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Tectonothermal evolution of the Southwestern central zone, Damara Belt, Namibia

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2013-01-31
http://hdl.handle.net/10539/12341

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Appendix 1A: XRF Data

	Sample	Xeastings (UTM WGS 84 Zone 33S)	Ynorthings	Fe2O3 (wt%)	MnO (wt%)	TiO_2 (wt%)	CaO (wt%)	K_2O (wt%)	P_2O_5 (wt%)	SiO_2 (wt%)	AL_2O_3 (wt%)	MgO (wt%)	Na_2O (wt%)	LOI (wt%)	Nb (ppm)	Ni (ppm)	Pb (ppm)	Rb (ppm)	Sr (ppm)	ThO2 (ppm)	U3O8 (ppm)	Y (ppm)	Zn (ppm)	Zr (ppm)	Ba (ppm)	La (ppm)	Ce (ppm)
Amphibolites	LKR021	495396	7500431	13.33	0.22	1.63	9.11	1.50	0.14	46.7	16.0	6.7	1.6	1.96	10	114	14	93	192	<10	<7	19	151	84	267	12	42
	LKR022	495396	7500431	13.12	0.18	1.67	9.17	2.09	0.14	47.3	16.1	6.2	1.7	1.58	11	111	19	138	199	<10	<7	18	117	84	298	7	47
	CZRL23	499821	7487663	16.31	0.28	1.90	6.95	1.18	0.17	50.6	13.2	5.7	2.5	0.89	<3	40	27	118	137	<10	<7	43	91	118	223	8	42
	CZAM1	494493	7499069	15.42	0.18	2.57	7.56	0.88	0.23	47.6	14.2	7.3	1.6	1.94	15	70	18	76	220	<10	<7	24	146	117	185	7	39
	CZAM2	496481	7501723	16.86	0.35	4.13	7.31	1.68	0.86	44.2	14.4	5.3	2.6	0.60	34	57	25	133	193	<10	<7	42	279	266	368	17	100
	CZAM3	503961	7484481	15.96	0.19	3.72	9.30	0.84	0.59	46.2	15.4	4.6	2.3	0.21	29	45	17	10	468	<10	<7	35	147	260	478	21	101
Red Granites	LKR002	499669	7504383	2.80	0.03	0.19	1.02	7.10	0.07	71.9	13.8	0.8	2.2	0.67	19	9	42	379	76	77	14	17	40	157	565	39	97
	LKR003	499669	7504383	2.62	0.03	0.23	0.21	7.56	0.04	72.1	13.6	0.3	1.7	0.71	9	5	53	278	99	59	<7	11	21	158	686	35	109
	LKR010	489982	7492095	3.86	0.02	0.33	0.52	8.49	0.35	69.9	13.3	0.6	1.6	0.35	13	10	179	370	130	33	<7	22	83	191	3380	42	105
	LKR017	500363	7504555	2.03	<0.01	0.26	0.32	7.17	0.05	74.2	11.6	0.2	1.9	0.50	11	5	45	282	139	45	<7	12	14	214	1143	28	77
	LKR018	500363	7504555	2.79	0.01	0.22	0.17	7.76	0.06	73.7	13.3	0.5	1.7	0.37	14	3	55	315	117	54	<7	18	26	179	1022	42	98
	LCZ11-2	497765	7501846	3.45	0.02	0.45	0.36	8.48	0.14	71.3	13.9	0.8	1.5	0.49	14	7	54	387	144	75	8	30	132	174	884	53	117
	CZRL14	499675	7504400	1.71	<0.01	0.12	0.60	6.54	0.03	72.9	12.8	0.3	2.5	0.52	8	3	51	271	61	63	10	20	21	117	317	25	64
	CZRL15	499675	7504400	2.02	0.01	0.16	0.32	8.06	0.04	71.7	14.5	0.6	2.5	0.35	9	<2	52	365	73	32	<7	20	26	112	583	31	69
Grey Granites	LID010	501139	7487449	6.35	0.09	1.07	3.79	2.43	0.21	62.42	15.98	2.69	2.89	1.58	27.30	16.40	22.90	205.80	235.60	33.90	<7	28.80	65.30	194.70	697.15	47.06	107.44
	LID011	501112	7487466	2.69	0.02	0.23	1.07	4.28	0.08	73.13	13.96	0.64	3.54	0.49	5.60	4.40	29.40	148.30	142.30	74.60	9.90	27.60	19.60	213.40	751.56	70.71	139.84
	LID015	500472	7487620	4.64	0.08	0.75	3.16	3.84	0.16	66.22	15.67	2.07	2.90	0.63	27.50	17.60	19.80	191.50	177.50	33.60	<7	30.50	62.10	236.80	680.48	64.27	147.04
	LID017	500208	7487662	2.78	0.02	0.30	1.72	4.63	0.09	71.06	14.47	0.63	3.39	0.68	12.40	3.30	22.50	169.70	190.80	36.40	<7	15.10	22.60	210.80	962.43	36.41	129.28
	LID019	500076	7487718	2.00	0.02	0.20	1.00	6.00	0.20	69.00	16.00	0.58	3.11	I/S	4.80	5.60	25.00	228.80	148.90	27.60	7.30	21.30	23.00	140.80	889.96	39.63	84.40
	LID020	499639	7487839	3.07	0.03	0.38	2.28	4.00	0.11	69.24	15.03	0.91	3.51	0.80	12.00	9.10	28.70	160.70	274.40	26.60	<7	12.10	35.40	199.30	1279.75	43.40	109.04
	LID029	500750	7487904	2.72	0.02	0.24	1.10	5.49	0.12	71.03	13.60	0.52	3.06	1.32	7.30	6.60	35.80	197.60	103.10	70.90	9.40	22.40	19.20	206.50	635.95	62.94	173.12
	LID030	500723	7487983	2.70	0.02	0.25	1.28	4.85	0.11	70.41	13.59	0.56	3.47	1.17	8.20	5.60	30.90	166.40	122.10	77.10	<7	28.40	17.60	228.20	762.26	66.27	195.52
	LID031	501164	7488206	2.98	0.03	0.30	1.50	5.43	0.11	70.65	14.66	0.61	3.20	0.60	10.80	2.40	29.00	190.40	142.10	49.70	<7	11.70	24.40	237.70	902.21	30.64	88.00
	LHA001	489390	7489693	2.50	0.03	0.34	1.72	6.14	0.09	71.18	14.26	1.03	2.14	1.01	19.30	4.90	27.50	270.10	109.50	30.80	8.20	16.70	31.50	138.70	694.37	17.09	74.72
	LHA002	489454	7489694	2.95	0.04	0.58	1.48	5.62	0.19	70.27	14.35	0.92	2.75	0.92	43.40	5.60	35.70	288.50	66.60	170.80	11.70	37.60	28.70	411.50	436.20	107.89	325.04
	LHA003	489450	7489661	8.01	0.12	1.29	5.46	2.11	0.18	59.54	15.87	4.12	2.25	0.71	22.60	35.00	19.80	182.30	210.20	18.50	<7	26.10	79.10	171.20	556.38	24.75	77.12
	LHA004	489107	7489368	4.11	0.05	0.59	2.71	3.35	0.13	70.04	15.61	1.30	3.11	0.91	26.90	12.10	21.70	245.40	200.80	33.00	<7	17.50	50.30	188.90	779.66	48.17	131.92
	LHA005	488747	7489250	7.63	0.11	1.12	7.03	2.00	0.23	56.40	16.02	4.99	2.32	0.84	19.80	26.70	18.40	117.10	351.20	17.80	<7	25.60	82.70	161.60	579.91	29.42	80.24
	LHA010	489766	7489118	7.34	0.11	1.08	4.70	3.05	0.17	60.74	15.93	3.14	2.32	0.62	19.30	22.60	16.70	171.30	201.50	17.20	<7	26.10	78.20	183.70	643.96	38.18	91.52
	LHA011	489766	7489118	6.79	0.10	1.08	3.60	3.66	0.24	63.76	15.51	0.40	I/S	0.43	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S	I/S
	LHA012	489766	7489118	3.47	0.03	0.44	1.26	7.27	0.22	69.66	14.37	0.67	2.04	0.65	20.80	4.90	40.40	319.90	124.40	83.00	27.50	19.30	30.30	356.40	709.73	28.75	123.04
	LKR005	497455	7503559	3.35	0.03	0.49	1.13	5.79	0.19	68.84	13.70	0.73	2.82	0.59	20.00	5.90	26.00	260.20	108.00	137.20	<7	23.40	32.30	361.80	777.05	93.46	248.08
	LKR006	497522	7503534	1.04	0.02	0.37	2.96	5.70	0.10	69.3	15.0	0.8	3.3	1.17	21	<2	9	225	372	36	10	21	14	211	1473	6	52
	LKR007	497507	7503497	6.73	0.13	0.70	5.91	3.06	0.14	59.27	14.68	4.38	2.82	0.93	13.20	76.00	16.40	211.80	243.30	36.20	7.20	19.30	59.50	164.90	763.81	83.58	187.04
	LKR015	500425	7504675	3.46	0.02	0.44	2.57	6.11	0.13	67.03	16.46	0.95	2.22	0.83	10.00	11.90	35.40	230.20	318.10	29.70	<7	14.00	37.20	304.80	2131.80	58.72	139.20
	LKR020	495396	7500431	4.39	0.04	0.46	1.47	5.95	0.07	69.03	13.81	0.63	2.39	0.82	20.10	<2	49.00	246.20	109.10	334.20	15.40	50.70	38.20	500.70	603.84	214.12	487.28
	LCZ2-2	501963	7488439	9.55	0.14	1.56	5.59	3.10	0.23	57.01	15.10	3.64	1.94	1.73	15.80	20.10	25.80	176.90	201.70	24.40	<7	37.70	86.00	220.80	798.54	42.51	104.64
	LCZ2-3	501963	7488439	3.14	0.05	0.44	2.41	7.09	0.10	68.98	14.63	0.97	1.69	0.86	13.10	3.60	33.70	228.70	210.30	37.70	<7	13.40	30.70	185.90	1322.07	52.28	99.20
	LCZ6-2	504716	7486287	4.13	0.03	0.55	1.59	5.84	0.22	69.59	14.55	0.59	2.50	0.61	18.80	<2	47.50	282.70	98.40	163.20	11.70	31.90	51.20	477.20	727.29	93.46	296.40
	LZC6-4	505271	7485278	3.23	0.03	0.42	1.26	6.52	0.16	70.78	13.97	0.41	2.40	0.62	20.20	3.80	35.50	299.90	82.30	120.40	<7	26.00	39.00	323.60	625.90	67.60	216.88
	LCZ8-1	490268	7489375	8.87	0.14	1.28	8.38	1.41	0.17	52.78	16.32	5.40	2.20	1.99	16.80	20.50	10.20	94.70	197.30	<10	<7	31.00	76.30	175.50	329.99	24.75	55.68
	LCZ13-2	500701	7502255	3.32	0.03	0.45	1.38	7.29	0.17	70.7	13.9	0.6	1.7	1.01	14	<2	63	280	98	128	<7	27	57	362	755	85	249
	LCZ15-1	499699	7504037	3.41	0.03	0.39	2.02	5.13	0.11	70.00	15.25	1.08	2.70	0.62	15.50	8.90	32.80	231.90	237.50	40.70	<7	11.00	57.60	239.60	1152.87	46.62	142.16
	CZRL5	494355	7498463	3.58	0.03	0.53	1.13	6.55	0.18	70.81	14.00	0.73	2.10	1.00	12.00	3.10	49.10	256.60	104.40	145.00	<7	25.60	31.30	418.00	873.05	123.65	312.00
	CZRL12	499706	7503852	3.49	0.04	0.44	1.36	7.84	0.20	68.54	14.53	0.73	1.86	0.67	14.10	3.70	41.80	313.50	162.60	55.20	<7	30.80	30.40	212.80	1627.55	52.50	122.00
	LCZ7-2	502300	7486236	1.15	0.01	0.06	1.11	3.98	0.05	73.47	14.33	0.26	4.18	0.44	8.10	<2	31.80	151.90	55.90	<10	<7	21.90	13.60	58.70	172.22	6.99	30.80

Uraniferous Leucogranites	LRV001	484256	7491615	0.93	<0.01	0.03	0.80	7.48	<0.01	76.6	12.8	0.2	1.8	0.61	5	<2	22	326	80	12	121	6	11	<3	282	<2	9
	LCZ7-1	501242	7484153	0.68	0.02	<0.01	1.90	1.42	<0.01	75.7	13.9	0.1	4.0	0.37	<3	3	39	48	156	18	49	12	11	188	96	9	22
	LCZ14-1	484283	7492082	1.63	0.01	0.13	1.01	5.03	0.02	75.4	12.5	0.2	2.8	0.53	17	<2	43	253	34	46	239	94	15	88	92	12	26
	LVA-1	523854	7528870	1.14	0.01	0.08	0.86	5.50	0.06	74.4	13.4	0.3	3.0	0.57	10	<2	76	276	28	61	22	14	18	70	76	8	43
Garnet-bearing Leucogranites	LID024	502209	7484972	1.30	0.01	0.04	1.05	5.08	0.06	73.2	14.5	0.2	4.0	0.36	12	<2	49	195	102	12	10	19	19	24	469	6	45
	LID038	502755	7485916	1.40	<0.01	0.10	1.39	5.34	0.07	71.5	14.8	0.7	2.9	0.44	5	6	47	113	266	<10	<7	12	32	42	955	11	25
Pink Pegmatitic Granites	LCZF-1	489939	7488741	2.45	<0.01	0.13	0.30	10.89	0.01	67.3	16.2	0.1	1.8	0.32	6	<2	45	479	124	71	14	7	16	65	827	17	75
	LCZF-2	500574	7487122	0.86	<0.01	0.05	0.94	4.18	<0.01	78.4	12.0	0.3	3.3	0.24	47	<2	27	182	73	19	53	29	14	<3	255	10	32
Anatectic Leucosomes	CZRL1	499125	7486844	3.52	0.02	0.30	1.64	1.07	<0.01	69.7	14.0	1.5	5.8	0.61	21	10	15	61	75	<10	<7	4	18	103	169	25	67
	CZRL3	500289	7488670	2.75	0.03	0.28	1.26	5.11	0.02	73.2	13.2	0.9	2.8	0.35	10	3	26	197	122	66	16	13	19	163	834	50	142
	CZRL22	500485	7488813	2.14	0.02	0.22	1.60	4.88	0.03	71.3	14.0	0.9	3.0	0.42	8	<2	27	193	168	97	11	14	25	108	749	84	188
Abbabis Complex Gneisses	LID012	501018	7487505	2.55	0.02	0.65	0.48	5.32	0.12	69.2	13.9	2.6	3.7	0.44	11	12	17	200	44	22	<7	47	14	215	65	32	60
	LID016	500364	7487670	5.65	0.08	0.67	3.18	1.92	0.16	67.9	14.9	1.4	3.6	0.37	12	9	22	100	158	27	<7	35	55	208	879	55	147
	LID036	500422	7487668	5.47	0.06	0.62	2.67	1.77	0.14	69.0	14.5	1.6	3.7	0.36	13	10	21	110	145	21	7	30	41	196	309	38	102
	LID041	500773	7487516	5.88	0.03	0.81	2.12	2.05	0.18	60.7	17.6	1.7	5.6	1.95	17	12	16	121	133	29	10	36	25	329	502	46	101
	LID045	504090	7484518	4.44	0.08	0.47	2.96	1.94	0.11	70.2	14.7	1.2	3.6	0.57	12	6	19	138	139	16	<7	23	70	152	861	36	66
	LKR008	489476	7492365	5.78	0.07	0.85	2.00	5.74	0.32	66.4	14.1	1.6	2.3	0.72	27	14	38	276	216	60	<7	45	110	349	2064	108	253
	LKR023	795342	7500519	4.99	0.07	0.52	2.45	4.45	0.12	67.7	14.4	1.4	2.3	1.19	13	7	21	255	158	17	<7	26	73	150	1374	31	106
	CZRL28	501220	7487524	3.67	0.04	0.54	1.26	5.07	0.12	68.6	14.2	3.6	2.7	0.58	17	8	27	253	117	23	<7	39	36	169	218	35	70

Appendix 1B: ICP-MS Data

	Sample	Xeastings (UTM WGS 84 Zone 33S)	Ynorthings	La (ppm)	Ce (ppm)	Pr (ppm)	Nd (ppm)	Sm (ppm)	Eu (ppm)	Gd (ppm)	Tb (ppm)	Dy (ppm)	Ho (ppm)	Er (ppm)	Tm (ppm)	Yb (ppm)	Lu (ppm)	Rb (ppm)	Sr (ppm)	Nb (ppm)	Pb (ppm)	Th (ppm)	U (ppm)
Amphibolites	LKR021	495396	7500431	16.585	38.205	4.5265	18.99	4.2415	1.631	4.365	0.633	3.9665	0.7345	2.09	0.2795	1.8005	0.2515	103	204	11.3	6.57	1.62	2.60
	LKR022	495396	7500431	12.46	27.095	3.4225	15.76	3.798	1.504	4.108	0.5995	3.791	0.7085	2	0.264	1.7145	0.2395	151	210	11.3	12.0	1.26	0.81
	CZRL23	499821	7487663	13.82	30.63		19.34	5.491	1.861	6.782	1.179	7.729	1.658	4.835	0.738	4.635	0.733	124	137	4.88	14.9	2.97	3.63
	CZAM1	494493	7499069	14.405	34.455	4.664	21.63	5.2055	1.8635	5.56	0.8265	5.0985	0.9545	2.655	0.352	2.2285	0.313	85.22	234.20	16.93	12.28	1.63	1.36
	CZAM2	496481	7501723	29.025	74.415	10.235	47.595	10.585	3.1205	10.685	1.4955	9.0125	1.683	4.769	0.642	4.1605	0.592	138.90	195.95	38.81	14.60	3.82	2.53
	CZAM3	503961	7484481	33.74	76.815	9.832	43.37	8.98	3.023	8.739	1.213	7.1905	1.307	3.57	0.4715	2.9205	0.4105	19.45	538.95	32.57	5.92	1.59	0.92
Red Granites	LKR002	499669	7504383	59.52	113.95	11.3	38.745	6.4605	0.8565	4.7285	0.612	3.3315	0.58	1.614	0.214	1.316	0.1875	383	74.7	16.7	40.7	65.7	11.7
	LKR003	499669	7504383	66.43	121.85	12.055	41.895	7.152	1.0995	5.429	0.693	3.458	0.5055	1.123	0.1215	0.7045	0.103	280	96.8	9.00	51.4	53.0	3.31
	LKR010	489982	7492095	51.77	114.2	9.7415	35.13	5.785	1.1595	4.6805	0.6825	4.264	0.804	2.408	0.344	2.2565	0.3135	373	129	11.4	178	29.2	3.30
	LKR017	500363	7504555	53.29	96.33	9.849	33.3	5.4295	1.224	4.323	0.536	2.4915	0.4085	0.983	0.1065	0.529	0.066	293	142	7.09	48.7	39.8	2.00
	LKR018	500363	7504555	69.145	130.5	13.12	44.535	7.4245	1.35	5.7335	0.71	3.386	0.5505	1.423	0.155	0.8125	0.097	326	119	11.2	53.0	55.4	2.88
	LCZ11-2	497765	7501846	120.9	226.35	22.445	78.765	11.605	1.9565	7.75	0.9005	4.6305	0.729	1.852	0.277	1.824	0.2315	391	145	11.9	53.5	70.2	5.29
	CZRL14	499675	7504400	52.665	93.55		30.725	5.2205	0.747	4.0215	0.547	2.8885	0.4985	1.284	0.166	1.143	0.166	283	62.3	6.75	52.6	52.8	5.34
	CZRL15	499675	7504400	23.345	41.46		13.655	2.4185	0.4855	1.875	0.2575	1.481	0.281	0.766	0.1075	0.724	0.1015	320	54.9	9.10	47.4	24.0	1.63
Grey Granites	LID010	501139	7487449	50.135	101.3		40.94	7.5685	1.588	6.1705	0.918	5.3195	1.0305	2.889	0.428	2.6315	0.3985	209	240	28.5	15.7	28.0	4.65
	LID011	501112	7487466	95.82	201.35	21.94	79.115	14.78	1.2365	10.865	1.371	6.676	1.0275	2.408	0.2815	1.477	0.2	158.20	147.00	5.45	33.14	71.27	6.88
	LID015	500472	7487620	66.225	127.4		49.42	8.794	1.5655	7.0105	1.0585	6.141	1.194	3.332	0.49	3.07	0.43	200	186	28.4	15.7	27.2	1.65
	LID017	500208	7487662	64.835	129.6	13.755	48.53	7.536	1.2945	5.182	0.6535	3.4125	0.5735	1.511	0.1945	1.1285	0.156	182.30	201.85	12.07	25.97	37.17	2.13
	LID019	500076	7487718	71.8	135.65	14.05	49.13	6.4895	1.3325	3.7505	0.4405	2.394	0.4255	1.241	0.1775	1.1475	0.1565	173.55	290.65	12.63	27.21	24.80	1.66
	LID020	499639	7487839	46.215	93.025	10.14	36.545	6.7545	1.2765	5.56	0.8345	4.4465	0.84	2.194	0.32	1.7455	0.28	242.45	156.60	5.62	27.67	25.52	3.72
	LID029	500750	7487904	92.145	190.55		74.06	13.695	1.0865	9.8185	1.2055	5.641	0.8465	1.905	0.218	1.2425	0.1745	207	107	5.24	35.2	64.9	5.32
	LID030	500723	7487983	101.4	210.65	22.84	81.595	15.08	1.331	10.945	1.407	6.47	0.99	2.332	0.27	1.5285	0.2	178.25	127.25	5.31	28.65	70.54	4.74
	LID031	501164	7488206	46.22	86.48	8.735	29.925	4.8915	1.031	3.525	0.4535	2.368	0.423	1.186	0.169	1.1285	0.1735	201.15	149.45	10.53	27.09	41.97	4.37
	LHA001	489390	7489693	31.3	64.8		27.4	5.24	0.99	4.06	0.60	3.41	0.61	1.61	0.21	1.31	0.18	290	117	22.5	26.9	25.4	11.0
	LHA002	489454	7489694	187.25	456	46.25	166.45	26.78	1.1685	19.55	2.264	9.8935	1.4825	3.711	0.4115	2.349	0.31	300	67.1	46.1	35.5	168	9.71
	LHA003	489450	7489661	30.335	69.295		32.085	6.4865	1.7535	5.8085	0.89	5.5085	1.0665	3.105	0.4495	3.0495	0.451	199	223	24.4	12.9	13.9	5.27
	LHA004	489107	7489368	66.455	132.6	14.41	51.05	8.569	1.498	6.7895	0.8545	4.2505	0.7385	2.078	0.271	1.727	0.241	261	209	27.4	17.7	33.6	3.42
	LHA005	488747	7489250	42.265	86.835		37.89	6.9975	1.611	5.928	0.853	5.129	0.9735	2.747	0.387	2.533	0.361	134	373	21.5	13.1	11.8	2.20
	LHA010	489766	7489118	40.34	84.465	9.9165	37.905	7.0705	1.626	6.6	0.9375	5.424	1.0305	3.063	0.424	2.8075	0.407	186	210	20.4	18.1	16.9	4.34
	LHA011	489766	7489118	59.785	124.8	14.485	55.03	10.527	1.985	9.8385	1.41	8.13	1.547	4.59	0.635	4.1755	0.593	198	186	29.4	18.6	24.1	4.20
	LHA012	489766	7489118	40.855	132.55	10.54	40.62	7.7045	1.322	6.3165	0.8115	4.193	0.743	2.102	0.2645	1.646	0.2325	339	131	21.7	36.9	75.1	22.5
	LKR005	497455	7503559	166.2	420.85	40.345	144.6	23.545	1.4145	15.79	1.6525	6.613	0.9885	2.486	0.2525	1.4435	0.1995	278	112	23.0	30.0	143	4.04
	LKR006	497522	7503534	20.81	75.05	11.085	45.495	8.688	1.536	6.5555	0.854	4.5325	0.8265	2.517	0.355	2.4115	0.3405	246	467	23.5	10.5	32.0	6.73
	LKR007	497507	7503497	92.01	163.8	14.97	49.445	7.141	1.2645	5.4675	0.7315	4.2565	0.7685	2.142	0.287	1.816	0.259	236	244	13.9	10.7	24.5	1.48
	LKR015	500425	7504675	88.27	162.3	16.49	55.84	7.547	1.875	5.7515	0.7	3.3235	0.5915	1.672	0.209	1.2405	0.175	250	353	11.3	29.6	26.0	2.12
	LKR020	495396	7500431	333.6	684.9	55.915	173.55	23.295	1.5225	18.4	2.367	11.41	1.8515	4.635	0.4575	2.216	0.2335	253	112	21.8	45.7	341	10.5
	LCZ2-2	501963	7488439	48.235	93.285	10.63	41.235	8.153	1.976	8.565	1.263	7.6085	1.47	4.331	0.5985	3.8905	0.5365	184	208	17.4	21.7	18.9	2.34
	LCZ2-3	501963	7488439	56.56	107.3	10.665	37.135	5.413	1.3975	3.885	0.5055	2.981	0.536	1.584	0.219	1.5255	0.2245	235	214	12.3	29.4	38.8	5.36
	LCZ6-2	504716	7486287	178.05	401.2	43.255	163.8	27.995	1.336	17.8	1.9005	8.881	1.2745	2.864	0.3075	1.6695	0.2075	283	97.9	19.2	50.0	155	7.46
	LZC6-4	505271	7485278	118.7	272.45	30.26	115.9	22.135	1.082	15.315	1.697	7.88	1.096	2.412	0.253	1.46	0.2025	303	81.9	21	40.7	111	4.03
	LCZ8-1	490268	7489375	24.705	53.965	6.4715	28.08	6.3275	1.644	6.487	0.9725	6.4265	1.233	3.679	0.5055	3.381	0.4795	104	202	18.9	8.24	6.74	1.72
	LCZ13-2	500701	7502255	157.4	376.45	39.38	143.85	22.85	1.4435	17.17	1.886	7.752	1.121	2.625	0.232	1.182	0.138	294	102	15.1	60.0	130	1.91
	LCZ15-1	499699	7504037	80.675	157.1	15.94	57.2	8.4035	1.3795	5.219	0.5805	2.9475	0.4595	1.177	0.146	0.8965	0.121	235	240	15.2	31.5	33.3	1.95
	CZRL5	494355	7498463	187.15	413.3		166.95	26.365	1.635	16.055	1.6775	7.311	1.0625	2.246	0.231	1.1455	0.143	261	107	12.7	49.2	137	1.81
	CZRL12	499706	7503852	83.67	178.55		72.595	11.87	1.2665	8.2115	1.088	5.839	0.9925	2.563	0.3105	1.738	0.2165	317	162	13.9	44.7	56.7	3.21
	LCZ7-2	502300	7486236	7.301	14.12	1.563	5.361	1.24	0.405	1.1455	0.184	1.0885	0.2135	0.68	0.1155	0.909	0.1415	163	56.5	8.05	32.4	4.07	3.99
Uraniferous Leucogranites	LRV001	484256	7491615	2.743	4.244	0.4725	1.9475	0.622	0.499	0.779	0.1825	1.428	0.3065	1.02	0.155	1.0065	0.1295	344.15	82.36	4.08	21.7	10.6	105
	LCZ7-1	501242	7484153	4.9655	12.72	0.835	3.4235	1.1595	0.3795	1.4875	0.328	2.446	0.5025	1.681	0.2805	2.144	0.3025	59.7	166	2.68	10.7	11.8	41.0
	LCZ14-1	484283	7492082	18.88	39.545	4.3485	14.38	3.883	0.286	4.117	0.9145	6.7485	1.42	4.866	0.89	6.8745	1.039	261	33.6	10.6	36.1	41.2	210
	LVA-1	523854	7528870	19.47	40	4.383	15.345	3.4805	0.42	2.906	0.518	3.0925	0.5575	1.611	0.253	1.6305	0.2345	290	29.1	9.17	40.4	45.3	15.1
Garnet-bearing Leucogranites	LID038	502755	7485916	15.08	29.74		13.07	2.83	1.908	2.307	0.316	1.659	0.283	0.799	0.113	0.775	0.116	125	283	5.26	46.5	8.20	3.69
Pink Pegmatitic Granites	LCZF-1	489939	7488741	38.765	74.785	7.783	28.455	4.4375	0.9855	2.917	0.355	1.702	0.293	0.746	0.11	0.7205	0.12	479	124	5.92	46.1	57.1	9.20
	LCZF-2	500574	7487122	9.2165	17.25	1.853	7.1235	2.435	0.6415	3.526	0.84	7.146	1.625	6.029	1.046	7.9465	1.1365	184	72.6	54.5	23.3	15.5	55.3

Anatectic Leucosomes	CZRL1	499125	7486844	18.785	36.22	3.4655	11.735	1.8315	0.5575	1.418	0.177	0.8065	0.121	0.323	0.0495	0.394	0.065	68.8	74.7	21.2	16.4	3.72	1.03
	CZRL3	500289	7488670	87.98	173.7		63.625	9.9475	1.218	6.6945	0.763	3.4775	0.5395	1.208	0.1535	0.8595	0.138	203	125	12.1	23.4	63.3	15.1
	CZRL22	500485	7488813	100.6	193.8		70.125	10.69	1.2225	7.0945	0.7905	3.6135	0.543	1.213	0.136	0.748	0.096	200	169	9.00	26.4	86.5	10.2
Abbabis Complex Gneisses	LID012	501018	7487505	46.395	88.85	10.08	37.46	7.814	1.498	6.797	0.9275	4.9385	0.806	2.064	0.257	1.567	0.2075	217.65	43.17	5.47	17.03	20.95	1.41
	LID016	500364	7487670	65.79	125.35	13.915	51.19	8.7775	1.613	7.3315	1.028	5.9975	1.101	3.07	0.4155	2.5985	0.361	114.75	163.15	14.39	17.01	21.60	2.80
	LID036	500422	7487668	46.115	90.445	9.952	37.085	6.868	1.442	5.712	0.82	4.5635	0.826	2.182	0.29	1.761	0.24	120.00	147.85	13.16	17.36	16.65	2.39
	LID041	500773	7487516	56.03	115.65	12.74	48	9.085	1.7395	7.7605	1.0885	6.3385	1.149	3.245	0.4435	2.7985	0.3795	128.85	137.60	15.42	11.95	26.82	7.73
	LID045	504090	7484518	55.66	108.35	11.81	43.35	7.488	1.3205	6.1135	0.825	4.638	0.7965	2.114	0.2475	1.425	0.192	149.85	144.95	12.07	23.90	20.00	2.56
	LKR008	489476	7492365	181.9	352	36.865	129.25	18.075	3.0145	14.42	1.8555	9.3715	1.638	4.603	0.607	3.653	0.48	285	225	25.0	34.4	61.7	4.07
	LKR023	795342	7500519	40.33	78.56	8.4985	32.84	6.1495	1.428	5.4605	0.7635	4.74	0.8785	2.557	0.351	2.2965	0.318	259	158	11.8	25.2	16.8	1.45
	CZRL28	501220	7487524	41.19	80.93	8.7825	31.63	5.4905	1.138	5.474	0.8305	4.761	0.8585	2.302	0.316	1.9375	0.25	264	120	17.9	22.6	18.6	2.34

Appendix 1C – Procedure for Whole Rock Geochemistry

Samples of the variety of intrusive and metasedimentary rocks collected during field mapping were analysed for both their major and trace element compositions. Major elements, and certain trace elements were analysed using X-Ray Fluorescence Spectrometry (XRF), and a suite of trace elements, including the Rare Earth Elements were analysed using Inductively Coupled Plasma Mass Spectrometry (ICP-MS). Samples were prepared by removing any weathered material using a diamond saw, and breaking the samples using a hammer (or a jaw crusher for very large samples). The samples were then milled in a tungsten carbide swing mill, following precontamination, until talcum fineness.

XRF analyses

For major element XRF analyses, samples were made into lithium borate fusion disks with 1.3 g of sample. Analyses were carried out on a ThermoARL model 9800XP instrument. Trace element analyses were conducted on pressed pellets made with 11.7 g of sample and 1.3 g of Mowiol glue binder, and were conducted using a ThermoARL model Advant 'XP instrument. All XRF analyses were carried out at Setpoint Laboratories in Johannesburg, South Africa, using 50kV, 50mA instrument parameters, a 30 second counting time per element, and fixed channels for all light elements (atomic numbers 11-26). Standards used were SARM 1, SARM 2, NCSDC 73334, and NCSDC 73310.

ICP-MS analyses

Using a microbalance, 50 mg of milled sample was weighed out into Teflon Savillex beakers, and sample weights were recorded. Then, approximately 4 ml of 4:1 HF:HNO_3 (48%HF and 65% HNO3) was added, the beakers were sealed and placed on a hotplate, at a low heat (50-60 C) for at least 36 hours to digest. The beakers were then cooled briefly, the lids removed, and they were placed back on the hotplate at a higher temperature (~100 C), until the acid mixture was evaporated to complete dryness. Once the samples were dried down, the beakers were cooled, and 2ml of concentrated 2-bottled HNO3 was added, to dissolve the samples. The beakers were again placed on the hot plate to evaporate until complete dryness. Once dry, this step was repeated with another 2 ml HNO3.

The sample was then dissolved in 4 ml of internal standard stock solution, (5% HNO3 containing 10 ppb of Rh, In, Re, and Bi, and placed in an ultrasonic bath for 1 hour to ensure total dissolution. This was then transferred to a clean 50 ml centrifuge tube, washing with internal standard twice to ensure complete transfer of the solution. Using internal standard stock solution, this was then made up to 50 ml. This 1000-fold dilution of the sample was then diluted another 10 times (for granitic samples) or 5 times (for amphibolites), using the internal standard solution. Standards were prepared using the standards 2A, REE and HFSE, and contained the elements Ag, Al, As, Ba, Be, Ca, Cd, Co, Cr, Cs, Cu, Fe, Ga, K, Li, Mg, Mn, Na, Ni, Pb, Rb, Se, Sr, Tl, U, V, Zn, Ce, Dy, Er, Eu, Gd, Ho, La, Lu, Nd, Pr, Sm, Sc, Tb, Th, Tm, Y, Yb, Hf, Mo, Nb, Ta, Ti, W, Zr.

Samples were analysed using a THERMO ICP-MS at the University of Cape Town.