

APPENDIX 6B

GEOLOGICAL SURVEY OF CANADA
Banks Island samples - EPMA chemistry: GARNET

GSC Sample #								Grütter et al. (2004) garnet classification Calculations															Hardman et al. (2018) eclogitic garnet classification calculations																	
								WT %															Factor					Factor												
EPMA #								SiO2	TiO2	Al2O3	Cr2O3	MnO	FeO	MgO	CaO	Na2O	K2O	Nb2O5	NiO	ZnO	V2O3	P2O5	Total	If CaO (WT %) is <	Then	Else	MGNUM ⁴	5.0+0.94*CaO	2.13-2.1*MGNUM	MgO/FeO	1.782	ln Mg/Fe	TiO2/SiO2	0.752	ln Ti/Si					
ODM Min ID								3.375+0.25*Cr2O3	CA_INT ²	CA_INT ³	MGNUM ⁴	5.0+0.94*CaO	2.13-2.1*MGNUM	MGNUM ⁴	5.0+0.94*CaO	2.13-2.1*MGNUM	MGNUM ⁴	5.0+0.94*CaO	2.13-2.1*MGNUM	MGNUM ⁴	5.0+0.94*CaO	2.13-2.1*MGNUM	MGNUM ⁴	5.0+0.94*CaO	2.13-2.1*MGNUM	MGNUM ⁴	5.0+0.94*CaO	2.13-2.1*MGNUM	MGNUM ⁴	5.0+0.94*CaO	2.13-2.1*MGNUM	MGNUM ⁴	5.0+0.94*CaO	2.13-2.1*MGNUM	MGNUM ⁴	5.0+0.94*CaO	2.13-2.1*MGNUM			
EPMA Min ID								34.49	3.28	1.50	0.00	0.21	23.26	0.44	32.60	0.00	0.00										95.78	3.375		32.600	0.033									
Garnet Class ¹								30.69	9.12	3.45	0.05	0.06	19.28	0.80	32.70	0.00	0.00										96.15	3.388		32.688	0.069									
Grain Size								36.26	0.10	19.90	0.00	20.99	18.91	0.90	1.61	0.00	0.00										98.67	3.375	1.610		0.078									
15SUV001	2015_1	3_1	1-3_001	andradite	garnet	G0	0.25-0.5	36.01	0.14	19.72	0.00	26.20	14.50	1.15	0.51	0.04	0.00						98.27	3.375	0.510		0.124													
15SUV001	2015_1	4_1	1-4_001	almandine	garnet	G0	0.25-0.5	35.53	0.15	20.06	0.00	21.62	17.70	1.39	0.57	0.06	0.00						97.08	3.375	0.570		0.123													
15SUV001	2015_1	6_1	1-6_001	spessartine	garnet	G0	0.25-0.5	34.28	7.02	8.89	0.00	0.09	11.85	1.13	33.99	0.00	0.00						97.25	3.375		33.990	0.145													
15SUV002	2015_5	2_6	5-2_006	chromite, euhedral	garnet	G0	0.25-0.5	39.11	0.13	21.88	0.00	0.49	20.18	8.75	8.36	0.03	0.00						98.93	3.375		8.360	0.436													
15SUV003	2015_1	4_2	1-4_002	almandine	garnet	G3	0.25-0.5	36.72	0.07	20.31	0.00	2.26	30.35	1.06	7.07	0.00	0.00						97.84	3.375		7.070	0.059													
15SUV003	2015_1	4_3	1-4_003	almandine	garnet	G0	0.25-0.5	36.70	0.00	20.85	0.00	2.62	34.22	2.98	0.65	0.00	0.00						98.02	3.375	0.650		0.134													
15SUV005	2015_1	4_4	1-4_004	almandine	garnet	G0	0.5-1.0	38.83	0.10	21.76	0.04	0.61	22.14	8.72	6.34	0.00	0.00						98.54	3.385		6.330	0.413													
15SUV005	2015_1	4_5	1-4_005	almandine	garnet	G3	0.25-0.5	36.90	0.00	20.45	0.03	2.28	31.65	3.49	3.16	0.00	0.00						97.96	3.383	3.153		0.164													
15SUV006	2015_1	4_7	1-4_007	almandine	garnet	G0	0.25-0.5	37.41	0.03	20.64	0.04	5.60	28.03	4.07	2.92	0.03	0.00						98.77	3.385	2.911		0.206													
15SUV008	2015_2	1_8	2-1_008	forsterite	garnet	G0	0.25-0.5	39.29	0.18	17.17	0.00	0.16	6.10	0.91	35.56	0.00	0.00						99.37	3.375		35.560	0.210													
15SUV009	2015_1	2_2	1-2-2	GP ⁵	garnet	G9	0.25-0.5	41.98	0.10	21.18	3.18	0.44	7.65	19.60	5.41	0.00	0.00						99.54	4.170		4.615	0.820													
15SUV009	2015_1	4_8	1-4_008	almandine	garnet	G4	0.25-0.5	38.14	0.09	21.31	0.03	0.92	28.34	7.46	2.09	0.00	0.00						98.38	3.383	2.085		0.319													
15SUV014	2015_1	2_3	1-2-3	GP	garnet	G10	0.25-0.5	41.96	0.02	19.60	5.42	0.35	6.54	21.67	3.64	0.03	0.00						99.23	4.730	2.597		0.855													
15SUV014	2015_1	2_4	1-2-4	GP	garnet	G10D	0.25-0.5	41.13	0.00	16.88	9.09	0.43	6.30	22.05	3.03	0.00	0.00						98.91	5.648	1.811		0.862													
15SUV019	2015_1	2_5	1-2_005	GP	garnet	G9	0.25-0.5	41.34	0.58	18.63	5.05	0.33	7.31	20.43	5.31	0.05	0.01						99.04	4.638		4.048	0.833													
15SUV019	2015_1	2_6	1-2_006	GP	garnet	G9	0.25-0.5	41.89	0.00	20.48	4.72	0.45	7.62	19.96	4.89	0.00	0.00						100.01	4.555		3.710	0.824													
15SUV019	Mount3_001	3_1_1	127	GP	garnet	G11	0.18-0.25	42.07	0.36	21.72	2.12	0.29	6.75	21.34	4.07	0.06	0.00	0.00	0.00	0.00	0.00	0.04	98.82	3.906		3.536	0.849													
15SUV019	Mount3_002	3_1_2	128	GP	garnet	G11	0.18-0.25	41.55	0.34	21.07	3.16	0.31	6.64	21.15	5.20	0.03	0.00	0.00	0.00	0.00	0.00	0.03	99.48	4.164		4.415	0.850													
15SUV019	Mount3_030	3_3_1	156	almandine	garnet	G0	0.18-0.25	38.83	0.04	21.85	0.07	0.45	27.35	9.59	1.22	0.00	0.00	0.00	0.00	0.00	0.00	0.03	99.44	3.393	1.216		0.385													
15SUV019	Mount3_035	3_3_6	161	diopside	garnet	G0	0.18-0.25	38.55	0.45	13.86	0.00	0.05	10.15	0.57	36.12	0.00	0.00	0.00	0.00	0.00	0.00	0.03	99.78	3.375		36.122	0.091													
15SUV020	2015_1	2_7	1-2_007	GP	garnet	G9	0.25-0.5	41.91	0.33	20.10	3.99	0.34	6.96	20.80	4.85	0.03	0.01						99.32	4.373		3.853	0.842													
15SUV020	2015_1	6_3	1-6_003	spessartine	garnet	G0	0.25-0.5	36.00	0.15	19.56	0.00	21.28	19.02	1.06	1.11	0.00	0.00						98.18	3.375			0.090													
15SUV021	2015_3	3_8	3-3_008	hedenbergite	garnet	G0	0.5-1.0	35.68	0.00	0.00	0.00	0.00	26.72	0.00	32.97	0.00	0.00						95.37	3.375		32.970	0.000													
15SUV024	2015_1	1_1	1-1-1	GO ⁶	garnet	G9	0.25-0.5	41.51	0.60	19.78	3.42	0.38	8.59	19.19	5.62	0.05	0.00						99.14	4.230		4.765	0.799													
15SUV024	2015_1	1_2	1-1-2	GO	garnet	G0	0.25-0.5	38.85	0.04	21.92	0.00	0.51	25.93	10.07	1.14	0.00	0.00						98.46	3.375	1.140		0.409													
15SUV024	2015_1	2_8	1-2_008	GP	garnet	G9	0.25-0.5	41.44	0.33	18.71	6.03	0.37	6.73	20.62	5.06	0.06	0.00						99.35	4.883		3.553	0.845													
15SUV024	2015_1	5_1 ⁷	1-5_001	almandine	garnet	G0	0.25-0.5	37.04	0.00	20.30	0.00	2.37	30.09	1.25	7.57	0.00	0.00						98.62	3.375		7.570	0.069													
15SUV024	2015_1	5_2	1-5_002	almandine	garnet	G3	0.25-0.5	37.84	0.14	20.43	0.00	1.49	26.25	3.64	8.87	0.00	0.00						98.66	3.375		8.870	0.198													
15SUV024	2015_1	5_3	1-5_003	almandine	garnet	G0	0.25-0.5	38.16	0.00	21.49	0.12	0.66	29.07	7.75	1.15	0.00	0.00						98.40	3.405	1.140		0.322													
15SUV024	2015_1	5_4	1-5_004	almandine	garnet	G3	0.25-0.5	38.03	0.11	21.13	0.00	0.57	24.03	6.88	7.41	0.00	0.00						98.16	3.375		7.410	0.338													
15SUV024	2015_1	5_5	1-5_005	almandine	garnet	G3	0.25-0.5	38.72	0.23	21.53	0.00	0.34	20.97	7.58	9.31	0.03	0.00						98.71	3.375		9.310	0.392													
15SUV024	2015_1	5_6	1-5_006	almandine	garnet	G0	0.25-0.5	37.57	0.03	21.41	0.00	0.78	30.40	6.65	1.25	0.00	0.00						98.09	3.375	1.250		0.281													
15SUV025	2015_1	3_3	1-3_003	andradite	garnet	G0	0.25-0.5	27.53	11.91	3.77	0.00	0.08	19.79	0.42	32.																									

