

32. DATA REPORT: STRUCTURAL MEASUREMENTS FROM SITES 894 AND 895, HESS DEEP¹

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BACKGROUND

Structural geological studies of the core recovered from Ocean Drilling Program (ODP) Leg 147 are vital in understanding both the geometry of accretion and dynamics of the axial magma chamber(s) beneath the fast-spreading East Pacific Rise and the rifting processes that led to formation of the Hess Deep. Knowledge of the orientation of structures and other physical property measurements in the geographical reference frame is crucial. Unfortunately, however, cores are not normally oriented in azimuth; furthermore, they are typically broken into small, independently-rotated pieces by the drilling process, so that there is no comparative reference between adjacent core pieces. Even dip measurements made relative to the axis of the borehole may not be of significance if the borehole is deviated, and/or tectonic rotation of the section has occurred subsequent to the creation of the structures. Downhole tools that provide the direct orientation of core as it enters the core barrel are in development, but these are expensive, beset by technical problems and hence rarely used (see discussions in MacLeod et al., 1992, 1994).

An alternative technique, used in this paper, is to reorient structural features relative to the stable magnetic remanence directions of demagnetized core samples. By so doing it is assumed that samples from different core pieces acquired their remanences in the same field direction (and slowly, so that the effects of secular variation are averaged out). This technique provides a relative reference, *but can only be related to modern geographical coordinates if it can be demonstrated that no tectonic rotations have occurred subsequent to acquisition of the magnetization.*

A mechanism for reorienting core without recourse to paleomagnetic data has been developed by MacLeod et al. (1992, 1994). By comparing inclined, planar features in the cores with their direct representations on electrical or acoustic images of the borehole wall, which are themselves reliably oriented in the geographical reference frame, cores can be fully reoriented. Indeed, by orienting core pieces in this way the azimuthal components of stable magnetic remanence vectors can also be restored to geographical coordinates, and tectonic rotations detected. Application of this technique to Hole 894G, the only hole drilled on Leg 147 for which borehole imaging data were

acquired, is made by MacLeod et al. (1995), Célérier et al. (this volume) and MacLeod, Célérier, et al. (this volume).

METHODS

The fundamental basis of any structural study of borehole cores must be a systematic, self-consistent database that documents the position and (at least relative) orientation of all structural features. The purpose of this data report is to present in an internally consistent format measurements of the orientations of more than 1200 structures at Sites 894 and 895. Following the procedure described by MacLeod et al. (1992, 1994; summarized in Gillis, Mével, Allan, et al., 1993), the axis of the borehole was considered vertical, and azimuths of structures were measured relative to artificial "core-liner coordinates." "North" was defined as perpendicular to the cut surface and lying in the working half of the core. It is stressed that these "core coordinate" measurements (figures given in italics in Tables 1 and 2) have no geographical significance; the orientations of individual structures are comparable only within contiguous core pieces.

Preliminary, partial restoration of the core fabric measurements to a common reference frame was made by rotating the stable magnetic remanence direction measured in the same contiguous core pieces to the same horizontal direction (magnetic North, assuming normal polarity: MacLeod, Célérier, et al., this volume). This was possible for between one-third and one-half of the measurements made (columns under the heading "Rest D only, strike and dip," shown in bold type in Tables 1 and 2), by using the stable remanence directions from both shipboard and post-cruise samples. The origin of these paleomagnetic measurements is given in the column entitled "Meas. by": S = shipboard data; C = samples analyzed by C. Richter; J = samples analyzed by J. Pariso; and P = samples analyzed by P. Kelso.

In this work, a second rotation was also made to bring the measurements to a common magnetic inclination as well as declination (columns under the heading "Rest D + I, strike and dip," shown in bold type in Tables 1 and 2), because inclinations of the stable remanence directions at Site 894 and Hole 895E are consistently skewed by approximately 35°–40° down toward the declination direction in comparison to the expected field direction for the latitude of the drill site of +4.6° (Pariso et al., this volume; Kelso et al., this volume; MacLeod, Célérier, et al., this volume). The disparity in inclinations is most readily interpreted in terms of a tectonic rotation of the drill sites with a horizontal component of this magnitude (Gillis, Mével, Allan, et al., 1993; MacLeod, Célérier, et al., this volume).

By comparing fracture distributions on borehole electrical imagery with the distribution of veins oriented with respect to the stable remanence direction, MacLeod et al. (1995), Célérier et al. (this volume) and MacLeod, Manning, et al. (this volume) have suggested that there has also been a vertical axis component of rotation (estimated at approximately 30° counterclockwise), such that the stable remanence directions do not point toward present-day north. The "restored" data given in bold type in Tables 1 and 2 are reoriented only with respect to this stable remanence direction and cannot, therefore, be regarded as fully restored to present-day geographical coordinates. Full discussion of these complexities, and interpretation of the data tabulated here, is made elsewhere in specialist papers (e.g., Boudier

¹Mével, C., Gillis, K.M., Allan, J.F., and Meyer, P.S. (Eds.), 1996. *Proc. ODP, Sci. Results*, 147: College Station, TX (Ocean Drilling Program).

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et al., this volume; Célérier et al., this volume; MacLeod et al., 1995; MacLeod, Boudier, et al., this volume; MacLeod, Célérier, et al., this volume; Manning and MacLeod, this volume; Richter et al., this volume).

EXPLANATION OF TABLES

The depths quoted in Tables 1 and 2, given in meters below seafloor (mbsf), are curated depths (i.e., assuming that all recovered core came from the top of the drilled interval). "Lith" = lithology, with (in Table 1) G = gabbro, OG = olivine gabbro, B = basalt (dike rock), GN = gabbro, and OGN = olivine gabbro. Unit = lithostratigraphic unit, defined in Gillis, Mével, Allan, et al. (1993). Abbreviations of feature types (Table 1) are as follows: fol cataclas = foliated cataclasite; ultracataclas = ultracataclasite; fault brecc = fault breccia; fels dike = felsic dikelet; and dike marg = chilled dike margin. Foliations in Site 894 rocks are defined by the alignment of anisometric plagioclase crystals, and are interpreted by MacLeod, Boudier, et al. (this volume) as magmatic flow fabrics. Vein fill (Table 1) is as defined in Manning and MacLeod (this volume) and Manning et al. (this volume): A = amphibole vein type; C = chlorite vein type (\pm calc-silicates); S = chlorite-smectite vein type (i.e., \pm clay); and Z = zeolite-calcite vein type. Lithologies in Table 2 are as follows: DN = dunite; IMP DN = dunite with interstitial plagioclase \pm clinopyroxene "impregnations"; HZ = harzburgite; TROCT = troctolite; ROD G = altered ("rodingitized") gabbro; G = gabbro; DN/HZ = planar contact between harzburgite and dunite. Feature types (Table 2) are as follows: vein = vein, usually of serpentine (*sensu lato*), however, no systematic subdivision of vein type by mineralogy was undertaken in this study; vein netwk = network of parallel, very fine serpentine veins; ign contact = igneous contact; plag impr = planar impregnation of plagioclase; foln in G = foliation in mafic rocks. Foliations in harzburgites and dunites are interpreted by Boudier et al. (this volume) as high-temperature, solid-state deformation fabrics.

Combined strikes (str) and dips (dip) of planar structural features are reconstituted from two apparent dip measurements, with or with-

out a direct strike measurement. Direction of dip is 90° clockwise from the strike direction in all cases. Both the combined structural measurements and the stable magnetic remanence directions (dec = declination, and inc = inclination of magnetic vector) are given in synthetic "core-liner coordinates" (shown in italics in Tables 1 and 2), discussed above.

Spatially reoriented measurements are shown in bold in Tables 1 and 2. In the columns "Rest (D only)" structural measurements have been rotated so that the horizontal component (declination) of the stable magnetic remanence direction points towards north. In columns "Rest D + I" structural measurements have been restored in inclination, too, such that the measured stable remanence declination is set to "North" (000°) and inclination to +4.6°.

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Table 1. Structural data from Site 894.

Sample number	Depth (mbsf)	Lith.	Unit	Feature type	Vein fill	Feat. #	Combined		Stable mag. rem.		Meas. by	Rest (D only)		Rest (D + I)	
							str (°)	dip (°)	dec (°)	inc (°)		str (°)	dip (°)	str (°)	dip (°)
Hole 894E- 3R-1, 69 cm (Piece 10)	19.59	G		vein		1	191	82							
Hole 894F-															
1R-1, 5 cm (Piece 1)	0.05	G	1	fol catacl		1	000	70							
2R-1, 7 cm (Piece 1)	9.37	G	1	fault		1	349	85							
2R-1, 16 cm (Piece 2)	9.46	G	1	vein		1	144	68							
2R-1, 22 cm (Piece 2)	9.52	G	1	vein		2	154	57							
2R-1, 30 cm (Piece 3)	9.60	G	1	fault		1	019	83							
2R-1, 29 cm (Piece 3)	9.59	G	1	fault		2	177	59							
2R-1, 33 cm (Piece 3)	9.63	G	1	cataclasite		3	247	40							
2R-1, 56 cm (Piece 7)	9.86	G	1	ultraclasite		1	168	31							
3R-1, 19 cm (Piece 4)	19.09	G	1	ultracatacl		1	220	42							
3R-1, 37 cm (Piece 6)	19.27	G	1	ultracatacl		1									
3R-1, 54 cm (Piece 9)	19.44	G	1	ultracatacl		1									
Hole 894G-															
1R-1, 11 cm (Piece 2)	18.71	OG	1	vein	S	1	260	38							
1R-1, 12 cm (Piece 2)	18.72	OG	1	vein	S	2	240	25							
2R-1, 18 cm (Piece 3)	28.78	B	2	vein	S	1	356	57	-172.0	30	J	168	57	154.5	65.3
2R-1, 37 cm (Piece 5)	28.97	B	2	vein	S	1	346	51							
2R-1, 41 cm (Piece 5)	29.01	B	2	vein	S	2	168	61							
2R-1, 60 cm (Piece 9)	29.20	B	2	vein	S	1	305	64	074.9	26.8	S	230	64	219.2	48.2
2R-1, 64 cm (Piece 9)	29.24	B	2	vein	S	2	274	42	074.9	26.8	S	199	42	172.9	39.6
2R-1, 67 cm (Piece 9)	29.27	B	2	vein	Z	3	070	54	074.9	26.8	S	355	54	011.0	55.2
2R-1, 120 cm (Piece 15)	29.80	B	2	vein	S	1	190	65	145.0	21	P	045	65	048.9	77.0
2R-1, 114 cm (Piece 15)	29.74	B	2	vein	S	2	184	81	145.0	21	P	039	81	219.8	88.5
2R-1, 116 cm (Piece 15)	29.76	B	2	vein	S	3	331	81	145.0	21	P	186	81	183.2	79.7
2R-1, 143 cm (Piece 18)	30.03	B	2	vein	S	1	149	62							
2R-1, 138 cm (Piece 18)	29.98	B	2	vein	S	2	003	18							
2R-2, 13 cm (Piece 3)	30.26	B	2	vein	S	1	002	86							
2R-2, 14 cm (Piece 3)	30.27	B	2	vein	S	2	233	40							
2R-2, 32 cm (Piece 7)	30.45	B	2	vein	S	2	217	5							
2R-2, 32 cm (Piece 7)	30.45	B	2	vein	S	3	205	48							

Table 1 (continued).

Sample number	Depth (mbsf)	Lith.	Unit	Feature type	Vein fill	Feat. #	Combined		Stable mag. rem.		Meas. by	Rest (D only)		Rest (D + I)	
							str (°)	dip (°)	dec (°)	inc (°)		str (°)	dip (°)	str (°)	dip (°)
19R-1, 91 cm (Piece 13)	141.41	B	12	vein	S	2	221	32							
20R-1, 20 cm (Piece 4)	145.80	GN	13	vein	S	2	180	75							
20R-1, 53 cm (Piece 10)	146.13	GN	13	vein	S	1	027	74	-049.4	44.1	S	076	74	255.4	67.6
20R-1, 57 cm (Piece 10)	146.17	GN	13	vein	S	2	100	55	-049.4	44.1	S	149	55	135.5	80.0
20R-1, 53 cm (Piece 10)	146.13	GN	13	vein	S	3	306	64	-049.4	44.1	S	355	64	013.7	67.2
20R-1, 55 cm (Piece 10)	146.15	GN	13	vein	S	4	008	65	-049.4	44.1	S	057	65	240.0	80.9
20R-1, 88 cm (Piece 15)	146.48	GN	13	vein	S	1	005	63	056.0	32	J	309	63	324.1	43.8
20R-1, 92 cm (Piece 15)	146.52	GN	13	vein	S	2	013	63	056.0	32	J	317	63	333.1	46.9
20R-1, 121 cm (Piece 19)	146.81	GN	13	vein	S	1	341	80							
20R-1, 115 cm (Piece 19)	146.75	GN	13	vein	S	2	188	87							
20R-1, 133 cm (Piece 21)	146.93	GN	13	vein	S	1	026	76							
20R-1, 129 cm (Piece 21)	146.89	GN	13	vein	S	2	034	73							
20R-2, 0 cm (Piece 1)	147.03	GN	13	vein	S	1	167	75							
20R-2, 16 cm (Piece 2)	147.19	GN	13	vein	S	1	149	79							
20R-2, 33 cm (Piece 4)	147.36	GN	13	vein	S	1	185	32							
20R-2, 35 cm (Piece 4)	147.38	GN	13	vein	S	2	205	36							
20R-2, 38 cm (Piece 4)	147.41	GN	13	vein	S	3	347	85							
20R-2, 38 cm (Piece 4)	147.41	GN	13	vein	S	4	170	90							
20R-3, 50 cm (Piece 9)	147.94	GN	13	vein	S	1	190	74	Unstable		S				
20R-3, 55 cm (Piece 9)	147.99	GN	13	vein	S	2	185	52	Unstable		S				
20R-3, 63 cm (Piece 10)	148.07	GN	13	vein	S	1	179	86							
20R-3, 64 cm (Piece 10)	148.08	GN	13	vein	A	2	175	90							
20R-3, 79 cm (Piece 12)	148.23	GN	13	vein	S	3	352	68							
20R-3, 80 cm (Piece 12)	148.24	GN	13	vein	S	1	270	5							
20R-3, 104 cm (Piece 15)	148.48	GN	13	vein	S	1	177	65							
20R-3, 119 cm (Piece 17)	148.63	GN	13	vein	S	1	142	84	049.0	-31	C	093	84	094.0	48.5
20R-3, 121 cm (Piece 17)	148.65	GN	13	vein	S	2	015	82	049.0	-31	C	326	82	147.1	77.9
20R-3, 125 cm (Piece 17)	148.69	GN	13	vein	S	3	331	68	049.0	-31	C	282	68	101.4	77.1
20R-3, 124 cm (Piece 17)	148.68	GN	13	vein	S	4	023	76	049.0	-31	C	334	76	150.8	87.1
20R-3, 128 cm (Piece 17)	148.72	GN	13	vein	S	5	187	70	049.0	-31	C	138	70	155.9	49.9

Table 2. Structural data from Site 895.

Sample number	Depth (mbsf)	Lith.	Feature type	Feat. #	Combined		Stable mag. rem.		Meas. by	Rest (D only)		Rest (D + I)	
					str (°)	dip (°)	dec (°)	inc (°)		str (°)	dip (°)	str (°)	dip (°)
Hole 895B-													
1R-1, 60 cm (Piece 9)	0.60	HZ	foliation	3	300	81	-063.4	39.3	S (+C)	003.4	81	007.9	84.5
1R-1, 65 cm (Piece 9)	0.65	HZ	vein	1	198	66	-063.4	39.3	S	261.4	66	255.0	31.9
1R-1, 79 cm (Piece 9)	0.79	HZ	vein	2	173	65	-063.4	39.3	S	236.4	65	217.2	39.0
Hole 895C-													
1R-1, 32 cm (Piece 5)	0.32	HZ	foliation	1	005	60							
1R-1, 61 cm (Piece 9)	0.61	HZ	foliation	1	305	25							
1R-1, 109 cm (Piece 17)	1.09	HZ	foliation	1	180	65							
1R-1, 119 cm (Piece 18)	1.19	HZ	foliation	1	140	62							
3R-1, 138 cm (Piece 22)	19.68	HZ	foliation	1	000	90	-012.8	45.7	S	012.8	90	189.7	81.6
3R-2, 14 cm (Piece 2)	19.89	HZ	vein	1	192	41							
3R-2, 16 cm (Piece 2)	19.91	HZ	foliation	2	345	56							
4R-1, 20 cm (Piece 4)	28.10	DN	vein	1	177	85							
4R-2, 54 cm (Piece 1)	29.52	IMP DN	vein	1	012	22							
4R-2, 49 cm (Piece 1)	29.47	IMP DN	vein	2	184	40							
4R-2, 28 cm (Piece 1)	29.26	IMP DN	vein	3	168	41							
4R-2, 34 cm (Piece 1)	29.32	IMP DN	vein	4	161	67							
4R-2, 16 cm (Piece 1)	29.14	IMP DN	vein	5	290	77							
4R-2, 94 cm (Piece 6)	29.92	IMP DN	vein	1	044	39	056.0	44.0	C	348.0	39	032.5	46.9
4R-2, 98 cm (Piece 6)	29.96	IMP DN	vein	2	020	33	056.0	44.0	C	324.0	33	032.9	31.7
4R-2, 101 cm (Piece 6)	29.99	IMP DN	vein	3	024	31	056.0	44.0	C	328.0	31	037.3	33.3
4R-3, 41 cm (Piece 4)	30.89	HZ	vein	1	179	85							
4R-3, 41 cm (Piece 4)	30.89	HZ	foliation	2	020	90							
Hole 895D-													
2R-1, 47 cm (Piece 6)	16.47	HZ	vein	1	188	12	-138.7	37.8	S	326.7	12	068.5	28.2
2R-1, 55 cm (Piece 6)	16.55	HZ	foliation	2	080	87	-138.7	37.8	S	218.7	87	212.4	67.3
2R-2, 6 cm (Piece 1)	17.48	HZ	vein	1	167	34							
2R-2, 7 cm (Piece 1)	17.49	HZ	vein	2	342	76							
2R-2, 15 cm (Piece 1)	17.57	HZ	vein	3	171	35							
2R-2, 11 cm (Piece 1)	17.53	HZ	foliation	4	190	52							
2R-2, 6 cm (Piece 1)	17.48	HZ	ign contact	5	190	70							
2R-2, 42 cm (Piece 3)	17.84	HZ	foliation	1	235	72	109.1	-34.2	S (+C)	125.9	72	143.9	43.7
2R-2, 66 cm (Piece 5)	18.08	HZ	foliation	1	050	70							
2R-2, 80 cm (Piece 6)	18.22	HZ	foliation	1	045	72	019.0	-10.0	P	026.0	72	020.8	66.2
3R-1, 35 cm (Piece 6)	26.35	HZ	vein	1	174	67	116.3	-23.0	S	057.7	67	046.0	45.0
3R-1, 75 cm (Piece 9)	26.75	HZ	vein	1	000	90							
3R-1, 73 cm (Piece 9)	26.73	HZ	vein netwk	2	010	90							
3R-1, 75 cm (Piece 9)	26.75	HZ	foliation	3	334	86							
3R-1, 92 cm (Piece 11)	26.92	HZ	vein	1	080	72							
3R-1, 112 cm (Piece 13)	27.12	HZ	vein	1	170	18							
3R-1, 113 cm (Piece 13)	27.13	HZ	vein	3	309	43							
3R-1, 128 cm (Piece 15)	27.28	HZ	vein	1	351	80							
3R-1, 134 cm (Piece 15)	27.34	HZ	vein	2	023	19							
3R-1, 125 cm (Piece 15)	27.25	HZ	vein	3	352	85							
3R-1, 137 cm (Piece 15)	27.37	HZ	vein	5	356	32							
4R-2, 4 cm (Piece 1)	35.63	HZ	vein	1	185	10							
4R-2, 7 cm (Piece 1)	35.66	HZ	foliation	2	330	68							

Table 2 (continued).

Sample number	Depth (msbf)	Lith.	Feature type	Feat. #	Combined		Stable mag. rem.		Meas. by	Rest (D only)		Rest (D + I)	
					str (°)	dip (°)	dec (°)	inc (°)		str (°)	dip (°)	str (°)	dip (°)
4R-2, 23 cm (Piece 4)	35.82	HZ	foliation	1	265	88							
4R-2, 28 cm (Piece 4)	35.87	HZ	vein	2	296	22							
4R-2, 41 cm (Piece 6)	36.00	HZ	vein	1	148	34							
4R-2, 45 cm (Piece 6)	36.04	HZ	vein	2	320	53							
4R-2, 38 cm (Piece 6)	35.97	HZ	vein	3	000	0							
4R-2, 42 cm (Piece 6)	36.01	HZ	foliation	4	175	80							
4R-2, 103 cm (Piece 15)	36.62	HZ	vein	2	180	5							
4R-2, 123 cm (Piece 18)	36.82	HZ	vein netwk	1	010	75							
4R-2, 132 cm (Piece 18)	36.91	HZ	foliation	2	090	90							
4R-3, 5 cm (Piece 1)	37.04	HZ	vein	1	350	70	021.0	-9.0	P	329.0	70	325.6	77.4
4R-3, 18 cm (Piece 2)	37.17	IMP DN	vein	1	200	57	053.0	-11.0	C	147.0	57	157.4	49.7
4R-3, 51 cm (Piece 6)	37.50	HZ	vein	1	350	50							
4R-3, 50 cm (Piece 6)	37.49	HZ	vein	2	200	37							
4R-3, 95 cm (Piece 11)	37.94	HZ	foliation	1	180	70							
4R-3, 109 cm (Piece 12)	38.08	HZ	foliation	1	285	73	048.8	38.3	S	236.2	73	223.2	46.8
4R-3, 121 cm (Piece 13)	38.20	HZ	vein	1	180	15							
4R-3, 127 cm (Piece 14)	38.26	HZ	vein	1	299	44							
4R-3, 128 cm (Piece 14)	38.27	HZ	vein	2	299	44							
4R-3, 135 cm (Piece 15)	38.34	HZ	vein	1	000	30							
4R-3, 136 cm (Piece 15)	38.35	HZ	vein	2	000	30							
4R-4, 14 cm (Piece 2)	38.59	HZ	vein	1	000	10							
4R-4, 18 cm (Piece 2)	38.63	HZ	foliation	2	295	74							
4R-4, 32 cm (Piece 4)	38.77	HZ	vein	1	175	65							
4R-4, 33 cm (Piece 4)	38.78	HZ	vein	3	270	5							
4R-4, 43 cm (Piece 5)	38.88	HZ	vein	1	355	75							
4R-4, 45 cm (Piece 5)	38.90	HZ	vein	2	170	55							
4R-4, 45 cm (Piece 5)	38.90	HZ	vein	3	253	31							
4R-4, 96 cm (Piece 14)	39.41	HZ	vein	1	000	65	265.0	41.0	P	095.0	65	274.8	69.6
4R-4, 99 cm (Piece 14)	39.44	HZ	vein	2	026	22	265.0	41.0	P	121.0	22	102.3	65.2
4R-5, 3 cm (Piece 1)	39.76	HZ	vein netwk	1	125	45	023.3	24.1	S (+C)	101.7	45	099.2	64.2
4R-5, 10 cm (Piece 1)	39.83	HZ	foliation	2	190	40	023.3	24.1	S (+C)	166.7	40	147.7	47.7
5R-1, 45 cm (Piece 8)	43.75	HZ	vein	1	171	66	-088.6	-6.4	S	259.6	66	260.2	76.8
5R-1, 49 cm (Piece 8)	43.79	HZ	vein	2	160	56	-088.6	-6.4	S	248.6	56	250.7	66.3
5R-1, 48 cm (Piece 8)	43.78	HZ	foliation	3	310	42	-088.6	-6.4	S	038.6	42	027.1	36.0
5R-1, 123 cm (Piece 18)	44.53	HZ	vein	1	005	41							
5R-1, 115 cm (Piece 18)	44.45	HZ	vein	2	084	51							
5R-1, 120 cm (Piece 18)	44.50	HZ	vein	3	249	44							
5R-1, 122 cm (Piece 18)	44.52	HZ	foliation	4	240	67							
5R-2, 5 cm (Piece 2)	44.79	HZ	vein	1	349	30							
5R-2, 6 cm (Piece 2)	44.80	HZ	vein	2	341	33							
5R-2, 10 cm (Piece 2)	44.84	HZ	vein	3	043	27							
5R-2, 23 cm (Piece 4)	44.97	HZ	vein	1	189	85							
5R-2, 22 cm (Piece 4)	44.96	HZ	vein	2	358	86							
5R-2, 23 cm (Piece 4)	44.97	HZ	vein	3	001	82							
5R-2, 50 cm (Piece 7)	45.24	HZ	vein	1	199	81							
5R-2, 51 cm (Piece 7)	45.25	HZ	vein	2	197	56							
5R-2, 111 cm (Piece 14)	45.85	HZ	vein	1	191	79	162.7	-3.1	S	028.3	79	026.7	75.4
5R-2, 103 cm (Piece 14)	45.77	HZ	foliation	2	000	58	162.7	-3.1	S	197.3	58	201.6	60.6
6R-1, 27 cm (Piece 5)	55.27	HZ	vein	1	340	62							
6R-1, 65 cm (Piece 10)	55.65	HZ	vein	1	042	13							
6R-1, 74 cm (Piece 11)	55.74	HZ	vein	1	186	21	176.0	61.0	C	010.0	21	066.5	62.3
7R-1, 18 cm (Piece 4)	64.78	ROD G	foliation	1	280	45							
7R-1, 61 cm (Piece 10)	65.21	IMP DN	vein	1	190	40	241.0	-15.0	P	309.0	40	299.1	56.4
7R-1, 132 cm (Piece 20)	65.92	HZ	foliation	1	280	78	036.7	59.4	S	243.3	78	217.2	33.5
7R-2, 13 cm (Piece 2)	66.20	HZ	foliation	1	095	87	274.0	56.0	C	181.0	87	178.3	87.3
7R-2, 42 cm (Piece 6)	66.49	HZ	vein netwk	1	000	0							
7R-2, 67 cm (Piece 9)	66.74	TROCT	vein	1	170	80							
7R-2, 97 cm (Piece 12)	67.04	HZ	foliation	1	305	72	118.2	50.0	S	186.8	72	171.5	72.7
7R-2, 112 cm (Piece 13)	67.19	HZ	foliation	1	040	86	184.0	54.0	P	216.0	86	202.2	60.6
7R-2, 132 cm (Piece 16)	67.39	HZ	foliation	1	145	73							
7R-3, 12 cm (Piece 2)	67.65	HZ	foliation	1	050	87							
8R-1, 39 cm (Piece 6)	74.69	HZ	foliation	1	150	81							
8R-1, 44 cm (Piece 7)	74.74	HZ	vein	1	011	25	-040.5	49.1	S	051.5	25	073.2	65.5
8R-1, 48 cm (Piece 7)	74.78	HZ	foliation	2	200	37	-040.5	49.1	S	240.5	37	147.9	20.5
8R-1, 71 cm (Piece 10)	75.01	TROCT	ign contact	1	064	22							
8R-2, 26 cm (Piece 3)	75.94	G	foln in G	1	010	70							
9R-1, 78 cm (Piece 12)	84.78	HZ	vein netwk	1	025	32	094.0	16.0	P	291.0	32	300.9	21.7
9R-1, 117 cm (Piece 18)	85.17	DN	vein	1	355	45	052.1	-58.9	S	302.9	45	113.2	77.5
9R-1, 115 cm (Piece 18)	85.15	DN	vein	2	203	42	052.1	-58.9	S	150.9	42	221.6	51.5
9R-1, 125 cm (Piece 19)	85.25	DN	vein	1	028	53	223.0	35.0	C	165.0	53	148.0	65.5
9R-1, 128 cm (Piece 19)	85.28	DN	vein netwk	2	305	17	223.0	35.0	C	082.0	17	086.8	47.3
9R-1, 126 cm (Piece 19)	85.26	DN	vein	3	267	47	223.0	35.0	C	044.0	47	056.1	70.7
9R-1, 147 cm (Piece 22)	85.47	DN	vein	1	358	90							
9R-1, 147 cm (Piece 22)	85.47	DN	vein netwk	2	208	74							
9R-1, 144 cm (Piece 22)	85.44	DN	vein	3	060	28							
10W-1, 75 cm (Piece 9)	94.45	TROCT	dykelet	1	000	80							
Hole 895E-													
1R-1, 20 cm (Piece 3)	0.20	ROD G	vein	1	039	26							
1R-1, 68 cm (Piece 7)	0.68	ROD G	vein	1	205	44							
1R-1, 87 cm (Piece 9)	0.87	ROD G	vein	1	199	15							
1R-1, 107 cm (Piece 12)	1.07	ROD G	vein	1	092	48							
1R-1, 137 cm (Piece 16)	1.37	ROD G	vein	1	150	19							
1R-2, 25 cm (Piece 5)	1.69	DN	vein	1	178	10							
1R-2, 70 cm (Piece 15)	2.14	DN	vein	1	344	44	-073.5	46.7	S	057.5	44	067.9	81.9
1R-2, 73 cm (Piece 15)	2.17	DN	vein	2	316	40	-073.5	46.7	S	029.5	40	053.2	69.1
1R-2, 78 cm (Piece 15)	2.22	DN	vein	3	085	29	-073.5	46.7	S	158.5	29	122.1	58.0
1R-2, 82 cm (Piece 15)	2.26	DN	vein	4	128	18	-073.5	46.7	S	201.5	18	117.4	38.6
1R-2, 98 cm (Piece 18)	2.42	DN	vein	1	120	23	318.0	43.0	P+C	162.0	23	119.1	49.7

Table 2 (continued).

Sample number	Depth (mbsf)	Lith.	Feature type	Feat. #	Combined		Stable mag. rem.		Meas. by	Rest (D only)		Rest (D + I)	
					str (°)	dip (°)	dec (°)	inc (°)		str (°)	dip (°)	str (°)	dip (°)
1R-2, 107 cm (Piece 18)	2.51	DN	vein	2	275	86	318.0	43.0	P+C	317.0	86	326.1	61.5
1R-2, 109 cm (Piece 18)	2.53	DN	vein	3	270	90	318.0	43.0	P+C	312.0	90	319.0	62.5
1R-2, 107 cm (Piece 18)	2.51	DN	vein	4	071	52	318.0	43.0	P+C	113.0	52	107.9	88.2
1R-2, 114 cm (Piece 18)	2.58	DN	vein	5	069	52	318.0	43.0	P+C	111.0	52	106.4	88.5
1R-2, 116 cm (Piece 18)	2.60	DN	vein	6	270	90	318.0	43.0	P+C	312.0	90	319.0	62.5
1R-2, 119 cm (Piece 18)	2.63	DN	vein	7	125	46	318.0	43.0	P+C	167.0	46	141.5	63.6
1R-2, 130 cm (Piece 18)	2.74	DN	vein	8	270	90	318.0	43.0	P+C	312.0	90	319.0	62.5
1R-2, 132 cm (Piece 18)	2.76	DN	vein	9	335	65	318.0	43.0	P+C	017.0	65	028.5	80.4
1R-2, 102 cm (Piece 18)	2.46	DN	vein	10	304	42	318.0	43.0	P+C	346.0	42	027.3	46.9
1R-3, 10 cm (Piece 1)	2.96	DN	foliation	1	283	39							
1R-3, 24 cm (Piece 2)	3.10	DN	vein	1	005	45	317.0	31.0	C	048.0	45	058.9	66.4
1R-3, 28 cm (Piece 2)	3.14	DN	vein netwk	2	141	13	317.0	31.0	C	184.0	13	118.2	28.4
1R-3, 23 cm (Piece 2)	3.09	DN/HZ	ign contact	3	040	57	317.0	31.0	C	083.0	57	084.1	83.2
1R-3, 60 cm (Piece 4)	3.46	DN	vein netwk	1	045	3	151.4	37.8	S	253.6	3	091.7	30.3
1R-3, 50 cm (Piece 4)	3.36	DN	foliation	3	065	41	151.4	37.8	S	273.6	41	287.0	8.1
1R-3, 70 cm (Piece 4)	3.56	DN	vein	2	000	90	151.4	37.8	S	208.6	90	204.5	74.8
1R-3, 99 cm (Piece 5)	3.85	HZ	vein netwk	1	218	31	253.8	35.0	J	324.2	31	022.6	26.9
1R-3, 125 cm (Piece 9)	4.11	TROCT	foliation	1	000	40							
1R-3, 135 cm (Piece 10)	4.21	TROCT	foliation	1	064	11							
1R-4, 6 cm (Piece 1)	4.42	TROCT	foliation	1	000	25							
1R-4, 16 cm (Piece 2)	4.52	TROCT	vein	1	000	25							
1R-4, 17 cm (Piece 2)	4.53	TROCT	foliation	2	180	20							
1R-4, 24 cm (Piece 3)	4.60	DN	vein netwk	1	277	15							
1R-4, 24 cm (Piece 3)	4.60	DN	vein	2	017	51							
1R-4, 39 cm (Piece 4)	4.75	DN	vein	1	015	62							
1R-4, 36 cm (Piece 4)	4.72	DN	vein netwk	2	315	7							
2R-1, 86 cm (Piece 13)	20.46	ROD G	vein	1	026	22							
2R-1, 93 cm (Piece 14)	20.53	ROD G	vein	1	180	20							
2R-1, 94 cm (Piece 14)	20.54	ROD G	vein	2	315	50							
2R-1, 106 cm (Piece 15)	20.66	ROD G	vein	1	000	10							
2R-2, 21 cm (Piece 2)	21.17	HZ	vein netwk	1	315	33	099.7	9.7	J	215.3	33	208.3	30.3
2R-2, 59 cm (Piece 9)	21.55	DN	vein	1	180	50	026.0	58.0	C	154.0	50	133.9	83.5
2R-2, 63 cm (Piece 9)	21.59	DN	vein netwk	2	135	7	026.0	58.0	C	109.0	7	092.6	60.0
2R-2, 106 cm (Piece 15)	22.02	DN	vein	1	195	80	000.6	58.7	S	194.4	80	180.2	72.5
2R-2, 106 cm (Piece 15)	22.02	DN	foliation	2	235	51	000.6	58.7	S	234.4	51	162.9	28.3
3R-1, 8 cm (Piece 2)	29.68	DN	vein netwk	1	284	65							
3R-1, 10 cm (Piece 2)	29.70	DN	vein	2	186	85							
3R-1, 8 cm (Piece 2)	29.68	DN	vein	3	336	90							
3R-1, 50 cm (Piece 8)	30.10	DN	vein	1	151	24							
3R-1, 47 cm (Piece 8)	30.07	DN	vein	2	040	90							
3R-1, 43 cm (Piece 8)	30.03	DN	vein	3	250	27							
3R-1, 62 cm (Piece 10)	30.22	DN	vein	1	060	79							
3R-1, 59 cm (Piece 10)	30.19	DN	vein	2	015	38							
3R-1, 56 cm (Piece 10)	30.16	DN	vein	3	354	64							
3R-1, 60 cm (Piece 10)	30.20	DN	foliation	4	239	12							
3R-1, 73 cm (Piece 12)	30.33	DN	vein	1	016	78							
3R-1, 72 cm (Piece 12)	30.32	DN	vein	2	192	82							
3R-1, 80 cm (Piece 12)	30.40	DN	foliation	3	135	21							
3R-1, 84 cm (Piece 13)	30.44	HZ	vein	1	315	15							
3R-1, 86 cm (Piece 13)	30.46	HZ	foliation	2	324	24							
3R-2, 2 cm (Piece 1)	30.99	DN	vein	1	177	67							
3R-2, 10 cm (Piece 1)	31.07	DN	vein	2	173	63							
3R-2, 7 cm (Piece 1)	31.04	DN	vein netwk	3	106	77							
3R-2, 22 cm (Piece 3)	31.19	DN	vein netwk	1	302	64	171.0	46.0	C	131.0	64	306.4	83.1
3R-2, 26 cm (Piece 3)	31.23	DN	vein	2	256	4	171.0	46.0	C	085.0	4	089.5	45.4
3R-2, 25 cm (Piece 3)	31.22	DN	foliation	4	108	16	171.0	46.0	C	297.0	16	074.5	27.9
3R-2, 30 cm (Piece 3)	31.27	DN	vein	3	250	77	171.0	46.0	C	079.0	77	257.9	62.4
3R-2, 42 cm (Piece 4)	31.39	DN	vein	1	199	62							
3R-2, 44 cm (Piece 4)	31.41	DN	vein	2	205	90							
3R-2, 38 cm (Piece 4)	31.35	DN	vein	3	177	45							
3R-2, 40 cm (Piece 4)	31.37	DN	vein netwk	4	294	47							
3R-2, 51 cm (Piece 5)	31.48	DN	vein	1	050	64	151.0	36.8	S	259.0	64	251.5	32.7
3R-2, 49 cm (Piece 5)	31.46	DN	vein	2	045	68	151.0	36.8	S	254.0	68	245.3	37.6
3R-2, 54 cm (Piece 5)	31.51	DN	vein netwk	3	311	44	151.0	36.8	S	160.0	44	138.2	61.2
3R-2, 60 cm (Piece 5)	31.57	DN	vein	4	000	90	151.0	36.8	S	209.0	90	205.1	75.0
3R-2, 58 cm (Piece 5)	31.55	DN	vein netwk	5	312	16	151.0	36.8	S	161.0	16	113.9	40.0
3R-2, 61 cm (Piece 5)	31.58	DN	vein	6	165	63	151.0	36.8	S	014.0	63	026.1	74.4
3R-2, 66 cm (Piece 5)	31.63	DN	vein	7	171	54	151.0	36.8	S	020.0	54	035.8	69.5
3R-2, 65 cm (Piece 5)	31.62	DN	foliation	9	104	21	151.0	36.8	S	313.0	21	048.4	21.6
3R-2, 137 cm (Piece 14)	32.34	DN	vein	1	355	90							
3R-2, 136 cm (Piece 14)	32.33	DN	vein	2	184	58							
3R-2, 135 cm (Piece 14)	32.32	DN	vein netwk	3	025	16							
3R-3, 24 cm (Piece 3)	32.71	DN	vein	1	161	81	-108.0	44.6	S	269.0	81	268.5	41.0
3R-3, 37 cm (Piece 3)	32.84	DN	vein	2	133	58	-108.0	44.6	S	241.0	58	209.0	28.0
3R-3, 30 cm (Piece 3)	32.77	DN	vein netwk	3	344	31	-108.0	44.6	S	092.0	31	091.1	71.0
3R-3, 36 cm (Piece 3)	32.83	DN	foliation	4	205	58	-108.0	44.6	S	313.0	58	346.9	36.4
3R-3, 42 cm (Piece 4)	32.89	DN	vein	1	172	70							
3R-3, 44 cm (Piece 4)	32.91	DN	vein netwk	2	042	29							
3R-3, 51 cm (Piece 5)	32.98	DN	vein	1	199	76							
3R-3, 56 cm (Piece 5)	33.03	DN	vein netwk	2	062	12							
3R-3, 58 cm (Piece 5)	33.05	DN	foliation	3	061	44							
3R-3, 75 cm (Piece 6)	33.22	DN	vein	1	359	75							
4R-1, 45 cm (Piece 8)	39.95	DN	vein netwk	1	039	27							
4R-1, 43 cm (Piece 8)	39.93	DN	vein	2	160	84							
4R-1, 86 cm (Piece 15)	40.36	DN	vein	1	184	69	-046.5	30.1	S (+P)	230.5	69	219.9	50.7
4R-1, 88 cm (Piece 15)	40.38	DN	vein netwk	2	065	23	-046.5	30.1	S (+P)	111.5	23	101.2	47.6
4R-1, 96 cm (Piece 15)	40.46	DN	vein netwk	3	057	21	-046.5	30.1	S (+P)	103.5	21	096.7	46.2
4R-1, 98 cm (Piece 15)	40.48	DN	vein	4	080	60	-046.5	30.1	S (+P)	126.5	60	121.4	81.3

Table 2 (continued).

Sample number	Depth (mbsf)	Lith.	Feature type	Feat. #	Combined		Stable mag. rem.		Meas. by	Rest (D only)		Rest (D + I)	
					str (°)	dip (°)	dec (°)	inc (°)		str (°)	dip (°)	str (°)	dip (°)
4R-1, 119 cm (Piece 17)	40.69	DN	vein netwk	1	199	26							
4R-1, 121 cm (Piece 17)	40.71	DN	vein netwk	2	240	25							
4R-2, 23 cm (Piece 2)	41.17	DN	vein	1	235	65	035.8	22.5	J	199.2	65	190.2	60.4
4R-2, 18 cm (Piece 2)	41.12	DN	foliation	2	017	56	035.8	22.5	J	341.2	56	354.0	52.1
4R-2, 55 cm (Piece 4)	41.49	DN	vein	2	205	76	068.0	40.0	C	137.0	76	316.2	79.3
4R-2, 78 cm (Piece 8)	41.72	DN	vein	1	007	70							
4R-2, 80 cm (Piece 8)	41.74	IMP DN	plag impr	2	253	14							
4R-2, 97 cm (Piece 10)	41.91	DN	vein	1	060	32							
4R-2, 123 cm (Piece 14)	42.17	DN	vein	1	019	64							
4R-2, 127 cm (Piece 14)	42.21	DN	vein	2	163	44							
4R-2, 126 cm (Piece 14)	42.20	DN	vein netwk	3	255	44							
5R-1, 88 cm (Piece 16)	49.78	DN	vein	1	163	86							
5R-1, 105 cm (Piece 18)	49.95	DN	vein	1	002	35	251.5	32.6	J	110.5	35	103.2	61.9
5R-1, 104 cm (Piece 18)	49.94	DN	vein	3	038	70	251.5	32.6	J	146.5	70	141.7	86.6
5R-1, 148 cm (Piece 21)	50.38	DN	vein	1	000	47	-143.4	44.6	S	143.4	47	127.2	76.0
5R-1, 132 cm (Piece 21)	50.22	DN	vein	2	315	65	-143.4	44.6	S	098.4	65	277.9	75.4
5R-1, 142 cm (Piece 21)	50.32	DN	vein	3	024	69	-143.4	44.6	S	167.4	69	157.0	81.7
5R-1, 141 cm (Piece 21)	50.31	DN	vein netwk	4	275	40	-143.4	44.6	S	058.4	40	069.7	76.4
5R-1, 133 cm (Piece 21)	50.23	DN	vein	5	356	82	-143.4	44.6	S	139.4	82	322.2	72.1
5R-1, 140 cm (Piece 21)	50.30	DN	foliation	6	218	50	-143.4	44.6	S	001.4	50	029.2	61.3
5R-2, 45 cm (Piece 9)	50.85	DN	vein	1	018	66	130.0	38.0	P	248.0	66	234.7	36.3
5R-2, 43 cm (Piece 9)	50.83	DN	vein	2	016	71	130.0	38.0	P	246.0	71	234.6	41.6
5R-2, 52 cm (Piece 9)	50.92	DN	foliation	3	132	42	130.0	38.0	P	002.0	42	032.7	52.6
5R-2, 92 cm (Piece 15)	51.32	DN	vein	1	220	71							
5R-2, 89 cm (Piece 15)	51.29	DN	vein	2	025	35							
5R-2, 93 cm (Piece 15)	51.33	DN	vein	3	018	34							
5R-2, 116 cm (Piece 18)	51.56	DN	vein	1	166	72	-073.8	27.1	S	239.8	72	233.3	53.1
5R-2, 113 cm (Piece 18)	51.53	DN	vein	2	040	49	-073.8	27.1	S	113.8	49	108.9	70.0
5R-2, 108 cm (Piece 18)	51.48	DN	vein	3	030	35	-073.8	27.1	S	103.8	35	099.4	57.1
5R-2, 137 cm (Piece 20)	51.77	DN	vein	1	033	45	292.0	39.0	C	101.0	45	097.9	79.0
5R-2, 144 cm (Piece 20)	51.84	DN	vein	2	051	21	292.0	39.0	C	119.0	21	102.5	53.6
5R-3, 7 cm (Piece 1)	51.97	DN	vein	1	180	30							
5R-3, 15 cm (Piece 1)	52.05	DN	vein netwk	2	000	50							
5R-3, 1 cm (Piece 1)	51.91	DN	vein	3	350	40							
5R-3, 23 cm (Piece 2)	52.13	DN	vein	1	180	60	044.7	32.1	J	135.3	60	128.6	80.7
5R-3, 20 cm (Piece 2)	52.10	DN	vein	2	079	25	044.7	32.1	J	034.3	25	061.0	46.1
5R-3, 22 cm (Piece 2)	52.12	DN	foliation	3	028	46	044.7	32.1	J	343.3	46	011.3	44.6
5R-3, 55 cm (Piece 6)	52.45	DN	vein	1	180	45							
5R-3, 69 cm (Piece 8)	52.59	DN	vein netwk	1	185	50							
6R-1, 58 cm (Piece 11)	59.18	DN	vein	1	170	55							
6R-1, 113 cm (Piece 21)	59.73	DN	vein	1	154	22							
6R-1, 124 cm (Piece 23)	59.84	DN	vein	1	210	86	106.0	11.0	C	104.0	86	284.0	87.8
6R-2, 13 cm (Piece 3)	60.23	DN	vein	1	151	26							
6R-2, 18 cm (Piece 3)	60.28	DN	vein	2	121	52							
6R-2, 31 cm (Piece 4)	60.41	DN	vein	1	084	40	173.0	18.0	C	271.0	40	271.4	26.6
6R-2, 25 cm (Piece 4)	60.35	DN	vein	2	320	42	173.0	18.0	C	147.0	42	136.8	50.3
6R-2, 27 cm (Piece 4)	60.37	DN	vein	3	310	57	173.0	18.0	C	137.0	57	131.9	66.6
6R-2, 21 cm (Piece 5)	60.31	DN	vein	1	084	40	083.0	15.6	J	001.0	40	013.7	41.4
6R-2, 24 cm (Piece 5)	60.34	DN	vein	2	310	42	083.0	15.6	J	227.0	42	216.6	34.6
6R-2, 27 cm (Piece 5)	60.37	DN	vein	3	310	57	083.0	15.6	J	227.0	57	221.1	49.3
6R-2, 39 cm (Piece 5)	60.49	DN	vein	4	180	80	083.0	15.6	J	097.0	80	276.9	89.1
6R-2, 52 cm (Piece 5)	60.62	DN	vein	5	045	7	083.0	15.6	J	322.0	7	050.3	8.6
6R-2, 58 cm (Piece 5)	60.68	DN	vein	6	176	50	083.0	15.6	J	093.0	50	092.6	61.0
6R-2, 64 cm (Piece 5)	60.74	DN	vein	7	000	15	083.0	15.6	J	277.0	15	294.9	4.3
6R-2, 68 cm (Piece 5)	60.78	DN	vein	8	225	86	083.0	15.6	J	142.0	86	321.9	87.2
6R-2, 87 cm (Piece 5)	60.97	DN	vein	9	072	16	083.0	15.6	J	349.0	16	026.0	17.5
6R-2, 90 cm (Piece 5)	61.00	DN	vein	10	325	86	083.0	15.6	J	242.0	86	241.2	76.3
6R-2, 80 cm (Piece 5)	60.90	DN	foliation	11	150	68	083.0	15.6	J	067.0	68	068.3	78.2
6R-2, 103 cm (Piece 6)	61.13	DN	vein	1	005	55							
6R-2, 106 cm (Piece 7)	61.16	DN	vein	1	210	68	050.3	11.2		159.7	68	157.4	70.4
6R-2, 110 cm (Piece 7)	61.20	DN	vein	2	197	65	050.3	11.2		146.7	65	144.4	68.7
6R-3, 5 cm (Piece 1)	61.36	DN	vein	1	191	25	216.1	4.5	J	334.9	25	334.7	25.0
6R-3, 30 cm (Piece 1)	61.61	DN	vein	2	225	14	216.1	4.5	J	008.9	14	008.5	14.0
6R-3, 38 cm (Piece 1)	61.69	DN	vein	3	180	25	216.1	4.5	J	323.9	25	323.7	25.1
6R-3, 6 cm (Piece 1)	61.37	DN	vein	4	162	41	216.1	4.5	J	305.9	41	305.8	41.1
6R-3, 40 cm (Piece 1)	61.71	DN	vein	5	184	40	216.1	4.5	J	327.9	40	327.8	40.1
6R-3, 31 cm (Piece 1)	61.62	DN	vein	6	180	80	216.1	4.5	J	323.9	80	323.9	80.1
6R-3, 10 cm (Piece 1)	61.41	DN	foliation	7	095	88	216.1	4.5	J	238.9	88	238.9	88.1
6R-3, 48 cm (Piece 2)	61.79	DN	vein	1	291	67	211.0	13.0	C	080.0	67	080.5	75.3
6R-3, 53 cm (Piece 2)	61.84	DN	vein	2	225	55	211.0	13.0	C	014.0	55	019.4	57.4
6R-3, 57 cm (Piece 2)	61.88	DN	vein	3	315	90	211.0	13.0	C	104.0	90	284.1	81.9
6R-3, 65 cm (Piece 2)	61.96	DN	vein	4	313	72	211.0	13.0	C	102.0	72	101.6	80.2
6R-3, 53 cm (Piece 2)	61.84	DN	vein	6	076	20	211.0	13.0	C	225.0	20	202.9	15.2
6R-3, 55 cm (Piece 2)	61.86	DN	vein	7	212	34	211.0	13.0	C	001.0	34	013.2	35.0
6R-3, 80 cm (Piece 4)	62.11	DN	vein	1	030	90							
6R-3, 79 cm (Piece 4)	62.10	DN	vein	2	276	40							
6R-3, 94 cm (Piece 5)	62.25	DN	vein	1	165	26	-026.8	57.6	S	191.8	26	122.8	52.4
6R-3, 98 cm (Piece 5)	62.29	DN	vein	2	210	30	-026.8	57.6	S	236.8	30	121.7	31.4
6R-3, 103 cm (Piece 5)	62.34	DN	vein	3	225	50	-026.8	57.6	S	251.8	50	161.8	14.6
6R-3, 107 cm (Piece 5)	62.38	DN	vein	4	195	37	-026.8	57.6	S	221.8	37	140.0	36.8
6R-3, 87 cm (Piece 5)	62.18	DN	vein	5	172	17	-026.8	57.6	S	198.8	17	111.3	49.6
6R-3, 88 cm (Piece 5)	62.19	DN	vein	6	195	38	-026.8	57.6	S	221.8	38	140.0	36.8
6R-3, 89 cm (Piece 5)	62.20	DN	foliation	7	000	70	-026.8	57.6	S	026.8	70	212.2	82.4
6R-4, 2 cm (Piece 1)	62.44	DN	vein	1	335	32							
6R-4, 16 cm (Piece 1)	62.58	DN	vein	2	355	60							
6R-4, 28 cm (Piece 1)	62.70	DN	vein	3	200	85							
6R-4, 12 cm (Piece 1)	62.54	DN	foliation	4	300	63							
6R-4, 41 cm (Piece 2)	62.83	DN	vein	1	180	25	-064.5	35.5	J	244.5	25	142.8	13.2

Table 2 (continued).

Sample number	Depth (mbsf)	Lith.	Feature type	Feat. #	Combined		Stable mag. rem.		Meas. by	Rest (D only)		Rest (D + I)	
					str (°)	dip (°)	dec (°)	inc (°)		str (°)	dip (°)	str (°)	dip (°)
6R-4, 45 cm (Piece 2)	62.87	DN	vein	2	195	71	-064.5	35.5	J	259.5	71	254.7	40.8
6R-4, 57 cm (Piece 2)	62.99	DN	vein	3	160	62	-064.5	35.5	J	224.5	62	204.7	43.9
6R-4, 62 cm (Piece 2)	63.04	DN	vein	4	000	20	-064.5	35.5	J	064.5	20	078.9	49.6
6R-4, 65 cm (Piece 2)	63.07	DN	vein	5	170	20	-064.5	35.5	J	234.5	20	129.2	18.3
6R-4, 70 cm (Piece 2)	63.12	DN	vein	6	346	21	-064.5	35.5	J	050.5	21	072.4	48.8
6R-4, 51 cm (Piece 2)	62.93	DN	foliation	7	276	80	-064.5	35.5	J	340.5	80	348.3	71.5
6R-4, 106 cm (Piece 6)	63.48	DN	vein	1	180	40							
6R-4, 109 cm (Piece 6)	63.51	DN	vein	2	350	80							
6R-4, 107 cm (Piece 6)	63.49	DN	vein	3	185	70							
6R-5, 16 cm (Piece 1)	63.91	DN	vein	1	160	42							
6R-5, 14 cm (Piece 1)	63.89	DN	foliation	2	274	75							
6R-5, 44 cm (Piece 4)	64.19	DN	vein	1	015	71	059.0	38.0	C	316.0	71	331.5	50.7
6R-5, 70 cm (Piece 5)	64.45	DN	vein	1	171	30	-115.3	16.9	S (+P)	286.3	30	296.3	18.5
6R-5, 79 cm (Piece 5)	64.54	DN	vein	2	190	85	-115.3	16.9	S (+P)	305.3	85	306.6	75.0
6R-5, 67 cm (Piece 5)	64.42	DN	foliation	3	268	70	-115.3	16.9	S (+P)	023.3	70	026.8	75.2
6R-5, 88 cm (Piece 6)	64.63	DN	vein	1	170	80	203.0	6.0	P	327.0	80	327.2	79.2
6R-5, 100 cm (Piece 6)	64.75	DN	vein	2	188	80	203.0	6.0	P	345.0	80	345.2	79.6
6R-5, 95 cm (Piece 6)	64.70	DN	vein	3	154	22	203.0	6.0	P	311.0	22	313.4	21.0
6R-5, 111 cm (Piece 6)	64.86	DN	vein	4	175	45	203.0	6.0	P	332.0	45	333.3	44.4
6R-5, 112 cm (Piece 6)	64.87	DN	vein	5	027	38	203.0	6.0	P	184.0	38	182.2	37.9
6R-5, 92 cm (Piece 6)	64.67	DN	foliation	6	265	84	203.0	6.0	P	062.0	84	062.1	85.2
6R-6, 8 cm (Piece 1)	65.06	DN	vein	1	206	11							
6R-6, 11 cm (Piece 1)	65.09	DN	foliation	2	027	53							
6R-6, 3 cm (Piece 1)	65.01	DN	vein	3	182	34							
6R-6, 10 cm (Piece 1)	65.08	DN	vein	4	198	9							
6R-6, 8 cm (Piece 1)	65.06	DN	vein	5	038	38							
6R-6, 18 cm (Piece 2)	65.16	DN	vein	1	185	70							
6R-6, 27 cm (Piece 3)	65.25	DN	vein	1	203	42	255.2	13.7	J	307.8	42	315.4	35.2
6R-6, 30 cm (Piece 3)	65.28	DN	foliation	2	280	43	255.2	13.7	J	024.8	43	032.7	47.4
7R-1, 15 cm (Piece 2)	68.35	DN	vein	1	002	45							
7R-1, 11 cm (Piece 2)	68.31	DN	vein	2	175	55							
7R-1, 16 cm (Piece 2)	68.36	DN	foliation	3	289	72							
7R-1, 25 cm (Piece 3)	68.45	DN	vein	1	015	71							
7R-1, 49 cm (Piece 7)	68.69	DN	vein	1	000	75							
7R-1, 50 cm (Piece 7)	68.70	DN	vein	2	205	85							
7R-1, 62 cm (Piece 7)	68.82	DN	vein	3	244	58							
7R-1, 58 cm (Piece 7)	68.78	DN	vein	4	200	85							
7R-1, 79 cm (Piece 10)	68.99	DN	vein	1	200	71	091.5	30.2	J	108.5	71	287.5	84.6
7R-1, 88 cm (Piece 11)	69.08	DN	vein	1	190	70							
7R-1, 124 cm (Piece 15)	69.44	DN	vein	1	006	60	094.0	28.1	J	272.0	60	272.9	36.5
7R-1, 126 cm (Piece 15)	69.46	DN	vein	2	200	85	094.0	28.1	J	106.0	85	286.7	72.4
7R-1, 135 cm (Piece 15)	69.55	DN	vein	3	014	21	094.0	28.1	J	280.0	21	038.0	4.5
7R-1, 141 cm (Piece 15)	69.61	DN	vein	4	340	52	094.0	28.1	J	246.0	52	232.3	31.6
7R-1, 122 cm (Piece 15)	69.42	DN	foliation	5	230	70	094.0	28.1	J	136.0	70	132.6	86.9
7R-2, 5 cm (Piece 1)	69.75	DN	vein	1	099	30							
7R-2, 11 cm (Piece 1)	69.81	DN	foliation	2	316	33							
7R-2, 18 cm (Piece 2)	69.88	DN	vein	1	030	59							
7R-2, 20 cm (Piece 2)	69.90	DN	vein	2	180	45							
7R-2, 29 cm (Piece 3)	69.99	DN	vein	1	210	73							
7R-2, 32 cm (Piece 3)	70.02	DN	foliation	2	075	66							
7R-2, 76 cm (Piece 8)	70.46	HZ	vein	1	180	0							
7R-2, 107 cm (Piece 11)	70.77	DN	vein	1	180	80	093.8	29.7	S	086.2	80	266.1	75.0
7R-2, 110 cm (Piece 11)	70.80	DN	vein	2	000	55	093.8	29.7	S	266.2	55	263.8	30.0
7R-2, 109 cm (Piece 11)	70.79	DN	foliation	3	080	73	093.8	29.7	S	346.2	73	354.9	68.8
7R-2, 132 cm (Piece 14)	71.02	DN	vein	1	180	25							
7R-3, 5 cm (Piece 1)	71.25	DN	vein	1	190	85							
7R-3, 17 cm (Piece 3)	71.37	DN	vein	1	205	58	106.0	34.0	C	099.0	58	097.6	87.1
7R-3, 31 cm (Piece 3)	71.51	DN	vein	2	303	18	106.0	34.0	C	197.0	18	127.3	29.2
7R-3, 46 cm (Piece 3)	71.66	DN	vein	3	180	85	106.0	34.0	C	074.0	85	252.6	66.8
7R-3, 34 cm (Piece 3)	71.54	DN	foliation	4	078	80	106.0	34.0	C	332.0	80	339.9	67.8
7R-3, 51 cm (Piece 4)	71.71	DN	vein	1	005	15	019.6	35.4	S	345.4	15	060.3	30.3
7R-3, 67 cm (Piece 4)	71.87	DN	vein	2	135	7	019.6	35.4	S	115.4	7	095.0	37.2
7R-3, 65 cm (Piece 4)	71.85	DN	vein netwk	3	113	31	019.6	35.4	S	093.4	31	092.0	61.8
7R-3, 62 cm (Piece 4)	71.82	DN	foliation	4	350	60	019.6	35.4	S	330.4	60	351.6	49.6
7R-3, 81 cm (Piece 6)	72.01	DN	vein	1	040	62							
7R-3, 78 cm (Piece 6)	71.98	DN	vein	2	146	40							
7R-3, 86 cm (Piece 6)	72.06	DN	vein	3	195	80							
7R-3, 115 cm (Piece 10)	72.35	DN	vein	1	020	42							
7R-3, 124 cm (Piece 11)	72.44	DN	vein	1	210	28	331.0	-10.0	C	239.0	28	248.4	41.1
7R-3, 129 cm (Piece 11)	72.49	DN	vein	2	215	35	331.0	-10.0	C	244.0	35	250.4	48.5
7R-3, 131 cm (Piece 11)	72.51	DN	vein	3	105	46	331.0	-10.0	C	134.0	46	146.9	36.6
7R-3, 126 cm (Piece 11)	72.46	DN	foliation	4	348	61	331.0	-10.0	C	017.0	61	008.5	57.8
7R-3, 146 cm (Piece 13)	72.66	DN	vein	1	218	31	-063.8	-13.2	J	281.8	31	278.1	48.5
7R-3, 145 cm (Piece 13)	72.65	DN	foliation	2	335	69	-063.8	-13.2	J	038.8	69	031.6	58.7
7R-4, 10 cm (Piece 1)	72.80	HZ	vein	1	140	48							
7R-4, 4 cm (Piece 1)	72.74	HZ	foliation	2	070	74							
7R-4, 23 cm (Piece 3)	72.93	HZ	vein netwk	1	318	57							
7R-4, 35 cm (Piece 4)	73.05	HZ	foliation	1	076	56	097.2	40.7	S	338.8	56	006.4	51.1
7R-4, 64 cm (Piece 5)	73.34	HZ	vein	1	020	71	093.0	31.0	P	287.0	71	292.6	46.1
7R-4, 54 cm (Piece 5)	73.24	HZ	foliation	2	298	38	093.0	31.0	P	205.0	38	168.1	34.8
7R-4, 89 cm (Piece 8)	73.59	HZ	foliation	1	156	62							
8R-1, 37 cm (Piece 6)	78.27	DN	vein	1	354	60							
8R-1, 38 cm (Piece 6)	78.28	DN	vein	2	139	19							
8R-1, 34 cm (Piece 6)	78.24	DN	vein	3	195	66							
8R-1, 40 cm (Piece 6)	78.30	DN	vein	4	354	56							
8R-1, 29 cm (Piece 6)	78.19	DN	vein	5	014	56							
8R-1, 37 cm (Piece 6)	78.27	DN	foliation	6	091	89							
8R-1, 51 cm (Piece 8)	78.41	DN	vein	1	353	60							

Table 2 (continued).

Sample number	Depth (mbsf)	Lith.	Feature type	Feat. #	Combined		Stable mag. rem.		Meas. by	Rest (D only)		Rest (D + I)	
					str (°)	dip (°)	dec (°)	inc (°)		str (°)	dip (°)	str (°)	dip (°)
8R-1, 69 cm (Piece 8)	78.59	DN	vein	2	005	55							
8R-1, 65 cm (Piece 8)	78.55	DN	vein	3	090	23							
8R-1, 63 cm (Piece 8)	78.53	DN	vein	4	152	53							
8R-1, 71 cm (Piece 9)	78.61	DN	vein	1	356	45							
8R-1, 75 cm (Piece 9)	78.65	DN	vein netwk	2	161	47							
8R-1, 84 cm (Piece 10)	78.74	DN	vein	1	027	70							
8R-1, 86 cm (Piece 10)	78.76	DN	vein	2	002	60							
8R-1, 93 cm (Piece 10)	78.83	DN	vein	3	008	65							
8R-1, 93 cm (Piece 10)	78.83	DN	vein	4	162	43							
8R-1, 107 cm (Piece 11)	78.97	DN	vein	1	092	65	064.6	22.7	J	027.4	65	033.3	74.2
8R-1, 108 cm (Piece 11)	78.98	DN	vein	2	164	46	064.6	22.7	J	099.4	46	097.5	63.9
8R-1, 101 cm (Piece 11)	78.91	DN	vein netwk	3	253	57	064.6	22.7	J	188.4	57	176.4	56.2
8R-1, 100 cm (Piece 11)	78.90	DN	foliation	4	024	46	064.6	22.7	J	319.4	46	337.2	36.3
8R-1, 122 cm (Piece 12)	79.12	DN	vein	1	163	64	045.0	-20.0	P (+C)	118.0	64	128.1	43.2
8R-1, 124 cm (Piece 12)	79.14	DN	vein	2	015	63	045.0	-20.0	P (+C)	330.0	63	322.4	76.9
8R-1, 130 cm (Piece 12)	79.20	DN	vein	4	203	62	045.0	-20.0	P (+C)	158.0	62	172.7	55.6
8R-1, 129 cm (Piece 12)	79.19	DN	vein	6	036	18	045.0	-20.0	P (+C)	351.0	18	304.8	32.4
8R-1, 127 cm (Piece 12)	79.17	DN	vein	7	045	68	045.0	-20.0	P (+C)	000.0	68	350.5	70.1
8R-1, 125 cm (Piece 12)	79.15	DN	vein ntwk	8	192	61	045.0	-20.0	P (+C)	147.0	61	162.5	50.3
8R-1, 122 cm (Piece 12)	79.12	DN	foliation	9	311	57	045.0	-20.0	P (+C)	266.0	57	266.6	81.6
8R-2, 30 cm (Piece 5)	79.69	DN	vein	1	288	56	170.3	29.6	S (+P)	117.7	56	113.1	78.7
8R-2, 32 cm (Piece 5)	79.71	DN	vein	2	227	40	170.3	29.6	S (+P)	056.7	40	066.5	62.1
8R-2, 35 cm (Piece 5)	79.74	DN	vein	3	056	58	170.3	29.6	S (+P)	245.7	58	233.8	36.2
8R-2, 50 cm (Piece 5)	79.89	DN	vein	4	062	75	170.3	29.6	S (+P)	251.7	75	247.2	51.5
8R-2, 65 cm (Piece 5)	80.04	DN	vein	5	265	44	170.3	29.6	S (+P)	094.7	44	093.5	68.9
8R-2, 51 cm (Piece 5)	79.90	DN/HZ	ign contact	7	323	62	170.3	29.6	S (+P)	152.7	62	144.2	75.3
8R-2, 70 cm (Piece 5)	80.09	DN	vein netwk	8	241	50	170.3	29.6	S (+P)	070.7	50	074.7	73.9
8R-2, 87 cm (Piece 7)	80.26	HZ	vein	1	353	58	060.0	18.0	C	293.0	58	297.5	45.9
8R-2, 93 cm (Piece 7)	80.32	HZ	vein	2	253	35	060.0	18.0	C	193.0	35	173.4	34.2
8R-2, 96 cm (Piece 7)	80.35	HZ	vein netwk	3	184	50	060.0	18.0	C	124.0	50	119.2	61.4
8R-2, 96 cm (Piece 7)	80.35	HZ	foliation	4	067	51	060.0	18.0	C	007.0	51	017.1	53.8
8R-2, 122 cm (Piece 9)	80.61	DN	vein	1	104	48							
8R-2, 113 cm (Piece 9)	80.52	DN	vein	2	024	62							
8R-2, 120 cm (Piece 9)	80.59	DN	vein netwk	3	034	53							
8R-3, 10 cm (Piece 1)	80.90	DN	vein	1	148	45	-050.8	-16.0	J	198.8	45	214.6	54.4
8R-3, 4 cm (Piece 1)	80.84	DN	foliation	2	030	58	-050.8	-16.0	J	080.8	58	077.2	37.8
8R-3, 7 cm (Piece 1)	80.87	DN	vein netwk	3	105	38	-050.8	-16.0	J	155.8	38	184.2	34.3
8R-3, 8 cm (Piece 1)	80.88	DN	vein	4	190	30	-050.8	-16.0	J	240.8	30	251.1	48.9
8R-3, 34 cm (Piece 2)	81.14	DN	vein	1	006	90							
8R-3, 16 cm (Piece 2)	80.96	DN	vein	2	167	66							
8R-3, 25 cm (Piece 2)	81.05	DN	vein netwk	4	195	44							
8R-3, 45 cm (Piece 3)	81.25	DN	vein	1	123	18	061.0	-15.0	C	062.0	18	336.9	9.1
8R-3, 47 cm (Piece 3)	81.27	DN	vein	2	293	41	061.0	-15.0	C	232.0	41	241.4	57.5
8R-3, 51 cm (Piece 3)	81.31	DN	vein	3	080	77	061.0	-15.0	C	019.0	77	013.6	71.4
8R-3, 56 cm (Piece 3)	81.36	DN	vein	4	016	59	061.0	-15.0	C	315.0	59	309.2	73.6
8R-3, 48 cm (Piece 3)	81.28	DN	vein netwk	5	204	32	061.0	-15.0	C	143.0	32	177.8	25.1
8R-3, 66 cm (Piece 5)	81.46	DN	vein	1	072	56	141.0	-19.0	C	291.0	56	287.7	78.3
8R-3, 64 cm (Piece 5)	81.44	DN	vein	2	282	43	141.0	-19.0	C	141.0	43	169.3	32.6
8R-3, 79 cm (Piece 5)	81.59	DN	vein	3	000	17	141.0	-19.0	C	219.0	17	247.6	36.6
8R-3, 86 cm (Piece 5)	81.66	DN	vein	4	140	64	141.0	-19.0	C	359.0	64	348.1	66.7
8R-3, 70 cm (Piece 5)	81.50	DN	vein netwk	5	292	41	141.0	-19.0	C	151.0	41	181.1	35.0
8R-3, 102 cm (Piece 6)	81.82	DN	vein	1	354	40	040.3	-11.0	S	313.7	40	304.2	52.2
8R-3, 107 cm (Piece 6)	81.87	DN	foliation	2	310	32	040.3	-11.0	S	269.7	32	269.8	47.6
8R-3, 105 cm (Piece 6)	81.85	DN	vein netwk	3	202	36	040.3	-11.0	S	161.7	36	184.1	34.0
8R-3, 107 cm (Piece 6)	81.87	DN	vein	4	301	57	040.3	-11.0	S	260.7	57	261.8	72.4
8R-3, 106 cm (Piece 6)	81.86	DN	vein	5	220	54	040.3	-11.0	S	179.7	54	190.8	55.4
8R-3, 110 cm (Piece 6)	81.90	DN	vein	6	062	49	040.3	-11.0	S	021.7	49	007.5	45.0
8R-3, 100 cm (Piece 6)	81.80	DN	vein	7	303	18	040.3	-11.0	S	262.7	18	265.9	33.5
8R-3, 116 cm (Piece 7)	81.96	DN	vein	1	190	80							
8R-3, 113 cm (Piece 7)	81.93	DN	vein	2	100	45							
8R-3, 116 cm (Piece 7)	81.96	DN	vein	3	130	44							
8R-3, 116 cm (Piece 7)	81.96	DN	vein netwk	4	023	48							
8R-4, 50 cm (Piece 8)	82.80	DN	vein	1	357	36							
8R-4, 48 cm (Piece 8)	82.78	DN	vein	2	024	90							
8R-4, 48 cm (Piece 8)	82.78	DN	vein	3	017	80							
8R-4, 90 cm (Piece 13)	83.20	DN	vein	1	270	9							
8R-4, 86 cm (Piece 13)	83.16	DN	vein	2	034	76							
8R-4, 80 cm (Piece 13)	83.10	DN	vein	3	336	16							
8R-4, 86 cm (Piece 13)	83.16	DN	vein netwk	4	304	28							
8R-4, 111 cm (Piece 17)	83.41	DN	vein	1	188	55	029.0	-13.0	C	159.0	55	172.1	50.5
8R-4, 120 cm (Piece 17)	83.50	DN	vein netwk	2	201	42	029.0	-13.0	C	172.0	42	191.6	42.6
8R-4, 137 cm (Piece 19)	83.67	DN	vein	1	102	43							
8R-4, 139 cm (Piece 19)	83.69	DN	vein	2	181	42							
8R-4, 134 cm (Piece 19)	83.64	DN	vein	3	059	65							
8R-4, 132 cm (Piece 19)	83.62	DN	vein	4	175	42							