

Abstract

Due to disappointing results, it is recommended that the Licence be surrendered.

EL 36/92 covers the Heazlewood River and Mount Stewart mafic - ultramafic complexes in western Tasmania, and was taken out to explore for low total sulphide nickel mineralisation by analogy with Honeymoon Well and Mt. Keith (Western Australia). Cu-Au mineralisation hosted by Cambrian tholeiitic basalts was a secondary target.

Work undertaken within the Licence area during the three years tenure included:

- reconnaissance (1 sample per sqkm) drainage sediment sampling (112 samples)
- anomaly follow-up involving additional drainage sediment and rock chip sampling (20 and 88 samples respectively)
- investigation of Cu-Au workings at Duffs Hill involving channel sampling of adits and soil sampling (45 and 29 samples respectively)

Drainage sediment sampling highlighted two adjacent catchments with Ni values >3000 ppm. The catchments cover a variably serpentinised orthopyroxenite sequence and include several alluvial Ir-Os-Au workings, and are close to Fenton's Knob which has minor sheared pentlandite-pyrrhotite mineralisation.

Follow-up rock chip sampling within the southern catchment indicated lateritically weathered rocks have Ni as silicate values up to 0.69% while Ni values for fresh rocks are significantly lower. This is consistent with a laterite source for the Ni drainage anomalies, and downgrades the Ni-sulphide potential of the Licence area.

Elevated Cu-Au values within the tholeiitic basalt sequence exposed at Duffs Hill are confined to narrow discontinuous Devonian faults with low tonnage potential.

All drainage sediment geochemistry anomalies have been investigated with disappointing results. Consequently, potential for near surface bulk low-grade Ni-sulphide mineralisation or significant Cu-Au mineralisation is considered to be poor.

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List of Plans

<u>Plan No.:</u>	<u>Title:</u>	<u>Scale:</u>
Tv 645	Heazlewood EL 36/92 - Location Plan	1:100,000
Tv 644	Heazlewood EL 36/92 - Sample and Prospect Location Plan	1:25,000
Tv 887	Heazlewood EL 36/92 - Duffs Hill Prospect Compilation Plan	1:2,500
Tv 900	Heazlewood EL 36/92 - Fenton's Knob Prospect Rock Chip Sample Locations	1:10,000

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Figure 1 Drainage sediment geochemistry anomaly images.

1. Conclusions & Recommendations

All drainage sediment geochemistry anomalies have been investigated with disappointing results. Consequently, potential for near surface bulk low-grade Ni-sulphide mineralisation or significant Cu-Au mineralisation is considered to be poor.

It is therefore recommended that the Licence be surrendered.

2. Introduction

EL 36/92 was taken out to explore the Heazlewood River and Mount Stewart mafic - ultramafic complexes for low total sulphide nickel mineralisation by analogy with Honeymoon Well and Mt. Keith (Western Australia). Cu-Au mineralisation hosted by Cambrian tholeiitic basalts was a secondary target.

EL 36/92 was granted to CRA Exploration Pty. Limited (CRAE) on the 6th of March, 1993 for an initial tenure of one year over an area of 109 sqkm. Two one year renewals of the EL were granted giving an expiry date of 5th March 1996.

EL 36/92 is located on the Arthur River 7915 and Pieman 7914 1:100,000 map sheets (Plan Tv 645). Its geographic centre is approximately 20 km west of Waratah.

The aim of this report is to describe work undertaken during the third twelve month period and to provide a final report on activities.

3. Review of Previous Work

3.1 Prior to Current Tenement

A large portion of the licence area was explored by Comstaff Pty. Ltd. between 1963-84. A wide range of commodities were investigated, including Ni and Au-Cu, during this time. Between 1985-89, Metals Exploration Ltd. explored the licence area primarily for PGE mineralisation. Secondary targets were Ni and Au-Cu. Other exploration companies explored areas included in the licence area prior to, and during these periods.

3.2 During Current Tenement

3.2.1 Reconnaissance Geochemical Sampling

Drainage sediment sampling was undertaken because of excellent incision of bedrock by drainage, and poor sample coverage of the Heazlewood River complex by previous sampling programmes (or absence of Ni assays). The programme was designed to provide a vector to Ni-sulphide mineralisation and establish a geochemical signature for important lithologies. One hundred and twelve drainage sediment samples were collected during March, 1994, for a sample density of one per sqkm.

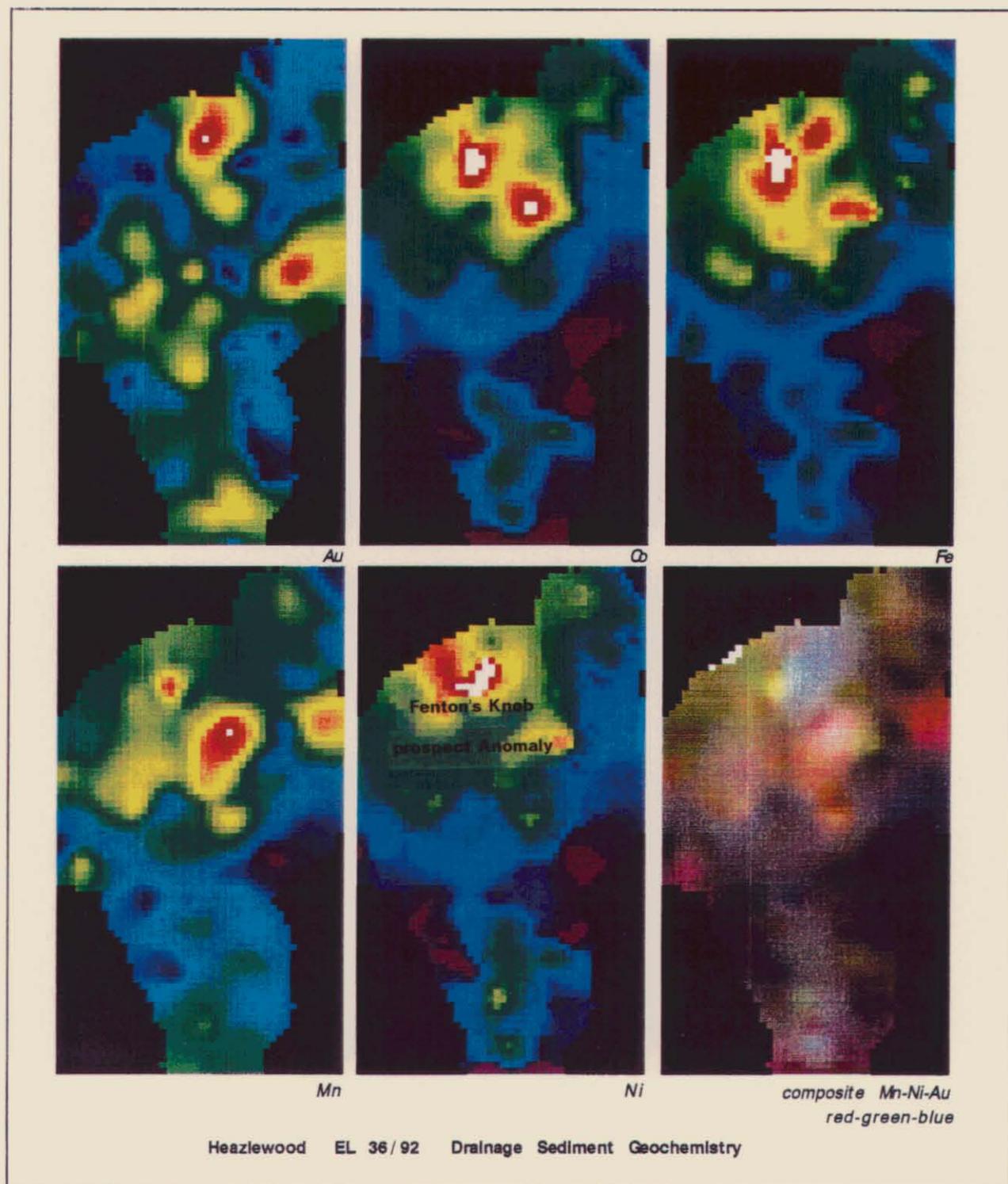


Figure 1 Drainage sediment geochemistry anomaly images.

Follow-up of anomalous drainage involved repeat and more detailed drainage sediment sampling (20 samples), and reconnaissance rock chip sampling.

Drainage sediment geochemistry is presented in Maher (1995) - Appendix III. Sample locations are shown on Plan Tv 644. Geochemical anomaly images for selected elements are shown in Figure 1.

Rock chip geochemistry (88 samples) is presented in Appendix I, Maher (1995) - Appendix I, and Maher (1994) - Appendix I. Sample locations are shown on Plans Tv 644, 887 and 900.

Rock chip petrology (12 samples) is presented in Maher (1994) - Appendix II, and Maher (1995) - Appendix II. Sample locations are given in rock chip geochemistry Appendices.

Discussion of Results

Drainage sediment anomalies were found in two adjacent catchments for a total area of 0.35 sqkm (Fenton's Knob prospect Anomaly - Figure 1). Ni values from these catchments exceeds 3000 ppm. The catchments cover a variably serpentinised orthopyroxenite sequence and include several alluvial Ir-Os-Au workings, and are close to Fenton's Knob which has minor serpentinite shear related pentlandite-pyrrhotite mineralisation.

Follow-up rock chip sampling within the southern catchment indicated lateritically weathered rocks have Ni as silicate values up to 0.69% while Ni values for fresh rocks are significantly lower. This is consistent with a laterite source for the Ni drainage anomalies, and downgrades the Ni-sulphide potential of the Licence area.

3.2.2 Duffs Hill Prospect

The **Duffs Hill** prospect area covers a fault bounded sequence of low-Ti tholeiitic basalts with localised high grade Au-Cu-Ag-Zn-Pb mineralisation. Several old adits exploit this mineralisation. The location of the **Duffs Hill** prospect area is shown on Plan Tv 644.

Cambrian low-Ti tholeiitic basalt is prospective for Cu-Au mineralisation given:

- disseminated chalcopyrite is known in low-Ti tholeiitic basalt from several locations
- sulphidic calc-silicate rocks within the low-Ti tholeiitic basalt sequence have high Cu-Au values

Work undertaken within the Duffs Hill prospect was designed to determine the extent and style of mineralisation. This work involved channel rock chip sampling (45 samples) in adits and opportunistic soil sampling (29 samples) across the basalt sequence. The geology of, and work undertaken within the Duffs Hill prospect area is shown in Plan Tv 887. Results from geochemical analysis of samples are presented in Maher (1995) - Appendix I & Appendix IV.

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Channel sampling returned a best result of:

- 2m @ 8.0% Cu, 7.6% Pb, 3.8% Zn, 64 g/t Ag & 5.8 g/t Au (sample 3989140) taken in the plane of mineralisation in Adit 2W

Mineralisation occurs along a fault and has a steeply dipping, narrow-tabular, discontinuous geometry. The orientation of the mineralised structure is consistent with Devonian faulting. The rocks are strongly quartz-chlorite-carbonate altered and have preserved relict disseminated chromite indicative of a primary mafic-ultramafic lithology. The alteration assemblage is consistent with Devonian granite related mineralisation.

Soil sampling tested the basalt sequence for Cu-Au mineralisation in the vicinity of, and at distance from known mineralised faults. Best result was 193 ppm Cu from sample 3989464, taken downslope of Adit 2W. Gold values were less than 5 ppb. Copper results away from known mineralised faults were generally between 30-60 ppm, which is consistent with values for unmineralised low-Ti tholeiitic basalt intersected in drilling by Metals Exploration at Jasper Hill - and suggests there is no potential for addition to the small tonnage potential of the known mineralised faults.

The combination of incompatible Au-Cu and Ag-Pb-Zn mineralisation in faults may represent Devonian granite related Ag-Pb-Zn bearing fluids remobilising/enhancing Cu-Au from the basalt sequence or distal Cambrian hydrothermal Cu-Au mineralisation.

Drainage geochemistry downgrades the potential for significant near surface Cu-Au mineralisation within the Licence area.

No further work was undertaken on the low-Ti tholeiitic basalt sequence (incl. Duffs Hill prospect) in light of these results.

4. Exploration Completed in the 12 Months Ending 5th March, 1996

Results from follow-up rock chip sampling in the Fenton's Knob prospect Anomaly catchments were received during the reporting period. These results were discussed in Section 3.2.1, and are presented in Appendix I.

5. Rehabilitation

Activities conducted during the tenure of the Licence had no impact on the environment. No rehabilitation was necessary.

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6. References

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7. Location

Burnie	1:250,000	SK55-3
Arthur River	1:100,000	7915
Pieman	1:100,000	7914

8. Keywords

Nickel, Cambrian, Devonian, Hydrothermal, Mineralisation, Rock Geochemistry, Basalt, Ultrabasic, Chemical Analysis, Laterite.

9. DPO Register

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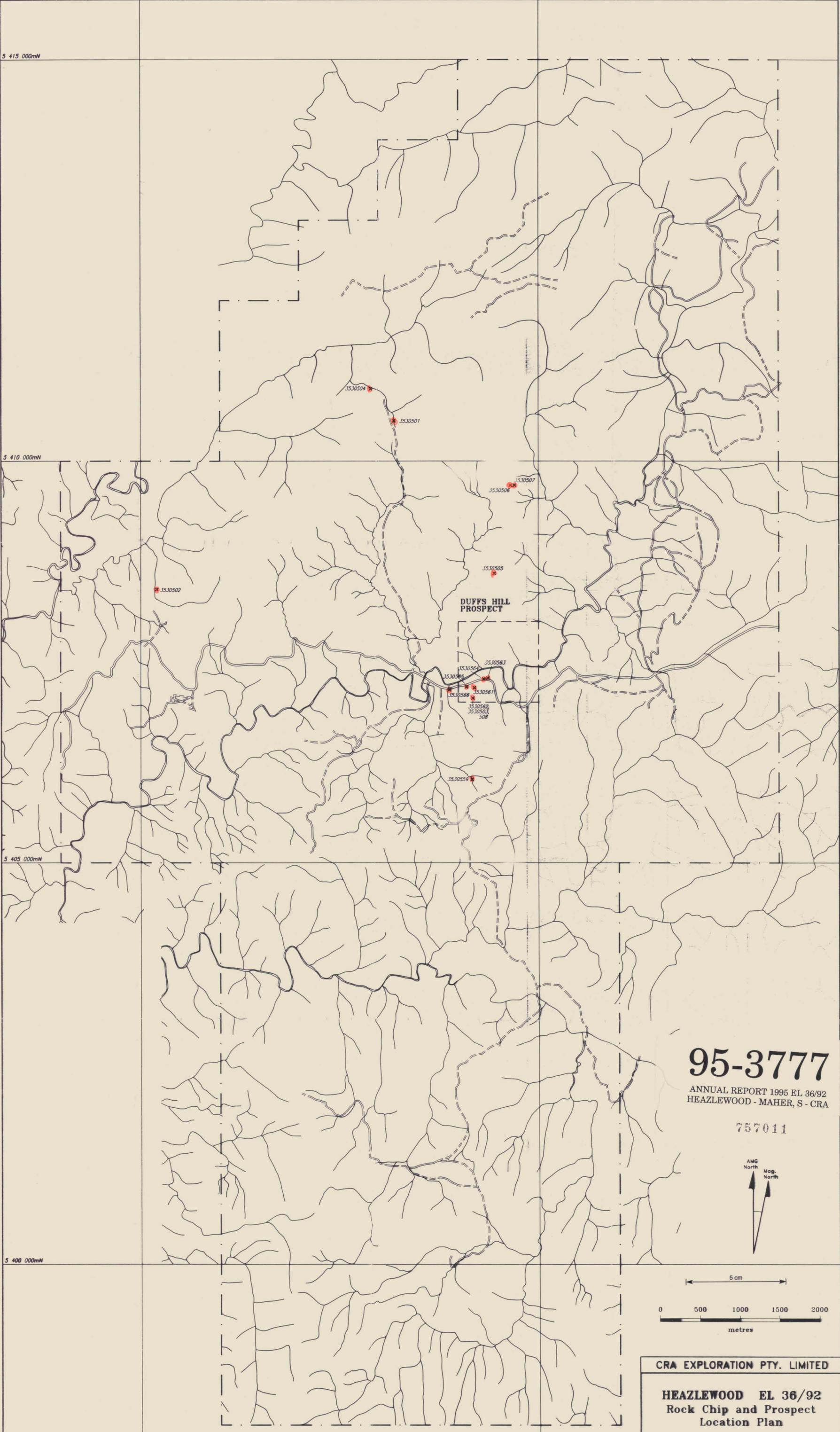
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5 400 000mN

355 000mE

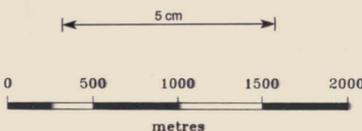
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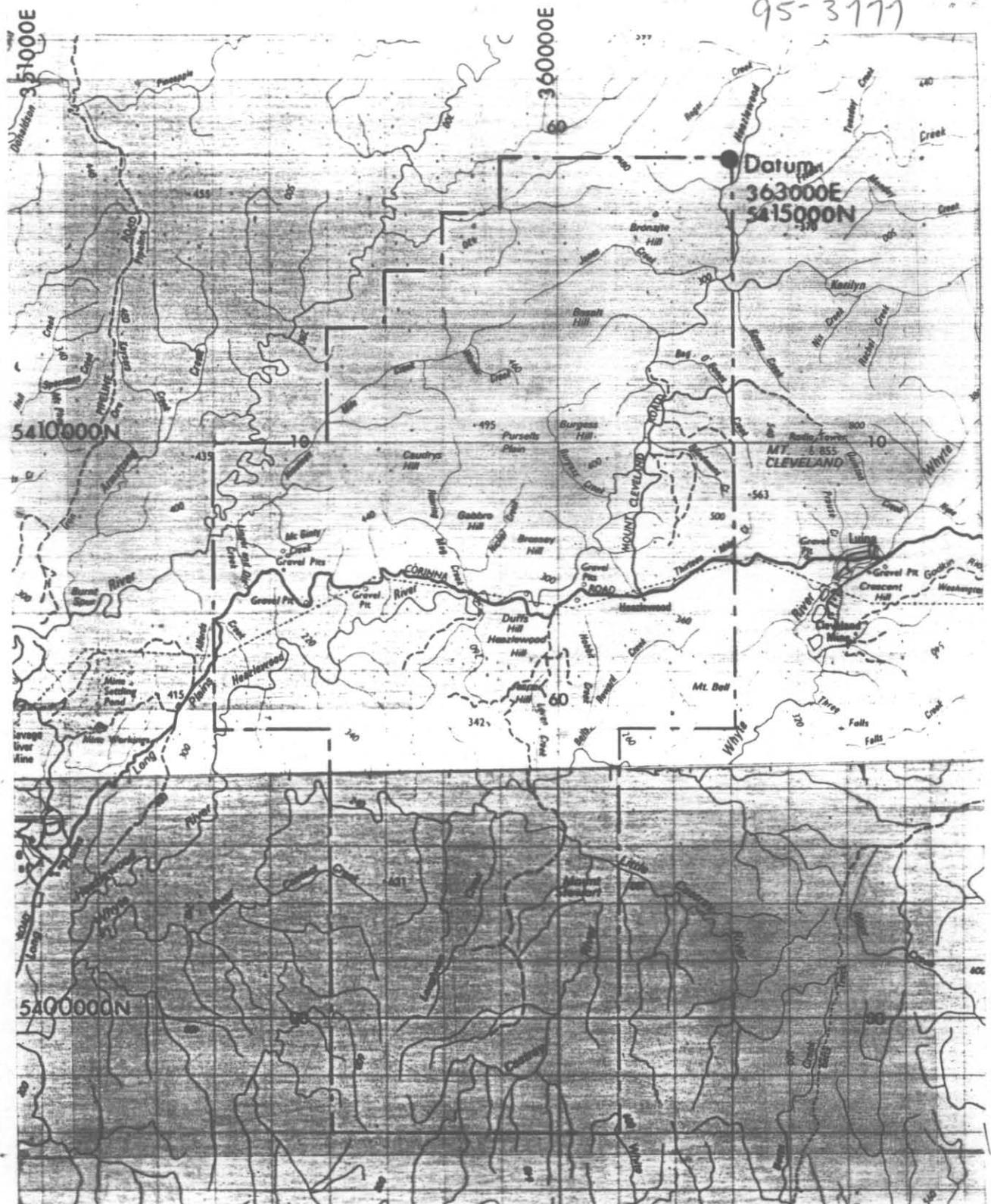
ANNUAL REPORT 1995 EL 36/92
HEAZLEWOOD - MAHER, S - CRA

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CRA EXPLORATION PTY. LIMITED	
HEAZLEWOOD EL 36/92 Rock Chip and Prospect Location Plan	
Ref.: SK 55-03	File: Hazlwood\644
Scale: 1 : 25000	Date: Feb. 1994
Author: S. Maher	Report No.: 21113
Drawn: R Traverso	Plan No.: Tv 644

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CRA EXPLORATION PTY. LIMITED

HEAZLEWOOD EL 36/92

LOCATION PLAN

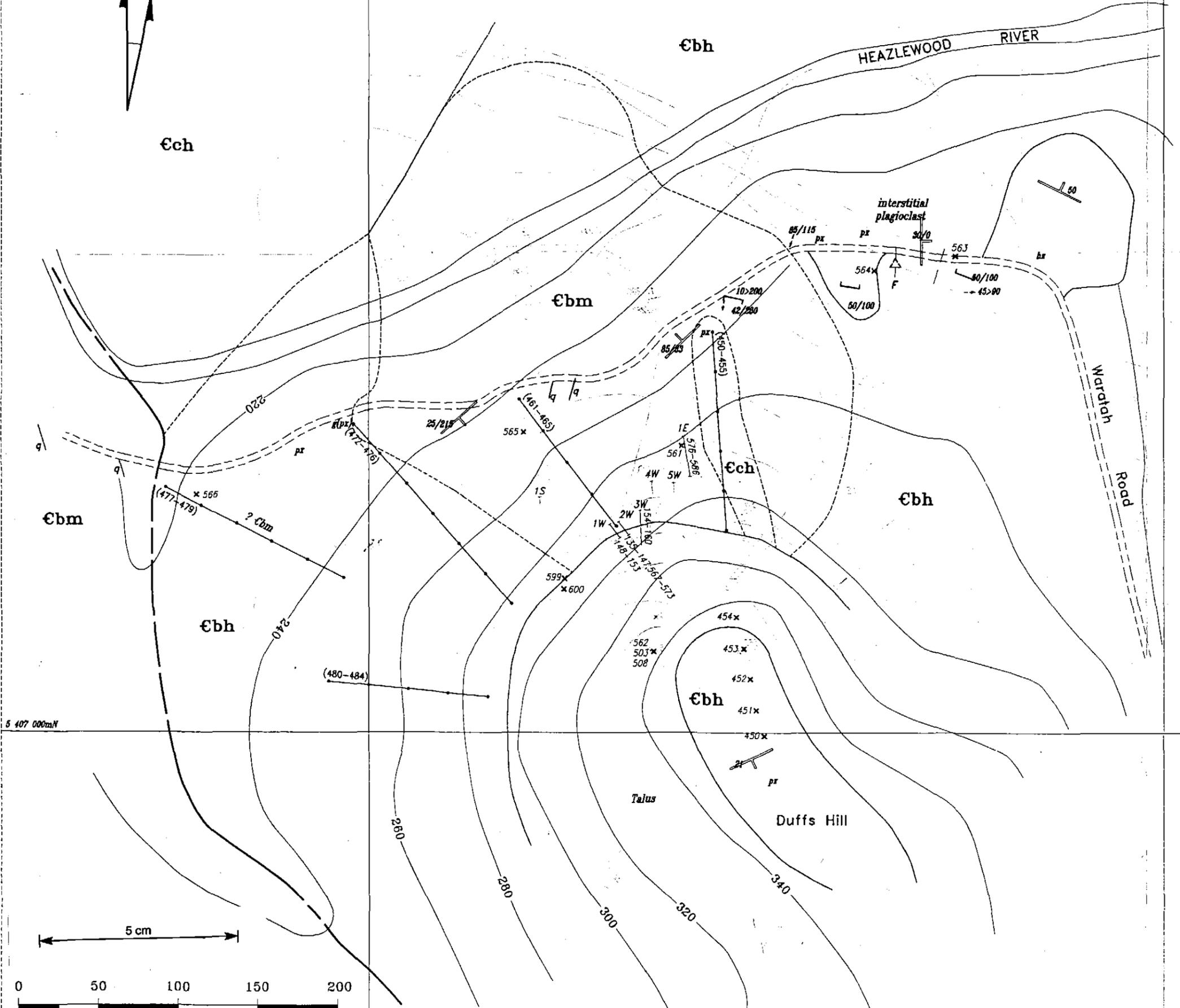
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Author: R. Parkinson	Report No.: 21113
Drawn: S. Brook	Plan No.: Tv 645

Sept. 1992

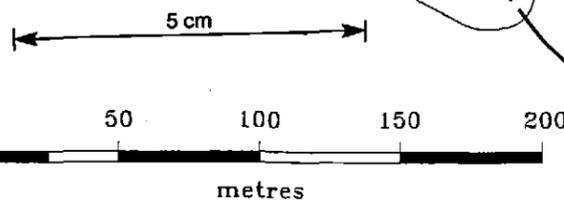
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757013 GEOLOGICAL LEGEND

Cambrian Heazlewood Mafic-Ultramafic Complex

- Ebm** Low Ti Tholeiitic Basalt
- Ech** Caudry's Hill Pyroxenite Sequence
- Ebh** Brassy Hill Harzburgite Sequence
- px** Pyroxenite
- hr** Harzburgite
- g(px)** Coarse Gabbro Dyke
- Quartz vein
- Layering orientation
- Fracture orientation
- Slickenside orientation
- Fault, Breccia
- Lithological Boundary Position accurate
- Lithological Boundary Position approximate
- Topographic contour - 20m interval
- Soil sampling traverse
4... : Prefixed by 3989...
- Rock chip sample location and Number
1... 4... : Prefixed by 3989...
5... 6... : Prefixed by 3530...
- Adit Location
Channel rockchip sampling traverse
1... : Prefixed by 3989...
5... : Prefixed by 3530...

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ANNUAL REPORT 1995 EL 36/92
HEAZLEWOOD - MAHER, S - CRA

CRA EXPLORATION PTY. LIMITED

HEAZLEWOOD EL 36/92 Duffs Hill Prospect Compilation Plan

Ref.: Burnie SK 55-03	File: Tv887r
Scale: 1 : 2500	Date: January 1995
Author: S. Maher	Report No.: 21113
Drawn: R. Travieso	Plan No.: Tv 887

356000 357000 358000 359000 757014 5412000 5412000

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ANNUAL REPORT 1995 EL 36/92
HEAZLEWOOD - MAHER, S - CRA

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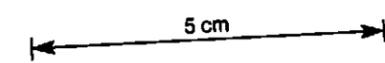
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 4140838 4140808 4140830
 4140810 4140807 4140831
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FENTONS KNOB PROSPECT



CRA EXPLORATION PTY. LIMITED		
HEAZLEWOOD EL 36/92		
ROCK CHIP SAMPLE LOCATIONS		
Geol: SM	Scale: 1:10,000	Report: 21113
Drawn: SM	Date: 2/10/1995	Plan: Tv 900

Appendix I
Geochemical Rock Sample Ledgers And Laboratory Reports

CRA Exploration Pty. Limited GEOCHEMICAL SAMPLE LEDGER: ROCK						
Project: Tasmanian ultramafic Ni						
	Map Sheet					
Tenement: EL 36/92	250,000: SK55-3		Geologist: S.Maher			
DPO# 77229	100,000: 7914 & 7915		Date: January, 1995			
SAMPLEno.	eastAMG	northAMG	PRSPCT	sampleTYPE	ROCKtype	
4140801	358205	5410835	Fenton's Knob	selective grab-o/c	Chalcedony	FT9 423m. Silica skeleton w/ relict UM disseminated chromite.
4140802	358205	5410835	Fenton's Knob	selective grab-o/c	Wthrd serpentinite	FT9 423m. Wthrd serpentinite w/ chalcedony seams.
4140803	358205	5410835	Fenton's Knob	selective grab-o/c	Serpentinite	FT9 423m. Serpentinite w/ magnetite veining.
4140804	358120	5410800	Fenton's Knob	selective grab-o/c	Chalcedony	FT9 300m. Silica skeleton w/ relict UM disseminated chromite.
4140805	358120	5410800	Fenton's Knob	selective grab-o/c	Wthrd serpentinite	FT9 300m. Wthrd serpentinite.
4140806	358120	5410800	Fenton's Knob	selective grab-o/c	Pyroxenite	FT9 300m. Coarse grained pyroxenite.
4140807	358185	5411005	Fenton's Knob	selective grab-o/c	Wthrd dunite	FT8 500m. Wthrd dunite.
4140808	358185	5411005	Fenton's Knob	selective grab-o/c	Wthrd dunite	FT8 500m. Wthrd dunite w/ chalcedony seams.
4140809	358135	5410970	Fenton's Knob	selective grab-o/c	Dunite	FT8 450m. Dunite w/ magnetite veining.
4140810	358135	5410970	Fenton's Knob	selective grab-o/c	Wthrd serpentinite	FT8 450m. Wthrd serpentinite w/ chalcedony seams.
4140811	358105	5410945	Fenton's Knob	selective grab-o/c	Wthrd serpentinite	FT8 400m. Wthrd serpentinite w/ chalcedony seams.
4140812	358210	5411250	Fenton's Knob	selective grab-o/c	Serpentinite	Serpentinite w/ magnetite veining.
4140813	358050	5410900	Fenton's Knob	selective grab-float	Pisolite	FT8 330m. Fe-oxide cemented pisolites.
4140814	358010	5411100	Fenton's Knob	selective grab-o/c	Wthrd serpentinite	FT10 30m. Fissile wthrd serpentinite.
4140815	358000	5411100	Fenton's Knob	selective grab-o/c	Wthrd serpentinite	FT10 40m. Burnt red stained wthrd serpentinite.
4140816	357980	5411100	Fenton's Knob	selective grab-o/c	Serpentinite	FT10 60m. Serpentinite w/ magnetite veining and disseminated chromite.
4140817	358085	5411190	Fenton's Knob	selective grab-o/c	Carbonate veined serpentinite	FT11 190m. Brown carbonate veined serpentinite.
4140818	358085	5411190	Fenton's Knob	selective grab-o/c	Serpentinite	FT11 190m. Serpentinite.
4140819	357995	5411200	Fenton's Knob	selective grab-o/c	Gabbro-norite	FT11 100m. ?Gabbro-norite.
4140820	357945	5411210	Fenton's Knob	selective grab-o/c	Serpentinite	FT11 50m. Serpentinite w/ minor relict m.g. pyroxene.
4140821	358140	5411220	Fenton's Knob	selective grab-o/c	Dunite	
4140822	358110	5411255	Fenton's Knob	selective grab-s/c	Wthrd dunite	
4140823	358090	5411280	Fenton's Knob	selective grab-o/c	Breccia	Carbonate cemented serpentinite breccia.
4140824	358070	5411300	Fenton's Knob	selective grab-o/c	Dunite	Dunite w/ 2% disseminated chromite.
4140825	358045	5411330	Fenton's Knob	selective grab-o/c	Serpentinite	Serpentinised dunite with 3% disseminated chromite.
4140826	358170	5411185	Fenton's Knob	selective grab-o/c	Wthrd serpentinite	
4140827	358200	5411145	Fenton's Knob	selective grab-o/c	Wthrd serpentinite	
4140828	358240	5411100	Fenton's Knob	selective grab-s/c	Wthrd serpentinite	
4140829	358270	5411065	Fenton's Knob	selective grab-float	Dunite	Dunite w/ minor pyroxenite.
4140830	358295	5411035	Fenton's Knob	selective grab-o/c	Wthrd serpentinite	
4140831	358320	5411000	Fenton's Knob	selective grab-o/c	Dunite	
4140832	358060	5411155	Fenton's Knob	selective grab-o/c	Breccia	F.g. pyroxenite breccia. Serpentine cements breccia fragments.
4140833	358090	5411125	Fenton's Knob	selective grab-o/c	Breccia	F.g. pyroxenite breccia. Serpentine cements breccia fragments.
4140834	358115	5411095	Fenton's Knob	selective grab-o/c	Breccia	F.g. pyroxenite breccia. Serpentine cements breccia fragments.

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LAB: ALS																				
	Cu	Pb	Zn	Ag	As	Fe	Mn	Co	Cr	Al	Ba	Ca	Mg	Na	Ni	S	Ti	V	Au	Au PM219
units	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm
method	IC587	PM219	CHECKS																	
4140801	-5	-5	59	-1	5	9.76	1260	309	1160	0.11	18	-0.01	0.3	-0.01	3010	51	78	15	-0.001	
4140802	-5	-5	47	-1	7	5.37	949	171	515	0.09	12	0.01	13.3	-0.01	3010	84	107	11	0.001	
4140803	-5	5	45	-1	-5	4	528	119	408	0.04	-10	0.01	14.5	-0.01	2840	98	18	-10	0.001	
4140804	-5	-5	36	-1	-5	4.97	327	56	2830	0.13	35	-0.01	0.82	-0.01	862	68	200	-10	0.001	
4140805	-5	-5	76	-1	-5	7.2	1230	184	795	0.07	-10	0.02	17.3	0.01	6900	123	11	10	-0.001	
4140806	-5	-5	32	-1	-5	4.51	1280	70	1520	0.56	-10	11.4	11.7	0.05	573	70	160	112	0.001	0.001
4140807	-5	-5	33	-1	-5	3.96	586	102	282	0.04	-10	0.37	16.5	-0.01	2480	109	-10	-10	-0.001	0.001
4140808	-5	-5	36	-1	-5	4.15	888	148	570	0.08	14	0.08	9.7	-0.01	1700	71	98	-10	-0.001	-0.001
4140809	-5	-5	38	-1	-5	3.98	573	104	412	0.03	-10	0.02	15.9	-0.01	2870	112	-10	-10	0.001	
4140810	-5	-5	46	-1	-5	7.32	564	160	838	0.12	27	0.02	1.14	-0.01	2260	45	76	-10	0.001	
4140811	-5	7	10	2	-5	2.02	1930	20	716	0.04	15	-0.01	0.62	-0.01	248	37	58	19	-0.001	
4140812	-5	-5	30	-1	-5	2.9	585	82	222	0.03	-10	0.01	12.7	-0.01	2070	80	-10	-10	0.001	
4140813	-5	-5	117	-1	13	50.4	7220	804	5060	0.67	80	0.04	0.9	-0.01	3710	98	448	47	0.016	0.015
4140814	-5	-5	52	-1	-5	5.29	870	133	550	0.06	-10	0.01	17.1	-0.01	4940	148	-10	-10	-0.001	
4140815	-5	-5	38	-1	-5	5.13	822	127	359	0.04	-10	0.03	15.4	-0.01	2490	109	17	-10	-0.001	
4140816	-5	-5	33	-1	-5	3.71	540	97	368	0.03	-10	0.01	16.4	-0.01	2360	174	-10	-10	-0.001	
4140817	-5	-5	24	-1	-5	2.32	666	60	555	0.28	-10	1.64	15.2	-0.01	1260	91	30	13	0.006	
4140818	-5	-5	23	-1	-5	3.52	272	95	173	0.02	-10	0.02	14.1	-0.01	2330	79	-10	-10	-0.001	
4140819	-5	-5	38	-1	-5	3.17	596	113	330	0.03	-10	0.02	15	-0.01	2330	93	17	-10	0.001	
4140820	-5	-5	28	-1	-5	3.62	439	94	235	0.03	-10	-0.01	16.4	-0.01	2350	92	-10	-10	0.001	
4140821	-5	-5	29	-1	-5	3.32	257	95	247	0.03	-10	-0.01	16.7	-0.01	2370	98	-10	-10	-0.001	
4140822	-5	-5	35	-1	-5	4.04	647	113	175	0.03	-10	0.01	16.5	-0.01	2270	105	-10	-10	-0.001	
4140823	-5	-5	23	-1	-5	2.38	420	67	206	0.03	-10	3	12.6	-0.01	1540	91	-10	-10	-0.001	
4140824	-5	-5	32	-1	-5	3.55	545	103	1030	0.03	-10	0.03	14.8	-0.01	2590	93	-10	-10	-0.001	
4140825	-5	-5	31	-1	-5	3.69	471	93	358	0.05	-10	0.03	21.2	-0.01	2290	127	-10	-10	-0.001	-0.001
4140826	-5	-5	37	-1	-5	4.64	376	111	429	0.05	-10	0.01	21.1	-0.01	2380	126	-10	-10	-0.001	
4140827	-5	-5	38	-1	-5	4.35	458	106	293	0.04	-10	0.02	21.9	-0.01	2310	120	-10	-10	0.001	
4140828	-5	-5	42	-1	-5	4.71	764	130	343	0.04	-10	0.02	20.7	-0.01	2660	117	-10	-10	0.001	
4140829	-5	-5	45	-1	-5	4.75	646	116	382	0.05	-10	0.02	21.9	-0.01	2520	125	-10	-10	-0.001	
4140830	-5	-5	43	-1	-5	5.25	691	116	608	0.08	-10	0.02	19.9	-0.01	2460	105	-10	-10	0.001	
4140831	-5	-5	58	-1	-5	6.16	1340	174	307	0.05	-10	0.02	20.6	-0.01	3490	125	-10	-10	0.001	
4140832	-5	-5	66	-1	6	5.79	3080	128	1870	0.22	-10	0.17	17.7	0.01	1290	116	32	27	0.001	
4140833	-5	-5	45	-1	6	5.23	1840	68	1300	0.11	-10	0.08	19.8	-0.01	1060	136	-10	19	-0.001	
4140834	-5	-5	34	-1	7	3.6	316	76	547	0.05	-10	0.34	20.9	-0.01	1900	173	31	-10	0.001	

757017

CRA Exploration Pty. Limited GEOCHEMICAL SAMPLE LEDGER: ROCK						
Project: Tasmanian ultramafic Ni						
		Map Sheet				
Tenement: EL 36/92		250,000: SK55-3		Geologist: S.Maher		
DPO# 77229		100,000: 7914 & 7915		Date: January, 1995		
SAMPLEno.	eastAMG	northAMG	PRSPCT	sampleTYPE	ROCKtype	
4140835	358135	5411070	Fenton's Knob	selective grab-o/c	Wthrd pyroxenite	Intensely wthrd f.g. pyroxenite.
4140836	358175	5411070	Fenton's Knob	selective grab-o/c	Wthrd pyroxenite	
4140837	358195	5411085	Fenton's Knob	selective grab-float	Dunite	
4140838	358135	5411035	Fenton's Knob	selective grab-o/c	Wthrd serpentinite	Wthrd serpentinitised dunite.
4140839	361850	5406750		selective grab-float	Siliceous basalt	Silica flushed sulphidic amygdoidal ?boninitic basalt. Sulphides are predominantly pyrite.
4140840	362050	5406500	Godkin Mine	selective grab-mull	Wthrd carbonate	Wthrd micritic carbonate w/ zones of black residual material.
4140841	362050	5406500	Godkin Mine	selective grab-mull	Wthrd carbonate	Wthrd micritic carbonate w/ zones of black residual material. Rare silover sulphides intergrown with f.g. quartz.
4140842	362050	5406500	Godkin Mine	selective grab-mull	Wthrd carbonate	Wthrd ?micritic carbonate w/ botrioidal silica lined cavaties.
4140843	362050	5406500	Godkin Mine	selective grab-mull	Sulphidic carbonate	Galena (shalerite) occurs in dissolution seams/zones on silicified f.g. ?carbonate. Trace disseminated (chalco)pyrite.
4140844	362050	5406500	Godkin Mine	selective grab-mull	Sulphidic carbonate	Sphalerite (galena) intergrown with ?green mineral fills ?shrinkage fractures in micritic carbonate.
4140845	362050	5406500	Godkin Mine	selective grab-mull	Sulphidic quartzite	Quartzite (?after carbonate) w/ 1% disseminated chalcopyrite.
4140846	362350	5406160		selective grab-o/c	Wthrd ?carbonate	
4140847	361500	5408500		selective grab-o/c	Pitted vein quartz	V.coarsely crystalline comb textured quartz with pits after pyrite - from tholeiitic basalt sequence.

757018

LAB: ALS																				
	Cu	Pb	Zn	Ag	As	Fe	Mn	Co	Cr	Al	Ba	Ca	Mg	Na	Ni	S	Ti	V	Au	Au PM219
units	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	ppm	ppm
method	IC587	IC587	IC587	IC587	IC587	IC587	IC587	IC587	IC587	IC587	IC587	IC587	PM219	CHECKS						
4140835	-5	-5	47	-1	5	4.71	1220	119	526	0.05	-10	0.03	20.3	-0.01	2750	150	-10	-10	-0.001	
4140836	-5	-5	42	-1	-5	4.5	614	106	422	0.05	-10	0.02	22.1	-0.01	2380	168	-10	-10	-0.001	
4140837	-5	-5	51	-1	6	4.86	1010	150	451	0.04	-10	0.02	20	-0.01	3850	129	-10	-10	0.001	
4140838	-5	-5	44	-1	-5	5.14	942	118	453	0.04	-10	0.01	20.6	-0.01	2280	165	-10	-10	-0.001	
4140839	345	24	69	-1	15	10.7	732	57	355	2.36	14	0.04	2.01	0.03	105	33900	435	82	0.02	
4140840	170	21800	8800	113	45	12.4	77700	41	66	1.86	349	0.11	0.3	0.01	-5	969	367	25	0.021	0.02
4140841	115	22500	10100	310	36	22.5	114800	25	134	2.57	229	0.04	0.22	-0.01	-5	851	804	168	0.015	0.021
4140842	117	28900	12600	1320	41	6.69	79400	7	222	1.21	390	0.03	0.15	0.01	-5	391	207	91	0.034	0.022
4140843	737	61000	8190	590	39	6.62	66000	-5	132	1.48	44	6.25	2.5	-0.01	-5	20110	476	27	0.014	
4140844	35	1940	12500	35	8	18.6	115300	-5	78	1.1	27	1.6	1.54	-0.01	-5	6340	333	20	0.022	
4140845	20	1090	604	13	10	1.95	6580	-5	266	1.66	64	3.16	1.69	0.02	-5	3330	523	26	0.012	
4140846	959	4870	1870	10	80	38.8	67100	175	230	2.21	3280	0.15	0.25	0.23	92	325	288	131	0.043	
4140847	731	65	45	1	-5	2.47	1190	-5	522	0.16	48	0.05	0.08	0.01	7	494	23	20	0.16	0.158

757019



AUSTRALIAN LABORATORY SERVICES P/L
A.C.N. 009 936 029

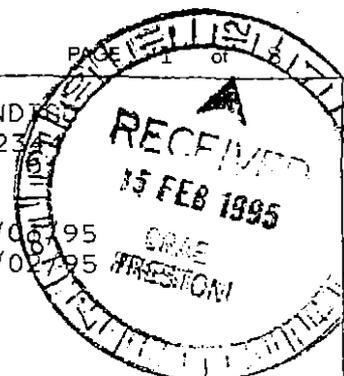


ANALYTICAL REPORT

757020

CONTACT: MR S MAHER
CLIENT: CRA EXPLORATION PTY LTD
ADDRESS:
P O BOX 8093
NORTHLAND CENTRE VIC 3072

LABORATORY: BENDIGO
BATCH NUMBER: BE23
SUB BATCH: 0
No. OF SAMPLES: 47
DATE RECEIVED: 23/08/95
DATE COMPLETED: 10/09/95



ORDER No.: 77229

SAMPLE TYPE: ROCK

PROJECT:

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Cu ppm IC587 5	Pb ppm IC587 5	Zn ppm IC587 5	Ag ppm IC587 1	As ppm IC587 5	Fe % IC587 0.01
4140801		<5	<5	59	<1	5	9.76
4140802		<5	<5	47	<1	7	5.37
4140803		<5	5	45	<1	<5	4.00
4140804		<5	<5	36	<1	<5	4.97
4140805		<5	<5	76	<1	<5	7.20
4140806		<5	<5	32	<1	<5	4.51
4140807		<5	<5	33	<1	<5	3.96
4140808		<5	<5	36	<1	<5	4.15
4140809		<5	<5	38	<1	<5	3.98
4140810		<5	<5	46	<1	<5	7.32
4140811		<5	7	10	2	<5	2.02
4140812		<5	<5	30	<1	<5	2.90
4140813		<5	<5	117	<1	13	50.38
4140814		<5	<5	52	<1	<5	5.29
4140815		<5	<5	38	<1	<5	5.13
4140816		<5	<5	33	<1	<5	3.71
4140817		<5	<5	24	<1	<5	2.32
4140818		<5	<5	23	<1	<5	3.52
4140819		<5	<5	38	<1	<5	3.17
4140820		<5	<5	28	<1	<5	3.62
4140821		<5	<5	29	<1	<5	3.32
4140822		<5	<5	35	<1	<5	4.04
4140823		<5	<5	23	<1	<5	2.38
4140824		<5	<5	32	<1	<5	3.55
4140825		<5	<5	31	<1	<5	3.69
4140826		<5	<5	37	<1	<5	4.64
4140827		<5	<5	38	<1	<5	4.35
4140828		<5	<5	42	<1	<5	4.71
4140829		<5	<5	45	<1	<5	4.75
4140830		<5	<5	43	<1	<5	5.25

COMMENTS:

Pb and Zn values >1.00% reassayed by Method A101.
Ag values >25ppm reassayed by Method A101.
Al may bias low by IC587. Fusion technique recommended.
Ba and Ti may bias low by IC587. XRF1 recommended.

* This is the Final Report which supersedes any preliminary reports with this batch number.

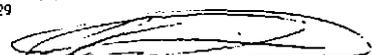
* Results apply to sample(s) as submitted by client

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All pages of this report
have been checked and
approved for release.





ANALYTICAL REPORT

757021

CONTACT: MR S MAHER
CLIENT: CRA EXPLORATION PTY LTD
ADDRESS:
P O BOX 8093
NORTHLAND CENTRE VIC 3072

LABORATORY: BENDIGO
BATCH NUMBER: BE2344
SUB BATCH: 0
No. OF SAMPLES: 47
DATE RECEIVED: 23/01/95
DATE COMPLETED: 10/02/95

ORDER No.: 77229

SAMPLE TYPE: ROCK

PROJECT:

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Cu ppm IC587 5	Pb ppm IC587 5	Zn ppm IC587 5	Ag ppm IC587 1	As ppm IC587 5	Fe % IC587 0.01
4140831		<5	<5	58	<1	<5	6.16
4140832		<5	<5	66	<1	6	5.79
4140833		<5	<5	45	<1	6	5.23
4140834		<5	<5	34	<1	7	3.60
4140835		<5	<5	47	<1	5	4.71
4140836		<5	<5	42	<1	<5	4.50
4140837		<5	<5	51	<1	6	4.86
4140838		<5	<5	44	<1	<5	5.14
4140839		345	24	69	<1	15	10.74
4140840		170	2.18%	8800	113	45	12.37
4140841		115	2.25%	1.01%	310	36	22.45
4140842		117	2.89%	1.26%	1320	41	6.69
4140843		737	6.10%	8190	590	39	6.62
4140844		35	1940	1.25%	35	8	18.63
4140845		20	1090	604	13	10	1.95
4140846		959	4870	1870	10	80	38.81
4140847		731	65	45	1	<5	2.47

COMMENTS:

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client.

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757022

ANALYTICAL REPORT

CONTACT: MR S MAHER
CLIENT: CRA EXPLORATION PTY LTD
ADDRESS:
P O BOX 8093
NORTHLAND CENTRE VIC 3072

LABORATORY: BENDIGO
BATCH NUMBER: BE2344
SUB BATCH: 0
No. OF SAMPLES: 47
DATE RECEIVED: 23/01/95
DATE COMPLETED: 10/02/95

ORDER No.: 77229

SAMPLE TYPE: ROCK

PROJECT:

SAMPLE NUMBER	ELEMENT	Mn	Co	Cr	Al	Ba	Ca
	UNIT METHOD L.O.R.	ppm IC587 5	ppm IC587 5	ppm IC587 5	% IC587 0.01	ppm IC587 10	% IC587 0.01
4140801		1260	309	1160	0.11	18	<0.01
4140802		949	171	515	0.09	12	0.01
4140803		528	119	408	0.04	<10	0.01
4140804		327	56	2830	0.13	35	<0.01
4140805		1230	184	795	0.07	<10	0.02
4140806		1280	70	1520	0.56	<10	11.41
4140807		586	102	282	0.04	<10	0.37
4140808		888	148	570	0.08	14	0.08
4140809		573	104	412	0.03	<10	0.02
4140810		564	160	838	0.12	27	0.02
4140811		1930	20	716	0.04	15	<0.01
4140812		585	82	222	0.03	<10	0.01
4140813		7220	804	5060	0.67	80	0.04
4140814		870	133	550	0.06	<10	0.01
4140815		822	127	359	0.04	<10	0.03
4140816		540	97	368	0.03	<10	0.01
4140817		666	60	555	0.28	<10	1.64
4140818		272	95	173	0.02	<10	0.02
4140819		596	113	330	0.03	<10	0.02
4140820		439	94	235	0.03	<10	<0.01
4140821		257	95	247	0.03	<10	<0.01
4140822		647	113	175	0.03	<10	0.01
4140823		420	67	206	0.03	<10	3.00
4140824		545	103	1030	0.03	<10	0.03
4140825		471	93	358	0.05	<10	0.03
4140826		376	111	429	0.05	<10	0.01
4140827		458	106	293	0.04	<10	0.02
4140828		764	130	343	0.04	<10	0.02
4140829		646	116	382	0.05	<10	0.02
4140830		691	116	608	0.08	<10	0.02

COMMENTS:

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client.

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ANALYTICAL REPORT

757023

PAGE 4 of 8

CONTACT: MR S MAHER
CLIENT: CRA EXPLORATION PTY LTD
ADDRESS:
P O BOX 8093
NORTHLAND CENTRE VIC 3072

LABORATORY: BENDIGO
BATCH NUMBER: BE2344
SUB BATCH: 0
No. OF SAMPLES: 47
DATE RECEIVED: 23/01/95
DATE COMPLETED: 10/02/95

ORDER No.: 77229

SAMPLE TYPE: ROCK

PROJECT:

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Mn ppm IC587 5	Co ppm IC587 5	Cr ppm IC587 5	Al % IC587 0.01	Ba ppm IC587 10	Ca % IC587 0.01
4140831		1340	174	307	0.05	<10	0.02
4140832		3080	128	1870	0.22	<10	0.17
4140833		1840	68	1300	0.11	<10	0.08
4140834		316	76	547	0.05	<10	0.34
4140835		1220	119	526	0.05	<10	0.03
4140836		614	106	422	0.05	<10	0.02
4140837		1010	150	451	0.04	<10	0.02
4140838		942	118	453	0.04	<10	0.01
4140839		732	57	355	2.36	14	0.04
4140840		7.77%	41	66	1.86	349	0.11
4140841		11.48%	25	134	2.57	229	0.04
4140842		7.94%	7	222	1.21	390	0.03
4140843		6.60%	<5	132	1.48	44	6.25
4140844		11.53%	<5	78	1.10	27	1.60
4140845		6580	<5	266	1.66	64	3.16
4140846		6.71%	175	230	2.21	3280	0.15
4140847		1190	<5	522	0.16	48	0.05

COMMENTS:

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client

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AUSTRALIAN LABORATORY SERVICES P/L

A.C.N. 009 936 029



757024

ANALYTICAL REPORT

PAGE 5 of 8

CONTACT: MR S MAHER
 CLIENT: CRA EXPLORATION PTY LTD
 ADDRESS:
 P O BOX 8093
 NORTHLAND CENTRE VIC 3072

LABORATORY: BENDIGO
 BATCH NUMBER: BE2344
 SUB BATCH: 0
 No. OF SAMPLES: 47
 DATE RECEIVED: 23/01/95
 DATE COMPLETED: 10/02/95

ORDER No.: 77229

SAMPLE TYPE: RDC K

PROJECT:

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Mg %	Na %	Ni ppm	S ppm	Ti ppm	V ppm
		IC587 0.01	IC587 0.01	IC587 5	IC587 10	IC587 10	IC587 10
4140801		0.30	<0.01	3010	51	78	15
4140802		13.33	<0.01	3010	84	107	11
4140803		14.47	<0.01	2840	98	18	<10
4140804		0.82	<0.01	862	68	200	<10
4140805		17.32	0.01	6900	123	11	10
4140806		11.71	0.05	573	70	160	112
4140807		16.53	<0.01	2480	109	<10	<10
4140808		9.70	<0.01	1700	71	98	<10
4140809		15.91	<0.01	2870	112	<10	<10
4140810		1.14	<0.01	2260	45	76	<10
4140811		0.62	<0.01	248	37	58	19
4140812		12.72	<0.01	2070	80	<10	<10
4140813		0.90	<0.01	3710	98	448	47
4140814		17.10	<0.01	4940	148	<10	<10
4140815		15.39	<0.01	2490	109	17	<10
4140816		16.37	<0.01	2360	174	<10	<10
4140817		15.17	<0.01	1260	91	30	13
4140818		14.10	<0.01	2330	79	<10	<10
4140819		15.00	<0.01	2330	93	17	<10
4140820		16.40	<0.01	2350	92	<10	<10
4140821		16.73	<0.01	2370	98	<10	<10
4140822		16.52	<0.01	2270	105	<10	<10
4140823		12.57	<0.01	1540	91	<10	<10
4140824		14.82	<0.01	2590	93	<10	<10
4140825		21.16	<0.01	2290	127	<10	<10
4140826		21.10	<0.01	2380	126	<10	<10
4140827		21.90	<0.01	2310	120	<10	<10
4140828		20.67	<0.01	2660	117	<10	<10
4140829		21.86	<0.01	2520	125	<10	<10
4140830		19.87	<0.01	2460	105	<10	<10

COMMENTS:

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ANALYTICAL REPORT

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PAGE 6 of 8

CONTACT: MR S MAHER
CLIENT: CRA EXPLORATION PTY LTD
ADDRESS:
P O BOX 8093
NORTHLAND CENTRE VIC 3072

LABORATORY: BENDIGO
BATCH NUMBER: BE2344
SUB BATCH: 0
No. OF SAMPLES: 47
DATE RECEIVED: 23/01/95
DATE COMPLETED: 10/02/95

ORDER No.: 77229

SAMPLE TYPE: ROCK

PROJECT:

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Mg	Na	Ni	S	Ti	V
		% IC587 0.01	% IC587 0.01	ppm IC587 5	ppm IC587 10	ppm IC587 10	ppm IC587 10
4140831		20.58	<0.01	3490	125	<10	<10
4140832		17.72	0.01	1290	116	32	27
4140833		19.83	<0.01	1060	136	<10	19
4140834		20.87	<0.01	1900	173	31	<10
4140835		20.26	<0.01	2750	150	<10	<10
4140836		22.07	<0.01	2380	168	<10	<10
4140837		19.98	<0.01	3850	129	<10	<10
4140838		20.57	<0.01	2280	165	<10	<10
4140839		2.01	0.03	105	3.39%	435	82
4140840		0.30	0.01	<5	969	367	25
4140841		0.22	<0.01	<5	851	804	168
4140842		0.15	0.01	<5	391	207	91
4140843		2.50	<0.01	<5	2.01%	476	27
4140844		1.54	<0.01	<5	6340	333	20
4140845		1.69	0.02	<5	3330	523	26
4140846		0.25	0.23	52	325	288	131
4140847		0.08	0.01	7	494	23	20

COMMENTS:

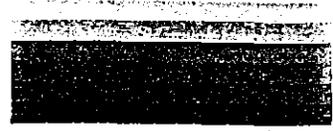
• This is the Final Report which supersedes any preliminary reports with this batch number.

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757026

ANALYTICAL REPORT

CONTACT: MR S MAHER
CLIENT: CRA EXPLORATION PTY LTD
ADDRESS:
P O BOX 8093
NORTHLAND CENTRE VIC 3072

LABORATORY: BENDIGO
BATCH NUMBER: BE2344
SUB BATCH: 0
No. OF SAMPLES: 47
DATE RECEIVED: 23/01/95
DATE COMPLETED: 10/02/95

ORDER No.: 77229

SAMPLE TYPE: ROCK

PROJECT:

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	AU ppm PM219 0.001	AU PM219 - ppm CHECKS 0.001				
4140801		<0.001					
4140802		0.001					
4140803		0.001					
4140804		0.001					
4140805		<0.001					
4140806		0.001	0.001				
4140807		<0.001	0.001				
4140808		<0.001	<0.001				
4140809		0.001					
4140810		0.001					
4140811		<0.001					
4140812		0.001					
4140813		0.015	0.015				
4140814		<0.001					
4140815		<0.001					
4140816		<0.001					
4140817		0.006					
4140818		<0.001					
4140819		0.001					
4140820		0.001					
4140821		<0.001					
4140822		<0.001					
4140823		<0.001					
4140824		<0.001					
4140825		<0.001	<0.001				
4140826		<0.001					
4140827		0.001					
4140828		0.001					
4140829		<0.001					
4140830		0.001					

COMMENTS:

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* Results apply to sample(s) as submitted by client

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757027

ANALYTICAL REPORT

CONTACT: MR S MAHER
CLIENT: CRA EXPLORATION PTY LTD
ADDRESS:
P O BOX 8093
NORTHLAND CENTRE VIC 3072

LABORATORY: BENDIGO
BATCH NUMBER: BE2344
SUB BATCH: 0
No. OF SAMPLES: 47
DATE RECEIVED: 23/01/95
DATE COMPLETED: 10/02/95

ORDER No.: 77229

SAMPLE TYPE: ROCK

PROJECT:

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	AU ppm PM219 0.001	AU PM219 ppm CHECKS 0.001				
4140831		0.001					
4140832		0.001					
4140833		<0.001					
4140834		0.001					
4140835		<0.001					
4140836		<0.001					
4140837		0.001					
4140838		<0.001					
4140839		0.020					
4140840		0.021	0.020				
4140841		0.015	0.021				
4140842		0.034	0.022				
4140843		0.014					
4140844		0.022					
4140845		0.012					
4140846		0.043					
4140847		0.160	0.158				

COMMENTS:

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757028

ANALYTICAL REPORT

CONTACT: MR S MAHER
CLIENT: CRA EXPLORATION PTY LTD
ADDRESS:
P O BOX 8093
NORTHLAND CENTRE VIC 3072

LABORATORY: BENDIGO
BATCH NUMBER: BE2344
SUB BATCH: 0
No. OF SAMPLES: 47
DATE RECEIVED: 23/01/95
DATE COMPLETED: 10/02/95

ORDER No.: 77229

SAMPLE TYPE: QUALITY CONTROL

PROJECT:

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Cu ppm IC587 5	Pb ppm IC587 5	Zn ppm IC587 5	Ag ppm IC587 1	As ppm IC587 5	Fe % IC587 0.01
*** 4140809		<5	<5	40	<1	<5	3.95
*** 4140819		<5	<5	41	<1	<5	3.16
*** 4140829		<5	<5	50	<1	<5	4.36
*** 4140845		26	1120	646	14	14	2.10

COMMENTS:

Results which appear on this report are routine laboratory checks for QUALITY CONTROL purposes.

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client

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757029

ANALYTICAL REPORT

CONTACT: MR S MAHER
CLIENT: CRA EXPLORATION PTY LTD
ADDRESS:
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NORTHLAND CENTRE VIC 3072

LABORATORY: BENDIGO
BATCH NUMBER: BE2344
SUB BATCH: C
No. OF SAMPLES: 47
DATE RECEIVED: 23/01/95
DATE COMPLETED: 10/02/95

ORDER No.: 77229

SAMPLE TYPE: QUALITY CONTROL

PROJECT:

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Mn ppm IC587 5	Co ppm IC587 5	Cr ppm IC587 5	Al % IC587 0.01	Ba ppm IC587 10	Ca % IC587 0.01
*** 4140809		600	98	341	0.03	<10	0.02
*** 4140819		703	108	386	0.04	<10	0.02
*** 4140829		652	106	351	0.05	<10	0.02
*** 4140845		7080	<5	335	1.77	68	3.41

COMMENTS:

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757030

ANALYTICAL REPORT

CONTACT: MR S MAHER
CLIENT: CRA EXPLORATION PTY LTD
ADDRESS:
P O BOX 8093
NORTHLAND CENTRE VIC 3072

LABORATORY: BENDIGO
BATCH NUMBER: BE2344
SUB BATCH: 0
No. OF SAMPLES: 47
DATE RECEIVED: 23/01/95
DATE COMPLETED: 10/02/95

ORDER No.: 77229

SAMPLE TYPE: QUALITY CONTROL

PROJECT:

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Mg	Na	Ni	S	Ti	V
		% IC587 0.01	% IC587 0.01	ppm IC587 5	ppm IC587 10	ppm IC587 10	ppm IC587 10
*** 4140809		15.79	<0.01	2720	120	<10	<10
*** 4140819		15.31	<0.01	2190	92	14	<10
*** 4140829		20.01	<0.01	2330	117	<10	<10
*** 4140845		1.82	0.02	<5	3570	510	28

COMMENTS:

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