

FIRST ANNUAL REPORT

EL20/2003

QUEENSTOWN – MT DARWIN PROJECT

For Period 27th June 2003 – 26th May 2004

I. J. Tedder
John Holliday
Cam Mackey
Ken Morrison

May 2004

Distribution:

Mineral Resources Tasmania	1 copy
Newcrest Mining Limited – Brisbane	1 copy
Newcrest Mining Limited – SE Australia	2 copies

CONTENTS

FIGURES	3
PLANS	3
TABLES	3
APPENDICIES	3
DIGITAL FILES	4
SUMMARY	6
KEY WORDS	6
1 INTRODUCTION.....	7
1.1 TITLE	7
2 PREVIOUS EXPLORATION.....	7
3 EXPLORATION STRATEGY.....	9
4 CSAMT PROGRAM.....	10
4.1 Introduction	10
4.2 Data Acquisition.....	10
4.3 Discussion of Results	11
5 GEOLOGICAL MAPPING AND GEOCHEMISTRY	12
6 DRILLING	16
6.1 NCT001	16
6.2 NCT002	17
7 ENVIRONMENT	18
8 PLANNED WORK	18
9 BIBLIOGRAPHY	19
EXPENDITURE.....	20

FIGURES

	Scale
1. EL20/2003 Queenstown – Mt Darwin Location Map	1:250,000
2. Exploration Concept – Cross Section	as shown
3a & 3b CSAMT Line 1 Local Grid (3a) & AMG GRID (3b)	1:10,000
4a & 4b CSAMT Line 2 Local Grid (4a) & AMG GRID (4b)	1:10,000
5a & 5b CSAMT Line 3 Local Grid (5a) & AMG GRID (5b)	1:10,000
6a & 6b CSAMT Line 4 Local Grid (6a) & AMG GRID (6b)	1:10,000
7a & 7b CSAMT Line 5 Local Grid (7a) & AMG GRID (7b)	1:10,000
8a & 8b CSAMT Line 6 Local Grid (8a) & AMG GRID (8b)	1:10,000
9a & 9b CSAMT Line 7 Local Grid (9a) & AMG GRID (9b)	1:10,000
10a & 10b CSAMT Line 8 Local Grid (10a) & AMG GRID (10b)	1:10,000
11a & 11b CSAMT Line 9 Local Grid (11a) & AMG GRID (11b)	1:10,000
12a & 12b CSAMT Line 10 Local Grid (12a) & AMG GRID (12b)	1:10,000
13a & 13b CSAMT Line 11 Local Grid (13a) & AMG GRID (13b)	1:10,000
14a & 14b CSAMT Line 12 Local Grid (14a) & AMG GRID (14b)	1:10,000
15a & 15b CSAMT Line 13 Local Grid (15a) & AMG GRID (15b)	1:10,000
16a & 16b CSAMT Line 14 Local Grid (16a) & AMG GRID (16b)	1:10,000
17a & 17b CSAMT Line 15 Local Grid (17a) & AMG GRID (17b)	1:10,000
18a & 18b CSAMT Line 16 Local Grid (18a) & AMG GRID (18b)	1:10,000

PLANS

	Scale
Plan 1: CSAMT Geophysical Lines, Geochemistry, Drill Hole Location	1:10,000
Plan 2: NCT001 Drill Hole Cross Section	1:2,500

TABLES

	<u>Page No.</u>
Table 1: Rock Chip Locations and Assays	14
Table 2: Pan Concentrate Locations and Assays	15
Table 3: Drill Location	16
Table 4: NCT001 Survey Data	17

APPENDICIES

1. CSAMT Lines – Geological Data
(See Digital File EL20_2003_200405_05_Appendix 1.pdf)
2. Jukes Pty Reconnaissance
(See Digital File EL20_2003_200405_06_Appendix 2.pdf)
3. NCT001 - Drill Logs
(See Digital File EL20_2003_200405_07_Appendix 3.pdf)

APPENDICIES (cont'd)

4. NCT001 Summary Log
(See Digital File EL20_2003_200405_08_Appendix 4.pdf)
5. NCT001 Oriented Structure Logs
(See Digital File EL20_2003_200405_09_Appendix 5.pdf)
- 6a. NCT001 – Digital Assay Data
(See Digital File EL20_2003_200405_10_Appendix 6a.txt)
- 6b. NCT001 – SGS Burnie – Assay reports
(See Digital File EL20_2003_200405_11_Appendix 6b.pdf)
7. NCT001 & NCT002 – Digital Collar Data
(See Digital File EL20_2003_200405_12_Appendix 7.txt)
8. NCT001 – Digital Survey Data
(See Digital File EL20_2003_200405_13_Appendix 8.txt)
- 9a. Surface Geochem – Panned Concentrate Samples - Digital Data
(See Digital File EL20_2003_200405_14_Appendix 9a.txt)
- 9b. Surface Geochem – Rock Chip Samples - Digital Data
(See Digital File EL20_2003_200405_15_Appendix 9b.txt)

DIGITAL FILES

EL20_2003_200405_01_Report.pdf
(Report Text and Figures 1 and 2)

EL20_2003_200405_02_Figures 3a – 9b.pdf
(Figures 3a – 9b)

EL20_2003_200405_03_Figures 10a – 18b.pdf
(Figures 10a – 18b)

EL20_2003_200405_04_Plans 1-2.pdf
(Plans 1 & 2)

EL20_2003_200405_05_Appendix 1.pdf
(CSAMT Lines – Geological Data)

EL20_2003_200405_06_Appendix 2.pdf
(Jukes Pty Reconnaissance)

DIGITAL FILES (cont'd)

EL20_2003_200405_07_Appendix 3.pdf
(NCT001- Drill Logs)

EL20_2003_200405_08_Appendix 4.pdf
(NCT001 – Summary Log)

EL20_2003_200405_09_Appendix 5.pdf
(NCT001 – Orientated Structure Logs)

EL20_2003_200405_10_Appendix 6a.txt
(NCT001 – Digital Assay Data)

EL20_2003_200405_11_Appendix 6b.pdf
(NCT001 – SGS Burnie - Assay Reports)

EL20_2003_200405_12_Appendix 7.txt
(NCT001 – Digital Collar Data)

EL20_2003_200405_13_Appendix 8.txt
(NCT001 – Digital Survey Data)

EL20_2003_200405_14_Appendix 9a.txt
(Surface Geochem – Panned Concentrate Samples - Digital Data)

EL20_2003_200405_15_Appendix 9b.txt
(Surface Geochem – Rock Chip Samples - Digital Data)

EL20_2003_200405_16_Report List.txt
(Report List)

SUMMARY

Newcrest Mining Limited commenced exploration for gold rich deposits on being granted EL20/2003 on the 27th June 2003. The tenement encompasses a large area of prospective Mount Read Volcanics from Mt Owen just outside of Queenstown, south to include Mt Darwin.

The initial exploration concept being tested is the idea that the Tyndall Group rocks east of the Central Volcanic Complex may cover mineralisation, particularly along the West Coast Range stretching from Mt Jukes to Mt Darwin.

In order to test the concept, 19.25 kilometres of a Controlled Source Audio-Frequency Magnetotellurics (CSAMT) survey was conducted on wide spaced east – west grid lines. From this work, two weak anomalies were identified for follow-up drilling. As of the date of writing this report, one drill hole NCT001 was completed to 545 metres at Lake Jukes on a conductive anomaly and a second, (NCT002) commenced just south of East Darwin prospect, on a resistive target.

Depending on results of the first eleven months of exploration, a similar exploration program will be conducted in the next twelve month period.

KEY WORDS

Exploration; Gold; Copper; Diamond Drilling; Geophysics; CSAMT; Mount Read Volcanics; Darwin 3832; Owen 3833.

1 INTRODUCTION

Newcrest Mining Limited is exploring for gold rich deposits in the Mount Read Volcanics. This is the first annual report for EL20/2003 for the period 27th June 2003 to 26th May 2004.

1.1 TITLE

TENEMENT

EL20/2003 was granted on the 27th June 2003 to Newcrest Operations Limited for five years to 27th June 2008. The area was most recently held as two separate tenements (EL5/98 and EL16/98) by Copper Mines of Tasmania (CMT).

LOCATION

The tenement covers an area of 149 square kilometres over parts of the West Coast Range immediately south of Queenstown, down to the Bird River near the southern end of the Macquarie harbour. Refer to Figure 1 for location. Most of the area falls within the West Coast Regional Reserve. At the northern end of the tenement there is some Crown Land, State Forest, HEC land and Public Reserve.

Topographic map sheets covering the area are listed below.

1:25,000 TASMANIA TOPOGRAPHIC MAPS

ENGINEER	3831
DARWIN	3832
OWEN	3833
GORMANSTON	3834
TEEPOOKANA	3632

DATUM

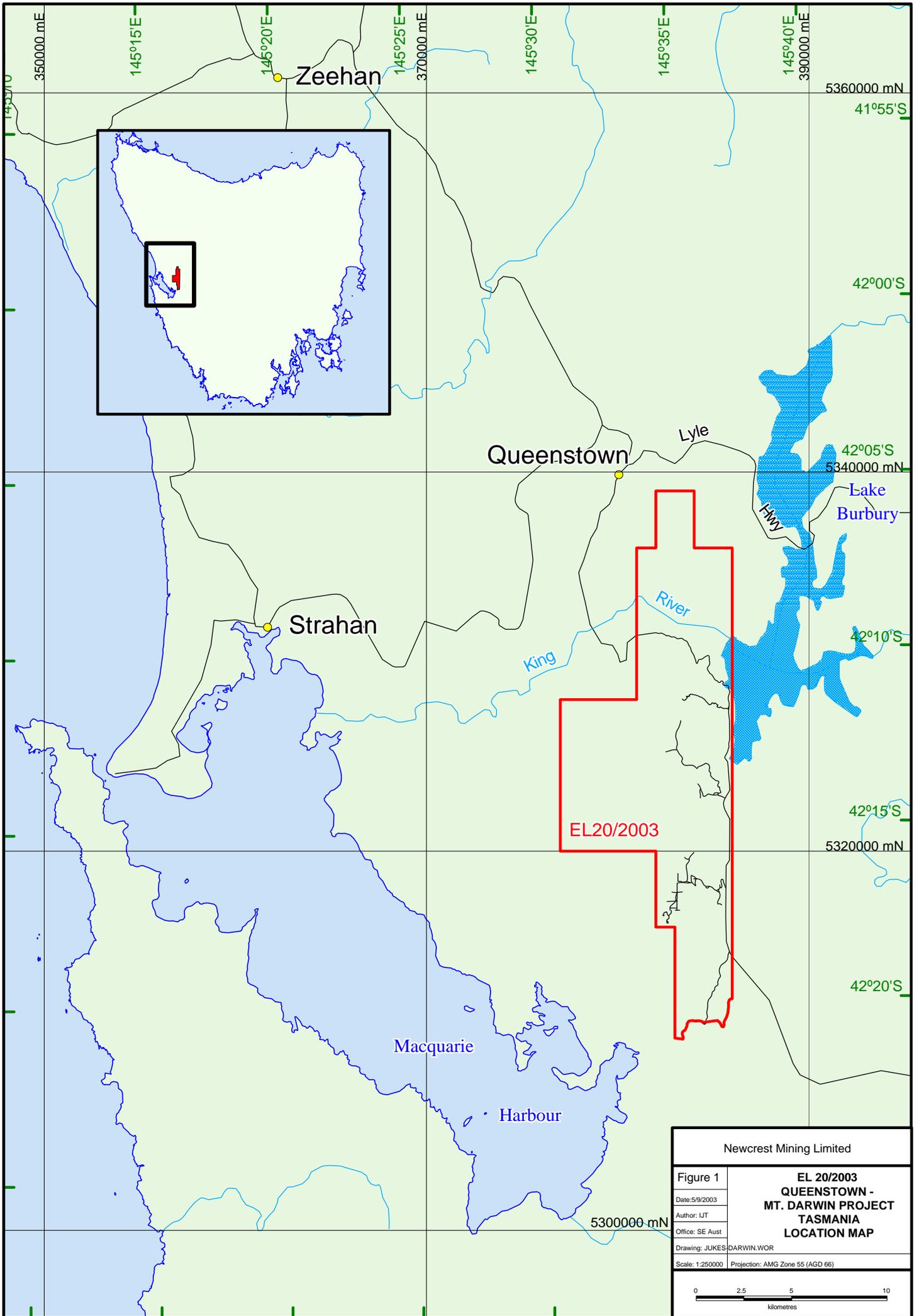
All AMG (Australian Map Grid) references are to AGD66_Zone 55.

2 PREVIOUS EXPLORATION

Significant phases of past exploration by other companies in the area covered by the tenement are summarised as follows:

Mt Jukes – Mt Darwin early years:

Following the lead of historic prospectors/miners, during the 1950-60's companies such as Mt Lyell Mining and Railway (MLMR), EZ and BHP conducted mapping, sampling of old workings and analogue-era geophysics. MLMR drilled two short holes at Lake



Newcrest Mining Limited	
Figure 1	EL 20/2003 QUEENSTOWN - MT. DARWIN PROJECT TASMANIA LOCATION MAP
Date: 5/9/2003	
Author: IJT	
Office: SE Aust	
Drawing: JUKES-DARWIN.WOR	
Scale: 1:250000	Projection: AMG Zone 55 (AGD 66)

Jukes and BHP one short hole at Prince Darwin, all with what were deemed to be poor results.

Mt Jukes – Mt Darwin 1970's:

International Nickel (INAL) joint ventured with BHP and after conducting IP surveys selected two prospects for drilling (East Darwin, three holes; and Jukes Proprietary, one hole). The drilling only tested under old mine workings and did not show sufficient improvement in grades with depth to encourage INAL to undertake further work.

Southern Jukes – Mt Darwin 1985-88:

EZ conducted a gold-specific geology/geochemistry sampling program but did not locate any prospects considered to have sufficient potential to warrant drilling.

Jukes Proprietary Prospect 1981-87:

MLMR conducted mapping, geochemistry and geophysics leading to them drilling four new holes under the old mine workings. Hole JP2 returned the best result of 13.4m at 1.6% Cu and 1.6g/t Au.

Jukes Proprietary Prospect mid 1990's:

RGC conducted mapping and recommended another hole at the northern end, however this was not proceeded with possibly because the King Tunnel is close-by under the area. A PhD student at University of Tasmania carried out geochemical sampling along the new road crossing the alteration system and demonstrated the broad extent of anomalous copper and gold.

Mt Huxley-Nasty Nob area 1980's & 90's:

Goldfields drilled one hole in 1985-6 into an IP anomaly, which intersected minor base metal-bearing veinlets. Other sampling attempted to locate sources for weak gold anomalism in the Tofft River. area. Significant alteration and gossans (Nasty Nob) were recognised in the area. In 1988-91 BHP conducted extensive UTEM surveys with poor results, and sampled gold up to 5m at 2.18g/t in the old Mt Ellen workings. In 1994 RGC reported a weakly gold anomalous alteration zone at Mountain Maid.

Garfield Valley 1980's:

This area encompasses the site of old gold workings at Flannigans Flat, Sailor Jacks and Snake Spur. Goldfields conducted a geological and geochemical prospecting campaign leading to the drilling of two holes at Snake Spur with what were deemed to be disappointing results.

Garfield and Clark Valleys 1989-92:

BHP conducted blanket-coverage fixed-loop TEM surveys leading to the drilling of one short hole at the Thomas conductor, which turned out to be due to a non-mineralised source.

Garfield Prospect 1991-95:

Goldfields joint ventured with BHP and using a geology/geochemistry approach discovered the Garfield mineralisation, which was subsequently covered with twelve holes. This is recognised as a significant occurrence of Prince Lyell type mineralisation but is generally considered in exploration reports to be well-drilled and very sub-economic in grade/tonnes.

General:

In recent years the EL20/2003 has been covered by MRT-funded high-resolution airborne geophysics comprising magnetics, radiometrics and EM. The EM does not cover the eastern side of the tenement. Also the most recent former EL holder, CMT, commissioned work by Ken Morrison to investigate exploration opportunities/concepts but subsequently conducted no groundwork of significance. Morrison subsequently included some of these concepts in MRT Record 2002/18.

In summary the EL20/2003 has been explored by:

- extensive phases of mapping;
- recent airborne geophysics (magnetics, radiometrics, partially by EM);
- various phases of stream, rock, soil and old workings geochemistry;
- various phases of mostly analogue-era ground geophysics (ground magnetics, IP, old EM methods);
- large grids of blanket-coverage fixed-loop TEM; and
- drilling at seven prospects for twenty-six holes in all (Garfield 12, Jukes Proprietary 5, East Darwin 3, Snake Spur 2, Lake Jukes 2, Mt Huxley 1, and Prince Darwin 1).

3 EXPLORATION STRATEGY

Newcrest is exploring for high grade gold deposits. In particular, the Henty style of gold deposit is considered an attractive target.

An exploration strategy was formed after considering the following;

- 1) Geology of the Mount Read Volcanics south of Queenstown which appears to be favourable for gold – copper rich deposits.
- 2) Extent and type of previous exploration.
- 3) Field investigations commissioned by MRT (Morrison 2002 and Corbett, 2002) which highlighted the concept of Tyndall Group rocks potentially covering prospective Central Volcanic Complex units on the east side of the West Coast Range.
- 4) Review of the MRT geology and geophysics data.
- 5) An inspection of prospect drill core from East Darwin, Jukes Proprietary and Garfield at the MRT core library and the CMT yard, Queenstown.
- 6) Field visits to the South Darwin Plateau, East Darwin and Jukes Proprietary guided by consultant Ken Morrison.

The exploration concept developed in Record 2002/18 by K.C. Morrison hinged on the problem of differentiating Eastern Quartz Phyric sequence (EQPS), a correlative of the Central Volcanic Complex (CVC) from quartz phyric clastics of the Tyndall Group which unconformably overlies the CVC along the eastern margin of the CVC. There is potential for covered mineralised CVC rocks where ever Tyndall Group lithologies are interpreted. This particularly is the case for the region between Mt Jukes and Mt Darwin. Refer to Figure 2 from Record 2002/18 which illustrates the concept.

Strengthening the idea of the prospectivity of this area is the fact that while dozens of old workings and prospects are known through out the region, very few were drilled and the holes were generally short.

Based on the above considerations Newcrest's initial exploration strategy for EL20/2003 was:

- 1) Focus exploration on the east side of the Tyndall Group – Central Volcanic Complex (CVC) contact.
- 2) Conduct widespread lines of Controlled Source Audio-Frequency Magnetotellurics across and east of the Tyndall – CVC contact.
- 3) Drill resultant anomalies.

4 CSAMT PROGRAM

4.1 Introduction

A 50 m dipole scalar Controlled Source Audio-Frequency Magnetotellurics (CSAMT) survey was conducted over grid lines south of Mt Jukes to an area north of Mt Darwin as shown on Plan 1 during the period November 2003 – January 2004.

The objectives were to map lithologies/ structures and possibly directly detect conductive (Mt Lyell type), and resistive (Henty type) targets within CVC, beneath Tyndall Group cover.

4.2 Data Acquisition

The survey specifications were as follows:

Line Clearing / Pegging:	Ian Rogers
CSAMT Survey:	Zonge Engineering of Adelaide
Zonge Crew leader:	Justin Freytag
Zonge Assistants:	Brad Gronow, Max DalleNogare, Brett Johnson
Type of Survey:	Scalar CSAMT
Rx Dipole Length:	50m
Lines:	16 (named 1 – 16, north to south)
Line Direction:	Approx AMG E-W
Number of stations:	376

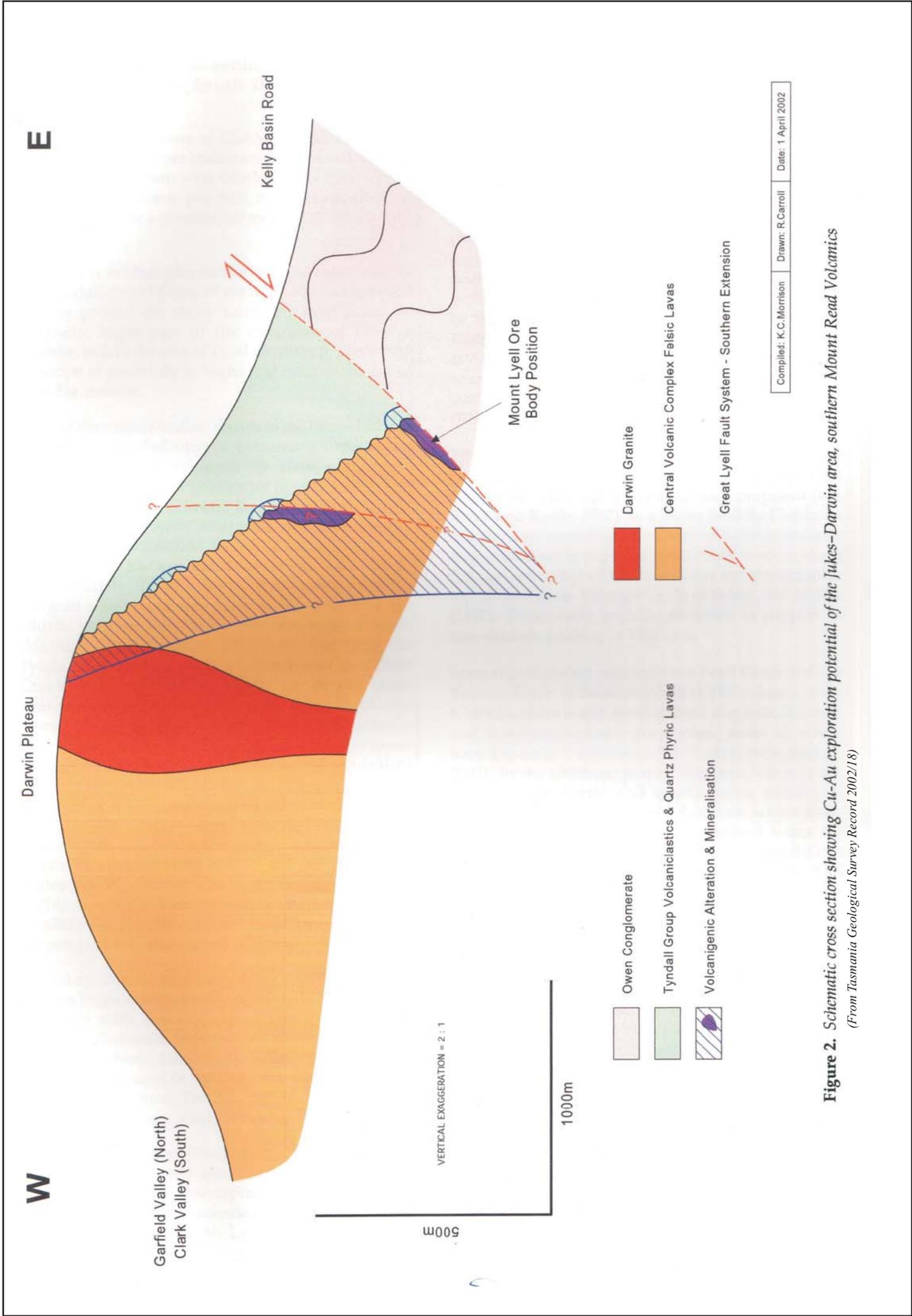


Figure 2. Schematic cross section showing Cu-Au exploration potential of the Jukes-Darwin area, southern Mount Read Volcanics
 (From Tasmania Geological Survey Record 2002/18)

Line km:	18.2
Pegged km:	19.25
Tx Dipole:	1.5 km (distance from Rx lines 7.2 - 14.2 km)
Transmitter:	Zonge GGT-30 (30 kW, up to 1000V)
Motor Generator:	ZMG30 (30 kW, 3 phase 120V, 400 Hz signal)
Receiver:	Zonge GDP-32 (8 channel minimum)
Electric Sensors:	Porous pots
Magnetic Sensor:	ANT-1B antennae
Electric cable:	1.5mm insulated 50 strand copper (brand new)
Transmitter Frequency:	64 Hz – 8196 Hz
Transmitter Location:	382500 E, 5 336 000 N (AMG55 / AGD66)

CSAMT measures resistivity variations that reflect physical property changes in rocks. The CSAMT method is best described as a frequency domain electromagnetic sounding technique that in most cases (including this one) uses a fixed grounded dipole as its source.

The ratio of orthogonal horizontal magnetic and electric fields yields the apparent resistivity. As the magnetic field does not vary much along the line in comparison with the electric field, it is usually sufficient to collect a single magnetic field reading every 100 or 200m, or for every four to six electric field measurements. It is therefore primarily the electric field which maps the local resistivity variations from station to station, with the magnetic field amplitude being used to normalise for the primary field fall off away from the transmitting dipole. The transmitter dipole should be placed far enough away from the receiver lines so that a far field, plane wave approximation is valid, but not so far as to get noisy measurements.

Sixteen grid lines with a total pegged length of 19.25 km were prepared by Rogers Exploration Services. The grid lines were spaced out at distances varying between 250 and 600 m apart. Cut grid lines were pegged every fifty metres (uncorrected for slope) with wooden pegs. The northern three lines (Lines 1, 2 and 3) can only be accessed by the Lake Jukes old pack horse walking track or by helicopter. The rest are accessible off the Mt Jukes – Darwin Dam road and the Intercolonial Spur track.

The data collection involved a geophysical team of three laying out lines along the pegged grid line and taking readings. A trailer mounted generator with one electrode, was located on Whip Spur track, north of Mt Huxley and a transmitting line laid out east along the track for approximately 2.5 km to a second electrode to provide the power source.

4.3 Discussion of Results

The data was of good quality, and the resistive Tasmanian environment allowed good depth of investigation (greater than 600m).

The Cagniard resistivity pseudo sections for each line were inverted, incorporating topography and AMG co-ordinates of stations surveyed by Ken Morrison and Ian Tedder. Refer to Figures 3a to 18b for pseudosections of the CSAMT results.

Three possible CSAMT targets were identified. One conductive anomaly (Line 2) and two resistive anomalies (Lines 8 and 15). Priority one target was at the western end of Line 2 near Lake Jukes. A moderate conductor is centred there at a depth of around 400 metres within CVC, just west of old adits which tested the Lake Jukes copper-gold mineralisation. Two shallow holes (L1 and L7), for which the results have not been located, were drilled at Lake Jukes in the early 1960's, but they did not penetrate to the CSAMT anomaly depth.

Priority two target was around Line 15 and 16. This was a resistive target within CVC which did not fit the usual stratigraphic pattern. The South Mt Lyell (Cu-Au) working is located nearby.

A field review determined that the Line 8 resistive anomaly is probably a stratigraphic-structural effect; just a minor enhancement in the resistivity of the generally resistive Tyndall Group volcanics faulted in with CVC.

The conductive zone on the eastern end of most of the survey lines is considered to probably be a stratigraphic effect. Potential relative conductors consisting of fine sedimentary units were noted within the Tyndall Group in the eastern conductor position on the Intercolonial Spur track, and previous mapping has also recorded sub-units of the Tyndall Group in similar positions further to the north.

In conclusion, two CSAMT anomalies were chosen for drill testing, the conductive anomaly on Line 2 and the resistive anomaly on Line 15.

5 GEOLOGICAL MAPPING AND GEOCHEMISTRY

Each of the CSAMT lines were geologically mapped, primarily in order to identify the contact between Tyndall and CVC rocks. Recognition of the contact was principally based on differentiation of quartz poor volcanic facies representing the CVC, from the quartz rich volcanoclastic facies representing Tyndall Group.

From Line 8 (south of 5325000N) to Line 16 (around 5321500N), the main lithology juxtaposed against quartz phyric volcanoclastics of the Tyndall Group is a dark green foliated, chlorite-pyrite altered volcanic. This lithology is interpreted to be CVC and is generally located further east of the mapped CVC boundary. The result of this mapping is tabulated in Appendix 1. The interpreted CVC – Tyndall contact, where mapped, is shown on Plan 1.

A limited number of rock chip samples were collected on some of the CSAMT lines. The results are listed in Table 1 and gold results plotted on Plan 1. Some sampling

around mullock dumps of workings at Lake Jukes and of alteration identified in road cuttings at Jukes Proprietary are also included in the Table 1 and on Plan 1. Refer to Appendix 2 for a report on reconnaissance of Jukes Pty prospect. All samples (but one) were analysed by SGS Analabs in Burnie.

A reconnaissance pan concentrate stream sediment sampling program was conducted in the Intercolonial Spur area. Ten samples were collected using the following method. Two litres of minus 2.3 mm bed load creek sediment was screened and panned in the field to an estimated 50-100 g of pan concentrate. The samples were despatched to SGS Analabs in Burnie where the pan concentrate was pulped and a 0.3 g base metal split taken. The total remainder of the pulp was fire assayed and gold reported as total mass (micrograms) contained in the pan concentrate. Results are listed in Table 2 and shown on Plan 1.

TABLE 1
ROCK CHIP SAMPLES – EL20/2003
 (* AGD 1966/ 55 AMG)

Sample ID	Easting		Northing		Description	Assays										
	AMG*	AMG*	AMG*	AMG*		Au	Au(R)	Cu	Pb	Zn	As	Ag	Ba	Bi		
						ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm		
A069	384342	5321524			Foliated chlorite-pyrite altered volcanics	<0.01	-	45	91	154	29	<1	615	27		
A103	384537	5322168			Limonite stained foliated chlorite altered volcanic	<0.01	-	127	98	172	11	<1	1240	<10		
A105	384534	5322140			Foliated chlorite-pyrite altered volcanic	<0.01	-	200	410	240	13	<1	898	<10		
A114	384410	5322173			Foliated chlorite-pyrite altered volcanic	<0.01	<0.01	108	9	110	12	<1	816	<10		
A171	383820	5325001			Strongly foliated chlorite-pyrite altered volcanics	<0.01	-	6	155	49	<10	<3	998	<20		
A172	383935	5325002			Strongly foliated chlorite-pyrite altered volcanics	<0.01	-	7	88	100	<10	<3	853	<20		
A174	383590	5324994			Massive rhyolite with stockwork quartz veining	<0.01	-	6	<20	23	<10	<3	1260	<20		
A177	383086	5325836			He-sil breccia in CVC	<0.01	-	49	20	36	<10	<3	209	<20		
A178	383083	5325995			He-sil breccia in CVC adjacent to small pit	0.06	-	141	32	39	14	<3	607	<20		
A179	383821	5328149			Foliated chl-py altered quartz phytic volcanic LJ-Bean and Thow pit	3.85	4.1	2430	260	331	26	6	576	<20		
A184	383088	5328277			Chlorite altered fine grained - Collins adit mullock - Lake Jukes	0.24	0.32	29500	34	254	<10	11	906	<20		
A189	383412	5331197			Jukes Pty	0.45	0.63	1505	22	59	21	<3	1410	<20		
L2 750 1	383079	5328202			Silica, hem, chlor, pyr alt CVC lava assoc with Cu workings	1.78	1.79	<5	25	<5	<5	14	514	<10		
L2 750 2	383079	5328202			Silica, hem, chlor, pyr alt CVC lava assoc with Cu workings	1.73	1.68	184	54	<5	<5	20	303	<10		
L5 150 1	383378	5326488			Silica, hem, chlor, coarse ?arsenpyr alt CVC lava near TG contact	0.01	-	165	197	15	43	9	579	16		
L5 150 2	383378	5326488			Silica, hem, chlor, coarse ?arsenpyr alt CVC lava near TG contact	0.02	-	218	192	16	83	3	494	<10		
L7 725 1	383745	5325490			Sheared, schistose seric, hem, quartz, minor pyr alt CVC near TG contact	<0.01	-	14	15	<5	<5	2	465	12		
L9 1400 1	383471	5324541			Quartz veined chert, hem alt CVC lava near TG contact	0.01	-	56	16	234	<5	3	478	17		
L9 1400 2	383471	5324541			Hematite, jasp, chlor alt CVC lava near TG contact	<0.01	<0.01	18	20	15	<5	<1	1585	<10		
L9 1400 3	383471	5324541			Quartz, veined chert alt CVC lava near TG contact	<0.01	-	73	<5	<5	<5	4	269	16		
L9 1400 4	383471	5324541			Quartz, bar veined chert, alt CVC lava near TG contact	0.01	-	13	<5	<5	<5	3	5280	14		
L13 1150 1	384301	5323013			Quartz, seric, pyr schist at CVC-TG contact	0.04	0.04	248	22	14	76	7	133	33		
L16-1800	384216	5321524			Foliated chlorite-pyrite altered volcanics	0.03	-	84	<5	123	8	<1	148	<10		

TABLE 2
PAN CONCENTRATE STREAM SEDIMENT SAMPLES – EL20/2003
 (* AGD 1966/55 AMG)

Sample ID	Easting		Northing		Description	Assays						
	AMG*	AMG*	AMG*	AMG*		Au	Cu	Pb	Zn	As		
						F650	A102	A102	A102	H102		
					METHOD	0.01	2	3	2	1		
					LDETECTION	10000	5000	5000	5000	200		
					UNITS	µg	ppm	ppm	ppm	ppm		
ISS01	383010	5324830			Altered CVC bedrock, trace visible gold	14.5	6	7	7	1		
ISS02	383040	5324790			Owen bedrock, close to altered CVC contact, trace visible gold, abundant non mag opaques	205	5	<3	47	1		
ISS03	382930	5324700			Owen bedrock	2	20	<3	34	1		
ISS04	382860	5324730			Owen bedrock	<0.01	4	<3	19	1		
ISS05	383750	5325000			Tyndall bedrock - poor visibility under forest	92	6	3	12	1		
ISS06	383780	5324900			Tyndall bedrock - poor visibility under forest	5	4	4	8	1		
ISS07	383660	5325090			Tyndall bedrock - poor visibility under forest	26.5	9	<3	14	2		
ISS08	383670	5325100			Tyndall bedrock - poor visibility under forest	<0.01	4	4	7	1		
ISS09	383660	5325060			Tyndall bedrock - poor visibility under forest	30.5	13	<3	7	1		
ISS10	383720	5325030			Tyndall bedrock - poor visibility under forest	62	2	4	5	1		

Method: 2 litres of -2.3 mm bed load creek sediment screened and panned in the field to estimated 50-100 g pan con. Pan cons pulped, 0.3 g base metal split taken, the total remainder fire assayed and gold reported as total mass (micrograms) contained in the pan con. Assumes no gold loss during panning or removal of base metal split.

6 DRILLING

Two diamond holes were planned to test the two CSAMT targets. Hole NCT001 was designed to test a chargeable anomaly at approximately 400 m depth at the western end of Line 2 in the Lake Jukes area. The second hole, NCT002 was to test a resistive target some 400 m below the surface at the Tyndall Group/CVC contact south of East Darwin prospect.

TABLE 3
Drill Hole Locations
(* AGD 1966/ 55 AMG)

Hole	East-AMG*	North-AMG*	RL	Depth
NCT001	383230	5328270	760	545.00
NCT002	384690	5322150	335	489.50

The holes were completed by Boart Longyear using a CS1000 P4 drill rig. For both holes, the drill rig was flown onto site by helicopter (Helicopter Resources). Support throughout the drilling was maintained by Seair Adventures helicopters. At Lake Jukes the drillers initially camped on site, working double shifts. But the knockdown of the kitchen hut twice by fierce winds necessitated a change in plans. From then on, single shifts were worked, with the drill crew flown into site each day and walking out each evening for the last 90 m of the hole.

The drill core was marked up, photographed, logged and cut in Queenstown.

The BallMark orientation system is used during drilling to obtain almost continuous oriented core. The reference line for all oriented structure data is marked on the bottom of the hole side of the core.

All core was sawn in half, with half bagged at one metre intervals and the other half return to the core tray as reference material. Assays for Au (method F650), Cu, Pb, Zn Ag (method A102), As (method H102) and S (method V821) were completed by SGS Analabs in Burnie. Standards are submitted with every batch of samples.

Graphic geological logs are being compiled for each hole. Logging symbols are based on those of McPhie et al 1993. The lithology section of the graphic log was also summarised into computer code after scan logging the core and entered into Micromine to allow plotting of cross sections.

6.1 NCT001

Diamond drill hole NCT001 was drilled to test a weak chargeable CSAMT anomaly centred approximately 400 m below the surface at 382940E/5328200N (AMG). Refer to Plan 1 and cross section in Plan 2. The hole drilled to 545 m depth before being terminated. NCT001 was

drilled in HQ to 170.7m and then NQ sized core to end of hole. The 'BallMark' core orientation system was used only in the NQ section of the hole.

TABLE 4

NCT001 Down Hole Survey Data*			
Depth	Dip	Azimuth-mag	Azimuth-AMG
0.00	-60.00	234.00	248.00
25.00	-60.50	237.00	250.00
50.20	-60.00	237.00	250.00
101.20	-59.50	238.00	251.00
150.00	-57.00	234.00	247.00
206.00	-54.00	238.00	251.00
236.00	-53.00	237.00	250.00
260.00	-51.00	239.00	252.00
300.00	-46.00	239.00	252.00
350.00	-42.00	240.50	253.50
401.00	-38.00	240.00	253.00
452.00	-32.50	240.00	253.00
500.00	-28.50	240.00	253.00
550.00	-27.00	239.50	252.50

*Survey data collected with Eastman Camera shots.

Refer to Appendix 3 for the graphic log of NCT001. The summary log is located in Appendix 4 and the oriented structural data is in Appendix 5. Assay results for NCT001 are listed in Appendix 6

The hole did not intersect any mineralisation. The CSAMT anomaly may have been caused by a black shale unit, a thin slice of which was intersected at 509.9 – 517.1 metres. Refer to summary log (Appendix 4).

6.2 NCT002

A broad resistive CSAMT anomaly was tested by diamond drill hole NCT002. The anomaly is centred approximately at 384475E/5322100N (AMG). NCT002 was drilled in HQ3 to 149.4 m and then NQ3 sized core to end of hole at 489.5 metres. The 'BallMark' core orientation system was used in the NQ3 part of the hole.

Logging of NCT002 is still in progress and assay results will not be received by the dead line of completion of this report, so will be reported next year.

7 ENVIRONMENT

The exploration program required the cutting of 19.25 km of straight grid lines for the CSAMT program) in an east – west direction through vegetation classed by Tas Veg predominantly as ‘Eucalyptus Nitida – mixed forest’ with minor ‘Button grass and Moorland’. All of the mixed forest areas have previously been logged and burnt out so much of the vegetation represents re-growth. Lines were pegged at 50 m intervals with wooden pegs.

Approximately 4 km of the old pack horse track running from the Mt Jukes – Darwin road up to Lake Jukes was reopened for access to the Lake Jukes area. Flagging tape used to mark the trail was removed on completion of the work except for in a couple of critical areas.

Permission was granted by the Minerals Exploration Working Group to rehabilitate the Intercolonial Spur vehicle access track to allow the geophysicists and line cutters access to Intercolonial Spur. A steel boom gate was installed at the beginning of the track to limit access to authorised users only.

Drill hole NCT001 was located on a natural rock ledge requiring only clearing of low scrub. During drilling, fluids were captured in sumps and recirculated. After drilling, the drill cuttings were flown off site and dumped in a designated area within the Copper Mines of Tasmania mine site. The drill site and the associated camp area at Lake Jukes were cleaned up and the vegetation cut from the site re-laid over the area to minimise erosion.

All the areas worked in were treated as if contaminated by ‘*Phytophthora*’ so all boots and gaiters were washed before going to a new area/line and at the end of each day. All new timbers were used for the second drill site and the rig and associated equipment washed down, initially on the Lake Jukes site, then again at the lay down area on the Darwin Dam wall before being flown to the second site.

8 PLANNED WORK

A similar exploration program to the one conducted in the past year is to be continued in EL20/2003. The main program would involve a CSAMT survey over the Mt Huxley – Nasty Nob area with an additional line over Jukes Pty prospect. Any anomaly will be followed up with a diamond drilling program.

Reconnaissance mapping is to be conducted over the Garfield prospect to determine the nature of any follow-up drilling, if any.

A program of pan concentrate stream sediment sampling is planned over the Intercolonial Spur area between Mt Jukes and Conglomerate Peak with the aim of attempting to define a target within the broadly anomalous area that would warrant drill testing.

9 BIBLIOGRAPHY

Corbett K. D. 2002. ‘Updating the Geology of the Mount Read Volcanics Belt’ Mineral Resources Tasmania, Tasmanian Geological Survey Record 2002/19 Western Tasmanian Regional Minerals Program Mount Read Volcanics Compilation.

McPhie J., Doyle M., Allen R. 1993 ‘Volcanic Textures. A guide to the interpretation of textures in volcanic rocks’. Centre of Ore Deposit and Exploration Studies. University of Tasmania

Morrison K.C. 2002. ‘Report of field investigations Mt Darwin – Mt Murchison Region’ Mineral Resources Tasmania, Tasmanian Geological Survey Record 2002/18 Western Tasmanian Regional Minerals Program Mount Read Volcanics Compilation.

EXPENDITURE
EL20/2003
QUEENSTOWN – MT DARWIN PROJECT
For Period 27th June 2003 – 26th May 2004

ITEM	EXPENDITURE
SALARIES	\$18,5860.76
DRILLING	\$242,694.02
FIELD COSTS	\$108,252.04
MISCELLANEOUS OFFICE COSTS	\$37,068.66
TRAVEL/ACCOMM	\$36,117.84
VEHICLES	\$1,928.34
LAND / LEGAL	\$7,309.13
ANALYSES	\$15,851.4
GEOPHYSICS	\$100,986.05
ENVIRONMENTAL	\$18.18
TOTAL EXPENDITURE	\$736,086.42