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Appendix A

Whole Geochemical analyses

of sedimentary rocks

Table A.1 Analyses of lithic sandstones, mudstones and one basalt clast from suites 1 and 2 (Dundas and Que River regions)

	Suite 1A sandstone						Suite 1A mudstone				
Sample	**336**	**340**	**341**	**958**	**917**	**919**	**320**	**324**	**817**	**823**	**446**
SiO2	55.36	52.02	54.76	52.07	54.93	54.49	53.86	52.91	53.99	57.51	58.51
TiO2	2.03	2.01	2.05	2.02	2.08	1.91	2.33	2.18	1.80	2.08	1.73
Al2O3	12.09	12.07	11.65	12.93	12.46	11.21	15.64	15.72	15.34	13.90	14.95
Fe2O3	12.32	12.42	12.38	12.14	14.64	12.44	13.34	14.02	11.42	12.33	11.47
MnO	0.14	0.17	0.14	0.11	0.07	0.12	0.05	0.30	0.12	0.38	0.12
MgO	4.74	4.66	4.84	5.30	5.86	5.76	4.87	4.82	4.54	4.30	4.36
CaO	3.79	5.78	4.78	4.68	0.55	3.27	0.32	0.66	2.47	1.14	0.32
Na2O	1.98	2.16	1.79	1.88	1.79	1.98	1.60	1.31	1.37	1.97	1.85
K2O	1.49	1.41	1.35	1.52	1.47	1.05	2.72	2.53	2.82	1.25	2.22
P2O5	0.24	0.25	0.23	0.24	0.28	0.26	0.26	0.26	0.22	0.21	0.19
Loss(inc. S)	5.58	6.59	5.75	6.57	5.12	6.34	4.40	4.67	5.37	4.54	3.65
Sulphur	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Total	99.77	99.55	99.73	99.47	99.26	98.83	99.40	99.38	99.47	99.59	99.37
La	29	31	37	28	46	41	41	39	35	26	30
Ce	56	61	60	62	86	72	85	83	73	59	64
Nd	30	32	31	32	48	41	43	40	35	30	30
Nb	22	24	25	24	36	35	28	27	25	25	21
Zr	211	219	223	229	274	267	258	245	227	236	200
Sr	88	102	92	92	91	112	37	38	80	80	46
Cr	188	187	207	362	876	1255	235	229	195	194	159
Ba	213	174	200	247	195	148	183	311	263	179	367
Sc	29	31	28	33	27	29	35	35	30	28	29
V	276	258	261	228	234	223	277	265	234	209	223
Y	40	42	41	36	50	46	44	48	40	43	39
Rb	71	56	53	64	59	45	110	110	126	57	91
Th	6	6	8	7	8	7	9	8	10	8	9
Ni	105	128	101	187	250	290	122	239	110	102	95
Pb	17	18	25	6	37	26	12	13	12	11	23

Table A.1 (cont.)

Sample	Suite 1B sandstone 196	211	192S	868	Suite 1B mudstone 167	210	214	192M	Basalt clast 339
SiO2	52.61	45.57	47.55	45.16	61.42	48.06	40.92	50.61	40.36
TiO2	2.87	2.65	3.10	2.66	2.44	2.53	3.50	2.48	2.52
Al2O3	12.15	14.61	12.44	12.83	15.09	16.54	11.10	14.08	14.19
Fe2O3	9.20	15.27	14.86	13.95	12.22	14.67	16.39	13.09	9.24
MnO	0.14	0.10	0.16	0.18	0.02	0.15	0.30	0.16	0.21
MgO	4.02	5.99	4.89	4.56	1.41	3.62	5.70	4.03	3.45
CaO	4.15	2.93	4.07	5.25	0.24	3.05	5.91	2.29	12.70
Na2O	0.22	1.04	3.15	5.36	0.56	0.66	0.61	5.06	5.56
K2O	1.96	0.96	0.13	0.01	2.73	2.57	1.78	0.29	0.34
P2O5	0.28	0.31	0.24	0.25	0.30	0.29	0.22	0.28	0.27
Loss(inc. S)	11.37	10.07	9.28	9.21	3.44	7.34	12.98	7.73	10.44
Sulphur	nd	nd	nd	nd	nd	nd	nd	nd	nd
Total	98.97	99.49	99.87	99.43	99.87	99.48	99.42	100.09	99.28
La	22	24	26	22	49	36	28	27	14
Ce	57	56	55	52	104	75	59	59	36
Nd	26	29	27	27	51	38	30	29	24
Nb	29	31	33	26	38	27	29	30	12
Zr	244	280	271	219	304	251	236	254	177
Sr	77	95	159	237	153	210	317	139	474
Cr	224	199	369	265	262	202	246	152	135
Ba	93	102	216	49	408	487	505	226	188
Sc	31	31	36	40	30	41	42	39	42
V	312	289	402	347	212	305	474	302	300
Y	33	36	45	38	47	46	43	41	38
Rb	100	40	7	1	109	107	105	14	9
Th	5	6	7	5	8	7	4	6	2
Ni	119	120	112	141	121	142	87	85	82
Pb	8	7	6	9	8	10	17	2	9

Table A.1 (cont.)

	Suite 1C sandstone			Suite 1C mudstone	Suite 2 sandstone	
Sample	218	386	890	216	D94	RL1
SiO2	67.89	66.65	60.97	57.12	56.18	64.40
TiO2	1.99	2.61	2.29	1.87	0.93	1.02
Al2O3	11.83	13.01	10.87	17.05	10.99	12.72
Fe2O3	8.16	8.46	11.58	11.06	7.85	8.54
MnO	0.09	0.03	0.12	0.03	0.19	0.13
MgO	2.27	2.19	3.20	3.33	4.45	4.17
CaO	0.41	0.36	1.83	0.37	7.72	2.92
Na2O	2.53	0.04	0.13	2.44	0.19	2.45
K2O	0.99	2.56	1.75	2.05	1.80	1.38
P2O5	0.16	0.28	0.27	0.26	0.13	0.15
Loss(inc. S)	3.40	3.22	6.07	3.76	9.47	2.10
Sulphur	nd	nd	nd	nd	nd	nd
Total	99.73	99.41	99.07	99.34	99.89	99.98
La	24	40	57	30	22	25
Ce	60	84	126	60	43	48
Nd	28	46	61	32	21	23
Nb	24	33	37	24	10	12
Zr	286	333	379	219	125	163
Sr	59	16	53	56	120	148
Cr	132	306	231	132	254	284
Ba	178	614	169	402	705	198
Sc	21	31	20	36	35	27
V	187	290	172	211	198	142
Y	36	40	49	45	32	32
Rb	39	110	79	86	115	126
Th	14	8	15	12	4	8
Ni	49	113	77	80	71	93
Pb	19	7	9	6	4	7

Table A.2 Analyses of lithic sandstones and mudstones from suite 3 (Dundas region)

	Suite 3 sandstone				Suite 3 mudstone					
Sample	**835**	**839**	**858**	**222**	**899**	**824**	**D90**	**238**	**308**	**390**
SiO2	53.60	67.82	68.71	67.93	59.50	57.87	61.75	66.25	70.83	57.83
TiO2	0.87	0.68	1.16	1.23	1.17	1.10	1.32	0.98	0.96	0.91
Al2O3	12.26	11.03	15.55	11.29	15.44	14.53	16.01	14.48	12.98	14.76
Fe2O3	8.00	5.66	3.24	6.65	7.91	8.87	8.20	6.61	4.02	5.73
MnO	0.34	0.10	0.01	0.05	0.07	0.15	0.04	0.03	0.01	0.11
MgO	4.95	2.24	1.31	2.97	3.86	3.54	3.65	3.48	2.01	3.19
CaO	5.63	2.66	0.21	1.87	1.61	3.25	0.33	0.13	0.04	4.26
Na2O	0.73	0.89	1.01	0.18	1.14	1.50	0.72	0.09	0.73	0.09
K2O	2.60	2.38	3.70	1.83	2.79	2.63	3.38	2.96	3.00	3.97
P2O5	0.16	0.15	0.15	0.16	0.19	0.22	0.24	0.15	0.13	0.14
Loss(inc. S)	10.78	5.91	3.94	5.29	5.58	5.73	4.08	4.83	5.21	8.57
Sulphur	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Total	99.92	99.52	98.99	99.46	99.27	99.39	99.72	100.00	99.91	99.56
La	28	28	36	39	33	38	37	30	28	31
Ce	63	57	81	82	71	80	63	64	63	68
Nd	28	25	36	35	32	36	34	26	29	29
Nb	13	11	16	17	16	17	16	16	16	16
Zr	171	166	258	275	177	182	172	164	160	205
Sr	105	56	36	39	104	123	73	12	26	76
Cr	171	201	530	327	161	175	168	166	169	171
Ba	341	209	453	215	503	364	382	502	373	515
Sc	21	18	23	18	24	26	26	22	23	24
V	148	126	173	153	242	176	186	164	215	144
Y	36	24	33	31	33	37	33	30	28	31
Rb	144	124	144	75	134	121	181	137	133	164
Th	11	10	13	12	11	12	9	13	14	14
Ni	66	60	160	91	98	82	94	62	72	81
Pb	20	5	129	1	30	13	16	16	34	10

Table A.2 (cont.)

Sample	Suite 3 mudstone (cont.) 884	22	456	135	808	813	452	453	458	367	811
SiO2	47.41	35.97	63.40	59.62	61.45	58.88	62.76	75.54	63.16	70.52	62.18
TiO2	0.85	0.78	1.44	1.23	1.35	1.38	1.12	0.70	1.03	0.95	1.16
Al2O3	9.85	8.95	13.69	15.15	15.71	15.05	14.73	9.30	15.80	10.85	13.98
Fe2O3	4.64	5.77	9.41	8.41	8.55	9.59	9.49	6.64	8.05	6.27	8.66
MnO	0.17	0.23	0.06	0.10	0.09	0.12	0.05	0.05	0.05	0.03	0.09
MgO	5.33	7.71	3.95	5.22	4.16	5.02	3.46	2.74	3.46	4.36	4.37
CaO	10.77	14.41	0.24	3.21	0.22	2.70	0.17	0.07	0.09	0.07	3.03
Na2O	0.70	0.68	0.06	3.53	0.14	1.94	0.04	0.08	0.30	0.04	1.87
K2O	2.63	2.40	3.01	0.15	4.03	2.04	3.47	1.63	3.18	2.30	1.96
P2O5	0.16	0.12	0.18	0.22	0.17	0.19	0.16	0.09	0.13	0.16	0.17
Loss(inc. S)	16.98	22.39	3.97	3.13	3.39	2.68	3.97	2.85	4.21	3.72	1.92
Sulphur	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
Total	99.48	99.41	99.40	99.97	99.26	99.59	99.42	99.69	99.49	99.29	99.39
La	28	30	27	30	27	31	37	24	43	25	23
Ce	60	62	62	65	59	55	74	55	87	53	50
Nd	27	31	26	34	28	28	33	28	45	26	23
Nb	16	16	22	18	17	16	19	12	18	12	15
Zr	245	174	261	226	193	200	242	200	230	147	161
Sr	196	256	18	370	27	133	25	32	23	15	169
Cr	269	284	223	185	185	198	190	128	180	141	155
Ba	544	519	246	44	542	312	295	206	290	261	254
Sc	19	22	26	21	26	27	23	12	24	24	25
V	108	111	186	157	206	217	166	95	155	186	228
Y	33	28	35	39	35	34	40	30	44	35	29
Rb	119	111	115	24	154	90	137	65	135	104	85
Th	14	11	11	13	11	10	13	10	15	9	9
Ni	49	179	107	85	99	87	100	56	77	45	74
Pb	3	17	32	6	1	7	18	23	14	17	4

Table A.3 Analyses of quartz sandstones, mudstones and schistose rocks from suite 4 (Dundas and Farrell Rivuelt regions)

	Suite 4 sandstone									
Sample	**D3**	**D4**	**D9**	**D16**	**D35**	**D59**	**D7**	**D32**	**F7**	**Henry**
SiO2	90.26	87.77	95.29	89.23	92.61	89.66	91.69	92.94	77.87	81.81
TiO2	0.25	0.26	0.39	0.34	0.28	0.39	0.28	0.19	0.50	0.49
Al2O3	3.25	3.85	2.53	3.82	3.95	6.11	3.48	2.49	11.66	8.45
Fe2O3	2.23	3.34	0.17	2.41	0.18	0.29	1.78	1.84	2.10	3.19
MnO	0.01	0.04	0.00	0.04	0.00	0.00	0.06	0.04	0.00	0.01
MgO	0.56	0.76	0.09	0.78	0.15	0.21	0.15	0.38	0.82	1.00
CaO	0.07	0.09	0.01	0.03	0.01	0.06	0.02	0.08	0.01	0.04
Na2O	0.09	0.10	0.04	0.02	0.05	0.11	0.05	0.04	0.11	0.12
K2O	0.44	0.66	0.62	0.91	1.03	1.60	0.91	0.57	3.34	1.88
P2O5	0.04	0.04	0.03	0.02	0.02	0.08	0.03	0.06	0.03	0.03
Loss(inc. S)	2.62	2.97	0.61	2.25	0.83	1.20	1.43	1.80	2.72	2.10
Sulphur	nd	nd	nd	nd	nd	nd	0.58	0.06	nd	nd
Total	99.82	99.88	99.76	99.84	99.11	99.71	99.88	100.43	99.15	99.14
La	22	20	27	22	19	27	18	18	38	36
Ce	49	45	60	45	43	61	55	47	84	73
Nd	21	19	25	22	17	25	21	22	37	32
Nb	8	9	8	8	7	10	6	4	13	13
Zr	242	195	492	313	193	273	257	171	272	267
Sr	20	19	31	18	20	18	11	17	27	16
Cr	15	16	11	15	14	26	12	9	62	37
Ba	48	75	77	103	106	190	74	74	684	206
Sc	1	3	1	3	1	6	2	1	11	9
V	20	24	13	19	17	30	17	18	58	46
Y	17	17	23	21	15	24	16	13	33	29
Rb	35	48	35	42	43	75	80	28	154	88
Th	7	7	7	6	5	10	7	3	15	11
Ni	15	14	3	3	2	3	5	4	25	17
Pb	59	26	82	4	9	8	1175	3	109	3

Table A.3 (cont.)

Sample	Suite 4 Mudstone D2	D22	D33	D34	D52
SiO2	62.26	63.98	71.46	68.61	68.53
TiO2	0.66	0.64	0.78	0.85	0.67
Al2O3	17.61	18.70	16.85	20.06	15.45
Fe2O3	5.66	4.44	1.56	0.68	4.48
MnO	0.07	0.03	0.02	0.00	0.04
MgO	1.71	0.59	0.86	0.68	1.42
CaO	0.11	0.00	0.04	0.01	0.10
Na2O	0.32	0.24	0.28	0.22	0.16
K2O	4.34	4.69	4.21	5.06	4.02
P2O5	0.09	0.04	0.07	0.11	0.08
Loss(inc. S)	6.53	6.40	3.77	3.87	4.69
Sulphur	nd	3.27	nd	nd	0.08
Total	99.36	99.75	99.91	100.13	99.64
La	48	47	49	62	48
Ce	102	96	105	141	99
Nd	45	45	48	68	44
Nb	21	13	19	21	21
Zr	238	203	344	313	255
Sr	73	51	70	85	43
Cr	75	108	66	82	65
Ba	549	508	594	592	432
Sc	17	17	15	25	15
V	102	121	85	112	101
Y	40	44	47	83	40
Rb	212	200	185	222	187
Th	19	17	18	24	17
Ni	20	42	11	15	18
Pb	6	45	11	5	12

Table A.3 (cont.)

Sample	D45	402	446	465	472	477	D48	D50
	Suite 4 schist							
SiO2	60.93	62.08	67.60	63.42	62.05	60.58	61.79	60.31
TiO2	1.04	1.28	1.08	0.99	1.22	1.01	1.18	1.01
Al2O3	18.61	22.82	18.29	18.48	20.39	19.65	19.92	23.23
Fe2O3	7.41	1.79	2.07	5.94	4.18	7.08	5.38	1.98
MnO	0.04	0.00	0.00	0.01	0.00	0.02	0.00	0.00
MgO	2.16	0.86	1.64	1.60	1.59	2.20	1.98	1.56
CaO	0.04	0.00	0.01	0.00	0.14	0.05	0.01	0.03
Na2O	0.25	0.46	0.24	0.30	0.30	0.28	0.28	0.35
K2O	4.22	6.13	5.68	4.39	5.44	4.69	5.78	6.99
P2O5	0.12	0.07	0.04	0.06	0.14	0.09	0.05	0.07
Loss(inc. S)	4.12	3.68	3.28	4.29	3.74	3.97	3.87	3.60
Sulphur	nd	nd	nd	nd	nd	nd	0.42	nd
Total	98.94	99.16	99.92	99.48	99.19	99.61	100.24	99.11
La	52	69	52	46	60	57	62	63
Ce	101	145	107	85	122	113	125	124
Nd	50	62	48	41	59	53	57	56
Nb	22	29	23	20	25	26	26	24
Zr	218	276	296	231	275	233	277	228
Sr	97	194	84	120	355	265	121	120
Cr	133	166	110	119	143	137	133	137
Ba	551	620	478	387	864	663	305	511
Sc	27	31	24	26	29	27	27	32
V	190	228	157	189	203	193	166	188
Y	44	49	47	40	50	42	50	55
Rb	194	275	214	189	248	230	250	273
Th	17	22	19	19	18	18	18	19
Ni	35	6	9	27	55	53	1138	21
Pb	6	56	34	9	9	34	5	5

Appendix B

Electron microprobe analyses of Cr-spinels in sedimentary rocks

Table B.1 Analyses of detrital Cr-spinels from suite 1A (Dundas region)

Sample	924	924	924	924	924	924	924	924	924	924
Ident	1	2	3	4	5	6	7	8	9	10
SiO2	0.03	0.01	0.01	0.02	0.00	0.02	0.01	0.00	0.01	0.00
TiO2	0.06	0.06	0.09	0.08	0.08	0.05	0.09	0.09	0.06	0.05
Al2O3	12.68	12.87	17.37	9.90	12.62	9.09	20.16	20.66	13.00	14.60
Cr2O3	55.82	55.11	50.89	57.23	56.10	57.65	45.31	44.50	54.09	51.88
Fe2O3	2.86	3.16	2.30	3.29	2.82	4.13	4.78	4.46	2.86	2.47
MgO	11.32	11.17	11.88	8.71	11.58	9.09	10.93	10.72	8.90	7.78
MnO	0.32	0.48	0.31	0.56	0.47	0.50	0.39	0.35	0.38	0.33
FeO	16.01	16.02	15.76	19.38	15.54	18.67	7.84	18.05	19.68	21.67
NiO	0.09	0.10	0.11	0.05	0.00	0.11	0.07	0.10	0.06	0.00
ZnO	0.05	0.07	0.03	0.05	0.07	0.07	0.07	0.05	0.08	0.07
TOTAL	99.24	99.05	98.74	99.26	99.27	99.38	99.64	98.99	99.12	98.85

Sample	917	917	917	917	917	917	917	917	917	917	917	917
Ident	1	2	3	4	5	6	7	8	9	10	11	12
SiO2	0.00	0.00	0.05	0.00	0.00	0.00	0.05	0.01	0.05	0.01	0.03	0.03
TiO2	0.05	0.07	0.09	0.02	0.04	0.12	0.01	0.09	0.06	0.05	0.06	0.22
Al2O3	10.00	11.41	14.41	10.24	17.39	10.32	11.37	14.49	12.12	11.59	11.48	14.92
Cr2O3	56.11	55.96	53.61	57.30	47.21	56.18	55.77	47.90	51.33	56.86	54.89	46.23
Fe2O3	4.28	3.86	2.66	3.65	5.61	4.34	3.59	7.33	6.34	3.11	3.73	7.99
MgO	7.74	9.60	10.34	9.46	9.45	8.49	9.14	7.66	7.34	11.23	7.51	6.40
MnO	0.52	0.48	0.34	0.42	0.43	0.54	0.45	0.48	0.61	0.37	0.44	0.41
FeO	21.18	18.57	17.85	18.62	19.64	20.05	19.15	21.87	21.91	15.91	21.84	24.05
NiO	0.00	0.08	0.10	0.02	0.14	0.05	0.05	0.15	0.04	0.12	0.04	0.14
ZnO	0.03	0.03	0.06	0.04	0.07	0.06	0.08	0.07	0.07	0.06	0.05	0.09
TOTAL	99.90	100.06	99.50	99.75	99.98	100.14	99.67	100.04	99.87	99.32	100.06	100.47

Table B.1 (cont.)

Sample	917	917	917	917	917	917	917	917	917	917	917	917
Ident	13	14	15	16	17	18	19	20	21	22	23	24
SIO2	0.03	0.00	0.02	0.03	0.02	0.22	0.00	0.00	0.00	0.00	0.05	0.02
TIO2	0.01	0.02	0.01	0.03	0.16	0.18	0.08	0.03	0.04	0.05	0.04	0.20
Al2O3	11.70	12.28	19.37	12.56	14.28	14.63	14.51	12.47	12.30	14.33	16.69	15.28
Cr2O3	57.00	54.15	48.41	55.11	52.03	35.86	48.87	54.48	54.75	52.21	50.59	46.53
Fe2O3	2.77	4.05	3.42	3.19	3.85	18.26	6.55	3.79	3.56	3.83	3.30	6.58
MgO	10.71	9.14	12.27	9.67	9.21	5.61	7.74	10.21	8.73	9.18	9.81	5.98
MnO	0.45	0.44	0.33	0.36	0.40	0.39	0.50	0.32	0.45	0.41	0.47	0.46
FeO	16.86	19.25	15.79	18.68	19.55	25.09	21.87	17.66	20.06	19.65	19.14	24.48
NIO	0.03	0.00	0.07	0.05	0.05	0.11	0.08	0.04	0.06	0.05	0.07	0.15
ZnO	0.04	0.09	0.04	0.04	0.05	0.10	0.07	0.05	0.05	0.06	0.07	0.08
TOTAL	99.59	99.42	99.73	99.71	99.60	100.45	100.26	99.04	100.00	99.76	100.23	99.77

Sample	917	336	336	336	336	336	336	336	336	336	336	336
Ident	25	1	2	3	4	5	6	7	8	9	10	11
SIO2	0.00	0.04	0.11	0.11	0.04	0.07	0.05	0.06	0.05	0.08	0.03	0.27
TIO2	0.02	2.88	1.15	1.13	2.12	4.04	1.47	1.36	1.39	1.70	2.00	0.71
Al2O3	10.87	14.67	11.37	12.31	12.72	15.56	13.56	12.72	12.04	12.26	14.13	11.70
Cr2O3	55.48	41.80	46.84	52.14	44.89	32.47	47.99	48.72	47.22	46.48	41.63	43.74
Fe2O3	3.45	9.94	9.42	5.98	11.34	19.49	8.00	8.24	8.08	10.57	12.28	8.28
MgO	7.61	7.47	5.20	11.22	10.17	11.85	10.23	10.33	5.91	10.16	8.17	2.45
MnO	0.40	0.41	0.37	0.34	0.35	0.27	0.33	0.68	0.39	0.29	0.36	1.92
FeO	21.45	22.05	25.26	16.07	17.57	15.25	17.66	16.83	24.06	17.53	20.94	25.26
NIO	0.02	0.07	0.03	0.16	0.20	0.27	0.27	0.17	0.07	0.20	0.21	0.14
ZnO	0.01	0.05	0.06	0.02	0.02	0.03	0.05	0.30	0.06	0.07	0.01	1.61
TOTAL	99.32	99.38	99.80	99.48	99.43	99.30	99.60	99.39	99.26	99.32	99.75	96.07

Table B.1 (cont.)

Sample	336	336	336	336	336	336	336	336	336	336	336	336
Ident	12	13	14	15	16	17	18	19	20	21	22	23
SiO2	0.08	0.01	0.09	0.04	0.06	0.06	0.11	0.09	0.06	0.01	0.07	0.05
TiO2	1.65	0.51	1.72	1.33	1.20	0.81	1.52	1.12	3.07	1.55	1.02	1.30
Al2O3	11.84	21.76	12.23	10.16	13.55	10.76	12.86	11.95	18.75	10.28	12.21	13.83
Cr2O3	47.82	37.87	46.89	49.90	48.13	54.68	46.56	49.77	32.59	47.52	46.67	47.88
Fe2O3	8.40	9.43	10.12	8.93	7.75	4.12	9.29	9.37	15.05	11.98	8.78	8.37
MgO	8.31	9.72	10.10	8.00	9.53	10.05	9.90	12.33	8.90	9.74	5.60	10.33
MnO	0.26	0.44	0.31	0.46	0.34	0.75	0.26	0.93	0.33	0.49	0.34	0.35
FeO	20.23	19.75	17.67	20.51	18.79	16.81	17.93	13.60	20.41	17.78	24.70	17.74
NiO	0.19	0.14	0.18	0.11	0.21	0.17	0.16	0.19	0.16	0.13	0.01	0.25
ZnO	0.04	0.07	0.00	0.05	0.05	0.05	0.01	0.02	0.05	0.04	0.08	0.02
TOTAL	98.82	99.71	99.29	99.49	99.59	98.26	98.59	99.36	99.36	99.51	99.48	100.10

Sample	336	336	336	958	958	958	958	958	958	958	958	958
Ident	24	25	26	1	2	3	4	5	6	7	8	9
SiO2	0.04	0.21	0.09	0.04	0.04	0.02	0.00	0.07	0.02	0.01	0.03	0.02
TiO2	1.44	3.19	1.27	0.03	0.04	0.03	0.01	0.04	0.00	0.02	0.04	0.00
Al2O3	12.41	18.04	12.84	6.93	6.76	6.91	3.17	6.88	2.15	3.26	6.94	6.78
Cr2O3	48.92	29.61	48.52	61.64	61.94	61.82	68.76	62.26	69.31	68.80	61.83	61.69
Fe2O3	8.37	16.77	7.93	2.05	1.68	1.53	0.00	4.24	0.00	0.00	1.79	1.89
MgO	10.21	6.24	10.43	8.03	7.78	7.33	9.58	13.39	7.94	9.56	7.95	7.66
MnO	0.27	0.74	0.20	0.49	0.65	0.37	0.64	0.18	0.44	0.42	0.40	0.61
FeO	17.65	23.69	17.17	20.10	20.29	21.32	16.75	12.03	19.59	17.03	20.33	20.43
NiO	0.15	0.15	0.19	0.05	0.00	0.00	0.08	0.17	0.04	0.12	0.01	0.03
ZnO	0.05	0.13	0.04	0.03	0.03	0.04	0.08	0.00	0.08	0.08	0.05	0.10
TOTAL	99.50	98.78	98.68	99.41	99.22	99.38	99.08	99.27	99.56	99.29	99.35	99.20

Table B.1 (cont.)

Sample	958	958
Ident	10	11
SiO2	0.01	0.03
TiO2	0.03	0.06
Al2O3	16.71	6.91
Cr2O3	51.29	61.60
Fe2O3	2.07	1.94
MgO	10.00	7.87
MnO	0.46	0.43
FeO	18.67	20.34
NiO	0.00	0.05
ZnO	0.01	0.05
TOTAL	99.25	99.27

Table B.1 Analyses of detrital Cr-spinels from suite 1A (Dundas and Que river regions)

Sample	924	924	924	924	924	924	924	924	924	924
Ident	1	2	3	4	5	6	7	8	9	10
SiO2	0.03	0.01	0.01	0.02	0.00	0.02	0.01	0.00	0.01	0.00
TiO2	0.06	0.06	0.09	0.08	0.08	0.05	0.09	0.09	0.06	0.05
Al2O3	12.68	12.87	17.37	9.90	12.62	9.09	20.16	20.66	13.00	14.60
Cr2O3	55.82	55.11	50.89	57.23	56.10	57.65	45.31	44.50	54.09	51.88
Fe2O3	2.86	3.16	2.30	3.29	2.82	4.13	4.78	4.46	2.86	2.47
MgO	11.32	11.17	11.88	8.71	11.58	9.09	10.93	10.72	8.90	7.78
MnO	0.32	0.48	0.31	0.56	0.47	0.50	0.39	0.35	0.38	0.33
FeO	16.01	16.02	15.76	19.38	15.54	18.67	7.84	18.05	19.68	21.67
NiO	0.09	0.10	0.11	0.05	0.00	0.11	0.07	0.10	0.06	0.00
ZnO	0.05	0.07	0.03	0.05	0.07	0.07	0.07	0.05	0.08	0.07
TOTAL	99.24	99.05	98.74	99.26	99.27	99.38	99.64	98.99	99.12	98.85

Sample	917	917	917	917	917	917	917	917	917	917	917	917
Ident	1	2	3	4	5	6	7	8	9	10	11	12
SiO2	0.00	0.00	0.05	0.00	0.00	0.00	0.05	0.01	0.05	0.01	0.03	0.03
TiO2	0.05	0.07	0.09	0.02	0.04	0.12	0.01	0.09	0.06	0.05	0.06	0.22
Al2O3	10.00	11.41	14.41	10.24	17.39	10.32	11.37	14.49	12.12	11.59	11.48	14.92
Cr2O3	56.11	55.96	53.61	57.30	47.21	56.18	55.77	47.90	51.33	56.86	54.89	46.23
Fe2O3	4.28	3.86	2.66	3.65	5.61	4.34	3.59	7.33	6.34	3.11	3.73	7.99
MgO	7.74	9.60	10.34	9.46	9.45	8.49	9.14	7.66	7.34	11.23	7.51	6.40
MnO	0.52	0.48	0.34	0.42	0.43	0.54	0.45	0.48	0.61	0.37	0.44	0.41
FeO	21.18	18.57	17.85	18.62	19.64	20.05	19.15	21.87	21.91	15.91	21.84	24.05
NiO	0.00	0.08	0.10	0.02	0.14	0.05	0.05	0.15	0.04	0.12	0.04	0.14
ZnO	0.03	0.03	0.06	0.04	0.07	0.06	0.08	0.07	0.07	0.06	0.05	0.09
TOTAL	99.90	100.06	99.50	99.75	99.98	100.14	99.67	100.04	99.87	99.32	100.06	100.47

Table B.1 (cont.)

Sample	917	917	917	917	917	917	917	917	917	917	917	917
Ident	13	14	15	16	17	18	19	20	21	22	23	24
SiO2	0.03	0.00	0.02	0.03	0.02	0.22	0.00	0.00	0.00	0.00	0.05	0.02
TiO2	0.01	0.02	0.01	0.03	0.16	0.18	0.08	0.03	0.04	0.05	0.04	0.20
Al2O3	11.70	12.28	19.37	12.56	14.28	14.63	14.51	12.47	12.30	14.33	16.69	15.28
Cr2O3	57.00	54.15	48.41	55.11	52.03	35.86	48.87	54.48	54.75	52.21	50.59	46.53
Fe2O3	2.77	4.05	3.42	3.19	3.85	18.26	6.55	3.79	3.56	3.83	3.30	6.58
MgO	10.71	9.14	12.27	9.67	9.21	5.61	7.74	10.21	8.73	9.18	9.81	5.98
MnO	0.45	0.44	0.33	0.36	0.40	0.39	0.50	0.32	0.45	0.41	0.47	0.46
FeO	16.86	19.25	15.79	18.68	19.55	25.09	21.87	17.66	20.06	19.65	19.14	24.48
NiO	0.03	0.00	0.07	0.05	0.05	0.11	0.08	0.04	0.06	0.05	0.07	0.15
ZnO	0.04	0.09	0.04	0.04	0.05	0.10	0.07	0.05	0.05	0.06	0.07	0.08
TOTAL	99.59	99.42	99.73	99.71	99.60	100.45	100.26	99.04	100.00	99.76	100.23	99.77

Sample	917	336	336	336	336	336	336	336	336	336	336	336
Ident	25	1	2	3	4	5	6	7	8	9	10	11
SiO2	0.00	0.04	0.11	0.11	0.04	0.07	0.05	0.06	0.05	0.08	0.03	0.27
TiO2	0.02	2.88	1.15	1.13	2.12	4.04	1.47	1.36	1.39	1.70	2.00	0.71
Al2O3	10.87	14.67	11.37	12.31	12.72	15.56	13.56	12.72	12.04	12.26	14.13	11.70
Cr2O3	55.48	41.80	46.84	52.14	44.89	32.47	47.99	48.72	47.22	46.48	41.63	43.74
Fe2O3	3.45	9.94	9.42	5.98	11.34	19.49	8.00	8.24	8.08	10.57	12.28	8.28
MgO	7.61	7.47	5.20	11.22	10.17	11.85	10.23	10.33	5.91	10.16	8.17	2.45
MnO	0.40	0.41	0.37	0.34	0.35	0.27	0.33	0.68	0.39	0.29	0.36	1.92
FeO	21.45	22.05	25.26	16.07	17.57	15.25	17.66	16.83	24.06	17.53	20.94	25.26
NiO	0.02	0.07	0.03	0.16	0.20	0.27	0.27	0.17	0.07	0.20	0.21	0.14
ZnO	0.01	0.05	0.06	0.02	0.02	0.03	0.05	0.30	0.06	0.07	0.01	1.61
TOTAL	99.32	99.38	99.80	99.48	99.43	99.30	99.60	99.39	99.26	99.32	99.75	96.07

Table B.1 (cont.)

Sample	336	336	336	336	336	336	336	336	336	336	336	336
Ident	12	13	14	15	16	17	18	19	20	21	22	23
SiO2	0.08	0.01	0.09	0.04	0.06	0.06	0.11	0.09	0.06	0.01	0.07	0.05
TiO2	1.65	0.51	1.72	1.33	1.20	0.81	1.52	1.12	3.07	1.55	1.02	1.30
Al2O3	11.84	21.76	12.23	10.16	13.55	10.76	12.86	11.95	18.75	10.28	12.21	13.83
Cr2O3	47.82	37.87	46.89	49.90	48.13	54.68	46.56	49.77	32.59	47.52	46.67	47.88
Fe2O3	8.40	9.43	10.12	8.93	7.75	4.12	9.29	9.37	15.05	11.98	8.78	8.37
MgO	8.31	9.72	10.10	8.00	9.53	10.05	9.90	12.33	8.90	9.74	5.60	10.33
MnO	0.26	0.44	0.31	0.46	0.34	0.75	0.26	0.93	0.33	0.49	0.34	0.35
FeO	20.23	19.75	17.67	20.51	18.79	16.81	17.93	13.60	20.41	17.78	24.70	17.74
NiO	0.19	0.14	0.18	0.11	0.21	0.17	0.16	0.19	0.16	0.13	0.01	0.25
ZnO	0.04	0.07	0.00	0.05	0.05	0.05	0.01	0.02	0.05	0.04	0.08	0.02
TOTAL	98.82	99.71	99.29	99.49	99.59	98.26	98.59	99.36	99.36	99.51	99.48	100.10

Sample	336	336	336	958	958	958	958	958	958	958	958	958
Ident	24	25	26	1	2	3	4	5	6	7	8	9
SiO2	0.04	0.21	0.09	0.04	0.04	0.02	0.00	0.07	0.02	0.01	0.03	0.02
TiO2	1.44	3.19	1.27	0.03	0.04	0.03	0.01	0.04	0.00	0.02	0.04	0.00
Al2O3	12.41	18.04	12.84	6.93	6.76	6.91	3.17	6.88	2.15	3.26	6.94	6.78
Cr2O3	48.92	29.61	48.52	61.64	61.94	61.82	68.76	62.26	69.31	68.80	61.83	61.69
Fe2O3	8.37	16.77	7.93	2.05	1.68	1.53	0.00	4.24	0.00	0.00	1.79	1.89
MgO	10.21	6.24	10.43	8.03	7.78	7.33	9.58	13.39	7.94	9.56	7.95	7.66
MnO	0.27	0.74	0.20	0.49	0.65	0.37	0.64	0.18	0.44	0.42	0.40	0.61
FeO	17.65	23.69	17.17	20.10	20.29	21.32	16.75	12.03	19.59	17.03	20.33	20.43
NiO	0.15	0.15	0.19	0.05	0.00	0.00	0.08	0.17	0.04	0.12	0.01	0.03
ZnO	0.05	0.13	0.04	0.03	0.03	0.04	0.08	0.00	0.08	0.08	0.05	0.10
TOTAL	99.50	98.78	98.68	99.41	99.22	99.38	99.08	99.27	99.56	99.29	99.35	99.20

Table B.1 (cont.)

Sample	958	958	958	958	958	958	958	958	958	958	958	958
Ident	10	11	12	13	14	15	16	17	18	19	20	21
SiO2	0.01	0.03	0.03	0.05	0.02	0.05	0.05	0.08	0.08	0.01	0.05	0.06
TiO2	0.03	0.06	0.05	0.05	0.04	0.05	0.04	0.03	0.00	0.06	0.02	0.00
Al2O3	16.71	6.91	6.92	7.12	7.55	6.86	7.00	5.63	7.00	7.07	2.35	3.34
Cr2O3	51.29	61.60	61.66	61.65	60.81	61.56	61.70	65.03	61.93	61.43	69.02	68.96
Fe2O3	2.07	1.94	1.40	2.22	2.27	1.83	1.91	0.82	4.56	2.18	0.15	0.00
MgO	10.00	7.87	7.33	8.02	7.88	7.63	7.96	9.56	13.57	7.89	8.11	9.73
MnO	0.46	0.43	0.49	0.40	0.42	0.55	0.41	0.94	0.33	0.49	0.59	0.37
FeO	18.67	20.34	21.03	20.45	20.55	20.59	20.29	17.05	11.70	20.34	19.31	17.24
NiO	0.00	0.05	0.02	0.04	0.00	0.00	0.09	0.02	0.08	0.07	0.00	0.00
ZnO	0.01	0.05	0.08	0.03	0.06	0.06	0.03	0.07	0.02	0.09	0.03	0.02
TOTAL	99.25	99.27	99.01	100.03	99.66	99.17	99.48	99.24	99.26	99.63	99.62	99.73

Sample	958	958	958	958
Ident	22	23	24	25
SiO2	0.03	0.05	0.01	0.04
TiO2	0.06	0.03	0.08	0.08
Al2O3	6.98	7.11	7.54	7.58
Cr2O3	61.71	61.29	60.68	60.26
Fe2O3	2.28	2.12	2.23	2.24
MgO	8.05	7.65	8.32	7.32
MnO	0.57	0.49	0.47	0.40
FeO	20.14	20.77	19.68	21.38
NiO	0.05	0.00	0.03	0.00
ZnO	0.05	0.07	0.03	0.07
TOTAL	99.92	99.59	99.06	99.36

Table B.2 Analyses of detrital Cr-spinels from suite 1B (Dundas region)

Sample	192	192	192	192	192	192	192	192	192	192	192
Ident	1	2	3	4	5	6	7	8	9	10	11
SiO2	0.04	0.04	0.94	0.05	0.08	0.07	0.04	0.25	0.06	0.09	0.09
TiO2	2.07	1.70	1.78	1.82	1.58	1.92	1.58	2.34	1.20	0.83	1.32
Al2O3	14.27	11.46	15.65	11.86	10.72	14.75	13.83	10.98	12.81	10.22	14.17
Cr2O3	44.06	48.73	46.28	47.86	50.60	41.67	46.73	43.34	46.52	45.61	47.80
Fe2O3	10.91	9.59	7.58	9.18	9.03	9.98	7.87	11.56	7.63	2.15	7.26
MgO	11.40	10.50	13.98	9.16	11.79	6.57	8.48	4.44	5.17	0.03	11.03
MnO	0.44	0.25	0.25	0.31	0.27	0.50	0.40	0.46	0.39	0.14	0.29
FeO	15.80	16.99	12.32	19.11	14.84	23.00	20.51	26.11	25.14	25.61	16.36
NiO	0.15	0.24	0.14	0.18	0.16	0.20	0.08	0.07	0.18	0.27	0.15
ZnO	0.03	0.03	0.05	0.05	0.02	0.09	0.02	0.06	0.10	4.63	0.05
TOTAL	99.17	99.54	98.96	99.57	99.07	98.76	99.54	99.62	99.21	89.60	98.50

Sample	192	192	192	192	192	192	192	192	192	192	192
Ident	12	13	14	15	16	17	18	19	20	21	22
SiO2	0.10	0.04	0.12	0.03	0.06	0.07	0.06	0.06	0.05	0.06	0.01
TiO2	1.40	1.39	1.89	2.05	1.29	1.81	1.99	1.71	1.26	1.74	1.65
Al2O3	12.59	12.71	11.27	12.78	12.68	12.85	11.22	12.76	13.76	15.91	13.30
Cr2O3	48.75	44.79	43.93	45.32	47.73	45.52	47.27	45.70	45.95	46.74	43.86
Fe2O3	7.75	10.04	8.39	10.96	8.60	10.50	9.40	10.17	8.30	6.63	8.82
MgO	9.40	6.28	4.62	9.78	8.95	9.21	8.54	9.45	7.17	11.05	4.00
MnO	0.37	0.38	0.37	0.30	0.42	0.46	0.47	0.37	0.32	0.28	0.92
FeO	18.75	23.57	23.36	18.32	19.48	19.17	19.37	18.51	22.50	16.95	26.66
NiO	0.17	0.08	0.11	0.18	0.07	0.09	0.24	0.20	0.10	0.17	0.04
ZnO	0.05	0.07	1.52	0.08	0.08	0.04	0.13	0.07	0.05	0.02	0.08
TOTAL	99.34	99.35	95.57	99.79	99.35	99.71	98.68	98.99	99.45	99.53	99.32

Table B.2 (cont.)

Sample	192	192	192	192	868	868	868	868	868	868	868
Ident	23	24	25	26	1	3	6	7	8	9	10
SiO2	0.062	0.063	0.025	0.096	0.05	0.12	0.05	0.37	0.05	0.05	0.08
TiO2	2.399	1.703	2.853	1.098	1.21	2.13	0.81	1.48	1.55	1.99	1.37
Al2O3	12.295	13.334	18.547	12.045	19.21	13.23	25.78	17.66	12.95	13.49	13.62
Cr2O3	42.932	45.62	39.844	49.511	40.44	41.59	34.48	37.63	44.33	44.24	47.16
Fe2O3	10.636	8.759	9.452	7.195	9.57	12.19	9.40	12.72	10.06	11.42	8.14
MgO	5.137	7.686	11.989	7.84	11.35	7.79	13.12	9.88	7.40	11.24	10.09
MnO	0.292	0.253	0.555	0.417	0.19	0.24	0.35	0.34	0.44	0.32	0.40
FeO	24.961	21.503	15.281	21.145	16.95	21.12	15.20	18.81	21.50	15.92	17.67
NiO	0.146	0.222	0.177	0.129	0.17	0.19	0.15	0.07	0.18	0.19	0.14
ZnO	0.348	0.038	0.083	0.016	0.00	0.08	0.01	0.02	0.03	0.03	0.04
TOTAL	99.208	99.181	98.806	99.492	98.67	99.34	98.97	98.49	98.89	98.71	99.81

Sample	868	868	868	868	868	868	868	868	868	868	868
Ident	11	12	13	14	15	16	17	18	19	20	21
SiO2	0.06	0.06	0.09	0.05	0.05	0.08	0.10	0.08	0.08	0.03	0.10
TiO2	1.69	2.75	1.81	1.94	1.58	1.25	1.77	1.73	2.44	2.31	1.28
Al2O3	13.56	14.02	13.20	10.22	12.19	13.77	13.36	12.81	12.80	11.09	14.00
Cr2O3	45.87	40.73	44.87	45.96	45.78	46.84	45.90	45.02	42.21	44.74	46.93
Fe2O3	10.67	13.64	11.04	13.09	11.96	8.17	11.30	11.29	13.77	13.72	7.87
MgO	11.33	10.86	10.31	10.44	10.97	8.81	12.52	10.83	10.66	10.77	9.28
MnO	0.34	0.28	0.29	0.37	0.32	0.40	0.22	0.35	0.20	0.31	0.30
FeO	16.08	16.69	17.45	16.55	16.21	19.89	14.22	16.29	16.82	16.49	19.21
NiO	0.21	0.18	0.22	0.15	0.26	0.12	0.28	0.24	0.29	0.21	0.15
ZnO	0.01	0.04	0.03	0.05	0.01	0.04	0.02	0.03		0.01	0.04
TOTAL	99.25	99.31	98.82	99.34	99.37	99.68	98.66	99.26	99.68	99.15	99.65

Table B.2 (cont.)

Sample	868	868	868	868	868
Ident	22	23	24	25	26
SiO2	0.10	0.05	0.10	0.03	0.06
TiO2	0.61	2.30	1.17	1.84	1.30
Al2O3	25.62	13.86	13.79	11.41	15.49
Cr2O3	34.37	41.74	46.13	42.43	45.42
Fe2O3	9.84	13.27	7.29	14.89	8.60
MgO	12.72	10.87	6.25	9.08	9.81
MnO	0.34	0.29	0.41	0.39	0.28
FeO	15.85	16.60	23.67	18.85	18.88
NiO	0.18	0.23	0.15	0.17	0.18
ZnO	0.02	0.03	0.03	0.05	0.05
TOTAL	99.24	98.99	99.14	100.07	100.07

Table B.3 Analyses of detrital Cr-spinels from suite 2 (Dundas region)

Sample	D166	D166	D166	D166	150A	150A	150A	150A	150A	150A
Ident	1	2	3	4	1	2	3	4	5	6
SiO2	0.00	0.02	0.00	0.00	0.10	0.03	0.02	0.00	0.02	0.00
TiO2	0.01	0.04	0.03	0.06	0.01	0.00	0.01	0.04	0.13	0.00
Al2O3	4.01	24.70	16.85	23.36	1.40	3.25	3.18	3.88	8.69	4.26
Cr2O3	63.31	44.64	52.10	43.18	69.37	66.88	67.61	66.77	59.69	66.10
Fe2O3	3.38	0.96	1.12	3.18	3.62	1.13	0.52	0.41	1.74	1.18
MgO	8.08	13.22	10.17	10.97	12.87	8.10	8.73	8.99	8.10	9.49
MnO	1.30	0.32	0.42	0.42	3.90	0.60	0.40	0.44	0.43	0.36
FeO	18.47	14.89	18.30	18.11	8.39	19.30	18.44	17.97	20.23	17.38
NiO	0.07	0.16	0.12	0.16	0.11	0.05	0.02	0.02	0.03	0.09
ZnO	0.02	0.05	0.07	0.08	0.10	0.05	0.04	0.04	0.08	0.04
TOTAL	98.65	99.01	99.17	99.53	99.87	99.37	98.96	98.56	99.13	98.89

Sample	150A	150A	150A
Ident	7	8	9
SiO2	0.03	0.00	0.00
TiO2	0.02	0.00	0.02
Al2O3	5.27	3.18	3.09
Cr2O3	66.37	68.51	67.55
Fe2O3	0.72	0.46	0.43
MgO	13.32	9.37	7.71
MnO	2.77	0.38	0.53
FeO	14.18	17.57	20.00
NiO	0.02	0.13	0.00
ZnO	0.04	0.05	0.02
TOTAL	99.74	99.65	99.36

Table B.4 Analyses of detrital and phenocrystal spinels from a basaltic mass flow unit at CP73726778 (subfacies 5D)

Sample	967	967	967	967	967	967	967	967	967	967
Ident	1	2	3	4	5	6	7	8	9	10
SiO2	0.05	0.05	0.05	0.07	0.09	0.12	0.06	0.04	0.12	0.06
TiO2	0.36	0.42	0.38	0.57	0.87	1.05	0.32	0.32	0.95	0.26
Al2O3	16.10	18.63	16.29	23.47	7.67	8.51	11.76	11.48	7.66	13.27
Cr2O3	48.45	45.38	48.36	38.07	54.27	51.64	52.75	52.72	56.20	54.52
Fe2O3	6.83	7.19	6.81	8.69	9.06	9.33	8.34	8.59	8.37	5.27
MgO	14.59	14.98	14.64	14.79	12.87	12.77	15.15	14.85	14.20	15.46
MnO	0.17	0.27	0.39	0.25	0.34	0.25	0.20	0.28	0.20	0.26
FeO	11.16	10.86	10.97	11.94	12.04	11.83	9.71	10.05	10.47	9.57
NiO	0.16	0.18	0.14	0.17	0.25	0.29	0.22	0.23	0.24	0.24
ZnO	0.03	0.02	0.01	0.03	0.00	0.03	0.02	0.02	0.02	0.02
TOTAL	97.91	97.97	98.03	98.04	97.48	95.82	98.54	98.58	98.44	98.94

Sample	970	970	970	970	970	970	970	970	970	970	970	970
Ident	1	2	3	4	5	6	7	8	9	10	11	12
SiO2	0.07	0.09	0.08	0.04	0.17	0.14	0.15	0.03	0.09	0.04	0.05	0.05
TiO2	0.36	0.33	0.67	0.42	0.36	0.47	0.53	0.35	0.44	0.37	0.41	0.62
Al2O3	13.50	14.05	10.61	13.01	13.22	14.19	15.84	14.75	16.61	15.98	13.28	12.86
Cr2O3	51.31	50.91	51.70	50.37	51.88	50.19	43.77	49.77	47.62	48.58	48.50	51.09
Fe2O3	8.31	8.01	8.05	10.46	5.84	6.31	9.27	6.37	7.03	6.54	10.16	7.25
MgO	15.77	15.35	10.90	16.12	12.40	13.71	10.74	12.20	14.49	13.09	13.21	12.77
MnO	0.22	0.21	0.32	0.19	0.29	0.30	0.27	0.35	0.36	0.33	0.31	0.23
FeO	9.11	10.06	16.02	8.65	14.23	12.04	16.70	14.69	11.24	13.55	13.02	13.67
NiO	0.21	0.14	0.12	0.30	0.11	0.09	0.19	0.14	0.19	0.14	0.16	0.11
ZnO	0.07	0.00	0.00	0.03	0.01	0.00	0.07	0.04	0.02	0.00	0.04	0.02
TOTAL	98.93	99.16	98.46	99.60	98.52	97.43	97.52	98.70	98.10	98.61	99.14	98.68

Appendix C

Sample catalogue

Abbreviations:
R = rock specimen
TS = thin section
PD = rock powder

Catalog #	Field #	Lithotype	Group/Formation	Member	Age	Location	AMG grid easting	nthing	Preparation
134575	346	contact of MUC basalt and Dundas Gp conglomerate	MUC/Dundas Group	package 1	mid Middle Cambrian	western Dundas region	36670	536176	R, TS
134576	957	basaltic conglomerate	Dundas Group	package 1	mid Middle Cambrian	western Dundas region	36670	536176	R
134577	350	basaltic conglomerate	Dundas Group	package 1	mid Middle Cambrian	western Dundas region	36670	536176	R
134578	358	basaltic conglomerate	Dundas Group	package 1	mid Middle Cambrian	western Dundas region	36670	536176	R, TS
134579	958	basaltic conglomerate	Dundas Group	package 1	mid Middle Cambrian	western Dundas region	36670	536176	R, PD
134580	301	basaltic conglomerate	Dundas Group	package 1	mid Middle Cambrian	western Dundas region	36933	536455	R, TS
134581	238	mudstone	Dundas Group	package 2	mid Middle Cambrian	western Dundas region	36795	536601	R, PD
134582	308	mudstone	Dundas Group	package 2	mid Middle Cambrian	western Dundas region	36820	536416	R, PD
134583	824	mudstone	Dundas Group	package 2	late Middle Cambrian	western Dundas region	36915	536296	R, PD
134584	95-011	laminated sandstone	Dundas Group	package 2	late Middle Cambrian	western Dundas region	36906	536296	R
134585	450	laminated sandstone	Dundas Group	package 2	late Middle Cambrian	western Dundas region	36906	536296	R
134586	144	inverse-graded sandstone	Dundas Group	package 2	late Middle Cambrian	western Dundas region	36801	536502	R
134587	828	volcaniclastic sandstone	Dundas Group	package 2	late Middle Cambrian	western Dundas region	36930	536292	R, PD
134588	835	quartzose sandstone	Dundas Group	package 2	late Middle Cambrian	western Dundas region	36871	536370	R, PD
134589	839	quartzose sandstone	Dundas Group	package 2	late Middle Cambrian	western Dundas region	36827	536413	R, PD
134590	95-001	vitric-rich volcaniclastic sandstone	Dundas Group	package 2	late Middle Cambrian	western Dundas region	36933	536291	R,TS
134591	95-002	vitric-rich volcaniclastic sandstone	Dundas Group	package 2	late Middle Cambrian	western Dundas region	36930	536292	R, TS
134592	320	mudstone	Dundas Group	package 3	late Middle Cambrian	western Dundas region	36858	536260	R, PD
134593	324	mudstone	Dundas Group	package 3	late Middle Cambrian	western Dundas region	36860	536260	R, PD
134594	817	mudstone	Dundas Group	package 3	late Middle Cambrian	western Dundas region	36858	536263	R, PD
134595	818	lithic sandstone	Dundas Group	package 3	late Middle Cambrian	western Dundas region	36858	536263	R, TS
134596	823	mudstone	Dundas Group	package 3	late Middle Cambrian	western Dundas region	36883	536280	R, PD
134597	95-004	crystal-rich volcaniclastic sandstone	Dundas Group	package 3	late Middle Cambrian	western Dundas region	36797	536307	R, TS, PD
134598	95-005	crystal-rich volcaniclastic sandstone	Dundas Group	package 3	late Middle Cambrian	western Dundas region	36802	536310	R, TS
134599	430	normally graded lithic sandstone	Dundas Group	package 3	late Middle Cambrian	western Dundas region	36842	536552	R
134600	446	mudstone	Dundas Group	package 3	late Middle Cambrian	western Dundas region	36891	536578	R, TS, PD
134601	328	lithic sandstone	Dundas Group	package 3	early Late Cambrian	western Dundas region	36838	536239	R
134602	336	basaltic conglomerate	Dundas Group	package 3	early Late Cambrian	western Dundas region	36837	536236	R, PD
134603	338	basaltic conglomerate	Dundas Group	package 3	early Late Cambrian	western Dundas region	36824	536218	R, TS
134604	339	basaltic conglomerate	Dundas Group	package 3	early Late Cambrian	western Dundas region	36830	536203	R, PD
134605	340	basaltic conglomerate	Dundas Group	package 3	early Late Cambrian	western Dundas region	36830	536203	R, PD
134606	341	basaltic conglomerate	Dundas Group	package 3	early Late Cambrian	western Dundas region	36829	536196	R, PD
134607	361	conglomerate	Dundas Group	package 4	middle Late Cambrian	western Dundas region	36668	536173	R, TS
134608	452	mudstone	Dundas Group	package 4	middle Late Cambrian	western Dundas region	36734	536005	R, PD
134609	453	siltstone	Dundas Group	package 4	middle Late Cambrian	western Dundas region	36736	536009	R, PD
134610	454	siliceous conglomerate	Dundas Group	package 4	middle Late Cambrian	western Dundas region	36744	536025	TS
134611	456	mudstone	Dundas Group	package 4	middle Late Cambrian	western Dundas region	36748	536035	R, PD
134612	458	mudstone	Dundas Group	package 4	middle Late Cambrian	western Dundas region	36760	536055	R, PD

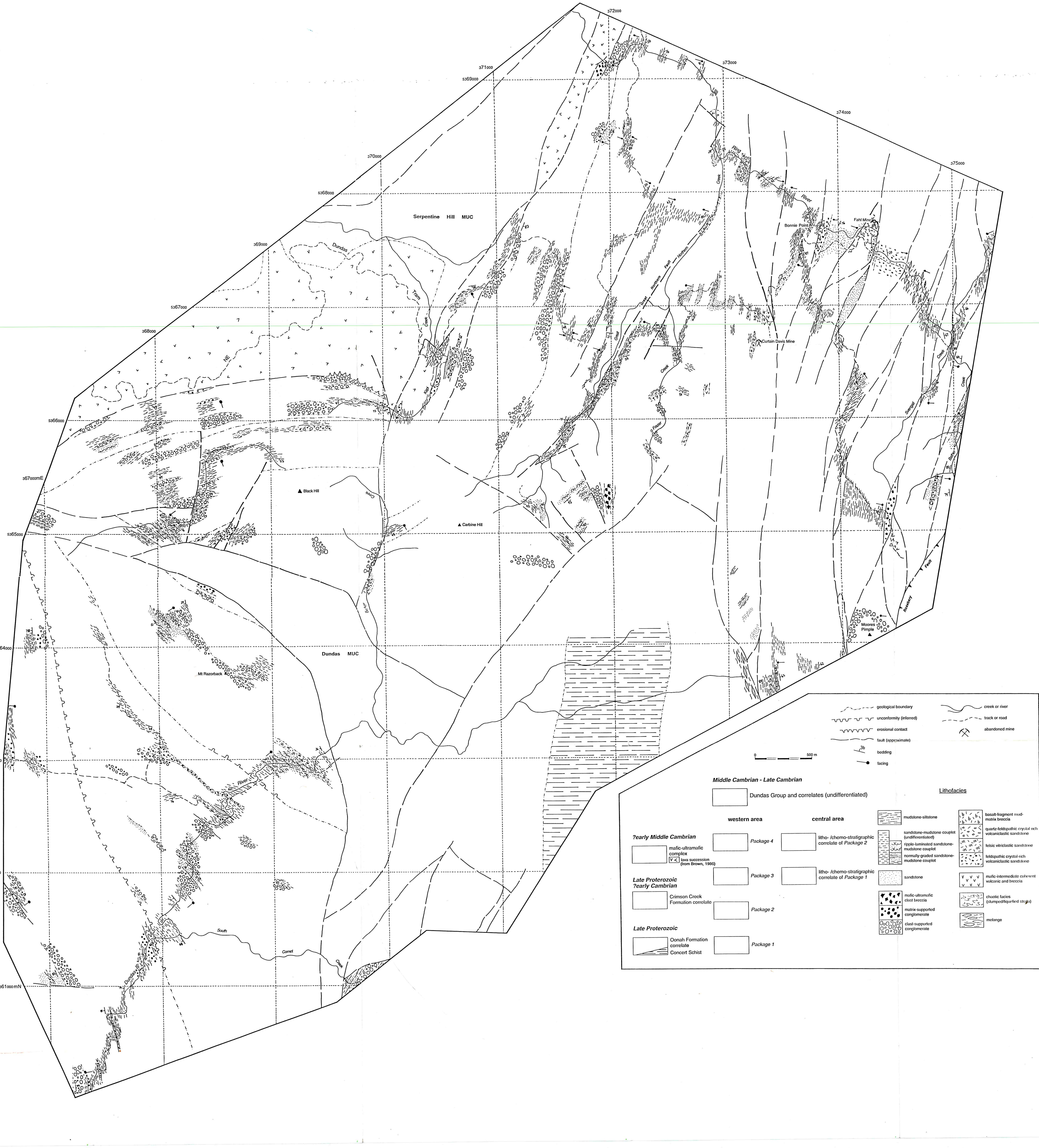
Catalog #	Field #	Lithotype	Group/Formation	Age	Location	AMG grid easting	AMG grid nthing	Preparation
134613	282	volcanogenic conglomerate	Dundas Group	?mid Middle Cambrian	central Dundas region	37256	536652	R, TS
134614	367	mudstone	Dundas Group	?mid Middle Cambrian	central Dundas region	37055	536681	R, PD
134615	380	basaltic conglomerate	Dundas Group	?mid Middle Cambrian	central Dundas region	37060	536655	R, TS
134616	811	mudstone	Dundas Group	?mid Middle Cambrian	central Dundas region	37230	536803	R, TS, PD
134617	812	basaltic conglomerate	Dundas Group	?mid Middle Cambrian	central Dundas region	37230	536933	R, TS, PD
134618	813	lithic sandstone	Dundas Group	?mid Middle Cambrian	central Dundas region	37220	536933	R, TS, PD
134619	842	mudstone with prehnite vein	Dundas Group	?mid Middle Cambrian	central Dundas region	37219	536935	R, TS
134620	845	lithic sandstone	Dundas Group	?mid Middle Cambrian	central Dundas region	37206	536919	R, TS
134621	858	laminated sandstone	Dundas Group	?mid Middle Cambrian	central Dundas region	37350	536805	R, PD
134622	859	laminated sandstone	Dundas Group	?mid Middle Cambrian	central Dundas region	37350	536805	R
134623	D94	basaltic conglomerate	Dundas Group	?mid Middle Cambrian	central Dundas region	37086	536719	R, PD
134624	D166	lithic sandstone	Dundas Group	?mid Middle Cambrian	central Dundas region	37231	536931	R, TS
134625	D170	MUC-derived breccia	Dundas Group	?mid Middle Cambrian	central Dundas region	37205	536916	R, TS
134626	96-001	mylonitic fragment contained in loose boulder of MUC-derived breccia	Dundas Group	?mid Middle Cambrian	central Dundas region	37188	536925	TS
134627	D172	basaltic conglomerate	Dundas Group	?mid Middle Cambrian	central Dundas region	37202	536913	R, TS
134628	D174	basaltic conglomerate	Dundas Group	?mid Middle Cambrian	central Dundas region	37199	536913	R, TS
134629	RL1	basaltic conglomerate	Dundas Group	?mid Middle Cambrian	central Dundas region	37199	536913	R, PD
134630	135	mudstone raft contained in debris flow unit	Dundas Group	?mid Middle Cambrian	central Dundas region	37194	536920	R, PD
134631	136	mud-supported conglomerate	Dundas Group	?mid Middle Cambrian	central Dundas region	37194	536920	R, TS
134632	150	basaltic conglomerate	Dundas Group	?mid Middle Cambrian	central Dundas region	37045	536646	R, TS
134633	151	lithic sandstone	Dundas Group	?mid Middle Cambrian	central Dundas region	37045	536654	R, TS
134634	31	folded quartz-rich sandstone	Dundas Group	late Middle Cambrian	central Dundas region	37405	536763	R,TS
134635	35	quartz-rich sandstone	Dundas Group	late Middle Cambrian	central Dundas region	37405	536763	R,TS
134636	36	quartz-rich sandstone	Dundas Group	late Middle Cambrian	central Dundas region	37405	536763	R,TS
134637	41	conglomerate layer contained in deformed mudstone	Dundas Group	late Middle Cambrian	central Dundas region	37416	536770	R, TS
134638	73	laminated sandstone	Dundas Group	late Middle Cambrian	central Dundas region	37139	536507	R
134639	70	laminated sandstone	Dundas Group	late Middle Cambrian	central Dundas region	37350	536805	R,TS
134640	78	disrupted laminated sandstone	Dundas Group	late Middle Cambrian	central Dundas region	37354	536800	R, TS
134641	88	pumice fragment contained in crystal-rich sandstone	Dundas Group	late Middle Cambrian	central Dundas region	37306	536658	R, TS
134642	293	volcaniclastic breccia	Dundas Group	late Middle Cambrian	central Dundas region	37318	536690	TS
134643	294	volcaniclastic breccia	Dundas Group	late Middle Cambrian	central Dundas region	37318	536690	TS
134644	386	sandstone	Dundas Group	late Middle Cambrian	central Dundas region	36987	536457	R, TS, PD
134645	390	mudstone	Dundas Group	late Middle Cambrian	central Dundas region	37005	536502	R, PD
134646	808	mudstone	Dundas Group	late Middle Cambrian	central Dundas region	37308	536838	R, PD
134647	867	volcaniclastic breccia	Dundas Group	late Middle Cambrian	central Dundas region	37372	536778	R, TS
134648	879	folded sandstone-mudstone couplets	Dundas Group	late Middle Cambrian	central Dundas region	37372	536778	R, TS
134649	883	volcaniclastic breccia	Dundas Group	late Middle Cambrian	central Dundas region	37372	536778	R, PD
134650	884	calcareous mudstone	Dundas Group	late Middle Cambrian	central Dundas region	37384	536773	R, PD
134651	22	calcareous mudstone	Dundas Group	late Middle Cambrian	central Dundas region	37384	536773	R, PD
134652	885	fossiliferous clast-bearing conglomerate	Dundas Group	late Middle Cambrian	central Dundas region	37384	536773	R, TS

Catalog #	Field #	Lithotype	Group/Formation	Age	Location	AMG grid		Preparation
						easting	nthing	
134653	885	fossiliferous clast-bearing conglomerate	Dundas Group	late Middle Cambrian	central Dundas region	37384	536773	R, TS
134654	890	quartz-lithic sandstone	Dundas Group	late Middle Cambrian	central Dundas region	37415	536769	R, TS, PD
134655	897	folded sandstone-mudstone couplets	Dundas Group	late Middle Cambrian	central Dundas region	37372	536778	R
134656	899	mudstone	Dundas Group	late Middle Cambrian	central Dundas region	37159	530899	R, PD
134657	900	quartzose sandstone	Dundas Group	late Middle Cambrian	central Dundas region	37157	536594	PD
134658	963	volcaniclastic breccia	Dundas Group	late Middle Cambrian	central Dundas region	37372	536778	R
134659	965	volcaniclastic breccia	Dundas Group	late Middle Cambrian	central Dundas region	37372	536778	R
134660	967	volcaniclastic breccia	Dundas Group	late Middle Cambrian	central Dundas region	37372	536778	R, TS
134661	969	mudstone fragment in volcaniclastic breccia	Dundas Group	late Middle Cambrian	central Dundas region	37372	536778	R
134662	970	volcaniclastic breccia	Dundas Group	late Middle Cambrian	central Dundas region	37372	536778	R, TS, PD
134663	971	volcaniclastic breccia	Dundas Group	late Middle Cambrian	central Dundas region	37372	536778	R
134664	D86	volcaniclastic breccia	Dundas Group	late Middle Cambrian	central Dundas region	37192	536631	R, TS, PD
134665	D90	siltstone	Dundas Group	late Middle Cambrian	central Dundas region	37182	536644	R, PD
134666	D152	chert conglomerate	Dundas Group	late Middle Cambrian	central Dundas region	37238	536586	R
134667	D158	crystal-rich volcaniclastic sandstone	Dundas Group	late Middle Cambrian	central Dundas region	37254	536625	R, PD
134668	980	volcanogenic mudstone	Dundas Group	late Middle Cambrian	eastern Dundas region	37438	536750	R, TS
134669	981	volcaniclastic conglomerate	Dundas Group	late Middle Cambrian	eastern Dundas region	37438	536750	R, TS
134670	982	crystal-rich volcaniclastic sandstone	Dundas Group	late Middle Cambrian	eastern Dundas region	37450	536745	R, TS, PD
134671	985	volcanogenic siltstone	Dundas Group	late Middle Cambrian	eastern Dundas region	37450	536745	R
134672	318	volcanogenic sandstone	Dundas Group	Middle to Late Cambrian	eastern Dundas region	37443	536417	R, TS
134673	167	mudstone	?Dundas Group	Middle to Late Cambrian	eastern Dundas region	37418	536520	PD
134674	222	quartz-lithic sandstone	Dundas Group	Middle to Late Cambrian	eastern Dundas region	37481	536554	R, TS, PD
134675	180	basaltic conglomerate	Dundas Group	Middle to Late Cambrian	eastern Dundas region	37440	536512	R, TS
134676	216	volcanogenic mudstone	Dundas Group	Middle to Late Cambrian	eastern Dundas region	37480	536623	R, TS, PD
134677	218	volcanogenic sandstone	Dundas Group	Middle to Late Cambrian	eastern Dundas region	37480	536623	R, PD
134678	Henry	quartzose sandstone	Dundas Group	Middle to Late Cambrian	eastern Dundas region	37470	536730	R, PD
134679	H2	sheared mudstone	Dundas Group	Middle to Late Cambrian	eastern Dundas region	37470	536730	R, TS
134680	H3	sheared mudstone	Dundas Group	Middle to Late Cambrian	eastern Dundas region	37470	536730	R, TS
134681	H5	sheared mudstone	Dundas Group	Middle to Late Cambrian	eastern Dundas region	37470	536730	R, TS
134682	354	quartzose sandstone	Dundas Group	Middle to Late Cambrian	eastern Dundas region	37470	536730	R, TS
134683	15	sheared mudstone	Dundas Group	Middle to Late Cambrian	eastern Dundas region	37465	536730	R, TS
134684	12	sheared mudstone	Dundas Group	Middle to Late Cambrian	eastern Dundas region	37465	536730	R, TS
134685	7	folded and brecciated siltstone	Dundas Group	Middle to Late Cambrian	eastern Dundas region	37465	536730	R, TS
134686	6	veined quartzite	Dundas Group	Middle to Late Cambrian	eastern Dundas region	37465	536730	R, TS
134687	917	conglomerate	Dundas Group correlate	Late Cambrian	Que River region	37613	539258	R, TS,
134688	919	conglomerate	Dundas Group correlate	Late Cambrian	Que River region	37613	539258	R, TS,
134689	920	conglomerate	Dundas Group correlate	Late Cambrian	Que River region	37620	539255	R, TS,
134690	923	conglomerate	Dundas Group correlate	Late Cambrian	Que River region	37623	539268	R, TS,
134691	924	conglomerate	Dundas Group correlate	Late Cambrian	Que River region	37623	539268	R, TS,
134692	926	conglomerate	Dundas Group correlate	Late Cambrian	Que River region	37640	539248	R, TS

Catalog #	Field #	Lithotype	Group/Formation	Age	Location	AMG grid easting	AMG grid nthing	Preparation
134693	F7	quartzose sandstone	Dundas Group correlate	Middle to Late Cambrian	Farrell Rivulet	37138	535513	R, TS, PD
134694	172	basaltic breccia	MUC	?Early Cambrian	western Dundas region	36673	536175	R
134695	960	basaltic breccia	MUC	?Early Cambrian	western Dundas region	36673	536175	R
134696	378	sheared serpentinte	MUC	?Early Cambrian	central Dundas region	37032	536361	R, TS
134697	379	sheared serpentinte	MUC	?Early Cambrian	central Dundas region	37032	536361	R, TS
134698	O99	mudstone	Oonah Formation	Late Proterozoic	Stanely River	36250	537895	TS
134699	O100	micaceous siltstone	Oonah Formation	Late Proterozoic	Stanely River	36245	537875	R, TS, PD
134700	O102	silstone	Oonah Formation	Late Proterozoic	Stanely River	36225	537855	TS
134701	O103	micaceous siltstone	Oonah Formation	Late Proterozoic	Stanely River	35645	538110	TS
134702	O104	micaceous siltstone	Oonah Formation	Late Proterozoic	Stanely River	35645	538110	TS
134703	O105	siltstone	Oonah Formation	Late Proterozoic	Stanely River	35645	538110	R, PD
134704	O106	siltstone	Oonah Formation	Late Proterozoic	Stanely River	35645	538110	R, TS, PD
134705	O107	micaceous siltstone	Oonah Formation	Late Proterozoic	Stanely River	35645	538110	TS
134706	O108	micaceous siltstone	Oonah Formation	Late Proterozoic	Stanely River	35645	538110	TS
134707	O110	micaceous siltstone	Oonah Formation	Late Proterozoic	Stanely River	35620	538120	TS
134708	O112	micaceous silty sandstone	Oonah Formation	Late Proterozoic	Stanely River	35620	538120	TS
134709	O115	quartzose sandstone	Oonah Formation	Late Proterozoic	Stanely River	35605	537990	TS
134710	O117	quartzose sandstone	Oonah Formation	Late Proterozoic	Stanely River	35605	537990	R, PD
134711	O122	quartzose sandstone	Oonah Formation	Late Proterozoic	Stanely River	35555	538080	R, TS, PD
134712	O124	quartzose sandstone	Oonah Formation	Late Proterozoic	Stanely River	35495	538080	TS
134713	O127	quartzose sandstone	Oonah Formation	Late Proterozoic	Stanely River	35470	538070	TS
134714	O129	quartzose sandstone	Oonah Formation	Late Proterozoic	Stanely River	35450	538060	TS
134715	O130	quartzose sandstone	Oonah Formation	Late Proterozoic	Stanely River	35425	538045	R, PD
134716	O131	siltstone	Oonah Formation	Late Proterozoic	Stanely River	35400	538035	R, PD
134717	O132	siltstone	Oonah Formation	Late Proterozoic	Stanely River	35330	538025	R, TS, PD
134718	303	stratally-mixed mudstone and quartzose sandstone	Oonah Formation correlate	Late Proterozoic	Comet region	37316	536367	TS
134719	D2	siltstone	Oonah Formation correlate	Late Proterozoic	Comet region	37310	536398	R, PD
134720	D3	sandstone	Oonah Formation correlate	Late Proterozoic	Comet region	37305	536398	R, PD
134721	D4	sandstone	Oonah Formation correlate	Late Proterozoic	Comet region	37305	536398	R, PD
134722	D7	sandstone	Oonah Formation correlate	Late Proterozoic	Comet region	37303	536403	R, PD
134723	D9	sandstone	Oonah Formation correlate	Late Proterozoic	Comet region	37295	536393	R, PD
134724	D16	sandstone	Oonah Formation correlate	Late Proterozoic	Comet region	37305	536375	R, PD
134725	D22	siltstone	Oonah Formation correlate	Late Proterozoic	Comet region	37095	536155	R, PD
134726	D32	sandstone	Oonah Formation correlate	Late Proterozoic	Comet region	37080	536225	R, TS, PD
134727	D33	siltstone	Oonah Formation correlate	Late Proterozoic	Comet region	37080	536225	R, PD
134728	D34	mudstone	Oonah Formation correlate	Late Proterozoic	Comet region	37085	536248	R, TS, PD

Catalog #	Field #	Lithotype	Group/Formation	Age	Location	AMG grid easting	nthing	Preparation
134729	D35	sandstone	Oonah Formation correlate	Late Proterozoic	Comet region	37085	536248	R, PD
134730	D52	siltstone	Oonah Formation correlate	Late Proterozoic	Comet region	37138	536353	R, TS, PD
134731	D59	sandstone	Oonah Formation correlate	Late Proterozoic	Comet region	37050	536273	R, PD
134732	402	phyllite	Concert Schist	Late Proterozoic	Comet region	37153	536362	R, PD
134733	465	phyllite	Concert Schist	Late Proterozoic	Comet region	37232	536386	R, PD
134734	472	phyllite	Concert Schist	Late Proterozoic	Comet region	37191	536268	R, PD
134735	477	phyllite	Concert Schist	Late Proterozoic	Comet region	37210	536274	R, PD
134736	478	phyllite	Concert Schist	Late Proterozoic	Comet region	37214	536273	R, TS
134737	D45	phyllite	Concert Schist	Late Proterozoic	Comet region	37225	536383	R, TS, PD
134738	D48	meta-siltstone	Concert Schist	Late Proterozoic	Comet region	37205	536375	R, TS, PD
134739	D50	meta-siltstone	Concert Schist	Late Proterozoic	Comet region	37160	536373	R, TS, PD
134740	459	phyllite	Concert Schist	Late Proterozoic	Comet region	37102	536155	TS
134741	305	volcaniclastic sandstone	Crimson Creek Fm correlate	Late Proterozoic	eastern Dundas region	37316	536367	R, TS
134742	868	lithic sandstone	Crimson Creek Fm correlate	Late Proterozoic	eastern Dundas region	37493	536681	R, TS, PD
134743	192	graded lithic sandstone and mudstone	Crimson Creek Fm correlate	Late Proterozoic	eastern Dundas region	37510	536625	R, TS, PD
134744	196	lithic sandstone	Crimson Creek Fm correlate	Late Proterozoic	eastern Dundas region	37505	536606	R, TS, PD
134745	210	lithic sandstone	Crimson Creek Fm correlate	Late Proterozoic	eastern Dundas region	37499	536583	R, TS, PD
134746	211	lithic sandstone	Crimson Creek Fm correlate	Late Proterozoic	eastern Dundas region	37499	536583	R, PD
134747	214	mudstone	Crimson Creek Fm correlate	Late Proterozoic	eastern Dundas region	37501	536578	R, PD

C5


Serpentine Hill MUC
Dundas MUC
Black Hill
Carbine Hill
Mt Razorback
Moores Pimple
Bonnie Point
Fahl Mine
Curtain Davis Mine
Great Northern Fault
Rosebery Fault
South Comet Creek
Dundas River
Ring River
Tram Creek
Stony Creek
372000
373000
374000
375000
371000
370000
369000
368000
367000mE
5369000
5368000
5367000
5366000
5365000
5364000
5363000
5362000
5361000mN
geological boundary
unconformity (inferred)
erosional contact
fault (approximate)
bedding
facing
creek or river
track or road
abandoned mine
0
500 m
Middle Cambrian - Late Cambrian
Dundas Group and correlates (undifferentiated)
western area
central area
?early Middle Cambrian
mafic-ultramafic complex
lava succession (from Brown, 1986)
Package 4
litho- /chemo-stratigraphic correlate of Package 2
Late Proterozoic ?early Cambrian
Crimson Creek Formation correlate
Package 3
litho- /chemo-stratigraphic correlate of Package 1
Package 2
Late Proterozoic
Oonah Formation correlate
Concert Schist
Package 1
Lithofacies
mudstone-siltstone
sandstone-mudstone couplet (undifferentiated)
ripple-laminated sandstone-mudstone couplet
normally-graded sandstone-mudstone couplet
sandstone
mafic-ultramafic clast breccia
matrix-supported conglomerate
clast-supported conglomerate
basalt-fragment mud-matrix breccia
quartz-feldspathic crystal-rich volcaniclastic sandstone
felsic vitriclastic sandstone
feldspathic crystal-rich volcaniclastic sandstone
mafic-intermediate coherent volcanic and breccia
chaotic facies (slumped/liquefied strata)
melange