920601

EXPLORATION LICENCE NO. 42/92

("LOONGANA")

ANNUAL REPORT
MAY 1993 -MAY 1994

(Volume 1 of 1)

Compiled by:

MICHAEL J VICARY
Contract Geologist

Endorsed by:

D.W. Halley

Dr S.W. HALLEY
Senior Geologist (Tasmania)

21 May 1994

Report No: T-LO-94/4/4

Distribution:

- • Tasmanian Department of Mines
- o RGC Exploration - Zeehan
- o RGC Exploration - Perth

CONTENTS

LIST OF PLANS AND FIGURES

LIST OF TABLES

LIST OF APPENDICES

SUMMARY

EL 42/92 - Loongana situated approximately 30 km southeast of Burnie in northern Tasmania was acquired for its potential to contain volcanic hosted massive sulphide mineralisation. Previous exploration has recognised the presence of dacitic to andesitic lava flows indicating a favourable proximal volcanic environment.

Work completed in the first twelve months of tenure involved 1:10 000 geological mapping and rock chip sampling in the Native Track Tier area. This has indicated the presence of two highly potential Cambrian sequences. They have been correlated with the Central Volcanic Sequence and the Mount Charter Group. A review of all previous exploration in EL 42/92 was made.

A mapping and sampling programme to investigate a possible exhalite horizon in the Mount Jacob area will be undertaken in the next twelve months.

1. INTRODUCTION

EL 42/92 - Loongana is held by Renison Limited and is explored by RGC Exploration, both wholly owned subsidiaries of RGC Limited. The licence is located in northwestern Tasmania approximately 30 km southeast of Burnie and includes the Native Track Tier and Winterbrook areas (fig. 1).It was granted on May 21, 1993 and covers 220 sq km.

The major access to the area is achieved by following the Castra Road (B15) south from Ulverstone to Nietta and the taking either the Loongana Road (C128) or the South Nietta Road (C129).The Native Track Tier area can be accessed from Penguin via Pine Road (B17) to South Riana, then following the Loyetea Road to Ulstergren Road. Ulstergren Road can also be accessed via Loongana Road.

Topographically the lease is dominated by two distinct mountain ranges separated by a major valley at Loongana through which flows the Leven River. To the east of Loongana the Leven River changes from a dominantly east-west trend to a north-south trend and forms a steep sided gorge as it transects the general trend of the Native Track Tier.

The Native Track Tier is moderately elevated plateau 500-600 metres high with a peripheral ridge formed by resistive rocktypes up to about 900 metres high. It is deeply dissected by several steep sided creeks including Tulip Tree Creek. It is mainly covered by wet sclerophyll and myrtle dominated rainforest and has undergone extensive forestry operations.

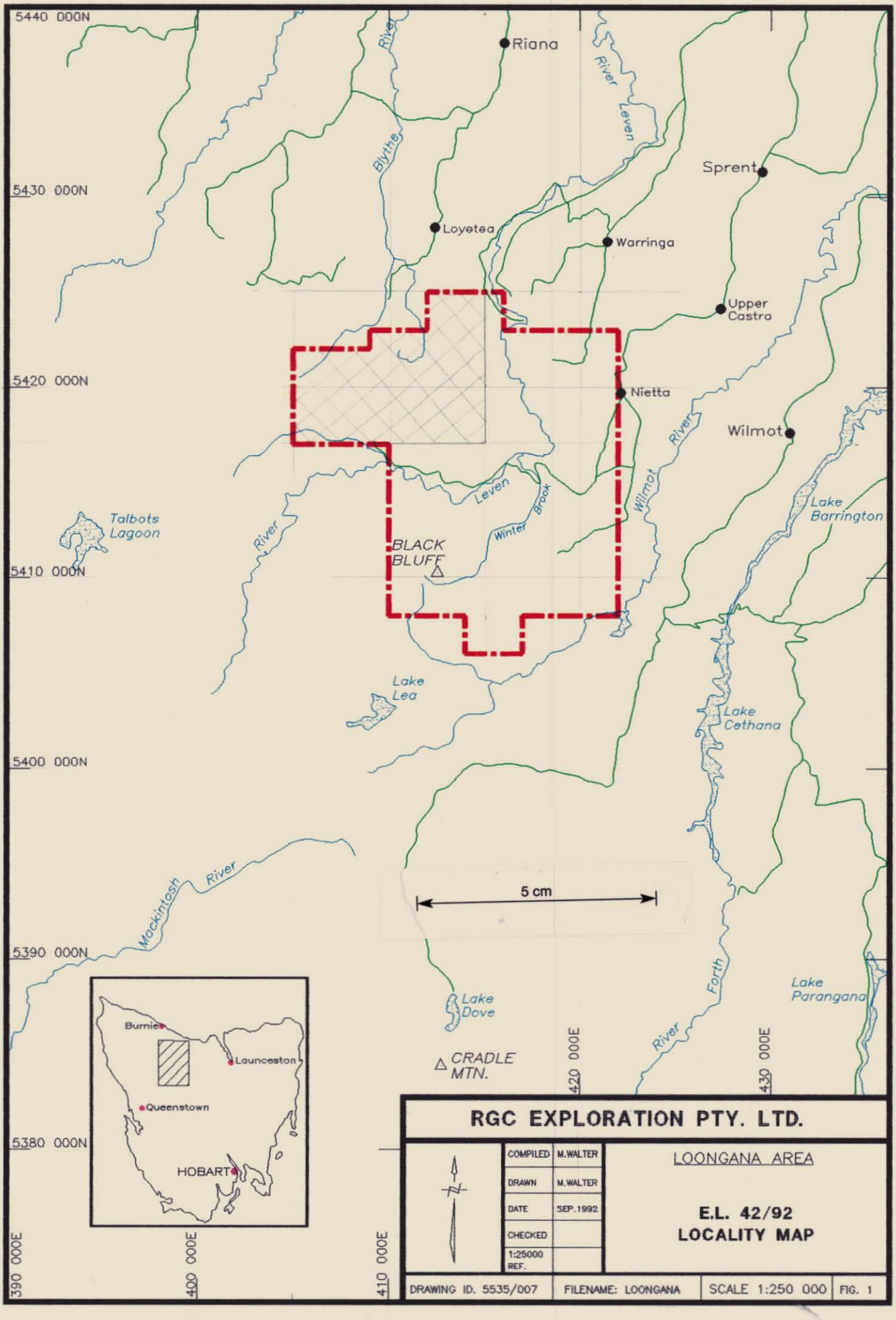
The EL was acquired to assess the potential for volcanic hosted massive sulphide (VHMS) mineralisation in the northern extension of the Mount Read Volcanic

2. LAND TENURE

The area comprises: Private Property, Crown Land - Deferred Forest Land, Crown Land, State Forest - Multiple Use Forest Land, the Winterbrook Falls RAP - State Forest and Crown Land, and part of the Black Creek RAP - State Forest. It includes the Leven River Gorge (Australian Heritage Commission Act, Registered Entry). A 2 ha Crown Reserve (a gravel pit at McHughs Flats) and the 13 ha Jean Brook Forest Reserve have been excluded from the lease.

5417000 – 5425000 N
405000 – 415000 E

920006



RGC EXPLORATION PTY. LTD.

COMPILED	M.WALTER	LOONGANA AREA
DRAWN	M.WALTER	
DATE	SEP.1992	**E.L. 42/92**
CHECKED		**LOCALITY MAP**
1:25000 REF.		

DRAWING ID. 5535/007 | FILENAME: LOONGANA | SCALE 1:250 000 | FIG. 1

3. PREVIOUS EXPLORATION

EL 42/92 has had a long and complex exploration history. RGC is the twelveth company to hold ground within the present lease boundary. Early exploration in the Native Track Tier area was aimed at locating Kara-type skarn deposits while more recent exploration targeted Cambrian volcanics as hosts for VHMS deposits. To date there has been no economical mineral prospect found within the lease although several prospects have been drilled. The most prospective areas located are; Challenger II (Native Track Tier), Crosby Creek, Tulip Tree Creek, Loyetea North, Loyetea South, Mount Jacob and Maxwells Track (Lower Winterbrook area)(fig 2.). The exploration history of EL 42/92 is summarised in Table 1 and is discussed with respect to geographic area as imposed by lease boundaries (fig 3.).

Table 1. Summary of Exploration Leases within EL 42/92

15/65	Sheffield	BHP	1965-1970
17/68		Tasminex-Anzeco	1968-1974
19/72+10/73	Dial Range/Nietta	CRA	1972-1978
7/73	Paradise/Sheffield	Asarco-CRA	1973-1979
7/74	Moina	Comalco-Shell-CRA	1974-1987
2/76	Loongana	Geopeko-EZ	1976-1979
8/77	Riana	Comalco-Shell-CRA	1977-1987
36/79	Loongana	Shell-CRA	1979-1990
96/87	Preston	EZ	1988-1991
8/88	Lorinna	RGC Exploration	1989-1991
9/88	Winterbrook	Aberfoyle	1988-1990
19/90	Wilmot	Noranda	1990-1991
42/92	Loongana	RGC Exploration	1993-

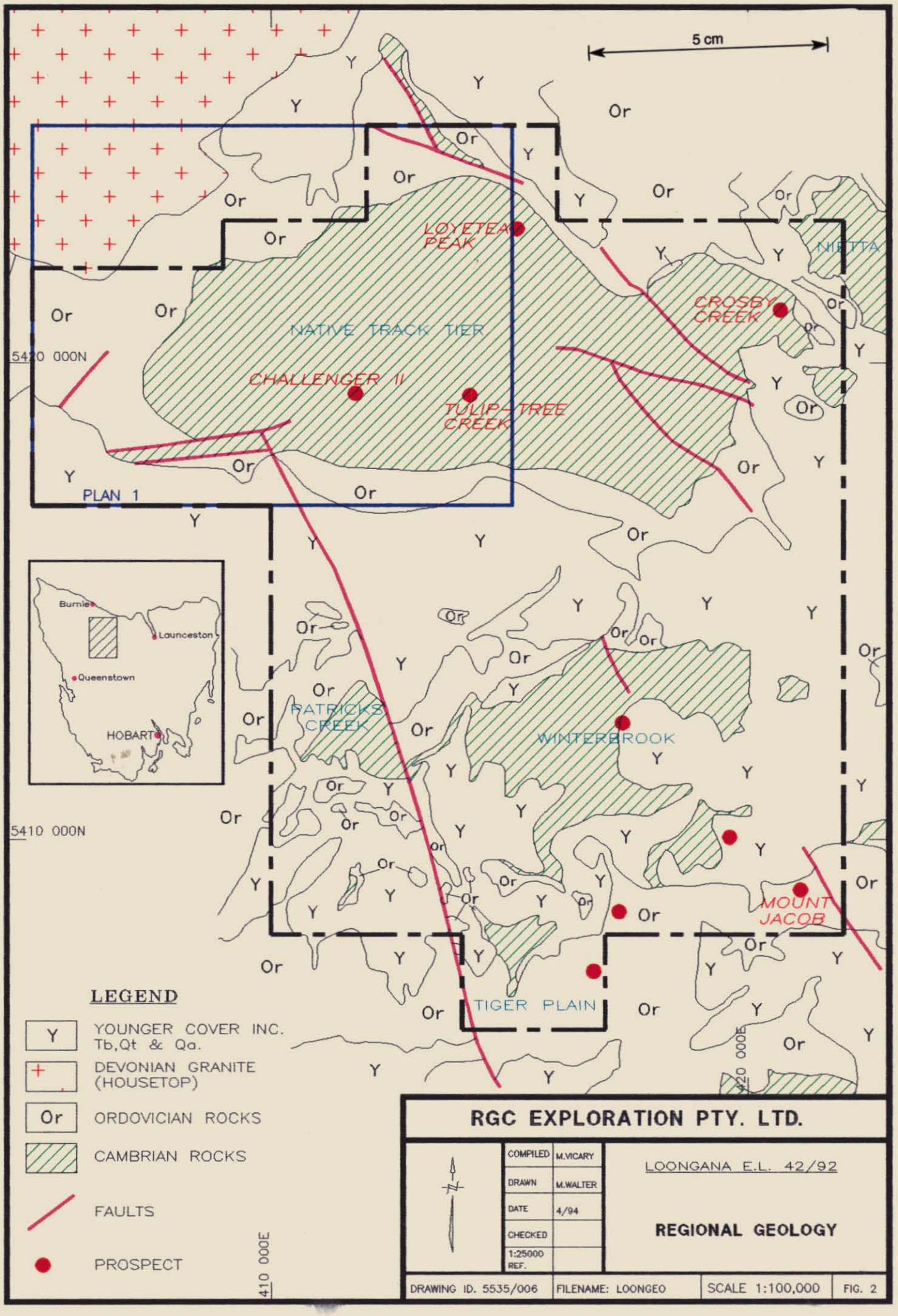
3.1 Exploration in the Native Track Tier - Patricks Creek area

3.1.1 EL 17/68 (Tasminex-Anzeco)

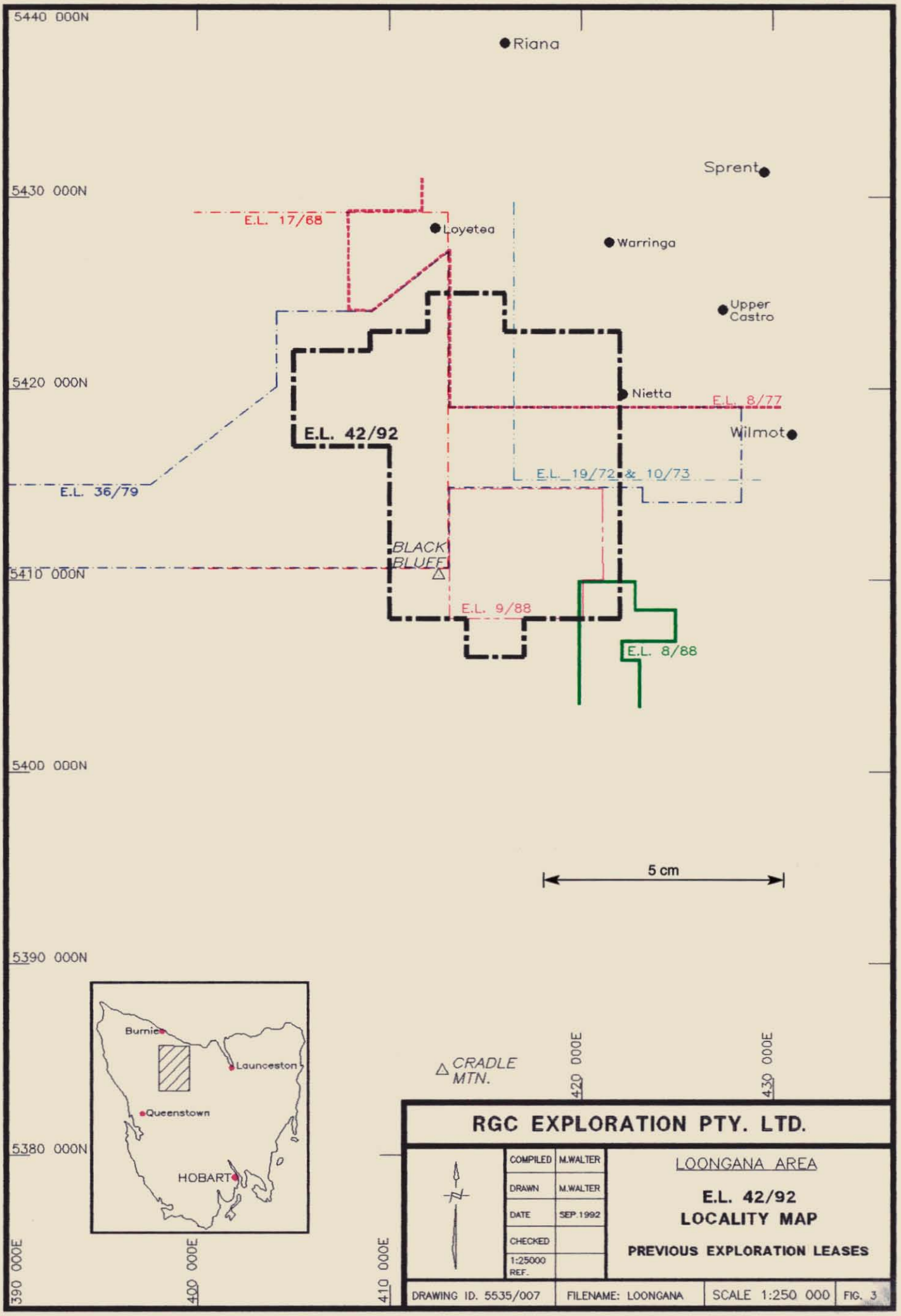
EL 17/68 was granted to Tasminex in 1968 to explore for Kara-style tungsten deposits at the margins of the Housetop Granite. Much of the early exploration was outside the present RGC lease boundaries. In 1971 Tasminex joint ventured with the Australia-New Zealand Exploration Company (Anzeco).

A regional geochemical sampling and mapping program was undertaken in January-September 1973 (Brant, 1973) and was aimed to examine the tungsten potential in areas of EL 17/68 that had undergone little, if any prior exploration. Much of this program was conducted within EL 42/92 and indicated a number of Pb-Zn anomalies (up to 2000 ppm Zn and

920008


5 cm
LOYETEA PEAK
NIETTA
CROSBY CREEK
NATIVE TRACK TIER
CHALLENGER 11
TULIP-TREE CREEK
PLAN 1
5420 000N
5410 000N
PATRICKS CREEK
WINTERBROOK
MOUNT JACOB
TIGER PLAIN
410 000E
420 000E
Burnie
Launceston
Queenstown
HOBART
LEGEND
YOUNGER COVER INC. Tb,Qt & Qa.
DEVONIAN GRANITE (HOUSETOP)
ORDOVICIAN ROCKS
CAMBRIAN ROCKS
FAULTS
PROSPECT
RGC EXPLORATION PTY. LTD.
COMPILED M.VICARY
DRAWN M.WALTER
DATE 4/94
CHECKED
1:25000 REF.
LOONGANA E.L. 42/92
REGIONAL GEOLOGY
DRAWING ID. 5535/006
FILENAME: LOONGEO
SCALE 1:100,000
FIG. 2

920009



RGC EXPLORATION PTY. LTD.

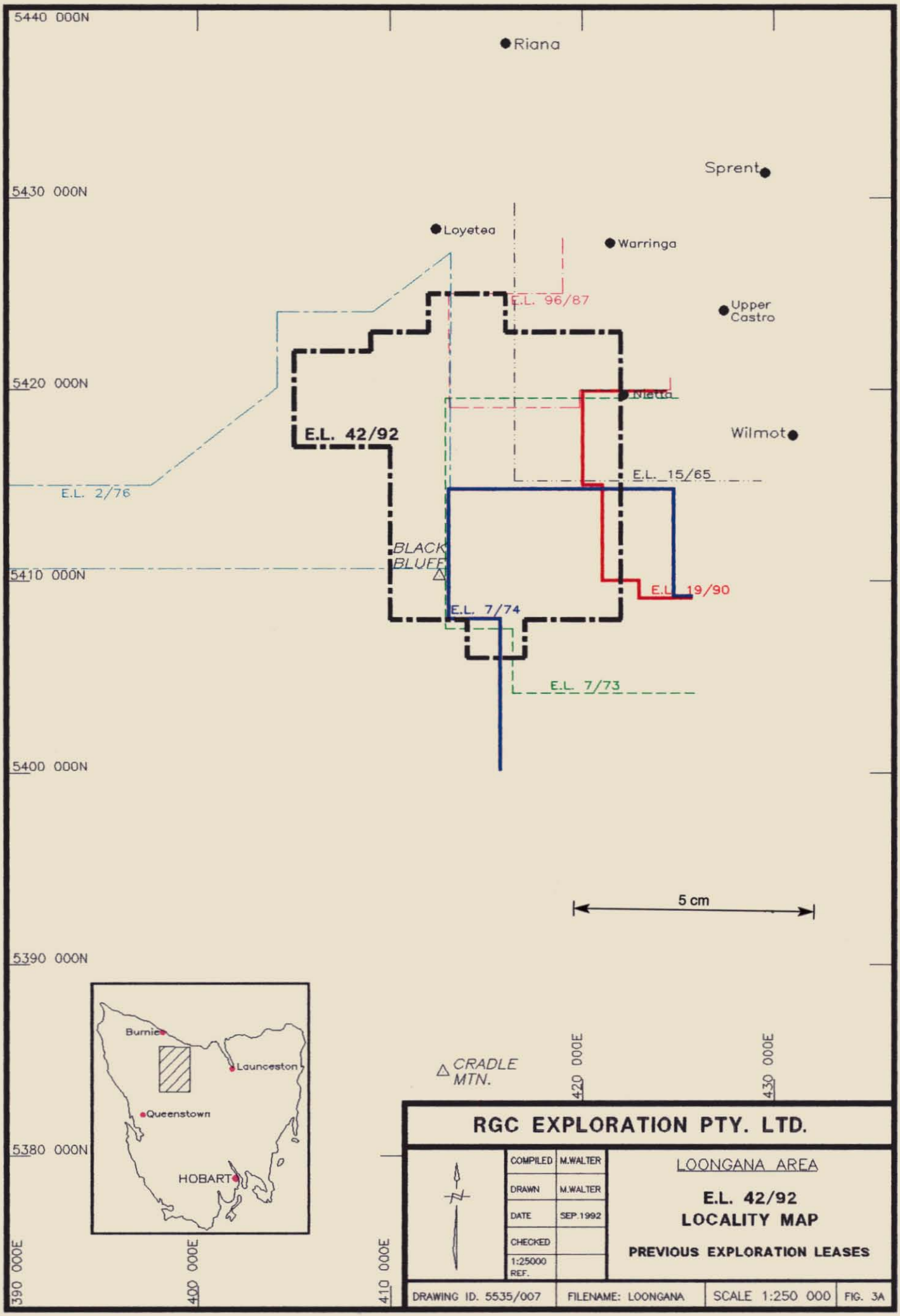
COMPILED	M.WALTER
DRAWN	M.WALTER
DATE	SEP.1992
CHECKED	
1:25000 REF.	

LOONGANA AREA

E.L. 42/92
LOCALITY MAP

PREVIOUS EXPLORATION LEASES

DRAWING ID. 5535/007 | FILENAME: LOONGANA | SCALE 1:250 000 | FIG. 3



RGC EXPLORATION PTY. LTD.

COMPILED	M.WALTER
DRAWN	M.WALTER
DATE	SEP.1992
CHECKED	
1:25000 REF.	

LOONGANA AREA

E.L. 42/92
LOCALITY MAP

PREVIOUS EXPLORATION LEASES

DRAWING ID. 5535/007 | FILENAME: LOONGANA | SCALE 1:250 000 | FIG. 3A

1000 ppm Pb) although W results were unencouraging. The lease was subsequently relinquished in May 1974.

3.1.2 EL 2/76 Loongana (Geopeko-EZ)

EL 2/76 was held jointly by Geopeko Limited and the EZ Company of Australia. Initial work in the area by Geopeko consisted of detailed 1:10 000 geological mapping and stream sediment sampling. Stream sediment results were encouraging and the anomalous zones, Challenger I, II and III were identified. Of these only Challenger II (sometimes called the Native Track Tier Prospect) was within the present RGC lease. Values of up to 340 ppm Pb, 430 ppm Zn and 30 ppm Cu compared to background readings of 50 ppm Pb, 80 ppm Zn and 5 ppm Cu were recorded at Challenger II (Rogers, 1976).

A grid was established at the Challenger II prospect in 1977 and 1:5000 mapping and soil sampling performed. The soil geochemistry indicated the presence of two low order Pb anomalies (up to 1200 ppm) and a low order Zn anomaly (up to 730 ppm)(Buckland, 1977).

In July 1978 Pennzoil of Australia Ltd joint ventures with Geopeko-EZ, mainly to test the Challenger III anomaly. There was no exploration in the Native Track Tier area however reconnaissance geological mapping and stream sediment sampling was performed in the Patricks and Tor Creek areas (Chapman, 1979). The lease was allowed to expire in April 1979.

3.1.3 EL 36/79 Loongana (Shell-CRA)

EL 36/79 essentially covers the same area as EL 2/76 with an additional block of land extending from the Loongana Range to Narrawa. It was initially held by Shell who targeted replacement sulphide-Sn mineralisation in the Gordon Limestone particularly at the northern extension of the Bismuth Creek Fault. An aeromagnetic survey (Schneider, 1982) was conducted in March 1980 to locate anomalies produced by Kara-Moina type magnetite skarns, and several low order magnetic anomalies over areas of Gordon Limestone detected. These were subsequently downgraded by follow-up ground work and the exploration model was changed to locating volcanogenic basemetals in Cambrian Volcanics, partly based on CRA's experience in neighbouring EL 19/72 Nietta, and the Geopeko-EZ work summarised above.

Initial exploration of the Cambrian Sequences within the ground currently held by RGC was centred on two

existing Geopeko anomalies, Challenger II and Tulip Tree Creek, a low order Cu anomaly 1.5 km east of Challenger II (Lawton et al, 1983). At Challenger II, the Geopeko grid was reestablished and soil and rockchip samples collected. A ground magnetic survey was also performed. The initial results confirmed Geopeko's anomaly and subsequently an IP and gravity survey conducted. The best IP response was drilled (DDH CD1) to a depth of 197.8m but only minor sulphides reported.

At Tulip Tree Creek, follow-up soil sampling detected Cambrian volcanics with up to 320 ppm Cu, 400 ppm Pb and 320 ppm Zn. A grid was established over the anomaly and mapping, soil sampling and a ground magnetic survey performed. Low order geochemical anomalies , up to 100 ppm Cu, 135 ppm Pb and 185 ppm Zn were found, however the high values reported in the initial follow-up were not reproduced.

Only little work was done on the Challenger II prospect from then until March 1985, when CRA joined Shell as a joint venture partner. They conducted a regional drainage survey looking for Au as a pathfinder for volcanogenic massive sulphide mineralisation. This survey reproduced the Challenger II and Tulip Tree Creek anomalies and extended the strike length of the Challenger II prospect to approximately 7 km. A 1:5000 grid map of Challenger II was made and a Scintrex SE88 Genie EM survey failed to locate a major conductor (Caithness, 1986a).

From April 1986 to April 1988 most of CRA's exploration within EL 36/79 was centred on the Cattley North (Challenger I) and Two Hummocks (Challenger III) prospects, both outside the present RGC lease. Only minor stream sediment sampling was performed in the Native Track Tier area.

In 1989-90 exploration again centred on the Native Track Tier prospect. Reconnaissance geological mapping and sampling in 1989 indicated the presence of strongly altered epiclastics and lavas and results up to 120 ppm Pb, 420 ppm Zn, 1240 ppm Cu and 1540 ppm Ba obtained (Randell and Hungerford, 1989).

An intensive program of exploration was undertaken at the Native track Tier prospect in 1990 (Randell and Hungerford, 1990).This consisted of grid mapping at 1:5000 scale, ground magnetics, a 6 loop UTEM survey and auger sampling. The UTEM survey detected two anomalies upon which C-horizon soil

sampling was performed. Results generally reflected background values, although values up to 410 ppm Pb and 455 ppm Zn were obtained. Diamond drill hole LND 90-1 was drilled to test the UTEM anomaly sited on Line 10200N and intersected a sequence of variably sericitic interbedded ashy siltstones and volcaniclastic conglomerates. Selective split core and rock chip samples were collected over altered and/or weakly mineralised zones. Only one anomalous interval (1.8m at 0.23% Zn and 3 ppm Ag) was recorded. A down hole EM survey failed to locate the source of the UTEM anomaly.

After the intense program at the Native Track tier prospect in 1989, it was concluded that the potential for VHMS mineralisation in the area was low. EL 36/79 was relinquished in May 1990.

3.2 Exploration in the Loyetea Peak - Crosby Creek area.

3.2.1 EL 19/72 and 10/73 Dial Range/Nietta (CRA)

CRA was granted EL 19/72 in October 1972. Of its initial area of 626 sq km's only 21 sq km's are within RGC's EL 42/92. This area is situated in the northeastern area of the lease and covers the Crosby Creek - Leven River area. Following partial relinquishment of EL 19/72 and merger of EL 10/73 in December 1973 EL 19/72 had an a area of 245 sq km's.

Initial exploration consisted of 1:31 680 geological mapping and a regional drainage survey of favourable Cambrian Sequences. Reconnaissance soil sampling was undertaken to test a drainage anomaly located at Crosby Creek (Porter, 1974).

From late 1974 to mid 1975 exploration was again centred in the Crosby Creek area and 1:5000 grid mapping and soil sampling was performed. This was followed up by various geophysical surveys, which confirmed the soil geochemical anomalies (Porter and Aston, (1975) and Jenke, (1975)).

Following the merger of EL 10/73 into EL 19/72 exploration continued at the Loyetea South and North prospects where previously identified soil geochemistry anomalies were confirmed by a series of IP anomalies (Howland-Rose, 1975).

Exploration in 1975-76 (Porter, 1976) continued in the Crosby Creek - Loyetea area. Three drill hole tested soil anomalies at the Crosby Creek prospect and a further two holes drilled over gradient array IP anomalies at the Loyetea South prospect. The drilling proved unencouraging and only minor

sphalerite with traces of chalcopyrite and galena were reported from Crosby Creek. At the stage in the exploration program CRA concluded that since most of the first order anomalies had been adequently tested, further testing of second order anomalies would require a joint venture. As a joint venture partner was not found the EL was relinquished in May 1978.)

3.2.2 EL 8/77 Riana (Comalco-Shell-CRA)

From August 1977 to December 1979 EL 8/77 was explored for fluorite, tin, tungsten and cobalt mineralisation by Comalco. Initial exploration consisted of a regional stream sediment survey. A strong Zn and Pb anomaly (600 ppm Zn and 190 ppm Pb) was detected within the boundaries of EL 42/92 in a creek draining to the east of Loyetea Peak. Only limited follow-up (ie. sampling of Ordovician rocks) was performed (Weste, 1979)

Shell entered a joint venture with Comalco in January 1981. They conducted a regional airborne and radiometric survey looking for Bischoff or Moina-type magnetic responses (Banwell, 1981).

Exploration from September 1983 to March 1984 included follow-up of the Loyetea Peak Zn-Pb anomaly and two tungsten anomalies (Loyetea South and North) recognised by CRA (Ruxton, 1984). Resampling of the Loyetea Peak Anomaly did not repeat the Pb values but the distinct Zn trail was reproduced. Cambrian black siltstones and shales were sampled and these were shown to have Zn values of 200-370 ppm. Due to an absence of volcanic rocks in the area it was concluded that the high Zn values were due to higher than background levels in the black shales and no further work was proposed.

At the Loyetea North and South anomalies the high tungsten values up to 300 ppm recorded by CRA were not confirmed by resampling.

EL 8/77 underwent two partial relinquishments in 1984 and 1985 and CRA became a joint venture partner in 1985. In the first half of 1986 CRA undertook a regional drainage geochemical survey with the aim to look for fine gold as a pathfinder for VHMS deposits. This proved unsuccessful. Other work included compilation of all previous exploration within the EL on a 1:25 000 base. This includes part of RGC's EL 42/92 (Caithness, 1986b). Following a review of all exploration at the Loyetea and Crosby Creek prospects CRA relinquished EL 8/77 in August 1987.

3.2.3 EL 96/87 Preston (EZ)

EL 96/87 was granted to EZ in April 1988. Only the southwestern portion of the EL is within RGC's EL 42/92, and this includes the prospects at Loyetea South, Loyetea North and Crosby Creek. Exploration to March 1989 included gridding, sampling and ground magnetics in the Loyetea South area. Drill holes DD 76 LS1 and 2 were relogged and selectively sampled and assayed for Cu, Pb, Zn, and Au. The three CRA holes at the Crosby Creek were also relogged and sampled (Virgoe and Mathison, 1989).

After further follow-up rock and soil sampling and mapping at the Loyetea South and Crosby Creek prospects (Virgoe, 1990) EL 96/87 was relinquished on 21 April 1991.

3.3 Exploration in the Mount Jacob - Winterbrook area

3.3.1 EL 7/74 Moina (Comalco-Shell-CRA)

EL 7/74 was taken up by Comalco to gain tenement over the Moina area for the exploration of fluorite, tin and tungsten. Within the lease Cambrian volcanics crop out extensively in the Mount Jacob - Winterbrook area and were concurrently explored for VHMS deposits.

Initial exploration work (Weste, 1978) involved the development of three widely spaced regional profile lines across the strike of the area to assess the general geology and its geophysical and geochemical responses. This survey proved very informative and eight geochemical and geophysical anomalies were identified. A regional stream sediment survey identified three further anomalous areas. In the course of the reconnaissance minor galena and sphalerite mineralisation was located near stream sediment anomalies in the Lower Winterbrook area.

The next phase of exploration involved the development of three grids over the most prospective areas; the Mount Jacob grid, the Lower Winterbrook grid and the Upper Winterbrook grid. At Mount Jacob follow-up soil sampling and IP surveys identified two separate anomalies which were then tested by diamond drilling (DDH MTJ D18 and MTJ D19). Visible galena and sphalerite was observed in one hole and assays of up to 1.5% Pb, 3.1% Zn and 300 ppm Cu detected. Geological mapping, soil sampling and IP surveys were performed over both the Lower and Upper Winterbrook grids. Only low order geochemical and geophysical anomalies were reported.

From 1979-80 most of Comalco's exploration activity within EL 7/74 centred on assessment of the Moina area and no further work in the Winterbrook area was undertaken. In 1980 Shell entered as a joint venture partner with Comalco thus enabling them to perform concurrent exploration in two adjoining EL's (7/74 and 36/79(Loongana)). Most of their initial work was centred on a regional aeromagnetic and radiometric survey. A number of anomalies were recognised although most were downgraded following additional mapping, ground magnetic surveys, soil geochemistry and stream geochemistry. An additional regional stream sediment survey detected two Sn and one Zn anomaly over limestones in the Loongana area (Smyth, 1981).

Exploration conducted by Shell in the Winterbrook area from June 1981 to June 1982 consisted of assessment of anomalous areas recognised from the initial exploration by Comalco. In the Lower Winterbrook area, six lines of the Comalco grid were resampled for soil geochemistry, with sampling at the C-horizon rather than the Ao-horizon used by Comalco. This largely confirmed the Comalco studies. An IP and VLF-EM survey was conducted over a Comalco EIP anomaly but was found to be due to conductive Tertiary sediments at the base of the Tertiary basalt. Other activities included the assessment of several aeromagnetic and geochemical anomalies by mapping, gridding, soil sampling and ground magnetic survey and an extension to the Winterbrook grid to examine previously unexplored volcanics. This program produced minimal encouragement (Smyth, 1982).

In 1983 EL 7/74 underwent partial relinquishment. All the ground in the Mount Jacob - Winterbrook area within the RGC lease was held. Exploration activities continued in the Winterbrook area with a 6.3 km extension to the grid. Subsequent mapping, ground magnetic surveys and soil sampling failed to locate any significant anomalies although it was shown that certain geological units (eg. a trachytic body) could be mapped by distinctive soil geochemistry (ie. high Cu, Ni and Co) and magnetic signature. At this stage in the exploration program it was decided that the Winterbrook area had been sufficiently explored and that further work should concentrate in the re-assessment of the Mount Jacob area (Smyth, 1983).

Following a review of Comalco's work in the Mount Jacob area, a UTEM survey was conducted to explore the possibility of deep-seated VHMS deposits in the area. The results proved negative (Wright and Hungerford, 1984).

In March 1985 CRA entered the joint venture with Comalco and Billiton. This enabled concurrent exploration in three adjoining EL's (EL 36/79, 8/77 and 7/77). A regional stream sediment program was developed to search for fine gold, either as a primary target or as a pathfinder for VHMS deposits. Samples were collected with a sample density of one per 4 sq km's and assayed using a cyanide leach technique. Base metals and other indicator elements were also analysed. From this work the Winterbrook area was highlighted as being anomalous. Additional exploration in 1985-86 by CRA included the collation of all previous stream sediment data with follow-up sampling of untested anomalies. New grids were cut in the Winterbrook area and to the west of Mount Jacob and a UTEM and ground magnetic survey conducted over the former.

Reinterpretation of Billitons UTEM survey at Mount Jacob led to the detection of a subtle anomaly not previously recognised. A gravity survey used to test the anomaly was unsuccessful (Caithness, 1986c).

In 1986-87 exploration consisted of following up the most prospective UTEM anomalies defined by the 1985 survey. As a result 2 percussion holes and 6 diamond drill holes were drilled. No sulphide mineralisation was encountered in any of the holes and assay values were generally disappointing. The Winterbrook - Mount Jacob area was relinquished from EL 7/74 in July 1987 (von Strokirch, 1987).

3.3.2 EL 9/88 Winterbrook (Aberfoyle)

Aberfoyle was granted EL 9/88 in July 1988. It is entirely enclosed within RGC's EL 42/92 and comprises most of the northern part of EL 7/74. Exploration by Aberfoyle to July 1989 consisted of enlargement of the CRA Winterbrook grid and a 43 km four loop UTEM survey performed. The results were unencouraging as no conductors attributable to massive sulphide deposits were found. Minimal rock sampling and geochemical analysis was made (Rand, 1989).

In 1990 only limited mapping and sampling was undertaken to assess areas not covered by UTEM. As this failed to locate any further areas worthy of exploration the area was subsequently relinquished (Rand, 1990).

3.4 Additional Exploration within EL 42/92

3.4.1 EL 15/65 Sheffield (BHP)

A regional aeromagnetic survey over EL 15/65 was conducted by BHP in 1966. This included the Leven Canyon - Watts Lookout area in the northeast corner of EL 42/92. Following reinterpretation of data from Ameg Pty Ltd (Chesnut, 1967) six magnetic anomalies and two distinct linear trends were recognised within EL 42/92. Little if any ground follow-up was performed.

A regional stream sediment survey was conducted over the same area in 1969 (Bumstead, 1969) with 37 samples being analysed for Ag, As, Pb and Cu. The maximum values reported were 2.4 ppm Ag, 20 ppm As, 118 ppm Pb and 48 ppm Cu. The area was relinquished in July 1970.

3.4.2 EL 7/73 Paradise (Asarco)

EL 7/73 was granted to Asarco Pty Ltd on the March 15, 1973. It had a total area of 743 sq km's and included parts of EL 42/92 in the Mount Jacob - Winterbrook area and the Cambrian rocks to the north of the Leven Canyon.

Initial exploration by Asarco consisted of a regional stream sediment survey which included sampling in the Winterbrook and Leven Canyon areas. Ten anomalous areas were identified in EL 7/73, of which only the "Razorback Ridge" in the Leven Canyon area was within EL 42/92. The initial stream sediment survey recorded up to 48 ppm Cu, 62 ppm Pb and 310 ppm Zn. Subsequent rock chip and additional stream sediment samples from this area recorded only slightly higher values (up to 100 ppm Cu, 170 ppm Pb and 340 ppm Zn), and no further work was recommended (Barker, 1975).

In 1974 the Winterbrook area was relinquished, and was subsequently taken up by Comalco as part of EL 7/74. The Leven Canyon area remained part of EL 7/73 until 1979, when it was held by Shell as part of EL 36/79.

3.4.3 EL 8/88 Lorinna (RGC)

The Mount Jacob area has previously been held by RGC Exploration as part of EL 8/88. Exploration was undertaken between 1989 and 1991 and consisted of gridding, 1:5000 mapping, sampling and geophysics.

Initial rockchip sampling of the grid gave analyses up to 2000 ppm Zn, 7800 ppm Pb and 255 ppm Cu,

however subsequent follow-up gave little encouragement. Geophysical surveys consisted of a ground magnetic and Sirotem survey. Both failed to detect responses attributable to a massive sulphide deposit, and subsequently the ground was relinquished (Castro and Fleming 1991a+b).

3.4.4 EL 19/90 Wilmot (Noranda)

EL 19/90 was granted to Noranda Pty Ltd for 12 months from August 3, 1990. Only 15 sq km's occur within EL 42/92 in the South Nietta area. Work done consisted of a review and synthesis of previous exploration data (EL 7/73) and a regional geophysical review by D Leaman. Only minor reconnaissance mapping was made (Jones, 1991).

4. WORK COMPLETED

In the period of May 1993 to April 1994, the exploration completed on EL 42/92 Loongana includes a literature review of previous exploration (see Section 3), image processing of the digital topographic data for the Loongana and Loyetea 1:25 0000 topographic sheets and 1:10 000 geological mapping and rock chip sampling of the Native Track Tier area.

Digital topographic data was purchased from the Lands Department (Hobart) and it was image processed by Geoimage in Brisbane. The data was displayed as a series of rainbow colour-scaled altitude images and grey-scale images with a variety of "shade" directions to highlight faults, joints, and lithological units with distinct topographic expressions. This technique duplicates to some extent air photo interpretation, but shows up more detail and is particularly useful for identifying larger structures.

Native Track Tier was chosen as a starting point for the mapping project because of the lack of previous detailed mapping in the area. A composite 1: 10 000 basemap of the Native Track Tier area (see fig. 2 and plan 1) was prepared from digital data obtained for the Loyetea and Loongana 1:25 000 topographic maps. Mapping was performed in four two week field trips between June 1993 and February 1994 using either Penguin and Loongana as a base. The numerous forestry tracks provided excellent access to the area but quite a few tracks were found to be overgrown and some bridge crossings in poor repair. Rock chip samples were routinely collected during traverses and were subsequently sent to Analabs and Becquerel Laboratories for chemical analysis.

5. RESULTS AND DISCUSSION

5.1 Regional Geology

The regional geology of EL 41/92 is shown in figure 2. The interpretation is slightly modified from interpretations shown on the Mines Department Sheffield (Jennings et al, 1959) and St Valentines (Baillie et al, 1986) Geological Map Sheets. The oldest rocks exposed in the EL are Cambrian volcanics, correlates of the highly prospective Mount Read Volcanics. They are overlain by a sequence of Late Cambrian to Early Ordovician siliciclastic sediments, (Owen Conglomerate) and the Ordovician Gordon Limestone. In the northwest corner of the lease the Owen Conglomerate is intruded by the Devonian Housetop Granite. In areas adjacent to the EL scheelite-magnetite skarn mineralisation is developed close to the contact between the Gordon Limestone and the intrusive granite. The younger cover is extensive Tertiary basalt flows and Quaternary alluvium and slope deposits.

The Cambrian rocks occur in two anticlinal core zones separated by a major E-W trending syncline. The northern Cambrian window in the Native Track Tier area is shown on the St Valentines Map (Baillie et al, 1986). Although no internal geological differentiation is shown on the map andesitic extrusives, vitric tuffs, crystal lithic tuffs, laminated mudstone, greywacke and lithicwackes have been recognised (Seymour, 1989). Late Middle Cambrian fossils found in this sequence and "Comstock Tuff"-like lithologies have suggested a Tyndall Group correlation. A second Cambrian lithology recognised by the above workers in the Laurel Creek area is now considered to be part of Late Cambrian - Early Ordovician Denison Group or Owen Conglomerate.

The Cambrian rocks in the Native Track Tier area continue into the Leven Canyon - Nietta area. Jennings et al, (1959) considered the dominant lithology in this area to be a correlate of the Gog Range Greywacke. They also recognised a small area of Minnow Keratophyre in the Three Brothers area.

Recent mapping by CRA geologists (Caithness, (1986b) - see also Cethana Mineral Deposit Map - Bamford and Green, (1988)) has subdivided the Cambrian rocks in the Leven Canyon - Nietta area into two distinct subdivisions separated by a major WNW trending fault which occurs in the Leven River about 200 metres south of the Crosby Creek junction. To the north of fault the sequence has

been correlated with the Minnow Keratophyre, while those to the south has been correlated with the Gog Range Greywacke with minor Minnow Keratophyre in the Three Brothers area.

The Cambrian rocks exposed in the Winterbrook - Patricks Creek - Tiger Plains area are dominantly quartz - feldspar phyric volcaniclastic sediments with interbedded dacitic to andesitic lavas and rhyolitic ignimbrites. They are strongly magnetic and can be correlated with the Tyndall Group (Pemberton and Vicary 1989).

5.2 Geology of the Native Track Tier area

Although there has been about 30 years of mineral exploration in the Native Track Tier and Nietta areas no company has successfully integrated the geology been these two areas and with the stratigraphy of Western Tasmania. A brief reconnaissance to the Native Track Tier area made prior to Lease application indicated the presence of rock types with a close affinity with the highly prospective Central Volcanic Sequence. A mapping project of the Native Track Tier was initiated as an early phase of exploration to confirm the above correlation, and to identify any alteration zones and prospective sequences in the area.

The outcrop geology of the Native Track Tier area is shown on Plan 2. This information formed the basis for the interpretive geology and compilation shown on Plan 1. Additional information was obtained from various company reports and Mines Department publications, and is referenced in the legend. Airphoto interpretation was used as an additional aid but was of limited value in areas of dense forest cover.

In general terms the geological framework of the Native Track Tier area presented on Plan 1 is similar to the interpretation shown on the St Valentines Sheet (Baillie et al, 1986), however several modifications have been made. The most important of these being; a) subdivision of the Cambrian rock types into two distinct lithologies, b) revision of the Cambrian - Owen Conglomerate contact in the Olivers Creek - Mt Everett area, c) delineation of several andesite - dacite bodies and d) recognition of the northern extension of the Kauri - Bismuth Creek Fault.

5.2.1 Cambrian rock types in the Alstergren - Query Road area.

The Cambrian sequence in the Alstergren - Query Road area is dominated by feldspar phyric volcaniclastic sediments and interbedded dacite lava flows. Outcrop in the area i s

generally poor except in steep sided creek sections and mapping relies mainly on float distribution in many areas. For this reason mapping distinct lithologies within the volcaniclastic sequence is extremely hard and sparse structural measurements provide little structural control. In contrast the dacitic lavas form blocky subcrop and delineation of boundaries is much easier.

The volcaniclastic sequence has been divided into four subdivisions based on grain size. The dominant lithology is fine to medium grained feldspar rich volcaniclastic sandstone (€vc). This grades into medium to coarse grained feldspar - lithic rich volcaniclastic sandstones/lithicwacke (€vcm) and granule to pebble grade lithic rich volcaniclastic conglomerate (€vcc). Interbedded within these lithologies are fine grained thinly bedded volcaniclastic siltstones (€slt).

In the Nielsens Creek - Olivers Creek area a wedge shaped unit of volcaniclastic sediment occurs between two inferred thrust faults. The sandstone units within this block contain relatively abundant sericitic muscovite(?) flakes. The flakes are commonly up to 2 mm and may be euhedral. There may be some feldspar - mica phyric lavas within this sequence as well. This unit is atypical of the rock types in the Native Track Tier area and its stratigraphic positioning is uncertain. It has been included with in the Alstergren - Query Road sequence on the basis of its feldspar dominated composition. Similar rocks were also reported in a side creek of Olivers Creek about 100 - 200 m upstream from Sample T40819.

Alteration in the volcaniclastics is highly variable and often lithology dependent. It ranges from sericite alteration commonly associated with fine grained ashy volcaniclastic sandstones and siltstones to chlorite alteration in the more mafic volcaniclastic sediments. Patchy chlorite alteration similar to that displayed by the Comstock Tuff in the Queenstown area was observed at sample location T34963.

The dacites (€d) are typically fine grained glassy hematitic rocks with sparse pink to orange feldspar phenocrysts up to 2 mm. Chloritic ferromagnesium mineral pseudomorphs may also be present. They frequently display many of the features commonly attributed to lava flows. These include; a) fined grained glassy groundmass commonly with visible spherulites and perlitic cracks i n hand specimen, b) carbonate and silica filled amygdales, c) fine sub-millimetre scale flow banding with planar to disturbed laminations and d) rare columnar jointing. Dacite clasts may be observed in some of the coarse volcaniclastic conglomerates suggesting contemporaneous deposition. They are generally unaltered but intense chlorite and pyrite alteration near a zone of major faulting at sample location T40824.

5.2.2 Cambrian rock types in the Tulip Tree Creek - Misleven Road area.

The Cambrian sequence in the Tulip Tree Creek - Misleven Road area is characterised by quartz - feldspar phyric volcaniclastic sediments and crystal rich feldspar phyric andesitic intrusives. This is in contrast to units described in the Alstergren - Query Road area where feldspar phyric units predominate. In the field, however the distinction between the two sequences in often impossible as nondescriptive volcaniclastic siltstones and feldspar rich volcaniclastic sandstones can occur in either sequence.

Lithological subdivision in the Tulip Tree Creek - Misleven Road area follows the same scheme used for the Alstergren - Query Road area and is based mainly on grainsize. Feldspar - quartz rich fine to medium grained volcaniclastic sandstones (Cvcq) are a common lithology. Where no obvious quartz was present in the field, the sandstones have been designated Cvc and are essentially analogous to feldspar rich volcaniclastic sandstones in the Alstergren - Query Road area.

Thinly bedded volcaniclastic siltstones (Cslt) are also a dominant lithology and display highly variable dip directions although a general east - west trend prevails.

Two mappable horizons of grey medium - coarse grained volcaniclastic sandstone to granule conglomerate (Cvccq) with abundant clasts of vein(?) quartz have been mapped in Tulip Tree Creek. These superficially resemble "Owen Conglomerate" but are obviously interbedded within the Cambrian sequences. A similar lithology was recognised on the Distant Spur track.

Quartz -feldspar phyric lavas (Cqfl) and lava breccias were observed in a few places although only one mappable unit was traversed.

Several bodies of crystal rich feldspar - chloritic ferromagnesium mineral pseudomorph phyric andesite (Ca) have been recognised in the Tulip Tree Creek - Misleven road area. They are texturally distinct from the dacitic lavas described in the Alstergren - Query Road area and are most likely intrusives.

5.2.3 Late Cambrian - Early Ordovician Rocks

The Cambrian rocks in the Native Track Tier area form the core a east - west trending anticline defined by the distribution of the Late Cambrian to Early Ordovician Owen Conglomerate. The Owen Conglomerate is unconformable on the underlying volcanics as evidenced by the cross cutting relationships on Plan 1. The southern limb of

the anticline is defined by the Loongana Range which is partly composed of hematitic chert bearing granule to pebble conglomerate. This is similar to the "Upper Owen" lithologies recognised on the Black Bluff Range. A distinct resistant ridge recognisable on airphotos on the southern flanks of the range may be the Moina Sandstone.

In the Mount Everett - Loyetea Peak area the stratigraphy of the Owen Conglomerate is poorly known but in general is quite distinct from the sequence recognised on Black Bluff. The sequence is composed of interbedded grey pebble cobble conglomerate, grey quartzose and volcaniclastic (ashy) sandstones and thinly laminated siltstones. On the northern slopes of the Native Track Tier a basal unit of pebble - cobble conglomerate (€Ooc) is overlain by a thick sequence of grey to black vitric quatrzose and volcaniclastic sandstone (€Oos). Towards the top of this sequence are some interbedded chert bearing granule conglomerates suggesting a possible Upper Owen correlation. This unit is overlain by a thin unit of pebble conglomerate (Odmc ?) and the Moina Sandstone (Odm) (Baillie et al, 1986).

The presence of a small area of hematitic chert bearing pebble conglomerate on Misleven Road remains largely unexplained although several well defined airphoto lineaments may represent major faults along which the Owen block has been downfaulted.

Gordon Limestone was mapped in the lower reaches of Olivers Creek where it is presumably in faulted contact with Cambrian sediments. A possible collapsed sink hole beneath Tertiary Basalt was located at approximately 407 300 mE and 5 417 720 mN.

5.2.4 Younger Cover

Tertiary Basalt (Tb) crops out extensively on the outer flanks of the Native Track Tier. It is quite likely that the Native Track Tier was an elevated region during Tertiary times and that basalts flows ponded in surrounding low lying areas. No Tertiary basalt was reported within the Native Track Tier area. A small patch of Tertiary Basalt was mapped just south of Loyetea Peak and may be related to basalt extrusion along a major WNW trending fault. This patch is slightly misplaced with respect to a patch of basalt recognised nearby by Baillie et al, 1986.

Tertiary Silcrete (Tss) was observed close to the contact between Tertiary Basalt and Cambrian and Owen Lithologies on Crane Road.

Talus deposits (Qts) are extensively developed on the southern slopes of the Loongana Range and at Crane Road.

These are dominantly siliciclastic derived but may include Tertiary Basalt and minor Cambrian derived fragments. The talus deposits at Crane Road may in fact be partly unconsolidated Tertiary sediments although this interpretation is only speculative.

Quaternary alluvium (Qa) deposits are present at Puffers Creek and in the lower reaches of Nielsens Creek and Olivers Creek.

5.2.5 Geochemistry

Twenty eight rock chip samples were collected from a range of rock types in the Native Track Tier area and sample locations are shown on Plan 1. The following suite of elements have been measured.

Table 2. Analytical Methods

LABORATORY	METHOD	ELEMENTS
Analabs	AAS(GA 101)	Cu, Pb, Zn
Analabs	XRF(GX 401)	V, Ti
Bequerel	NAA	Sb, As, Ba, Br, Ce, Cs, Cr, Co, Eu, Au, Hf, Ir, Fe, La, Lu, Mo, K, Rb, Sm, Sc, Se, Ag, Na, Ta, Th, Sn, W, U, Yb, Zn, Zr

Cu, Pb, Zn, Au

Concentrations of the basemetals Cu, Pb and Zn are generally low, and maximum values of 125 ppm Cu, 1596 ppm Pb, and 572 ppm Zn have been recorded. Only three samples T40811, T40814 and T40820 had above detection gold values. Apart from sample T34977 with high Pb none of the samples collected warrant any additional sampling.

V, Ti, Hf

V and Ti/Hf are useful to discriminate between mafic and felsic rock types. Hf commonly substitutes for Zr and high Ti/Hf ratios are analogous to the high Ti/Zr values displayed by basalts which also have high V contents. Rhyolites generally have low Ti/Hf values and low V contents.

Table 3 lists the V, Ti, Hf and Ti/Hf abundances for 16 andesitic - dacitic lavas and intrusives from the Native Track Tier area. Each individual body has been assigned a code to aid discussion. Units A to E are

feldspar and/or ferromagnesium mineral phyric lavas from the Alstergren - Query Road area. Units F to J come from the Misleven Road area and are generally coarse grained crystal rich feldspar and/or ferromagnesium mineral phyric rocks that are texturally distinct from Unit A to E and are most likely intrusives. With the exception of Sample T40818 Unit G all the units from the Misleven Road area have high V contents (> 100 ppm) and high Ti/Hf ratios. This is consistent with these units being andesitic in composition while those from the Alstergren - Query Road area with lower V abundances and lower Ti/Hf ratios are dacites.

Table 3. V, Ti and Hf Contents of Andesites and Dacites

UNIT	SAMPLE NO.	V	Ti	Hf	Ti/Hf
A	T34953	33	2648	6.50	407
A	T40824	44		6.39	
A	T34957	22	2105	5.64	373
B	T34958	72	3427	6.03	568
C	T34972	64	3797	5.66	671
C	T34971	47	3998	5.53	723
D	T34966	98	3877	5.20	746
E	T40822	38		4.75	
F	T40814	179		5.10	
F	T40815	190		3.22	
F	T40820	106		0.83	
F	T40821	345		2.10	
G	T40818	5		3.22	
H	T34975	118	3856	4.22	914
I	T34976	196	3019	1.28	2359
J	T34973	230	3912	2.34	1672

5.3 Discussion

Two distinct Cambrian lithologies have been mapped in the Native Track Tier area. They are; a) a sequence dominated by feldspar phyric volcaniclastic sediments and interbedded dacitic lavas, and b) a sequence characterised by quartz - feldspar phyric volcaniclastic sediments with andesitic intrusives. Although the precise contact and stratigraphic relationships between the two sequences are unknown it can be seen on Plan 1 that there is a distinct spatial distribution of the quartz bearing lithology suggesting that they may be separate stratigraphic formations.

The Native Track Tier is situated in a zone where geological relationships are poorly known and is on an imaginary fence line where two schools of stratigraphic nomenclature (ie. western Tasmanian and northern Tasmanian stratigraphy) meet. Thus, a range of

stratigraphic correlations are possible. The feldspar phyric nature of the Ulstergren - Query Road sequence suggests affinities with the Central Volcanic Complex, while the quartz phyric nature of the Tulip Tree Creek - Misleven Road sequence suggests a wide range of possible correlations (ie. Tyndall Group, Eastern Sequence, Mount Charter Group and the Minnow Keratophyre).

Examination of the 1985 Department of Mines Airborne Residual Magnetic Survey of Northern Tasmania reveals that the quartz phyric sequence has a relatively uniform low magnetic response. In contrast the feldspar phyric unit is magnetically noisy and distinctly more magnetic. In the Leven River area it can be seen that the contact between magnetic and weakly magnetic units corresponds to the faulted contact between the Gog Range Greywacke and the Minnow Keratophyre (Bamford and Green, 1988).

The patchy magnetic behaviour of the feldspar phyric unit may in part be due to the variably magnetic dacitic lavas within the sequence (Randell and Hungerford, 1990).

The magnetic signature of the quartz phyric sequence excludes correlation with the Tyndall Group which are generally strongly magnetic. A probable correlation of these rocks is with the Mount Charter Group, which includes the Southwell Subgroup, and they may represent an along strike extension of the Ring Road - Cattley Creek sequences. An important feature arising from this correlation is that the andesites in the Tulip Tree Creek - Misleven Road area may represent Que-Hellyer Volcanics.

Bamford and Green, (1988) correlate the along strike continuation of the quartz phyric unit with the Gog Range Greywacke and the feldspar phyric unit with the Minnow Keratophyre. Mapping in the Beulah area (held by RGC as EL 15/92) has shown the Gog Range Greywacke to be a sequence dominated by micaceous siltstones while the Minnow Keratophyre is a unit of interbedded quartz feldspar phyric lavas, volcaniclastic sandstones and ashy siltstones. Since stratigraphic relationships between the Cambrian Sequences between Native Track Tier and Beulah are poorly known any such correlation is possibly misleading. Until the stratigraphy of northern Tasmania is revised the correlation of the Cambrian volcaniclastic sequences in the Native Track Tier area will be in terms of Western Tasmanian Stratigraphy. Thus, (at the moment!) the preferred correlation is that the feldspar phyric sequence is a correlate of the Central Volcanic Sequence and the quartz phyric sequence is a correlate of the Mount Charter Group.

6. RECOMMENDATIONS.

Reconnaissance 1:10 000 mapping in the Native Track Tier area has shown that there are two mappable Cambrian sequences. They have been correlated with the Central Volcanic Sequence and the Mount Charter Group. Further work in the Native Track Tier area should involve geochemical discrimination between the andesites and dacites and comparison with the Que -Hellyer Volcanics. The geology in the Nietta - Leven River is poorly known and should be remapped at 1:10 000 scale. The Crosby Creek Prospect should be re-evaluated.

RGC Exploration is currently engaged in an intense exploration program targeting exhalative massive sulphide mineralisation within Tyndall Group rocks in the Queenstown and Henty areas. Re-examination of drill core from the Mount Jacob Prospect indicated that a hematitic, chloritic limestone unit occurred stratigraphically just above sphalerite - galena veining. This limestone is very similar to carbonates associated with mineralisation at Henty and Comstock. The Mount Jacob limestone occurs just below the base of a volcanic conglomerate unit which is a correlate of the Tyndall Group. This suggests that the base of the Tyndall Group in the Winterbrook area may be a significant horizon, just as it is south of the Henty Fault.

Exploration in the following twelve months will entail mapping at 1:1000 scale in the Mount Jacob - Winterbrook area along with rock chip sampling. Specific aims of the mapping will be to locate the base of the volcaniclastic conglomerate, to identify Cambrian Faults and to identify alteration zones if present. The objective of this programme is to define conceptual based targets which warrant grid-based geophysical and geochemical surveys and eventually, drilling.

REFERENCES

Baillie, P.W.;Williams, P.R.; Seymour, D.B.; Lennox, P.G.; Green, G.R. 1986. Geological Atlas, 1:50 000 series. Sheet 36 (8015N). St Valentines. Department of Mines, Tasmania.

Bamford, A.L. and Green, G.R. 1988. 1:50 000 Metallic Mineral Deposits Map Series Sheet 8114 IV - 8115 III. Cethana. Department of Mines, Tasmania.

Banwell, L.D. 1981. EL 8/77 - Riana. Progress report on exploration during the period 1/1/80 - 31/7/81. The Shell Company of Australia Limited Metals Division. TCR 82-1784.

Barker, R.G. 1975. EL 7/73 - Paradise, Tasmania. Report for the year ending March 15, 1975. Asarco Pty Ltd. TCR 75-1076.

Brant, R.T. 1973. Summary report on Exploration Licence 17/68 for the period January - September, 1973. Anzeco. TCR 73-980.

Buckland, G.L. 1977. Loongana area - Tasmania. Progress Report Exploration Licence 2/76. Joint venture, Geopeko Ltd - EZ Co. of A'asia Ltd. TCR 77-1239.

Bumstead, E.D. 1969. EL 15/65 - Sheffield, Tasmania. Stream Sediment Survey, 1969. BHP. TCR 69-588.

Caithness, S.J. 1986a. Loongana EL 36/79, Report on exploration for 12 months to 1st April, 1986. CRA Exploration Ltd, Billiton Aust. Shell Co. of Australia Ltd. TCR 86-2539.

Caithness, S.J. 1986b. Riana EL 8/77. Progress Report on Exploration for the 12 months to 7th July 1986. CRA Exploration Pty Ltd. TCR 85-2567.

Caithness, S.J. 1986c. EL 7/74 - Moina. Report on Exploration for 12 months to 18th June 1986. CRA Exploration Pty Ltd. TCR 86-2554.

Castro, C.H. and Fleming, M.J. 1991a. EL 8/88 - Lorinna. Annual Report 1990. RGC Exploration. TCR 91-3224.

Castro, C.H. and Fleming, M.J. 1991b. EL 8/88- Lorinna. Report on Exploration for the period February 1991 - October 1991. Final Relinquishment Report. RGC Exploration. TCR 91-3301.

Chapman, J. 1979. Final Report on Exploration. Loongana, EL 2/76,Tasmania. Pennzoil of Australia Ltd. TCR 79-1325

Chesnut, W.S. 1967. Sheffield - Tasmania. EL 15/65. Report on Preliminary Ground Geological Inspections of Anomalous Aeromagnetic Features. BHP Pty Ltd. TCR 67-464.

Howland-Rose, A.W. 1975. A report on: Gradient array electrical induced polarisation surveys over the Loyetea South and Loyetea North Prospects. EL 19/72, Northern Tasmania. CRA Exploration Pty Ltd. TCR 75-1142.

Jenke, G.P. 1975. Geophysical surveys on Crosby Creek Prospect, EL 19/72 Nietta, Tasmania. April - June 1975. CRA Exploration Pty Ltd. TCR 75-1121.

Jennings, I.B.; Burns, K.L.; Mayne, S.J.; Robinson, R.G. 1959. Geological Atlas 1 Mile Series. Zone 7 Sheet 37. Sheffield. Department of Mines, Tasmania.

Jones, P. 1991. EL 19/90 - Wilmot. Relinquishment Report. September 1990 - August 1991. Noranda Pty Ltd. TCR 91-3247.

Lawton, J.J.; Wright R.G.; Buchhorn, I,J,; Oakes, G.D. 1983. EL 36/79 - Loongana. Progress Report on Exploration for the period 1 May 1980 - 30 June 1983. The Shell Company of Australia Limited. Metals Division. TCR 83-2045.

Pemberton, J. and Vicary, M.J. 1989. Mt Read Volcanics Project Map 9. The geology of the Winterbrook - Moina area. 1:25 000. Department of Mines, Tasmania

Porter, T.M. 1974. EL 19/72 Dial Range, Northwest Tasmania. Progress Report. CRA Exploration Pty Ltd. TCR 75-1075.

Porter, T.M. 1976. EL 19/72 Nietta, Northwest Tasmania. Progress Report No.3. CRA Exploration Pty Ltd. TCR 76-1157.

Porter, T.M. and Aston, P.J. 1975. EL 19/72 Dial Range, Northwest Tasmania. Progress Report No.2. CRA Exploration Pty Ltd. TCR 75-1075.

Rand, S.W. 1989. EL 9/88 - Winterbrook. Progress Report for the year ended July 8, 1989. Aberfoyle Resources Limited. TCR 89-3003.

Rand, S.W. 1990. EL 9/88 - Winterbrook. Final Report on Exploration for the period July, 1989 to February, 1990. Aberfoyle Resources Limited. TCR 90-3124.

Randell, J.P and Hungerford, N. 1989. Loongana EL 36/79. Report on Exploration for the 12 month period ending 1st May 1989. Billiton Aust. CRA Exploration Pty Ltd. TCR 89-2941.

Randell, J.P and Hungerford, N. 1989. EL 36/79 - Loongana. Final Report on Exploration completed to 1st May 1990. Billiton Australia. CRA Exploration Pty Ltd. TCR 90-3122.

Rogers, M.C. 1976. Loongana area - Tasmania. Progress Report Exploration Licence 2/76. Joint venture, Geopeko - EZ Company of Australia. TCR 76-1184.

Ruxton, P.A. 1984. EL 8/77 Riana. Progress Report on Exploration during the period 2/9/83 - 1/3/84. The Shell Company of Australia Limited Metals Division. TCR 84-2142.

Schneider, M. 1982. Interpretation Report. Airborne Electromagnetic Survey. Barringer "input" system of the Riana, Highclere and Loongana areas. Geoterrex Pty Ltd for the Shell Company of Australia Limited. TCR 83-1929.

Seymour, D.B. (comp)., 1989. Geological Atlas 1: 50 000 Series. Sheet 36 (8015N). St Valentines. Explan.Rep.Geol.Surv.Tasm.

Smyth, W.D. 1981. EL 7/74 Moina. Progress Report on Exploration during the period 1/1/80 - 31/7/81. The Shell Company of Australia Limited. Metals Division. TCR 82-1728.

Smyth, W.D. 1982. EL 7/74 Moina. Progress Report on Exploration during the period 31/7/81 - 30/6/82. The Shell Company of Australia Limited. Metals Division. TCR 82-1826.

Smyth, W.D. 1983. EL 7/74 Moina. Progress Report on Exploration during the period 1/7/82 - 30/6/83. The Shell Company of Australia Limited. Metals Division. TCR 83-2046.

Virgoe, K.J. 1990. EL 96/87 Preston. Annual Report on Exploration Activity April 1989 - March 1990. Geopeko. TCR 90-3105.

Virgoe, K.J. and Mathison, I.J. 1989. EL 96/87. Annual Report on Exploration Activity April 1988 - March 1989. EZ Company of Australia Ltd. Mineral Resource Division. TCR 89-2951.

Von Strokirch, T., 1987. EL 7/74 Moina. Report on areas relinquished on 18 July 1987. CRA Exploration Pty Ltd. TCR 87-2660.

Weste, G. 1978. EL 7/74 Moina. Black Bluff - Smiths Plains area. Report on all investigations to September 1978. Comalco Limited. TCR 78-1306.

Weste, G. 1979. EL 8/77 Riana. Report on all investigations to December 1979. Commonwealth Aluminium Corporation Limited. TCR 79-1383.

Wright, R.G. and Hungerford, N. 1984. EL 7/74 - Moina. Progress Report on Exploration during the period 1/7/83 to 30/6/84. The Shell Company of Australia Limited. Metals Division. TCR 84-2261.

APPENDIX 1

Native Track Tier Rock Chip Geochemistry

Sample	True northing	True easting	Date collected	Sampler(s)	Project code	Grid	Sample kind	Rock type
34953	5421755.00	408665.00	24/06/93	MV	5535	AMG	RC	LAFH
34954	5421400.00	408520.00	25/06/93	MV	5535	AMG	RC	LAF
34955	5421260.00	408480.00	25/06/93	MV	5535	AMG	RC	LAF
34956	5420900.00	480860.00	25/06/93	MV	5535	AMG	RC	VC
34957	5421200.00	409260.00	25/06/93	MV	5535	AMG	RC	LF
34958	5421880.00	409060.00	25/06/93	MV	5535	AMG	RC	LF
34959	5421680.00	409280.00	25/06/93	MV	5535	AMG	RC	LAFH
34960			/ /		5535		STD	
34961	5420865.00	410010.00	26/06/93	MV	5535	AMG	RC	VXFM
34962	5421240.00	410290.00	26/06/93	MV	5535	AMG	RC	VXFM
34963	5420360.00	409600.00	26/06/93	MV	5535	AMG	RC	VXFM
34964	5420050.00	410280.00	26/06/93	MV	5535	AMG	RC	LAFH
34965	5421080.00	411810.00	27/06/93	MV	5535	AMG	RC	VC
34966	5422500.00	412490.00	28/06/93	MV	5535	AMG	RC	LAFH
34967	5421350.00	414620.00	29/06/93	MV	5535	AMG	RC	VS
34968	5421700.00	413930.00	29/06/93	MV	5535	AMG	RC	VM
34969	5421700.00	413930.00	29/06/93	MV	5535	AMG	RC	VC
34970	5422155.00	414590.00	29/06/93	MV	5535	AMG	RC	VC
34971	5421250.00	411260.00	30/06/93	MV	5535	AMG	RC	LAF
34972	5421310.00	410930.00	30/06/93	MV	5535	AMG	RC	LA
34973	5418470.00	411875.00	10/07/93	MV	5535	AMG	RC	LAF
34974	5418440.00	412070.00	11/07/93	MV	5535	AMG	RC	SILT
34975	5418630.00	413345.00	11/07/93	MV	5535	AMG	RC	LA
34976	5418060.00	413840.00	14/07/93	MV	5535	AMG	RC	LA
34977	5419280.00	414200.00	14/07/93	MV	5535	AMG	RC	VM

Laboratory:
Detection Limit:
Method:

Sample	Cu ppm ANALAB GA140	Pb ppm ANALAB GA140	Zn ppm ANALAB GA140	Ti ppm ANALAB GX401	V ppm ANALAB GX401	Sb_n ppm BECQUE INAA	As_n ppm BECQUE INAA	Ba_n ppm BECQUE INAA	Br_n ppm BECQUE INAA	Ce_n ppm BECQUE INAA	Cs_n ppm BECQUE INAA	Cr_n ppm BECQUE INAA	Co_n ppm BECQUE INAA	Eu_n ppm BECQUE INAA	Au_n ppb BECQUE INAA	Hf_n ppm BECQUE INAA	Ir_n pp BECQUE INAA
34953			74.000	2648.000	33.000	4.980	3.800	1380.000	-2.000	116.000	6.500	-5.000	3.290	1.860	-5.000	6.500	-20.0
34954																	
34955	13.000	23.000	76.000	4506.000	88.000	3.420	15.800	1040.000	-2.000	101.000	29.700	34.500	-1.000	1.180	-5.000	6.310	-20.0
34956																	
34957	7.000	8.000	65.000	2105.000	22.000	1.400	23.800	1280.000	-2.000	84.900	9.450	5.600	5.620	1.550	-5.000	5.640	-20.0
34958			55.000	3427.000	72.000	5.780	3.530	1020.000	-2.000	76.100	15.400	24.600	3.210	0.880	-5.000	6.030	-20.0
34959																	
34960																	
34961	48.000	68.000	572.000	6561.000	314.000	0.570	3.080	840.000	-2.000	58.400	4.670	44.300	42.700	1.400	-5.000	2.850	-20.0
34962																	
34963	35.000		347.000	5147.000	223.000	0.650	1.820	1580.000	-2.000	53.700	4.020	24.200	28.000	1.160	-5.000	2.920	-20.0
34964																	
34965																	
34966	10.000		119.000	3877.000	98.000	0.600	2.540	327.000	-2.000	73.800	7.500	21.600	14.500	1.300	-5.000	5.200	-20.0
34967																	
34968																	
34969																	
34970																	
34971	4.000		163.000	3998.000	47.000	1.030	5.940	490.000	2.630	89.600	13.400	-5.000	5.240	2.080	-5.000	5.530	-20.0
34972			232.000	3797.000	64.000	0.670	1.240	2430.000	8.380	64.600	2.450	22.900	5.910	0.970	-5.000	5.660	-20.0
34973	57.000		236.000	3912.000	230.000	0.720	-1.000	725.000	-2.000	32.400	7.470	248.000	44.500	0.830	-5.000	2.340	-20.0
34974	77.000		89.000	2489.000	71.000	1.510	3.590	600.000	-2.000	55.700	6.580	16.400	13.400	1.090	-5.000	5.720	-20.0
34975	12.000		160.000	3856.000	118.000	0.760	-1.000	1750.000	-2.000	59.200	2.160	57.300	12.800	1.420	-5.000	4.220	-20.0
34976	109.000		265.000	3019.000	196.000	-0.200	-1.000	756.000	-2.000	25.300	6.280	168.000	41.700	0.760	-5.000	1.280	-20.0
34977	9.000	1596.000	27.000	7692.000	183.000	3.250	7.190	4180.000	-2.000	53.700	6.360	330.000	-1.000	4.050	-5.000	3.610	-20.0

Laboratory:	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE
Detection Limit:	5.000	5.000	5.000	1.000	5.000	0.200	2.000	100.00	2.000	2.000	1.000	5.000	1.000	0.500	5.000	1.000	0.000
Method:																	

Sample	Fe_n % BECQUE INAA30	La_n ppm BECQUE INAA	Lu_n ppm BECQUE INAA	Mo_n ppm BECQUE INAA	K_n % BECQUE INAA30	Rb_n ppm BECQUE INAA	Sm_n ppm BECQUE INAA	Sc_n ppm BECQUE INAA	Se_n ppm BECQUE INAA	Ag_n ppm BECQUE INAA	Na_n % BECQUE INAA30	Ta_n ppm BECQUE INAA	Th_n ppm BECQUE INAA	Sb_n ppm BECQUE INAA	W_n ppm BECQUE INAA3	U_n ppm BECQUE INAA3
34953	2.760	51.200	0.750	-5.000	4.640	184.000	11.200	8.180	-5.000	-5.000	2.240	2.510	19.600	4.980	-2.000	-2.000
34954																
34955	2.760	50.400	0.420	-5.000	4.910	295.000	6.260	12.700	-5.000	-5.000	0.100	1.170	17.500	3.420	-2.000	4.100
34956																
34957	1.910	42.800	0.380	-5.000	5.750	168.000	7.020	5.320	-5.000	-5.000	1.140	1.480	16.200	1.400	-2.000	3.930
34958	1.740	35.900	0.480	-5.000	5.050	228.000	6.650	11.400	-5.000	-5.000	1.590	1.870	18.400	5.780	-2.000	2.720
34959																
34960																
34961	8.050	27.100	0.400	-5.000	0.780	44.400	5.680	27.900	-5.000	-5.000	3.020	1.500	7.120	0.570	-2.000	-2.000
34962																
34963	6.190	29.200	0.400	-5.000	1.000	28.400	5.840	22.900	-5.000	-5.000	4.320	2.180	7.220	0.650	-2.000	-2.000
34964																
34965																
34966	4.330	36.000	0.470	-5.000	1.690	85.000	6.360	13.300	-5.000	-5.000	1.640	1.320	14.200	0.600	-2.000	-2.000
34967																
34968																
34969																
34970																
34971	5.000	44.900	0.700	-5.000	2.810	165.000	9.580	14.400	-5.000	-5.000	0.320	-1.000	14.100	1.030	-2.000	3.370
34972	2.570	30.400	0.530	-5.000	2.310	65.800	5.500	9.090	-5.000	-5.000	3.620	2.160	18.300	0.670	-2.000	3.790
34973	6.770	15.600	0.320	-5.000	1.920	106.000	3.990	37.700	-5.000	-5.000	2.250	1.430	4.840	0.720	-2.000	-2.000
34974	3.090	34.800	0.450	-5.000	2.820	149.000	5.540	13.800	-5.000	-5.000	0.110	-1.000	9.770	1.510	-2.000	2.350
34975	4.160	28.800	0.420	-5.000	1.480	53.800	6.310	17.400	-5.000	-5.000	3.770	2.980	8.310	0.760	-2.000	-2.000
34976	6.340	11.700	0.220	-5.000	1.730	105.000	2.950	29.900	-5.000	-5.000	1.730	-1.000	2.700	-0.200	-2.000	-2.000
34977	0.690	88.900	0.330	-5.000	3.740	187.000	17.300	25.600	-5.000	-5.000	0.300	1.400	1.800	3.250	-2.000	-2.000

Laboratory:	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE
Detection Limit:	0.050	0.500	0.200	5.000	0.200	0.000	0.200	5.000	5.000	5.000	0.050	1.000	0.500	0.200	2.000	2.000
Method:																

Sample	Yb_n ppm BECQUE INAA	Zn_n ppm BECQUE INAA	BECQUE Zr ppmINAA30
34953	4.450	150.000	-500.000
34954			
34955	2.550	103.000	-500.000
34956			
34957	2.420	-100.000	-500.000
34958	3.010	112.000	-500.000
34959			
34960			
34961	2.830	678.000	-500.000
34962			
34963	2.720	441.000	-500.000
34964			
34965			
34966	2.980	135.000	-500.000
34967			
34968			
34969			
34970			
34971	4.460	192.000	-500.000
34972	3.480	260.000	-500.000
34973	2.140	291.000	-500.000
34974	3.080	118.000	-500.000
34975	3.000	178.000	-500.000
34976	1.720	293.000	-500.000
34977	2.370	-100.000	-500.000

Laboratory:	BECQUE	BECQUE	BECQUE
Detection Limit:	0.500	100.00	100.00
Method:			INAA30

Sample	True northing	True easting	Date collected	Sampler(s)	Project code	Grid	Sample kind	Rock type
40811	5417920.00	407260.00	25/01/94	MJV	5535	AMG	RC	Vm
40812	5417966.00	407630.00	25/01/94	MJV	5535	AMG	RC	Cong
40813	5418070.00	407930.00	11/02/94	MJV	5535	AMG	RC	Vm
40814	5420280.00	414390.00	12/02/94	MJV	5535	AMG	RC	Lxa
40815	5420260.00	414190.00	12/02/94	MJV	5535	AMG	RC	La
40816	5419420.00	412580.00	13/02/94	MJV	5535	AMG	RC	Lr
40817	5419170.00	412310.00	13/02/94	MJV	5535	AMG	RC	Vf
40818	5419015.00	412160.00	13/02/94	MJV	5535	AMG	RC	La?
40819	5418500.00	409000.00	15/02/94	MJV	5535	AMG	RC	Chrt
40820	5420150.00	413200.00	16/02/94	MJV	5535	AMG	RC	La
40821	5420150.00	413200.00	16/02/94	MJV	5535	AMG	RC	La
40822	5420780.00	412120.00	16/02/94	MJV	5535	AMG	RC	La
40823	5418380.00	409970.00	17/02/94	MJV	5535	AMG	RC	Vm
40824	5418870.00	410070.00	17/02/94	MJV	5535	AMG	RC	La

Laboratory:
Detection Limit:
Method:

RGC Exploration Pty Ltd
GEOCHEM Data Management System
Project: TASMANIA

Sample	Cu ppm ANALAB GA140	Pb ppm ANALAB GA140	Zn ppm ANALAB GA140	ANALAB V ppm GA140	Sb_n ppm BECQUE INAA	As_n ppm BECQUE INAA	Ba_n ppm BECQUE INAA	Br_n ppm BECQUE INAA	Ce_n ppm BECQUE INAA	Cs_n ppm BECQUE INAA	Cr_n ppm BECQUE INAA	Co_n ppm BECQUE INAA	Eu_n ppm BECQUE INAA	Au_n ppb BECQUE INAA	Hf_n ppm BECQUE INAA	Ir_n ppb BECQUE INAA	Fe_n % BECQUE INAA30
40811	7.000	14.000	48.000	43.000	1.370	27.400	1410.000	-2.000	96.000	15.700	5.700	17.400	1.300	10.100	5.220	-20.000	2.5
40812	14.000	10.000	43.000	94.000	3.300	14.800	1050.000	-2.000	70.000	8.210	23.500	4.000	1.110	-5.000	6.190	-20.000	4.2
40813	6.000	13.000	81.000	108.000	2.280	12.400	900.000	-2.000	96.600	17.100	15.800	10.200	1.920	-5.000	5.060	-20.000	3.6
40814	125.000	174.000	192.000	179.000	1.250	31.400	881.000	2.850	74.500	1.780	11.000	19.000	1.330	12.300	5.100	-20.000	5.4
40815	44.000	53.000	210.000	190.000	0.910	4.600	879.000	-2.000	50.400	12.400	6.300	19.200	0.960	-5.000	3.220	-20.000	4.8
40816	4.000	9.000	148.000	56.000	1.120	33.100	2120.000	-2.000	95.800	2.540	9.600	4.420	1.320	-5.000	7.280	-20.000	3.0
40817	8.000	8.000	90.000	132.000	0.610	27.100	596.000	-2.000	97.600	4.060	45.500	10.300	1.400	-5.000	6.330	-20.000	4.2
40818	7.000	8.000	32.000	5.000	0.850	23.500	242.000	-2.000	101.000	-1.000	13.200	2.290	0.760	-5.000	3.220	-20.000	0.9
40819	6.000	3.000	17.000	10.000	3.180	9.900	-100.000	-2.000	16.000	1.620	18.000	2.450	-0.500	-5.000	0.600	-20.000	1.7
40820	84.000	13.000	171.000	106.000	0.560	26.500	235.000	-2.000	16.100	12.900	97.200	18.700	0.540	6.000	0.830	-20.000	4.1
40821	70.000	18.000	165.000	345.000	-0.200	6.450	739.000	-2.000	44.900	24.100	251.000	51.800	0.720	-5.000	2.100	-20.000	6.8
40822	5.000	-3.000	165.000	38.000	0.660	1.580	795.000	-2.000	84.900	8.640	-5.000	10.500	1.870	-5.000	4.750	-20.000	6.0
40823	6.000	-3.000	20.000	28.000	1.290	3.510	349.000	2.320	70.100	5.010	8.100	6.350	1.170	-5.000	3.000	-20.000	2.6
40824	11.000	23.000	358.000	44.000	1.550	24.900	1350.000	-2.000	129.000	3.870	-5.000	11.400	1.600	-5.000	6.390	-20.000	9.8
Laboratory:	ANALAB	ANALAB	ANALAB	ANALAB	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE
Detection Limit:	5.000	5.000	5.000	5.000	0.200	2.000	100.00	2.000	2.000	1.000	5.000	1.000	0.500	5.000	1.000	0.000	0.050
Method:				GA140													

RGC Exploration Pty Ltd
GEOCHEM Data Management System
Project: TASMANIA

Sample	La_n ppm BECQUE INAA	Lu_n ppm BECQUE INAA	Mo_n ppm BECQUE INAA	K_n % BECQUE INAA30	Rb_n ppm BECQUE INAA	Sm_n ppm BECQUE INAA	Sc_n ppm BECQUE INAA	Se_n ppm BECQUE INAA	Ag_n ppm BECQUE INAA	Na_n % BECQUE INAA30	Ta_n ppm BECQUE INAA	Th_n ppm BECQUE INAA	Sn_n ppm BECQUE INAA	W_n ppm BECQUE INAA3	U_n ppm BECQUE INAA3	Yb_n ppm BECQUE INAA	Zn_n pp BECQUE INAA
40811	47.300	0.520	-5.000	5.630	190.000	7.980	7.250	-5.000	-5.000	0.080	1.160	16.600	-500.000	-2.000	2.050	3.200	-100.0
40812	35.600	0.390	-5.000	2.300	96.400	5.760	11.300	-5.000	-5.000	0.180	-1.000	13.600	-500.000	-2.000	-2.000	2.610	-100.0
40813	48.700	0.420	-5.000	4.650	178.000	9.330	12.400	-5.000	-5.000	0.040	-1.000	14.200	-500.000	-2.000	2.490	2.800	127.0
40814	35.100	0.540	-5.000	2.500	72.000	7.120	14.400	-5.000	-5.000	2.350	-1.000	9.630	-500.000	-2.000	-2.000	3.350	270.0
40815	22.000	0.410	-5.000	2.320	88.200	5.090	14.300	-5.000	-5.000	3.760	2.060	8.000	-500.000	-2.000	-2.000	2.510	268.0
40816	44.900	0.570	-5.000	2.350	81.500	8.340	11.800	-5.000	-5.000	3.690	1.950	16.300	-500.000	-2.000	2.240	3.560	224.0
40817	48.100	0.440	-5.000	1.010	47.500	8.500	19.500	-5.000	-5.000	3.780	1.400	8.890	-500.000	-2.000	-2.000	2.760	182.0
40818	52.400	0.480	-5.000	-0.400	-20.000	6.960	2.600	-5.000	-5.000	3.620	1.800	18.000	-500.000	-2.000	2.770	3.180	-100.0
40819	7.710	-0.200	-5.000	0.250	23.800	1.190	1.060	-5.000	-5.000	0.120	-1.000	1.510	-500.000	-2.000	-2.000	-0.500	-100.0
40820	7.540	-0.200	-5.000	0.540	39.300	1.740	15.400	-5.000	-5.000	0.040	-1.000	1.670	-500.000	-2.000	-2.000	0.920	221.0
40821	19.800	0.360	-5.000	1.240	48.000	4.740	40.800	-5.000	-5.000	3.240	1.680	4.920	-500.000	-2.000	-2.000	2.160	249.0
40822	38.900	0.630	-5.000	2.800	116.000	8.660	13.200	-5.000	-5.000	1.660	-1.000	12.400	-500.000	-2.000	-2.000	3.960	225.0
40823	34.200	0.380	-5.000	2.150	86.400	6.390	8.470	-5.000	-5.000	0.110	-1.000	7.350	-500.000	-2.000	-2.000	2.660	-100.0
40824	63.700	0.550	-5.000	3.850	94.300	9.390	7.040	-5.000	-5.000	1.170	-1.000	18.400	-500.000	-2.000	3.470	3.470	445.0
Laboratory:	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE
Detection Limit:	0.500	0.200	5.000	0.200	0.000	0.200	5.000	5.000	5.000	0.050	1.000	0.500	500.00	2.000	2.000	0.500	100.00
Method:																	

920040

Sample	BECQUE Zr ppmINAA3D
40811	-500.000
40812	-500.000
40813	-500.000
40814	-500.000
40815	-500.000
40816	-500.000
40817	-500.000
40818	-500.000
40819	-500.000
40820	-500.000
40821	-500.000
40822	-500.000
40823	-500.000
40824	-500.000

Laboratory: BECQUE
Detection Limit: 100.00
Method: INAA3D

E.L. 42/92

GEOLOGICAL LEGEND

Qa	QUATERNARY ALLUVIUM
Qts	QUATERNARY TALUS
Tb	TERTIARY BASALT
Tss	TERTIARY SILCRETE
Dgr	ORDOVICIAN GRANITE –HOUSETOP GRANITE
Og	ORDOVICIAN LIMESTONE –GORDON LIMESTONE
Odm	ORDOVICIAN SANDSTONE –MOINA SANDSTONE
Odmc	ORDOVICIAN CONGLOMERATE
Є∞ Є∞slt	CAMBO–ORDOVICIAN SILICICLASTIC SEDIMENTS "OWEN CONGLOMERATE" slt=Siltstone, s=Sandstone, c=Conglomerate
Є∞s	
Є∞c	

CAMBRIAN

Єd	DACITE (LAVAS AND/OR INTRUSIVES)
Єa	ANDESITE (INTRUSIVE?)
Єvc	FELDSPAR RICH f–c gr. VOLCANICLASTIC SEDIMENTS
Єslt	VOLCANICLASTIC SILTSTONE (MAPPABLE HORIZON)
Єvcq	FELDSPAR–QUARTZ PHYRIC f–m gr. VOLCANICLASTIC SEDIMENTS
Єvcqq	VEIN QTZ. RICH c gr. VOLCANICLASTIC SANDSTONE AND GRANULE CONGL.
Єfl	QUARTZ–FELDSPAR PHYRIC RHYLOITIC LAVA

- GEOLOGICAL BOUNDARY
- GEOLOGICAL BOUNDARY – INFERRED
- FAULT
- INFERRED FAULT
- LOW ANGLE REVERSE FAULT OR THRUST
- STRIKE & DIP OF BEDDING FACING UNKNOWN
- STRIKE & DIP OF BEDDING FACING KNOWN
- CLEAVAGE WITH DIP
- VERTICAL CLEAVAGE
- FLOW BANDING WITH DIP
- VERTICAL FLOW BANDING
- COMPOSITIONAL BANDING
- ROCKCHIP SAMPLE
- CHEMICAL ANALYSIS
- FOSSIL LOCALITY

94-3565

REFERENCES

1:10,000 MAPPING & AIRPHOTO INTERP. M.VICARY JUNE 1993–JAN 1994
1:50,000 ST.VALENTINES SHEET – DEPT OF MINES, TAS. 1984
1:8000 MAPPING CHALLENGER & ARGO, BICKLAND 1977, TCR 77–1239
1:5000 MAPPING ALSTERMOREN ROAD, RANDELL & HUNGERFORD 1990, TCR90–3122

RGC EXPLORATION PTY. LIMITED

GEOLOGIST	M.VICARY
DRAWN	M.WALTER
DATE	4/94
CHECKED	
SCALE	1:10,000

NATIVE TRACK TIER AREA E.L.42/92

GEOLOGICAL INTERPRETATION AND COMPILATION

5cm

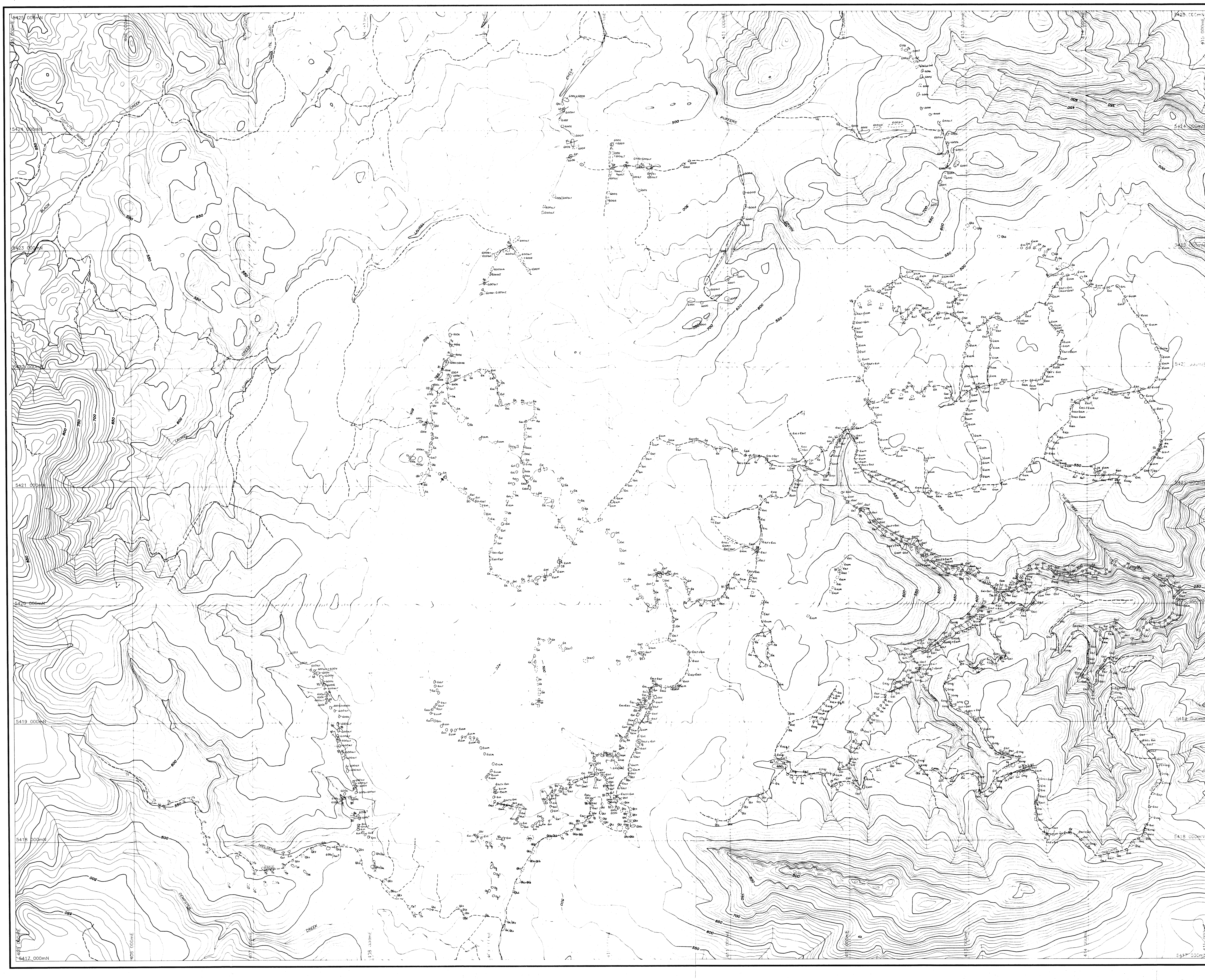
0 100 200 400m

DRAWING ID: 5535/004

FILENAME: NATIVE1

PLAN 1

926042



GEOLOGICAL LEGEND

Symbol	Description
Qa	QUATERNARY ALLUVIUM
Qts	QUATERNARY TALUS Qts = Siliciclastic rich: Qtb = Tertiary Basalt rich Qtsv = Cambrian volcanic rich
Tb	TERTIARY BASALT
Tss	TERTIARY SILCRETE
Og	ORDOVICIAN LIMESTONE -GORDON LIMESTONE
€OO: €OOslt, €OOs, €OOc	CAMBO-ORDOVICIAN SILICICLASTIC SEDIMENTS "OWEN CONGLOMERATE" slt = Siltstone, s = Sandstone, c = Conglomerate

CAMBRIAN

Symbol	Description
€a	ANDESITE-DACITE (LAVAS AND INTRUSIVES)
€slt	VOLCANICLASTIC SILTSTONE
€vc	FELDSPAR RICH f-m gr. VOLCANICLASTIC SANDSTONE
€vcm	FELDSPAR RICH m-c gr. VOLCANICLASTIC SEDIMENTS
€vcc	FELDSPAR RICH c gr. VOLCANICLASTIC SANDSTONE AND GRANULE-PEBBLE VOLCANICLASTIC CONGLOMERATE
€vcq	FELDSPAR-QUARTZ PHYRIC f-m gr. VOLCANICLASTIC SEDIMENTS
€vccq	VEIN QTZ. RICH c gr. VOLCANICLASTIC SANDSTONE AND GRANULE CONGL.
€qfl	QUARTZ-FELDSPAR PHYRIC RHYOLITIC LAVA

FLOAT
OUTCROP
40 STRIKE & DIP OF BEDDING FACING UNKNOWN
56 STRIKE & DIP OF BEDDING FACING KNOWN
77 CLEAVAGE WITH DIP
VERTICAL CLEAVAGE
64 FLOW BANDING WITH DIP
VERTICAL FLOW BANDING
28 COMPOSITIONAL BANDING

94-3565

920043

RGC EXPLORATION PTY. LIMITED

COMPILED	M. VICARY
DRAWN	M. WALTER
DATE	5/94
CHECKED	
SCALE	1:10,000

NATIVE TRACK TIER AREA E.L.42/92

OUTCROP GEOLOGY

5 cm

0 200m 400m

DRAWING ID. 5535/005

FILENAME: NATIVE1

PLAN 2.

RGC EXPLORATION PTY. LIMITED		
COMPILED	MS U	NATIVE TRACK TIER AREA EL 42/82
DRAWN	M.WALTER	FIELD SHEET - A
DATE	5/93	TRACKS AND ROADS.
CHECKED		
SCALE 1:10,000		SHEET 1 of 2
0 200m 400m		DRAWING ID. 5535\008
		FILENAME:

5535|008

5535/009

RGC EXPLORATION PTY. LIMITED	
COMPILED	MJV + D.B.
DRAWN	M.WALTER
DATE	5/93
CHECKED	
SCALE	1:10,000

NATIVE TRACK TIER AREA E.L.42/92

FIELD SHEET - B

CREEK TRAVERSES

SHEET 1 of 2

DRAWING ID. 5535/009

FILENAME: NATIVE1