

Table T1. Chemical and isotopic compositions (ppm) of anhydrite separates from hydrothermal veins and vug fills. (Continued on next seven pages.)

Laboratory:	WHOI	CSIRO	SOC	CSIRO	CSIRO	WHOI	CSIRO	WHOI	WHOI/SOC	WHOI	WHOI	WHOI	SOC
Hole:							1188A						
Core, section:	7R-1	7R-1	7R-1	7R-2	7R-2	9R-1	11R-1	11R-1	12R-1	14R-1	14R-1	14R-1	15R-1
Piece, interval (cm):	12, 66–68	13, 80–82	14, 87–89	1, 17–21	1, 17–21	6, 48–52	2, 15–20	8, 101–107	7, 72–74	7, 47–50	10, 66–70	15, 108–110	1, 0–2
Depth (mbsf):	48.86	49.00	49.07	49.87	49.87	68.08	87.05	87.91	97.32	116.47	116.66	117.08	125.70
Description:	Drusy anhy vein, subhorizontal	Anhy vein (2–5 mm), subhorizontal	Anhy-py vein (2–8 mm), subhorizontal	Coarse anhy vein, late	Earlier network of thin anhy veins	Anhy vein with bleached halo	Anhy vein; bleached halo	Anhy-py vein; bleached halo	Thick anhy vein; bleached halo	Narrow anhy veins; silicified halos	Narrow anhy veins; silicified halos	Breccia cement	Crustiform anhy (≤3 mm) in vein >1 cm
⁸⁷ Sr/ ⁸⁶ Sr	0.708352	0.708471	0.708606	0.707086	0.706668	0.707230	0.706135	0.706377	0.706394	0.705831	0.704970	0.706377	0.705725
δ ³⁴ S V-CDT (‰)		21.7	21.6	20.4	20.3	19.9	19.5		18.1				21.1
% seawater	84.1	86.5	89.2	56.6	46.5	60.0	32.8	39.2	39.6	24.5	–0.9	39.2	21.6
Sr	3425		3693			2041		2651	3057	3563	2070	3712	
D (Ca-Sr)	0.689		0.723			0.460		0.648	0.747	0.915	0.570	0.909	
Mg			9										9
Li	0.483					0.5207		1.1707	0.149			0.209	
Rb	0.049		0.048			0.166		0.033	0.247			0.042	0.048
Cs	0.003		0.001			0.017		0.007	0.020			0.006	0.002
Ba	10.59		32.42			33.44		21.91	10.89			5.19	36.36
La	1.369		0.812			15.383		0.178	0.303			0.334	0.738
Ce	3.774		1.865			40.827		0.721	0.658			0.916	2.315
Pr	0.604		0.335			5.389		0.174	0.108			0.149	0.424
Nd	2.982		1.963			21.384		1.114	0.579			0.708	2.437
Sm	0.906		0.670			4.062		0.362	0.284			0.191	0.905
Eu	0.313		0.237			1.027		0.233	0.162			0.145	0.577
Gd	1.355		1.020			2.710		0.491	0.448			0.186	0.792
Tb	0.231		0.196			0.311		0.056	0.052			0.024	0.102
Dy	1.589		1.424			1.620		0.244	0.231			0.132	0.464
Ho	0.367		0.335			0.301		0.036	0.034			0.023	0.083
Er	1.154		1.136			0.814		0.071	0.064			0.054	0.169
Tm			0.200										0.023
Yb	1.374		1.554			0.871		0.033	0.027			0.032	0.117
Lu	0.237		0.260			0.144		0.004	0.003			0.004	0.017
Y	9.89		14.22			8.25		0.99	0.77			0.66	2.93
Pb	1.42		0.17			9.16		0.14	1.19			1.01	9.80
U	0.007		0.002			0.025		0.004	0.012			0.002	n.d.
P	13.7					120.9		674.8	144.9			242.6	
As	0.05					0.70		0.14	0.05			0.05	
La/Sm	0.98		0.78			2.44		0.32	0.69			1.13	0.53
Sm/Yb	0.73		0.48			5.18		12.09	11.65			6.70	8.59
La/Yb	0.71		0.40			12.67		3.83	8.01			7.57	14.67
Eu/Eu*	0.86		0.87			0.89		1.69	1.38			2.32	2.04

Notes: WHOI = Woods Hole Oceanographic Institution (USA), CSIRO = Commonwealth Scientific and Industrial Research Organisation (Australia), SOC = Southampton Oceanography Centre (UK). Anh = anhydrite, py = pyrite, qtz = quartz, gyp = gypsum, mt = magnetite, volc = volcanics. Fg = fine grained. ND = not determined.

Table T1 (continued).

Laboratory:	WHOI	Sr duplicate	CSIRO	CSIRO	WHOI	SOC	CSIRO	CSIRO	WHOI	WHOI	Sr duplicate	SOC
Hole:						1188A						
Core, section:	15R-1	15R-1	15R-1	15R-1	15R-1	15R-1	16R-1	15R-1	16R-2	17R-1	17R-1	17R-1
Piece, interval (cm):	2, 5–9	2, 5–9	2, 5–7	3, 10–11	4, 14–20	7, 29–31	8, 47–50	2, 5–7	15, 109–111	23, 130–133	23, 130–133	24, 133–136
Depth (mbsf):	125.75	125.75	125.75	125.80	125.84	125.99	135.87	125.75	137.95	146.40	146.40	146.43
Description:	Crustiform anhy vein; mainly bladed crystals	Crustiform anhy vein; mainly bladed crystals	Bladed zone of multiple anhy vein; younger?	Coarse granular anhy (snowball)	Crustiform anhy vein	Anhy from 2-mm vein selvage; bleached volc	Granular anhy in vein jog	Granular zone of multiple veins; older?	Anhy-mt-py vein	Anhy-mt-py vein	Anhy-mt-py vein	Anhy-mt-py vein
⁸⁷ Sr/ ⁸⁶ Sr	0.705371	0.705933	0.706195	0.705508	0.705241	0.705726	0.705677	0.706032	0.706152	0.706265	0.706183	0.706281
δ ³⁴ S V-CDT (‰)				18.4		20.6						20.6
% seawater	11.3	27.4	34.4	15.3	7.4	21.6	20.2	30.0	33.3	36.3	34.1	36.7
Sr	3262	2642			2400	2731			4568	3239	4355	3575
D (Ca-Sr)	0.870	0.672			0.646	0.707			1.143	0.801	1.086	0.883
Mg						225						137
Li					0.132				0.494	0.381		
Rb					0.139	0.301			0.450	0.329		0.286
Cs					0.007	0.012			0.022	0.008		0.005
Ba					141.08	90.12			19.01	21.97		26.09
La					2.224	7.046			2.917	1.743		0.188
Ce					3.738	21.002			6.591	3.685		0.507
Pr					0.466	3.656			0.817	0.505		0.098
Nd					1.766	20.642			3.129	2.086		0.560
Sm					0.380	7.388			0.562	0.416		0.190
Eu					0.757	3.279			0.223	0.241		0.104
Gd					0.365	9.538			0.401	0.319		0.151
Tb					0.047	1.737			0.040	0.035		0.023
Dy					0.241	11.541			0.186	0.162		0.068
Ho					0.040	2.336			0.028	0.024		0.012
Er					0.092	6.653			0.056	0.047		0.023
Tm						0.903						0.002
Yb					0.062	5.245			0.027	0.021		0.011
Lu					0.008	0.712			0.003	0.002		0.001
Y					1.07	89.63			0.82	0.61		0.44
Pb					0.07	1.34			0.89	2.31		0.27
U					0.007	0.044			0.007	0.008		0.009
P					106.8				175.8	162.3		
As					0.13				0.13	0.24		
La/Sm					3.78	0.62			3.35	2.71		0.64
Sm/Yb					6.86	1.57			23.07	21.50		19.59
La/Yb					25.91	2.02			77.33	58.18		37.21
Eu/Eu*					6.13	1.19			1.37	1.95		1.81

Table T1 (continued).

Laboratory:	CSIRO	CSIRO	WHOI	WHOI	WHOI/SOC	SOC	WHOI	SOC	WHOI	Sr duplicate	WHOI	WHOI	WHOI
Hole:	1188A		1188F										
Core, section:	17R-1	17R-1	17R-1	17R-1	18R-1	1Z-1	1Z-2	1Z-3	1Z-4	1Z-4	3Z-1	7Z-1	14Z-1
Piece, interval (cm):	24, 137–140	24, 137–140	25, 140–142	2, 6–9	19, 81–84	1, 0–2	2, 32–34	2, 48–50	2, 100–104	2, 100–104	1C, 57–61	1C, 30–36	6, 101–105
Depth (mbsf):	146.47	146.47	146.50	146.66	155.51	218.00	219.52	220.88	222.60	222.60	223.17	235.30	246.91
Description:	Late drusy anhy vein	Early, thin, bladed anhy-(gyp) vein	Anhy-mt-py vein	Anhy empty vein	Coarse-grained anhy + py vug fill	Py-anhy vein	Anhy-py-qtz veins; cyclic halos	Crustiform anhy in 5-mm anhy vein	Anhy-py-qtz veins; cyclic halos	Anhy-py-qtz veins; cyclic halos	Anhy-py-qtz veins; cyclic halos	Anhy-py-qtz veins; cyclic halos	Thick anhy-py veins; complex halos
⁸⁷ Sr/ ⁸⁶ Sr	0.706289	0.706534	0.706165	0.706387	0.706331	0.706710	0.707012	0.705679	0.706393	0.705904	0.706717	0.706056	0.707044
δ ³⁴ S V-CDT (‰)	18.7	18.9			20.7	20.3		20.7					
% seawater	36.9	43.2	33.6	39.4	38.0	47.6	54.9	20.3	39.6	26.6	47.7	30.7	55.6
Sr			3252	3033	3197	3604	3690	2913	2657	1862	2844	1859	2715
D (Ca-Sr)			0.811	0.741	0.786	0.856	0.852	0.757	0.649	0.474	0.674	0.467	0.624
Mg						75		7					
Li				0.14	0.155		0.403		0.087		0.195		0.042
Rb				0.021	0.059	0.116	0.110	0.078	0.088		0.094		0.201
Cs				0.001	0.019	0.011	0.016	0.000	0.007		0.004		0.005
Ba				5.42	5.65	40.43	46.58	19.49	45.66		278.14		26.82
La				0.661	0.043	0.129	0.111	11.457	3.192		0.037		0.188
Ce				1.464	0.111	0.516	0.442	35.069	9.220		0.134		0.497
Pr				0.193	0.018	0.127	0.096	5.489	1.532		0.036		0.087
Nd				0.783	0.084	0.944	0.613	28.282	8.211		0.260		0.456
Sm				0.172	0.021	0.790	0.353	8.440	3.223		0.295		0.193
Eu				0.131	0.007	0.788	0.369	3.715	1.739		0.305		0.159
Gd				0.141	0.019	1.409	0.640	9.793	5.069		1.032		0.322
Tb				0.019	0.002	0.225	0.103	1.749	0.910		0.182		0.044
Dy				0.103	0.013	1.190	0.570	11.135	6.072		0.979		0.245
Ho				0.017	0.003	0.201	0.099	2.207	1.230		0.160		0.045
Er				0.041	0.006	0.430	0.225	5.879	3.142		0.348		0.106
Tm						0.053		0.756					
Yb				0.029	0.005	0.232	0.117	4.159	1.873		0.183		0.054
Lu				0.004	0.001	0.023	0.013	0.505	0.219		0.021		0.006
Y				0.45	0.08	6.32	2.57	85.84	36.52		4.17		1.00
Pb				0.15	0.11	0.39	0.83	1.55	0.91		0.42		5.02
U				0.006	0.002	0.007	0.003	0.017	0.004		0.004		0.005
P				178.7	98.1		159.8		81.2		987.8		170.2
As				0.05	0.06		0.15		0.09		0.45		0.11
La/Sm				2.48	1.30	0.11	0.20	0.88	0.64		0.08		0.63
Sm/Yb				6.65	5.22	3.79	3.34	2.26	1.91		1.79		4.00
La/Yb				16.51	6.79	14.81	0.68	3.22	1.22		0.14		2.51
Eu/Eu*				2.51	1.00	2.26	2.35	1.25	1.31		1.51		1.94

Table T1 (continued).

Laboratory:	WHOI/SOC	CSIRO	WHOI	SOC	SOC	CSIRO	CSIRO	CSIRO	WHOI	WHOI/SOC	CSIRO	WHOI	WHOI
Hole:								1188F					
Core, section:	15Z-1	23Z-1	23Z-2	23Z-2	23Z-2	23Z-2	23Z-2	23Z-2	25Z-1	26Z-1	26Z-1	31Z-1	35Z-1
Piece, interval (cm):	16, 146–149	3, 15–19	2, 22–26	3B, 30–33	3C, 34–36	3C, 37–40	3C, 37–40	3C, 37–40	5, 35–40	4, 62–69	4, 62–64	1, 9–12	2E, 76–79
Depth (mbsf):	251.86	286.75	288.32	288.40	288.44	288.47	288.47	288.47	295.95	300.72	300.72	322.69	340.76
Description:	Anhy vein (1–2 mm)	Coarse anhy-py vein; zoned halo	Anhy-py vein; complex halos	Anhy from 2-mm vein	Fg anhy from 3-mm anhy vein; multiple events	Younger vein; older layer?	Younger vein; younger layer?	Older vein	Anhy-py veins cut by anhy vein	Anhy-mt-py veins	Thick vein; bleached halo	Anhy vein	Anhy-py vein
⁸⁷ Sr/ ⁸⁶ Sr	0.706969	0.705634	0.706310	0.706116	0.706089	0.706396	0.706242	0.705949	0.706083	0.706095	0.706150	0.706498	0.705671
δ ³⁴ S V-CDT (‰)	20.7	18.5		19.8	20.0	19.3	20.0	19.8		18.3	20.1		
% seawater	53.9	19.0	37.4	32.3	31.6	39.7	35.6	27.8	31.4	31.7	33.2	42.3	20.0
Sr	1810		3116	3842	3002				2381	2435		2052	2753
D (Ca-Sr)	0.418		0.767	0.963	0.753				0.597	0.610		0.496	0.716
Mg				47	42								
Li	0.257		0.328						0.074				0.942
Rb	0.092		0.273	0.216	0.156				0.181				0.340
Cs	0.026		0.023	0.008	0.002				0.011				0.029
Ba	20.95		20.00	39.25	41.96				20.27				62.47
La	0.131		0.560	1.132	0.636				2.281				10.108
Ce	0.496		1.787	2.450	1.743				6.981				26.632
Pr	0.110		0.351	0.393	0.355				1.333				3.828
Nd	0.773		2.065	2.124	2.139				7.790				16.686
Sm	0.610		0.705	0.681	0.728				2.712				4.620
Eu	0.419		0.640	0.587	0.532				1.311				1.701
Gd	1.343		0.600	0.755	0.657				2.516				4.632
Tb	0.263		0.073	0.116	0.083				0.310				0.669
Dy	1.955		0.385	0.649	0.439				1.671				3.912
Ho	0.417		0.068	0.116	0.079				0.298				0.704
Er	1.026		0.167	0.263	0.170				0.695				1.650
Tm				0.036	0.022								
Yb	0.503		0.129	0.175	0.110				0.386				0.968
Lu	0.053		0.017	0.022	0.014				0.047				0.106
Y	13.42		1.99	3.82	2.79				8.40				17.42
Pb	2.59		0.28	0.25	0.13				1.42				0.75
U	0.003		0.002	0.010	0.005				0.003				0.007
P	351.4		519.7						98.3				325.7
As	0.08		0.15						0.18				0.07
La/Sm	0.14		0.51	1.07	0.56				0.54				1.41
Sm/Yb	1.35		6.09	4.33	7.39				7.81				5.30
La/Yb	0.19		3.12	11.90	16.91				4.24				7.49
Eu/Eu*	1.37		2.93	2.49	2.31				1.51				1.11

Table T1 (continued).

Laboratory:	SOC	WHOI	WHOI	Sr dup	WHOI	SOC	WHOI	WHOI	WHOI	SOC	CSIRO	WHOI	CSIRO
Hole:	1188F												
Core, section:	35Z-1	37Z-1	37Z-2	37Z-2	37Z-2	37Z-2	39Z-1	40Z-1	41Z-1	41Z-1	2R-1	1189A	2R-1
Piece, interval (cm):	2H, 94–99	1, 10–14	7, 98–104	7, 98–104	9, 135–140	9, 145–147	1, 0–3	2F, 55–60	4A, 100–102	5, 137–138	14,	15, 114–116	16, 117–120
Depth (mbsf):	340.94	344.60	346.79	346.79	347.17	347.27	353.50	358.55	363.50	363.87	10.63	10.84	10.87
Description:	Anhy selvage (2 mm) on bleached volc	Anhy-py vein	Anhy-py vein	Anhy-py vein	Anhy-py vein	Anhy vein (5 mm)	Anhy-py vein	Anhy-py vug	Anhy-py vug	Anhy vein	Breccia matrix	Breccia matrix	Breccia matrix
⁸⁷ Sr/ ⁸⁶ Sr	0.705753	0.706045	0.706025	0.706047	0.706389	0.706296	0.705464	0.706009	0.705929	0.705832	0.707330	0.707695	0.707644
δ ³⁴ S V-CDT (‰)	20.0					20.5				19.8	20.1	21.0	
% seawater	22.4	30.4	29.9	30.5	39.5	37.1	14.1	29.4	27.2	24.6	62.3	70.4	69.3
Sr	2897	2145	2883	2885	3038	4483	1083	2418	3199	3581		2868	
D (Ca-Sr)	0.748	0.540	0.727	0.727	0.742	1.107	0.286	0.611	0.814	0.920		0.618	
Mg	21					228				14			
Li		0.163	0.117		0.16								
Rb	0.369	0.142	0.278		0.101	0.137				0.410			
Cs	0.007	0.003	0.006		0.006	0.001							
Ba	48.95	44.93	20.28		27.59	41.43				75.40			
La	2.894	1.033	3.238		1.993	1.870				8.698			
Ce	10.283	2.552	8.240		4.436	4.014				19.774			
Pr	2.066	0.398	1.337		0.662	0.627				2.779			
Nd	13.257	1.759	6.721		3.006	3.271				13.443			
Sm	5.162	0.397	1.982		0.736	0.874				3.226			
Eu	1.561	0.272	1.001		0.560	0.591				1.303			
Gd	6.379	0.480	2.494		0.752	0.881				3.481			
Tb	1.085	0.056	0.348		0.093	0.125				0.556			
Dy	6.659	0.267	1.953		0.462	0.654				2.990			
Ho	1.180	0.044	0.356		0.076	0.118				0.580			
Er	3.102	0.095	0.856		0.163	0.249				1.424			
Tm	0.358					0.034				0.175			
Yb	1.851	0.045	0.513		0.078	0.141				0.813			
Lu	0.235	0.005	0.064		0.009	0.024				0.104			
Y	43.23	0.99	8.82		1.91	3.55				17.84			
Pb	0.31	1.84	0.71		13.15	40.22				0.89			
U	0.004	0.003	0.004		0.003	0.008				<0.001			
P		111.5	177.4		123.3								
As		0.06	0.12		0.10								
La/Sm	0.36	1.68	1.05		1.75	1.38				1.74			
Sm/Yb	3.10	9.91	4.30		10.47	6.90				4.41			
La/Yb	2.91	16.65	4.53		18.32	10.72				5.48			
Eu/Eu*	0.83	1.90	1.38		2.28	2.04				1.18			

Table T1 (continued).

Laboratory:	SOC	WHOI/SOC	SOC	WHOI/SOC	CSIRO	CSIRO	CSIRO	CSIRO	WHOI/SOC	SOC	WHOI/SOC	WHOI/SOC	WHOI	SOC
Hole:	1189A													
Core, section:	2R-1	3R-1	3R-1	3R-1	3R-1	3R-1	3R-1	3R-1	5R-1	5R-1	7R-1	7R-1	7R-1	7R-1
Piece, interval (cm):	17, 128–129	11, 65–68	14, 81–83	16, 89–93	16, 89–93	16, 89–93	16, 89–93	16, 89–93	1, 0–3	1, 0–3	2, 4–8	3, 19–23	4, 24–26	6, 43–46
Depth (mbsf):	10.98	20.05	20.21	20.29	20.29	20.29	20.29	20.29	38.80	38.80	58.34	58.49	58.54	58.73
Description:	Breccia matrix	Crustiform anhy + py vein selvage	Crustiform anhy + py vein selvage	Banded anhy-py vein (cockade structure)	Zone A, coarse white	Zone B gray; oldest?	Zone C, bladed, white crystals	Zone D, gray; youngest?	Anhy vein	Thin (<1 mm) anhy vein	Anhy vein	Center of anhy vein	Anhy vein	Anhy vein
⁸⁷ Sr/ ⁸⁶ Sr	0.707642	0.705241	0.706534	0.706245	0.706739	0.706459	0.707220	0.707194	0.706680	0.706565	0.705910	0.706548	0.706354	0.706579
δ ³⁴ S V-CDT (‰)	21.9	20.8		21.1	20.9		19.4	21.1	20.6	18.8	20.8	22.0		21.6
% seawater	69.2	7.4	43.2	35.7	48.3	41.3	59.7	59.1	46.8	44.0	26.7	43.5	38.6	44.3
Sr	2848	2400	1750	2289					1907	1867	2050	1084	1771	1593
D(Ca-Sr)	0.617	0.646	0.421	0.566					0.453	0.448	0.522	0.260	0.433	0.382
Mg	45		82							464				429
Li		0.183		0.241					0.061		0.078			
Rb	0.022	0.072	0.141	0.076					0.175	0.156	0.105			0.081
Cs	0.001	0.014		0.008					0.005	0.001	0.004			0.004
Ba	19.46	17.82	55.80	38.88					29.64	57.44	54.33			36.18
La	1.095	2.437	2.174	2.119					3.071	2.916	2.422			1.879
Ce	2.452	4.872	6.015	5.567					6.945	7.339	5.113			5.536
Pr	0.355	0.680	1.002	0.817					1.042	1.142	0.858			1.063
Nd	1.669	2.693	5.063	3.433					4.446	5.659	3.987			5.930
Sm	0.496	0.546	1.173	0.731					0.960	1.246	0.967			1.663
Eu	0.141	1.270	0.535	0.512					0.434	0.418	0.407			0.377
Gd	0.478	0.544	1.222	0.623					0.999	1.071	0.840			1.467
Tb	0.070	0.062	0.125	0.070					0.114	0.121	0.094			0.166
Dy	0.369	0.293	0.776	0.334					0.513	0.539	0.421			0.685
Ho	0.081	0.044	0.140	0.051					0.078	0.087	0.062			0.100
Er	0.194	0.093	0.295	0.108					0.160	0.143	0.122			0.181
Tm	0.028		0.031							0.022				0.020
Yb	0.124	0.049	0.188	0.059					0.078	0.094	0.059			0.083
Lu	0.018	0.006	0.034	0.008					0.009	0.016	0.007			0.008
Y	2.75	1.04	4.43	1.25					1.83	3.07	1.39			3.35
Pb	0.49	0.79	9.28	15.63					0.73	0.27	1.86			0.52
U		0.008		0.017					0.005		0.004			
P		76.4		93.8					35.2		56.0			
As		0.06		0.36					0.13		0.08			
La/Sm	1.42	2.88	1.20	1.87					2.07	1.51	1.62			0.73
Sm/Yb	4.44	12.45	6.95	13.70					13.71	14.71	18.15			22.25
La/Yb	6.32	35.87	8.32	25.64					28.33	22.22	29.35			16.23
Eu/Eu*	0.87	7.04	1.35	2.26					1.35	1.08	1.35			0.72

Table T1 (continued).

Laboratory:	WHOI	CSIRO	WHOI	CSIRO	CSIRO	CSIRO	WHOI/SOC	CSIRO	CSIRO	SOC	SOC	WHOI	CSIRO
Hole:	1189A												
Core, section:	9R-1	10R-1	10R-1	13R-1	1R-1	1R-1	2R-1	3R-1	7R-1	7R-1	10R-1	10R-1	10R-1
Piece, interval (cm):	11, 72–77	3, 7–10	9, 73–77	1, 0–3	1A, 0–6	1B, 0–6	2,10–20	1, 0–11	1, 0–10	2, 12–22	1, 11–13	2, 14–24	3, 28–30
Depth (mbsf):	78.42	87.37	188.03	116.10	31.00	31.00	40.20	49.70	88.70	88.82	118.01	118.04	118.18
Description:	Breccia cement	Cavity lining, part of breccia cement	Breccia cement	Large crystal in vesicle	Anhy gangue: semimassive sulfide	Gyp gangue: semimassive sulfide	Anhy (gyp) breccia cement	90:10 gyp:anhy; breccia/stockwork vein	Breccia cement	Crustiform anhy with py	Open space anhy-py vein (≤4 mm thick)	Anhy-py vein	Coarse anhy vein
⁸⁷ Sr/ ⁸⁶ Sr	0.707483	0.706549	0.707566	0.705861	0.707580	0.707531	0.706225	0.706953	0.706993	0.706550	0.705558	0.706660	0.706442
δ ³⁴ S V-CDT (‰)				18.8	21.3	21.3	22.3	20.7	20.9				20.7
% seawater	65.7	43.5	67.6	25.4	67.9	66.8	35.2	53.5	54.4	43.6	16.8	46.3	40.8
Sr	2451		3287				1587			1673	991	1795	
D(Ca-Sr)	0.539		0.718				0.393			0.402	0.259	0.427	
Mg										671	243		
Li	0.084						0.076					0.0928	
Rb	0.069						0.130			0.087	0.090	0.095	
Cs	0.008						0.003			0.002	0.007	0.004	
Ba	2.08						32.83			14.07	23.42	11.80	
La	0.567						3.143			1.130	8.153	1.470	
Ce	1.117						7.873			3.033	18.360	3.316	
Pr	0.157						1.278			0.489	2.367	0.497	
Nd	0.713						5.892			2.638	10.703	2.200	
Sm	0.165						1.505			0.771	2.226	0.481	
Eu	0.068						0.535			0.218	1.101	0.214	
Gd	0.188						1.551			0.604	1.948	0.432	
Tb	0.025						0.184			0.081	0.228	0.049	
Dy	0.144						0.886			0.301	0.895	0.231	
Ho	0.027						0.142			0.035	0.170	0.036	
Er	0.065						0.301			0.068	0.366	0.076	
Tm										0.005	0.034		
Yb	0.036						0.149			0.024	0.182	0.040	
Lu	0.005						0.018			0.002	0.013	0.005	
Y	0.86						3.49			1.52	5.44	0.97	
Pb	0.23						0.57			5.24	1.51	1.32	
U	0.003						0.003					0.005	
P	28.8						28.2					50.6	
As	0.24						0.77					0.04	
La/Sm	2.22						1.35			0.95	2.36	1.97	
Sm/Yb	5.15						11.22			34.99	13.61	13.26	
La/Yb	11.40						15.12			33.12	32.18	26.15	
Eu/Eu*	1.17						1.06			0.94	1.58	1.40	

Table T1 (continued).

Laboratory:	WHOI/SOC	WHOI/SOC	SOC	SOC	CSIRO	WHOI	SOC	CSIRO	WHOI	SOC	WHOI/SOC	Sr duplicate	WHOI/CSIRO	SOC
Hole:							1189B							
Core, section:	10R-1	10R-1	10R-1	11R-2	12R-1	12R-2	12R-3	14R-1	14R-1	14R-1	14R-1	14R-1	14R-2	14R-2
Piece, interval (cm):	5, 38–50	5, 42–44	5, 42–44	8, 103–107	6, 96–98	1B, 9–12	2, 7–10	1, 0–10	12, 77–82	15, 112–115	17, 123–129	17, 123–129	1, 0–3	6, 23–28
Depth (mbsf):	118.28	118.32	118.32	129.31	138.26	138.80	140.15	156.50	157.27	157.62	157.73	157.73	157.79	158.02
Description:	Anhy vein	Anhy vein	Anhy-py vein (2 mm)	Anhy vein (1.5 mm)	Coarse anhy vein	Anhy vein	Anhy selvage on vesicular volc	Jog in anhy-qtz vein	Breccia cement	Crustiform anhy	Anhy cement	Anhy cement	Coarse anhy vein	Anhy vein
⁸⁷ Sr/ ⁸⁶ Sr	0.706337	0.705799	0.707210	0.706866	0.707517	0.707860	0.706373	0.706331	0.706554	0.705451	0.706471	0.706522	0.706250	0.707029
δ ³⁴ S V-CDT (‰)	22.1	21.4	21.4	22.4	21.1		21.1	21.3		22.2	20.7		20.4	22.1
% seawater	38.1	23.6	59.5	51.4	66.5	74.0	39.1	38.0	43.7	13.7	41.6	42.9	35.9	55.3
Sr	2440	1941	2030	1424			1625		1070	1475	1842			1904
D(Ca-Sr)	0.598	0.499	0.459	0.332			0.397		0.257	0.390	0.446			0.438
Mg		352		739			2327			139				1492
Li			0.1						5.54		0.046		0.315	
Rb		0.055	0.123	0.087			0.021		0.400	0.066	0.091		0.075	0.123
Cs			0.003	0.003					0.009	0.003	0.004		0.004	0.005
Ba		64.27	20.09	41.31			30.02		4.24	14.71	62.59		10.90	7.21
La		1.217	2.022	0.877			3.097		0.773	0.811	1.501		1.668	0.794
Ce		2.882	4.943	2.532			7.117		1.627	1.688	2.587		5.217	1.697
Pr		0.427	0.753	0.417			1.020		0.264	0.248	0.332		0.938	0.260
Nd		2.278	3.327	2.400			5.435		1.291	1.321	1.292		4.565	1.338
Sm		0.598	0.733	0.681			1.267		0.307	0.315	0.263		0.980	0.271
Eu		0.220	0.264	0.136			0.657		0.072	0.039	0.733		0.627	0.087
Gd		0.479	0.607	0.549			0.946		0.386	0.328	0.259		0.802	0.277
Tb		0.045	0.067	0.081			0.113		0.051	0.051	0.027		0.088	0.041
Dy		0.211	0.302	0.366			0.518		0.276	0.280	0.120		0.415	0.255
Ho		0.028	0.044	0.054			0.082		0.051	0.057	0.017		0.064	0.037
Er		0.070	0.088	0.099			0.145		0.124	0.116	0.036		0.131	0.168
Tm		0.008		0.006			0.025			0.014				0.008
Yb		0.041	0.044	0.062			0.089		0.066	0.070	0.021		0.064	0.088
Lu		0.002	0.005	0.009			0.007		0.009	0.007	0.003		0.008	0.014
Y		1.04	1.04	2.00			2.85		1.18	1.97	0.45		1.87	1.83
Pb		1.62	0.98	2.86			0.65		4.01	2.10	1.97		0.35	3.34
U			0.009						0.026		0.005		0.003	
P			39.2						40.8		162.2		59.5	
As			0.04						0.06		0.05		0.08	
La/Sm		1.31	1.78	0.83			1.58		1.63	1.67	3.69		1.10	1.89
Sm/Yb		16.36	18.43	12.16			15.90		5.15	5.00	13.73		16.92	3.40
La/Yb		21.50	32.82	10.12			25.09		8.37	8.33	50.60		18.58	6.44
Eu/Eu*		1.21	1.18	0.66			1.76		0.64	0.37	8.48		2.10	0.97