

Table 4. Velocities and Stiffness Constants for Rocks with Orthorhombic Symmetry^a

P	V _{Px}	V _{Py}	V _{Pz}	V _{Pxz}	V _{Pyz}	V _{Pxy}	V _{Szy}	V _{Sxz}	V _{Syx}	C ₁₁	C ₁₂	C ₁₃	C ₂₂	C ₂₃	C ₃₃	C ₄₄	C ₅₅	C ₆₆
<i>MRX108 (Slate, Kuanyuan, Taiwan), Density = 2705 kg/m³</i>																		
20	6.641	6.324	4.879	5.437	5.708	6.463	2.662	2.617	3.980	119.30	26.32	22.74	108.18	48.19	64.39	19.16	18.52	42.85
40	6.765	6.387	5.058	5.541	5.753	6.533	2.797	2.733	4.032	123.80	25.55	20.97	110.35	43.79	69.20	21.15	20.20	43.98
60	6.832	6.425	5.162	5.603	5.786	6.575	2.866	2.792	4.059	126.26	25.40	20.44	111.66	41.82	72.08	22.22	21.09	44.57
80	6.877	6.454	5.235	5.648	5.814	6.606	2.912	2.831	4.077	127.93	25.45	20.31	112.67	40.74	74.13	22.94	21.68	44.96
100	6.910	6.477	5.292	5.683	5.838	6.630	2.946	2.859	4.091	129.16	25.53	20.35	113.48	40.08	75.75	23.48	22.11	45.26
200	7.006	6.550	5.466	5.792	5.929	6.707	3.042	2.942	4.129	132.77	26.24	20.82	116.05	39.31	80.82	25.03	23.41	46.12
400	7.092	6.629	5.639	5.904	6.053	6.787	3.128	3.021	4.163	136.05	27.51	21.89	118.87	40.88	86.01	26.46	24.68	46.87
600	7.138	6.677	5.739	5.971	6.145	6.835	3.173	3.067	4.180	137.82	28.52	22.74	120.60	43.25	89.09	27.23	25.44	47.26
800	7.169	6.713	5.809	6.018	6.221	6.870	3.203	3.101	4.192	139.02	29.33	23.30	121.90	45.70	91.28	27.75	26.00	47.54
1000	7.192	6.741	5.864	6.056	6.287	6.898	3.225	3.128	4.201	139.92	30.09	23.83	122.92	48.15	93.02	28.13	26.46	47.73
<i>MRX109 (Phyllite, Chugach, Valdez, AK), Density = 2710 kg/m³</i>																		
20	5.825	5.132	4.543	5.018	4.844	5.289	2.994	2.924	3.483	91.95	2.75	11.83	71.37	14.17	55.93	24.29	23.17	32.88
40	5.935	5.328	4.820	5.140	5.078	5.449	3.096	3.064	3.530	95.46	6.14	9.51	76.93	17.30	62.96	25.98	25.44	33.77
60	5.010	5.462	5.007	5.230	5.242	5.582	3.166	3.160	3.558	68.02	25.49	26.15	80.85	19.77	67.94	27.16	27.06	34.31
80	6.070	5.564	5.148	5.305	5.369	5.683	3.220	3.232	3.578	99.85	13.13	7.43	83.90	21.82	71.82	28.10	28.31	34.69
100	6.120	5.646	5.259	5.351	5.470	5.774	3.264	3.288	3.593	101.50	16.23	5.95	86.39	23.45	74.95	28.87	29.30	34.99
200	6.296	5.893	5.582	5.542	5.743	6.019	3.396	3.446	3.643	107.42	23.29	4.41	94.11	26.78	84.44	31.25	32.18	35.97
400	6.483	6.085	5.828	5.734	5.955	6.224	3.497	3.557	3.698	113.90	28.37	5.17	100.34	29.59	92.05	33.14	34.29	37.06
600	6.578	6.171	5.948	5.855	6.010	6.330	3.540	3.608	3.731	117.26	31.14	7.36	103.20	28.20	95.88	33.96	35.28	37.72
800	6.633	6.228	6.031	5.931	6.029	6.389	3.568	3.643	3.755	119.23	32.29	8.65	105.12	26.08	98.57	34.50	35.97	38.21
1000	6.669	6.272	6.095	5.995	6.045	6.431	3.589	3.670	3.773	120.53	33.10	10.15	106.61	24.53	100.67	34.91	36.50	38.58
<i>MRX110 (Quartz Mica Schist, Tienhsiang, Taiwan), Density = 2678 kg/m³</i>																		
20	6.524	6.306	5.211	5.370	5.369	6.001	3.108	3.152	3.892	113.98	1.37	1.06	106.49	9.21	72.72	25.86	26.60	40.56
40	6.646	6.420	5.369	5.521	5.511	6.111	3.188	3.192	3.946	118.29	2.11	4.96	110.38	11.00	77.20	27.22	27.29	41.70
60	6.711	6.482	5.456	5.621	5.590	6.181	3.232	3.219	3.975	120.61	3.25	8.15	112.52	12.07	79.72	27.97	27.75	42.31
80	6.754	6.525	5.516	5.700	5.643	6.217	3.263	3.240	3.994	122.16	3.31	11.02	114.02	12.70	81.48	28.50	28.10	42.72
100	6.786	6.557	5.562	5.755	5.684	6.284	3.286	3.257	4.009	123.32	6.02	12.79	115.14	13.23	82.85	28.92	28.41	43.04
200	6.878	6.651	5.696	5.895	5.805	6.453	3.357	3.318	4.052	126.69	12.37	16.25	118.46	14.76	86.89	30.18	29.47	43.97
400	6.959	6.738	5.822	6.000	5.918	6.576	3.429	3.392	4.091	129.69	16.23	17.16	121.58	15.99	90.77	31.49	30.81	44.81
600	7.002	6.786	5.892	6.049	5.981	6.631	3.472	3.445	4.112	131.30	17.53	16.62	123.32	16.60	92.97	32.27	31.78	45.27
800	7.030	6.818	5.939	6.078	6.024	6.664	3.503	3.488	4.126	132.35	18.13	15.73	124.49	16.97	94.46	32.85	32.57	45.59
1000	7.051	6.843	5.975	6.099	6.056	6.687	3.527	3.524	4.137	133.14	18.44	14.81	125.40	17.15	95.61	33.31	33.26	45.83
<i>MRX111 (Quartz Mica Schist, Haast, Evans Creek, S. Island, New Zealand), Density = 2699 kg/m³</i>																		
20	5.496	4.786	2.931	4.776	5.387	5.631	2.250	2.197	3.044	81.53	48.83	36.82	61.82	84.95	23.19	13.66	13.02	25.00
40	6.039	5.258	3.840	5.413	5.587	3.118	2.744	2.574	3.389	98.43	32.95	46.97	74.62	68.98	39.80	20.32	17.88	31.00
60	6.368	5.583	4.431	5.688	5.684	6.337	2.917	2.815	3.569	109.45	50.30	44.90	84.13	58.43	52.99	22.97	21.38	34.37
80	6.571	5.815	4.825	5.850	5.751	6.469	3.009	2.971	3.676	116.54	48.11	42.14	91.27	51.30	62.83	24.43	23.82	36.47
100	6.700	5.983	5.090	5.959	5.800	6.560	3.066	3.077	3.745	121.16	46.84	40.24	96.61	46.35	69.93	25.37	25.55	37.84
200	6.918	6.355	5.596	6.225	5.939	6.789	3.193	3.270	3.874	129.17	48.15	41.15	109.00	37.46	84.52	27.52	28.85	40.50
400	6.997	6.512	5.784	6.407	6.059	6.955	3.272	3.345	3.935	132.14	53.85	47.19	114.45	36.90	90.29	28.90	30.20	41.78
600	7.035	6.572	5.869	6.486	6.121	7.030	3.306	3.381	3.963	133.58	56.56	49.58	116.57	37.44	92.97	29.50	30.85	42.39
800	7.063	6.614	5.931	6.532	6.162	7.075	3.325	3.407	3.981	134.64	57.96	50.51	118.07	37.80	94.94	29.84	31.32	42.78
1000	7.084	6.646	5.980	6.563	6.192	7.105	3.339	3.427	3.995	135.44	58.71	50.89	119.21	38.00	96.52	30.08	31.69	43.07
<i>MRX112 (Quartz Mica Schist, Orocopia, S. Gavilan Hills, CA), Density = 2710 kg/m³</i>																		
20	6.309	5.873	5.203	5.633	5.672	6.080	3.159	3.176	3.729	107.88	23.86	23.86	93.48	36.08	73.36	27.04	27.34	37.68
40	6.381	5.967	5.403	5.739	5.777	6.150	3.223	3.243	3.777	110.36	23.89	24.53	96.48	36.23	79.12	28.14	28.50	38.66
60	6.426	6.022	5.498	5.803	5.840	6.195	3.260	3.281	3.804	111.92	24.12	25.23	98.28	36.66	81.93	28.79	29.17	39.21
80	6.460	6.062	5.556	5.849	5.886	6.229	3.286	3.307	3.822	113.08	24.39	25.88	99.58	37.14	83.67	29.25	29.63	39.60
100	6.486	6.093	5.598	5.886	5.921	6.256	3.306	3.326	3.837	114.01	24.67	26.47	100.60	37.57	84.93	29.61	29.98	39.89
200	6.574	6.191	5.724	6.001	6.034	6.347	3.368	3.384	3.880	117.11	25.92	28.54	103.86	39.13	88.80	30.74	31.03	40.79
400	6.669	6.290	5.853	6.122	6.151	6.448	3.429	3.439	3.921	120.53	27.82	30.84	107.23	40.91	92.83	31.87	32.05	41.66
600	6.729	6.350	5.929	6.195	6.221	6.513	3.465	3.471	3.944	122.70	29.28	32.28	109.26	42.06	95.27	32.54	32.65	42.16
800	6.773	6.392	5.984	6.247	6.271	6.561	3.490	3.493	3.960	124.31	30.48	33.34	110.73	42.92	97.05	33.02	33.07	42.51
1000	6.808	6.425	6.027	6.289	6.311	6.600	3.510	3.510	3.973	125.61	31.52	34.18	111.88	43.61	98.45	33.39	33.40	42.77

Table 4. (Continued)

P	V _{Px}	V _{Py}	V _{Pz}	V _{Pxz}	V _{Pyz}	V _{Pxy}	V _{Szy}	V _{Sxz}	V _{Syx}	C ₁₁	C ₁₂	C ₁₃	C ₂₂	C ₂₃	C ₃₃	C ₄₄	C ₅₅	C ₆₆
<i>MRX113 (Quartz Mica Schist, Orocopia, S. Gavilan Hills, CA), Density = 2815 kg/m³</i>																		
20	6.548	6.265	4.445	5.494	5.228	6.442	2.882	2.890	3.825	120.71	35.49	24.80	110.48	15.35	55.63	23.38	23.52	41.19
40	6.769	6.409	4.835	5.621	5.457	6.541	2.974	2.954	3.928	128.98	31.38	21.59	115.64	20.79	65.81	24.90	24.57	43.43
60	6.831	6.494	5.050	5.697	5.571	6.608	3.028	2.996	3.963	131.35	32.13	22.04	118.72	22.46	71.78	25.80	25.27	44.20
80	6.869	6.554	5.182	5.752	5.640	6.660	3.065	3.028	3.982	132.83	33.36	22.60	120.93	23.03	75.60	26.44	25.81	44.65
100	6.899	6.600	5.272	5.794	5.690	6.704	3.093	3.054	3.997	133.97	34.54	23.09	122.63	23.31	78.25	26.93	26.26	44.98
200	6.992	6.739	5.504	5.931	5.837	6.845	3.178	3.142	4.044	137.60	38.81	24.87	127.86	24.29	85.26	28.43	27.79	46.05
400	7.086	6.865	5.721	6.075	5.987	6.971	3.263	3.232	4.092	141.35	42.16	27.12	132.68	25.87	92.13	29.98	29.41	47.14
600	7.142	6.927	5.852	6.169	6.076	7.026	3.318	3.279	4.118	143.60	43.03	29.18	135.09	27.00	96.40	30.99	30.27	47.74
800	7.183	6.964	5.947	6.246	6.140	7.059	3.360	3.309	4.135	145.23	43.33	31.55	136.50	27.90	99.56	31.78	30.82	48.14
1000	7.214	6.986	6.022	6.321	6.191	7.083	3.395	3.330	4.148	146.50	43.54	34.56	137.37	28.67	102.09	32.44	31.21	48.44
<i>MRX114 (Quartz Mica Schist, Chipan, Taiwan), Density = 2735 kg/m³</i>																		
20	4.800	5.082	3.995	5.589	4.301	5.806	2.466	2.748	3.029	63.01	67.30	75.74	70.64	7.23	43.65	16.63	20.65	25.09
40	5.370	5.406	4.885	5.657	4.875	5.841	2.989	3.155	3.307	78.87	47.40	48.24	79.93	7.70	65.27	24.43	27.22	29.91
60	5.628	5.570	5.241	5.704	4.201	5.868	3.185	3.319	3.424	86.63	38.49	36.59	84.85	-17.66	75.13	27.74	30.13	32.06
80	5.785	5.675	5.440	5.742	5.390	5.892	3.290	3.411	3.492	91.53	33.36	30.25	88.08	15.05	80.94	29.60	31.82	33.35
100	5.893	5.751	5.570	5.774	5.572	5.912	3.357	3.472	3.538	94.98	29.96	26.29	90.46	20.47	84.85	30.81	32.97	34.24
200	6.167	5.961	5.869	5.888	5.980	5.993	3.502	3.612	3.652	104.02	22.81	18.94	97.18	32.81	94.21	33.54	35.68	36.48
400	6.366	6.134	6.055	6.032	6.224	6.107	3.586	3.701	3.735	110.84	20.69	18.32	102.91	39.96	100.27	35.17	37.45	38.15
600	6.457	6.221	6.130	6.133	6.318	6.196	3.618	3.737	3.775	114.03	21.97	20.71	105.85	42.44	102.77	35.79	38.18	38.98
800	6.512	6.277	6.172	6.213	6.370	6.271	3.635	3.757	3.800	115.98	24.12	23.60	107.76	43.71	104.19	36.13	38.59	39.49
1000	6.550	6.318	6.199	6.281	6.403	6.338	3.646	3.768	3.818	117.34	26.61	26.62	109.17	44.40	105.10	36.35	38.84	39.87
<i>MRX115 (Quartz Mica Schist, W. Torrington, CT), Density = 2851 kg/m³</i>																		
20	5.605	5.303	4.402	4.822	5.443	5.343	2.724	2.960	3.383	89.57	12.40	5.75	80.18	57.93	55.26	21.16	24.98	32.63
40	5.817	5.533	4.636	5.135	5.535	5.505	2.822	3.088	3.484	96.47	11.48	13.46	87.28	53.90	61.29	22.70	27.19	34.61
60	5.962	5.670	4.802	5.325	5.604	5.633	2.890	3.175	3.555	101.33	12.13	17.36	91.66	51.65	65.73	23.81	28.74	36.03
80	6.068	5.761	4.929	5.473	5.663	5.722	2.942	3.237	3.611	104.96	12.29	20.89	94.61	50.51	69.27	24.68	29.87	37.18
100	6.147	5.824	5.031	5.598	5.700	5.800	2.983	3.281	3.656	107.73	13.09	24.57	96.71	49.08	72.17	25.37	30.69	38.11
200	6.346	5.984	5.331	5.878	5.845	5.989	3.107	3.384	3.786	114.83	13.96	31.60	102.10	47.46	81.03	27.52	32.65	40.87
400	6.460	6.119	5.542	6.081	5.965	6.147	3.198	3.435	3.876	118.99	16.61	38.61	106.75	46.81	87.56	29.16	33.64	42.83
600	6.511	6.198	5.628	6.110	6.028	6.202	3.237	3.458	3.910	120.86	16.70	37.49	109.51	46.94	90.30	29.87	34.09	43.59
800	6.546	6.254	5.684	6.119	6.041	6.215	3.263	3.473	3.932	122.16	15.01	36.00	111.52	44.94	92.10	30.36	34.39	44.08
1000	6.573	6.299	5.726	6.125	6.051	6.225	3.282	3.485	3.948	123.18	13.72	34.76	113.11	43.41	93.49	30.71	34.63	44.44
<i>MRX116 (Quartz Mica Schist, Litchfield, CT), Density = 2867 kg/m³</i>																		
20	5.823	5.621	5.052	5.100	5.221	5.520	3.007	3.236	3.725	97.20	1.13	1.71	90.58	21.79	73.18	25.92	30.02	39.78
40	6.034	5.854	5.264	5.299	5.449	5.698	3.130	3.320	3.810	104.40	1.50	3.74	98.25	24.39	79.45	28.09	31.60	41.62
60	6.149	5.965	5.385	5.425	5.564	5.791	3.200	3.370	3.860	108.40	1.54	5.85	102.01	25.42	83.13	29.36	32.56	42.72
80	6.225	6.034	5.461	5.501	5.628	5.877	3.244	3.405	3.896	111.10	3.16	6.74	104.37	25.55	85.49	30.17	33.24	43.52
100	6.282	6.084	5.512	5.592	5.678	5.925	3.275	3.431	3.922	113.14	3.34	9.78	106.11	25.96	87.12	30.75	33.75	44.10
200	6.457	6.236	5.639	5.702	5.847	6.112	3.356	3.502	4.005	119.52	6.58	8.53	111.48	29.30	91.16	32.29	35.16	45.99
400	6.635	6.391	5.748	5.880	6.000	6.250	3.432	3.566	4.088	126.22	6.31	12.39	117.11	32.03	94.71	33.77	36.46	47.91
600	6.742	6.484	5.812	5.970	6.090	6.300	3.477	3.604	4.137	130.31	3.80	13.63	120.53	33.64	96.83	34.66	37.24	49.07
800	6.819	6.551	5.858	6.028	6.123	6.334	3.509	3.631	4.173	133.30	1.78	14.06	123.03	32.56	98.37	35.30	37.80	49.93
1000	6.879	6.603	5.893	6.084	6.145	6.362	3.535	3.651	4.200	135.66	0.33	15.23	125.00	31.39	99.58	35.83	38.22	50.57
<i>MRX117 (Quartz Mica Schist, Litchfield, CT), Density = 2969 kg/m³</i>																		
20	6.833	6.148	5.555	5.707	5.572	6.139	3.047	3.442	3.599	138.64	-12.07	34.45	112.23	26.33	91.61	27.56	35.17	38.46
40	6.954	6.353	5.676	5.820	5.714	6.414	3.104	3.521	3.722	143.56	-15.42	47.74	119.81	27.65	95.65	28.61	36.81	41.13
60	7.024	6.448	5.743	5.885	5.814	6.510	3.133	3.565	3.780	146.47	-16.60	50.72	123.44	30.41	97.91	29.14	37.73	42.42
80	7.074	6.503	5.789	5.944	5.873	6.582	3.152	3.593	3.812	148.56	-15.87	53.34	125.55	31.93	99.49	29.50	38.33	43.14
100	7.113	6.540	5.825	6.003	5.920	6.633	3.168	3.612	3.833	150.20	-14.05	55.11	127.00	33.29	100.75	29.80	38.74	43.62
200	7.236	6.646	5.949	6.169	6.071	6.781	3.226	3.663	3.888	155.43	-9.07	59.99	131.14	37.73	105.07	30.90	39.84	44.88
400	7.365	6.751	6.100	6.289	6.208	6.885	3.308	3.711	3.941	161.03	-7.63	60.85	135.32	39.90	110.49	32.49	40.89	46.11
600	7.443	6.814	6.199	6.370	6.310	6.940	3.363	3.740	3.972	164.47	-6.00	60.61	137.84	42.39	114.07	33.58	41.53	46.84
800	7.499	6.858	6.270	6.414	6.369	6.971	3.403	3.760	3.994	166.96	-5.93	59.71	139.65	43.08	116.71	34.38	41.97	47.36
1000	7.543	6.893	6.326	6.429	6.416	6.994	3.435	3.776	4.012	168.92	-7.48	58.88	141.07	43.65	118.81	35.03	42.33	47.79

Table 4. (Continued)

P	V _{Px}	V _{Py}	V _{Pz}	V _{Pxz}	V _{Pyz}	V _{Pxy}	V _{Szy}	V _{Sxz}	V _{Syx}	C ₁₁	C ₁₂	C ₁₃	C ₂₂	C ₂₃	C ₃₃	C ₄₄	C ₅₅	C ₆₆
<i>MRX118 (Amphibolite, Tonsina, AK), Density = 3146 kg/m³</i>																		
20	7.126	6.734	6.543	6.774	6.815	7.058	3.266	3.622	3.863	159.75	68.02	58.17	142.66	86.39	134.68	33.55	41.27	46.95
40	7.229	6.922	6.584	6.940	6.909	7.168	3.523	3.765	3.978	164.41	65.94	62.55	150.74	78.50	136.38	39.04	44.60	49.78
60	7.292	7.025	6.621	7.024	6.961	7.226	3.648	3.831	4.028	167.28	65.05	64.51	155.26	74.24	137.91	41.87	46.17	51.03
80	7.336	7.088	6.655	7.077	6.997	7.265	3.727	3.871	4.057	169.31	64.74	65.53	158.05	71.60	139.33	43.69	47.14	51.77
100	7.369	7.130	6.686	7.115	7.024	7.294	3.781	3.899	4.076	170.84	64.71	66.16	159.93	69.81	140.63	44.96	47.81	52.27
200	7.457	7.225	6.811	7.218	7.102	7.377	3.906	3.970	4.125	174.94	65.67	67.33	164.22	65.91	145.94	48.00	49.57	53.52
400	7.529	7.304	6.958	7.301	7.176	7.450	3.967	4.023	4.159	178.33	67.22	67.55	167.83	64.65	152.31	49.51	50.90	54.40
600	7.570	7.351	7.030	7.343	7.216	7.489	3.990	4.047	4.175	180.28	67.99	67.71	170.00	64.52	155.48	50.07	51.51	54.82
800	7.598	7.384	7.065	7.369	7.243	7.515	4.014	4.061	4.183	181.62	68.57	67.95	171.53	64.22	157.03	50.68	51.88	55.05
1000	7.621	7.410	7.083	7.388	7.264	7.534	4.046	4.072	4.190	182.72	68.85	68.21	172.74	63.50	157.83	51.49	52.15	55.23
<i>MRX119 (Amphibolite, W. Torrington, CT), Density = 3007 kg/m³</i>																		
20	6.685	6.108	5.777	6.201	5.503	6.242	3.178	3.151	3.738	134.37	26.11	52.44	112.20	14.72	100.35	30.37	29.86	42.02
40	7.077	6.593	6.174	6.404	6.102	6.602	3.415	3.464	3.916	150.62	28.57	39.75	130.72	30.63	114.62	35.07	36.08	46.11
60	7.311	6.889	6.344	6.541	6.398	6.820	3.532	3.624	4.026	160.72	30.03	34.84	142.69	38.53	121.03	37.51	39.49	48.74
80	7.455	7.073	6.425	6.638	6.577	6.981	3.595	3.708	4.096	167.11	33.01	33.68	150.43	44.11	124.12	38.86	41.34	50.45
100	7.546	7.190	6.467	6.720	6.700	7.080	3.634	3.755	4.143	171.21	34.55	35.03	155.45	48.70	125.78	39.71	42.40	51.61
200	7.709	7.392	6.551	6.880	6.931	7.355	3.721	3.833	4.233	178.69	45.82	38.81	164.31	57.40	129.05	41.63	44.18	53.88
400	7.786	7.468	6.623	6.983	7.080	7.502	3.797	3.882	4.279	182.31	53.10	41.96	167.72	63.47	131.88	43.35	45.32	55.06
600	7.828	7.506	6.665	7.030	7.150	7.580	3.843	3.910	4.304	184.25	57.07	42.82	169.40	65.70	133.57	44.41	45.97	55.70
800	7.857	7.532	6.695	7.053	7.186	7.613	3.876	3.931	4.321	185.65	57.90	42.46	170.60	66.08	134.78	45.18	46.47	56.14
1000	7.880	7.553	6.718	7.060	7.206	7.641	3.901	3.947	4.335	186.73	58.72	41.22	171.54	65.70	135.72	45.76	46.85	56.51
<i>MRX120 (Amphibolite, Inner Piedmont, ADCOH drillhole 1 (221.8 m), Westminster, SC), Density = 2878 kg/m³</i>																		
20	6.470	6.040	5.049	6.060	5.544	6.570	3.387	3.449	3.722	120.48	55.67	42.45	104.99	19.37	73.37	33.02	34.24	39.87
40	6.755	6.400	5.617	6.301	5.878	6.636	3.541	3.459	3.867	131.32	42.53	46.11	117.88	20.77	90.80	36.09	34.42	43.04
60	6.920	6.590	5.894	6.434	6.062	6.690	3.624	3.657	3.948	137.82	36.24	40.16	124.99	22.15	99.98	37.80	38.49	44.86
80	7.020	6.693	6.036	6.516	6.178	6.721	3.670	3.698	3.995	141.83	32.50	40.21	128.92	24.14	104.86	38.76	39.36	45.93
100	7.073	6.753	6.115	6.569	6.254	6.754	3.696	3.723	4.023	143.98	31.54	40.78	131.25	26.01	107.62	39.32	39.89	46.58
200	7.194	6.855	6.250	6.715	6.472	6.832	3.741	3.768	4.066	148.95	31.12	45.22	135.24	35.86	112.42	40.28	40.86	47.58
400	7.251	6.920	6.345	6.792	6.575	6.954	3.766	3.800	4.086	151.32	37.42	47.07	137.82	39.61	115.87	40.82	41.56	48.05
600	7.283	6.957	6.401	6.825	6.606	7.045	3.780	3.818	4.096	152.66	42.89	47.25	139.30	39.63	117.92	41.12	41.95	48.29
800	7.305	6.984	6.441	6.841	6.615	7.115	3.790	3.831	4.104	153.58	47.23	46.78	140.38	38.62	119.40	41.34	42.24	48.47
1000	7.322	7.005	6.473	6.853	6.628	7.164	3.798	3.841	4.110	154.29	50.21	46.38	141.22	38.26	120.59	41.52	42.46	48.62
<i>MRX121 (Amphibolite, Inner Piedmont, ADCOH drillhole 1 (159.7m), Westminster, SC), Density = 2964 kg/m³</i>																		
20	5.852	5.526	5.844	5.919	6.000	5.854	3.193	3.489	3.491	101.51	34.68	34.16	90.51	56.94	101.23	30.22	36.08	36.12
40	6.389	5.999	6.055	6.242	6.100	6.298	3.407	3.558	3.682	120.99	40.62	40.86	106.67	44.10	108.67	34.41	37.52	40.18
60	6.725	6.287	6.153	6.353	6.183	6.533	3.536	3.597	3.802	134.05	41.29	38.66	117.16	37.78	112.22	37.06	38.35	42.85
80	6.942	6.469	6.206	6.423	6.233	6.741	3.616	3.624	3.880	142.84	46.21	36.86	124.04	33.53	114.16	38.76	38.93	44.62
100	7.084	6.587	6.239	6.474	6.278	6.823	3.667	3.644	3.931	148.74	45.14	35.86	128.60	31.64	115.37	39.86	39.36	45.80
200	7.345	6.808	6.326	6.613	6.451	7.053	3.753	3.710	4.025	159.91	49.56	35.65	137.38	34.63	118.61	41.75	40.80	48.02
400	7.448	6.916	6.408	6.718	6.604	7.187	3.786	3.786	4.062	164.42	54.67	36.67	141.77	41.23	121.71	42.49	42.49	48.91
600	7.499	6.974	6.457	6.810	6.690	7.215	3.802	3.835	4.080	166.68	53.88	39.87	144.16	45.16	123.58	42.85	43.59	49.34
800	7.534	7.014	6.492	6.858	6.749	7.241	3.814	3.872	4.093	168.24	53.87	40.64	145.82	47.82	124.92	43.12	44.44	49.66
1000	7.562	7.046	6.520	6.898	6.778	7.248	3.823	3.901	4.103	169.49	52.70	41.42	147.15	48.52	126.00	43.32	45.11	49.90
<i>MRX122 (Amphibolite, Cornwall, CT), Density = 3042 kg/m³</i>																		
20	6.927	6.711	6.286	6.473	6.342	6.695	3.727	3.925	3.993	145.95	34.09	26.99	137.02	31.10	120.21	42.26	46.86	48.50
40	7.021	6.783	6.415	6.573	6.513	6.769	3.764	3.946	4.064	149.96	33.17	29.55	139.97	38.97	125.19	43.10	47.37	50.24
60	7.089	6.827	6.487	6.645	6.625	6.821	3.788	3.961	4.099	152.86	33.35	31.78	141.77	44.57	128.03	43.65	47.73	51.11
80	7.141	6.858	6.534	6.693	6.703	6.864	3.804	3.974	4.116	155.12	34.26	32.99	143.09	48.60	129.88	44.02	48.04	51.54
100	7.182	6.884	6.567	6.729	6.751	6.894	3.816	3.984	4.126	156.91	34.82	33.86	144.15	50.80	131.19	44.30	48.28	51.79
200	7.298	6.964	6.657	6.845	6.877	6.983	3.852	4.016	4.140	162.01	37.33	37.47	147.53	56.09	134.80	45.14	49.06	52.14
400	7.369	7.046	6.741	6.919	6.941	7.049	3.884	4.039	4.149	165.20	39.19	39.27	151.02	56.51	138.24	45.89	49.63	52.37
600	7.395	7.094	6.791	6.950	6.970	7.070	3.902	4.046	4.154	166.37	39.15	40.01	153.09	56.04	140.29	46.32	49.80	52.49
800	7.412	7.129	6.826	6.960	6.983	7.080	3.915	4.050	4.157	167.10	38.78	39.60	154.58	55.05	141.76	46.63	49.90	52.57
1000	7.424	7.155	6.854	6.970	6.999	7.091	3.925	4.052	4.160	167.66	38.73	39.54	155.75	54.77	142.91	46.86	49.95	52.64

Table 4. (Continued)

P	V _{Px}	V _{Py}	V _{Pz}	V _{Pxz}	V _{Pyz}	V _{Pxy}	V _{Szy}	V _{Sxz}	V _{Syx}	C ₁₁	C ₁₂	C ₁₃	C ₂₂	C ₂₃	C ₃₃	C ₄₄	C ₅₅	C ₆₆
<i>MRX123 (Dunite, Twin Sisters, WA), Density = 3300 kg/m³</i>																		
20	8.751	7.877	7.485	8.264	7.738	8.201	4.530	4.497	4.785	252.71	61.97	94.95	204.76	64.56	184.88	67.72	66.74	75.56
40	8.800	7.921	7.528	8.330	7.800	8.275	4.575	4.572	4.800	255.55	66.53	95.18	207.05	66.00	187.01	69.07	68.98	76.03
60	8.848	7.970	7.580	8.381	7.845	8.371	4.592	4.602	4.819	258.35	73.27	96.32	209.62	67.04	189.61	69.59	69.89	76.64
80	8.890	8.001	7.619	8.423	7.899	8.410	4.618	4.634	4.837	260.81	74.35	96.80	211.25	69.30	191.56	70.38	70.86	77.21
100	8.939	8.062	7.664	8.450	7.915	8.438	4.633	4.656	4.865	263.69	72.63	95.81	214.49	67.26	193.83	70.83	71.54	78.11
200	9.002	8.119	7.704	8.515	7.975	8.511	4.668	4.701	4.876	267.42	76.70	97.32	217.53	68.84	195.86	71.91	72.93	78.46
400	9.069	8.182	7.756	8.576	8.042	8.584	4.719	4.758	4.917	271.41	78.59	97.22	220.92	69.72	198.51	73.49	74.71	79.78
600	9.103	8.222	7.788	8.613	8.092	8.627	4.751	4.787	4.937	273.45	80.11	97.74	223.08	71.13	200.16	74.49	75.62	80.43
800	9.128	8.250	7.810	8.650	8.133	8.665	4.770	4.810	4.953	274.96	81.91	99.19	224.61	72.99	201.29	75.09	76.35	80.96
1000	9.150	8.272	7.831	8.686	8.166	8.701	4.781	4.824	4.963	276.28	84.14	101.24	225.81	74.70	202.37	75.43	76.79	81.28

^aP is pressure in MPa, velocities are in km/s and stiffness constants in GPa. V_{Px}, V_{Py} and V_{Pz} are compressional wave velocities parallel to the 2-fold symmetry axes with V_{Px} the fast velocity and V_{Pz} the slow velocity. V_{Pxz}, V_{Pyz} and V_{Pxy} are quasicompressional wave velocities at 45° to the symmetry axes. V_{Szy}, V_{Sxz} and V_{Syz} are shear wave velocities parallel to the symmetry axes where the first letter indicates propagation direction and the second letter vibration direction.