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**EXPLORATION LICENCE NO.**  
42/92

**("LOONGANA")**

**ANNUAL REPORT**  
**MAY 1994 - MAY 1995**

**(Volume 1 of 1)**

95-3728

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## 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.

Exploration to date has consisted of reconnaissance geological mapping over the major areas of Cambrian volcanics. Work has centred on three main areas: Native Track Tier, Leven Canyon and Mount Jacob. In the Native Track Tier - Leven Canyon area mapping has identified two mappable geological formations. Recent relogging of old CRAE drill core has indicated that the Cambrian rocks in the Crosby Creek area can be correlated with rocks mapped in the Misleven Road - Tulip Tree Creek area. The rocks in these areas are relatively unaltered and only minor base metal mineralisation near the contacts with andesite/microdiorite intrusions? has been observed.

In the Mount Jacob area, an old exploration Drillhole (MTJD18) has been relogged. The hole contained a base metal rich stringer zone (16.5m @ 1.3% Pb, 1.0% Zn and 30 g/t Ag) and a carbonate horizon which is interpreted to be an exhalite. Reconnaissance mapping near mount Jacob has shown that the units intersected in MTJD18 can be traced along strike for about 3 km. It is recommended that the Mount Jacob area has considerable potential for massive sulphide mineralisation and should be the focus for future exploration activities in the EL.

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## 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 then 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 a moderately elevated plateau 500-600 metres high with a peripheral ridge formed by resistive rock types 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.

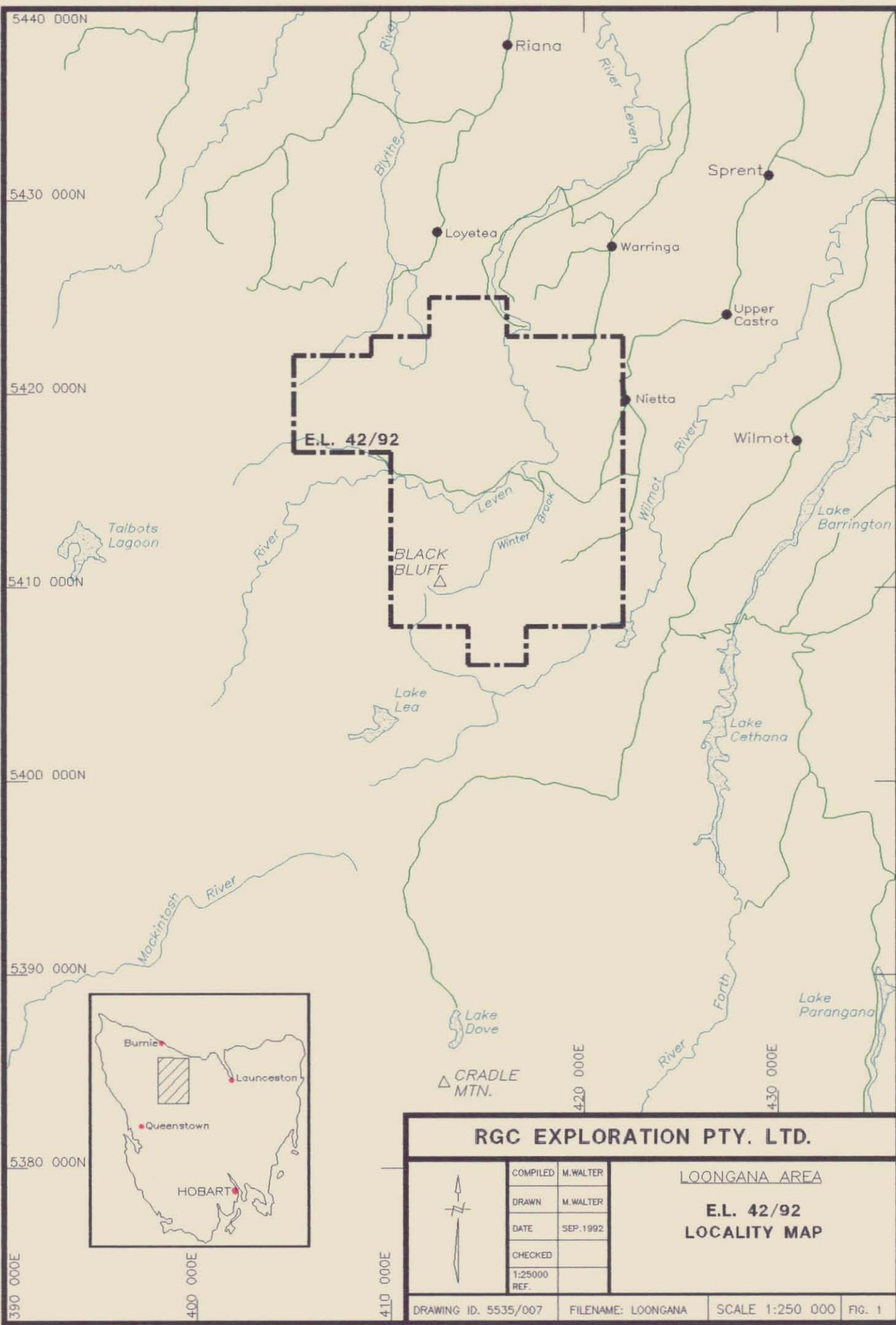
The EL was acquired to assess the potential for volcanic hosted massive sulphide (VHMS) mineralisation in the northern extension of the Mount Read Volcanic

## 2. 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 McHugh's Flats) and the 13 ha Jean Brook Forest Reserve have been excluded from the lease.

5 cm

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**RGC EXPLORATION PTY. LTD.**

LOONGANA AREA

**E.L. 42/92  
LOCALITY MAP**



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

### 3. PREVIOUS EXPLORATION

The previous exploration history of EL 42/92 prior to 1993 has been summarised in the Annual Report for May 1993 - May 1994 (Vicary, 1994).

In the period of May 1993 to April 1994, the exploration completed on EL 42/92 Loongana includes a literature review of previous exploration, image processing of the digital topographic data for the Loongana and Loyetea 1:25 000 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 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.

### 4. WORK COMPLETED

In the period May 1994 to April 1995 the exploration conducted with in EL 42/92 Loongana included:-

#### A) Leven Canyon Area

- 1) 1:10 000 Geological Mapping and Compilation,
- 2) Collection and assaying of 9 rock chip samples, and
- 3) Relogging of old CRAE drill holes from Crosby Creek (DD75CC1, CC2 and CC3).

#### B) Mount Jacob Area

- 1) 1:10 000 Geological Mapping and Compilation,
- 2) Collection and assaying of 25 rock chip samples,
- 3) Analysis of one sample for Pb-isotope determination, and
- 4) Relogging of old drill holes from Mount Jacob (MTJD18 and 19).

## 5. RESULTS AND DISCUSSION

### 5.1 REGIONAL GEOLOGY

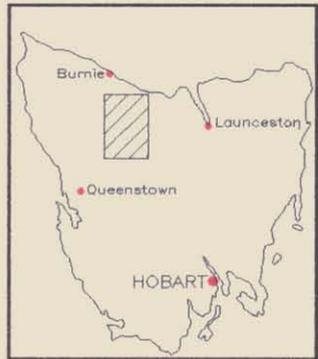
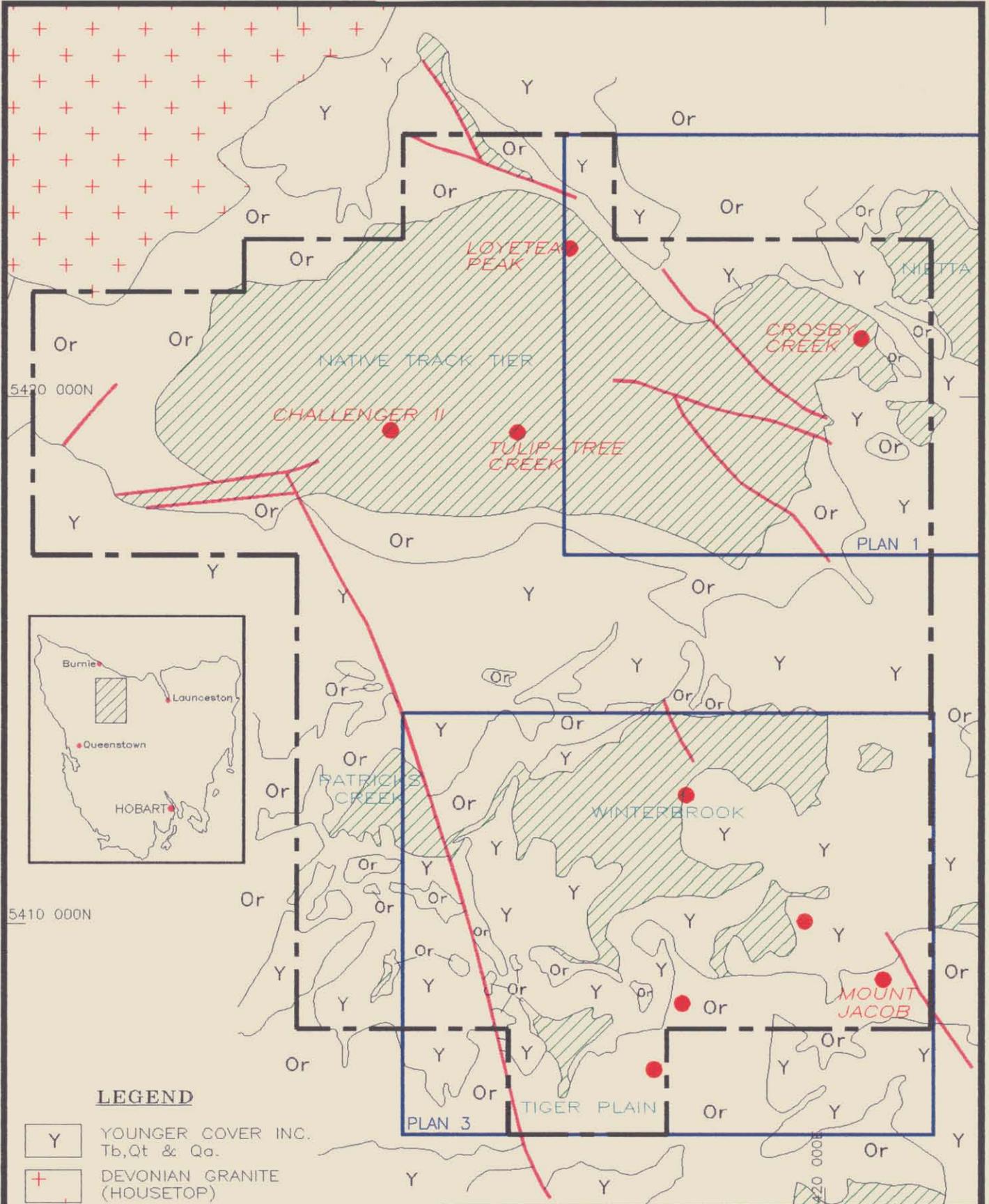
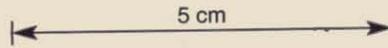
The regional geology of EL 41/92 is shown in figure 2. The interpretation is slightly modified from interpretations shown on the Mines Department Sheffield (Jennings et al, 1959) and St Valentines (Baillie et al, 1986) Geological Map Sheets. The oldest rocks exposed in the EL are Cambrian volcanics, 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 Husetop 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.

Mapping by CRA geologists (Caithness, (1986) - 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.

Recent Mapping in the Native Track Tier - Crosby Creek by RGC has distinguished two mappable formations. A sequence of feldspar phyric volcanoclastic sediments and interbedded dacite lava flows has been mapped in the Alstergren Road - Query Road area. A second sequence of feldspar - quartz phyric volcanoclastic sediments with intrusive andesite/microdiorite bodies occurs in the Crosby Creek - Misleven Road area. This sequence is relatively unmagnetic compared to the felspar rich sequence. The stratigraphic correlation of both sequence remains unresolved but a favoured correlate places the feldspar phyric sequence with the Central Volcanic Complex and the felspar - quartz phyric sequence with the Mount Charter Group.



**LEGEND**

- Y YOUNGER COVER INC. Tb, Qt & Qa.
- + DEVONIAN GRANITE (HOUSE TOP)
- Or ORDOVICIAN ROCKS
- / / / / CAMBRIAN ROCKS
- FAULTS
- PROSPECT

**RGCE EXPLORATION PTY. LTD.**

	COMPILED	M. VICARY	LOONGANA E.L. 42/92  <b>REGIONAL GEOLOGY</b>	
	DRAWN	M. WALTER		
	DATE	4/94		
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	1:25000 REF.			
DRAWING ID. 5535/006		FILENAME: LOONGEO	SCALE 1:100,000	FIG. 2

The Cambrian rocks exposed in the Winterbrook - Patricks Creek - Tiger Plains area are dominantly quartz - feldspar phyric volcanoclastic 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). They have a highly magnetic signature and are lithologically distinct from any Cambrian lithology recognised in the Native Track Tier.

## **5.2 LEVEN CANYON - CROSBY CREEK AREA**

### **5.2.1 Geological Mapping in the Leven Canyon**

The geology of the Leven Canyon - Watts Lookout area is presented on Plans 1 and 2. The geological interpretation is based on five days field mapping at 1:10 000 scale with additional information from Bamford and Green, 1988 and Virgoe, 1990.

In general, the Leven Canyon - Watts Lookout area consists of a core of Cambrian volcanics exposed within a major anticline, with limbs defined by elevated ridges of Owen Conglomerate. These ridges are commonly offset by a series of brittle NW trending faults. The Cambrian rocks behave less competently than the conglomerates and where these faults traverse areas of Cambrian rocks major displacements may not be apparent. A major zone of NW faulting is present in the Watts Lookout area and thrusting may be present.

The Owen Conglomerate is overlain by the Moina Sandstone and the Gordon Limestone in the Gunns Plains area. Large areas of Tertiary Basalt are present in the South Preston and South Nietta areas with silcrete locally developed at the contacts.

Two sequences of Cambrian rocks have been identified in the Native Track Tier area (Vicary, 1994) and can be recognised in the Leven Canyon. In the northern part of the gorge (ie. from the "Northern Gates" to about 500m North of the mouth of Tulip Tree Creek) a sequence of interbedded feldspar phyric volcanoclastic sandstones and well rounded granule - pebble volcanoclastic conglomerates outcrops. A unit of hematitic dacitic lava was also mapped. These rock types can be directly correlated with Cambrian volcanics mapped in the Alstergren - Query Road areas of the Native Track Tier area.

The middle and southern part of the Canyon is dominated by feldspar - (quartz) phyric volcanoclastic sandstones and interbedded ashy siltstones (Cvcq), with minor siliciclastic pebble - granule conglomerate (Cvccq). A large intrusive(?) body of medium grained andesite /microdiorite crops out in the Tulip Tree Creek area. This sequence is the along strike continuation of the rocks mapped in the upper parts of Tulip Tree Creek near Misleven Road. Bedding in this unit defines an east - west trending, east plunging anticline.

## 5.2.2 Geological Mapping in the Crosby Creek - Watts Lookout Area

Cambrian rocks crop out poorly in the Crosby Creek - Watts Lookout area and consist mainly of ashy siltstones with minor feldspar - (quartz) phyric volcanoclastic sandstones. Quartz-feldspar intrusives were mapped 1 km northwest of Watts Lookout, and andesite/microdiorite intrusives were logged in the drillholes at Crosby Creek (see Section 5.2.4) these rock can be correlated with the quartz phyric sequence present in the south of the Leven Canyon. Minor quartz - feldspar phyric lavas present in the Misleven Road area may be tentatively correlated with the quartz - feldspar phyric intrusive bodies 1 km north west of Watts Lookout.

## 5.2.3 Rock Chip Geochemistry

Nine rock chip samples were collected on a traverse from the Leven Canyon. They were analysed for Cu, Pb, Zn, Ag, Mn and Au and a suite of 28 elements by neutron activation analysis. The results are tabulated in Appendix 1. Preliminary treatment of the data suggests that these rockchip samples are similar to samples obtained from the Native Track Tier.

## 5.2.4 Relogging Old Drill Core

Three diamond drill holes were drilled at the Crosby Creek prospect by CRAE in 1975 to test soil geochemical anomalies. The holes only intersected minor Pb - Zn mineralisation in a black siltstone unit close to the contact with a massive (intrusive?) feldspar phyric medium grained andesite/microdiorite. The holes were relogged to aid regional correlation between the Crosby Creek and Native Track tier areas. Collar locations of DD75CC1, CC2 and CC3 are shown on Plan 1 and summary logs given in Appendix 3.

A medium grained feldspar phyric andesite/microdiorite unit is present in each of the three drill holes and is similar to bodies described from the Tulip Tree Creek area in the Native Track Tier (Vicary, 1994). These bodies are intrusive into an interbedded sequence of black siltstones, feldspar phyric volcanoclastic sediments and feldspar-quartz phyric volcanoclastic sediments. The presence of quartz phyric clastics supports a correlation with the Tulip Tree Creek sequence.

*Inter-hole correlation between CC1 and CC3 is excellent with both holes intersecting similar units of feldspar and feldspar-quartz phyric volcanoclastic sandstones with interbedded black siltstones.*

## 5.3 MOUNT JACOB AREA

### 5.3.1 1:10 000 Geological Mapping

Mount Jacob is a 800m high scrubby hill that forms part of the southern limb of the Winterbrook anticline. It is capped by about 30m of Owen Conglomerate which is overlain by the Moina Sandstone. Only the upper parts of the Owen Conglomerate are present, as are interbedded hematitic basalt flows up to 4m thick. On the northern slopes of Mount Jacob unconformably underlying the Owen is a sequence of dacitic to rhyolitic volcanoclastic sediments and lavas. These rocks form the core of the Winterbrook anticline and have been correlated with the Tyndall Group (Pemberton and Vicary, 1989). At several places near Mount Jacob sericitic feldspar phyric dacite lavas have been mapped. These are considered to be correlates of the Central Volcanic Complex and are the lowest stratigraphic unit exposed in the area. The Owen Conglomerate is transgressive over both the Central Volcanic Complex and the Tyndall Group. The contact between the Central Volcanics and the Tyndall Group has not been observed but mapping suggests that the contact is conformable. The geology of the Mount Jacob area is shown on Plan 3 and fact geology on Plan 4.

#### 5.3.1.1 Central Volcanic Complex

In the Mount Jacob area the Central Volcanic Complex (CVC) is represented by several fault bounded blocks of sericitic feldspar phyric lava. In general the CVC is a distinct mappable unit with an upper contact conformable with the overlying Tyndall Group. On the northern slopes of Mount Jacob, on Line 1300 mE of the old Mount Jacob grid there is apparent interbedding between the CVC and the Tyndall Group. Further mapping is required to determine whether this is due to sedimentological or structural complexities. Central Volcanic dacite lavas were intersected in drill hole MTJD19 (see section 5.5.3 and Appendix 5).

#### 5.3.1.2 Tyndall Group

The Tyndall Group in the Mount Jacob area can be divided into three main rock types:-

##### Dacite Lavas (Ctd)

Overlying the Central Volcanic Sequence is a unit of feldspar-hornblende-(quartz) phyric dacite/andesite - (rhyolite) lavas. They are generally massive but may have local flow banding and brecciation. They are best exposed in Drill hole MTJD 18 where they occur as massive lavas with thin interbedded horizons of ashy and carbonate bearing siltstones. A siderite-sphalerite-galena-quartz stockwork in this hole returned an assay of 16.5m at 1.3% Pb, 1.0% Zn and 30 g/t Ag.

##### Dacitic Volcaniclastics (Ctds)

Medium grained feldspar phyric volcanoclastic sandstones overlie the Tyndall Group dacites. They superficially resemble the lavas but can be distinguished by being relatively crystal rich.

### Rhyolitic Volcaniclastics (Ctcs)

Quartz-feldspar phyric volcaniclastic sediments are the highest stratigraphic unit exposed in the Mount Jacob area. They range from ashy siltstones to medium grained quartz-feldspar phyric volcaniclastic sandstones to well rounded pebble-cobble volcaniclastic conglomerates.

#### **5.3.2 Rock Chip Sampling**

Twenty five rock chip samples were collected from the Mount Jacob area to aid distinction between two lithological units - feldspar phyric lavas (possible CVC correlates and Tyndall Group feldspar-hornblende-(quartz) phyric dacites to rhyolite lavas. The following suite of elements has been measured:-

<b>LABORATORY</b>	<b>METHOD</b>	<b>ELEMENTS</b>
Analabs	AAS (GA101)	Cu,Pb,Zn
Becquerel	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

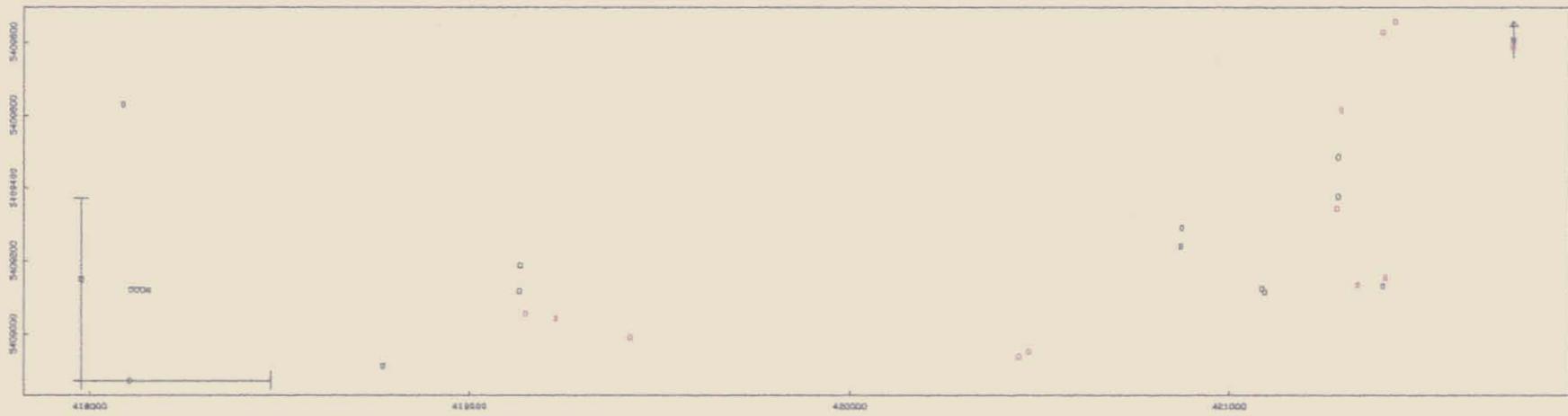
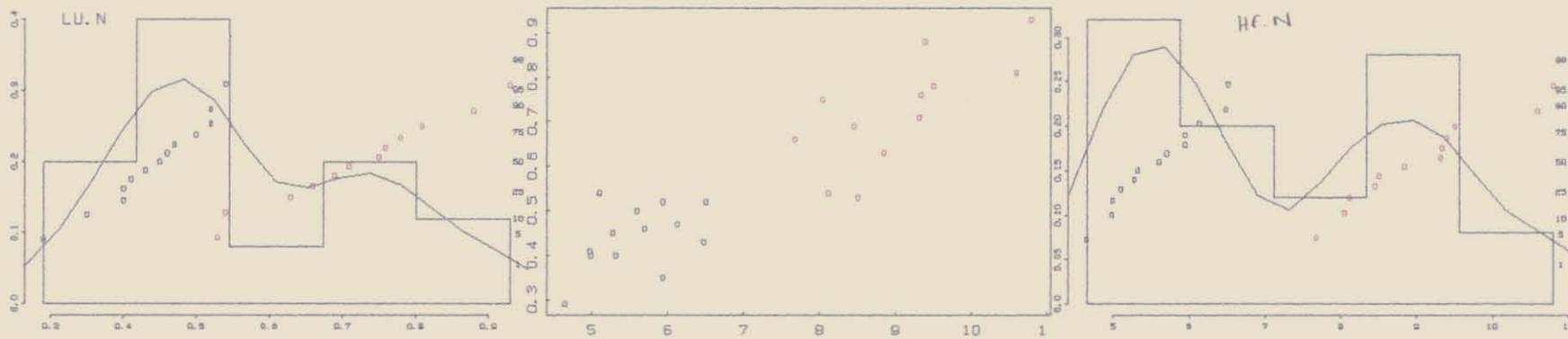
The results are tabulated in Appendix 1.

#### Cu, Pb, Zn, Au

The assays indicate that the rocks collected from the Mount Jacob area contain only low levels of base metal abundances with maximum values of 151 ppm Cu, 248 ppm Pb and 425 ppm Zn reported. Au was below the detection limit of 5 ppb.

#### Other Elements

The geochemical differences between the CVC lavas and the Tyndall Group lavas have been evaluated using RGC's Geochemical Analysis System (GAS) software. A plot of Lu vs Hf, (fig. 3) clearly differentiates two distinct geochemical suites. Other plots (eg. Hf vs Sc, La vs Ce, La vs Sm) show similar trends. The samples location are also shown on fig 3. The distribution of each suite can be seen to correspond to areas mapped as either CVC or Tyndall Group and thus confirms the geochemical subdivision. The slight intermixing of the two suites on the northeast slopes of Mount Jacob remains largely unexplained but may be the result of structural complications (ie. faulting).



5 cm

Figure 3.  
 TASMANIA 03/01/95 BETWEEN (geochem. sample Wed Apr 5 2:09:38 1995

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### 5.3.3 Drill hole relogging

Two diamond drill holes (MTJD 18 and 19) were drilled at Mount Jacob in 1977 by Comalco Limited and were relogged as part of the initial exploration phase in the Winterbrook area. Drill log are included in Appendix 4.

Drill hole MTJD18 was sited to test a combined Pb soil and chargeability high anomaly. The hole was collared in the Owen Conglomerate and intersected a thick sequence of dacitic lavas with some interbedded siltstones from 23.1 to 300.3m. The dacite is host to a zone of sphalerite - galena stockwork from 117.7 - 134.2m which assayed 16.5m at 1.3% Pb, 1.0% Zn and 30 g/t Ag. A unit of massive carbonate with reworked carbonate rich sediments is present from 265.4 - 272.1m and is interpreted to be an exhalite horizon. Other zones of reworked carbonates (distal exhalite horizons?) are present from 61.7 - 62.8m, 113.1 - 117.2m, 239.8 - 243.6m and 251.9 - 255.5m. A small fault was intersected at 300.3m after which the sequence intersected comprised pebble grade rhyolitic volcanoclastic conglomerate with minor rhyolitic lavas and siltstone. The stratigraphic position of the sequence is uncertain since no comparable volcanoclastic conglomerates were observed during field mapping, however the quartz phyric nature may suggest that it may be part of the overlying Cics unit and that the faulted contact may have a significant displacement. A summary log is included in Figure 4.

Drill hole MTJD19 was collared in the Owen Conglomerate and intersected a sequence of massive feldspar phyric lavas from 63.4 - 191.6m. Despite some zones of hematite stockwork, no sulphide mineralisation was intersected. The hole was drilled entirely within the Central Volcanic Complex.

### 5.3.4 Pb Isotope Result

One sample of a galena vein from drillhole MTJD18 was submitted for Pb isotope analysis by CSIRO. The result is tabulated in Appendix 5.

The sample (T40825) comes from a 0.5 - 1.0cm wide sphalerite - galena vein near a narrow zone (~50cm wide) of pyrite - sphalerite - galena veinlets associated with quartz - chlorite - siderite alteration. It is hosted by a feldspar - hornblende dacite lava. The vein is located at a depth of 186.1m and is about 60m stratigraphically higher than a zone of siderite - sphalerite - galena - quartz stockwork that occurs from 117.2 - 134.2m.

The Pb isotope result plot outside the best fit ellipsoids for Cambrian VHMS mineralisation at Rosebery, Que River and Hellyer (Appendix 5 and Figure 5a). Figure 5b tabulates Pb isotope data from a variety of northern Tasmanian prospects. The  $^{206}\text{Pb}/^{204}\text{Pb}$  ratio of 18.407 is clearly higher than the values for any of the known Cambrian deposits which are generally less than 18.300. Significantly the galena vein from Mount Jacob plots close to galena samples from Round Hill, a known Devonian deposit. Figure 5c compares sample T40825 with other Devonian prospects, and it can be seen that the  $^{206}\text{Pb}/^{204}\text{Pb}$  ratio for Queen Hill and Spray prospect is typically 18.5, higher than the ratio for T40825.

# RGC EXPLORATION PTY LTD

1990, Figure 4.  
**DRILL HOLE No** MTSD 18 SUMMARY

**SHEET** 1 **OF** 2

- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⚡ Breccia
- ▨ Broken core
- ▤ Disseminated
- Massive
- ▩ Pervasive
- ↘ Narrow vein
- \* Visible gold

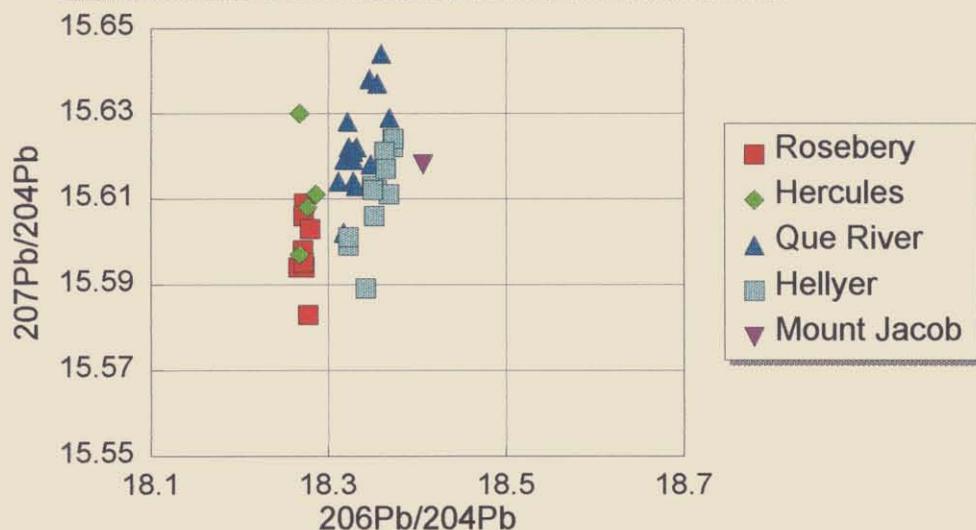
<b>PROJECT</b> : LOONBANA EL 42/92
<b>PROSPECT</b> : MOUNT JACOB
<b>DATE</b> :
<b>LOGGED BY</b> : MICHAEL VICARY

HOLE DEPTH	SAMPLE No PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION	GEOLOGY NOTES	SUMMARY		
							FORMATION	ROCK	ALTERATION
10					SIL. SER. PY.	0-1.0m granule-pebble siliceous cong 1.0-3.75 hematitic basalt lava 3.75-23.1 clast supported pink siliceous conglomerate	EOD	CG-SC	
20				F		23.1-29.0 hematitic dacitic lava?			
30				F		29.0-61.7 feldspar-ferromagnesian (Fm) pseudomorph phyrlic lava		LDF-	
40				F					
50				F					
60				F		61.7-62.8 Carbonate clast rich siltstone 62.8-113.1 feldspar-Fm phyrlic dacite lava.			LDFH
70				F					
80				F					
90				F					
100				F					
110				F					
120				F		113.1-117.2 carbonate clast rich siltstone 117.2-137.9 feldspar-Fm phyrlic dacite lava. Sil-sphal-gal-qtz stockwork indicated			LDFH
130				F					
140				F		137.9-140.7 Aphyric Dacite lava 140.7-163.6 feldspar-Fm phyrlic dacite lava.			LDFH
150				F					
160				F		163.6-165.1 Amygdaloidal Basalt Dyke 165.1-239.8 feldspar-Fm phyrlic dacite lava			LDFH
170				F					
180				F					
190				F					
200				F					

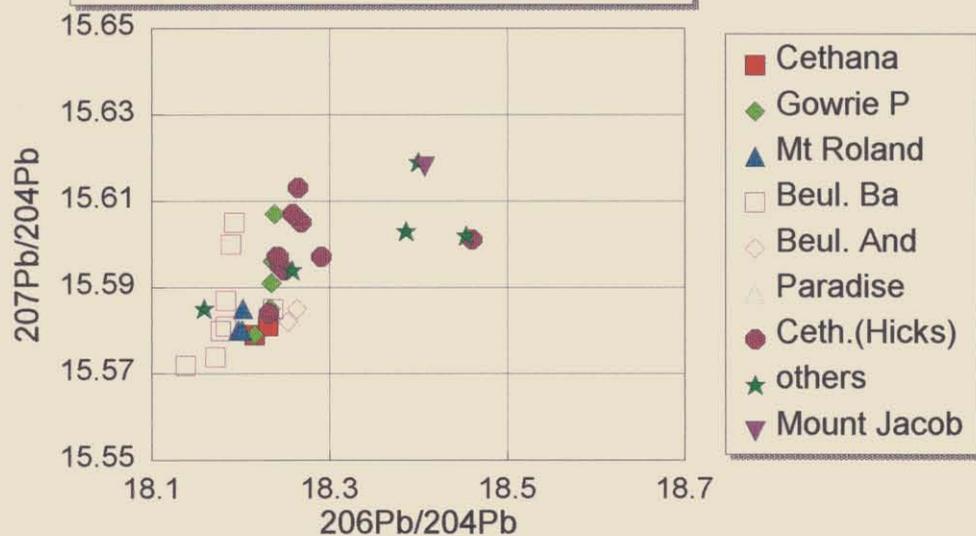
**REMARKS** 117.7-134.2m 16.5m @ 1.3% Pb, 1.0% Zn and 30 g/t Ag



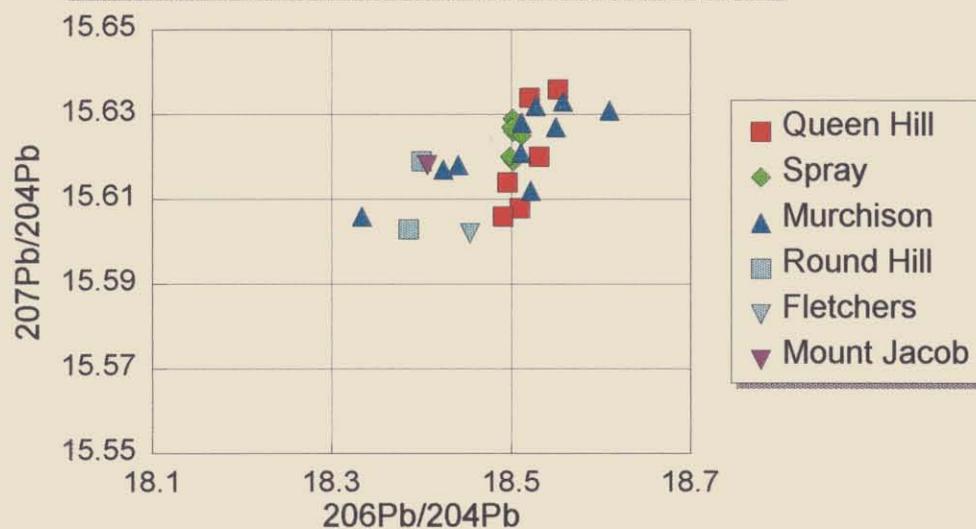
### 5a. Cambrian Pb-Isotopes



### 5b. N. Tas Pb-Isotopes



### 5c. Devonian Pb-Isotopes



On the basis of the  $^{206}\text{Pb}/^{204}\text{Pb}$  ratio for T40825 a Devonian mineralisation signature is most likely, however this value may not reflect the true isotopic signature of the Pb - Zn stockwork zone intersected in MTJD18. It is most likely that the vein sampled results from Devonian fluids being deposited close to the northern part of the Bismuth Creek Fault, an active Devonian mineralising structure. The presence of a Pb - Zn stockwork and carbonate exhalite horizons in MTJD18 provides good evidence of Cambrian mineralisation and makes the Mount Jacob area highly prospectuous for massive sulphide mineralisation.

## 6. RECOMMENDATIONS

Exploration by RGC within EL42/92 been based on reconnaissance geological mapping in the Native Track Tier - Crosby Creek and Mount Jacob areas. In the Native Track Tier - Crosby Creek area two mappable Cambrian sequences have been identified. One of these sequences contains numerous intrusive(?) bodies of andesite/microdiorite. Previous exploration by CRAE at Crosby Creek in the mid seventies drilled three soil anomalies adjacent to the contact of one such andesite intrusion. The results were unencouraging with only minor Pb-Zn mineralisation encountered. Recent mapping has shown that the sequence of volcanics extends westward into the Native Track Tier area, which has been the subject of detailed exploration by Geopeko, CRA, Billiton, Pasminco and others. In view of the lack of evidence for hydrothermal alteration in these rocks and the paucity of untested anomalies it is recommended that no further exploration of these rocks is warranted.

In the Winterbrook area, a potential exhalative horizon has been intersected in a diamond drillhole at Mount Jacob. Recent mapping has shown that the sequence of Cambrian rocks exposed on the northern slopes of Mount Jacob can be traced westward for about 3 km. It is recommended that further exploration in EL 42/92 should concentrate in the delineation of the potential exhalative horizon to the west of Mount Jacob. Exploration in the next twelve months will involve the development of a grid in the West Mount Jacob area. Additional exploration activities will consist of 1:1000 geological mapping, soil sampling and a ground magnetic survey. Any significant anomalies may be followed up by further geophysics and/or diamond drilling.

## REFERENCES

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### B) Additional References for Pb isotope plots

- Gulson, B.L and Porrit, P.M. 1987 Base Metal Exploration of the Mount Read Volcanics, Western Tasmania: Pt 2 Lead Isotope Signatures and Genetic Implications. Econ. Geol. V82, pp 291-307.
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**APPENDIX 1**

**Rock Chip Analyses**

RSC Exploration Pty Ltd  
 GEOCHEM Data Management System  
 Project: TASMANIA

Sample	True easting	True northing	Cu ppm ANALAB GA140	Pb ppm ANALAB GA140	Zn ppm ANALAB GA140	Ag_n ppm BECQUE INAA	As_n ppm BECQUE INAA	Au_n ppb BECQUE INAA	Ba_n ppm BECQUE INAA	Br_n ppm BECQUE INAA	Ce_n ppm BECQUE INAA	Co_n ppm BECQUE INAA	Cr_n ppm BECQUE INAA	Cs_n ppm BECQUE INAA	Eu_n ppm BECQUE INAA	Fe_n % BECQUE INAA30
40827	418087.04	5409630.41	12.000	-5.000	59.000	-5.000	2.620	-5.000	1530.000	-2.000	89.000	19.500	6.040	1.750	4.770	
40828	417976.75	5409151.52	12.000	10.000	36.000	-5.000	3.940	-5.000	400.000	-2.000	40.200	11.400	1.340	0.920	3.720	
40829	418104.74	5408872.77	5.000	-5.000	26.000	-5.000	2.630	-5.000	1170.000	-2.000	47.400	5.650	14.200	0.600	2.750	
40830	418129.87	5409118.92	10.000	-5.000	117.000	-5.000	1.860	-5.000	1230.000	4.760	79.500	16.700	4.480	1.600	5.470	
40831	419133.33	5409188.91	19.000	70.000	189.000	-5.000	2.010	-5.000	904.000	12.000	65.700	20.600	3.470	1.050	5.360	
40832	419147.00	5409056.26	7.000	18.000	72.000	-5.000	3.530	-5.000	915.000	10.200	136.000	1.350	4.170	1.720	2.620	
40833	419227.44	5409042.34	6.000	26.000	86.000	-5.000	11.300	-5.000	2110.000	-2.000	147.000	4.460	4.740	2.000	2.560	
40834	419423.62	5408990.62	6.000	6.000	20.000	-5.000	3.120	-5.000	1690.000	-2.000	96.100	1.490	7.150	1.320	2.700	
40835	418772.65	5408913.97	7.000	45.000	284.000	-5.000	2.500	-5.000	1310.000	4.220	54.900	15.000	4.490	1.120	5.550	
40836	420472.35	5408952.30	5.000	10.000	17.000	-5.000	3.760	-5.000	724.000	-2.000	65.900	3.360	9.790	1.330	3.140	
40837	420447.38	5408938.81	6.000	6.000	26.000	-5.000	3.450	-5.000	784.000	-2.000	197.000	-1.000	4.980	2.310	2.360	
40838	420872.05	5409242.83	12.000	15.000	96.000	-5.000	6.650	-5.000	1550.000	2.790	81.100	11.600	2.480	1.070	3.720	
40839	420874.73	5409292.08	11.000	248.000	425.000	-5.000	3.440	-5.000	1490.000	-2.000	79.800	15.500	1.610	1.440	4.530	
40840	421085.63	5409125.04	6.000	31.000	11.000	-5.000	4.860	-5.000	328.000	3.720	76.800	2.500	6.280	1.250	4.400	
40841	421092.62	5409116.62	6.000	49.000	9.000	-5.000	6.610	-5.000	266.000	5.400	57.800	1.050	3.640	1.090	3.660	
40842	421412.23	5409155.72	22.000	6.000	18.000	-5.000	6.600	-5.000	751.000	-2.000	103.000	1.330	9.420	1.790	3.510	
40843	421404.60	5409133.38	7.000	-5.000	9.000	-5.000	7.570	-5.000	477.000	-2.000	85.100	2.860	5.640	1.650	5.670	
40844	421284.78	5409344.31	7.000	-5.000	15.000	-5.000	-1.000	-5.000	739.000	-2.000	122.000	1.700	8.300	1.930	1.550	
40845	421338.87	5409135.49	7.000	-5.000	31.000	-5.000	4.100	-5.000	1150.000	-2.000	62.600	1.590	9.810	1.930	3.910	
40846	421287.57	5409378.19	6.000	-5.000	55.000	-5.000	1.270	-5.000	992.000	-2.000	79.000	12.500	6.220	1.630	4.040	
40847	421287.48	5409485.53	10.000	-5.000	53.000	-5.000	1.090	-5.000	1370.000	-2.000	105.000	4.970	2.030	1.170	2.500	
40848	421296.35	5409615.53	6.000	-5.000	25.000	-5.000	1.120	-5.000	728.000	-2.000	129.000	3.360	12.000	2.210	2.270	
40849	421437.91	5409657.56	26.000	14.000	160.000	-5.000	3.510	-5.000	789.000	5.270	95.100	17.000	6.280	2.230	3.340	
40850	421405.60	5409828.10	151.000	15.000	112.000	-5.000	3.000	-5.000	1240.000	-2.000	118.000	4.110	12.500	1.730	3.310	
40851	421749.96	5409787.78	11.000	-5.000	12.000	-5.000	3.020	-5.000	513.000	-2.000	127.000	-1.000	4.950	2.460	2.800	
40853	415640.00	5423115.00	5.000	-5.000	50.000	-5.000	3.110	-5.000	3200.000	-2.000	132.000	7.920	-5.000	7.260	1.600	
40854	416015.00	5421690.00	27.000	-5.000	61.000	-5.000	6.400	-5.000	1220.000	-2.000	69.900	10.200	-5.000	4.160	1.530	
40855	416255.00	5421300.00	8.000	-5.000	163.000	-5.000	1.970	-5.000	1810.000	3.530	73.900	12.000	-5.000	1.590	5.770	
40856	418110.00	5417160.00	12.000	12.000	165.000	-5.000	2.230	-5.000	783.000	-2.000	65.400	15.600	8.580	1.450	5.730	
40857	418165.00	5417425.00	9.000	18.000	100.000	-5.000	13.000	-5.000	919.000	2.660	93.000	34.400	-5.000	7.310	1.840	
40858	418170.00	5417530.00	17.000	9.000	326.000	-5.000	-1.000	-5.000	1110.000	2.820	53.300	34.900	104.000	2.100	6.690	
40859	417610.00	5418310.00	-4.000	-5.000	121.000	-5.000	1.060	-5.000	395.000	3.450	39.400	20.100	18.900	2.020	0.870	
40861	416900.00	5420100.00	-4.000	-5.000	209.000	-5.000	-1.000	-5.000	1570.000	4.590	39.100	15.700	6.900	6.440	1.000	
40862	416955.00	5420135.00	-4.000	67.000	198.000	-5.000	-1.000	-5.000	1980.000	3.110	45.600	22.300	6.600	2.450	5.740	

Laboratory:	ANALAB	ANALAB	ANALAB	BECQUE											
Detection Limit:	5.000	5.000	5.000	5.000	2.000	5.000	100.00	2.000	2.000	2.000	1.000	5.000	1.000	0.500	0.050
Method:															

799023

RGC Exploration Pty Ltd  
 GEOCHEM Data Management System  
 Project: TASMANIA

Sample	True easting	True northing	Hf_n ppm BECQUE INAA	Ir_n ppb BECQUE INAA	K_n % BECQUE INAA30	La_n ppm BECQUE INAA	Lu_n ppm BECQUE INAA	Mo_n ppm BECQUE INAA	Na_n % BECQUE INAA30	Rb_n ppm BECQUE INAA	Sb_n ppm BECQUE INAA	Sc_n ppm BECQUE INAA	Se_n ppm BECQUE INAA	Sm_n ppm BECQUE INAA	Sn_n ppm BECQUE INAA	Ta_n ppm BECQUE INAA
40827	418887.04	5409630.41	4.990	-20.000	2.790	45.800	0.400	-5.000	1.810	123.000	0.580	20.200	-5.000	8.780	-500.000	-1.000
40828	417976.75	5409151.52	4.980	-20.000	0.410	19.300	0.410	-5.000	3.850	-20.000	1.130	23.000	-5.000	4.070	-500.000	3.420
40829	416104.74	5408872.77	5.700	-20.000	4.390	21.700	0.460	-5.000	0.082	161.000	1.150	23.700	-5.000	4.890	-500.000	1.110
40830	419129.87	5409118.82	6.130	-20.000	2.390	38.200	0.470	-5.000	0.711	108.000	0.750	24.000	-5.000	7.210	-500.000	1.900
40831	419133.93	5409188.31	6.480	-20.000	1.450	32.000	0.430	-5.000	0.016	71.300	0.970	24.100	-5.000	4.980	-500.000	1.840
40832	419147.00	5409056.26	9.510	-20.000	1.790	65.800	0.790	-5.000	0.482	87.100	0.970	12.000	-5.000	12.400	-500.000	2.330
40833	419227.44	5408042.34	8.850	-20.000	1.590	81.500	0.630	-5.000	0.183	52.400	3.380	11.600	-5.000	14.000	-500.000	2.170
40834	419423.62	5408990.62	6.510	-20.000	3.300	41.000	0.530	-5.000	0.028	141.000	1.640	10.500	-5.000	8.290	-500.000	1.200
40835	418772.65	5408913.97	6.510	-20.000	3.040	26.800	0.520	-5.000	0.640	130.000	0.890	23.200	-5.000	5.020	-500.000	1.390
40836	420472.35	5408952.30	7.680	-20.000	3.150	36.500	0.660	-5.000	0.065	116.000	2.000	9.400	-5.000	7.960	-500.000	1.320
40837	420447.38	5408938.81	8.120	-20.000	3.320	100.000	0.540	-5.000	0.100	100.000	3.170	10.200	-5.000	17.100	-500.000	-1.000
40838	420872.05	5409242.83	5.500	-20.000	2.300	38.800	0.500	-5.000	1.960	81.800	0.650	16.600	-5.000	6.180	-500.000	2.160
40839	420874.73	5409232.08	5.200	-20.000	2.470	39.300	0.450	-5.000	2.450	67.800	-0.200	22.800	-5.000	7.440	-500.000	2.340
40840	421085.63	5409125.04	5.940	-20.000	3.700	39.200	0.350	-5.000	0.087	111.000	1.700	24.200	-5.000	7.310	-500.000	1.130
40841	421092.62	5409116.62	5.320	-20.000	3.400	24.600	0.400	-5.000	0.076	89.900	6.860	18.200	-5.000	5.160	-500.000	1.210
40842	421412.23	5409155.72	9.320	-20.000	3.870	50.900	0.710	-5.000	0.072	169.000	1.560	12.700	-5.000	9.630	-500.000	1.750
40843	421404.80	5409133.38	4.850	-20.000	2.980	43.300	0.290	-5.000	0.080	100.000	3.820	14.700	-5.000	6.730	-500.000	-1.000
40844	421284.78	5409344.31	9.340	-20.000	3.340	62.800	0.760	-5.000	0.402	147.000	0.690	12.000	-5.000	11.600	-500.000	1.110
40845	421398.97	5409135.49	10.600	-20.000	4.440	26.800	0.810	-5.000	0.057	168.000	7.700	18.900	-5.000	8.390	-500.000	1.520
40846	421287.57	5409378.19	5.940	-20.000	2.440	40.200	0.520	-5.000	1.610	32.100	0.380	23.600	-5.000	7.640	-500.000	2.250
40847	421287.42	5409485.59	5.100	-20.000	3.030	62.800	0.540	-5.000	2.810	95.600	0.570	10.100	-5.000	8.690	-500.000	3.360
40848	421296.35	5409615.58	9.400	-20.000	4.040	67.200	0.880	-5.000	0.080	187.000	0.770	12.700	-5.000	12.700	-500.000	1.600
40849	421437.91	5409857.56	8.050	-20.000	2.550	46.100	0.750	-5.000	1.480	106.000	0.960	26.000	-5.000	12.300	-500.000	2.300
40850	421405.60	5409923.10	10.800	-20.000	3.720	61.100	0.930	-5.000	3.372	167.000	1.630	15.800	-5.000	10.600	-500.000	1.330
40851	421749.96	5409787.78	8.460	-20.000	3.680	54.900	0.690	-5.000	0.050	157.000	3.160	11.300	-5.000	16.000	-500.000	1.150

Laboratory:	BECQUE														
Detection Limit:	1.000	0.300	0.200	0.500	0.200	0.000	0.050	0.000	0.000	0.200	5.000	5.000	0.200	500.00	1.000
Method:															

799024

Sample	True easting	True northing	Th_n ppm BECQUE INAA	U_n ppm BECQUE INAA3	V_n ppm BECQUE INAA3	Yb_n ppm BECQUE INAA	Zn_n ppm BECQUE INAA	BECQUE Zr upmINAA30
40827	418087.04	5409630.41	11.200	-2.000	-2.000	3.060	142.000	-500.000
40828	417976.75	5409151.52	10.700	3.200	-2.000	2.840	109.000	-500.000
40829	418104.74	5408872.77	12.600	2.070	-2.000	2.840	-100.000	-500.000
40830	418129.87	5409118.92	13.300	-2.000	-2.000	2.770	196.000	-500.000
40831	419139.30	5409189.31	16.400	2.920	-2.000	2.740	249.000	-500.000
40832	419147.00	5409056.26	25.200	4.950	-2.000	5.130	122.000	-500.000
40833	419227.44	5409042.34	23.000	3.010	-2.000	4.400	117.000	-500.000
40834	419423.62	5408980.62	21.600	3.090	3.130	3.280	-100.000	-500.000
40835	418772.65	5408913.97	16.000	-2.000	-2.000	3.390	369.000	-500.000
40836	420472.35	5408952.30	18.200	2.400	2.040	4.210	-100.000	-500.000
40837	420447.38	5408938.81	20.700	-2.000	-2.000	3.690	-100.000	-500.000
40838	420072.05	5408242.83	16.500	3.400	-2.000	3.070	168.000	-500.000
40839	420874.73	5409292.08	11.500	-2.000	-2.000	3.060	520.000	-500.000
40840	421085.69	5409125.04	13.500	-2.000	-2.000	2.560	-100.000	-500.000
40841	421092.62	5409116.62	11.700	-2.000	-2.000	2.650	-100.000	-500.000
40842	421412.23	5409155.72	21.300	2.850	-2.000	4.490	-100.000	-500.000
40843	421404.80	5409133.38	9.900	-2.000	-2.000	1.880	-100.000	-500.000
40844	421284.78	5409344.31	21.200	4.290	-2.000	4.870	-100.000	-500.000
40845	421338.87	5409135.49	21.700	4.120	-2.000	5.230	-100.000	597.000
40846	421287.57	5409378.13	12.600	-2.000	-2.000	3.390	141.000	-500.000
40847	421287.48	5409485.59	19.900	2.410	-2.000	3.680	129.000	-500.000
40848	421296.35	5409615.59	23.300	3.790	-2.000	5.570	-100.000	-500.000
40849	421437.31	5409857.56	19.500	-2.000	-2.000	4.720	246.000	-500.000
40850	421405.60	5409828.10	26.900	6.690	-2.000	5.910	160.000	673.000
40851	421749.96	5409787.78	21.000	3.000	-2.000	5.180	-100.000	-500.000

Laboratory: BECQUE BECQUE BECQUE BECQUE BECQUE BECQUE  
 Detection Limit: 0.500 2.000 2.000 0.500 100.00 100.00  
 Method: INAA30 INAA30

799025

RGC Exploration Pty Ltd  
 GEOCHEM Data Management System  
 Project: TASMANTIA

Sample	True easting	True northing	Cu ppm ANALAB GA14C	Pb ppm ANALAB GA140	Zn ppm ANALAB GA140	Ag_n ppm BECQUE INAA	As_n ppm BECQUE INAA	Au_n ppb BECQUE INAA	Ba_n ppm BECQUE INAA	Br_n ppm BECQUE INAA	Ce_n ppm BECQUE INAA	Co_n ppm BECQUE INAA	Cr_n ppm BECQUE INAA	Cs_n ppm BECQUE INAA	Eu_n ppm BECQUE INAA	Fe_n % BECQUE INAA30
40853	415640.00	5423115.00	5.000	-5.000	50.000	-5.000	3.110	-5.000	3200.000	-2.000	132.000	7.920	-5.000	7.260	1.600	2.620
40854	416015.00	5421690.00	27.000	-5.000	61.000	-5.000	6.400	-5.000	1220.000	-2.000	69.900	10.200	-5.000	4.160	1.530	5.170
40855	416255.00	5421800.00	8.000	-5.000	163.000	-5.000	1.970	-5.000	1810.000	3.590	73.800	12.000	-5.000	1.580	1.570	5.770
40856	418110.00	5417160.00	12.000	12.000	165.000	-5.000	2.230	-5.000	783.000	-2.000	65.400	15.600	9.700	8.580	1.450	5.730
40857	418165.00	5417425.00	9.000	18.000	100.000	-5.000	13.000	-5.000	919.000	2.660	93.000	34.400	-5.000	7.310	1.840	7.300
40859	418170.00	5417530.00	17.000	9.000	325.000	-5.000	-1.000	-5.000	1110.000	2.820	53.300	34.900	104.000	2.100	1.440	6.690
40859	417810.00	5418310.00	-4.000	-5.000	121.000	-5.000	1.060	-5.000	355.000	3.450	39.400	20.100	18.800	2.020	0.870	5.370
40861	416900.00	5420100.00	-4.000	-5.000	203.000	-5.000	-1.000	-5.000	1570.000	4.560	39.100	15.700	6.800	6.440	1.000	4.730
40862	416955.00	5420135.00	-4.000	67.000	198.000	-5.000	-1.000	-5.000	1980.000	3.110	45.600	22.900	6.600	2.450	0.760	5.740

Laboratory:	ANALAB	ANALAB	ANALAB	BECQUE											
Detection Limit:	5.000	5.000	5.000	5.000	2.000	5.000	100.00	2.000	2.000	1.000	5.000	1.000	0.500	0.050	
Method:															

709026

RGC Exploration Pty Ltd  
 GEOCHEM Data Management System  
 Project: TASMANIA

Sample	True easting	True northing	Hf_n ppm BECQUE INAA	Ir_n ppb BECQUE INAA	K_n % BECQUE INAA30	La_n ppm BECQUE INAA	Lu_n ppm BECQUE INAA	Mo_n ppm BECQUE INAA	Na_n % BECQUE INAA30	Rb_n ppm BECQUE INAA	Sb_n ppm BECQUE INAA	Sc_n ppm BECQUE INAA	Se_n ppm BECQUE INAA	Sm_n ppm BECQUE INAA	Sr_n ppm BECQUE INAA	Ta_n ppm BECQUE INAA
40853	415640.00	5429115.00	7.360	-20.000	5.870	62.800	0.690	-5.000	0.057	316.000	7.920	9.330	-5.000	9.760		1.380
40854	416015.00	5421690.00	3.720	-20.000	2.700	32.000	0.480	-5.000	2.750	86.400	0.560	13.600	-5.000	7.470		1.050
40855	416255.00	5421300.00	5.240	-20.000	3.670	35.800	0.550	-5.000	2.610	126.000	0.330	15.100	-5.000	7.850		1.500
40856	418110.00	5417160.00	4.090	-20.000	3.500	32.000	0.470	-5.000	0.084	191.000	1.860	16.800	-5.000	6.480		-1.000
40857	418165.00	5417425.00	4.530	-20.000	3.690	44.100	0.620	-5.000	0.465	167.000	2.660	16.200	-5.000	8.120		-1.000
40858	418170.00	5417530.00	3.270	-20.000	1.080	28.200	0.410	-5.000	3.650	-20.000	0.500	27.300	-5.000	6.200		2.160
40859	417610.00	5418310.00	2.700	-20.000	0.570	20.400	0.290	-5.000	5.020	42.700	0.660	14.200	-5.000	3.740		2.420
40861	416900.00	5420100.00	3.300	-20.000	3.010	16.800	0.320	-5.000	3.570	130.000	-0.200	14.400	-5.000	4.770		2.920
40862	416955.00	5420135.00	3.620	-20.000	3.960	20.000	0.380	-5.000	2.860	145.000	0.290	14.900	-5.000	4.700		1.370

Laboratory:	BECQUE															
Detection Limit:	1.000	0.000	0.200	0.500	0.200	5.000	0.050	0.000	0.200	5.000	5.000	0.200	500.00	1.000		
Method:																

789027

Sample	True easting	True northing	Th_n ppm BECQUE INAA	U_n ppm BECQUE INAA3	W_n ppm BECQUE INAA3	Vb_n ppm BECQUE INAA	Zn_n ppm BECQUE INAA	BECQUE Zr ppmINAA30
40853	418640.00	5423115.00	20.900	4.750	-2.000	4.430	104.000	
40854	416015.00	5421690.00	9.010	-2.000	-2.000	3.060	-100.000	
40855	416255.00	5421300.00	12.100	-2.000	-2.000	3.570	236.000	
40856	418110.00	5417180.00	9.620	2.520	-2.000	3.360	229.000	
40857	418165.00	5417425.00	12.100	2.060	-2.000	4.090	158.000	
40858	418170.00	5417530.00	6.730	2.290	-2.000	2.780	443.000	
40859	417810.00	5418910.00	5.320	-2.000	-2.000	2.150	192.000	
40861	416900.00	5420100.00	7.070	2.560	-2.000	2.410	286.000	
40862	416955.00	5420135.00	7.160	-2.000	-2.000	2.460	270.000	

Laboratory:	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE	BECQUE
Detection Limit:	0.500	2.000	2.000	0.500	100.00	100.00
Method:						INAA30

799028

**APPENDIX 2**

**Symbols and Codes used in Drill Logs**

## SYMBOLS FOR COHERENT TEXTURES

- single line symbols for low to moderate phenocryst abundance
- double line symbols for abundant phenocrysts
- smaller symbols for fine grained phenocrysts
- larger symbols for coarse grained phenocrysts
- additional "+" symbol for coarse, phenocryst-rich granitoid texture

	basalt, poorly to moderately porphyritic basalt
	phenocryst-rich basalt
	andesite, poorly to moderately porphyritic andesite
	phenocryst-rich andesite
	dacite, poorly to moderately porphyritic dacite
	phenocryst-rich dacite
	fine, poorly to moderately porphyritic rhyolite
	coarse, poorly to moderately porphyritic rhyolite
	coarse, phenocryst-rich rhyolite
	coarse rhyolitic porphyry
	flow foliation
	spherulites, lithophysae, alteration spots, nodular devitrification texture

## SYMBOLS FOR VOLCANICLASTIC TEXTURES

- closer spaced symbols for dominant grain size and grain type

	pumice or relict pumice
	angular, juvenile lava clasts
	fiamme/vitriclast or relict vitriclast
	accretionary lapilli
	angular, polymict lithic clasts
	rounded, polymict lithic clasts
	mudstone intraclast
	sand-size particles, granular texture
	mud-size particles
	distinct planar stratification
	diffuse planar stratification
	cross bedding
	micro-cross lamination
e.g.	
	pumice clasts in sand matrix
	angular polymict lithic clasts and mudstone intraclasts in sand matrix

## SYMBOLS FOR JUVENILE-CLAST-RICH DEPOSITS

	jigsaw-fit texture of fine, moderately porphyritic rhyolite		pumice-clast-rich deposit, coarse, moderately porphyritic rhyolitic composition
	jigsaw-fit texture of coarse, moderately porphyritic rhyolite		pumice-clast-rich deposit, coarse, phenocryst-rich rhyolitic composition
	jigsaw-fit texture of coarse phenocryst-rich andesite		pumice-clast-rich deposit, coarse, moderately porphyritic dacitic composition

Fig. 9—Recommended composition and texture symbols for graphic logging of volcanic deposits.

(From:— McPhie, Doyle and Allen. CODES 1993)

ROCK TYPE:

ALTO	Altered Rock	GLM	Gneiss	QZT	Quartzite
ALCH	Arenite	HOL	Hornfels	SAN	Sandstone
ALLD	Arenite, Laminar	LSY	Limestone	SCS	Schist
ALLI	Arenite, Lentic	LXP	Lamprophyre	SMZ	Small-Massive Sulphide
ALRS	Arenite	LXS	Limestone	SRP	Serpentinized
BRC	Breccia	LXC	Lithoclasts	SHL	Shale
BRPH	Polymict Breccia	MSG	Massive Graphite	SIL	Siltstone
CAR	Carbonate	MSY	Massive Pyrite	SIS	Siltstone with shale
CHC	Chert	MSL	Massive Sulphide	SKA	Slate
CLAY	Clay (unconsolidated)	MSX	Massive Sulphide	SLA	Slate
CONG	Conglomerate	REL	Relique	STR	Structural Measurement (alt. STR)
CGPH	Polymict Conglomerate	RDS	Rods	TLL	Glacial Till
CGSC	Siliciclastic Congl.	RTL	Rock	TLL	Tillite
CLGS	Core Loss	STL	Stylonite	TSL	Tschermakite
BOLK	Bolusite	HVC	Ho core (precollari)	GLY	Glycolite
FALT	Fault	PBS	Pebbly Sandstone	VOL	Volcanic
FBR	Fault Breccia				
FSS	Fault/Shear Zone				

Volcanic Rocks

K	Spiclastic			<u>Trappies</u>	
L	Lava			VOL	Volcanic Lava & Volcaniclastic
P	Porphyry		TYPE	VBL	Blocky Volcaniclastic
VO	Volcanic (General)			VAC	Coarse Grained Volcaniclastic
T	Volcaniclastic			VDR	Sandy Saccate Volcaniclastic
				VS	Silty Volcaniclastic
				VS	Shaley Volcaniclastic
A	Andesitic			VST	Volcanic fine-grained Volcaniclastic
B	Basaltic			VSP	Volcaniclastic & Spiclastic
G	Gabbroic			VAB	Andesitic Volcaniclastic Breccia
ZL	Zelazic		COMPOSITION	VQZ	Quartz-Feldspar Phytic Volcanic
NA	Nafic			LPZ	Feldspar-Phytic Rhyolitic Lava
L	Lafic			QZ	Quartz-Feldspar Phytic Porphyry
V	Ultrabasic				
Z	Zirconal-rich			VZ	Volcanic IL-rich Volcaniclastic
P	Feldspar Phytic			VQZ	Quartz-Feld. Phytic IL-rich Volcaniclastic
QZ	Quartz-Feldspar Phytic		CRYSTAL TYPE	SLC	Coarse IL-rich Andesitic Spiclastic
Q	Quartz Phytic			SZ	Sandy IL-rich Spiclastic
				SZ	Silty IL-rich Spiclastic
BL	Blocky				
BR	Breccia			SLA/	Volcaniclastic Spiclastic
C	Course			SLC	Blocky Spiclastic
K	Kodrus (Sandy)		GRAINSIZE	SC	Coarse Spiclastic
S	Silt (Silty)			SD	Sandy Saccate Spiclastic
S	Very fine (Shaley)			SL	Silty Spiclastic
				SL	Shaley Saccate Spiclastic
I	Undifferentiated				

**TYPE**

- U - Volcanic (general)
- V - Volcaniclastic
- E - Epiclastic
- L - Lava
- I - Intrusive
- P - Porphyry

**COMPOSITION**

- R - Rhyolite
- Y - Rhyodacite
- D - Dacite
- A - Andesite
- B - Basaltic
- F - Felsic
- M - Mafic
- U - Ultramafic

**CRYSTAL TYPE**

- X - Crystal rich
- A - Aphyric
- F - Feldspar phyric
- < - Feldspar - quartz phyric
- > - Quartz - feldspar phyric
- Q - Quartz phyric
- H - Hornblende phyric
- P - Pyroxene phyric
- B - Biotite phyric
- V - Vitric/glassy
- L - Lithic rich

**GRAINSIZE**

- B - Breccia
- C - Coarse
- M - Medium (Sandy)
- F - Fine (Silty)
- V - Very fine (Shaley)
- A - Ashy
- / - Undifferentiated

**ALTERATION**

- P - Pyrite
- \$ - Mineralised
- Q - Quartz
- O - Chlorite
- C - Carbonate
- H - Hematite
- S - Sericite
- K - K feldspar
- A - Albite
- E - Epidote
- F - Fuchsite
- M - Magnetite

N - Scale

- 1 - Very Weak
- 3 - Weak
- 5 - Moderate
- 7 - Strong
- 9 - Intense

**APPENDIX 3****Diamond Drill Logs - Crosby Creek Area**



- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⚡ Breccia
- ▨ Broken core
- ▤ Disseminated
- Massive
- ▩ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :	Loongana
PROSPECT :	Crosby Creek
DATE :	March 1995
LOGGED BY :	Michael Vicary

799035

HOLE DEPTH	SAMPLE No PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION	GEOLOGY NOTES	SUMMARY	
							ROCK	ALTERATION
10				NO CORE				
20				^		10-111m		
30				^		Magr Kf rich feld phytic Andesite (equigranular)		
40				^				
50				^				
60				^		minor hm veins		
70				^				
80				^				
90				^				
100				^		minor hm veins		
110				^				
120	Sample 20			* ▨		111-133.5 blk sfts + minor pyrite-sphalerite veining		
130				▨				
140				▨		133.5-151.8 Brecciated feld phytic dacite etc sst		
150				▨				
160				▨		151.8-201.8		
170				▨		blk sfts, minor magr feld etc sst		
180				▨				
190				▨				
200				▨				
REMARKS		* Best interval 119.5-120.7 1.2m at 1.16% Zn, 0.31% Pb						

# RGC EXPLORATION PTY LTD

DRILL HOLE No DD75 EE1

SHEET 2 OF 2

- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⚡ Breccia
- ⊞ Broken core
- ⋯ Disseminated
- Massive
- ▨ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :	Loongana
PROSPECT :	Crosby Creek
DATE :	March 1995
LOGGED BY :	Michael Vicary

799036

HOLE DEPTH	SAMPLE No PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION			GEOLOGY NOTES	SUMMARY	
					SIL.	SER.	PT.		ROCK	ALTERATION
210 220 230 240 250 260 270 280 290 300								201.8 - 263.0 M-F gr. feld-qtz phytic volcanoclastic est  Qtz up to 3mm in diam. patchy chl-pak albic alteration - a bit like Comstock Tuff  263.0 - 204 f-m gr. ashly volcanoclastic est/silt - minor blk silt		
				EOL = 29.3						
REMARKS										



# RGC EXPLORATION PTY LTD

DRILL HOLE No DD75 CC2

SHEET 1 OF 1

- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⚡ Breccia
- ▨ Broken core
- ▤ Disseminated
- Massive
- ▩ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :	LOONGANA
PROSPECT :	CROSBY CREEK
DATE :	MARCH 1995
LOGGED BY :	MICHAEL VICARY

799038

HOLE DEPTH	SAMPLE NO PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG							ALTERATION	GEOLOGY NOTES	SUMMARY			
				1	1/4	1	4	1/2	SIL.	SER.			E.	ROCK	ALTERATION	
0				1	1/4	1	4	1/2	SIL.	SER.	E.					
10				▨										0-33m brown-cream silt'		
20				▨										black silt' after 20m		
30	Assayed			▨												
40				^										33-200m		
50				^										Mg rich phenocryst rich		
60				^										Andesite-dacite		
70				^												
80				^												
90				^												
100				^												
110				^												
120				^												
130				^												
140				^												
150				^												
160				^												
170				^												
180				^												
190				^												
200				^												
REMARKS				EDH = 200												



# RGC EXPLORATION PTY LTD

DRILL HOLE No DD75 CC3

SHEET 1 OF 1

-  Bedding
-  Cleavage
-  Foliation
-  Fault, Shear
-  Breccia
-  Broken core
-  Disseminated
-  Massive
-  Pervasive
-  Narrow vein
-  \* Visible gold

PROJECT :	LOONGANA
PROSPECT :	CROSBY CREEK
DATE :	MARCH 1995
LOGGED BY :	MICHAEL VILARY

799040

HOLE DEPTH	SAMPLE No PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG						ALTERATION			GEOLOGY NOTES	SUMMARY	
				1/16	1/4	1	16	32	SIL	SER.	PT	ROCK		ALTERATION	
10				^									0-79		
20													Mgr keld pheno rich Andesite-dacite		
30				^											
40															
50															
60				^											
70															
80													79-88.5	blk silts!	
90													88.5-98	keld rich ulc est graded to p	
100													98-141.5	blk silts!	
110															
120															
130															
140													141.5-169	mgr keld-qtz ulc sst.	
150															

EOM=169m

REMARKS

**APPENDIX 4**

**Diamond Drill Logs - Mount Jacob Area**

799042

RGC EXPLORATION PTY. LIMITED  
SUMMARY DIAMOND DRILL CORE RECORD

MTSD 18

PROJECT: LOONGANA	DESIGNED BY:	COMMENCED: MAY 1977
PROSPECT: MT JACOB	LOGGED BY: *see below	FINISHED: - JUNE 1977

HOLE:
STATE:

## PURPOSE

To test a combined Pb soil and chargeability high anomaly.  
(Note: Andesite boulders with disseminated galena and sphalerite were observed downslope from anomaly.)

Original Reference - TCR 78-1306  
Weste, G., Comalco Limited 1978.

## GEOLOGY SUMMARY

The hole was collared in the Quaternary conglomerate and intersected a thick sequence of dacitic lavas with some interbedded sediments from 23.1 - 300.3 m. The dacite is host to a zone of sphalerite-galena stockwork which assayed 16.5 m at 1.3% Pb, 1.0% Zn and 30 g/t Ag from 117.7 - 134.2 m. A unit of massive carbonate with reworked carbonate rich sediments is present from 265.1 to 272.1 m and is interpreted to be an exhalite horizon. Other zones of reworked carbonate are present at 61.7-62.8, 113.1-117.2, 239.8-243.6 and 251.9-255.5 m. A small fault was intersected at 300.3 m after which the sequence intersected comprised pebbly and chertitic volcanoclastic conglomerate with minor chertitic lenses and siltstone.

## ASSAY SUMMARY

FROM	TO	Pb (ppm)	Zn (ppm)	Cu (ppm)	Au (ppm)	Ag (ppm)	GENERAL COMMENTS
118.0	118.7	7600	1540	18	-0.05	24	Ba = 520 ppm
118.7	121.0	1.16%	6700	35	-0.05	28	= 500
121.0	123.0	1.52%	1.62%	42	-0.05	40	= 240
123.0	125.0	1.16%	7700	12	-0.05	38	= 260
125.0	127.0	1.28%	2.40%	38	-0.05	42	= 360
127.0	128.0	1.07%	3.05%	22	-0.05	38	= 320
128.0	130.3	2300	2750	5	-0.05	7	= 420
130.3	134.2	4320	3800	10	-0.05	10	= 460

Location: Mt Jacob Grid 400m W }  
670m S }

## SURVEY DATA (MEASURED FROM PLAN)

COLLAR	DEPTH	INCLINATION	AZIMUTH	DEPTH	INCLINATION	AZIMUTH
NORTHING:	0	61	-			
EASTING:	80	57	-			
RL:	210	53	-			
INCLINATION: -65°	245	50	-			
AZIMUTH: 360° Magnetic	310	45	-			
EOH: 347 m						

Note: difference in inclination to one stated on drill log.

## DRILLING DATA

HOLE SIZE	DEPTH	GENERAL COMMENTS: * Relogged by Michael Vicary, 1994
HQ	0 - 22.5	
NQ	22.5 - 50.7	
BQ	50.7 - 347	

## MTJD 18 Summary Log

Depth	Rock type	Formation
0 - 1.0m	CONG	COdus
1.0 - 3.8	LB--	COdub
3.8 - 23.1	CONG	COduc
23.1 - 29.0	LDF/	CTLf
29.0 - 61.7	LDF-	CTLf
61.7 - 62.8	SILT	CTS
62.8 - 113.1	LDFH	CTLf
113.1 - 117.2	SILT	CTS
117.2 - 127.0	LDFH	CTLf
127.0 - 137.9	LDFH	CTLf
137.9 - 140.7	LD--	CTLf
140.7 - 158.5	LDFH	CTLf
158.5 - 158.8	LD--	CTLf
158.8 - 163.6	LDFH	CTLf
163.6 - 165.1	IB--	COb
165.1 - 239.8	LDFH	CTLf
239.8 - 243.6	VD-S	CTS
243.6 - 251.9	LDFH	CTLf
251.9 - 255.5	VD-S	CTS
255.5 - 260.6	VDFM	CTS
260.6 - 263.8	LDF-	CTLf
263.8 - 264.8	VDFM	CTS
264.8 - 265.4	SILT	CTS
265.4 - 272.1	CARB	CCarb
272.1 - 289.3	LDF/	CTLf
289.3 - 295.3	LD-B	CTLf
295.3 - 295.9	VD-C	CTS
295.9 - 299.9	LDF/	CTLf
299.9 - 300.2	SILT	CTS
300.2 - 300.3	FALT	
300.3 - 304.4	LRQF	CTLq
304.4 - 305.0	SILT	CTS
305.0 - 315.5	VRBR	CTC
315.5 - 317.3	IB--	COb
317.3 - 348.2	VRBR	CTC
348.2 = EOH		

# RGC EXPLORATION PTY LTD

DRILL HOLE No MT J D18

SHEET 1 OF 18

100044

- |      |              |   |              |
|------|--------------|---|--------------|
| —    | Bedding      |   | Disseminated |
| └┘   | Cleavage     |   | Massive      |
| ▲    | Foliation    |   | Pervasive    |
| ~    | Fault, Shear |   | Narrow vein  |
| △△△△ | Breccia      | * | Visible gold |
|      | Broken core  |   |              |

PROJECT :	LOONGANA EL42/92
PROSPECT :	MOUNT JACOB
DATE :	
LOGGED BY :	MICHAEL VICARY

HOLE DEPTH	SAMPLE No PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION						GEOLOGY NOTES	SUMMARY			
					SIL.	SER.	PY.	CARB.	CHL.	HEM.		EPID/LIM.	FORMATION	ROCK	ALTERATION
0											0-1.0m	Hem. chert rich granule - pebble conglomerate. Clasts sub angular - sub rounded. Poly metric	EDUC	CONG	
1			C-12								1.0-3.75m	Intensely Hm altered basaltic lava fine gr hm groundmass & sparse ser flecks - kid phenos or amygdalae. faintly developed cleastic texture & circular texture (illows?)	EDUC	LB	
2															
3															
4			F-30								3.75-4.2m	F-Mgr pink siliciclastic set. Possible faulted contact at 4.2m		SAND	
5											4.2m-23.10m	Clast supported pink siliciclastic conglomerate. Lim joint surfaces common. Clasts predominantly PE Qtzite derived. Different provenance to conglomerate at top of hole.	EDUC	CONG	
6															
7															
8															
9															
10															
11															
12															
13															
14											13.6-13.6	Qtz-Hm-Py vein			
15															
16															
17															
18															
19															

REMARKS

C = Contact

F = Fault

799045

- Bedding
- Cleavage
- Foliation
- Fault, Shear
- Breccia
- Broken core
- Disseminated
- Massive
- Pervasive
- Narrow vein
- \* Visible gold

PROJECT	LOONGANA EL12/92
PROSPECT	MOUNT JACOB
DATE	
LOGGED BY	MICHAEL VICARY

HOLE DEPTH	SAMPLE No PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION						GEOLOGY NOTES	SUMMARY					
					SIL.	SER.	PY.	CARB.	CHL.	HEM.		EPID.	LIM.	FORMATION	ROCK	ALTERATION	
1																	
2																	
3																	
4				Fr													
5				Fr													
6				Fr													
7				Fr													
8				Fr													
9				Fr													
10				Fr													
11				Fr													
12				Fr													
13				Fr													
14				Fr													
15				Fr													
16				Fr													
17				Fr													
18				Fr													
19				Fr													

23.1 - 29.0  
 Mgr sandstone texture rock. Very oxidized - hematite altered & increase in chl down hole. Abundant pale yellow sericitic K-feldspar atts still evident, often show relict floating texture. Possibly a texturally modified dacitic lava. Change in texture due to weathering/oxidation during down deposition.  
 Palaeoregolith extends to about 41 fm.

29.0 - 61.7m  
 K-feldspar ± ferromagnesian pseudomorph phytic lava. Generally massive but poorly preserved flaking(?) evident. Quite a bit rich lava ~ 20%. Feldspars up to 2mm, ferromag's (Pyroxene?) up to 3mm.

Vugs common

Lenticular joint subeclases

LDF1

LDF-

REMARKS

(20)

(30)

(40)

# RGC EXPLORATION PTY LTD

DRILL HOLE No MTJD 18

SHEET 3 OF 18

790046

- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⚠ Breccia
- ▨ Broken core
- ◻ Disseminated
- Massive
- ▩ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :	LOONGANA EL42/92
PROSPECT :	MOUNT JACOB
DATE :	
LOGGED BY :	MICHAEL VICARY

HOLE DEPTH	SAMPLE NO PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG						ALTERATION						GEOLOGY NOTES	SUMMARY		
				1/16	1/4	1/2	3/4	1	1 1/2	SIL.	SER.	PY.	CARB.	CHL.	HEM.		EPID.	FORMATION	ROCK
1																			
2																			
3																			
4																			
5																			
6																			
7	3571																		
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			
16																			
17																			
18																			
19																			

**REMARKS**

(50) NO  
COR. MISSING ↑  
↓ BO

(60)

MINOR CALCITE + SIDERITE VEINS + MICROQUINING

LIMONITIC SOIL SURFACE

# RGC EXPLORATION PTY LTD

DRILL HOLE No MTJD18

SHEET 4 OF 18

790047

-  Bedding
-  Cleavage
-  Foliation
-  Fault, Shear
-  Breccia
-  Broken core
-  Disseminated
-  Massive
-  Pervasive
-  Narrow vein
-  \* Visible gold

PROJECT :	LOONGANA EL 42/92
PROSPECT :	MOUNT JACOB
DATE :	
LOGGED BY :	MICHAEL VICARY

(60)

(70)

(80)

HOLE DEPTH	SAMPLE No	ASSAY RESULTS			STRUCT.	GRAPHIC LOG	ALTERATION						GEOLOGY NOTES	SUMMARY			
		Pb	Zn	Cu			SIL.	SER.	PY.	CHL.	HEM.	EPID./LIM.		Foliation	ROCK	ALTERATION	
1																	
2		300	700	300										61.7-62.8 m	subangular white carbonate clasts up to 4cm in fine dark brown mud matrix. Matrix spongy and poorly sorted. Disseminated pyrite cst in matrix and in some clasts. Possibly leuciliferous.		SILT
3		700	300	300										62.8 - 113.1 m	kalspar + hornmag pyritic dacitic Lava. Moderate chit alteration but patches in places		
4																	
5																	
6																	
7																	
8																	
9																	
1																	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	

REMARKS \* Assays reported in Weste, 1978 ICR 78-1306



# RGC EXPLORATION PTY LTD

DRILL HOLE No MTJD18

SHEET 6 OF 18

799049

- Bedding
- Cleavage
- Foliation
- Fault, Shear
- Breccia
- Broken core
- Disseminated
- Massive
- Pervasive
- Narrow vein
- \* Visible gold

PROJECT :	LOONGANA EL42/92
PROSPECT :	MOUNT JACOB
DATE :	
LOGGED BY :	MICHAEL VICARY

(100)

(110)

(120)

HOLE DEPTH	SAMPLE NO PREFIX	ASSAY RESULTS			STRUCT.	GRAPHIC LOG	ALTERATION						GEOLOGY NOTES	SUMMARY			
		Pb	Zn	Cu			SIL.	SER.	PY.	CARB.	CHL.	HEM.		EPID.	FORMATION	ROCK	ALTERATION
1						F											
2						F											
3						F											
4						F											
5						F											
6						F											
7						F											
8						F											
9						F											
10						F											
11						Qtz V45 10cm											
12						F											
13		500	300	80													
14		300	300	30													
15		200	200	70													
16		200	300	50													
17		300	300	50													
18		100	100	3													
19		7600	1540	18													
20		1167	6700	35													

MINOR QTZ-SID - VEINS, VEINLETS

(13.1 - 117.2m) subangular to subrounded carbonate clasts in dark fine gr mud-silt matrix.

(15.2 - 115.7m) Epidote volcaniclastic sst.

← contact strongly broken & some Qtz-siderite veining

(117.2 - 127.0m)

feldspar-ferromagnesian mineral pseudomorphed Diagenetic lava  
± siderite-sphal-galena-Qtz stockwork

LDFH

SILT

LDFH

REMARKS Note: 117.7-134.2m 16.5m @ 1.3% Pb, 1.0% Zn + 30 g/t Ag

020667

-  Bedding
-  Cleavage
-  Foliation
-  Fault, Shear
-  Breccia
-  Broken core
-  Disseminated
-  Massive
-  Pervasive
-  Narrow vein
-  \* Visible gold

PROJECT : LOONGANA EL 42/92  
 PROSPECT : MOUNT JACOB  
 DATE : \_\_\_\_\_  
 LOGGED BY : MICHAEL VICARY

HOLE DEPTH	SAMPLE No PREFIX	ASSAY RESULTS			STRUCT.	GRAPHIC LOG	ALTERATION							GEOLOGY NOTES	SUMMARY			
		Pb	Zn	Cu			SIL.	SER.	PY.	CARB.	CHL.	HEM.	EPID.		LIM.	FORMATION	ROCK	ALTERATION
1		1167	6700	35														
2		1527	1427	42														
3																		
4		1167	7700	12														
5																		
6	+ T40826	1287	2407	38														
7																		
8		1077	3057	22														
9		2300	2750	5														
1																		
2		4320	3800	10														
3																		
4																		
5																		
6																		
7																		
8																		
9																		

↕ v. ag. / a

127.0m - 137.9m

keldspar + ferromagnesium mineral pseudomorph dacite lens with minor stock work development

LDEH

137.9 - 140.7m

fine gr aphyric cherty dacite

LD--

REMARKS + T40826 = Pb isotope sample (Not Assayed)

(120)

(130)

(140)

# RGC EXPLORATION PTY LTD

DRILL HOLE No MTSD18

SHEET 8 OF 18

10051  
79967

-  Bedding
-  Cleavage
-  Foliation
-  Fault, Shear
-  Breccia
-  Broken core
-  Disseminated
-  Massive
-  Pervasive
-  Narrow vein
-  \* Visible gold

PROJECT :	LOONGANA EL42/92
PROSPECT :	MOUNT JACOB
DATE :	
LOGGED BY :	MICHAEL VICARY

HOLE DEPTH	SAMPLE No PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION							GEOLOGY NOTES	SUMMARY		
					SIL.	SER.	PY.	CARB.	CHL.	HEM.	EPID.		LM.	FORMATION	ROCK
(140) 1															
2															
3															
4															
5															
6															
7															
8															
9															
(150) 1															
2															
3															
4															
5															
6															
7															
8															
9															
(160)	REMARKS														

(150.5 - 158.8m) fine gr. ophyritic dacite?  
(similar to 137.9 - 140.7m)

LDFH

# RGC EXPLORATION PTY LTD

DRILL HOLE No MTSD18

150662

- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⚠ Breccia
- ▨ Broken core
- ▤ Disseminated
- Massive
- ▩ Pervasive
- ↘ Narrow vein
- \* Visible gold

SHEET 9 OF 18

PROJECT :	LOONBANA EL 42/92
PROSPECT :	MOUNT JACOB
DATE :	
LOGGED BY :	MICHAEL VICARY

(160)

(170)

(180)

HOLE DEPTH	SAMPLE NO PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION						GEOLOGY NOTES	SUMMARY			
					SIL.	SER.	PY.	CARB.	CHL.	HEM.		EPID.	FORMATION	ROCK	ALTERATION
1															
2															
3															
4															
5															
6															
7															
8															
9															
1															
2															
3															
4															
5															
6															
7															
8															
9															
REMARKS															

163.6 - 165.1m chl-epid altered  
 basaltic dykes. Carbonate filled  
 megacrysts with perched orientation  
 common. Chilled margins  
 Vents of Carbonate developed at  
 upper + lower margins  
 Gal-sph-gtz + sil. veinlets at lower contact

↑  
 Zone of Qtz-carb-hem-epidote  
 veining  
 veins up to 10cm  
 ↓

LD FH

IB --

LD FH

# RGC EXPLORATION PTY LTD

DRILL HOLE No MTJD18

SHEET 10 OF 18

-  Bedding
-  Cleavage
-  Foliation
-  Fault, Shear
-  Breccia
-  Broken core
-  Disseminated
-  Massive
-  Pervasive
-  Narrow vein
-  \* Visible gold

PROJECT :	LOONGANA EL42/92
PROSPECT :	MOUNT JACOB
DATE :	
LOGGED BY :	MICHAEL VICARY

HOLE DEPTH	SAMPLE No PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION							GEOLOGY NOTES	SUMMARY						
					SIL.	SER.	PY.	CARB.	CHL.	Hem.	EPID.		LIQ.	FORMATION	ROCK	ALTERATION			
180																			
1																			
2																			
3																			
4																			
5																			
6																			
7	T40825												0.5-1.0cm Sphal-gal vein ← zone of pyrophen-gal veinlets (associated with Qtz-chl-sd).						
8																			
9																			
190																			
1																			
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
200	REMARKS T40825 = Pb isotope sample.																		

# RGC EXPLORATION PTY LTD

DRILL HOLE No MTSD 18

SHEET 11 OF 18

7990667

-  Bedding
-  Cleavage
-  Foliation
-  Fault, Shear
-  Breccia
-  Broken core
-  Disseminated
-  Massive
-  Pervasive
-  Narrow vein
-  \* Visible gold

PROJECT :	LOONGANA EL 42/92
PROSPECT :	MOONT JACOB
DATE :	
LOGGED BY :	MICHAEL VICARY

200

210

220

HOLE DEPTH	SAMPLE No PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG						ALTERATION		GEOLOGY NOTES	SUMMARY						
				1	1	1	4	16	22	SIL.	SER.		PT.	CARB.	CHL.	HEM.	EPID.	UM.	FORMATION
1			F8 45																
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
1																			
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
REMARKS																			

Galena vein + stock work.

Zone of Qtz-chl-carb-sid-epid. veining. Veins upto 10cm.

LDFH

# RGC EXPLORATION PTY LTD

DRILL HOLE No MTJD 18

SHEET 12 OF 18

799055  
799056  
799057

-  Bedding
-  Cleavage
-  Foliation
-  Fault, Shear
-  Breccia
-  Broken core
-  Disseminated
-  Massive
-  Pervasive
-  Narrow vein
-  \* Visible gold

PROJECT : <u>LOONDANA EL 42192</u>
PROSPECT : <u>MOUNT JACOB</u>
DATE : _____
LOGGED BY : <u>MICHAEL VILARY</u>

220

230

240

HOLE DEPTH	SAMPLE No PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION						GEOLOGY NOTES	SUMMARY		
					SIL.	SER.	PT.	CLAS.	CHL.	HEM.		EPID.	LIM.	FORMATION
1														
2														
3														
4														
5														
6														
7														
8														
9														
1														
2														
3														
4														
5														
6														
7														
8														
9														

Abundant CHL. MICROMONAS IMPRINT PUB. POSSIBLE PSEUDOSILEXIA

LDFH

REMARKS

# RGC EXPLORATION PTY LTD

DRILL HOLE No MTJDI8

SHEET 13 OF 18

799050

-  Bedding
-  Cleavage
-  Foliation
-  Fault, Shear
-  Breccia
-  Broken core
-  Disseminated
-  Massive
-  Pervasive
-  Narrow vein
-  \* Visible gold

PROJECT :	LOONGANA EL 42/92
PROSPECT :	MOUNT JACOB
DATE :	
LOGGED BY :	MICHAEL VICARY

HOLE DEPTH	SAMPLE No PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION						GEOLOGY NOTES	SUMMARY						
					SIL.	SER.	PT.	CARB.	CHL.	HORN.		EPID. LIM.	FORMATION	ROCK	ALTERATION			
1	T41872 (KAYD)		S <sub>0</sub> 55															
2			S <sub>0</sub> 60															
3			S <sub>0</sub> 50															
4			C45															
5				F														
6				F														
7				F														
8				F														
9				F														
1				F														
2				F														
3			S <sub>0</sub> 40															
4	3577		S <sub>0</sub> 45															
5			C <sub>0</sub> 50															
6																		
7																		
8			S <sub>0</sub> 40															
9																		

239.8 - 243.6 m  
 chlt carb. hm altered ash volcanoclastic siltstone & minor vlc est. Similar to unit at 251.9-255.5 but get hm (Red) carbonates rather than siderite. Some primary (white) carbonate chlt present

243.6 - 251.9 m  
 Massive feldspar - hornbl. pseudomorph phytic ductile low

251.9 - 255.5 m  
 chlt siderite altered ash volcanoclastic siltstone & sparse matrix supported carbonate clasts.

255.5 - 260.6 m  
 Predominantly m gr feldspar - (quartz) crystal rich volcanoclastic sst & minor ash siltstone.

REMARKS

(240)

(250)

(260)

799661

- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⊠ Breccia
- ▨ Broken core
- ⋯ Disseminated
- Massive
- ▩ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :	LOONGANA EL 42/92
PROSPECT :	MOUNT JACOB
DATE :	
LOGGED BY :	Michael Vicary

260

270

280

HOLE DEPTH	SAMPLE No PREFIX	ASSAY RESULTS			STRUCT.	GRAPHIC LOG	ALTERATION							GEOLOGY NOTES	SUMMARY			
		Pb	Zn	Cu			SIL.	SER.	PY.	CASB.	CHL.	HEM.	EPID.		FORMATION	ROCK	ALTERATION	
1														260.6 - 263.0 m				
2																	LDF-	
3																		
4		300	2000	200										263.8 - 264.8			VDFM	
5														264.8 - 265.4			SILT	
6		80	300	30										265.4 - 272.1				
7														Carbonate rich clast supported pebble conglomerate. In general there is a downhole decrease in clast size from 5m at base to 2-3m at 272m. There is also a change in clast shape from subrounded angular shapes to ellipsoidal flattened shapes at 272m, this also corresponds to a possible increase in silty matrix and stronger foliation. Two thin zones of relatively massive carbonate are present. The upper zone at 267.5m has a sharp base and sawtooth top suggesting downhole facies. Sericitic volcanic fragments are present at the base of the unit.				
8																		
9		741871 Carb.																
1														272.1 - 289.3				
2														Predominantly Dacitic Lava  Note 272.1 - 279.8 this zone has more clastic feature and some carb clasts present. Small 2-3mm chl fragments like flecks common. Other lithic fragments present as well - mainly fine gr dacitic material.				
3																		
4																		LDF/
5																		
6																		
7																		
8																		
9																		

**REMARKS** ○ carbonate clasts  
 ■ sericitic volcanic clast.

# RGC EXPLORATION PTY LTD

DRILL HOLE No MTSD18

SHEET 15 OF 18

280  
290  
300

- Bedding
- ⊥ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⚡ Breccia
- ⊠ Broken core
- ⋯ Disseminated
- Massive
- ▨ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT : <u>LOONGANA EL 42/92</u>
PROSPECT : <u>MOUNT JACOB</u>
DATE : _____
LOGGED BY : <u>MICHAEL VICARY</u>

HOLE DEPTH	SAMPLE No PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION							GEOLOGY NOTES	SUMMARY					
					SIL.	SER.	PY.	CHL.	HEPA.	EPID. Lim.	FORMATION		ROCK	ALTERATION				
280				1 16 4 1 4 16 12														
1				┌														
2				┌														
3				┌														
4				┌														
5				┌														
6				┌														
7				┌														
8				┌														
9				┌														
290				┌														
1				┌														
2				┌														
3				┌														
4				┌														
5				┌														
6				┌														
7				┌														
8				┌														
9				┌														
300				┌														
REMARKS																		

289.3-295.3

aphric dacitic hyaloclastite breccia. Texture varies from massive coherent lava to in situ brecciated hyaloclastite to reworked hyaloclastite as % of matrix material increases.

295.3-295.9

chert (aphric lava?) bearing granule conglomerate, dissem. pyrite

299.9-299.9m

F-m gr feldspar phric dacitic lava?

Minor brecciation and zone which texturally resemble sandstones

299.9-300.7 siltstone

LDF

LD-B

VDC

LDE

SILT

# RGC EXPLORATION PTY LTD

DRILL HOLE No MTJD18

SHEET 16 OF 18

799667

- Bedding
- ┌ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⚡ Breccia
- ▨ Broken core
- ▤ Disseminated
- Massive
- ▩ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :	LOONGANA EL 42/92
PROSPECT :	MOUNT JACOB
DATE :	
LOGGED BY :	Michael Vicary

(300)

(310)

(320)

HOLE DEPTH	SAMPLE No PREFIX	ASSAY RESULTS			STRUCT.	GRAPHIC LOG	ALTERATION						GEOLOGY NOTES	SUMMARY			
		Pb	Zn	Cu			SIL.	SER.	PY.	CARB.	CHL.	HEM.		EPID./LIM.	FORMATION	ROCK	ALTERATION
1					F <sub>30</sub>									300.2-300.3 FAULT			
2														300.3-304.4m Qtz-feldspar phyric rhyodacite lavae could alternatively call vic sst.			LRQF
3																	
4																	
5		800	200	150	S <sub>30</sub>									304.4-305.0m Fine gr grey siltstone, micritic.			SILT
6		100	200	50										305.0-315.5m crystal (Qtz) lithic rich volcaniclastic conglomerate Variety of lithic fragments pink-orange rhyolite-dacite clasts become more abundant down. Some Carbonate clasts			
7																	
8																	
9																	
1																	
2																	
3																	
4																	
5																	
6														315.5-317.3m chl-epid altered amygdales basalt intrusive Qtz-carb-sil amygdales. Upper+lower chilled margins.			IB--
7																	
8																	
9																	

REMARKS

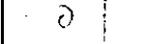
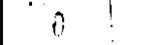
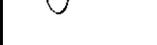
# RGC EXPLORATION PTY LTD

DRILL HOLE No MTJD18

SHEET 17 OF 18

-  Bedding
-  Cleavage
-  Foliation
-  Fault, Shear
-  Breccia
-  Broken core
-  Disseminated
-  Massive
-  Pervasive
-  Narrow vein
-  Visible gold

PROJECT :	LOONGANA EL 62/92
PROSPECT :	MOUNT JACOB
DATE :	
LOGGED BY :	MICHAEL VICARY

HOLE DEPTH	SAMPLE No PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION						GEOLOGY NOTES	SUMMARY				
					SIL.	SER.	PY.	CHL.	HEPA	PTIO.		LIM.	FORMATION	ROCK	ALTERATION	
1																
2																
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																
14																
15																
16																
17																
18																
19																
REMARKS																

320

330

340

VR8R

# RGC EXPLORATION PTY LTD

DRILL HOLE No MTJD 18

SHEET 18 OF 18

199061

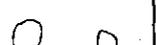
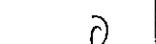
-  Bedding
-  Cleavage
-  Foliation
-  Fault, Shear
-  Breccia
-  Broken core
-  Disseminated
-  Massive
-  Pervasive
-  Narrow vein
-  \* Visible gold

PROJECT :	LONGANA EL 42/92
PROSPECT :	MOUNT JACOB
DATE :	
LOGGED BY :	MICHAEL VILNEY.

(340)

(350)

(360)

HOLE DEPTH	SAMPLE No PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION							GEOLOGY NOTES	SUMMARY		
					SIL	SER	PC	CHL	HEM	EPID	FORMATION		ROCK	ALTERATION	
1															
2															
3															
4															
5															
6															
7															
8															
9															
1															
2															
3															
4															
5															
6															
7															
8															
9															

REMARKS

VRBR

ECH



# RGC EXPLORATION PTY LTD

DRILL HOLE No MTSD 19 SUMMARY

SHEET 1 OF 1

300667

- Bedding
- Cleavage
- Foliation
- Fault, Shear
- Breccia
- Broken core
- Disseminated
- Massive
- Pervasive
- Narrow vein
- Visible gold

<b>PROJECT :</b> LOONGANA EL 42/92
<b>PROSPECT :</b> MOUNT JACOB
<b>DATE :</b>
<b>LOGGED BY :</b> MICHAEL VICARY

HOLE DEPTH	SAMPLE No PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION			GEOLOGY NOTES	SUMMARY		
					SIL.	SER.	PT.		FORMATION	ROCK	ALTERATION
10								0-8.2 grey siliciclastic sst			
20								8.2-18.3 pink chert bearing gritty siliciclastic sst.			
30								18.3-28.0 grey f-m gr siliciclastic sst.			
40								28.0-41.0 hematitic amygdaloidal basalt.	EOD	CGSC	
50								41.0-61.7 olast supported pink hematitic pebbly siliciclastic conglomerate.			
60								61.7-191.6 sericitic feldspar phyric lava. generally massive but some breccia zones indicated. minor hematitic stockworks present (err).  Unit becomes more sericitic after 110m.			
70											
80											
90											
100											
110											
120											
130											
140											
150											
160											
170											
180											
190											
				191-6							
<b>REMARKS</b>											

EOD CGSC  
  
  
  
  
  
  
  
  
  
Ecv LDF

# RGC EXPLORATION PTY LTD

DRILL HOLE No MTSD 19

-  Bedding
-  Cleavage
-  Foliation
-  Fault, Shear
-  Breccia
-  Broken core
-  Disseminated
-  Massive
-  Pervasive
-  Narrow vein
-  \* Visible gold

SHEET 1 OF 10

PROJECT :	LOONGANA EL 62/97
PROSPECT :	MOUNT JACOB
DATE :	
LOGGED BY :	MICHAEL VICARY

HOLE DEPTH	SAMPLE No PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION						GEOLOGY NOTES	SUMMARY	
					SIL.	SER.	PY.	CARB.	CHL.	HEM.		EPID./LIM.	FORMATION
1				16 4 1 4 16 32 sand							0-8.2m 1/8 fine - coarse gr grey-cream siliciclastic sandstone. White-grey chert clasts common.  Minor disturbed sst at 3.5m Weak pervasive sericite alteration - particularly in more silty units		
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													

REMARKS  
 1. well sorted  
 2. gritty sst chert common  
 3. cream siltst

# RGC EXPLORATION PTY LTD

DRILL HOLE No MTSD 19

5  
6  
7  
8  
9

- Bedding
- ⌊ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⚡ Breccia
- ⊠ Broken core
- ⋯ Disseminated
- Massive
- ▨ Pervasive
- ↘ Narrow vein
- \* Visible gold

SHEET 2 OF 10

PROJECT :	LOONGANA EL 42/92
PROSPECT :	MOUNT JACOB
DATE :	
LOGGED BY :	MICHAEL VICARY

HOLE DEPTH	SAMPLE NO PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION							GEOLOGY NOTES	SUMMARY		
					SIL.	SER.	PHY.	CARB.	CHL.	HEM.	EPID.		FORMATION	ROCK	ALTERATION
1				⋯⋯⋯⋯											
2															
3															
4															
5															
6															
7															
8															
9				V											
10				V (A)											
11				V											
12				V (A)											
13				V											
14				V (A)											
15				V											
16				⊠											
17				⊠											
18				V											
19				V (A)											
20				V											

\* malacite on weathered surface

28.0 - 34.0 m  
 hematitic amygdaloidal breccia.  
 Commonly highly broken.  
 Sericite-carbonate? vesicles  
 up to 5mm. commonly elongate  
 parallel to S<sub>1</sub> at ± 45° to LCA

35.8 - 37.4 m hematitic pebble  
 volcanoclastic conglomerate  
 -possibly pebbles

REMARKS

(20)

(30)

(40)

-  Bedding
-  Cleavage
-  Foliation
-  Fault, Shear
-  Breccia
-  Broken core
-  Disseminated
-  Massive
-  Pervasive
-  Narrow vein
-  \* Visible gold

PROJECT : <u>LOONGANA EL 42/92</u>
PROSPECT : <u>MOUNT JACOB</u>
DATE : _____
LOGGED BY : <u>MICHAEL VICARY</u>

HOLE DEPTH	SAMPLE NO PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION						GEOLOGY NOTES	SUMMARY					
					SIL.	SER.	PT.	CHL.	HEM.	EPID.		FORMATION	ROCK	ALTERATION			
(40)				1 2 3 4 10 32													
1	THIS TEAM MAY HAVE BEEN DROPPED ↑			7 7							zone of intense qtz veining, commonly along axis of core						
2				see up							← specular hematite.						
3											(42.6 - 45.7m) clast supported pink hematitic pebble grade siliciclastic conglomerate. clasts are well rounded. qtz veining common						
4											← lower contact sharp pretty flat						
5											(45.7 - 47.2) fine-mud gr hm siliclastic sat and med-course gr cherty heavy qtz siliclastic sat.						
6											(47.2 - 48.5) broken zone is limonitic joint surfaces, qtz veining common					FALT	
7											- possible fault.						
8											(48.5 - 61.7) clast supported pink hematitic pebble grade siliclastic conglomerate. clasts are well rounded. predominantly quartz clasts.						
9											chert clasts common.						
(50)																	
1																	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
REMARKS																	

(40)

(50)

(60)

790007

- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⚡ Breccia
- ▨ Broken core
- ▤ Disseminated
- Massive
- ▩ Pervasive
- ↘ Narrow vein
- \* Visible gold

PROJECT :	LOONGANA EL 42/92
PROSPECT :	MOUNT JACOB
DATE :	
LOGGED BY :	MICHAEL VICARY

HOLE DEPTH PREFIX	SAMPLE No	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION						GEOLOGY NOTES	SUMMARY		
					SIL.	SER.	PT.	CLAS.	CHL.	REM.		SPID.	LIM.	FOLIATION
66 1														
2														
3														
4														
5														
6														
7														
8														
9														
70 1														
2														
3														
4														
5														
6														
7														
8														
9														

61-7-63-4 1B f-c gr gritty  
chert bearing hematite siliceous  
conglomerate  
← sharp contact - unconformity

63-4- EOH  
Massive feldspar phyric lava.  
Hem-ser alteration common, and  
becomes distinctly more sericitic  
downhole.  
The rock has sparse 1-2mm long  
sericitic feldspar phenocrysts in a  
fine gr ser-hm-chl groundmass.  
Minor brecciated zones are  
present.

REMARKS	

66

70

88

# RGC EXPLORATION PTY LTD

DRILL HOLE No MTSD 19

SHEET 5 OF 10

799008

- |     |              |   |              |
|-----|--------------|---|--------------|
| —   | Bedding      |   | Disseminated |
| └┘  | Cleavage     |   | Massive      |
| ▲   | Foliation    |   | Pervasive    |
| ~   | Fault, Shear |   | Narrow vein  |
| △△△ | Breccia      | * | Visible gold |
|     | Broken core  |   |              |

PROJECT :	LOONGANA EL 42192
PROSPECT :	MOUNT JACOB
DATE :	
LOGGED BY :	MICHAEL VICARY

HOLE DEPTH SAMPLE NO PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION						GEOLOGY NOTES	SUMMARY				
				SIL.	SER.	PY.	CARB.	CHL.	HEM.		EPIT.	FORMATION	ROCK	ALTERATION	
1															
2															
3															
4															
5															
6															
7															
8															
9															
1															
2															
3															
4															
5															
6															
7															
8															
9															
REMARKS															

↑  
Strong ser alt.

89.5-94.1m weakly developed hematite stockwork with minor brecciation.

Zone of Qtz-chl veining

88

89

100

# RGC EXPLORATION PTY LTD

DRILL HOLE No MTJD 19

SHEET 6 OF 10



- Bedding
- └ Cleavage
- ▲ Foliation
- ~ Fault, Shear
- ⚡ Breccia
- ▨ Broken core
- ▤ Disseminated
- Massive
- ▩ Pervasive
- ⚡ Narrow vein
- \* Visible gold

PROJECT :	LOONBANA EL 42/92
PROSPECT :	MOUNT JACOB
DATE :	
LOGGED BY :	MICHAEL VICARY

HOLE DEPTH	SAMPLE No PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION						GEOLOGY NOTES	SUMMARY		
					SIL.	SER.	PT.	Chab.	Chl.	Hem.		Epid. Lum.	FORMATION	ROCK
1				└										
2				└										
3			45	└										
4				└										
5				└										
6				└										
7				└										
8				└										
9				└										
10				└										
11				└										
12				└										
13				└										
14				└										
15				└										
16				└										
17				└										
18				└										
19				└										
<p>← 10 cm hm Jasper vein</p> <p style="margin-left: 200px;">↓</p> <p style="margin-left: 200px;">change to sericite dominated alteration</p> <p>* semi red Jasper common</p>														
REMARKS														

(100)

(110)

(120)

# RGC EXPLORATION PTY LTD

DRILL HOLE No MTSD 19

SHEET 7 OF 10

010667

-  Bedding
-  Cleavage
-  Foliation
-  Fault, Shear
-  Breccia
-  Broken core
-  Disseminated
-  Massive
-  Pervasive
-  Narrow vein
-  \* Visible gold

PROJECT : <u>LOONGANA EL42/92</u>
PROSPECT : <u>MOUNT JACOB</u>
DATE : _____
LOGGED BY : <u>MICHAEL VICARY</u>

HOLE DEPTH	SAMPLE NO PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION							GEOLOGY NOTES	SUMMARY				
					SIL.	SER.	PY.	CHRS	CHL.	HEM.	EPID.		FORMATION	ROCK	ALTERATION		
(120)				16- 4- 1 4 16 32	SIL. SER. PY. CHRS CHL. HEM. EPID.												
1				┌													
2				┌													
3				┌													
4				┌													
5				┌													
6				┌													
7				┌													
8				┌													
9				┌													
(130)				┌													
1				┌													
2				┌													
3				┌													
4				┌													
5				┌													
6				┌													
7				┌													
8				┌													
9				┌													
(140)				┌													
REMARKS																	
138-3-146-3 Zone of moderate hm-see alteration & stockwork veins of red jasper.																	

# RGC EXPLORATION PTY LTD

DRILL HOLE No MTJD 19

SHEET 8 OF 10

-  Bedding
-  Cleavage
-  Foliation
-  Fault, Shear
-  Breccia
-  Broken core
-  Disseminated
-  Massive
-  Pervasive
-  Narrow vein
-  \* Visible gold

PROJECT :	LOONGANA EL 42/92
PROSPECT :	MOONT JACOB
DATE :	
LOGGED BY :	Michael Vinary

HOLE DEPTH	SAMPLE No PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG							ALTERATION	GEOLOGY NOTES	SUMMARY						
				16	1	1	4	16	32	SIL.			SER.	PT.	LAB.	CH.	HEM.	SPID. Lim.	FORMATION
1																			
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			
16																			
17																			
18																			
19																			
REMARKS																			

Lava breccias E has alteration of clasts

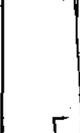
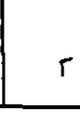
140

150

160

-  Bedding
-  Cleavage
-  Foliation
-  Fault, Shear
-  Breccia
-  Broken core
-  Disseminated
-  Massive
-  Pervasive
-  Narrow vein
-  \* Visible gold

PROJECT :	LOOMBANA EL 42/92
PROSPECT :	MOUNT JACOB
DATE :	
LOGGED BY :	MICHAEL VICARY

HOLE DEPTH SAMPLE No PREFIX	ASSAY RESULTS	STRUCT.	GRAPHIC LOG	ALTERATION							GEOLOGY NOTES	SUMMARY		
				SIL.	SER.	PY.	CHL.	HEP.	SPD.	LIAM.		FORMATION	ROCK	ALTERATION
160 1														
2														
3														
4														
5														
6														
7														
8														
9														
170 1														
2														
3														
4														
5														
6														
7														
8														
9														
180	REMARKS													

Lava breccia with hematite alteration of clasts



**APPENDIX 5**

**Pb Isotope Result**

Minerals Research Laboratories  
51 Delhi Road  
NORTH RYDE NSW 2113  
Sydney Australia



Postal Address: 730075  
PO Box 136 NORTH RYDE, NSW 2113  
Telephone: 61-2 887-8666  
Facsimile: 61-2 887-8909  
61 2-887-8921  
Telex 25817

**Division of Exploration and Mining**  
Institute of Minerals, Energy and Construction  
Excellence in Strategic Research for the Exploration and Mining Industry

**Facsimile Transmission**

Facsimile To:  
**MICHAEL VICARY**  
Organisation:  
**RGC EXPLORATION**  
From:  
**JUDITH DEAN**

Date: 4/10/94

Facsimile No. 004 716644

No

ORIGINAL TO FOLLOW

2

NO. OF PAGES

4

URGENT

Dear Michael

Please find following, Pb isotope results for the galena sample T40825 recently submitted. The result plots outside the recently redefined Cambrian VHMS signatures. However, since the data falls close to these signatures, I would hesitate to interpret the result without some more information about the location of the sample. You may fax or phone me: Fax 02 887 8909, Phone 02 887 8879.

Yours sincerely,

Judith A. Dean  
Manager SIROTOPE

Sample	$\frac{208\text{Pb}}{204\text{Pb}}$	$\frac{207\text{Pb}}{204\text{Pb}}$	$\frac{206\text{Pb}}{204\text{Pb}}$	$\frac{207\text{Pb}}{204\text{Pb}}$	$\frac{208\text{Pb}}{204\text{Pb}}$
<u>DATA THIS STUDY</u> T40825	2.0795	0.8485	18.407	15.618	38.277

**Perth**

Floreat Park Laboratories  
Private Bag, Wembley  
WA 6014  
Telephone: 61 9 378 0200

**Melbourne**

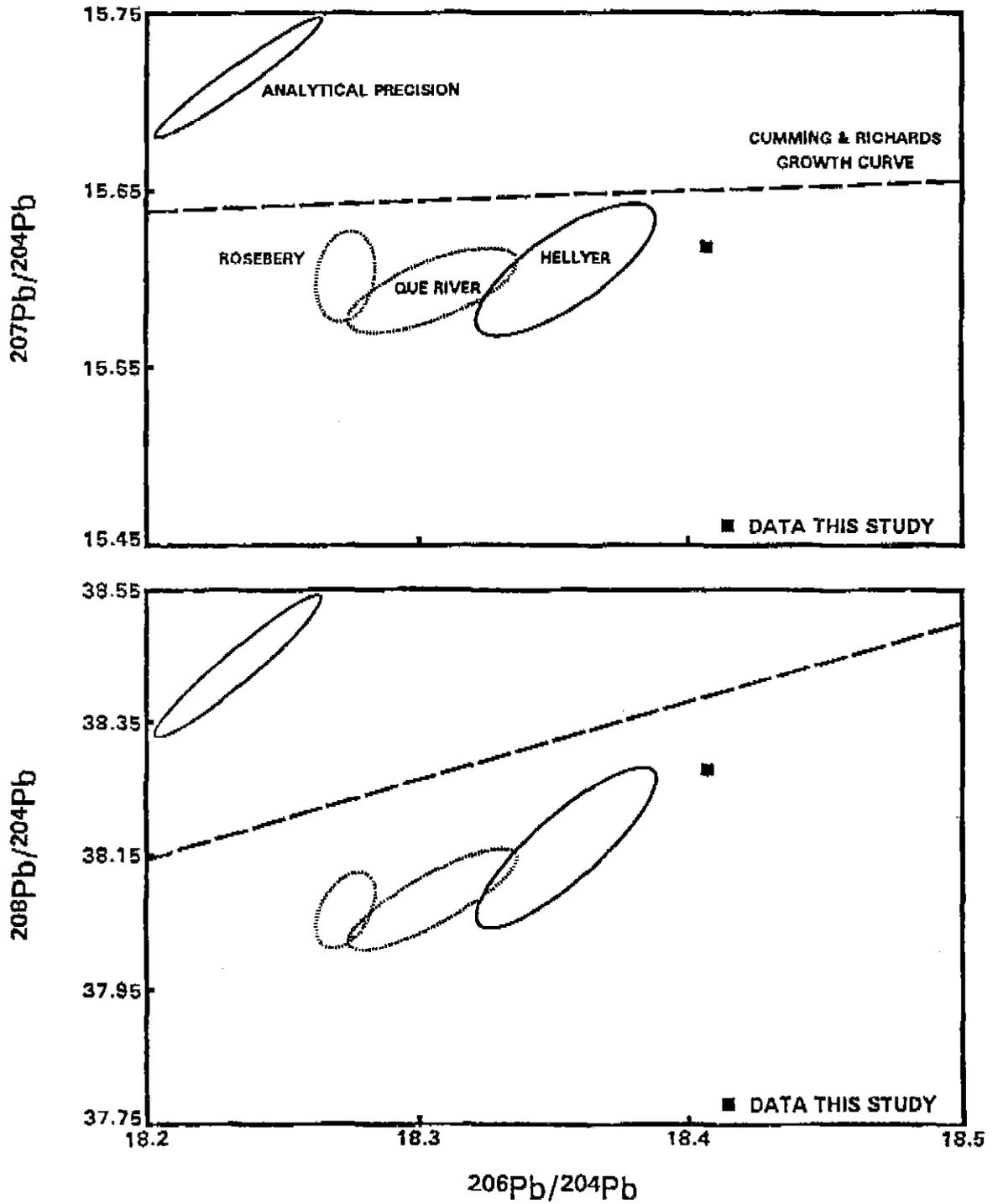
Syndal Laboratories  
PO Box 54, Mount Waverley  
VIC 3149  
Telephone: 61 3 881 1355

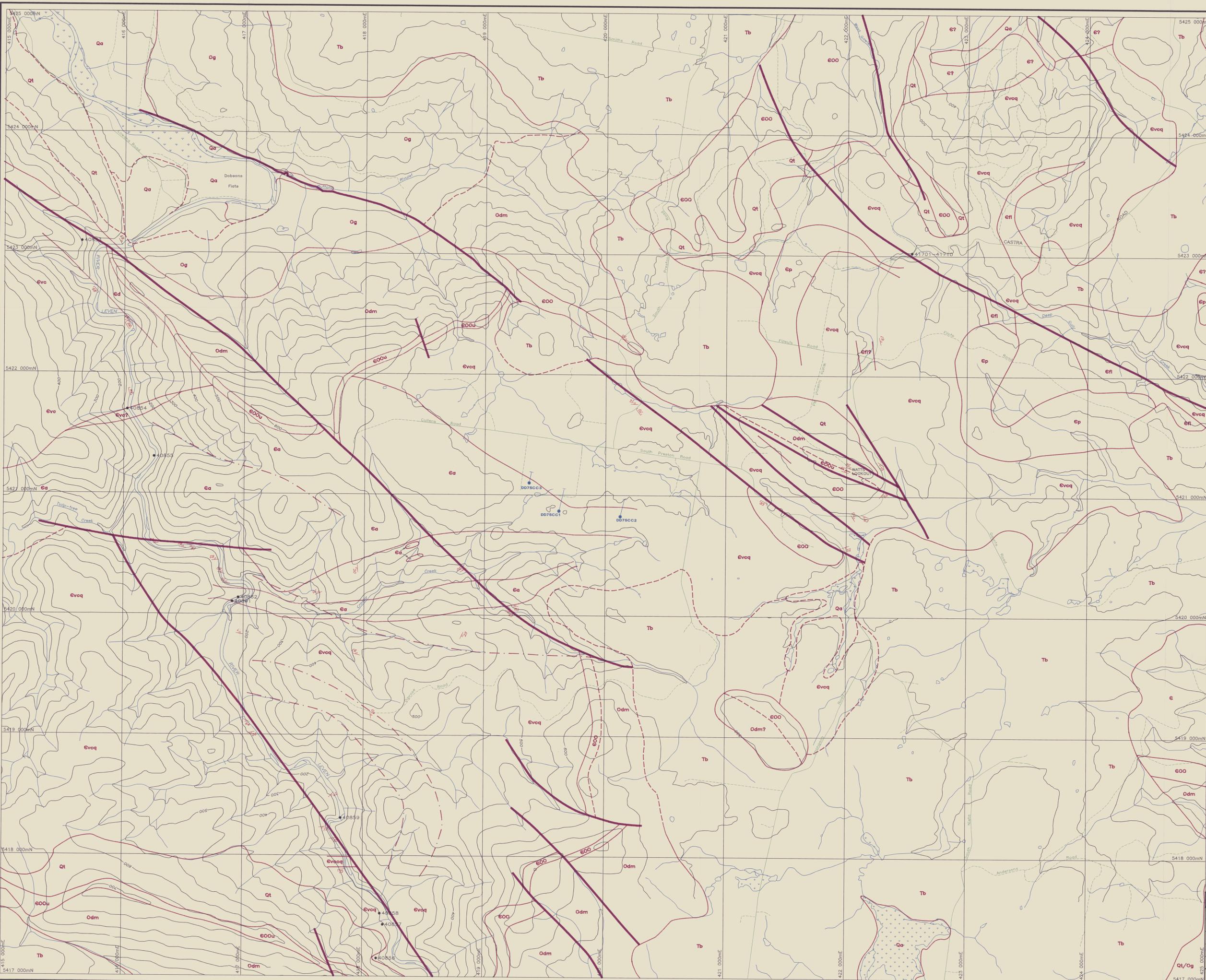
**Brisbane**

Queensland Centre for  
Advanced Technologies  
PO Box 883, Kenmore  
QLD 4069

**Perth**

Rock Mechanics  
Research Centre  
PO Box 437, Nedlands  
WA 6009





**GEOLOGICAL LEGEND**

- Qa QUATERNARY ALLUVIUM
- Qt QUATERNARY TALUS
- Tb TERTIARY BASALT
- Og ORDOVICIAN LIMESTONE - GORDON LIMESTONE
- Odm ORDOVICIAN SANDSTONE - MOINA SANDSTONE

- E00u "UPPER" OWEN CORRELATES  
INCLUDES NEWTON CK + MIDDLE OWEN
- E00ait LOWER OWEN CORRELATES :  
a=Silstone
- E00s s=Sandstone
- E00c c=Conglomerate

**CAMBRIAN**

- E UNDIFFERENTIATED
- Ed DACITE (LAVAS AND/OR INTRUSIVES)
- Ea ANDESITE (INTRUSIVE?)
- Evc FELDSPAR RICH f-s gr. VOLCANICLASTIC SEDIMENTS
- Ep QUARTZ-FELDSPAR PORPHYRY
- Evcq FELDSPAR-QUARTZ PHYRIC f-m gr. VOLCANICLASTIC SEDIMENTS
- Evcaq VEIN QTZ. RICH c gr. VOLCANICLASTIC SANDSTONE AND GRANULE CONGL.
- Efl QUARTZ-FELDSPAR PHYRIC RHYOLITIC LAVA

- GEOLOGICAL BOUNDARY
- GEOLOGICAL BOUNDARY - INFERRED
- FAULT
- AIRPHOTO LINEAMENT
- STRIKE & DIP OF BEDDING FACING UNKNOWN
- STRIKE & DIP OF BEDDING FACING KNOWN
- CLEAVAGE WITH DIP
- VERTICAL CLEAVAGE
- ROCKCHIP SAMPLE

**95-3728**

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799057

<b>RGC EXPLORATION PTY. LIMITED</b>	
GEOLOGIST M. VICARY	CROSBY CREEK AREA E.L. 42/92
DRAWN M. WALTER	DATE 1/95
CHECKED	<b>GEOLOGICAL INTERPRETATION</b>
SCALE 1:10,000	5 km
0 100 200 400m	DRAWING ID: 5535/011
	FILENAME: CROSBY



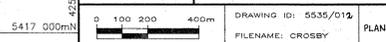
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Loongana Annual report 1994-95 RGC - E142/92 - 1 volume

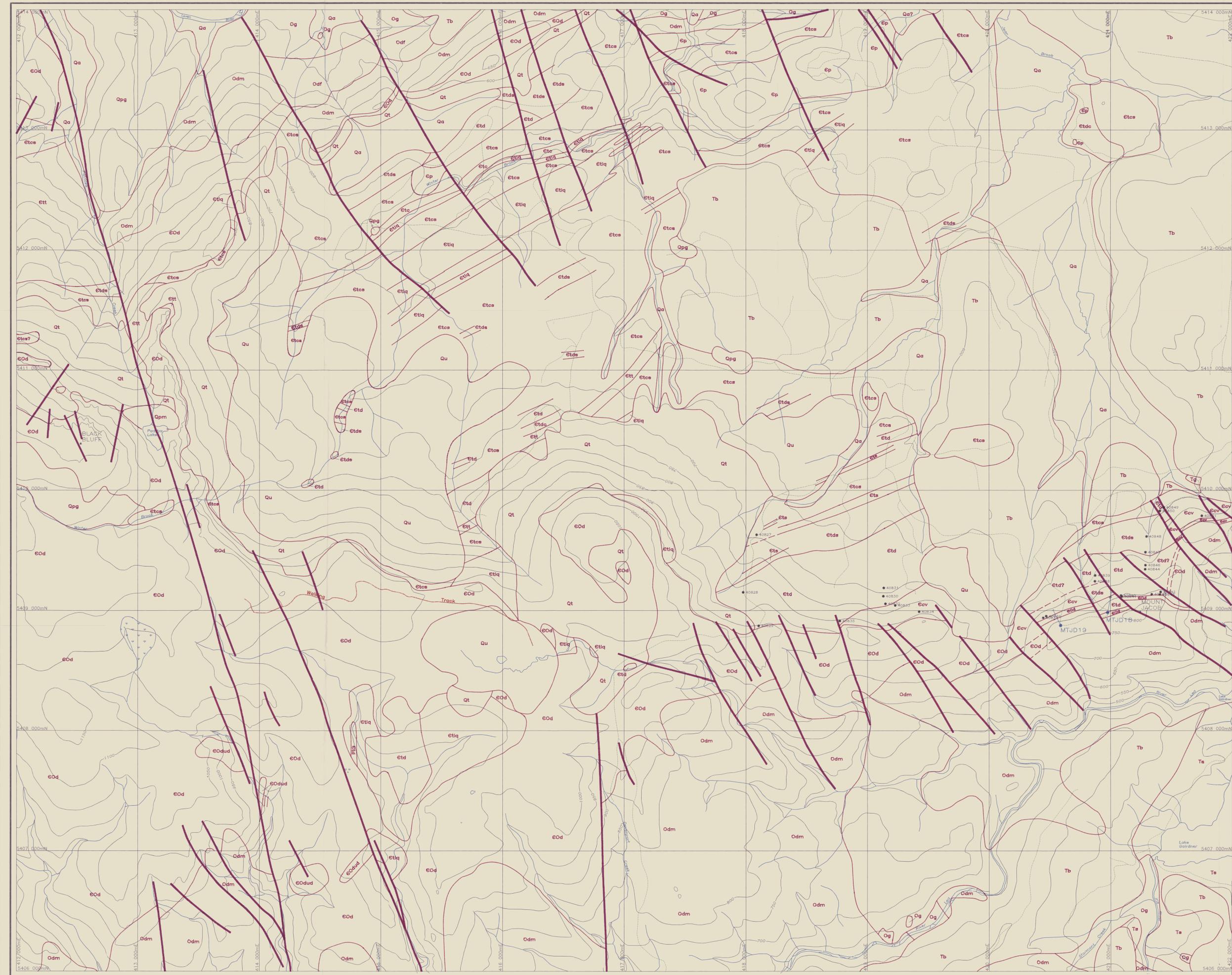
799078

RGC EXPLORATION PTY. LIMITED

GEOLOGIST	M. VICARY	CROSBY CREEK AREA E142/92
DRAWN	M. WALTER	5cm
DATE	1/95	<b>FACT. GEOLOGY</b>
CHECKED		AN 4
SCALE	1:10,000	



DRAWING ID: 5535/012  
 FILENAME: CROSBY  
 PLAN 4



**GEOLOGICAL LEGEND**

**QUATERNARY**

- Qt TALUS, SCREE
- Qa ALLUVIUM
- Qpg FLUVIOGLACIAL DEPOSITS
- Qpm GLACIAL MORAINE
- Qu UNDIFFERENTIATED

**TERTIARY**

- Ts SEDIMENTS
- Tb BASALT LAVA
- Tg SILCRETE

**LATE CAMBRIAN-ORDOVICIAN**

- Og GORDON LIMESTONE
- Odf FLORENTINE VALLEY MUDSTONE
- Odm MOINA SANDSTONE
- eOdu DOLERITE
- eOd OWEN CONGLOMERATE

**CAMBRIAN-TYNDALL GROUP**

- Ep RHYOLITE PORPHYRY
- Ets SILTSTONE
- Etc QUARTZ-FELDSPAR PHYRIC VOLCANICLASTIC CONGLOMERATE
- Etdc FELDSPAR PHYRIC DACITIC VOLCANICLASTIC CONGLOMERATE
- Ett QUARTZ-FELDSPAR PHYRIC CRYSTAL TUFS AND LAVAS
- Etlq QUARTZ-FELDSPAR PHYRIC IGNI-MBRITES
- Etds FELDSPAR-(QUARTZ) PHYRIC DACITIC VOLCANICLASTIC SANDSTONE
- Etd DACITE LAVAS
- Etcv MAINLY QUARTZ-FELDSPAR PHYRIC VOLCANICLASTIC SEDIMENTS

**CENTRAL VOLCANIC CORRELATES**

- Ecv FELDSPAR PHYRIC LAVAS

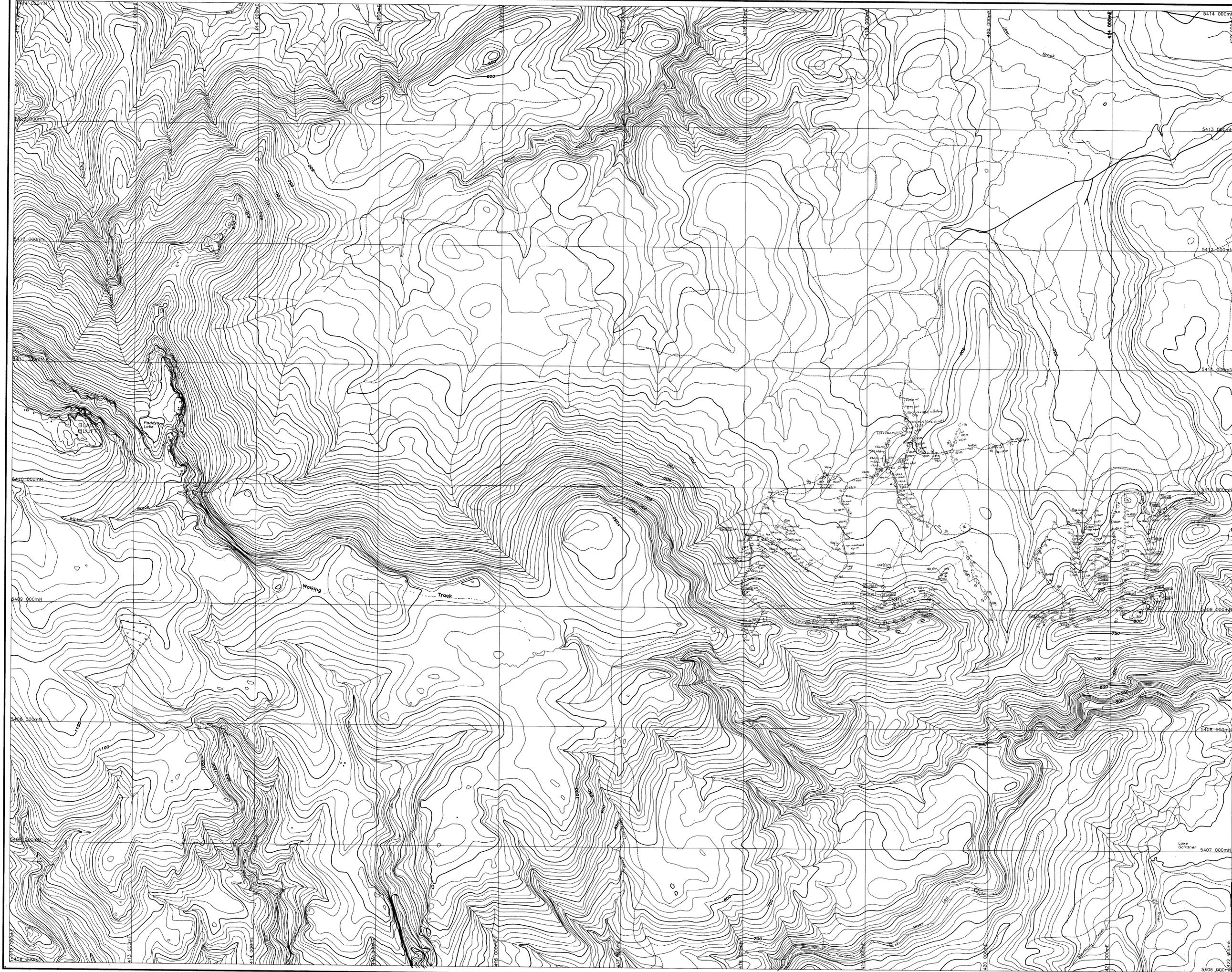
**CONTACTS**

- GEOLOGICAL CONTACT
- FAULT
- 40844 ROCKCHIP SAMPLE LOCATION

**95-3728**  
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799079

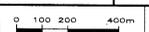
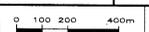
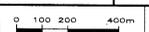
<b>RGC EXPLORATION PTY. LIMITED</b>	
GEOLOGIST: M. VICARY	WINTERBROOK AREA E.L. 42/92
DRAWN: M. WALTER	<b>GEOLOGICAL INTERPRETATION</b>
DATE: 9/94	
CHECKED: M. VICARY	
SCALE: 1:10,000	
DRAWING ID: 5535/010	PLAN 3
FILENAME: WINTER	



**95-3728**  
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799080

**RGC EXPLORATION PTY. LIMITED**

<table border="1"> <tr> <td>GEOLOGIST</td> <td>M. VICARY</td> <td rowspan="2">WINTERBROOK AREA E.L. 42/92</td> </tr> <tr> <td>DRAWN</td> <td>M. WALTER</td> </tr> <tr> <td>DATE</td> <td>1/94</td> <td rowspan="2"> <b>OUTCROP GEOLOGY</b>   </td> </tr> <tr> <td>CHECKED</td> <td></td> </tr> </table>	GEOLOGIST	M. VICARY	WINTERBROOK AREA E.L. 42/92	DRAWN	M. WALTER	DATE	1/94	<b>OUTCROP GEOLOGY</b> 	CHECKED		<p>SCALE 1:10,000</p> <p>0 100 200 400m</p>
GEOLOGIST	M. VICARY	WINTERBROOK AREA E.L. 42/92									
DRAWN	M. WALTER										
DATE	1/94	<b>OUTCROP GEOLOGY</b> 									
CHECKED											

DRAWING ID: 5535/018  
 FILENAME: WINTER PLAN 4