

Table A. Lithological units, sample numbers, major- (wt. %), trace- (ppm) and rare earth-element (ppm) geochemistry. Nd isotopic data also included. Grid References according to Irish Grid. ϵNd_t values calculated for age of 475 Ma. Trace and rare-earth element data to 2 decimals places from ICP-MS, otherwise from XRF (indicated by*). Sample MRC 335 is from Cooper et al. (2011).

Sample	Lithology [& Stratigraphic unit]	Grid Reference	SiO ₂	Al ₂ O ₃	Fe ₂ O ₃	MgO	CaO	Na ₂ O	K ₂ O	TiO ₂	Mn ₂ O ₄	P ₂ O ₅	¹⁴³ Nd/ ¹⁴⁴ Nd	2SE ±	ϵNd_t
SPH 525	Pillow lava [Derryganard Lavas]	2795066-386631	47.10	15.47	10.88	9.71	13.45	2.10	0.49	0.50	0.25	0.05	0.512519	7	+0.62
SPH 506	Hornblende-andesite [Windy Castle Lavas]	280365-388203	63.44	15.78	6.73	2.68	3.90	3.99	2.57	0.60	0.13	0.18			
SPH 511	Hornblende-andesite [Windy Castle Lavas]	279299-387267	59.95	14.63	10.26	5.00	4.91	2.50	1.88	0.60	0.13	0.14			
SPH 532	Pillow lava [Windy Castle Lavas]	10m N of SPH533	74.79	13.83	2.08	1.06	1.35	3.57	2.96	0.24	0.05	0.07			
SPH 534	Hornblende andesite [Windy Castle Lavas]	279992-387305	54.85	17.92	10.80	5.48	5.28	4.43	0.25	0.62	0.23	0.15			
SPH 528	Hornblende andesite [Windy Castle Lavas]	279556-386779	67.22	15.42	4.49	2.05	3.99	2.90	3.22	0.48	0.12	0.11			
SPH 530	Feldspathic andesite [Letteran Volcanics]	279636-386982	60.77	13.88	8.57	4.98	7.75	1.93	1.02	0.83	0.14	0.14	0.511896	8	-9.02
SPH 508	Aphanitic basalt [Mobuy Wood Basalts]	279400-387725	53.91	13.61	13.07	5.58	6.03	4.28	0.70	2.33	0.19	0.29	0.512528	5	+0.85
SPH 517	Basalt [Mobuy Wood Basalts]	278214-387525	52.48	14.47	12.91	4.91	8.08	4.17	0.45	2.14	0.08	0.30			
SPH 533	Vesicular lava [Mobuy Wood Basalts]	279822-387828	51.43	14.84	11.56	6.21	9.15	4.30	0.29	1.84	0.17	0.21	0.512623	6	+2.52
SPH 052	Chert [Tawey Fm]	278900-388100	80.99	11.16	1.38	0.98	0.05	2.93	2.29	0.18	0.02	0.03			
SPH 493	Lithic tuff [Tawey Fm]	278893-388169	66.56	15.51	5.06	2.76	2.00	4.72	2.60	0.59	0.07	0.13			
SPH 494	Tuff [Tawey Fm]	278949-387914	69.46	15.88	4.72	2.29	1.07	2.56	3.30	0.52	0.08	0.12			
SPH 496	Siltstone [Tawey Fm]	279033-387857	84.99	7.88	2.40	1.69	0.05	0.08	2.62	0.24	0.03	0.04			
SPH 502	Microdiorite [Lower Whitewater Fm]	279787-389513	63.89	15.17	5.73	4.26	3.55	4.08	2.58	0.57	0.07	0.11			
SPH 467	Andesitic lava [Whitewater Fm]	278004-389914	65.53	14.73	5.63	4.49	4.05	1.96	2.81	0.56	0.12	0.11	0.511716	6	-12.68
SPH 469	Crystal tuff [Whitewater Fm]	278169-389841	64.38	14.73	5.96	4.63	4.61	1.34	3.53	0.59	0.12	0.11			
SPH 470	Tuff [Whitewater Fm]	278445-389813	66.42	14.33	5.31	4.69	3.45	2.74	2.32	0.54	0.10	0.10	0.511666	18	-13.86
SPH 471	Mineralized tuff [Whitewater Fm]	278445-389813	74.37	14.59	4.91	1.10	0.27	0.09	4.01	0.54	0.02	0.10			
SPH 472	Basaltic andesite/andesite [Lower Whitewater Fm]	278861-389838	62.53	15.38	6.31	4.96	4.55	2.44	2.98	0.63	0.11	0.11	0.511737	6	-12.86
SPH 485	Tuff [Whitewater Fm]	278861-389838	65.12	14.99	5.95	4.47	3.61	3.58	1.49	0.57	0.11	0.11			
SPH 486	Tuff [Whitewater Fm]	278917-389748	67.61	13.92	4.77	4.39	5.42	1.84	1.38	0.50	0.07	0.10			
SPH 488	Andesitic lava [Whitewater Fm]	278466-389725	65.83	14.87	5.84	5.06	2.34	2.25	3.01	0.56	0.14	0.11			
SPH 025	Feldspathic Basaltic rock [Intrusive?]	278950-387950	51.88	14.50	18.28	5.81	1.05	3.66	0.20	3.84	0.15	0.62			
MRC 335	Feldspathic Basaltic rock [Intrusive?]	278950-387950	51.95	14.05	17.82	5.66	1.99	3.90	0.16	3.53	0.38	0.56			
SPH 513	Slieve Gallion granite [Intrusive]	279010-386335	73.88	13.51	3.12	1.20	1.76	4.22	1.78	0.39	0.07	0.08			

