118b	120.30	LF	5	T300-T400	12.3	9.3	28	26.7
Shangsi C	99SH119	121.20	LF	6	T325-T450	24.6	12.4	39.2	19.7
Shangsi C	99SH120a	122.50	LF	5	T375-T475	21.7	-26.2	8.8	-5
Shangsi C	99SH120b	122.50	LF	11	M028-M048	32.7	10.1	42.7	12.2
Shangsi C	99SH122	124.00	GC	9	NRM -T325	134.4	20.9	134.6	-27
Shangsi C	99SH123	124.80	LF	9	T225-NRM	34.6	-12.6	27.1	-4.5
Shangsi C	99SH124	125.60	LF	3	T350-T400	44	-17.9	29	-14.8
Shangsi C	99SH126	127.00	LF	3	T375-T425	41.4	-11.8	32.1	-8.9
Shangsi C	99SH127	127.20	LF	4	T350-T425	19.5	-7.5	20.5	9.9
Shangsi C	99SH128	127.90	LF	6	T350-T475	26.1	-9.7	23.5	3.6
Shangsi C	99SH208	133.70	GC	6	NRM -T300	99.4	19.9	98.9	-21.9
Shangsi C	99SH182b	137.30	GC	10	NRM -T400	108.3	10.8	104.2	-33.6

section	sample	position	LF/GC	n	range	Dg	Ig	Ds	Is
Shangsi C	99SH186	143.30	GC	9	NRM -T375	119.1	32.2	120.5	-15.1
Shangsi C	99SH188b	147.00	GC	7	T100-T350	283.3	-9.9	278.4	32.6
Shangsi C	99SH190a	151.70	GC	19	NRM -M034	127.7	27.2	127.8	-20.7
Shangsi C	99SH191a	153.00	GC	17	NRM -M030	132.6	28	132.4	-20
Shangsi C	99SH191b	153.00	GC	6	NRM -T300	132.2	25.4	132.1	-22.6
Shangsi C	99SH192b	155.50	LF	3	T325-T375	207.2	-15.7	223.5	-19.8
Shangsi C	99SH192a	155.50	GC	15	NRM -M026	113.1	19.6	112.2	-26.5
Shangsi C	99SH193	157.70	GC	5	T200-T350	128.7	16.6	128.5	-31.4
Shangsi C	99SH194a	158.20	GC	24	NRM -M050	119.2	25.9	119.6	-21.4
Shangsi C	99SH194b	158.20	GC	7	T100-T350	121	23.3	121	-24.2
Shangsi C	99SH195	160.00	GC	8	T100-T375	125	22.8	124.9	-25.1
Shangsi C	99SH196a	161.00	GC	6	M016-M042	134.1	22.7	134.2	-25.1
Shangsi C	99SH196b	161.00	GC	7	T100-T375	134	30.3	133.6	-17.6
Shangsi C	99SH197	163.00	LF	5	T275-T375	192.3	-20.6	218	-34
Shangsi C	99SH198	163.75	LF	3	T275-T350	197.7	-8.1	210.9	-21.9
Shangsi C	99SH199	165.20	LF	5	T300-T400	232.2	37.6	196.2	32.2
Shangsi C	99SH200	166.00	LF	5	T250-T350	198.8	0.1	205.4	-15.5
Shangsi C	99SH201	166.90	LF	9	T250-T450	199.9	-17.1	219.9	-26.2
Shangsi C	99SH202	167.30	LF	5	T250-T350	221.4	12.3	211.7	9.3
Shangsi C	99SH203	168.90	LF	5	T275-T375	201.1	-23.4	226.3	-29.1
Shangsi C	99SH204	169.10	GC	6	T200-T350	284.8	16.5	262.2	56.6
Shangsi C	99SH206	171.90	LF	6	T325-T450	208.9	-5.9	216.9	-12.2
Shangsi C	99SH207	173.00	LF	6	T325-T450	219.2	-5.5	223.6	-4.3
Shangsi N	SHB022b	-1.35	LF	5	T350-T450	21.7	-3.9	30.7	-17.9
Shangsi N	SHB021a	-0.80	LF	7	T300-T450	37.2	0.9	38.3	-3.5
Shangsi N	SHB019b	3.40	LF	4	T350-T450	50.8	11.7	39.8	13.7
Shangsi N	SHB018b	6.20	LF	5	T350-T450	33.9	5.3	32.8	-2.8
Shangsi N	SHB017a	8.10	LF	7	T300-T450	50.3	-4.1	51.1	2.3
Shangsi N	SHB016b	9.20	LF	5	T350-T450	26.8	0.9	30.9	-10.9
Shangsi N	SHB015a	12.00	LF	7	T300-T450	48.9	9	40.5	10.5
Shangsi N	SHB010a	27.00	LF	5	T325-T425	47.9	11	38.4	11.1
Shangsi N	SHB008b	33.00	GC	8	T300-T450	104	14.6	83.9	51.6
Shangsi N	SHB007a	34.78	LF	4	T350-T425	225.6	9.4	231.6	4.7
Shangsi N	SHB006a	36.08	LF	4	T375-T450	232.7	4.8	233.2	-3.6
Shangsi N	SHB005b	38.75	LF	4	T375-T450	232.2	25	247.3	10.9
Shangsi N	SHB004a	40.25	LF	5	T350-T450	228.9	19.1	240.9	9.1
Shangsi N	SHB002a	42.40	LF	3	T375-T425	228.6	-14.6	216.2	-14
Shangsi N	SHB001b	43.00	LF	4	T375-T450	232.8	-3.7	227.1	-9.6
Shangsi R	99SH036	12.20	LF	5	T275-T375	42.5	50.6	83	29.7
Shangsi R	99SH034	14.30	LF	8	T225-T375	43.2	47.9	80.7	27.9
Shangsi R	99SH017	40.40	GC	13	NRM -T450	281.5	-0.6	271.3	40.2
Shangsi R	99SH011	48.60	GC	8	T150-T350	295.4	-7.7	291.3	38.5
Shangsi R	99SH007	54.40	GC	4	T200-T275	301	-24.3	301.1	23.2
Shangsi R	99SH004	58.60	GC	12	NRM -T400	303.7	-14.9	302.7	32.8
Shangsi R	99SH331	100.50	LF	10	T275-T475	19.5	22	44	29.5
Shangsi R	99SH333	101.00	GC	15	T100-T375	278	5.2	263.3	43.4
Shangsi R	99SH334	101.50	LF	4	T325-T350	221.6	-33.8	247.3	-20.8
Shangsi R	99SH336	104.50	GC	11	NRM -T350	132	23.2	132	-24.7
Shangsi R	99SH341	105.00	LF	5	T375-T475	214.2	1.8	214.8	-3.1
Shangsi R	99SH342	105.50	LF	4	T325-T400	215.2	16.3	204.6	7.4
Shangsi R	99SH343	112.00	LF	4	T325-T400	220.8	31	196.4	20.7
Shangsi R	99SH345	112.00	GC	10	NRM -T325	137	11.3	138.5	-36.3
Shangsi R	99SH347	112.00	GC	11	NRM -T350	126.5	14.7	126	-33.2
Shangsi R	99SH350	119.00	GC	13	NRM -T375	125.9	12.7	125.1	-35.2
Shangsi R	99SH352	132.00	GC	9	T150-T375	144.9	52.5	139	5.3
Shangsi R	99SH353	134.00	LF	3	T325-T375	35.8	6.2	41.8	7.2

section	sample	position	LF/GC	n	range	Dg	Ig	Ds	Is
Zhongzhai	422	1.8	GC	10	hybrid	109.4	-25.6	92	-55.1
Zhongzhai	425	2.75	GC	10	M012-M070	133.3	30.2	133.5	-4.8
Zhongzhai	400	5.6	GC	8	T275-T425	107.2	-35.3	79.2	-62.6
Zhongzhai	402	6.1	LF	5	T325-T505	42.4	32.4	63.1	27.4
Zhongzhai	403	6.1	LF	6	T150-T425	46.1	44.8	43	10.2
Zhongzhai	404	7.3	LF	11	hybrid	49	-2.4	46.9	-4.3
Zhongzhai	405	7.3	LF	7	M024-M050	56.9	-4.7	52.1	-10.6
Zhongzhai	431	8.9	LF	11	hybrid	51.1	5.5	53.1	1.1
Zhongzhai	430	8.95	LF	9	hybrid	46.6	20.6	58.4	15.9
Zhongzhai	452	9.5	GC	6	hybrid	134.6	11.6	134.5	-23.4
Zhongzhai	453	9.5	LF	8	T400-T575	48.4	-13.1	40.1	-12.6
Zhongzhai	432	10.3	LF	10	T250-T500	47.1	3.6	48.8	1.8
Zhongzhai	433	10.3	LF	7	T150-T505	62.8	7.2	63.7	-4.1
Zhongzhai	434	10.9	LF	8	T275-T450	37.8	7.6	43.5	10.3
Zhongzhai	435	10.9	LF	6	T150-T465	40.4	4.9	44	6.7
Zhongzhai	454	10.9	LF	11	T250-T500	46.3	-9.3	40.6	-8.4
Zhongzhai	456	10.9	LF	8	T150-T550	39	16	49.5	16.5
Zhongzhai	457	12.1	LF	8	T150-T505	47.4	-15	38.2	-13.6
Zhongzhai	458	12.2	LF	12	T275-T550	37.3	-21.9	36.8	17.8
Zhongzhai	459	12.6	LF	8	T150-T600	33.5	-27.6	31.9	12.9
Zhongzhai	460	12.65	LF	11	T325-T575	36.4	-37.4	32.3	2.9
Zhongzhai	461	13.5	LF	6	T275-T505	36.3	14.3	46.3	16.6
Zhongzhai	462	13.5	LF	7	M016-M060	43.1	26.7	59.7	22.6
Zhongzhai	463	14.7	LF	8	T150-T550	30.8	-3.5	31.3	5.2
Zhongzhai	464	14.72	LF	7	T150-T505	36.1	-2.7	36.2	2.9
Zhongzhai	465	15.1	LF	11	T325-T575	28.3	15.3	40.3	22.1
Zhongzhai	466	16.5	LF	5	T375-T550	14.2	27.8	37.2	39.9
Zhongzhai	467	17.5	LF	8	T150-T505	43.9	22.4	57.5	18.8
Zhongzhai	468	17.5	LF	11	hybrid	40	5.7	44.2	7.5
Zhongzhai	469	18.5	LF	7	T225-T505	25.6	5.7	32.2	15.8
Zhongzhai	471	20.2	LF	10	T325-T550	19.9	-11.2	18	4.6
Zhongzhai	472	21.4	LF	8	T225-T550	10.9	-19.6	6.3	1.6
Zhongzhai	473	21.4	LF	9	T350-T550	2.3	-22.2	357.9	2.9
Zhongzhai	474	21.8	LF	15	T225-T575	16.2	-0.5	20.5	15.6
Zhongzhai	475	22	LF	7	M018-M050	12.6	12.5	24.8	28.5
Zhongzhai	417	23	LF	12	T200-T475	39	27.5	57.1	25.6
Zhongzhai	418	23	LF	7	M024-M060	38.1	31.9	59.6	29.4
Zhongzhai	415	24.25	LF	7	T275-T550	25.3	20.2	41.1	27.6
Zhongzhai	416	24.25	LF	8	M016-M060	27.2	12.9	37.9	20.7
Zhongzhai	414	25.1	LF	12	T300-T575	30.2	8.8	37.9	15.7
Zhongzhai	413	25.5	LF	8	T275-T570	26.2	-5.1	26.6	6.4
Zhongzhai	412	25.7	LF	10	M016-M070	22.2	15.3	35.1	25.5
Zhongzhai	410	26.3	LF	10	T150-T570	19.7	3	25.5	16.8
Zhongzhai	411	26.3	LF	6	T325-T550	30.1	7.6	37.1	14.7
Zhongzhai	408	27.3	LF	7	T225-T505	24.6	-6.9	24.2	5.7
Zhongzhai	409	27.3	LF	12	hybrid	19.4	-0.7	23.2	13.8
Zhongzhai	406	28.4	LF	13	T275-T550	27.1	-0.1	30.1	10.1
Zhongzhai	407	28.4	LF	7	hybrid	4	5.4	12.4	26.9
Zhongzhai	476	48.5	LF	10	T225-T600	31.7	6.4	37.7	12.9
Zhongzhai	477	53.9	LF	15	T275-T600	33.5	5.2	38.6	10.9
Zhongzhai	478	57.4	LF	9	M012-M045	35.8	17.6	47.9	19.6
Zhongzhai	482	58.4	LF	7	T225-T550	36	14.8	46.4	17.2
Zhongzhai	479	70	LF	7	M016-M040	22	18.3	36.9	28.1
Zhongzhai	480	71.8	LF	16	T250-T600	28.4	23.6	46	28.6
Zhongzhai	481	75.7	LF	8	T325-T600	33.8	9.5	41.3	14.1

section	sample	position	LF/GC	n	range	Dg	Ig	Ds	Is
Tangbaishui	436	2.4	LF	8	M028-M080	42.8	40.1	53.4	8
Tangbaishui	438	6.5	LF	8	T150-T570	19.5	43.2	39.7	19.6
Tangbaishui	439	6.8	LF	10	T375-T600	31.4	42.5	46.9	14.1
Tangbaishui	440	8.5	LF	7	T400-T600	39.2	42.7	52.1	11.5
Tangbaishui	441	11	LF	11	M016-M070	31.3	44.6	47.9	15.9
Tangbaishui	442	13.5	LF	11	M014-M058	15	37.8	33.4	17.3
Tangbaishui	443	16	LF	12	T300-T575	37.8	44	51.8	13.1
Tangbaishui	444	19	LF	7	T275-T550	36.2	44.4	50.9	14
Tangbaishui	445	19.5	LF	6	T325-T600	42.4	47.7	56.5	14.9
Tangbaishui	446	20	LF	6	T325-T550	29.5	38.2	43.3	11.1
Tangbaishui	448	24	LF	6	T325-T550	47.3	30.6	53	-2.2
Tangbaishui	449	31	LF	12	T325-T600	36.1	39.9	48.4	4.3
Tangbaishui	450	34.5	LF	9	T400-T600	37.8	39.1	49.2	3
Tangbaishui	451	36	LF	7	T425-T575	46.7	50.6	60.1	10.3

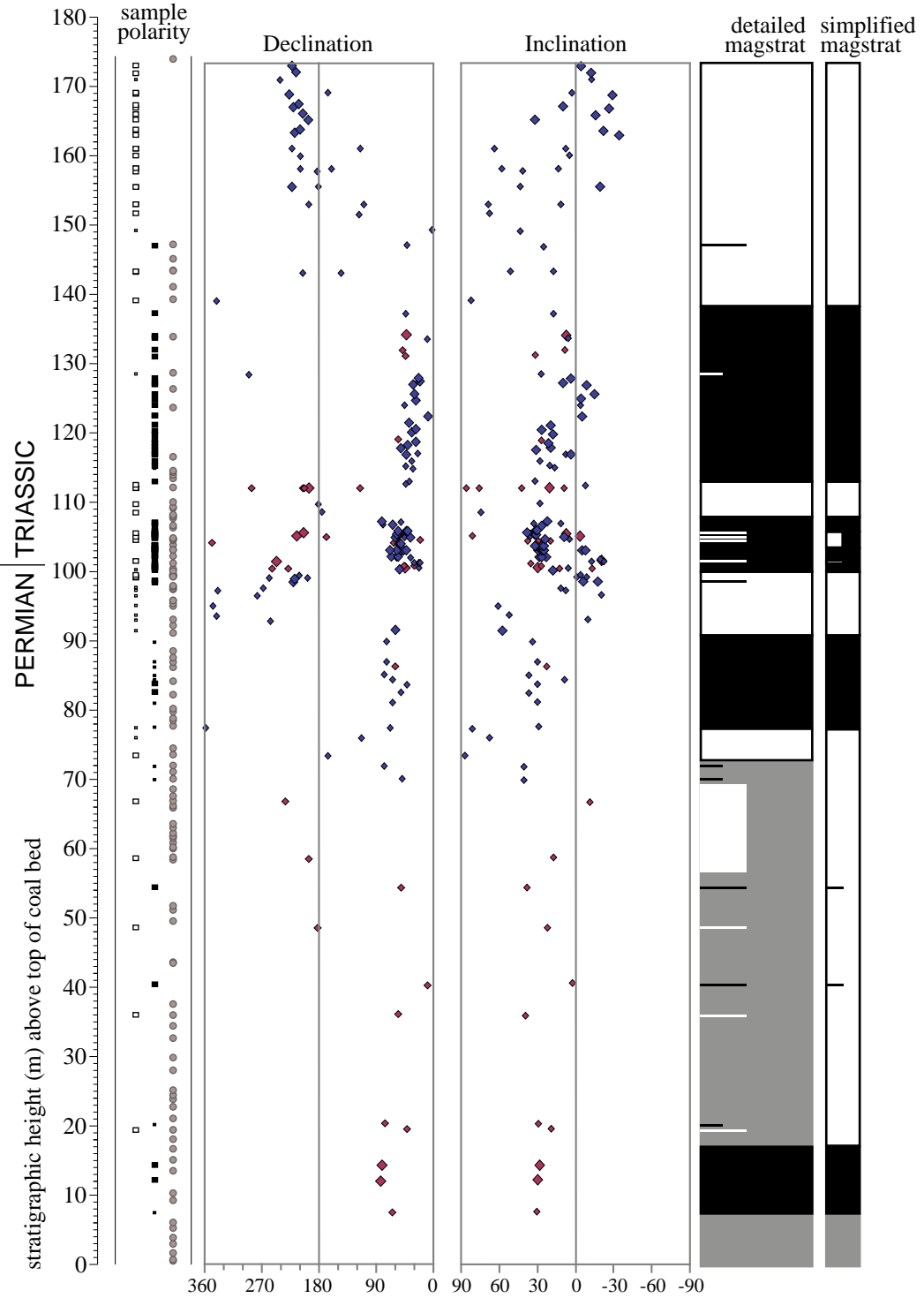
section	sample	position	LF/GC	n	range	Dg	Ig	Ds	Is
Dalongkou North	120	-0.10	GC	3	T225-T500	311.9	-12.1	301.7	0.6
Dalongkou North	31	0.95	LF	3	T380-T500	292.6	53.9	358.2	24.4
Dalongkou North	121	2.15	GC	11	NRM-T670	299.3	-20.9	284.7	-0.3
Dalongkou North	26	3.37	LF	4	T315-T500	282	43.2	346.1	31.6
Dalongkou North	124	3.92	GC	5	NRM-T533	340.5	-18.6	296.7	-27.3
Dalongkou North	24	3.98	LF	3	T425-T533	277.5	53.2	358.3	33.5
Dalongkou North	23	4.55	GC	4	NRM-T500	315.7	-13.7	296.9	-12.7
Dalongkou North	20	5.18	GC	5	NRM-T533	315.1	-15.5	294.9	-12.7
Dalongkou North	126	5.60	LF	5	T600-T670	272.5	35.1	336.5	39.2
Dalongkou North	17	5.67	GC	7	NRM-T350	315.1	-20.7	289.8	-14.2
Dalongkou North	18	5.67	GC	3	NRM-T425	318.4	-17.5	293.9	-16.2
Dalongkou North	13	7.55	GC	5	NRM-T533	312.5	-18.5	291.2	-11.2
Dalongkou North	130	8.68	GC	6	NRM-T566	318.8	-17.9	296.7	-6.7
Dalongkou North	9	9.35	GC	4	NRM-T500	327	-18.9	294.7	-24.5
Dalongkou North	7	9.88	LF	3	T500-T566	277.5	59.9	6.1	31.9
Dalongkou North	37	10.60	LF	5	T425-T600	277.6	57.7	3.6	32.4
Dalongkou North	132	10.74	GC	5	NRM-M080	315.7	-23	287.6	-15.4
Dalongkou North	4	11.04	GC	8	NRM-T400	139.2	17.2	114.4	16.9
Dalongkou North	42	11.80	LF	4	T425-T566	257.8	61.8	13.3	35.6
Dalongkou North	133	11.83	LF	9	T425-T670	258.2	48.5	357.7	46.4
Dalongkou North	45	12.50	GC	6	T100-T400	138.8	17.6	113.9	16.7
Dalongkou North	46	12.50	GC	10	NRM-T470	111.4	18.9	103.8	-7.4
Dalongkou North	135	13.45	GC	5	NRM-T250	333.3	-23.6	290.9	-31.3
Dalongkou North	88	17.40	LF	5	T275-T375	305.4	53.9	359	16.9
Dalongkou North	138	17.85	GC	7	T225-T620	139.3	26.1	108.5	7.8
Dalongkou North	95	21.00	GC	3	T400-T500	118.2	21	104.3	-0.7
Dalongkou North	97	21.40	GC	4	NRM-T500	146.5	16.6	117	23.5
Dalongkou North	100	21.90	LF	4	T500-T600	240.4	65	23.8	42.5
Dalongkou North	98	21.90	GC	7	T100-T500	125.5	17.4	110.1	4.5
Dalongkou North	101	22.80	LF	7	NRM-T450	210.1	55.1	43.8	54.5
Dalongkou North	143	23.73	LF	9	T425-T670	259.3	58.1	8.9	41.1
Dalongkou North	107	24.00	LF	3	T533-T600	261.8	80.4	29.5	26.6
Dalongkou North	145	24.30	GC	8	NRM-T620	308.3	-16.9	291.4	-6.9
Dalongkou North	147	25.40	GC	3	NRM-T425	127.7	13.8	114.2	5.4
Dalongkou North	110	26.00	GC	7	T200-T350	123.2	15	111.6	1.7
Dalongkou North	111	26.15	LF	5	T275-T375	305.7	79.5	25.9	19.9
Dalongkou North	148	28.00	LF	5	T250-T500	287.9	39.5	342	27.1
Dalongkou North	114	28.00	LF	4	T425-T566	283.8	74.4	21.1	25.4
Dalongkou North	112	28.00	GC	9	NRM-T450	140	18.6	113.2	18
Dalongkou North	150	29.97	LF	5	T533-T640	235	54.4	19.7	53
Dalongkou North	116	30.75	GC	8	NRM-T375	109.5	10.7	110.6	-12.4
Dalongkou North	117	30.80	LF	4	T425-T566	264.8	58.8	7.7	38.3
Dalongkou North	152	30.85	GC	6	NRM-T566	139.6	10.1	119.8	15.7
Dalongkou North	118	31.55	LF	4	T300-T375	245.8	47.7	3.7	53.8
Dalongkou North	153	31.94	GC	3	T100-T250	118.8	17.2	108.1	-1.5
Dalongkou North	154	31.94	GC	7	T100-T500	136.2	19.9	110.9	14.9
Dalongkou North	158	36.11	LF	9	T425-T670	264.3	54	17.1	32.9
Dalongkou North	82	36.75	GC	7	NRM-T375	124.3	9.5	117.1	0.8
Dalongkou North	52	37.15	GC	8	NRM-T400	158.1	30.4	103.4	36.3
Dalongkou North	54	37.85	GC	7	NRM-T360	132.4	12.2	117.2	9.1
Dalongkou North	55	38.80	LF	4	T250-T325	279.3	64.8	11.3	29.7
Dalongkou North	57	39.60	GC	8	T150-T375	124.1	12.1	114.6	1.5
Dalongkou North	58	39.60	GC	5	T150-T300	105.9	8.5	111.3	-16.5

section	sample	position	LF/GC	n	range	Dg	Ig	Ds	Is
Dalongkou North	162	39.70	LF	9	T225-T655	263	59.7	9.4	34.7
Dalongkou North	161	39.70	GC	5	NRM-M070	331.3	-19.7	294.9	-28.6
Dalongkou North	163	39.70	GC	8	T150-T430	334.2	-11.1	305.2	-29.2
Dalongkou North	60	40.35	GC	8	NRM-T350	125.7	7.2	119.8	1.2
Dalongkou North	68	42.40	LF	4	T350-T500	265.7	64.8	14	35
Dalongkou North	70	43.30	GC	3	NRM-T425	137.9	18.3	113	16
Dalongkou North	71	43.45	GC	8	M0-M190	126.6	19	109	6
Dalongkou North	165	43.65	LF	9	T350-T680	262.4	52.7	1.3	42.2
Dalongkou North	180	44.10	LF	8	T500-T670	255.8	31.8	333.8	53.4
Dalongkou North	178	46.50	GC	8	NRM-T500	318.6	-9.5	301.8	-14.1
Dalongkou North	166	47.39	LF	5	T250-T500	246.1	42	355.4	57.1
Dalongkou North	186	47.50	LF	8	T500-T670	248	33	338.6	59.5
Dalongkou North	184	48.20	LF	9	T425-T670	252.6	42.9	352.6	52.4
Dalongkou North	185	48.20	LF	9	T425-T670	260.1	39.7	4.9	44
Dalongkou North	182	49.53	GC	7	T100-T500	130.5	17.3	111.8	9
Dalongkou North	177	50.20	LF	4	T315-T500	248.5	48.7	3.1	51.8
Dalongkou North	172	55.89	LF	6	T425-T620	216	38.4	39.5	71.6
Dalongkou North	77	56.10	GC	10	NRM-T500	288	-14.6	286.4	12.1
Dalongkou North	168	58.52	LF	4	T315-T500	279.4	52.3	357.1	32.4
Dalongkou North	363	86.52	GC	5	NRM-T533	144.9	12.4	121	20.9
Dalongkou North	365	89.12	GC	5	T533-T640	185.1	-21.1	175.8	42.1
Dalongkou South	321	-228.25	LF	6	T200-T430	225.9	3.8	220	-65.9
Dalongkou South	322	-228.25	LF	4	T360-T470	213	5.1	194.5	-59.8
Dalongkou South	319	-223.80	GC	10	NRM-T470	127.2	3.9	139.4	13.3
Dalongkou South	320	-223.80	GC	9	NRM-T430	132.6	9.5	146.5	10.1
Dalongkou South	318	-211.70	GC	5	NRM-T300	296	-11.3	323.1	-26.2
Dalongkou South	315	-208.50	GC	5	NRM-T300	125.7	13.6	148.4	17.8
Dalongkou South	316	-208.50	GC	5	NRM-T280	144.9	45.2	184.4	10.7
Dalongkou South	312	-196.90	GC	8	NRM-T400	103.7	9.1	140.1	32.1
Dalongkou South	309	-192.10	GC	7	T150-T400	98.1	6.8	136.7	37.4
Dalongkou South	308	-190.60	GC	10	NRM-T470	107.9	2.7	133.4	27.2
Dalongkou South	305	-185.20	GC	6	T175-T500	115.9	17	149.9	20.8
Dalongkou South	306	-185.20	GC	6	T175-T500	118.3	23.1	156.5	18.8
Dalongkou South	307	-185.20	GC	10	NRM-T430	287.7	-8.7	320.1	-28.1
Dalongkou South	303	-182.90	GC	11	NRM-T470	107.7	7.9	139.2	28.1
Dalongkou South	304	-182.90	GC	4	T150-T300	112.7	16	148.6	23.8
Dalongkou South	299	-174.30	GC	11	NRM-T550	94.9	-6.9	105.9	19.2
Dalongkou South	291	-153.00	GC	10	NRM-T470	124	-17.8	97.7	-10.1
Dalongkou South	283	-131.50	GC	6	T100-T450	113.9	3.5	124.4	5.5
Dalongkou South	284	-131.50	GC	8	NRM-T430	105	-5.3	116.7	15.5
Dalongkou South	282	-128.70	GC	6	T100-T350	99.1	-1.6	109.8	11
Dalongkou South	234	-97.60	LF	4	T320-T430	38.5	-39.1	37.1	65.9
Dalongkou South	232	-93.50	LF	4	T350-T500	9	-41.7	1.2	52.2
Dalongkou South	229	-87.30	LF	3	T320-T400	26.4	-33.6	9	67.7
Dalongkou South	226	-73.60	GC	4	T320-T470	111.1	13.7	148.6	14.1
Dalongkou South	224	-70.25	GC	8	NRM-T400	130.3	-0.9	125.5	-3.1
Dalongkou South	221	-69.50	GC	8	NRM-T400	127.7	11.5	138.2	-2.6
Dalongkou South	220	-68.80	GC	6	NRM-T320	101.2	-8	123	26.6
Dalongkou South	215	-56.80	LF	4	T450-T600	26.2	-20.8	42.9	75
Dalongkou South	324	-53.50	LF	4	T315-T500	358.8	-25.8	0.7	22.4
Dalongkou South	323	-47.00	LF	4	T315-T500	17.9	-15.9	6.4	42.2
Dalongkou South	211	-39.10	GC	7	NRM-T350	275.1	9.4	282.1	-15.8
Dalongkou South	209	-23.80	GC	7	NRM-T450	116.2	7.1	116.3	-7

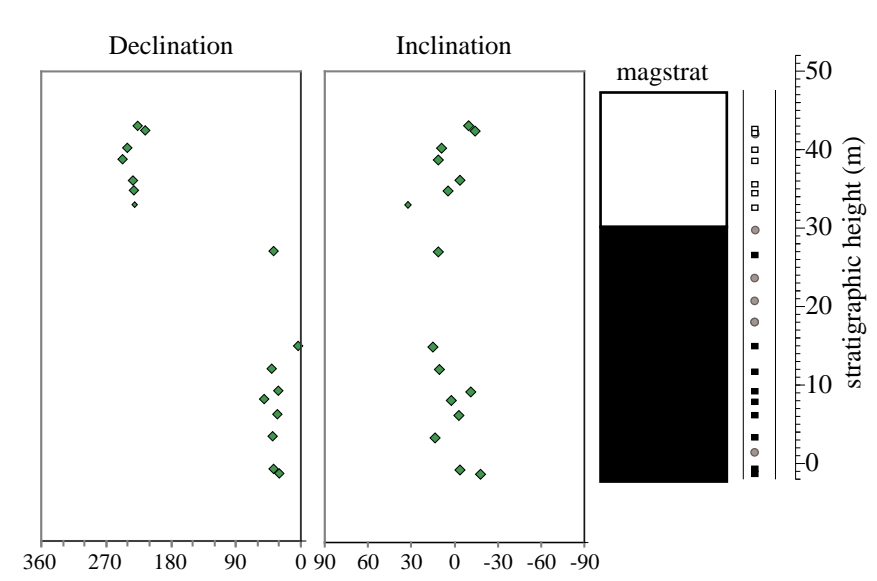
section	sample	position	LF/GC	n	range	Dg	Ig	Ds	Is
Dalongkou South	208	-23.80	GC	8	NRM-T400	131.5	13.2	121.4	-22.5
Dalongkou South	205	-22.20	GC	4	NRM-T200	102	-4.5	116.9	18.3
Dalongkou South	200	-12.40	GC	6	NRM-T300	102.8	4.8	126.5	16.6
Dalongkou South	197	-2.45	GC	9	T100-T500	294.2	-9.7	310.2	-4.8
Dalongkou South	238	34.10	LF	3	T325-T375	22.6	5.6	3.9	53
Dalongkou South	241	57.80	GC	8	NRM-T400	131.5	2.1	135.6	5.7
Dalongkou South	244	62.20	GC	6	NRM-T320	144.6	18.6	156.5	4.6
Dalongkou South	242	62.20	GC	8	T150-T375	127.3	11.2	140.8	14.3
Dalongkou South	246	73.00	GC	8	NRM-T375	142.8	7.9	146.7	-0.2
Dalongkou South	247	85.75	GC	3	T400-T470	147.2	67.5	201.6	28.3
Dalongkou South	248	85.75	GC	4	T300-T375	123.1	-24.8	109	-3.5
Dalongkou South	249	85.75	GC	8	T150-T375	148.6	14.5	155.5	-1
Dalongkou South	250	92.80	GC	9	NRM-T375	136.1	16.3	155.6	10.9
Dalongkou South	251	92.80	GC	8	T150-T430	300.9	-7	321.6	-22.2
Dalongkou South	252	106.47	GC	9	NRM-T375	286.8	3.3	304.9	-31.4
Dalongkou South	254	106.47	GC	6	T150-T360	136	5.4	145.1	7.4
Dalongkou South	257	111.40	GC	3	T150-T240	132	0.3	138.8	9.5
Dalongkou South	260	120.30	GC	9	NRM-T375	109.9	18.3	128.2	-2.1
Dalongkou South	261	124.60	GC	8	NRM-T350	151.4	0.5	145.7	-8.6
Dalongkou South	267	147.00	GC	8	T150-T375	119.3	-19.6	115.2	13.1
Dalongkou South	268	150.50	GC	3	T300-T350	126.7	-0.5	136.1	14.2
Dalongkou South	272	155.50	GC	7	T150-T400	146.8	21.4	159.2	2.7
Dalongkou South	273	158.00	GC	6	NRM-T340	134	5.6	144.6	9.4
Dalongkou South	278	177.00	GC	3	T200-T300	107.4	-24.5	105.5	20.5
Lucaogao	539	-174.30	GC	10	NRM-T520	201.2	27.2	289.8	20.8
Lucaogao	535	-170.50	GC	6	NRM-T340	211.9	18.2	275.7	19
Lucaogao	536	-170.50	GC	11	NRM-T530	221	13.8	266.8	14.1
Lucaogao	534	-168.30	GC	8	T150-T430	216.5	23.6	277.7	12.4
Lucaogao	531	-164.50	GC	11	NRM-T530	217.4	13.3	268.3	17.3
Lucaogao	532	-164.50	GC	8	T150-T430	215.3	22.1	277.1	14.1
Lucaogao	530	-160.50	GC	8	T150-T430	306.4	-10.9	194.1	-45.1
Lucaogao	526	-157.80	GC	4	T300-T400	270.5	17	249.6	-30.6
Lucaogao	524	-155.50	GC	7	T150-T400	222.4	19.9	271.5	9.8
Lucaogao	518	-137.30	GC	11	T150-T530	41.5	-28.4	99.2	-6
Lucaogao	516	-133.30	GC	11	NRM-T530	204.9	10.1	272.9	29.2
Lucaogao	513	-129.80	GC	6	T150-T460	222.6	29.6	279.7	4.5
Lucaogao	514	-129.80	GC	6	T150-T360	208.8	25.8	283.8	16.6
Lucaogao	512	-123.70	GC	3	NRM-T300	244.1	13.1	255.9	-5.6
Lucaogao	511	-123.10	GC	5	NRM-T340	210.5	3.4	262.9	28.3
Lucaogao	508	-115.30	GC	11	NRM-T530	221.1	13.4	266.5	14.2
Lucaogao	505	-113.00	GC	11	NRM-T530	40.8	-19.2	91.7	-11.4
Lucaogao	501	-104.20	GC	4	NRM-T340	57.6	-19	83.8	2.4
Lucaogao	491	-91.70	LF	6	T420-T530	144.3	-4.7	0.2	67.6
Lucaogao	499	-91.50	GC	5	NRM-T380	42.7	-18.7	90.3	-10.2
Lucaogao	488	-88.90	GC	12	NRM-T530	39.8	-16.3	89.7	-13.8
Lucaogao	485	-87.50	LF	4	T315-T500	143.5	18	3.3	69.2
Lucaogao	486	-87.50	LF	8	T340-T530	144.4	28.4	344.4	35.8
Lucaogao	482	-86.80	LF	5	T250-T500	135.2	27.7	354.2	34.3
Lucaogao	484	-86.80	LF	6	T420-T530	143.2	8.7	352.6	54.7
Lucaogao	479	-78.20	LF	6	T300-T475	135	9.6	4.5	50.8
Lucaogao	478	-76.50	GC	7	NRM-T460	233.1	28.2	274	-2.8
Lucaogao	475	-75.40	GC	9	T150-T520	37.9	-14.2	88.8	-16.4
Lucaogao	472	-72.50	GC	10	T150-T530	35.2	-7.8	84.5	-22

section	sample	position	LF/GC	n	range	Dg	Ig	Ds	Is
Lucaogao	470	-71.10	GC	10	T150-T530	225.1	2.8	254.8	15.9
Lucaogao	467	-70.50	GC	6	NRM-T420	231.7	14.3	262.2	4.7
Lucaogao	465	-66.50	GC	11	NRM-T530	7.3	-31.3	122.8	-25.3
Lucaogao	496	-65.70	LF	4	T315-T500	132.1	-7.9	28.5	63
Lucaogao	462	-60.20	GC	12	NRM-T530	53.8	-17.5	84.1	-1.5
Lucaogao	495	-56.80	GC	8	NRM-T500	227.1	7	257.7	12.2
Lucaogao	460	-54.20	GC	11	NRM-T530	27.9	-12.1	92.7	-25.7
Lucaogao	494	-51.50	GC	13	M0-M190	237.7	-3	243.9	7
Lucaogao	458	-45.80	GC	10	T150-T530	33.6	-14.8	91.7	-19.6
Lucaogao	455	-43.50	GC	4	T315-T500	59.3	1.1	62.9	-4.7
Lucaogao	454	-43.50	GC	8	T150-T430	222.2	17.1	269.1	11.4
Lucaogao	450	-42.20	GC	10	T150-T530	228.2	15.6	264.9	7.1
Lucaogao	449	-41.90	GC	10	T150-T530	213.1	29.3	284.3	11.5
Lucaogao	444	-41.00	GC	11	NRM-T530	43.2	-23.7	94.4	-7.2
Lucaogao	442	-39.80	GC	11	NRM-T530	217.3	10	265.4	19.1
Lucaogao	439	-38.30	GC	11	NRM-T530	225	16.4	267.2	9.4
Lucaogao	437	-37.30	GC	9	NRM-T430	45.9	-24.3	93.6	-4.8
Lucaogao	436	-31.70	LF	6	T380-T520	133.1	7	9.3	52.1
Lucaogao	433	-31.50	GC	12	NRM-T530	217	12.9	268.1	17.9
Lucaogao	430	-31.00	GC	8	NRM-T500	32.2	-22.5	99.1	-16.2
Lucaogao	428	-27.20	GC	7	NRM-T460	239.1	14.3	259	-1.7
Lucaogao	425	-25.60	GC	5	NRM-T380	31.7	-22.3	99.3	-16.7
Lucaogao	492	-22.80	GC	8	NRM-T500	234.7	12.4	259.2	3
Lucaogao	423	-19.00	GC	11	NRM-T530	32.1	-11.6	89.7	-22.6
Lucaogao	418	-17.90	GC	9	NRM-T430	57.7	-15.3	80.5	0.9
Lucaogao	417	-13.60	GC	11	NRM-T530	45.9	-12.9	83.6	-10.3
Lucaogao	414	-13.00	GC	7	NRM-T460	38.7	-36.3	107.1	-3.5
Lucaogao	415	-13.00	GC	8	NRM-T400	42.2	-23.9	95	-7.8
Lucaogao	413	-11.40	GC	5	NRM-T380	20.2	-16.5	101.9	-28.8
Lucaogao	410	-10.40	GC	11	NRM-T530	34.5	-17.2	93.3	-17.5
Lucaogao	411	-10.40	GC	9	NRM-T430	36.2	-21.7	96.3	-13.7
Lucaogao	409	-7.90	GC	11	NRM-T530	229.6	14.4	263.2	6.5
Lucaogao	404	-7.20	GC	11	NRM-T530	37.3	-9.7	85.1	-19.3
Lucaogao	406	-6.80	GC	5	NRM-T380	46.2	-13.7	84.2	-9.7
Lucaogao	398	-4.50	GC	5	T150-T420	234.9	12.7	259.3	2.7
Lucaogao	395	-3.80	GC	6	NRM-T420	229.4	23.2	271.1	2.5
Lucaogao	393	-2.50	GC	10	NRM-T520	221.5	16.5	268.9	12.3
Lucaogao	390	-1.50	GC	10	NRM-T520	245.9	17.2	258.9	-8.8
Lucaogao	387	0.45	GC	7	NRM-T460	234.7	10.3	257.3	3.9
Lucaogao	383	3.00	GC	10	NRM-T520	34.1	-15.9	92.4	-18.6
Lucaogao	382	3.20	GC	4	NRM-T340	37	-18.9	93.4	-14.6

Section SHR&SHC



Section SHN



Paleomag Directions

- L G
- ◆ Creek Section
- ◆ Road Section
- ◆ North Section

L = line fits
G = last point of great circle fits

Sample polarity

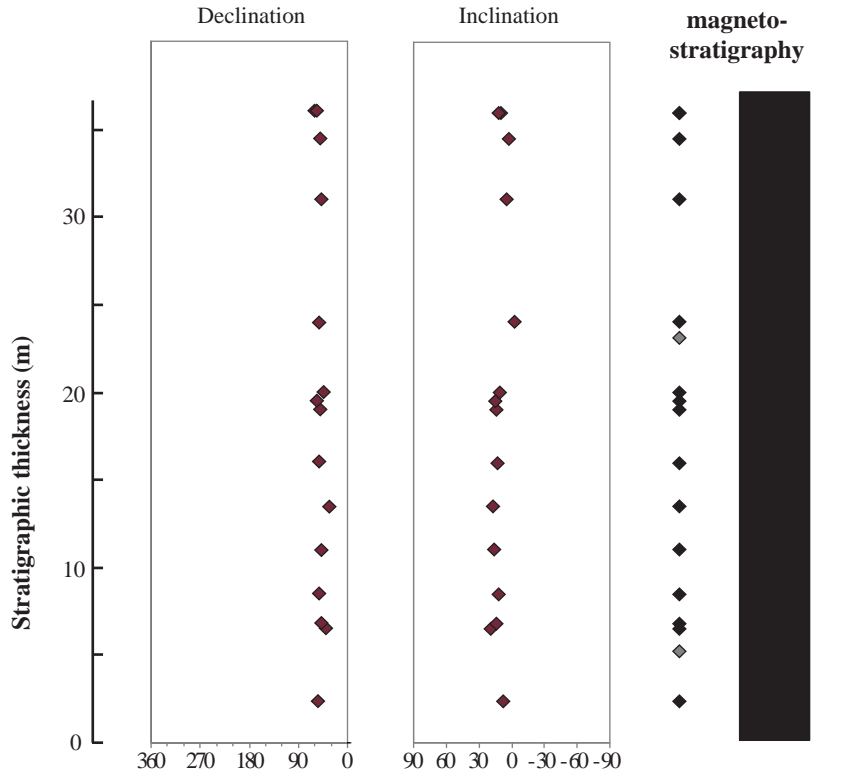
- R overprinted
-
-
- } inferred polarity (selection criteria not fully met)
- ◻ }

Magnetostratigraphy

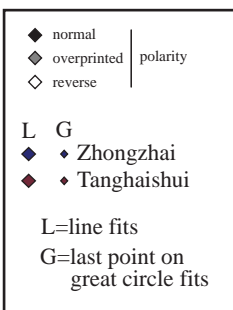
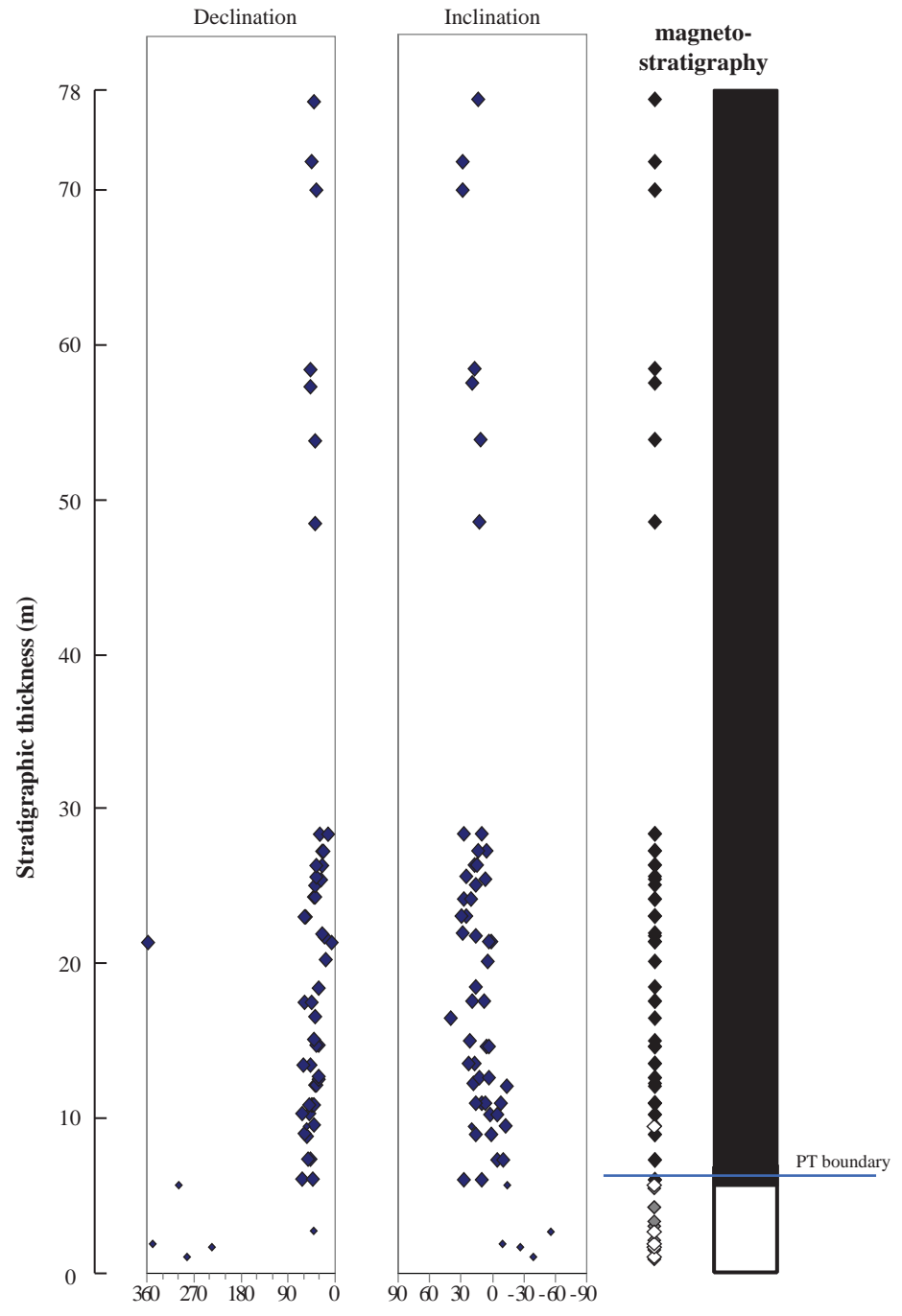
- Normal polarity
- Reverse polarity
- undetermined

— possible chron (single sample)

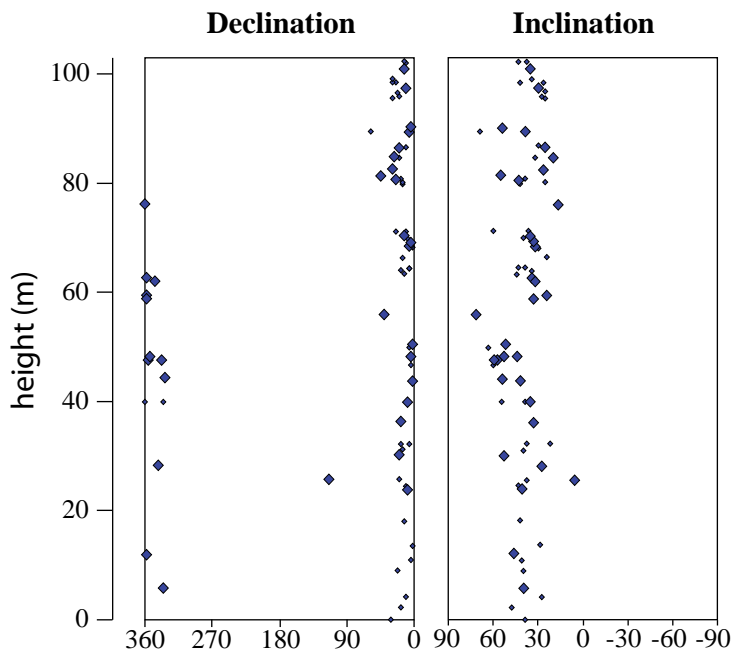
Tanghaishui section



Zhongzhai section



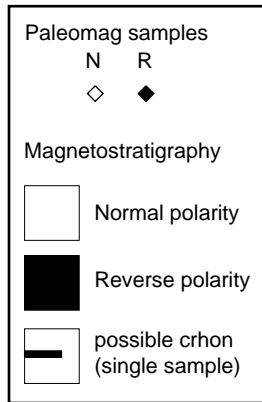
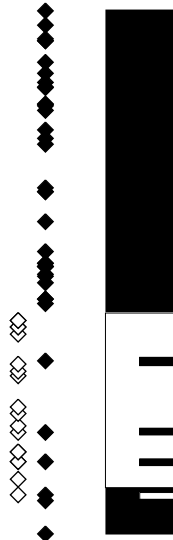
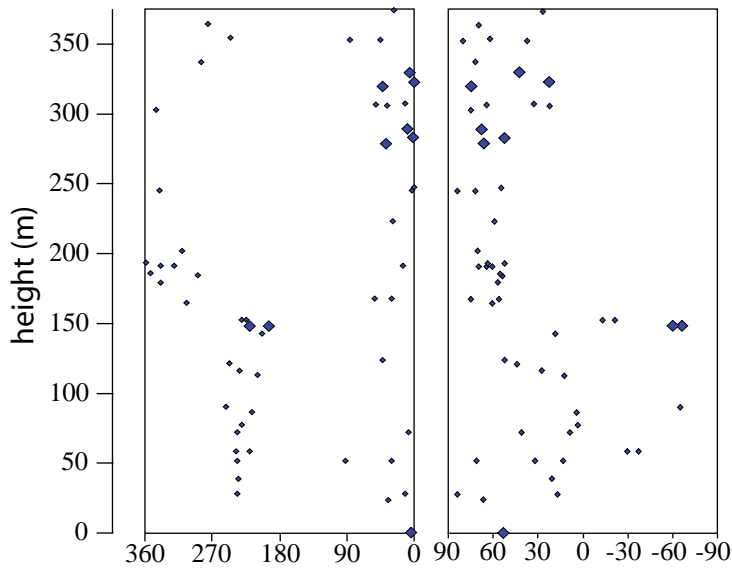
Dalongkou, north limb



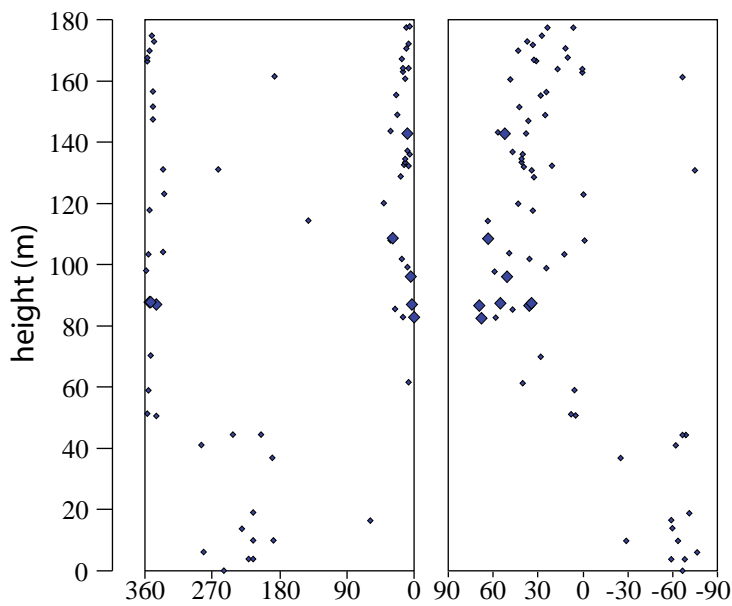
Magneto-Stratigraphy



Dalongkou, south limb



Lucaogou



Appendix I

locality	n	Dg	lg	Ds	ls	k	a95
Shangsi	124	209.9	-12.6	221.7	-14.8	15.4	3.3
Langdai	65	33.3	13.9	41.1	12.6	23.3	3.7
Junggar	200	10.1	57.2	13.1	49.4	16.9	2.5