

## APPENDIX 6E

## GEOLOGICAL SURVEY OF CANADA

## Banks Island samples - EPMA chemistry: Mg-ILMENITE

GSC Sample #	Sample Type	Mount	Grain #	EPMA #	ODM Min ID	EPMA Min ID	Grain Size	WT %												Total	Classification <sup>1</sup>
								SiO2	TiO2	Al2O3	Cr2O3	MnO	FeO	MgO	CaO	Na2O	K2O	Nb2O5	NiO		
155UV001	stream sediments	2015_4	1_1	4-1_001	ilmenite	ilmenite	0.5-1.0	0.03	51.11	0.54	0.99	0.30	31.10	12.70	0.02	0.00	0.00	96.79	kimberlitic		
155UV001	stream sediments	2015_4	1_2	4-1_002	ilmenite	ilmenite	0.5-1.0	0.03	50.47	0.27	0.27	0.25	36.09	9.90	0.02	0.00	0.00	97.30	kimberlitic		
155UV001	stream sediments	2015_4	1_3	4-1_003	ilmenite	ilmenite	0.25-0.5	0.04	51.21	0.59	1.91	0.26	29.73	13.46	0.02	0.04	0.00	97.26	kimberlitic		
155UV001	stream sediments	2015_4	1_4	4-1_004	ilmenite	ilmenite	0.25-0.5	0.00	51.50	0.56	1.29	0.27	30.87	13.05	0.02	0.00	0.00	97.56	kimberlitic		
155UV001	stream sediments	2015_4	1_5	4-1_005	ilmenite	ilmenite	0.25-0.5	0.00	49.32	0.43	1.04	0.30	35.58	10.49	0.02	0.00	0.00	97.18	kimberlitic		
155UV001	stream sediments	2015_4	3_1	4-3_001	ilmenite, crustal	ilmenite	0.5-1.0	0.02	45.31	0.03	0.00	1.80	50.00	0.25	0.00	0.00	0.00	97.41	non-kimberlitic		
155UV001	stream sediments	2015_4	3_2	4-3_002	ilmenite, crustal	ilmenite	0.5-1.0	0.00	49.00	0.08	0.03	0.39	47.33	0.59	0.01	0.00	0.00	97.43	non-kimberlitic		
155UV001	stream sediments	2015_4	3_3	4-3_003	ilmenite, crustal	ilmenite	0.25-0.5	0.00	48.07	0.03	0.24	0.30	46.12	2.85	0.00	0.00	0.00	97.61	non-kimberlitic		
155UV001	stream sediments	2015_4	3_4	4-3_004	ilmenite, crustal	ilmenite	0.25-0.5	0.00	51.30	0.00	0.00	0.34	46.27	0.47	0.00	0.00	0.00	98.38	non-kimberlitic		
155UV001	stream sediments	2015_4	3_5	4-3_005	ilmenite, crustal	ilmenite	0.25-0.5	0.00	47.60	0.07	0.00	0.40	48.69	0.60	0.00	0.00	0.00	97.36	non-kimberlitic		
155UV001	stream sediments	2015_4	3_6	4-3_006	ilmenite, crustal	ilmenite	0.25-0.5	0.00	48.79	0.07	0.00	0.44	48.11	0.44	0.00	0.00	0.00	97.85	non-kimberlitic		
155UV001	stream sediments	2015_4	3_7	4-3_007	ilmenite, crustal	ilmenite	0.25-0.5	0.07	47.59	0.05	0.00	0.91	47.59	0.43	0.01	0.00	0.00	96.65	non-kimberlitic		
155UV001	stream sediments	2015_4	3_8	4-3_008	ilmenite, crustal	ilmenite	0.25-0.5	0.00	42.46	0.07	0.00	0.56	53.11	0.26	0.00	0.00	0.00	96.46	non-kimberlitic		
155UV001	stream sediments	2015_4	3_9	4-3_009	ilmenite, crustal	ilmenite	0.25-0.5	0.00	48.77	0.09	0.00	0.42	46.73	1.61	0.00	0.00	0.00	97.62	non-kimberlitic		
155UV001	stream sediments	2015_4	3_10	4-3_010	ilmenite, crustal	ilmenite	0.25-0.5	0.00	48.96	0.00	0.00	1.29	47.52	0.09	0.00	0.00	0.00	97.86	non-kimberlitic		
155UV002	stream sediments	2015_4	4_1	4-4_001	ilmenite, crustal	ilmenite	0.25-0.5	0.00	49.14	0.00	0.00	0.34	47.63	0.33	0.01	0.00	0.00	97.45	non-kimberlitic		
155UV003	stream sediments	2015_4	1_6	4-1_006	ilmenite	ilmenite	0.25-0.5	0.23	50.89	1.00	0.88	0.24	31.91	11.24	0.08	0.07	0.00	96.54	kimberlitic		
155UV003	stream sediments	2015_4	4_2	4-4_002	ilmenite, crustal	ilmenite	0.25-0.5	0.00	49.77	0.02	0.10	0.69	46.54	0.85	0.00	0.00	0.00	97.97	non-kimberlitic		
155UV003	stream sediments	2015_4	4_3	4-4_003	ilmenite, crustal	ilmenite	0.25-0.5	0.00	47.24	0.05	0.07	0.36	48.90	0.48	0.00	0.00	0.00	97.10	non-kimberlitic		
155UV004	stream sediments	2015_6	4_3	6-4_003	chromite	ilmenite	0.25-0.5	0.00	47.67	0.06	0.00	0.32	48.65	0.57	0.00	0.00	0.00	97.27	non-kimberlitic		
155UV006	stream sediments	2015_4	4_4	4-4_004	ilmenite, crustal	ilmenite	0.25-0.5	0.00	48.97	0.00	0.00	1.05	47.57	0.26	0.00	0.00	0.00	97.85	non-kimberlitic		
155UV006	stream sediments	2015_4	4_5	4-4_005	ilmenite, crustal	ilmenite	0.25-0.5	0.00	49.10	0.00	0.00	0.44	48.23	0.35	0.00	0.00	0.00	98.12	non-kimberlitic		
155UV009	stream sediments	2015_6	5_1	6-5_001	chromite	ilmenite	0.25-0.5	0.00	49.01	0.00	0.00	0.55	47.86	0.23	0.00	0.00	0.00	97.65	non-kimberlitic		
155UV009	stream sediments	2015_6	5_2	6-5_002	chromite	ilmenite	0.25-0.5	0.00	49.23	0.00	0.00	0.73	47.86	0.21	0.00	0.00	0.00	98.03	non-kimberlitic		
155UV009	stream sediments	2015_6	5_3	6-5_003	chromite	ilmenite	0.25-0.5	0.00	48.75	0.02	0.00	0.68	48.31	0.13	0.00	0.00	0.00	97.89	non-kimberlitic		
155UV009	stream sediments	2015_6	5_4	6-5_004	chromite	ilmenite	0.25-0.5	0.00	36.01	0.13	0.04	0.32	56.98	1.67	0.00	0.00	0.00	95.15	non-kimberlitic		
155UV009	stream sediments	2015_6	5_5	6-5_005	chromite	ilmenite	0.25-0.5	0.25	55.42	0.16	0.06	3.16	31.88	0.04	0.03	0.00	0.02	91.02	non-kimberlitic		
155UV009	stream sediments	2015_6	5_6	6-5_006	chromite	ilmenite	0.25-0.5	0.00	48.06	0.09	0.00	0.44	47.85	1.33	0.00	0.00	0.00	97.77	non-kimberlitic		
155UV009	stream sediments	2015_6	5_7	6-5_007	chromite	ilmenite	0.25-0.5	0.00	48.07	0.10	0.00	0.33	47.46	0.69	0.00	0.00	0.00	96.65	non-kimberlitic		
155UV009	stream sediments	2015_6	5_8	6-5_008	chromite	ilmenite	0.25-0.5	0.03	51.38	0.57	1.51	0.29	30.13	13.25	0.03	0.00	0.00	97.19	kimberlitic		
155UV009	stream sediments	2015_6	5_9	6-5_009	chromite	ilmenite	0.25-0.5	0.00	44.96	0.05	0.00	0.51	50.27	1.35	0.00	0.00	0.00	97.14	non-kimberlitic		
155UV009	stream sediments	2015_6	6_1b_?	6-6-18_ilmenite	chromite	ilmenite	0.25-0.5	0.00	48.64	0.05	0.00	0.72	47.99	0.29	0.01	0.00	0.00	97.70	non-kimberlitic		
155UV009	stream sediments	2015_6	6_2	6-6_002	chromite	ilmenite	0.25-0.5	0.00	46.78	0.00	0.00	0.80	49.63	0.49	0.00	0.00	0.00	97.70	non-kimberlitic		
155UV009	stream sediments	2015_6	6_5	6-6_005	chromite	ilmenite	0.25-0.5	0.00	51.57	0.04	0.09	0.60	44.56	0.05	0.00	0.00	0.00	96.91	non-kimberlitic		
155UV009	stream sediments	2015_6	6_6	6-6_006	chromite	ilmenite	0.25-0.5	0.00	48.54	0.00	0.00	0.83	48.24	0.25	0.01	0.00	0.00	97.87	non-kimberlitic		
155UV009	stream sediments	2015_6	6_8	6-6_008	chromite	ilmenite	0.25-0.5	0.00	48.33	0.04	0.00	0.29	48.34	0.81	0.00	0.00	0.00	97.81	non-kimberlitic		
155UV009	stream sediments	2015_6	6_10	6-6_010	chromite	ilmenite	0.25-0.5	0.27	55.37	0.42	0.09	0.30	30.45	1.01	0.05	0.04	0.01	88.01	non-kimberlitic		
155UV010	stream sediments	2015_4	4_6	4-4_006	ilmenite, crustal	ilmenite	0.5-1.0	0.00	48.75	0.05	0.00	0.53	47.56	0.39	0.00	0.00	0.00	97.28	non-kimberlitic		
155UV010	stream sediments	2015_4	4_7	4-4_007	ilmenite, crustal	ilmenite	0.5-1.0	0.00	48.87	0.04	0.00	0.52	47.15	0.88	0.00	0.00	0.00	97.46	non-kimberlitic		
155UV014	stream sediments	2015_4	2_1	4-2_001	ilmenite	ilmenite	0.25-0.5	0.00	51.35	0.75	1.21	0.22	29.57	13.73	0.02	0.00	0.00	96.85	kimberlitic		
155UV018	Beaufort Fm.	2015_4	4_8	4-4_008A	ilmenite, crustal	ilmenite	0.25-0.5	0.13	57.72	0.17	0.05	0.52	32.98	0.46	0.07	0.00	0.00	92.10	non-kimberlitic		
155UV018_rpt	Beaufort Fm.	2015_4	4_8_rpt	4-4-8B	ilmenite, crustal	ilmenite	0.25-0.5	0.14	57.79	0.24	0.04	0.53	32.29	0.44	0.06	0.07	0.00	91.60	non-kimberlitic		
155UV020	stream sediments	2015_4	2_2	4-2_002	ilmenite	ilmenite	0.5-1.0	0.00	51.45	0.55	1.04	0.28	31.29	12.81	0.02	0.00	0.00	97.44	kimberlitic		
155UV020	stream sediments	2015_4	2_3	4-2_003	ilmenite	ilmenite	0.25-0.5	0.00	45.35	0.28	2.36	0.30	39.17	8.84	0.01	0.00	0.00	96.31	kimberlitic		
155UV020	stream sediments	2015_4	2_4	4-2_004	ilmenite	ilmenite	0.25-0.5	0.00	50.32	0.57	1.75	0.29	32.26	11.92	0.03	0.00	0.00	97.14	kimberlitic		
155UV020	stream sediments	2015_4	2_5	4-2_005	ilmenite	ilmenite	0.25-0.5	0.00	41.60	0.25	6.53	0.27	38.35	8.70	0.00	0.00	0.00	95.70	kimberlitic		
155UV020	stream sediments	2015_4	2_6	4-2_006	ilmenite	ilmenite	0.25-0.5	0.00	50.50	0.65	3.51	0.23	28.68	13.49	0.03	0.00	0.00	97.09	kimberlitic		
155UV020	stream sediments	2015_4	5_1	4-5_001	ilmenite, crustal	ilmenite	0.25-0.5	0.00	48.86	0.07	0.00	0.39	47.78	0.46	0.00	0.00	0.00	97.56	non-kimberlitic		
155UV020	stream sediments	2015_4	5_2	4-5_002	ilmenite, crustal	ilmenite	0.25-0.5	0.00	48.12	0.00	0.00	0.83	48.37	0.11	0.00	0.00	0.00	97.43	non-kimberlitic		
155UV020	stream sediments	2015_4	5_3	4-5_003	ilmenite, crustal	ilmenite	0.25-0.5	0.02	49.87	0.05	0.00	0.49	47.16	0.56	0.01	0.00	0.00	98.16	non-kimberlitic		
155UV020	stream sediments	2015_4	5_4	4-5_004	ilmenite, crustal	ilmenite	0.25-0.5	0.00	47.62	0.03	0.00	0.48	49.08	0.29	0.01	0.00	0.00	97.51	non-kimberlitic		
155UV020	stream sediments	2015_4	5_5	4-5_005	ilmenite, crustal	ilmenite	0.25-0.5	0.00	48.90	0.03	0.00	0.44	47.91	0.29	0.00	0.00	0.00	97.57	non-kimberlitic		
155UV020	stream sediments	2015_4	5_6	4-5_006	ilmenite, crustal	ilmenite	0.25-0.5	0.00	46.89	0.05	0.00	0.45	49.47	0.78	0.00	0.00	0.00	97.64	non-kimberlitic		
155UV020	stream sediments	2015_4	5_7	4-5_007	ilmenite, crustal	ilmenite	0.25-0.5	0.00	48.32	0.05	0.05	0.57	48.30	0.53	0.00	0.00	0.00	97.82	non-kimberlitic		
155UV020	stream sediments	2015_4	5_8	4-5_008	ilmenite, crustal	ilmenite	0.25-0.5	0.00	47.33	0.00	0.00	3.41	46.64	0.36	0.00	0.00	0.00	97.74	non-kimberlitic		
155UV024	stream sediments	2015_4	6_1	4-6_001	ilmenite, crustal	ilmenite	0.25-0.5	0.12	57.24	0.23	0.21	0.38	29.95	2.05	0.03	0.00	0.00	90.21	non-kimberlitic		
155UV024	stream sediments	2015_4	6_2	4-6_002	ilmenite, crustal	ilmenite	0.25-0.5	0.02	54.36	0.05	0.13	0.47	36.12	0.45	0.02	0.00	0.01	91.63	non-kimberlitic		
155UV024	stream sediments	2015_4	6_3	4-6_003	ilmenite, crustal	ilmenite	0.25-0.5	0.00	51.03	0.00	0.20	0.63	44.58	1.67	0.00	0.00	0.00	98.11	non-kimberlitic		
155UV024	stream sediments	2015_4	6_4	4-6_004	ilmenite, crustal	ilmenite	0.25-0.5	0.28	62.33	0.52	0.18	0.72	25.30	0.08	0.09	0.07	0.01	89.58	non-kimberlitic		

