049001

EXPLORATION LICENCE 24/84
TEN MILE CREEK AREA
NORTHERN TASMANIA

RESULTS OF A CORE DRILLING PROGRAM

COMPLETED FEBRUARY, 1992.

L.A. Newnham
Consulting Geologist
Box 1002,
Devonport 7310.
Ph.(004) 282289.
Fax (004) 282781.

CONTENTS

Approx AMG co-ords.
TMC 1 400,270E; 5,391,700N
2 399,960E; 5,391,110N
3 399,870E; 5,390,920N
4 399,830E; 5,390,970N

APPENDICES:

MAPS:

1. SUMMARY

Exploration Licence 24/84 covers six square kilometres of a heavily forested National Estate area on the steep northern flanks of Mt. Remus in North West Tasmania. (Fig 1.)

Previous exploration work in the area had defined gold and copper anomalies in soils and rocks associated with intrusive members of the Cambrian Mt. Read Volcanics.

In particular, the anomalies were coincident with a broad zone of intense hematite-chlorite alteration and hematite stockworks in potassium rich rhyolitic rocks belonging to the Bonds Range Porphyry and other associated porphyritic intrusives.

In January-February 1992, these anomalies were further tested with four short cored drill holes, totalling 154 metres.

Three of these holes tested the geochemically gold anomalous zone of intense hematite alteration and stockworking to the immediate East and West of the Ten Mile Creek Fault which disrupts the zone. The depth of two of these holes was restricted by the extremely hard ground conditions encountered.

The fourth hole tested a copper-gold geochemical anomaly coincident with a chloritic alteration zone further to the East.

Results of the holes supported the previous geological interpretation of the area, as being an intermixed sequence of quartz-felspar-biotite coarsely porphyritic rhyolites and finer grained quartz-feldspar porphyritic rhyolites or felsites. The intrusives were strongly potassic, pervasively hematitic and mildly stressed. As such, they are similar to several other rhyolitic domes known in the Mt. Read Volcanic Sequence further to the South, such as at Jukes and Red Hills.

Several narrow cored intersections of the stockworks alteration zone were gold anomalous (0.01-0.5g/t Au) but generally gold and base metal values were low.

Minor chalcopyrite was observed in quartz-chlorite veins in the one hole which tested the eastern chlorite alteration zone and this was reflected in elevated copper values in the core.

Work completed to date at Ten Mile Creek has defined a large alteration zone related to tectonic deformation of a late Cambrian multiple phased rhyolite intrusive. The zone is at least 2,000 metres long and 150 metres wide at surface and is characterised by discrete areas of either chloritic alteration or hematite veining and stockworking. The chloritic alteration is accompanied by elevated base metal values (particularly copper), and the hematite alteration by patchy but anomalous gold.

Potential exists within such a large alteration system for discrete bodies of higher grade mineralisation to develop. This potential for base metals in the chloritic zones could be further evaluated with I.P., whilst the potential for gold in the hematite zones would require additional and deeper drilling.

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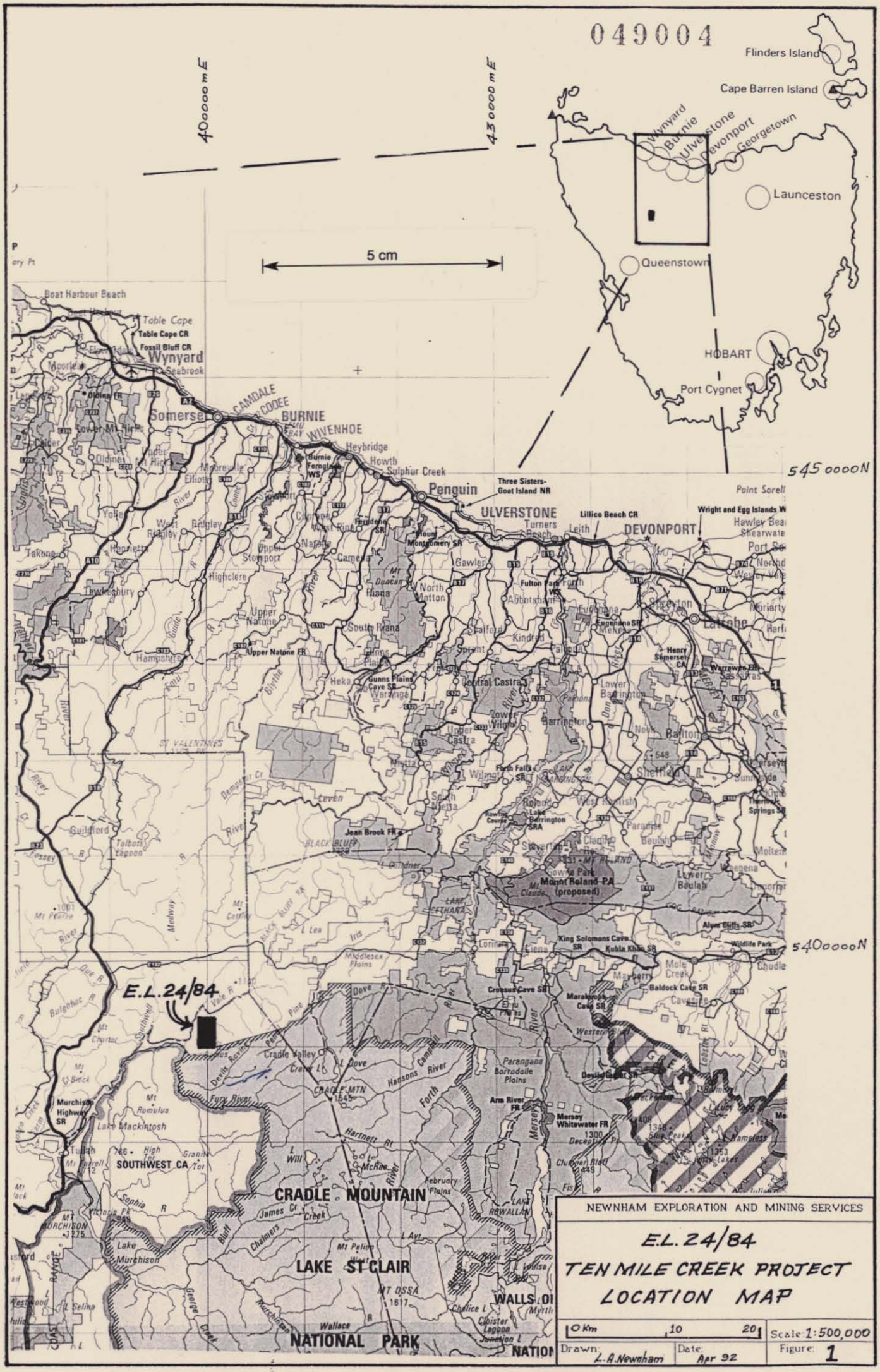

NEWNHAM EXPLORATION AND MINING SERVICES

E.L. 24/84
TEN MILE CREEK PROJECT
LOCATION MAP

0 Km	10	20	Scale: 1:500,000
Drawn: L.A. Newnham	Date: Apr 92		Figure: 1

2. INTRODUCTION

High level rhyolitic domes or intrusive sills occur sporadically in the Mt. Read Volcanics in Western and Northern Tasmania.

They are often pervasively altered and associated with copper-gold mineralisation, for example at Mt. Jukes South of Queenstown and Red Hills North of Queenstown. Exploration in such areas has been extensive and whilst several significant discoveries have been made, none have proved commercial to date.

Previous work in the Ten Mile Creek area suggested the region was underlain by an intensely altered and hematite stockworked porphyritic rhyolite. Soil and rock chip samples coincident with the main hematite-chlorite alteration zone were generally gold and copper anomalous, and the results were assessed as warranting further investigation.

Because the area is remote, rugged and poorly accessed, it was decided that the most appropriate next stage of exploration was to evaluate these anomalies by way of several short cored drill holes, utilising a small man-portable rig capable of drilling to approximately 50 metres.

To minimise environmental impact, a helicopter would provide logistical support but the drill would be moved and serviced manually.

The program was estimated to take 20 field days to complete at an approximate total cost of $50,000.

3. PREVIOUS WORK:

Principal references to previous work on E.L .24/84 are listed in Section 6 of this report.

Prior to CRA acquiring E.L. 24/84 of 103sq kilometres in 1984, various Companies undertook regional stream sediment, airborne geophysical (EM and magnetic) and reconnaissance mapping programs over sections of the region.

This exploration was primarily directed towards either tin-tungsten associated with Devonian granites or base metals of the Que River type in Cambrian Volcanics.

Stream sediment sampling by Shell defined a weak gold anomaly in the Ten Mile Creek area.

In 1987, CRA mapped and rock chip sampled the hematitic stockwork zone in the headwaters of Ten Mile Creek. Two sericitised porphyry samples taken due South- East of the main alteration zone assayed 1.04g/t and 8.08g/t.

A small grid was developed over this area, and in early 1988, CRA undertook a program of soil, rock chip and stream sediment sampling combined with a ground magnetic survey over the main hematite stockwork zone adjacent to Ten Mile Creek.

Broad but weak gold anomalies in soil and rock samples were defined over the stockwork zone and a strong bulk cyanide leach anomaly was obtained in a tributary of Ten Mile Creek.

CRA entered into a Joint Venture with Aberfoyle Resources in April 1988 to further explore the area.

In 1988, Aberfoyle rock chip sampled the anomalous area on Line 9400N in detail, and took -80 mesh and BCL stream sediment samples on tributaries of Ten Mile Creek. This work confirmed the gold anomalies obtained by CRA.

In 1989, Aberfoyle infilled and extended the grid to the North-East. Mapping and geochemical sampling of the new grid showed the main hematite stockwork zone to be 50-100 metres wide and to extend in a North-East direction for at least two kilometres. Towards the North-East, hematite alteration is accompanied by extensive chloritic alteration. In addition to being gold anomalous, the chloritic alteration zones are also copper anomalous.

Aberfoyle recommended shallow drill testing of the geochemically anomalous hematite and hematite-chlorite alteration zones, but subsequently withdrew from the Joint Venture prior to undertaking this work.

As part of the State Government's Mt. Read Volcanics Project, the Department of Mines has incorporated Company data on the Ten Mile Creek area in their regional mapping program. Results are presented both on MRVP Map 7 (1:25,000) and in the accompanying MRVP Geological Report No 4.

4. CURRENT PROGRAM:

4.1 Work Completed:

A program of four cored drill holes, designed to test geochemically anomalous areas associated with zones of altered Cambrian volcanic rocks on the North flanks of Mt. Remus was completed in January-February 1992.

Details of this program and the results obtained follow:

4.1.1. Logistics

General access to the area was provided by Helicopter Resources of Hobart operating Jet Ranger and Squirrel Helicopters from the Cradle Mountain airstrip.

Two helipads were established (Fig 2)— The main (eastern) one on a button grass saddle adjacent to the camp site, and a secondary (western) one on a button grass slope near Line 9200N. Helicopters had to remain at the hover on both pads and the western pad was only used to demobilise drilling equipment and personnel.

Flying time from the Cradle Mountain airstrip to the helipads was 5-10 minutes.

The tent camp, originally developed in 1987 by Aberfoyle, was re-established for this program and consisted of a mess tent and up to four individual sleeping tents. Water was pumped from an adjacent creek.

Access to the drill sites from the camp was by foot along both previously cut grid lines and new contour tracks between the drill sites. Maximum walking distance from camp to drill sites was two kilometres.

An emergency access to the area was by a 15 kilometre walking track from the camp to the Cradle Mountain airstrip via Reynolds Falls. This track can be difficult to follow at times, and takes approximately six hours to walk.

4.1.2. Drilling:

Drilling was undertaken by Nick Poltock of Nick Poltock Field Exploration, using a man-portable rig of his own design. Total crew size varied from 3-4.

Four holes totalling 153.7m. were completed. Core size was 46TT (35 mm diameter), and maximum depth attained was 54m.

Of the 20 field days, 9 were spent rigging, derigging and moving equipment and 11 were spent drilling. Thus average production was 17m. per drilling day.

The rig and all associated equipment was moved manually between sites. A complete move constituted about 40 loads.

4.1.3. Core Handling:

All core was broadly logged in the field prior to transport to Devonport where it was photographed and logged in greater detail.

Logs appear in this report as Appendix 1.

Zones of interest were halved by diamond saw and submitted for assay, generally in 1 metre intervals.

At present, all remaining core is stored in aluminium trays at this writer's office.

4.1.4. Assaying:

103 samples were submitted to Analabs in Burnie for Au, Ag, Cu,Pb, Zn determination.

The sample preparation method was:

— jaw crush.

— bowl pulverise whole sample to—180u.

— split out 150g.

— pulverise to -75u.

Gold assaying was by fire assay fusion with AAS finish; detection limit 0.008g/t.

Cu, Pb, Zn, Ag assaying was by Aqua Regia and Perchloric Acid digestion with AAS finish.

Full assay results appear as Appendix 2.

4.1.5. Petrology:

Fifteen drill core samples, representative of principal rock types and mineralised zones in the four drill holes were petrologically and mineralogically described by Central Mineralogical Services.

The descriptions appear as Appendix 3 and have also been incorporated, in part, into the drill logs.

4.1.6. Program Supervision:

This program was designed and supervised by Lindsay Newnham (consultant) at the request of Tom Dickson (CRA).

4.2. Results:

4.2.1. Regional Setting:

The rhyolitic intrusives of the Ten Mile Creek area are part of the Bonds Range Porphyry member of the Mt. Read Volcanics.

The North-East trending Bonds Range Porphyry is approximately 55 kilometres long and up to 3.5 kilometres thick and probably represents the largest Cambrian intrusive body in Tasmania.

It is one of a series of similar intrusives of granitic composition occuring close to the Cambrian-Precambrian contact in Western and Northern Tasmania.

Typically the Bonds Range Porphyry is a quartz-feldspar-biotite-hornblende porphyry with a red-brown groundmass. Alteration of biotite and hornblende to chlorite is widespread.

Government geologists (4) believe quartz-feldspar porphyry dykes in the Mt. Remus—Back Peak area are intrusive into the Bonds Range Porphyry and may represent a ferromagnesian depleted late stage differentiate of the Bonds Range Porphyry.

The zone of intense hematite alteration and hematite stockworks—veining at Ten Mile Creek is the only one of its type known within the Bonds Range Porphyry.

4.2.2. Drilling Results:

Hole TMC 1 (Fig3) was designed to test a zone of strongly chloritised porphyritic rhyolites associated with a broad Cu-Au soil and rock geochemical anomaly, on Line 10,000N.

It intersected a coarsely porphyritic quartz-feldspar-biotite rhyolite "intruded" by a finer grained quartz-feldspar porphyritic rhyolite.

The coarser unit was weakly but pervasively chloritised due to alteration of biotite (and hornblende?), and was cut by a number of narrow chlorite and quartz-chlorite veins which occasionally contained minor pyrite and chalcopyrite.

The intensity of chloritisation and veining increased slightly towards the bottom of the hole and this was reflected in a significant increase in Cu values from 20-100 ppm. in the less chloritised upper units to 300-700 ppm towards the base of the hole. The increase in Cu was accompanied by a lesser increase in Zn to values generally between 100-150 ppm.

No gold values above the 0.008 g/t detection limit were recorded.

Hole TMC 2 (Fig 4) was designed to test the main hematite stockwork zone on Line 9400N to the immediate North East of the postulated North West trending fault along Ten Mile Creek which displaces the zone. Soil samples down slope of the zone were gold anomalous.

The hole was prematurely terminated because of difficulty drilling a very hard fine grained felsite unit.

It intersected a coarsely porphyritic quartz—feldspar—biotite rhyolite, flanked on either side by a hard, fine grained quartz—feldspar porphyritic rhyolite or felsite. Contacts between the felsite and coarse porphyry were sharp and support the concept that the former intruded the latter.

Both rock types were pervasively hematitised but the coarser porphyry was also brecciated and cut by a stockworks of hematite and quartz-hematite veins, which accasionally carried fine grained pyrite and very minor chalcopyrite. This unit was strongly jointed with pyrite and an apple green mineral common on joint surfaces.

Anomalous gold values were recorded in both rock types. The upper felsite unit was gold anomalous from 0.2-7.0m., including 0.11g/t Au from 4.0-7.0m. The coarse porphyry unit was anomalous from 12.0-15.0m. (0.022g/tAu) and 23-25m. (0.012g/tAu).

Base metal values were very low throughout.

Hole TMC 3 (Fig 5) was designed to test the hematite stockwork zone of Line 9200N, South West of the Ten Mile Creek Fault where anomalous gold values were recorded in soil and rock samples.

This hole was stopped prematurely because of difficulty drilling the very hard fine grained rhyolites.

A coarsely porphyritic quartz-feldspar- biotite porphyry was intersected in the top half of the hole, in sharp contact with a hard fine grained quartz-feldspar porphyry. Both units are pervasively hematitic and the coarser porphyry is stockworked by hematitic, quartz-hematite and quartz-feldspar-hematite veins.

The coarse porphyry is gold anomalous with values up to 0.12g/t Au, but the finer unit is generally below detection level with only two samples reaching 0.016g/t.

Base metal values were very low.

Hole TMC 4 (Fig 5) was drilled 50 m. grid West of TMC 3 to further test the broad hematite stockwork zone in this area.

The hole was dominated by a series of fine grained quartz-feldspar porphyritic rhyolites or felsites, separated by two narrow zones of coarsely porphyritic quartz-feldspar-biotite rhyolite. All units had a hematitic groundmass. The uppermost felsite unit was cut by thin quartz-feldspar veins and occasional hematite veins. Some of the former veins had bright green mineral selvages (mica?).

Below 43 metres, the rhyolites became intensely veined, brecciated and stockworked by hematite and quartz-hematite veins. Hematite in the prominent late stage quartz-hematite veins at 70° to core axis is typically platey and metallic gray (specularite).

This unit below 43 metres was the most intensely altered and veined zone intersected in the program. Unfortunately, gold values were generally low apart from the fractured and brecciated interval from 48-49 metres which assayed 0.52 g/t Au. Several other intervals assayed in the range 0.01-0.1 g/t Au.

Base metal values were again very low, which appears to be a feature of the hematite stockwork zone.

5. DISCUSSION OF RESULTS:

The Ten Mile Creek area is underlain by a potassic quartz-feldspar-biotite porphyritic rhyolite intrusive correlatable with the Bonds Range Porphyry. Coarse quartz, K-feldspar and biotite phenocrysts are set in a hematitic groundmass which has a microgranitic texture.

This Bonds Range Porphyry has been intruded by a number (?) of finer grained porphyritic rhyolite sills. These later intrusives have smaller quartz and feldspar phenocrysts set in a spherulitically textured fine grained hematitic groundmass. Margin contacts are sharp and suggest rapid cooling.

The area has been deformed and stressed resulting in pervasive chloritisation of mafic components. Where deformation was strongest, the rhyolites have fractured (brecciated) and faulted. This was accompanied by intense hematitisation expressed in the form of a stockworking of hematite veins and several periods of later quartz-hematite (specularite) veining.

Variable chloritisation and hematitisation are now known to extend along a North East trending zone at least 2,000 metres long and up to 150 metres wide.

Faulting, brecciation and hematitisation are most intense either side of Ten Mile Creek, where the creek is interpreted as following a North West trending fault.

Minor gold mineralisation has accompanied the hematite veining, in both rhyolite phases. Apart from minor pyrite on joint surfaces, these zones are conspicuous by their low base metal values.

Chloritisation appears to increase along the alteration zone to the North East and is accompanied by slight increases in copper and zinc, up to 760ppm and 140ppm respectively, in core.

Drilling of the hard hematitic stockworks zones was limited by the drill rig capabilities. This was unfortunate because at 54 metres when the drill capacity limit was reached, hole TMC 4 was entering a most intensely stockworked and veined zone, carrying gold up to 0.5 g/t.

Similarly in hole TMC 1, the intensity of chloritisation and base metal values appeared to be increasing towards the end of the hole at 52 metres.

This current drilling program, in combination with previous field work, has defined a large alteration system in faulted and brecciated Cambrian rhyolitic intrusives. Zones of chloritic alteration within this system appear to be base metal enriched whilst zones of hematitic alteration are gold anomalous.

It is possible that within such a large alteration system which is variably gold and base metal anomalous, smaller high grade bodies may have developed.

Potential for such higher grade concentrations of base metals in the chloritic zones could be further determined with IP surveys.

In the absence of widespread magnetite or sulfides accompanying gold in the hematite alteration zones, the potential for high grade concentrations of gold

would best be further tested with additional core drilling using a more powerful rig, for example a diesel LM37.

6. REFERENCES:

(i) "Mt. Romulus E.L. 24/84 Progress Report on Exploration for the Twelve Months to 25th November 1987" by Funnell, F.R., and von Strokirch, T., October 1987, CRA Report No. 14767.

(ii) "Exploration Licence 24/84 Mt. Romulus, Tasmania. Report on Exploration Activity to October 1988" by Henham, R.J., for Aberfoyle Resources Limited., November 1988, CRA Report No 15766.

(iii) "Exploration Licence 24/84 Mt. Romulus Tasmania. Report on Exploration to 25th November 1989" by Henham, R.J., for Aberfoyle Resources Limited, September 1989.

(iv) "Mt. Read Volcanics Project Geological Report 4. Geology of the Cradle Mountain Link Road—Mt. Tor Area" Pemberton, J., Vicary M.J., Corbett, K.D., published by Tasmanian Department Resources and Energy, 1991.

COMPANY: CRA EXPLORATION PTY. LIMITED
PROJECT: E.L.24/84 TEN MILE CREEK, TASMANIA
HOLE NUMBER: TMC 1

Commenced	20 January, 1992
Completed	24 January, 1992
Logged By	L.A Newnham
Drilled By	N.Poltock

Purpose
To drill test a copper-gold soil and rock geochemical anomaly, co-incident with a chloritic alteration zone in rhyolites on Grid Line 10,000N

Comments on Completion
Sequence of quartz- felspar-biotite coarsely porphyritic rhyolites and quartz- felspar fine grained porphyritic rhyolites. Chloritisation weak but increased slightly towards bottom of hole. All gold assays <0.008g/t, base metals low, with mod. increase towards bottom of hole. 1.0m. casing and shoe bit stuck in hole.

Collar Details

Northing	Easting	Elevation	Dip	Bearing	Grid
10,000+10N	20,335 E	540m	- 60	107AMG	Local

Length
51.9m

Down Hole Surveys		
Depth	Dip	Bearing
Nil		

Core Size	
Interval	Size
0 - 51.9	46TT

Significant Core Loss Zones	
Interval	% Recovered
0 - 1.6	0
1.6 - 7.%	65.0

Summary

Depth		Elevation		Recovery	Description	Assays						
From	To	From	To	%		Length						

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COMPANY : CRA EXPLORATION PTY. LIMITED

PROJECT : E.L.24/84 TEN MILE CREEK, TASMANIA

HOLE NUMBER : TMC 1

Core Recovery				Description				Assays							
From	To	m.	%	From	To	Lithology and Mineralisation	Structure	From	To	Au	Cu	Pb	Zn	Ag	
						SUMMARY LOG:									
				0	1.6	No core									
				1.6	9.4	Quartz-felspar-biotite coarsely porphyritic rhyolite, weathered and mildly chloritised									
				9.4	37.4	Quartz-felspar fine grained porphyritic rhyolite. Hematitic groundmass									
				37.4	51.9	Quartz-felspar-biotite coarsely porphyritic rhyolite, mildly chloritised and cut by quartz-chlorite veins carrying minor sulfides.									
						DETAILED LOG:									
0	1.6	0	0	0	1.6	No core									
1.6	2.1	0.3	60	1.6	9.4	Porphyritic rhyolite with coarse phenocrysts of quartz, felspar and biotite. Orange-tan color near surface becoming gray-green with depth. Phenos. of quartz up to 5mm., pink and white euhedral felspars to 10mm. Biotite strongly chloritised. Occasional quartz-chlorite veins at 20 and 70 to core axis. *Occasional thin hem. veins throughout*, partly altered to limonite.	Weathered and broken unit, Several sets of limonite coated joints at 40 & 80 CA								
2.1	2.85	0.2	27												
2.85	4.6	1.0	57												
4.6	5.7	0.8	73												
5.7	7.1	1.3	93												
7.1	51.9	44.8	100					10.0	11.0	<0.008	51	14	80	<0.5	
								12.0	13.0	<0.008	67	16	60	<0.5	
								14.0	15.0	0.013	99	9	60	<0.5	
								16.0	17.0	<0.008	90	14	70	<0.5	
								18.0	19.0	<0.008	24	15	75	<0.5	
								20.0	21.0	<0.008	27	15	105	<0.5	
				9.4	37.4	Porphyritic rhyolite with small phenos. of Quartz and felspar. Hem. groundmass. Hem. veins weathered to limonite increasing with depth. Qtz. and flsp. phenos. < 2mm. Petrological descriptions: 17.9m.: Brecciated, sericitised por. rhyolite 21.9m.: Brecciated por. rhyolite	Generally competent with minor broken zones of 13-18m. Several joint sets, esp 30 & 75 CA, usually limonite coated. Other irreg. breaks along weathered hem. veins.	25.0	26.0	<0.008	10	6	65	<0.5	
								27.0	28.0	<0.008	24	11	75	<0.5	
								29.0	30.0	<0.008	28	13	50	<0.5	
								31.0	32.0	<0.008	27	9	85	<0.5	
								33.0	34.0	<0.008	150	49	120	<0.5	
								35.0	36.0	<0.008	7	7	75	<0.5	
				37.4	51.9	Por. rhyolite with coarse phenos. of qtz.-flsp.-biotite. Mildly chloritised and cut by both qtz-chl. & hem. veins. Similar to unit 1.6-9.4 but chloritisation of biotites more intense. Qtz.-chl. veins up to 10mm. wide, 70-80CA. with occasional blebs and diss. of py-ccp.	Generally fresh and competent. Limonite coated conjugate joint sets at 45 CA	37.0	38.0	<0.008	15	5	110	<0.5	
								39.0	40.0	<0.008	100	<5	130	<0.5	
								41.0	42.0	<0.008	110	<5	125	<0.5	
								43.0	44.0	<0.008	760	<5	125	2.5	
								45.0	46.0	<0.008	320	<5	135	<0.5	
								47.0	48.0	<0.008	325	6	140	<0.5	
								49.0	50.0	<0.008	300	<5	130	<0.5	

COMPANY: CRA EXPLORATION PTY. LIMITED

PROJECT: E.L. 24/84 TEN MILE CREEK, TASMANIA

HOLE NUMBER: TMC 1

Core Recovery				Description				Assays							
From	To	m.	%	From	To	Lithology and Mineralisation	Structure	From	To						
						Chloritisation (veining and alteration of mafics) increasing down hole. Petrological descriptions: 40.3m.: Porphyritic intrusive biotite rhyolite with microgranitic groundmass. 50.2m.: Similar to 40.3m,but brecciated. END OF HOLE: 51.9m.								

COMPANY: CRA EXPLORATION PTY. LIMITED
PROJECT: E.L.24/84 TEN MILE CREEK, TASMANIA
HOLE NUMBER: TMC 2

Commenced	25 January, 1992
Completed	02 February, 1992
Logged By	L.A.Newnham
Drilled By	N.Poltock

Purpose

To test a gold rock and soil *geochemical anomaly coincident* with a hematitic stockwork zone in altered rhyolitic rocks, East of the Ten Mile Creek Fault on Line 9,400N

Comments on Completion

A sequence of quartz-felspar-biotite coarsely porphyritic rhyolites and finer grained quartz-felspar rhyolites was intersected. Both units were pervasively hematitic and the coarser unit was stockworked with hematite veins. Weak gold mineralisation was intersected in both units. Hole prematurely stopped because of very hard ground.

Collar Details

Northing	Easting	Elevation	Dip	Bearing	Grid
9,400N	20,575 E	550m	- 53	94AMG	Local

Length
35.8m

Down Hole Surveys		
Depth	Dip	Bearing
Nil		

Core Size	
Interval	Size
0 - 35.8	46TT

Significant Core Loss Zones	
Interval	% Recovered
Nil	

Summary

Depth		Elevation		Recovery	Description	Assays						
From	To	From	To	%		Length	Au					
4.0	7.0			100	Quartz - felspar fine grained porphyritic rhyolite	3.0m	0.11					

COMPANY: CRA EXPLORATION PTY. LIMITED
PROJECT: E.L. 24/84 TEN MILE CREEK, TASMANIA
HOLE NUMBER: TMC 2

Core Recovery				Description				Assays							
From	To	m.	%	From	To	Lithology and Mineralisation	Structure	From	To	Au	Cu	Pb	Zn	Ag	
						SUMMARY LOG:									
				0.2	11.0	Fine grained porphyritic rhyolite; quartz and felspar phenocrysts in hematitic groundmass. Hematite veining									
				11.0	32.5	Porphyritic rhyolite; coarse quartz, felspar and biotite phenos in hematitised groundmass; hematite stockworking.									
				32.5	35.8	Porphyritic rhyolite same as 0.2-11.0 above.									
						DETAILED LOG:									
				0.0	0.2	No core									
				0.2	11.0	Porphyritic rhyolite; small quartz and	Core hard with extensive brittle	0.2	1.0	0.097	24	10	90	<0.5	
0.0	0.2	0.0	0			felspar phenos. set in hard, fine grained,	fracturing.	1.0	2.0	0.077	21	20	75	0.5	
0.2	2.45	2.0	89			red (hematitic) groundmass. Pervasive	5-6 joint directions varying from	2.0	3.0	0.013	32	27	60	0.5	
2.45	4.25	1.7	94			hematite and sericite alteration. Abundant	10-80 CA	3.0	4.0	0.031	9	14	85	<0.5	
4.25	35.8	31.5	100			metallic gray hematite veins (<1mm), often	Joints typically coated with	4.0	5.0	0.113	7	21	85	0.5	
						weathered/altered to earthy red hematite.	limonite after hematite together	5.0	6.0	0.123	5	11	80	0.5	
						Joint surfaces below 8m. commonly coated	with a green mineral and pyrite	6.0	7.0	0.101	9	8	80	<0.5	
						with bright green mineral and finely	below 8m.	7.0	8.0	<0.008	10	20	80	<0.5	
						crystalline pyrite.	RQD effectively 0.	8.0	9.0	0.010	16	18	75	<0.5	
						Petrological descriptions:		9.0	10.0	<0.008	6	13	50	<0.5	
						4.7m: Porphyritic rhyolite, intensely and pervasively hematitised and sericitised		10.0	11.0	<0.008	6	11	50	<0.5	
				11.0	32.5	Coarsely porphyritic rhyolite; phenos. of	Fresh, competent but still	11.0	12.0	<0.008	7	8	75	<0.5	
						pink and white euhedral felspars to	strongly jointed.	12.0	13.0	0.016	10	16	95	<0.5	
						10mm., white quartz to 5mm., and biotite	Random fractures along hematite	13.0	14.0	0.035	15	15	110	<0.5	
						set in a hematitised microgranular ground-	veins in combination with	14.0	15.0	0.016	67	16	125	<0.5	
						mass. Biotite extensively altered to chlorite	regular joints has resulted in	15.0	16.0	<0.008	7	11	110	<0.5	
						and hematite. Unit is brecciated and cut by	several strongly fractured and	16.0	17.0	<0.008	13	8	80	<0.5	
						intense network of hematite veins,	broken zones.	17.0	18.0	<0.008	6	9	80	<0.5	
						generally <1mm. but occasionally to 5mm.	Joints often coated with limonite	18.0	19.0	<0.008	18	5	95	<0.5	
						Fine grained pyrite disseminations common	and occasionally with green	19.0	20.0	<0.008	18	5	95	<0.5	
						in hematite veins. Joints sometimes coated	mineral.	20.0	21.0	0.017	17	12	115	<0.5	
						with apple green mineral and pyrite.	*** Strong water inflow at	21.0	22.0	0.009	10	7	95	<0.5	
						Contacts with units above and below very	32m. which diminished	22.0	23.0	<0.008	18	14	110	<0.5	
						sharp	significantly over several days.	23.0	24.0	0.010	16	14	155	<0.5	
						Petrological descriptions:		24.0	25.0	0.013	9	20	120	<0.5	
						12.3m.: Brecciated and hematitised		25.0	26.0	<0.008	6	8	140	<0.5	
						porphyritic rhyolite, verging on		26.0	27.0	<0.008	6	9	140	<0.5	
						microgranite		27.0	28.0	<0.008	8	16	130	<0.5	

COMPANY: CRA EXPLORATION PTY. LIMITED
PROJECT: E.L. 24/84 TEN MILE CREEK, TASMANIA
HOLE NUMBER: TMC 2

Core Recovery				Description				Assays						
From	To	m.	%	From	To	Lithology and Mineralisation	Structure	From	To	Au	Cu	Pb	Zn	Ag
								28.0	29.0	<0.008	8	20	65	<0.5
				4.25	32.5	continued.....		29.0	30.0	<0.008	7	15	105	<0.5
						21.9m.: *Hematitised porphyritic intrusive rhyolite*		30.0	31.0	<0.008	25	10	115	<0.5
								31.0	32.0	<0.008	8	9	130	<0.5
								32.0	32.5	<0.008	7	18	110	<0.5
				32.5	35.8	Fine grained porphyritic rhyolite; Small (1-2mm.) white quartz and felspar phenocrysts set in fine grained hematitic groundmass.	Core hard and brittle fractured. Dominant joint sets 30 and 60CA Some joints coated with green mineral.	32.5	33.5	<0.008	< 5	13	40	<0.5
						Very similar to unit 0.2-11.0m above.		34.5	35.5	<0.008	6	7	35	<0.5
						Minor network of thin (<1mm) hematite filled brittle fractures throughout								
						Occasional thin (<1mm) quartz-felspar-specularite veins at 70CA.								
						Petrological description:								
						33.8m.: Hematitised porphyritic felsite								
						END OF HOLE 35.8m.								

COMPANY: CRA EXPLORATION PTY. LIMITED
PROJECT: E.L.24/84 TEN MILE CREEK, TASMANIA
HOLE NUMBER: TMC 3

Commenced	03 February, 1992
Completed	04 February, 1992
Logged By	L.A.Newnham
Drilled By	N.Poltock

Purpose
To test gold soil and rock geochemical anomaly coincident with hematitic stockwork zone in porphyritic rhyolites, to the West of the Ten Mile Creek Fault on Line 9,200N

Comments on Completion
Quartz -felspar-biotite coarsely porphyritic rhyolites and quartz-felspar fine grained porphyritic rhyolites were intersected. Hole abandoned at 12.2m. because unable to cut hard fine grained porphyry. Minor gold values were recorded in the coarse porphyry.

Collar Details

Northing	Easting	Elevation	Dip	Bearing	Grid
9,200N	20,600 E	580m	- 54	98AMG	Local

Length
12.2m

Down Hole Surveys		
Depth	Dip	Bearing
Nil		

Core Size	
Interval	Size
0 - 12.2	46TT

Significant Core Loss Zones	
Interval	% Recovered
0 - 0.7	0

Summary

Depth		Elevation		Recovery	Description	Assays						
From	To	From	To	%		Length						

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020640

COMPANY: CRA EXPLORATION PTY. LIMITED
PROJECT: E.L. 24/84 TEN MILE CREEK, TASMANIA
HOLE NUMBER: TMC 3

Core Recovery				Description				Assays						
From	To	m.	%	From	To	Lithology and Mineralisation	Structure	From	To	Au	Cu	Pb	Zn	Ag
						SUMMARY LOG:								
				0.0	0.7	No core-casing.								
				0.7	6.65	Porphyritic rhyolite, hematitic groundmass, coarse phenos. quartz, felspar, biotite, hematite veined and stockworked.								
				7.4	12.2	Porphyritic felsite, hematitic groundmass, quartz and felspar phenos.								
						DETAILED LOG:								
				0.0	0.7	No core - casing								
0.0	0.7	0	0	0.7	6.65	Porphyritic rhyolite; dark gray-red groundmass; pink and white euhedral felspar phenos. up to 10mm., white quartz phenos to 5mm. Biotite phenos. fully hematitised. Porphyry cut by a minor network of dark brown, narrow (<1mm) hematite stockwork veins. Later stage multiple vein system of regular qtz-hem. and qtz-fel-hem. veins, varying 1-5mm. width, generally 80 or 25CA. These veins cut phenos. and stockwork veins. Hematite usually as metallic gray coarse grained specularite, variably altered to earthy hematite. No sulfides observed. Petrologiaal descriptions: 3.5m.: *porphyritic rhyolite, hematitised and sericitised* 5.7m.: porphyritic intrusive rhyolite, hematitised and sericitised	Fresh and competent unit, broken by 2 dominant joint sets at 70-80 and 30 CA. Joints occasionally limonite coated.	0.7	2.0	0.043	23	78	30	<0.5
0.7	6.65	5.95	100					2.0	3.0	0.076	34	12	35	<0.5
								3.0	4.0	0.107	87	14	35	<0.5
								4.0	5.0	0.038	69	13	35	<0.5
								5.0	6.0	0.121	65	18	35	<0.5
								6.0	7.0	<0.008	45	12	40	<0.5
6.65	12.2	5.55	100	6.65	12.2	Porphyritic felsite; dark red brown groundmass; phenos. of qtz and sericitised felspar 1-2mm.; Contact with above unit sharp, 7.2-7.4m. coarsely porphyritic rhyolite similar to upper unit.	Hard, brittle competent rock, dominant high angle tight joint set at 70-80 CA	7.0	8.0	<0.008	60	27	35	<0.5
								8.0	9.0	<0.008	42	17	30	<0.5
								9.0	10.0	0.016	45	10	35	<0.5
								10.0	11.0	<0.008	39	9	35	<0.5
								11.0	12.0	0.016	43	7	35	<0.5

COMPANY: CRA EXPLORATION PTY. LIMITED
PROJECT: E.L. 24/84 TEN MILE CREEK, TASMANIA
HOLE NUMBER: TMC 3

Core Recovery				Description				Assays							
From	To	m.	%	From	To	Lithology and Mineralisation	Structure	From	To	Au	Cu	Pb	Zn	Ag	
				6.65	12.2	....continued.... Hematite veining and stockworking continues into the top part of this unit to 8.0m., then only occasional hematite veins <2mm. width to end hole. Petrological description: 10.6m.: Porphyritic felsite, hematitised and rapidly cooled. Hole stopped because unable to drill hard ground. END OF HOLE 12.2m.										

COMPANY: CRA EXPLORATION PTY. LIMITED
PROJECT: E.L.24/84 TEN MILE CREEK, TASMANIA
HOLE NUMBER: TMC 4

Commenced	05 February, 1992
Completed	08 February, 1992
Logged By	L.A.Newnham
Drilled By	N.Poltock

Purpose
To test gold geochemical anomaly coincident with hematite stockwork zone in ryholitic rocks West of Ten Mile Creek Fault on Line 9,200N

Comments on Completion
Quartz -felspar-biotite coarsely porphyritic rhyolites and quartz-felspar fine grained porphyritic rhyolites were intersected. Intense hematite stockworks below 43m. Apart from one or two narrow intervals, gold and base metal values were low.

Collar Details

Northing	Easting	Elevation	Dip	Bearing	Grid
9,200N	20,550 E	560m	- 55	95AMG	Local

Length
53.8m

Down Hole Surveys		
Depth	Dip	Bearing
Nil		

Core Size	
Interval	Size
0 - 53.8	46TT

Significant Core Loss Zones	
Interval	% Recovered
0 - 0.5	0

Summary

Depth		Elevation		Recovery	Description	Assays						
From	To	From	To	%		Length	Au					
48.0	49.0			100.0	Brecciated, hematitised porphyritic felsite	1.0	0.523					

COMPANY: CRA EXPLORATION PTY. LIMITED
PROJECT: E.L. 24/84 TEN MILE CREEK, TASMANIA
HOLE NUMBER: TMC 4

Core Recovery				Description				Assays							
From	To	m.	%	From	To	Lithology and Mineralisation	Structure	From	To	Au	Cu	Pb	Zn	Ag	
						SUMMARY LOG:									
				0.0	0.5	No core									
				0.5	32.1	Porphyritic rhyolite and felsites; hematitised, sericitised and probably *rapidly cooled.*									
				32.1	38.7	Biotitic, porphyritic rhyolite; coarse phenos; hematitised and sericitised.									
				38.7	41.2	Porphyritic rhyolite similar to 0.5-32.1m									
				41.2	43.6	Biotitic intrusive rhyolite similar to 32.1-38.7 above.									
				43.6	53.8	*Porphyritic felsite, similar to 0.5-32.1m.* above. Intense stockworking and multiple hematite veining.									
						DETAILED LOG:									
0.0	0.5	0	0	0.0	0.5	*No core - casing*									
0.5	32.1	31.6	100	0.5	32.1	Porphyritic rhyolite or felsite; red-brown strongly hematitised fine grained groundmass, small (1-3mm.) quartz and felspar phenos; an abundant mafic pheno. also present and *altered to hematite,* chlorite or to a soft bright green mineral- petrology suggests may have been a pyroxene or olivine. Thin qtz-fels. veins (<1mm) rare near top of unit but increasing in abundance and width (to 10mm) towards base of unit: veins generally 70-80 CA. Occasional hematite veins. Joint surfaces sometimes coated with green mineral or limonite or slickensided metallic colored hematite. Petrological descriptions: 4.4m.: Porphyritic rhyolite, hematitised, sericitised, containing ferromag. phenos. possibly fayalite; rapidly cooled 29.6m.: Porphyritic rhyolite,hematitised and sericitised; rapidly cooled.	Interval generally fresh but strongly fractured; hard and brittle; Narrow broken and clayey zones *at 8.4-8.8m. and 10.9-11.0m.* Dominant joint sets at 30 and 70 CA, generally either limonite coated after hematite, or carrying slickensided hematite.	0.5	1.0	0.068	22	6	40	<0.5	
								2.0	3.0	0.050	32	11	50	<0.5	
								4.0	5.0	0.037	195	12	50	<0.5	
								6.0	7.0	<0.008	28	9	40	<0.5	
								8.0	9.0	<0.008	25	13	50	<0.5	
								10.0	11.0	<0.008	16	15	45	<0.5	
								12.0	13.0	<0.008	24	9	40	<0.5	
								14.0	15.0	<0.008	42	11	45	<0.5	
								16.0	17.0	<0.008	35	13	45	<0.5	
								18.0	19.0	<0.008	30	10	45	<0.5	
								20.0	21.0	<0.008	47	<5	45	<0.5	
								22.0	23.0	<0.008	57	13	40	<0.5	
								24.0	25.0	<0.008	78	12	50	<0.5	
								26.0	27.0	<0.008	52	10	40	<0.5	
								28.0	29.0	<0.008	41	7	45	<0.5	
								30.0	31.0	<0.008	70	12	55	<0.5	
								32.0	33.0	<0.008	67	12	60	<0.5	

COMPANY: CRA EXPLORATION PTY. LIMITED
PROJECT: E.L. 24/84 TEN MILE CREEK, TASMANIA
HOLE NUMBER: TMC 4

Core Recovery				Description				Assays						
From	To	m.	%	From	To	Lithology and Mineralisation	Structure	From	To	Au	Cu	Pb		Ag
32.1	38.7	6.6	100	32.1	38.7	Porphyritic rhyolite intrusive, Pervasively hematitised fine-medium grained groundmass. White quartz phenos. to 5mm., and pink euhedral K- felspars to 10mm. Biotite extensively altered to hematite, Occasional green micaceous mineral. Stockworking of very fine dark red-brown hematite veins. Late stage quartz-felspar-hem. vein set between 32.7-33.4m. with veins up to 10mm. Quartz has greenish color in places; specularite and green mica(?) as selvages along vein margins. Petrological description: 38.6m.: Porphyritic rhyolite intrusive, Pervasively hematitised and sericitised.	Competent unit with two dominant joint sets at 70-80 and occasionally at 30 CA. Joint surfaces sometimes coated with green mineral.	33.0	34.0	0.008	70	12	50	<0.5
								34.0	35.0	<0.008	84	12	55	<0.5
								35.0	36.0	<0.008	95	10	45	<0.5
								36.0	37.0	<0.008	71	13	50	<0.5
								37.0	38.0	<0.008	130	13	40	<0.5
								38.0	39.0	<0.008	125	18	40	<0.5
38.7	41.2	2.5	100	38.7	41.2	*Fine grained porphyritic rhyolite intrusive,* similar to 0.5-32.1m. above, except only minor, thin, hematite stockwork veining. Most joint surfaces coated with green mineral.	Unit strongly fractured along joint surfaces into 5-10cm. lengths. Two joint sets 20-30 and 70-80 CA.	39.0	40.0	<0.008	145	13	45	<0.5
								40.0	41.0	0.009	96	16	45	<0.5
								41.0	42.0	0.013	130	24	50	<0.5
41.2	43.6	2.4	100	41.2	43.6	*Rhyolitic intrusive, coarsely porphyritic,* similar to 32.1-38.7m. above, but with only minor thin (<1mm) greenish quartz-felspar veins at 80 CA. Most joints coated with bright green mineral.		42.0	43.0	<0.008	105	19	45	<0.5
								43.0	44.0	<0.008	43	16	55	<0.5
43.6	53.8	10.2	100	43.6	53.8	Fine grained rhyolitic intrusive similar to 0.5-32.1m. above. Strongly hematitised and brecciated. Stockworked with hematite veins and multiple late stage quartz-hematite veins. Alteration associated with pervasive hematitisation and veining is intense with almost complete destruction of quartz felspar, and biotite phenos.	Unit cored exceptionally well with RQD approx. 100%. Dominant joint set 80 CA, with tight joints >20cm. apart.	44.0	45.0	<0.008	7	29	170	<0.5
								45.0	46.0	0.039	86	15	70	<0.5
								46.0	47.0	<0.008	10	9	40	<0.5
								47.0	48.0	<0.008	7	8	50	<0.5
								48.0	49.0	0.523	6	7	25	<0.5
								49.0	50.0	0.015	37	9	25	<0.5
								50.0	51.0	<0.008	46	< 5	30	<0.5
								51.0	52.0	<0.008	24	7	25	<0.5
								52.0	53.0	0.085	7	8	25	<0.5
								53.0	53.8	0.012	<5	6	35	<0.5

COMPANY: CRA EXPLORATION PTY. LIMITED
PROJECT: E.L. 24/84 TEN MILE CREEK, TASMANIA
HOLE NUMBER: TMC 4

Core Recovery				Description				Assays							
From	To	m.	%	From	To	Lithology and Mineralisation	Structure	From	To	Au	Cu	Pb		Ag	
						....43.6 - 53.8m. (continued).....									
						Late stage multiple veining typically consists of quartz-hematite (specularite) with occasional green tinge. Most veins at 60-80 CA and vary in thickness from 1-10mm. Some joint surfaces coated with green mineral. Petrological description: 48.7m.: Porphyritic felsite similar to 29.6m. Extensively hematitised and brecciated.									
						END OF HOLE 53.8m.									

Appendix 2

049030

Central Mineralogical Services

8 Bradshaw Avenue, Crafers, S.A. 5152
Telephone (08) 370 9779 Fax (08) 370 9788
International: Telephone + 618 370 9779 Fax + 618 370 9788

26 March 1992

Mr T W Dickson
CRA Exploration Pty Ltd
P O Box 8093
NORTHLAND CENTRE VIC 3072

REPORT CMS 92/3/13

YOUR REFERENCE: D.P.O. No. 67044

DATE RECEIVED: 18 March 1992

SAMPLE NO'S.: 3190548 - 3190562

SUBMITTED BY: T.W. Dickson (via L. Newnham)

WORK REQUESTED: Petrology

H.W. Fander, M.Sc.

COPIES TO:
CRA Exploration Pty Ltd
P O Box 8093
NORTHLAND CENTRE VIC 3072
Attention: C. Hayward

P O Box 3709
MANUKA ACT 2603
Attention: CRAE Information Systems

L.A. Newnham
P O Box 1002
DEVONPORT TAS 7310

REPORT CMS 92/3/13

TEN MILE CREEK DRILL CORE SAMPLES

Fifteen drill core sections from holes TMC1 - 4 were received for petrographic study. Thin sections were prepared and examined, and all the offcuts were subjected to potash stain tests for added information.

The rocks are individually described in the accompanying sheets and a few general comments follow.

All the rocks are igneous, and textures and fabrics indicate that all are intrusives; they are rhyolites verging on microgranites, and felsites which are probably more rapidly-chilled equivalents, perhaps from or near contacts.

Compositions are similar in that all rocks are strongly potassic; however, some contained biotite, others carried minor ferromagnesian minerals such as pyroxene or fayalitic olivine. Due to hematitisation, these minerals are no longer recognisable as such. Yet others apparently contained no dark minerals.

The intersections in TMC1 differ from all the others in that there is evidence of the former presence of sulphides, and the rocks show different alteration; hematite is inconspicuous or absent, but one of the rocks is strongly chloritised.

Introduction of hematite was accompanied by fine sericite, constituting a low-temperature hydrothermal event; much of the hematite is finely micaceous to earthy, but coarser platy material also occurs sporadically.

SAMPLE NO.: TMC1/17.9m (3190548)

CLASSIFICATION: Brecciated, Sericitised Porphyritic Rhyolite.

COMPOSITION: Scattered euhedral quartz and occasional K-feldspar phenocrysts in a spherulitic quartz/k-feldspar groundmass, with later-stage or postmagmatic finer quartz.

FABRIC: Uniform, without flow features, suggestive of rapidly-cooled minor intrusive. Extensive random "crackle" brecciation throughout.

MINOR MINERALS: Fine sericite along fractures (and some feldspar is sericitised). Oxidised euhedral pyrite, as Fe oxide pseudomorphs with some jarosite. Hematite veining appears younger than sericite.

INTERPRETATION/
COMMENTS: Probably a rapidly cooled minor intrusive. Post-solidification brecciation followed by sericite, pyrite introduction with later hematite/goethite.

SAMPLE NO.: TMC1/21.9m. (3190549)

CLASSIFICATION: Brecciated Porphyritic Rhyolite.

COMPOSITION: Euhedral phenocrysts of quartz and sericitised K-feldspar, in a uniform groundmass of spherulites of K-feldspar/quartz lightly pigmented with ultrafine primary hematite. Interstitial microgranular quartz and K-feldspar.

FABRIC: Uniform, with well-formed phenocrysts up to 3mm; some clusters. Regular spherulites 0.3 - 0.5mm in diameter. No flow features. Many microfractures and larger, more continuous fractures.

MINOR MINERALS: Accessory primary zircon, apatite. Fe oxide pseudomorphs after pyrite. Small sericite patches. Quartz-goethite veins filling fractures.

INTERPRETATION/
COMMENTS: Very similar to, and correlatable with 17.9m. Arsenopyrite may have been present as well as pyrite, judging from the shapes of some pseudomorphs.

SAMPLE NO.: TMC1/40.3m (3190550)

CLASSIFICATION: Porphyritic, Intrusive Biotite Rhyolite.

COMPOSITION: Large quartz and chloritised biotite phenocrysts, smaller pink K-feldspar phenocrysts, in a uniform microgranular groundmass of quartz and K-feldspar.

FABRIC: Verging on that of a microgranite. Occasional thin fractures with minor displacement. Quartz phenocrysts weakly stressed. Micro-fractured.

MINOR MINERALS: Accessory primary apatite, magnetite. Secondary leucoxene/rutile in altered biotite. Chlorite and sericite veinlets. Trace pyrite in altered biotite.

INTERPRETATION/
COMMENTS: Presence of conspicuous biotite, different groundmass textures, distinguish this intersection from those above.

SAMPLE NO.: TMC1/50.2m (3190551)

CLASSIFICATION: Brecciated, Chloritised Porphyritic Biotite Rhyolite.

COMPOSITION: Phenocrysts of quartz, K-feldspar and chloritised biotite in a groundmass of microgranular quartz and K-feldspar with sericite, altered biotite. Zones of thoroughly brecciated rock impregnated with fine chlorite.

FABRIC: Random phenocrysts, up to 6mm in size; groundmass textures verging on "medium-grained", i.e. microgranitic. Fragments in breccia zones are 0.1 - 1.0mm.

MINOR MINERALS: Sericite patches. Accessory primary magnetite. Secondary leucoxene in altered biotite. Quartz veinlets cut all other features.

INTERPRETATION/
COMMENTS: Texturally and compositionally very similar to 40.3m and correlatable with that rock. Intrusive. Breccia zones are distinctive.

SAMPLE NO.: TMC2/4.7m (2190552)

CLASSIFICATION: Hematitised, Sericitised Porphyritic ?Rhyolite.

COMPOSITION: Scattered small phenocrysts of sericitised feldspar (composition unknown) and of quartz, in a microgranular groundmass of quartz, interstitial fine hematite and very minor sericite.

FABRIC: Uniform and featureless with phenocrysts up to 3mm across. No diagnostic relict textures in the feldspar. No flow features. Minor fracturing.

MINOR MINERALS: Coarser sericite developed in fractures. Scattered primary magnetite (now oxidised to hematite).

INTERPRETATION/
COMMENTS: Composition uncertain because of alteration; probably a rhyolite-dacite, very probably intrusive. Sericite-hematite alteration was intense and pervasive.

SAMPLE NO.: TMC2/12.3m (3190553)

CLASSIFICATION: Brecciated, Hematitised Porphyritic Rhyolite.

COMPOSITION: Phenocrysts of sericitised feldspar, strongly stressed quartz, chloritised and hematite-impregnated biotite, in a microgranular groundmass of quartz and K-feldspar.

FABRIC: Randomly-orientated phenocrysts. Groundmass verges on medium-grained. Pervasively stressed and extensively, randomly microfractured ("crackle-brecciation").

MINOR MINERALS: Accessory primary apatite. Clusters of bladed hematite. Fracture-fillings of hematite and associated sericite. Primary magnetite.

INTERPRETATION/
COMMENTS: Intrusive, and verging on microgranite. Probably related to 4.7m (and 21.9m, see below). Biotite was probably chloritised before hematite was introduced.

SAMPLE NO.: TMC2/21.9m. (3190554)

CLASSIFICATION: *Hematitised Porphyritic Intrusive Rhyolite.*

COMPOSITION: Phenocrysts of K-feldspar and quartz, smaller plates of hematitised biotite, in a microcrystalline groundmass of quartz, K-feldspar and fine-grained hematite.

FABRIC: Groundmass is granular, verging on medium-grained. Phenocrysts up to 10mm in length. Minor fracturing with small-scale displacement.

MINOR MINERALS: *Secondary leucoxene in altered biotite. Quartz-hematite* veinlets/fracture-fillings.

INTERPRETATION/
COMMENTS: Fairly featureless rock, possibly related to 4.7m and correlatable with 12.3m, though brecciation is less intense.

SAMPLE NO.: TMC2/33.8m (3190555)

CLASSIFICATION: Hematitised Porphyritic Felsite.

COMPOSITION: Well-formed phenocrysts of quartz and partly sericitised K-feldspar (probably orthoclase); scattered, hematitised biotite; felsitic groundmass of polygonal to normal patches of ultrafine K-feldspar-quartz intergrowths.

FABRIC: Uniform, without preferred orientations. Some spherulitic textures in the groundmass. Little or no fracturing evident.

MINOR MINERALS: Pervasive ultrafine micaceous hematite and associated sericite throughout the rock as small irregular patches. Primary magnetite.

INTERPRETATION/
COMMENTS: The hematite-sericite phase is replacive and pervasive, and gives the impression of having been introduced soon after the rock was emplaced. There was no obvious access, via fractures, at least on a small scale.

SAMPLE NO.: TMC3/3.5m (3190556)

CLASSIFICATION: Hematitised Porphyritic Intrusive Rhyolite.

COMPOSITION: Phenocrysts of partly sericitised K-feldspar, stressed quartz, sericitised/hematitised biotite, in a microgranular quartz-K-feldspar groundmass. Conspicuous sheaves of bladed hematite and patches of micaceous hematite with sericite.

cms ?

FABRIC: Phenocrysts up to 0.5mm, randomly orientated. Components are stressed but there are no obvious fractures.

MINOR MINERALS: Smaller patches of hematite occur throughout with associated fine sericite. Primary magnetite.

INTERPRETATION/
COMMENTS: Correlatable with the intersections in TMC2, and regarded as intrusive. The rock was evidently pervasively but subtly stressed, then hematitised/sericitised.

SAMPLE NO.: TMC3/5.7m (3190557)

CLASSIFICATION: Hematitised Porphyritic Intrusive Rhyolite.

COMPOSITION: Embayed, stressed quartz phenocrysts, fresh and hematite/sericitised K-feldspar pehnocrysts, sericitised and hematite-impregnated biotite phenocrysts; groundmass of K-feldspar laths and microgranular quartz.

FABRIC: Uniform, featureless, with randomly-orientated phenocrysts up to 6mm across. A few microfractures traverse the rock.

MINOR MINERALS: Sericite-hematite fills fractures. Fine sericite throughout groundmass.

INTERPRETATION/
COMMENTS: Closely resembles the intersection at 3.5m and thus correlates also with TMC2.

SAMPLE NO.: TMC3/10.6m (3190558)

CLASSIFICATION: Hematitised Porphyritic Felsite.

COMPOSITION: Phenocrysts of quartz and very extensively sericitised K-feldspar - some are also hematite-impregnated - in a fine-grained felsitic groundmass, mainly of fibrous K-feldspar.

FABRIC: Uniform, with scattered, small, randomly-orientated phenocrysts mostly <2mm in size. Minor small-scale fracturing.

MINOR MINERALS: Primary magnetite is relatively conspicuous. Fine-grained sericite and hematite as small clusters throughout.

INTERPRETATION/
COMMENTS: Similar to TMC2/33/8m but biotite is lacking. Intrusive rock, probably rapidly cooled, perhaps close to a contact.

SAMPLE NO.: TMC4/4.4m (3190559)

CLASSIFICATION: Hematitised, Sericitised Porphyritic Rhyolite.

COMPOSITION: Quartz phenocrysts (beta-quartz), extensively sericitised K-feldspar phenocrysts; smaller, altered and hematitised crystals of a ferromagnesian mineral (?fayalite); microgranular quartz-sericite groundmass.

FABRIC: Randomly orientated small phenocrysts in a fine-grained groundmass, possibly felsitic but now featureless due to alteration.

MINOR MINERALS: Accessory magnetite, apatite. Fine-grained hematite and sericite throughout. Quartz-sericite veinlets. Leucoxene.

INTERPRETATION/
COMMENTS: Differs from the other intrusives in its primary composition, containing a ferromagnesian mineral, now totally replaced by hematite, sericite and quartz, but thought to have been a pyroxene or olivine which survived because of rapid cooling.

SAMPLE NO.: TMC4/29.6m (3190560)

CLASSIFICATION: Hematitised Porphyritic Felsite.

COMPOSITION: Well-formed phenocrysts of partly sericitised K-feldspar (probably orthoclase) and of embayed quartz, in a felsitic groundmass of small polygonal/interlocking patches of ultrafine quartz-feldspar; fine hematite, sericite throughout.

FABRIC: Very uniform fabric and groundmass textures; random phenocrysts, up to 3mm, sometimes in clusters ("glomeroporphyritic texture").

MINOR MINERALS: Accessory, primary magnetite, zircon and apatite. Hematite pseudomorphs after a ferromagnesian mineral.

INTERPRETATION/
COMMENTS: An intrusive rock with evidence of rapid cooling. Hematite/sericite phase is pervasive with no obvious access. Resembles TMC3/10.6m.

SAMPLE NO.: TMC4/38.6m. (3190561)

CLASSIFICATION: Hematitised, sericitised Porphyritic Rhyolite.

COMPOSITION: Fractured phenocrysts of stressed quartz, extensively sericitised and hematite-impregnated K-feldspar, altered and hematitised biotite, in a groundmass of microgranular quartz and K-feldspar.

FABRIC: Random phenocrysts, up to 5mm. Groundmass verges on medium-grained. A few fractures and microbreccia zones or veins.

MINOR MINERALS: Fine micaceous hematite and sericite present throughout, as well as in fractures and microbreccia "veins". Accessory zircon.

INTERPRETATION/
COMMENTS: Resembles the biotitic intrusive rhyolites in TMC2 and 3, and is possibly correlatable with those.

SAMPLE NO.: TMC4/48.7m (3190562)

CLASSIFICATION: Brecciated, Hematitised Porphyritic Felsite.

COMPOSITION: Extensively microfractured quartz and K-feldspar phenocrysts, randomly set in a felsitic K-feldspar/quartz groundmass; numerous small sericite veinlets forming a network through-out the rock.

FABRIC: Originally a uniform rock; typical felsitic to spherulitic textures in groundmass. Small-scale fracturing throughout, as well as irregular breccia zones and patches.

MINOR MINERALS: Accessory primary biotite. Hematite pseudomorphs after a ferromagnesian mineral. Fine hematite in breccia zones and in some fractures.

INTERPRETATION/
COMMENTS: Similar to ~~38~~ 29.6m and very probably the same rock, but with extensive small- and larger-scale fracturing.

SAMPLE NO.:

CLASSIFICATION:

COMPOSITION:

FABRIC:

MINOR MINERALS:

INTERPRETATION/
COMMENTS:

Appendix 3

049041

ANALABS

A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.

Phone (004) 316877 | 14 Thirkell St. DEVONPORT TAS 7320 | Fax (004) 318890

ANALYTICAL REPORT No. 104140.60.08616

THIS REPORT MUST BE READ IN CONJUNCTION WITH THE ACCOMPANYING ANALYTICAL DATA

INVOICE TO:
Mr T Dickson
CRA Exploration Pty Limited
P.O. Box 8093
NORTHLAND CENTRE VIC 3072

ORDER No.	PROJECT
L. Newnham	

DATE RECEIVED	RESULTS REQUIRED
27/02/92	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
5	13/03/92	1	103

SAMPLE NUMBERS	SAMPLE DESCRIPTION	ELEMENT/METHOD
<TMC 1 & others	DC Prep : GP006,GP009,GP012,GP018	Cu,Pb,Zn,Ag/GA140
<TMC 1 & others	DC Prep :	Au,Au(R),Au(S)/GG309
<TMC 2 & others	dc Prep : GP006,GP009,GP012,GP018	Cu,Pb,Zn,Ag/GA140
<TMC 2 & others	DC Prep :	Au,Au(R),Au(S)/GG309

REMARKS

RESULTS TO
Mr T Dickson
Chief Geologist
CRA Exploration Pty Limited
P.O. Box 8093
NORTHLAND CENTRE VIC 3072

RESULTS TO
Mr L Newnham
Newnham Exploration & Mining Service
P.O. Box 1002
DEVONPORT TAS 7310

RESULTS TO

AUTHORISED OFFICER

049042

ANALABS

A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.
A.C.N. 004 591 664

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	104160.60.08616	13/03/92		1 OF 5

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Au	Au(R)	Au(S)
1	TMC 1 10.0-11.0	51	14	80	<0.5	<0.008	-	-
2	TMC 1 12.0-13.0	67	16	60	<0.5	<0.008	-	-
3	TMC 1 14.0-15.0	99	9	60	<0.5	0.013	0.013	-
4	TMC 1 16.0-17.0	90	14	70	<0.5	<0.008	-	-
5	TMC 1 18.0-19.0	24	15	75	<0.5	<0.008	-	-
6	TMC 1 20.0-21.0	27	15	105	<0.5	<0.008	-	-
7	TMC 1 25.0-26.0	10	6	65	<0.5	<0.008	-	-
8	TMC 1 27.0-28.0	24	11	75	<0.5	<0.008	-	-
9	TMC 1 29.0-30.0	28	13	50	<0.5	<0.008	-	-
10	TMC 1 31.0-32.0	27	9	85	<0.5	<0.008	-	-
11	TMC 1 33.0-34.0	150	19	120	<0.5	<0.008	-	-
12	TMC 1 35.0-36.0	7	7	75	<0.5	<0.008	<0.008	-
13	TMC 1 37.0-38.0	19	5	110	<0.5	<0.008	-	-
14	TMC 1 39.0-40.0	100	<5	130	<0.5	<0.008	-	-
15	TMC 1 41.0-42.0	110	<5	125	<0.5	<0.009	-	-
16	TMC 1 43.0-44.0	760	<5	125	2.5	<0.008	<0.008	-
17	TMC 1 45.0-46.0	320	<5	135	<0.5	<0.008	-	<0.008
18	TMC 1 47.0-48.0	325	6	140	<0.5	<0.008	-	-
19	TMC 1 49.0-50.0	300	<5	130	<0.5	<0.008	-	-
20	TMC 2 0.2-1.0	24	10	90	<0.5	0.097	-	-
21	TMC 2 1.0-2.0	21	20	75	0.5	0.077	-	-
22	TMC 2 2.0-3.0	32	27	60	0.5	0.013	0.010	-
23	TMC 2 3.0-4.0	9	14	85	<0.5	0.031	-	-
24	TMC 2 4.0-5.0	7	21	85	0.5	0.113	-	-
25	TMC 2 5.0-6.0	5	11	80	0.5	0.123	-	-

Results in ppm unless otherwise specified
T = element present, but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

AUTHORISED OFFICER

049043

ANALABS

A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.
A.C.N. 004 591 664

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	104160.60.08616	13/03/92		2 OF 5

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Au	Au(R)	Au(S)
1	TMC 2 6.0-7.0	9	8	80	<0.5	0.101	-	0.098
2	TMC 2 7.0-8.0	10	20	80	<0.5	<0.008	<0.008	-
3	TMC 2 8.0-9.0	16	18	75	<0.5	0.010	0.016	-
4	TMC 2 9.0-10.0	6	13	50	<0.5	<0.008	-	-
5	TMC 2 10.0-11.0	6	11	50	<0.5	<0.008	-	-
6	TMC 2 11.0-12.0	7	8	75	<0.5	<0.008	-	-
7	TMC 2 12.0-13.0	10	16	95	<0.5	0.016	-	-
8	TMC 2 13.0-14.0	15	15	110	<0.5	0.035	-	-
9	TMC 2 14.0-15.0	67	16	125	<0.5	0.016	-	-
10	TMC 2 15.0-16.0	7	11	110	<0.5	<0.008	-	-
11	TMC 2 16.0-17.0	13	8	80	<0.5	<0.008	-	-
12	TMC 2 17.0-18.0	6	9	80	<0.5	<0.008	-	-
13	TMC 2 18.0-19.0	18	5	95	<0.5	<0.008	-	-
14	TMC 2 19.0-20.0	18	5	95	<0.5	<0.008	-	-
15	TMC 2 20.0-21.0	17	12	115	<0.5	0.017	-	-
16	TMC 2 21.0-22.0	10	7	95	<0.5	0.009	-	-
17	TMC 2 22.0-23.0	18	14	110	<0.5	<0.008	-	-
18	TMC 2 23.0-24.0	16	14	155	<0.5	0.010	<0.008	-
19	TMC 2 24.0-25.0	9	20	120	<0.5	0.013	0.025	-
20	TMC 2 25.0-26.0	6	8	140	<0.5	<0.008	-	-
21	TMC 2 26.0-27.0	6	9	140	<0.5	<0.008	-	-
22	TMC 2 27.0-28.0	8	16	130	<0.5	<0.008	-	-
23	TMC 2 28.0-29.0	8	20	65	<0.5	<0.008	-	-
24	TMC 2 29.0-30.0	7	15	105	<0.5	<0.008	-	-
25	TMC 2 30.0-31.0	25	10	115	<0.5	<0.008	-	<0.008

Results in ppm unless otherwise specified
T = element present, but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

AUTHORISED OFFICER

049044

ANALABS

A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.
A.C.N. 004 591 664

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	104160.60.08616	13/03/92		3 OF 5

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Au	Au(R)	Au(S)	
1	TMC 2 31.0-32.0	8	9	130	<0.5	<0.008	-	-	
2	TMC 2 32.0-32.5	7	18	110	<0.5	<0.008	-	-	
3	TMC 2 32.5-33.5	<5	13	40	<0.5	<0.008	<0.008	-	
4	TMC 2 34.5-35.5	6	7	35	<0.5	<0.008	-	-	
5	TMC 3 0.7-2.0	23	78	30	<0.5	0.043	-	-	
6	TMC 3 2.0-3.0	34	12	35	<0.5	0.076	-	-	
7	TMC 3 3.0-4.0	87	14	35	<0.5	0.107	-	-	
8	TMC 3 4.0-5.0	69	13	35	<0.5	0.038	-	-	
9	TMC 3 5.0-6.0	65	18	35	<0.5	0.121	-	-	
10	TMC 3 6.0-7.0	45	12	40	<0.5	<0.008	-	-	
11	TMC 3 7.0-8.0	60	27	35	<0.5	<0.008	-	-	
12	TMC 3 8.0-9.0	42	17	30	<0.5	<0.008	-	-	
13	TMC 3 9.0-10.0	45	10	35	<0.5	0.016	0.013	—	
14	TMC 3 10.0-11.0	39	9	35	<0.5	<0.008	-	-	
15	TMC 3 11.0-12.0	43	7	35	<0.5	0.016	-	-	
16	TMC 4 0.5-1.0	22	6	40	<0.5	0.068	-	-	
17	TMC 4 2.0-3.0	32	11	50	<0.5	0.050	-	-	
18	TMC 4 4.0-5.0	195	12	50	<0.5	0.037	-	-	
19	TMC 4 6.0-7.0	28	9	40	<0.5	<0.008	-	-	
20	TMC 4 8.0-9.0	25	13	50	<0.5	<0.008	-	-	
21	TMC 4 10.0-11.0	16	15	45	<0.5	<0.008	-	-	
22	TMC 4 12.0-13.0	24	9	40	<0.5	<0.008	-	-	
23	TMC 4 14.0-15.0	42	11	45	<0.5	<0.008	-	-	
24	TMC 4 16.0-17.0	35	13	45	<0.5	<0.008	-	-	
25	TMC 4 18.0-19.0	30	10	45	<0.5	<0.008	-	-	

Results in ppm unless otherwise specified
T = element present but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

AUTHORISED OFFICER

ANALABS

A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.
A.C.N. 004 591 864

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No	PAGE
	104160.60.08616	13/03/92		4 OF 5

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Au	Au(R)	Au(S)
1	TMC 4 20.0-21.0	47	<5	45	<0.5	<0.008	-	-
2	TMC 4 22.0-23.0	57	13	40	<0.5	<0.008	-	<0.008
3	TMC 4 24.0-25.0	76	12	50	<0.5	<0.008	<0.008	-
4	TMC 4 26.0-27.0	52	10	40	<0.5	<0.008	-	-
5	TMC 4 28.0-29.0	41	7	45	<0.5	<0.008	-	-
6	TMC 4 30.0-31.0	70	12	55	<0.5	<0.008	-	-
7	TMC 4 32.0-33.0	67	12	60	<0.5	<0.008	-	-
8	TMC 4 33.0-34.0	70	12	50	<0.5	0.008	-	-
9	TMC 4 34.0-35.0	84	12	55	<0.5	<0.008	-	-
10	TMC 4 35.0-36.0	95	10	45	<0.5	<0.008	-	-
11	TMC 4 36.0-37.0	71	13	50	<0.5	<0.008	-	-
12	TMC 4 37.0-38.0	130	13	40	<0.5	<0.008	-	-
13	TMC 4 38.0-39.0	125	18	40	<0.5	<0.008	<0.008	-
14	TMC 4 39.0-40.0	145	13	45	<0.5	<0.008	-	<0.008
15	TMC 4 40.0-41.0	96	16	45	<0.5	0.009	-	-
16	TMC 4 41.0-42.0	130	24	50	<0.5	0.013	-	-
17	TMC 4 42.0-43.0	105	19	45	<0.5	<0.008	-	-
18	TMC 4 43.0-44.0	43	16	55	<0.5	<0.008	-	-
19	TMC 4 44.0-45.0	7	29	170	<0.5	<0.008	-	-
20	TMC 4 45.0-46.0	86	15	70	<0.5	0.039	0.045	-
21	TMC 4 46.0-47.0	10	9	40	<0.5	<0.008	-	-
22	TMC 4 47.0-48.0	7	9	50	<0.5	<0.008	-	-
23	TMC 4 48.0-49.0	6	7	25	<0.5	0.523	0.516	-
24	TMC 4 49.0-50.0	37	9	25	<0.5	0.015	-	-
25	TMC 4 50.0-51.0	46	<5	30	<0.5	<0.008	-	-

Results in ppm unless otherwise specified
T = element present, but concentration too low to measure
X = element concentration is below detection limit
– = element not determined

AUTHORISED OFFICER

043046

ANALABS

A Division of Inchcape Inspection and Testing Services Australia Pty. Ltd.
A.C.N. 004 591 664

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	104160.60.08618	13/03/92		5 OF 5

TUBE No.	SAMPLE No.		Cu	Pb	Zn	Ag	Au	Au(R)	Au(S)	
1	TMC 4 51.0-52.0		24	7	29	<0.5	<0.008	-	<0.008	
2	TMC 4 52.0-53.0		7	8	25	<0.5	0.085	0.063	-	
3	TMC 4 53.0-53.8		<5	6	35	<0.5	0.012	-	-	
4										
5										
6										
7										
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20										
21										
22										
23	DETECTION		5	5	5	0.5	0.008	0.008	0.008	
24	UNITS		PPM	PPM	PPM	PPM	PPM	PPM	PPM	
25	METHOD		GA140	GA140	GA140	GA140	GG309	GG309	GG309	

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
— = element not determined

AUTHORISED OFFICER

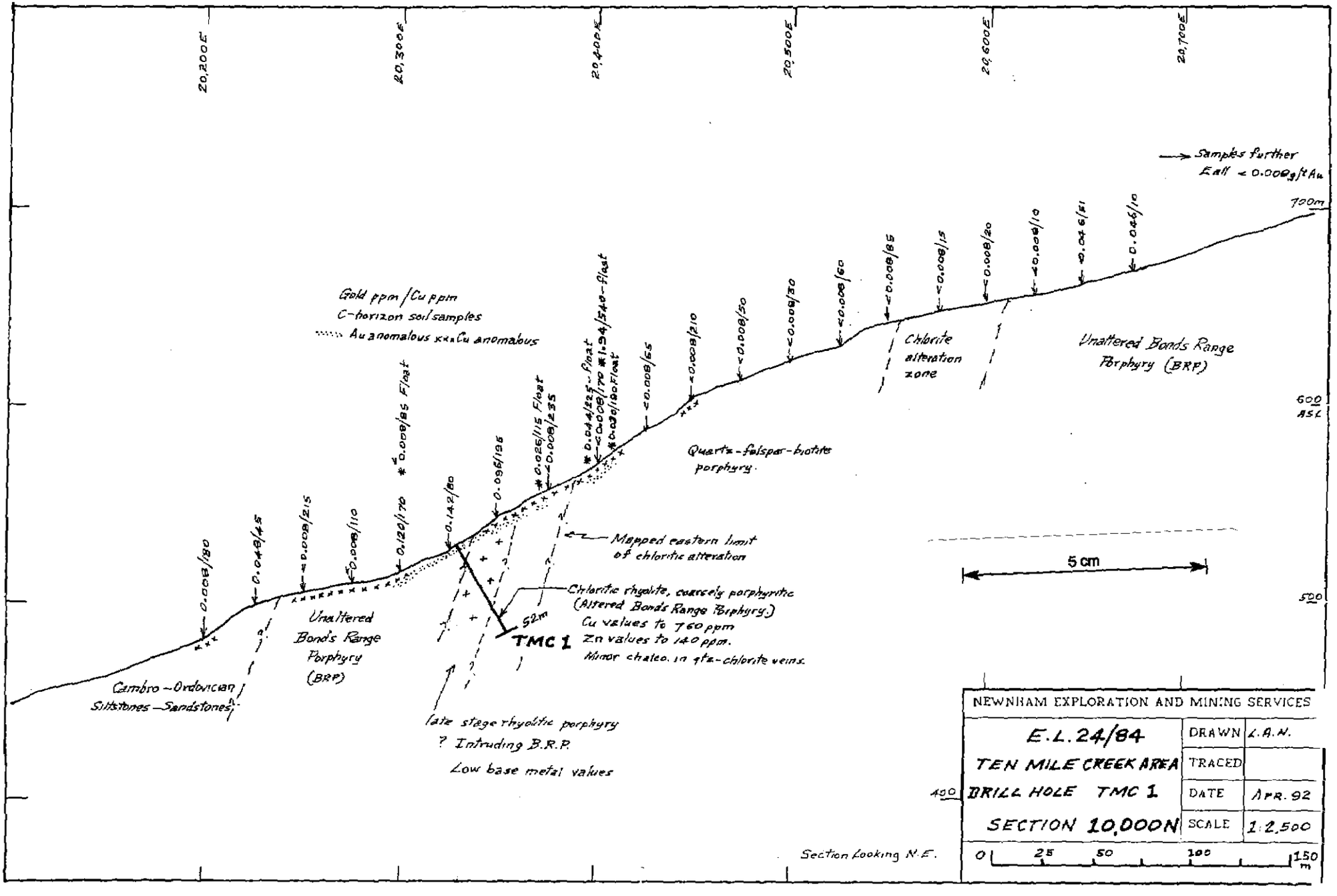
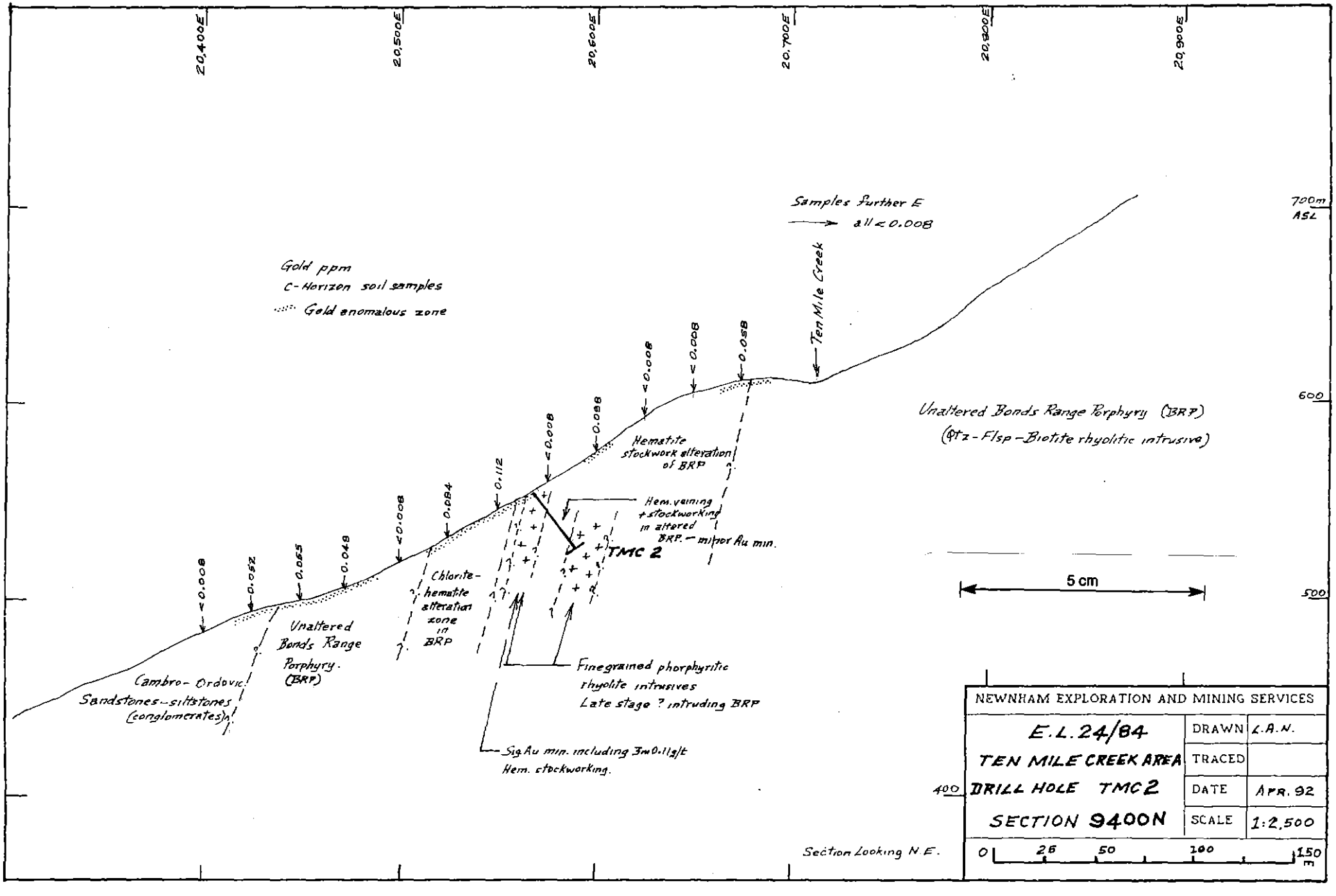


Figure: 3

Figure: 3



05/0043 Figure: 4

Figure: 4

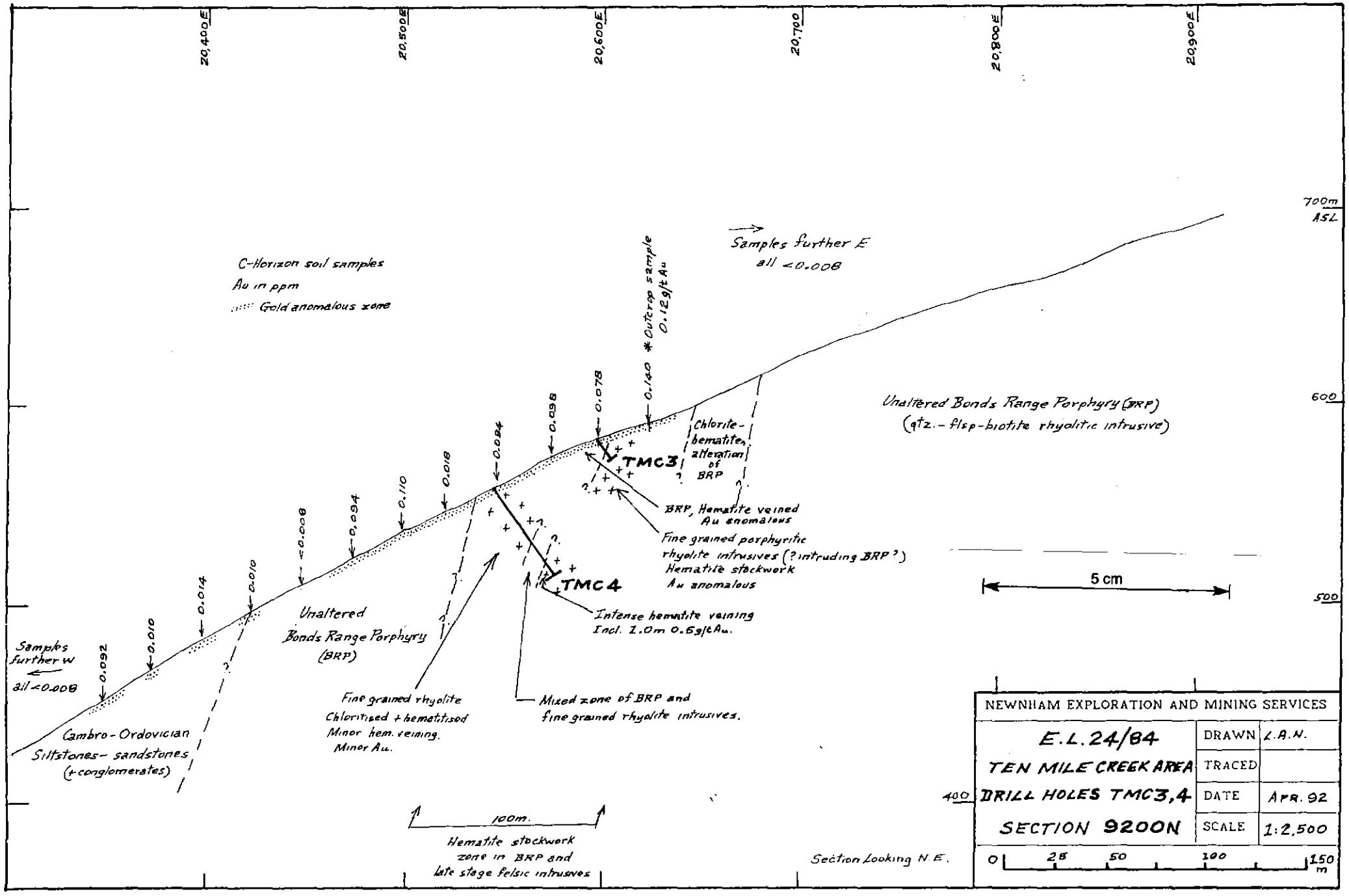
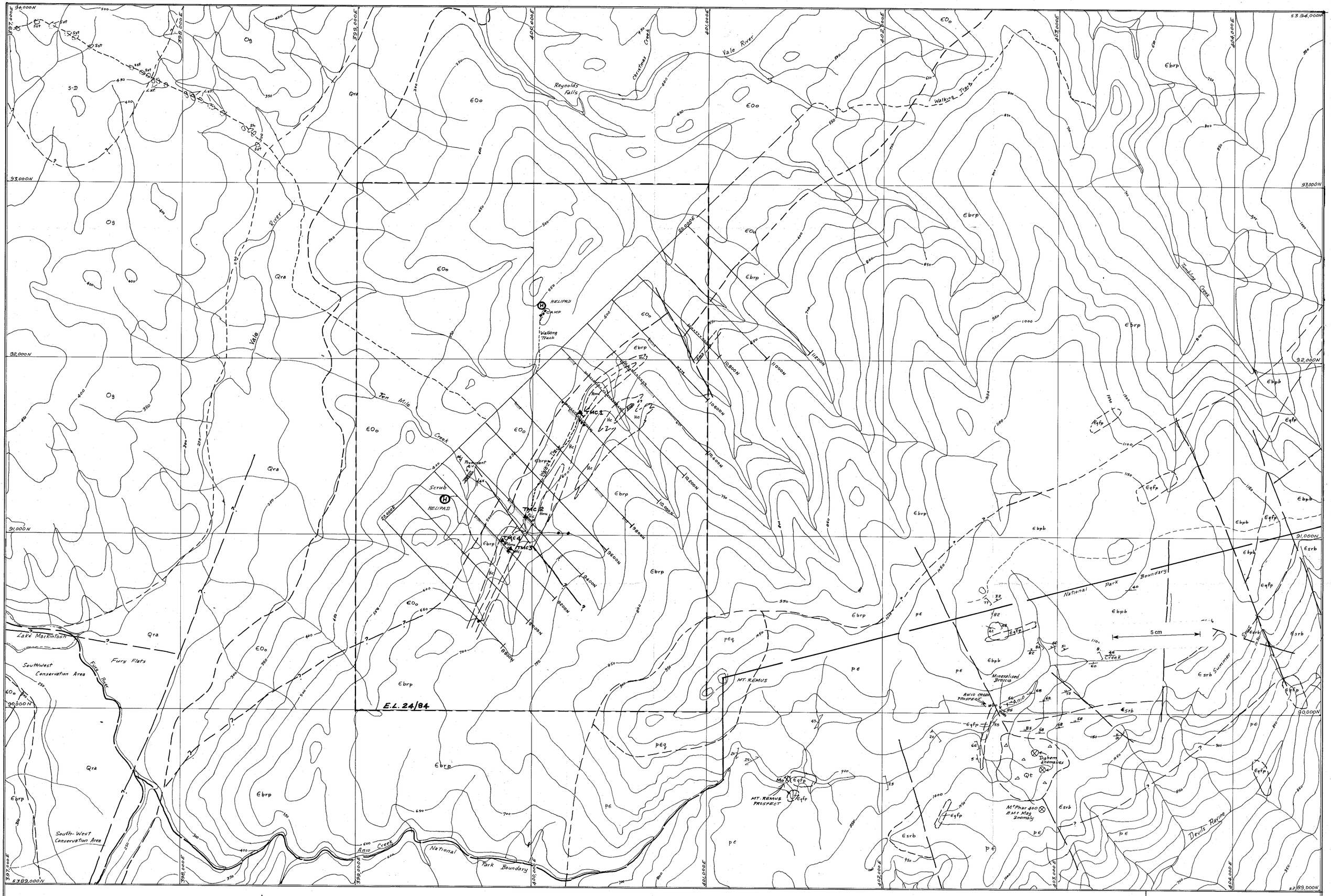


Figure 5

Figure 5



TMC Cored drill holes completed 1992

Helipads est6. 1992

N (AMG)

Base Topographic data from 1:25000 Charter, Block, Pencil Pine, Cradle Sheets

Geological data from Aberfoyle – CRA E.L.24/84 Reports, MRVP Geological Rept. No. 4 MRVP Geological Map No. 7.

Cut traverse Lines

Walking Track

Tenement Boundary

National Park and Conservation Area boundary

Geological Boundary

Fault

Cleavage

Bedding, facing unknown, known

Gold anomalous soil sample area

Copper anomalous soil sample area

Gold anomalous rock samples

QUATERNARY

Qt Talus, scree

Qra River Alluvium

SILURIAN – DEVONIAN

S-D Sandstones

ORDOVICIAN

Og Gordon Limestone

CAMBRIAN – ORDOVICIAN

Eo Siltstones, conglomerates (Owen Cong. – Meina Sst. Equiv.)

CAMBRIAN

Eqfp Quartz-Felspar porphyry

Ebrp Bond Range Porphyry Qtz.-Fksp-bio.-hbd.

Hmx Hematite stockworks in Bond Range Porphyry

Hc Chlorite alteration of Ebrp.

Ebpb Back Peak Beds: Tuffs, tuffs.st, cherts

Esrb Sticht Range Beds: qtzites, sst, cgl.

PRECAMBRIAN

pEq Quartzites, minor pelites

pE Phyllites, schists

E.L.24/84
TEN MILE CREEK AREA
ACCESS AND REGIONAL GEOLOGY
DRILL HOLE LOCATIONS

0 500m Original scale 1:10,000

Drawn: L.A. Newnham Date: April 1992 FIG. 2

049050 92-3396.