

DATA REPOSITORY 2010068

Table DR1. PALEOMAGNETIC RESULTS FROM MEMBER B, HUCKLEBERRY RIDGE TUFF, TETON RIVER CANYON, EASTERN IDAHO

Site No.	UTM E	UTM N	lithology	Ns/NT	Dec.	Inc.	k	α_{95}	Comp. strike	Comp. dip	Corr. Decl.	Corr. Incl.
TD 1	0458981	4863711	devitr	5/9*	224.1	-0.8	38.3	11.1	295	51NE	232.2	47.5
TD2	0458927	4863755	devitr	12/12	229.1	-8.1	85.1	5.9	305	47NE	232.0	37.9
TD3	0458909	4863686	devitr	10/10	215.6	-3.5	139.5	3.9	319	66NE	200.5	57.3
TD4	0458909	4863686	devitr	7/7	213.8	-4.5	1118.1	1.7	319	66NE	197.7	56.4
TD5	0458932	4863658	vitr	17/17	210.8	-1.3	192.9	2.6	307	78NE	185.0	73.9
TD6	0459089	4863639	devitr	9/9	221.7	-10.3	58.1	6.4	312	40NE	221.2	29.6
TD7	0458900	4863650	devitr	12/12	236.1	1.5	43.0	12.0	315	3NE	236.0	3.0
TD8	0458854	4863539	vitr	15/15	224.6	-19.0	56.1	4.9	287	129NE (ovt)	341.9	-25.3
TD9	0458854	4863539	devitr	9/9	219.0	-3.6	86.0	5.3	294	124NE (ovt)	318.5	-36.6
TD10	-	-	devitr	13/13	220.3	0.1	78.3	4.5	286	126NE (ovt)	345.3	-49.0
TD11	-	-	devitr	12/12	228.8	-1.8	41.5	6.5	315	15NE	228.7	13.2
TD12	-	-	devitr	12/12	229.7	-7.4	157.9	3.3	340	44NE	225.2	32.7
TD13	-	-	devitr	10/10	229.9	-4.3	62.0	5.9	302	125NE (ovt)	12.4	-48.3
TD14	0458745	4863575	vitr	11/11	212.8	-1.6	112.1	4.1	24	40NW	202.9	1.7
TD 15	-	-	vitr	11/11	212.6	-4.8	122.0	3.9	30	73NW	217.7	1.0
TD16	-	-	devitr	7/7	209.4	1.5	53.8	7.7	322	26NE	208.0	20.2
TD17	0457020	4862316	vitr	11/11	199.6	-0.9	91.7	4.6	324	82NE	153.2	64.8
TD18	0457283	4862631	devitr	11/11	211.9	-8.0	197.1	3.1	101	11SW	212.7	-18.5
TD19	0458321	4863171	devitr	11/11	231.7	-10.0	58.2	5.7	10	13E	232.7	-2.8

Notes: UTM E and UTM N are UTM coordinates (data base = NAD27, grid zone 12T) of the paleomagnetic site (- not measured at this site); N_s is the number of samples yielding a stable end point used in the estimate of the site-mean direction; N_T is the number of samples measured; lithology is character of the Huckleberry Ridge Tuff, either vitrified (vitr) or devitrified (devitr); Dec. and Inc. are declination and inclination of the site-mean direction; k is the best estimate of the precision parameter (Fisher, 1953); α_{95} is the semi-angle of the cone of 95% confidence about the site mean direction; Comp. strike and dip are the compaction fabric orientation the conspicuous eutaxitic foliation developed in the HRT at each sampling site. Corr. Dec. and Corr. Inc. are the corrected declination and inclination of the site mean direction, based on restoring the compaction fabric to the horizontal about the observed strike axis.

*Half of the samples at site TD1 were affected by lightning, and a characteristic remanent magnetization could not be resolved.

Table DR2. Anisotropy of Magnetic Susceptibility Data, Huckleberry Ridge Tuff Sites, Teton River Canyon

Site #	N	Kmax	Kint	Kmin	L	F	P	P'	T
1	14	1.005	1.001	0.994	1.004	1.007	1.011	1.011	0.232
2	16	1.005	1.001	0.994	1.004	1.007	1.012	1.012	0.252
3	10	1.005	0.999	0.997	1.006	1.002	1.008	1.008	-.572
4	6	1.005	0.999	0.996	1.006	1.003	1.008	1.009	-0.321
5	18	1.008	1.003	0.989	1.005	1.014	1.019	1.020	0.487
6	12	1.005	0.999	0.996	1.006	1.004	1.010	1.010	-0.254
7	12	1.004	0.999	0.997	1.005	1.001	1.006	1.007	-0.571
8	23	1.004	1.000	0.996	1.003	1.004	1.008	1.008	0.112
9	17	1.004	0.999	0.997	1.005	1.001	1.005	1.006	-0.560
10	11	1.006	1.001	0.993	1.006	1.008	1.014	1.014	0.194
11	22	1.004	1.00	0.996	1.004	1.004	1.008	1.008	0.090
12	17	1.006	0.997	0.997	1.008	1.001	1.009	1.010	-0.869
13	13	1.005	1.002	0.993	1.003	1.008	1.011	1.012	0.482
14	21	1.011	1.006	0.983	1.005	1.024	1.029	1.031	0.672
15	8	1.008	1.004	0.988	1.004	1.016	1.020	1.021	0.574
16	14	1.007	0.999	0.994	1.008	1.004	1.012	1.013	-0.278
17	16	1.005	1.002	0.993	1.003	1.008	1.012	1.012	0.442
18	8	1.002	1.00	0.998	1.002	1.002	1.004	1.004	0.142
19	14	1.003	1.001	0.997	1.003	1.002	1.004	1.004	0.172

Explanation: The anisotropy in magnetic susceptibility for an assemblage of minerals in a sample (or the average of several independently oriented samples from an outcrop) is expressed as a symmetric second-rank tensor with normalized eigenvectors K_{\max} , K_{int} , and K_{\min} . K_{\max} is the AMS lineation and K_{\min} is normal to the AMS foliation. The bulk susceptibility, K or K_{mean} , for a sample is the mean of the three susceptibility eigenvalues. Several parameters describe the magnetic anisotropy of a solid. The degree of lineation, L , is $(k_{\max} - k_{\text{int}})/k_{\text{mean}}$. The degree of foliation, F , is $(k_{\text{int}} - k_{\min})/k_{\text{mean}}$. The magnitude of anisotropy, P , is $(k_{\max} - k_{\min})/k_{\text{mean}}$. The degree of anisotropy, P' , and the shape parameter, T , are used to describe the relative strengths of K_{\max} , K_{int} , and K_{\min} . P' ranges from 1 (isotropic) to infinity and T ranges from -1 to 1, with negative values for prolate and positive values for oblate susceptibility ellipsoids. P' and T are calculated following Jelinek (1978) as:

$$P' = \exp(2[(\ln K_{\max} - \eta)^2 + (\ln K_{\text{int}} - \eta)^2 + (\ln K_{\min} - \eta)^2])^{0.5}$$

$$T = 2(\ln K_{\text{int}} - \ln K_{\min}) / (\ln K_{\max} - \ln K_{\min}) - 1$$

Where K_{\max} , K_{int} , and K_{\min} are the eigenvalues of the susceptibility tensor and η is defined as:

$$\eta = (\ln K_{\max} + \ln K_{\text{int}} + \ln K_{\min}) / 3$$