RGC EXPLORATION PTY. LIMITED

084001

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E.L. 101/87 DUNDAS AND

E.L. 13/88 MOORES PIMPLE

ANNUAL REPORT FOR THE TWELVE

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Compiled By: D.J.F. Crossing
Senior Geologist

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Endorsed By: M.J. Fleming
Senior Exploration Geologist

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SUMMARY

ELs 101/87 and 13/88 together cover 93 square kilometres of mostly mountainous rainforest stretching from west of Rosebery to Mt. Dundas. RGCE acquired the area because of its perceived potential for structural and replacement style tin deposits similar to those mined on the adjacent Renison Mine Lease, and structurally related gold deposits possibly similar to the Henty deposit.

The area is dominated by volcaniclastic and epiclastic sediments of the Cambrian Dundas Group, with lesser occurrences of Crimson Creek volcaniclastics, Cambrian ultramafic complexes and psammo-pelitic sediments of the Proterozoic Oonah Formation.

In addition to the world class Renison Bell tin mine, a number of small tin, copper-nickel and silver-lead-zinc deposits have historically been mined in the area. Additionally, numerous companies have in recent times explored for base metals at Dundas and tin in the northern half of the tenements.

Work completed from 1988 to 1990 by RGCE was concentrated along the Montezuma Fault (for tin) and Rosebery Fault (gold) and included gridding, mapping, C-Horizon and Wacker-bedrock geochemistry, gradient-array and dipole-dipole IP, and ground and airborne magnetics. This work culminated in the identification of drilling targets at Greens Prospect (tin), North Montezuma (tin) and Bathers Creek (gold), all of which were drilled during 1989/90. No significant mineralisation was intersected with the exception of 8.2m x 0.32% Cu, 0.35% Zn in MZ004 at Greens Prospect.

During 1990/91 activity on the tenements was greatly reduced as a consequence of continuing low tin prices, and in 1991/92 work was restricted to a follow-up of base metal anomalism outlined during the 1989/90 programme on the Mt. Dundas Grid. The anomalism was found to be associated with moderate pyrite-sericite alteration of Dundas Group mudstones, greywackes and carbonates in the footwall of the Rosebery Fault, and is probably of Devonian origin.

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It is proposed to do Isotope studies in the near future to determine if this alteration is related to Devonian magmatism or possible VMS-related Cambrian alteration.

A minimum of 50% of the combined area of these tenements is to be relinquished prior to the commencement of the next phase of work.

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1. INTRODUCTION

The adjoining licences E.L. 101/87 (Dundas) and E.L. 13/88 (Moores Pimple) were granted in 1988 as a result of successful tender applications, and in 1989 a successful application for untenured ground resulted in the acquisition of E.L. 45/88, which was incorporated into 101/87. The combined area of the E.L.s is now 93 square kilometres, with 24.8 square kilometres of exclusions. The E.L.s are regarded as geologically continuous and have been explored and reported as one complete block. The licences are held by Renison Ltd., and explored by RGC Exploration Ltd., both wholly owned subsidiaries of RGC Ltd.

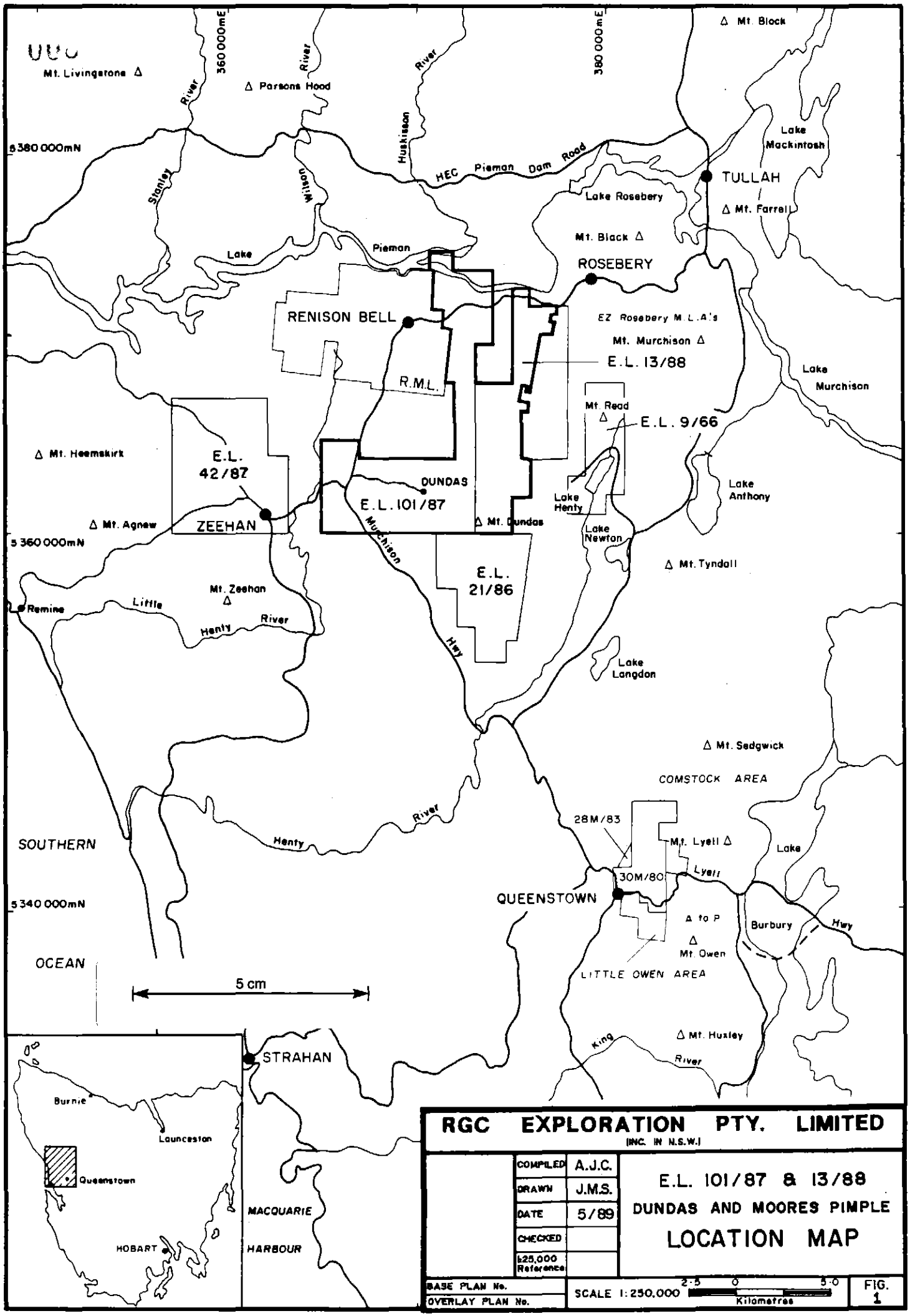
The licences cover an area of heavily forested mountainous terrain to the east of the Murchison Highway between Rosebery and Mt. Dundas to the south (Figure 1). Access is gained via the highway, the abandoned North-East Dundas Tramway, old walking tracks and various old exploration tracks constructed by previous explorers and upgraded by RGCE.

Numerous companies have explored the area in the past, and over 150 drillholes have been completed. However the bulk of this work was concentrated in a few small areas occupying about a third of the E.L.'s, and often did not target commodities such as gold and tin. Renison Ltd. showed interest in the area from the early 1960s, mainly because of its proximity to the mine lease surrounding Renison Bell tin mine, and has held portions of the area since that time, primarily to explore for tin.

Current exploration on the licences is conducted by RGCE, and has been targetted at tin and gold, and to a much lesser extent base metals and PGEs. However during 1990/91 the emphasis has moved away from tin as a result of continuing low tin prices, and instead the area is being reassessed for its base metal potential. Possible targets for base metals include skarns (cf. Colebrook Hill) and VMS, the latter based on recent stratigraphic work that suggests the stratigraphic level of Hercules and

Rosebery, may occur south of Hercules in areas designated as White Spur Formation (Dundas Group) rather than in Mt. Read Volcanics.

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(INC. IN N.S.W.)

COMPILED	A.J.C.
DRAWN	J.M.S.
DATE	5/89
CHECKED	
1:25,000 Reference	

E.L. 101/87 & 13/88
DUNDAS AND MOORES PIMPLE
LOCATION MAP

BASE PLAN No.
OVERLAY PLAN No.

SCALE 1:250,000 (2·5 0 5·0 Kilometres)

FIG. 1

2. LAND TENURE

EL 101/87 was granted in July, 1988 and EL 13/88 in October, 1988, both as a result of successful tender applications. EL 45/88 was granted in February, 1989 as part of an expanded EL 101/87.

EL 101/87 totals 64 square kilometres, with 10.1 square kilometres of exclusions as listed in Table 1.

EL 13/88 totals 29 square kilometres, with 14.7 square kilometres of exclusions as listed in Table 1.

The combined ELs also contain several small Crown reserves, roadway, and timber reserves. The remainder is vacant Crown land. In 1989 nearly a half of EL 13/88 and a small portion of 101/87 became Nominated National Estate, and a similar though smaller area has been included in Recommended Areas for Protection by the Working Group for Rainforest Protection.

During 1991/92 the only change to the tenement situation was the dropping of 62M/87 held by F.W. Groves, and the transfer of leases held in the name of Minops to Paringa. The current situation is summarised as Figure 2.

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TABLE 1

Exclusions from EL 101/87 and EL 13/88

	Tenement	Title Holder	Comments
101/87;	3W/73	Paringa	Razorback tin deposit leases
	11W/74	Paringa	Razorback tin deposit leases
	62M/75	Paringa	Godkin Prospect
	6M/77	Minops	Razorback tin deposit leases
	86M/77	Minops	Razorback tin deposit leases
	87M/77	Minops	Razorback tin deposit leases
	22M/74	S. Dohnt/Rowbottom	"Red Lead" Crocoite mine
	74M/74	F. Mihajlowits	Adelaide Crocoite mine
	39M/75	Minetech	South Comet lead-zinc deposit
	40M/75	Minetech	South Comet lead-zinc deposit
	63M/84	F.W. Groves	Quarries
	26M/85	M.J. Adams/ Cochrane/Hall	Lapidary Club Fossicking Area
	MR	S. Dohnt	1 ha Miners Right (Kapi Mine)
13/88;	445/W	Pasminco	Rosebery/Herculese mine leases
	2270/W	Pasminco	Rosebery/Herculese mine leases
	9075/M	Pasminco	Rosebery/Herculese mine leases
	9749/M	Pasminco	Rosebery/Herculese mine leases
	1000/M	Pasminco	Rosebery/Herculese mine leases
	2529/W	Pasminco	Rosebery/Herculese mine leases
	10635/M	Pasminco	Rosebery/Herculese mine leases
	10638/M	Pasminco	Rosebery/Herculese mine leases
	33M/38	Pasminco	Rosebery/Herculese mine leases
	39M/39	Pasminco	Rosebery/Herculese mine leases
	70M/46	Pasminco	Rosebery/Herculese mine leases
	99M/56	Pasminco	Rosebery/Herculese mine leases
	7M/82	Pasminco	Rosebery/Herculese mine leases
	33M/89	Pasminco	Rosebery/Herculese mine leases
	MR	J. Dohnt	1 ha Miners Right (Colebrook Hill)

084012

365 000mE

370 000mE

375 000mE

ROSEBERY

RENISON BELL

MURCHISON HIGHWAY

COLEBROOK HILL FOSSICKING AREA

J. DOHNT (Colebrook)

5 370 000mN

MINOPS (Godkin)

E.L. 18/86 M.G. CREASY

PASMINCO

WILLIAMSFORD

PASMINCO (Rosbery/Hercules mine leases)

RENISON M.L.

N.E. DUNDAS TRAMWAY

EXEMPT AREA

S.DOHNT (Kapi)

N.E. DUNDAS TRAMWAY

HIGHWAY

MURCHISON

5 365 000mN

E.L. 13/88

MINOPS (Razorback)

MIHAJLOWITS (Adelaide)

GROVES

BENNETT (S.Comet)

DOHNT/ROWBOTTOM (Red lead)

E.L. 101/87

5 cm

RGC EXPLORATION PTY. LIMITED

INCORPORATED IN NEW SOUTH WALES

COMPILED	J.C.
DRAWN	M.W.
DATE	
CHECKED	
1:250 000 Reference	

E.L. 101/87 & 13/88

LAND TENURE

BASE PLAN No 5522/003

OVERLAY PLAN No

SCALE 1:50 000 0 1Km

2

3. PREVIOUS WORK

Galena was first discovered at Dundas in 1887, and this led to the development of several important silver-lead mines in the Dundas area. Mining had practically ceased by 1913, by which time the Dundas Field had achieved a recorded total production of 25,050 tons of lead, 629.5 tons of zinc and 1,815,592 ounces of silver.

Alluvial tin was found in the Ring River as early as 1890, and cassiterite bearing gossans were located on Commonwealth Hill around 1893. Ultimately these and other discoveries lead to the development of the major Renison Bell tin field, and the small Exe River tin field nearby. In 1909, additional discoveries were made in the Razorback-Grand Prize area. By 1962, recorded production of tin metal from Renison Bell was 3372 tons, with an additional 21 tons from Exe River and 67 tons from Razorback-Grand Prize. Since then, tin production was restricted to the Renison Mine, which was treating around 850,000 tonnes of ore per annum by 1987. Published ore reserves (Proven + Probable) stood at 14 million tonnes grading 1.2%Sn that year.

Production of other commodities has included small tonneages of Copper-Lead-Silver from several mines in the North Dundas area, Copper-Axinite at Colebrook Hill and Copper-Nickel in ultrabasic intrusions in the Cuni area. Total copper production was around 700 tons. Chrysotile asbestos was mined in small quantities at Tunnel Hill.

Modern mining, apart from Renison tin mine, has been restricted to small scale extraction of mineral specimens of axinite at Colebrook Hill and crocoite at the Red Lead, Adelaide and West Comet mines at Dundas. In addition, Pb-Zn ore was extracted from the South Comet Mine during 1991/92.

Modern exploration by various companies since 1950 (including RGCE affiliates) is covered in detail in the 1988/89 Annual Report (Cartwright, 1989) and will not be reiterated here. A brief summary is provided as Table 2, and the areas covered by this exploration are

shown in Figure 3.

Exploration by RGCE since 1988 has been targetted mainly at tin and gold. The tin search has centred mainly on the N-S to NNW trending Montezuma Fault, which is covered by the Montezuma grid. This work identified drilling targets at Greens Prospect in the centre of the grid, and North Montezuma at the northern end. Drilling has adequately tested these prospects without significant success and no further drilling is proposed. During 1990/91, the work programme involved additional reconnaissance mapping and a regional gravity programme to delineate new tin targets. Detailed mapping was conducted in the Carbine Hill Area, above a granite cupola interpreted from the gravity data. However since then RGCE has moved away from tin exploration and only follow-up work on base metal anomalies is proposed at Carbine Hill.

The gold search has centred on the Rosebery Fault, a major regional structure that separates the White Spur Formation to the east from other Dundas Group sediments and volcaniclastics. This involved the Ring River Grid at Bathers Creek and the more recent Mt. Dundas Grid further south. No further work is proposed at Bathers Creek after an unsuccessful drilling programme. The Mt. Dundas grid was mapped and covered by ground magnetics and limited C-Horizon geochemistry. In addition, a stream sediment sampling programme was begun east of the grid.

A review of base metal (particularly Zn) potential was initiated in 1991 and has continued to the present.

TABLE 2

PREVIOUS WORK IN DUNDAS/MOORES PIMPLE AREA

COMPANY	PERIOD	PROSPECT(S)	COMMODITIES	METHODS	RESULTS
BMR	1959/60	Razorback Grand Prize	Sn	Turam, Sp Magnetics	Inconclusive except over known mineralisation.
PLACER	1964/66	Razorback Grand Prize	Sn	Underground Drill Mining	No new orebodies found. The prospects are not connected.
N.C.G.F.	1966/71	N. Dundas (Montezuma)	Sn	Magnetics, VHEM Mapping Geochem	Coincident Magnetic and Tin-in-Soil anomaly on Montezuma Fault. Not considered worth drilling.
GEOPHOTO	1968/74	Dundas	Pb Zn Ag	IP, REM, SP, Mag Mag Mapping Geochem 79 Drill Holes	Intensive drilling located Pb Zn Ag in several thin fissure veins separated by barren host rocks. Didn't meet corporate objectives.
COMSTAFF	1970/85	E. Renison Godkin	Sn	IP, Input, Mag Mapping 58 Drill Holes	Intensive drilling defined: Tin Vein; 0.4Mt x 1%Sn, .2% Cu Salmon Vein; 0.8Mt x 3 % Pb, 2% Zn Godkin; 0.3Mt x 0.9% Sn.
CSR	1976/87	Nevada Razorback Montezuma Carbine	Sn Cu Pb Zn Au	Em, Mag, IP Dighem, Input Mapping Stream Geochem. Soil Geochem 7 Drillholes	Several Geochem. anomalies identified and followed up but more were drilled. Airborne geophysic anomalies were followed up by 7 unsuccessful holes.
EZ/GETTY EZ/CSR	1978/87	Colebrook Hill Ring R Mt.Dundas Montezuma	Sn Cu	Input, Dighem Turam, IP Mapping Geochem. 28 Drillholes	Several encouraging Sn &/or Cu intersections at Colebrook Hill (23 holes). Only minor Sn, Pb intersections on Montezuma Fault (5 holes). Deep hole proposed.

CR 89-0134

084016

365 000mE

370 000mE

375 000mE

5 370 000mN

5 365 000mN

ROSEBERY

RENISON BELL

MURCHISON HIGHWAY

EAST RENISON (COMSTAFF)

COLEBROOK HILL

WILLIAMSFORD

RENISON M.L.

GODKIN (MINOPS/COMSTAFF)

N.E. DUNDAS TRAMWAY

HERCULES

CARBINE (RGC)

N. DUNDAS (NCGF)

RING RIVER (EZ/GETTY)

MONTEZUMA (EZ/CSR)

GRAND (BMR)

PRIZE

BLACK HILL (RGC)

HIGHWAY

SOUTH NEVADA (CSR)

MURCHISON

RAZORBACK (CSR)

RAZORBACK (BMR)

CARBINE (CSR)

MOORES PIMPLE

E.L. 13/88

MONTEZUMA (GEOPHOTO)

DUNDAS GRIDS (GEOPHOTO)

BLACKJACK (AMOCO)

MISERY HILL (CSR)

BLACKJACK (TENNECO)

E.L. 101/87

MT. DUNDAS

5 cm

0 1 2km

LEGEND

BLACKJACK (AMOCO) — PREVIOUS GRIDS

PREVIOUS DRILLHOLES

ROAD

TRAMWAY

MAJOR MINE

SMALL MINE

RGC EXPLORATION PTY. LIMITED

INCORPORATED IN NEW SOUTH WALES

COMPILED		E.L. 101/87 & 13/88
DRAWN	S.N.L	
DATE	MAY 1990	PREVIOUS WORK
CHECKED		
1:250 000 Reference		

BASE PLAN No 5522/002 SCALE 1:50 000 3

OVERLAY PLAN No

4. REGIONAL GEOLOGY

Po

The oldest rocks in the area are correlates of the Precambrian Oonah Formation, occurring NW of Mt. Dundas and north of Moores Pimple. The former occurrence includes the type section of the Concert Schist (Poc) as described by Blissett (1962) - a sequence of strongly cleaved, interbedded quartz-muscovite schists, quartzites and occasional carbonate interbeds. Surrounding these are less deformed micaceous quartzites and grey to black graphitic siltstones and shales of the (undifferentiated) Oonah Formation, a turbiditic sequence which, in the Zeehan area, passes upward into shallow water sediments of the "Upper" Oonah Formation. A poorly sorted, matrix-supported carbonate rich conglomerate (Pod) often occurs at the contact, with trends reflecting those of the overlying Poc.

Ꞓs

Missing from the E.L.s is the Success Creek Group which in the type section along the Pieman River consists of about 1000m of shallow water laminated siltstones and shale, with interbedded sandstone and conglomerate. The so-called Renison Mine Sequence straddles the contact between Ꞓs and the overlying Crimson Creek Formation (Ꞓc). The mine sequence includes three persistent dolomite horizons, which between them host virtually all stratabound tin orebodies at Renison. The middle of these (No. 2 Horizon) occurs at the transition from shallow water sediments (finely interbedded sandstones and laminated siltstones of the Renison Bell Member) to volcaniclastics and related sediments (volcaniclastic agglomerates, red cherts etc. of the Red Rock Member) and is interpreted to be the contact between Ꞓs and the conformably overlying Ꞓc.

The relationship between Ꞓs and the Oonah Formation is not as well understood. Blissett (1962) considered Ꞓs sediments to be conformable with and therefore part of the Oonah Formation at Zeehan.

€c

The Crimson Creek Formation was defined near Renison Mine, where it consists of about 3,500 metres of turbiditic volcaniclastic lithic wackes (derived from erosion of mafic volcanics), massive siltstones and mudstones and basaltic lava flows. Numerous gabbros intrude this sequence in the vicinity of Renison, and occasional impure dolomitic horizons have been recorded. Occurrences of €c on the E.L.s are restricted to the vicinity of Colebrook Creek (2 km east of Renison) and Colebrook Hill, although Brown (1986) disputes the latter is €c because of the presence of acid to intermediate volcanic detritus in the lithic wackes there, rather than the basaltic detritus of the type section. No mapping of €c occurrences has yet been undertaken by RGCE in these areas.

€d

Epiclastic and volcaniclastic sediments of the Dundas Group dominate the area covered by the E.L.s, and the type-section of the Group is on E.L. 101/87 near Dundas. The group is essentially a sequence of turbiditic to shallow water sediments dominated by immature conglomerates, monotonous siltstones and shales with some sandstone and grit interbeds. Acid to intermediate tuffs and related volcaniclastic sediments, and minor lava flows, appear higher in the sequence. Units of the Group typically exhibit both vertical and lateral facies variation, resulting in marked variations in thickness and contacts that are often interfingered or gradational. Hence stratigraphic correlation is generally only possible over short distances, especially for immature conglomerates and volcaniclastics. The Dundas Group sequence is repeated north and south of the Dundas Serpentinite with a southerly facing in both cases, suggesting a major structural hiatus associated with the ultramafics.

The relationship between the Dundas Group and underlying Crimson Creek Formation is not well understood, as no unfaulted contacts between the two have yet been observed in the area. Mostly the

two are separated by ultramafic complexes.

€u

Cambrian ultramafic complexes occur at a number of locations throughout the E.L.s, including the blind ultramafic complex at "Greens Prospect". Typically, the complexes exhibit a high degree of internal deformation, and are strongly serpentinised as a consequence. The only exception is the Serpentinite Hill complex, which includes core areas of relatively undeformed, unserpentinised dunite and pyroxenite surrounded by sheared serpentinite and intruded by gabbro.

The ultramafic at "Greens Prospect" is similar to the Dundas ultramafic complex in that it consists of serpentinite with a high chromite content and a high level of internal deformation. Aeromagnetic evidence suggests the ultramafic is a cross-faulted extension of the Colebrook Hill complex, and may link that complex with the Dundas complex.

Current tectonic theory has these ultramafic complexes emplaced as allochthonous thrust sheets emplaced during the mid-Cambrian (Berry & Crawford, 1988). The presence of mafic/ultramafic pebbles in basal conglomerates of the Dundas Group is evidence that these sheets were emplaced over Crimson Creek turbidites prior to deposition of the Dundas Group.

€g

Gabbros occur within the ultramafic complexes, and as separate, irregular intrusions within €c mainly, but also in €d sediments.

Dg/Dp

The Pine Hill Granite (Dg) intrudes the €c/€u contact at Pine Hill, 800m west of the boundary of E.L. 101/87. The granite is described as a porphyritic adamellite, and is thought to be part of a multiple intrusive body. The Pine Hill outcrop represents a cupola on this body, and is affected by an early phase of alteration involving silicification and sericitisation, followed

by boron metasomatism resulting in local greisen development with quartz, tourmaline, topaz, muscovite, minor cassiterite, molybdenite, wolframite, bismuth and fluorite. Quartz-tourmaline veining occurs over a wide area around the granite, and extends onto E.L. 101/87.

A genetically related quartz porphyry (Dp) dyke extends onto 101/87 from Pine Hill. Although generally barren, these porphyries do sometimes host cassiterite mineralisation at Rension (e.g. Dalcoath opencut).

The 1990/91 gravity survey delineated all known granitic cupolas (Pine Hill, Colebrook Hill, Rosebery), and an additional culmination some 750m below surface at Carbine Hill.

Dos

In the southwest corner of E.L. 101/87, the Dundas Group is overlain, possibly above a disconformity, by Ordovician, Silurian and Devonian sediments. The Florence Quartzite (Df) provided a useful marker horizon for airphoto interpretation.

Precambrian Structure

The Oonah Formation at Dundas generally possesses a higher degree of deformation than Palaeozoic units. This deformation is interpreted as occurring during the Precambrian Penguin Orogeny, and is overprinted by Palaeozoic deformations. The core area of the Concert Schist exhibits even higher grades of deformation, with the development of a strong schistosity.

Cambrian Structure

The main structural and stratigraphic feature of the area is the Dundas Trough, the main features of which are listed below:

1) Correlates of the highly deformed Oonah Formation are present on directly opposite sides of the trough.

2) The thick Mt. Read felsic volcanic belt (MRV) occurs along the eastern margin of the trough, but has no correlates on the western side. Such felsic successions have their modern analogues in Andean-style subduction zones.

3) Early shallow water deposits (Ɛs), followed by greywackes and tholeiitic lavas (Ɛc) and finally Dundas Group sediments infill the trough. Sediment input was rapid.

4) Mafic-ultramafic complexes (MUC) with the characteristics of ophiolites are present as fault-bound slices interdigitating with these sediments. Modern analogues occur in mid-ocean ridge and oceanic island arc settings.

5) Dundas Group sediments are derived partly from the Mt. Read Volcanic Belt, partly from Precambrian sources and partly from intra-trough sources including small quantities of ultramafic and gabbroic material.

A number of alternate plate tectonic models have been proposed to explain these features, however no unifying model has been proposed that adequately explains them all. A combination of early rifting and later thrusting seems to best explain the observed features.

Evidence of thrusting is observeable within the MUC's which often exhibit a high degree of internal deformation and dismembering. All contacts with Ꞓc and older units are faulted, but contacts with Dundas Group rocks are more complex, varying from unconformable to complex faulted with apparent interfingering. The Dundas Group appears to post-date any thrusting involving the MUCs, and probably unconformably overlies them. Thus Dundas Group sediments are probably obscuring many Cambrian tectonic features.

The Rosebery Fault represents a major Cambrian thrust that is not associated with MUCs.

Devonian Structure

The Devonian Tabberabberan Orogeny produced most of the observable folding and faulting that has been mapped in the Dundas area, and Tabberabberan fold interference patterns seem to have exercised a degree of control on the shape of Devonian granite intrusions, as interpreted from regional gravity data (Leaman 1989).

The main structural components of Devonian Orogeny are most easily observed in Silurian-Ordovician sediments southwest of the E.L.s, because these have not been affected by earlier deformations. The pattern of folds in these rocks reflect compression in two principal directions:

1) NE/SW - producing NW trending close to tight fold axes.

2) NW/SE - producing NE trending open folding that resulted in strong interference patterns with the NE/SW folds.

The main folds thus generated in the vicinity of the E.L.s are:

1) Huskisson Syncline - A major regional syncline with a NW-SE trending axis which extends onto E.L. 101/87 west of Colebrook Hill.

2) Renison Anticline - An open, SE plunging anticline the axis of which extends through Renison Bell, where it is accentuated by normal faulting that produces a SE trending Horst block between the Federal-Basset and Argent Faults. Dundas Group sequences between Renison Bell and Williamsford are folded gently around this regional feature.

3) Dundas Anticline - This domal feature is complicated by Precambrian deformation within the core of Oonah Formation sediments, and by the presence of a pre-existent basement high.

Faulting exhibits two dominant trends on the E.L.s.

1) NNW - steeply dipping faults exhibiting limited dip-slip to oblique slip displacement.

2) NE - steeply dipping faults exhibiting more significant displacement.

There is no evidence to suggest that the Federal-Bassett Fault (FBF), which is the main mineralising structure at Renison, continues across the MUC northeast of Pine Hill. Nor is there any evidence that it continues as the Montezuma Fault. The FBF either "feathers out" to form a monocline before reaching the MUC, or the ductile MUC has "absorbed" the displacement, thus terminating the structure.

Mineralisation

The copper-nickel mineralisation at Cuni, and the platinoid enriched zones in the ultramafics from which osmiridium placers derived, both resulted from Cambrian processes of magmatic segregation. All other styles of mineralisation are ultimately a product of Devonian granite intrusion.

A broad zonation of Devonian mineralisation occurs, centred on the Heemskirk-Pine Hill-Granite Tor ridge of granitic intrusion. A central zone of sulphur-rich tin deposits occurs within 2km of the granite surface, and an outer zone of "sulphur-poor" base metal deposits extends up to 10km from the granite. This apparent zonation is a result of "telescoping" of earlier, magmatically derived tin bearing fluids and later meteoric fluids that deposited base metals.

Historical production of gold was limited to small quantities of alluvial gold won from Melba flats.

5. WORK COMPLETED 1991/92

Work was limited to the completion of a stream sediment sampling programme east of Mt. Dundas, which was begun during 1990/91, and a follow-up of base metal anomalism delineated on the Mt. Dundas Grid as a result of the 1990/91 C-Horizon soil sampling programme.

The stream-sediment sampling programme was designed to test first and second order creeks flowing east from Mt. Dundas. The aim of the survey was to test the area for anomalous gold, which previous surveys of the area had not analysed for (Discala, 1974). It was hoped that some gold mineralisation might occur in turbiditic siltstones and feldspar-quartz phyric tuffs of the White Spur Formation in the hangingwall of the Rosebery Fault.

The samples were sieved to -200# without panning and flocculated to settle in small vials which were submitted to Becquerel for analysis by neutron activation (Gold + 26, method 1801). The method was chosen because it avoids the necessity for preconcentration of heavy minerals by panning, and by choosing -200# the effects of hydraulic concentration of gold by sediment traps is minimised. Altogether, 24 samples were submitted including one standard.

The follow-up of base metal anomalism on the Mt. Dundas grid was aimed at determining the source of two large, low amplitude anomalies. The first was a 1.2km long Zn Pb (Cu As Sb) anomaly 100m west of and parallel to the Rosebery Fault, hosted by carbonate-rich siltstones and greywackes of the Dundas Group in the southern half of the grid. The second was a broad Zn, As (W) anomaly extending over polymict conglomerates and rhyolitic volcanics of the Dundas Group, and an altered ultramafic, in the northern half of the grid.

The follow-up included rock chip sampling and supplementary geological mapping across anomalous zones, using creeks where

possible to provide a more complete section. Altogether 29 rock chip samples were collected, and submitted to Analabs where they were analysed for Cu, Pb, Zn, Ag (AAS-Method 101) and Sn (XRF-Method 401). A portion of the pulps were forwarded to Becquerel and analysed by neutron activation for "Gold+26" (NAA-Method 1801).

Sample locations for both surveys are plotted on Plan 4, and selected analytical results are plotted as Figures 4-10. These plans and figures include data from previous surveys. Analytical results are included as Appendix 1.

6. RESULTS

The stream-sediment sampling programme east of Mt. Dundas failed to detect significant gold anomalism. Only two samples returned values above the 5 ppb detection limited, viz:

T35701	7.5 ppb Au
T35704	31.5 ppb Au

Neither value is considered to warrant any follow-up work.

The follow-up of soil geochemistry base metal anomalies on the Mt. Dundas Grid identified the source of mineralisation for the two anomalies investigated (Figures 4 to 6):

1) A Pb, Zn (Cu As Sb) anomaly that extends SW from grid co-ordinates 2600N/4900E to 1400N/5325E.

The mineralisation is hosted by carbonate-rich grey siltstones, greywackes and silty dolomites of the Dundas Group. Small quantities of lithic-arenite and breccia are also present in the sequence. The sediments are in the footwall of the Rosebery Fault, which is interpreted to separate them from the White Spur Formation to the SE. They trend NE sub-parallel to the interpreted trend of the Rosebery Fault and dip steeply SE (Plans 2 and 3).

Up to 10% finely disseminated pyrite is associated with weak to moderately sheared, dark grey, carbonaceous and micaceous siltstones, which are occasionally bleached to a light grey/green colour as a consequence of moderate sericite-pyrite alteration. Zn values up to 258 ppm are associated with the pyritic mineralisation (T35728).

The minor shear zones which appear to localise this mineralisation strike sub-parallel to the interpreted trend of the Rosebery Fault (at a low angle to bedding) and dip SE at around 70 degrees. A significant fault of similar attitude crosses line 1800N at 5325E, very close to the interpreted position of the Rosebery Fault. The structures are probably all related.

A band of silty dolomite crosses line 1600N at 5225E and line 1800N at 5525E. They are massive, light grey rocks with a weak fizz in dilute HCl, with orange/brown limonitic weathering skins. They contain occasional ferruginous veinlets and up to 3% fine disseminated pyrite. Zn values up to 885 ppm (T35732) are associated with the weak pyritic mineralisation. It is unclear how this mineralisation relates to the abovementioned shear zones and faults.

In addition to these results, the following anomalous rock chip samples were recorded in the area by Roger Poltock during the 1989/90 mapping programme (1989/90 Annual Report):

T26807	Gossan, brecciated chert & grit with Py (735 ppm Zn)
T26836	Silicified siltstone with Py-Cp veinlets (550 ppm Cu)
T26868	Calcareous greywacke breccia with Py-Gl-Sl veinlets (3175 ppm Pb, 1% Zn).

2) A broad Zn, As (W) anomaly covering gridlines 3800N and 4200N west of the 5000E baseline (Moores Pimple area).

The mineralisation extends over Dundas Group polymict conglomerates, altered Cambrian ultramafics and rhyolitic volcanics of the White Spur Formation (?) in a fault bound wedge between the Rosebery Fault and a northerly trending fault.

Alteration is most intense in the case of the ultramafic which is altered to a cherty silica-fuchsite-limonite rock, with up to 10% fresh pyrite. The ultramafic unit appears to be associated with the northerly trending fault, and cross-cuts Dundas Group sediments discordantly. Dundas Group conglomerates adjacent to the ultramafic contain numerous fuchsitic clasts. However only low levels of Zn (up to 119 ppm) and Cu (up to 121 ppm) are associated with the alteration.

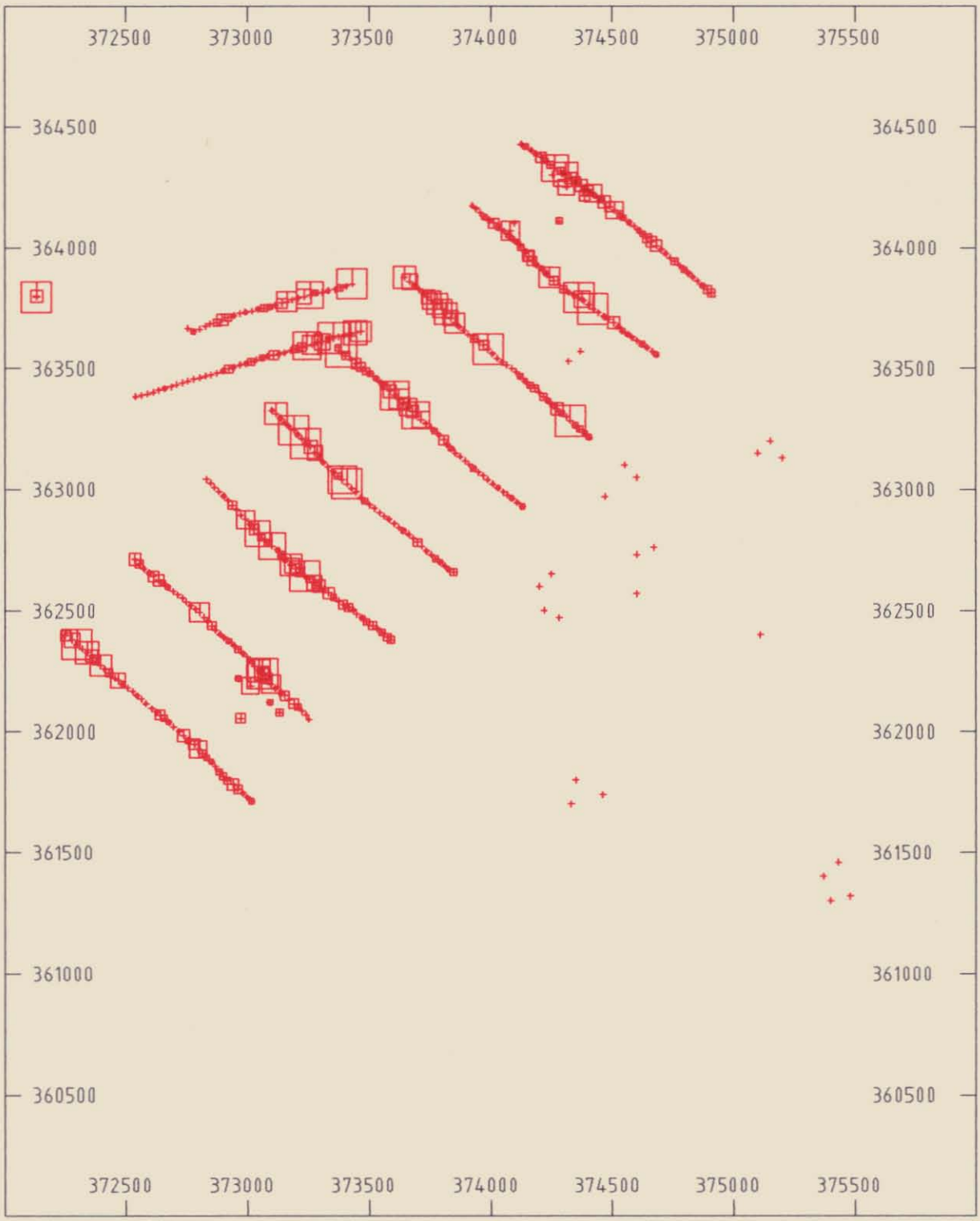
Alteration is patchy within the polymict conglomerate, and varies from widespread minor disseminated pyrite to locally more intense alteration typified by silicification, carbonation and sericitisation with up to 10% pyrite. At one location (T35745), visible disseminated sphalerite and galena was spatially associated with a small stockwork of ferruginous fractures and strong carbonate alteration trending 160 degrees (AMG). The sample assayed 0.20% Pb and 0.26% Zn. This veining is similar in style and orientation to thin (3") galena veining reportedly encountered in the nearby Moores Pimple mine (Cartwright, 1989). In these workings, which were not visited, the mullock reportedly consists of carbonate-fuchsite-silica altered ultramafic, and veining trended roughly N-S paralleling the ultramafic.

The rhyolitic volcanic is a massive fine grained siliceous unit thrust over the conglomerates (and ultramafics ?) along the Rosebery Fault, which

actually outcrops at 4000N/4830E. At this location the fault dips at 30 degrees toward 100 degrees AMG, and the topographic effect of this shallow dip combined with the steep slope of Moores Pimple (situated between 4000N and 3800N) produces the lobate form of the outcrop of felsic volcanics (Cvf) on Plan 3. Sample T35748 was taken from the fault and was slightly anomalous for lead (370 ppm) and zinc (143ppm). The felsic volcanics are locally brecciated, containing irregular stockworks of ferruginous fractures with minor associated sericitic alteration and up to 5% disseminated pyrite. Samples were slightly anomalous for Cu (up to 121 ppm) and Zn (up to 153 ppm).

In summary, the rock chip sampling was successful in locating and identifying the source of base metal anomalism on the Mt. Dundas grid. At least some of the mineralisation is associated with base metal veining of Devonian origin, similar in style to other veins mined in the North Dundas Mineral Field (e.g. sample T35745). Furthermore, in the Moores Pimple area alteration is spatially associated with major faults and appears relatively independent of and perhaps discordant to stratigraphy. However in the southern end of the grid the possibility that at least some of the mineralisation and alteration is stratabound and of Cambrian origin cannot be ruled out.

The only other result received during 1991/92 was a petrographic report on a feldspar-quartz phyric volcaniclastic belonging to the Dundas grid which was collected during the 1990/91 follow-up of aeromagnetic anomalies. It is included as Appendix 2.



UPPER LIMIT 200ppm

5 cm

RGC EXPLORATION PTY. LTD.

COMPILED	J.C.
DRAWN	M.O.W.
DATE	4/92
CHECKED	
SCALE	1:25000

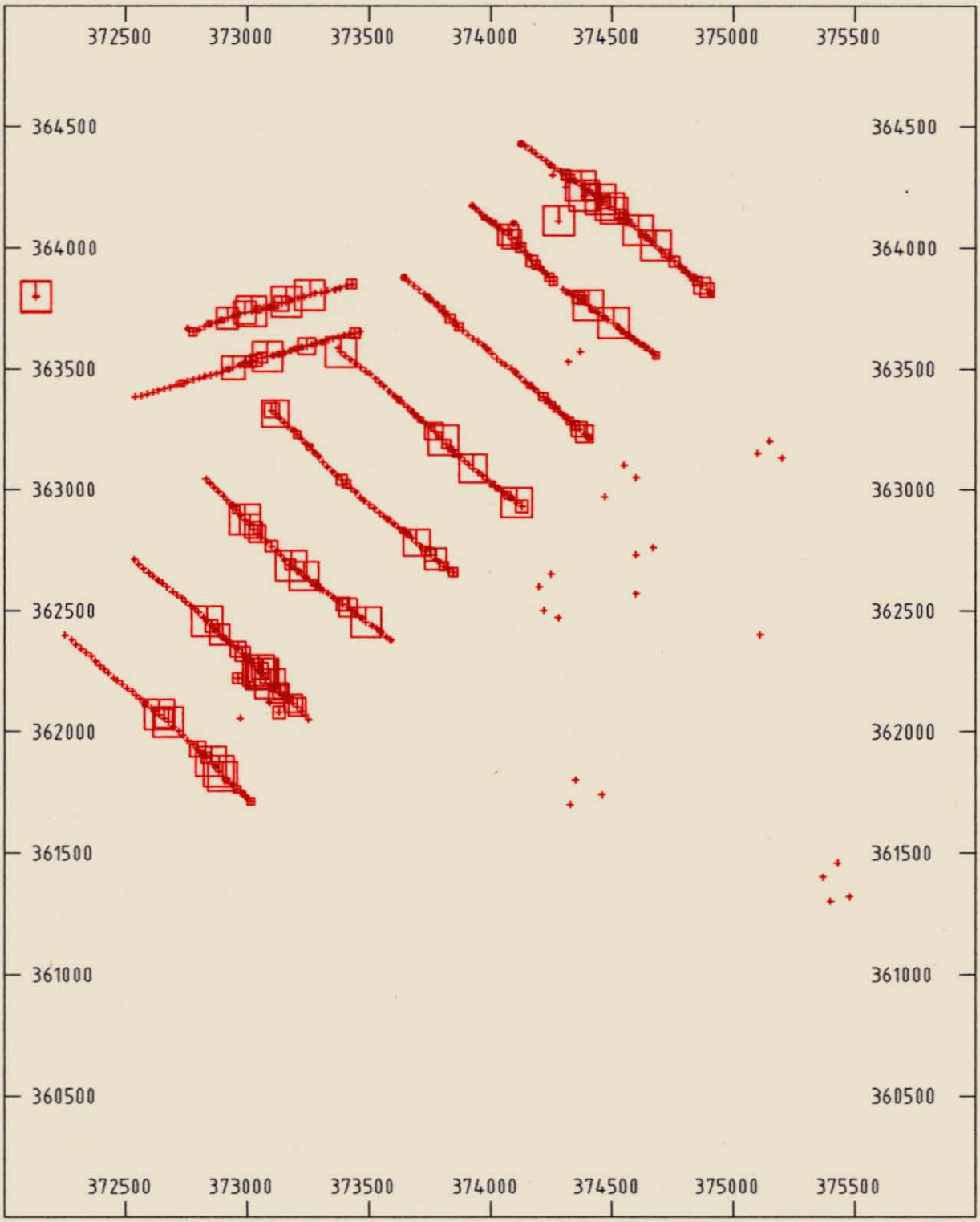
MT. DUNDAS GRID E.L.101/87 & 13/88

SOIL & ROCK GEOCHEMISTRY

Cu

DRAWING ID. 5522/059

FIG. 4



UPPER LIMIT 200ppm

5 cm

RGC EXPLORATION PTY. LTD.

COMPILED	J.C.
DRAWN	M.O.W.
DATE	4/92
CHECKED	
SCALE	1:25000

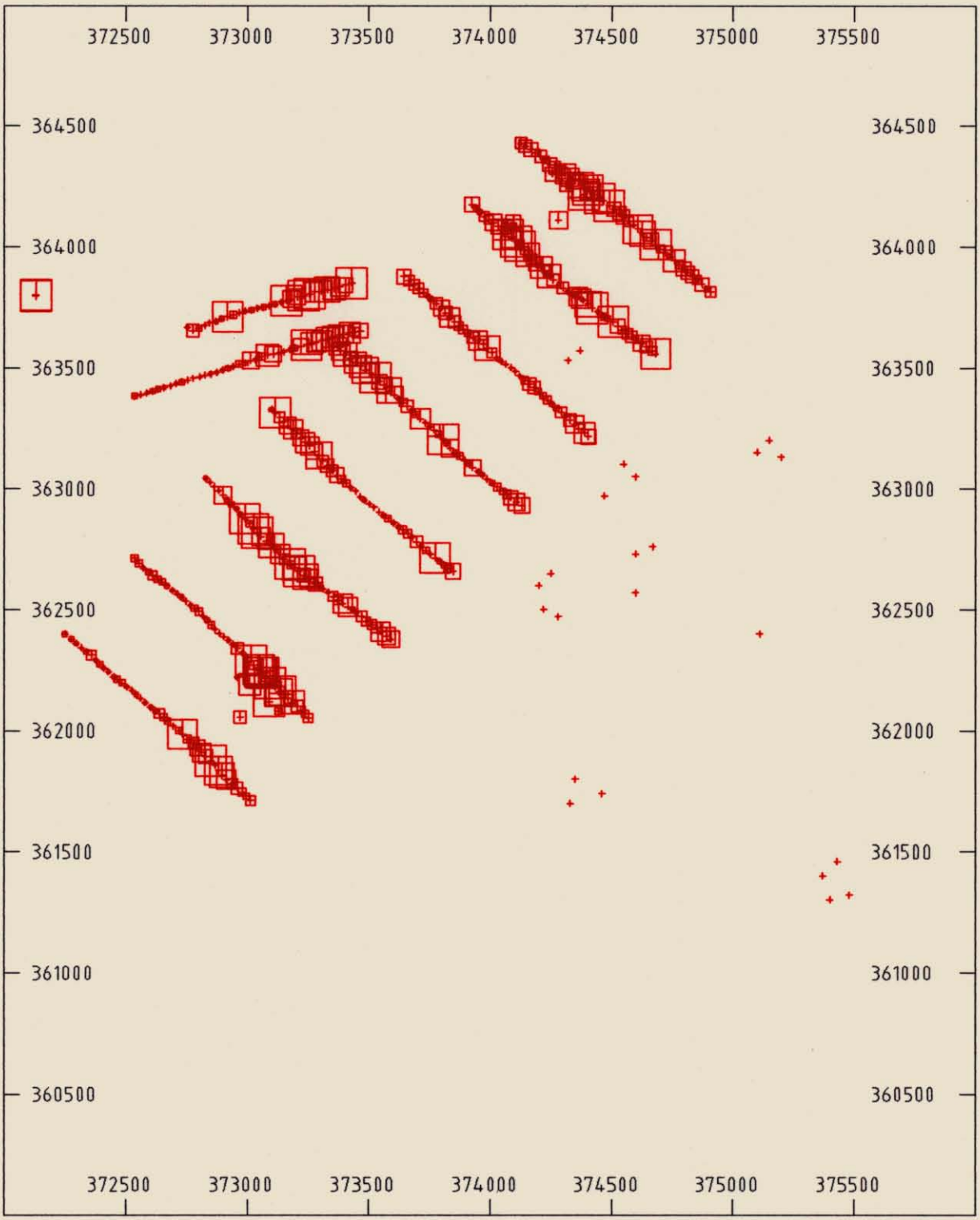
MT. DUNDAS GRID E.L.101/87 & 13/88

SOIL & ROCK GEOCHEMISTRY

Pb

DRAWING ID. 5522/060

FIG. 5



UPPER LIMIT 250ppm

5 cm

RGC EXPLORATION PTY. LTD.

COMPILED	J.C.
DRAWN	M.O.W.
DATE	4/92
CHECKED	
SCALE	1:25000

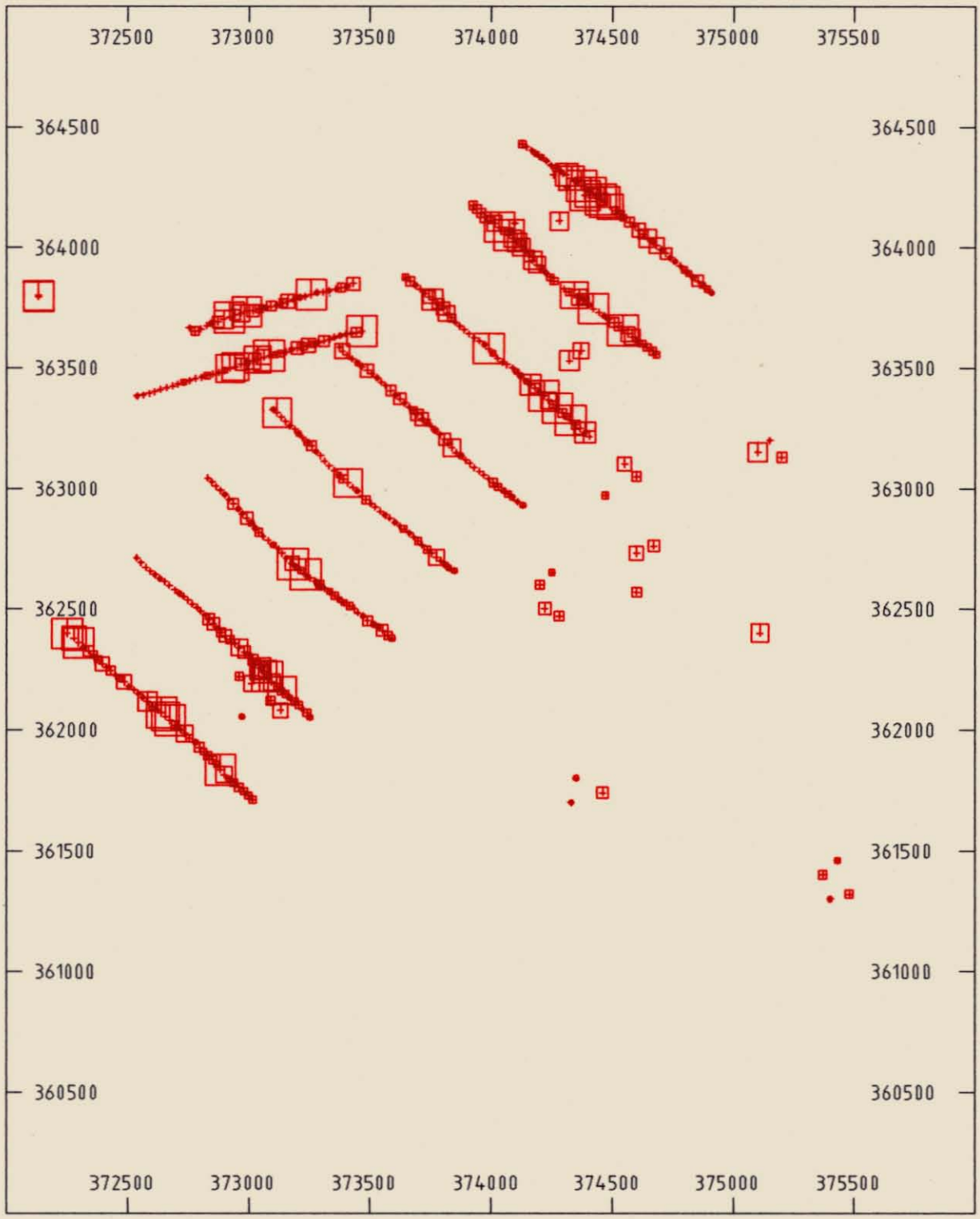
MT. DUNDAS GRID E.L.101/87 & 13/88

SOIL & ROCK GEOCHEMISTRY

Zn

DRAWING ID. 5522/061

FIG. 6



UPPER LIMIT 50ppm

5 cm

RGC EXPLORATION PTY. LTD.

COMPILED	J.C.
DRAWN	M.O.W.
DATE	4/92
CHECKED	
SCALE	1:25000

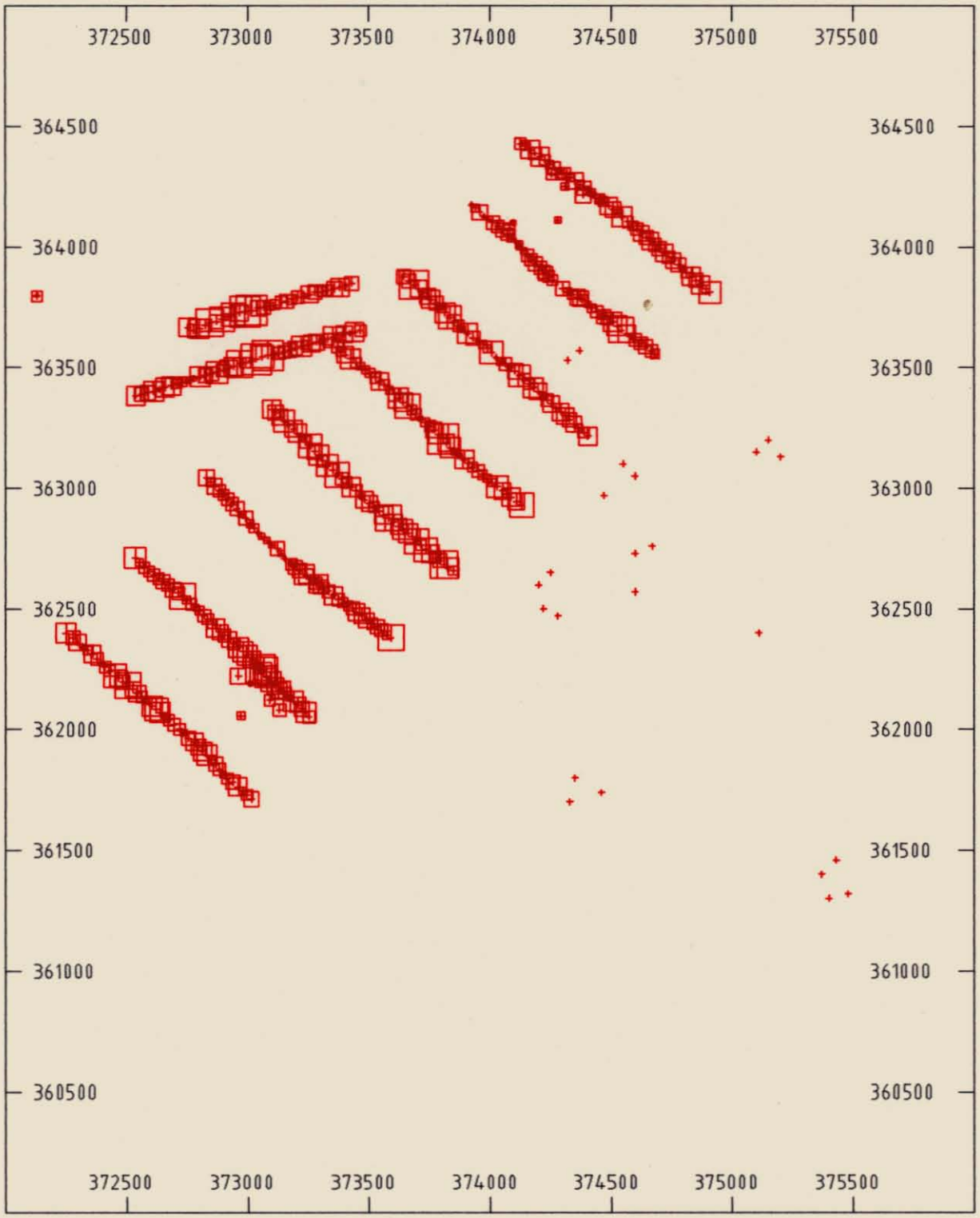
MT. DUNDAS GRID E.L.101/87 & 13/88

SOIL & ROCK GEOCHEMISTRY

As

DRAWING ID. 5522/062

FIG. 7



UPPER LIMIT 20ppm

5 cm

RGC EXPLORATION PTY. LTD.

COMPILED	J.C.
DRAWN	M.O.W.
DATE	4/92
CHECKED	
SCALE	1:25000

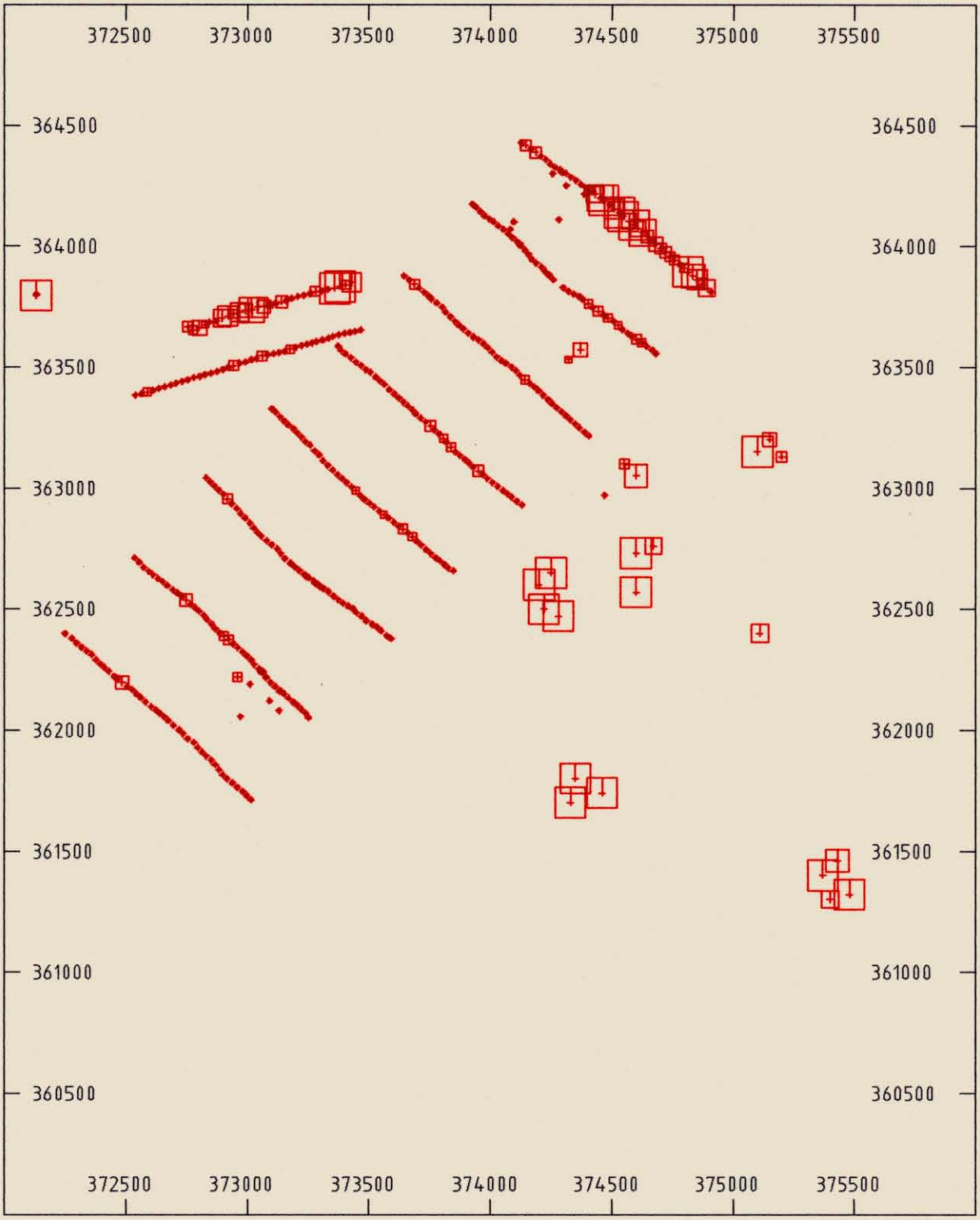
MT. DUNDAS GRID E.L.101/87 & 13/88

SOIL & ROCK GEOCHEMISTRY

Sn

DRAWING ID. 5522/063

FIG. 8



UPPER LIMIT 10ppm

5 cm

RGC EXPLORATION PTY. LTD.

COMPILED	J.C.
DRAWN	M.O.W.
DATE	4/92
CHECKED	
SCALE	1:2500D

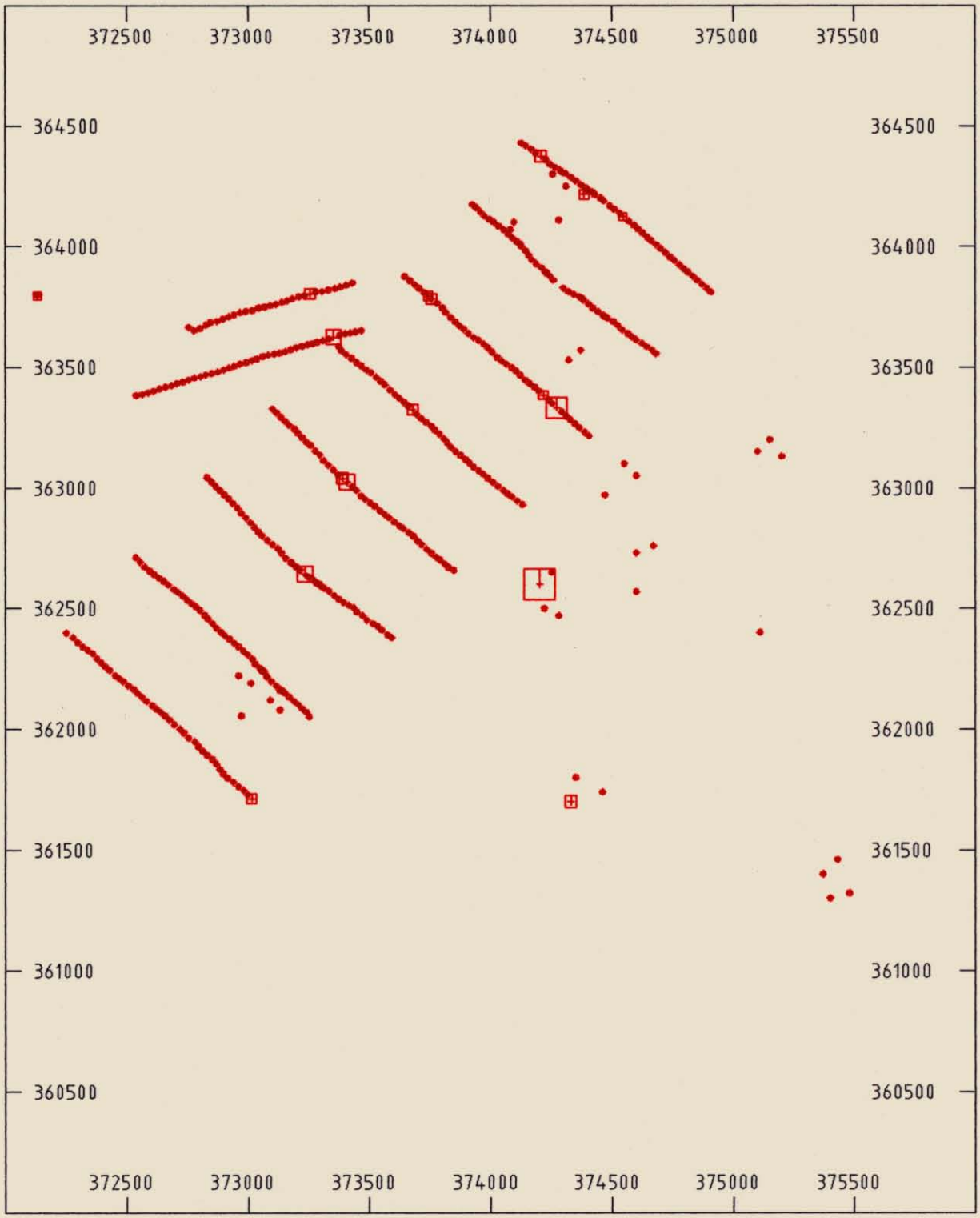
MT. DUNDAS GRID E.L.101/87 & 13/88

SOIL & ROCK GEOCHEMISTRY

W

DRAWING ID. 5522/064

FIG. 9



UPPER LIMIT 20ppb

5 cm

RGC EXPLORATION PTY. LTD.

COMPILED	J.C.
DRAWN	M.O.W.
DATE	4/92
CHECKED	
SCALE	1:25000

MT. DUNDAS GRID E.L.101/87 & 13/88

SOIL & ROCK GEOCHEMISTRY

Au

DRAWING ID. 5522/065

FIG. 10

GOLD ASSAY STANDARDS

Current recommended values. 3.MAY.991

084038

ID	MEAN GRADE	PREC. %	ACCEPT. RANGE(96%)		STAT	DATE	LAB	DESCRIPTION
B0	-0.002	100	-0.00	-0.00	2BOX	1.NOV.87	BEQ**	BURRAGA QTZ SST AND MINOR CHLORITE
B10	0.061	5	0.05	0.06	1BOX	20.MAR.90		LUCKY DRAW BLENDED WITH BASALT
B11	5.050	4	4.66	5.66	3BOX	5.JUL.89	BEQ	LUCKY DRAW OXIDIZED
B12	3.280	5	2.95	3.61	2BOX	20.MAR.90	BEQ	LUCKY DRAW BLENDED WITH BASALT
B12X	0.104	4	0.09	0.11	3BOX	1.APR.91	BEQ	LUCKY DRAW BASALT BLENDED
B13	0.498	2	0.48	0.55	2BOX	20.MAR.90		LUCKY DRAW BLENDED WITH BASALT
B20	1.770	2	1.69	1.96	4BOX	5.JUL.89	BEQ	LUCKY DRAW OXIDIZED
B4	0.250	30	0.18	0.33	1BIN	1.JAN.88	BEQ	BURRAGA HC QTZ CHLORITE
B5	3.500	8	3.16	3.86	1BIN	1.NOV.87	BEQ**	BURRAGA HC QTZ CHLOR
B6	17.000	5	15.30	18.70	2BIN	1.JUN.87	NAA	BURRAGA RAB
B66	6.900	5	6.21	7.59	1BIN	1.JUN.87	NAA	BURRAGA RAB
B8	1.190	3	1.07	1.31	4BOX	5.JUL.89	BEQ	LUCKY DRAW OXIDIZED
B9	3.140	3	2.83	3.45	3BOX	5.JUL.89	BEQ	LUCKY DRAW OXIDIZED
BRB1	3.565	30	2.60	4.63	1BOX	1.MAY.87	BEQ	BARAMBAH OXIDIZED
BRB2	1.100	7	0.99	1.21	1BIN	1.MAY.88	BEQ	BARAMBAH OXIDIZED
BRB3	0.308	8	0.28	0.34	1BOX	1.MAY.88	BEQ	BARAMBAH OXIDIZED
BRB4	0.143	20	0.11	0.17	1BIN	1.MAY.88	BEQ	BARAMBAH OXIDIZED
BRB5	0.074	17	0.06	0.09	2BIN	1.MAY.88	BEQ	BARAMBAH OXIDIZED
FMC1	0.236	35	0.16	0.32	2BOX	1.JUN.88	BEQ	FOUR MILE CK. NSW SERI. CARBONATE PYRITE
FMC2	2.911	13	2.53	3.29	1BOX	1.JUN.88	BEQ	FMC NSW SILTSTONE
FMC3	1.797	15	1.53	2.07	1BOX	1.JUN.88	BEQ	FMC NSW PYRITIC ACID INTRUSIVE
FMC4	0.370	10	0.33	0.41	1BOX	1.JUN.88	BEQ	FMC NSW CHERTY SILT
FMC5	0.771	40	0.46	1.08	1BOX	1.JUN.88	BEQ	FMC NSW CARBON SILTSTONE
FMC6	0.300	30	0.21	0.39	2BOX	1.JUN.88	BEQ	FMC NSW CHERTY SILTSTONE
FMC7	1.731	45	0.95	2.51	4BOX	1.JUN.88	BEQ	FMC NSW SULPHIDIC SILTSTONE
GC10	2.780	6	2.60	3.06	1BIN	1.MAR.88	BEQ**	PINE CREEK OXIDIZED
GC12	3.500	15	2.98	4.03	2BOX	1.AUG.87	BEQ	PINE CREEK OXIDIZED
GC14	1.917	4	1.73	2.11	7BOX	1.FEB.90	BEQ	PINE CREEK PART OXIDIZED
GC15	3.276	4	2.95	3.60	2BOX	1.FEB.90	BEQ	PINE CREEK PART OXIDIZED
GC3A	1.258	20	1.01	1.51	2BOX	1.MAR.88	BEQ**	PINE CREEK OXIDIZED
GC4A	1.329	8	1.20	1.46	2BOX	1.AUG.87	BEQ	PINE CREEK OXIDIZED
GC5	1.442	10	1.30	1.59	2BOX	1.MAR.88	BEQ**	PINE CREEK OXIDIZED
GC7	7.400	15	6.29	8.51	2BOX	18.JUN.87	ANALAB	PINE CREEK OXIDIZED
GC8	0.763	15	0.64	0.87	1BOX	1.JUN.87	ANALAB	PINE CREEK OXIDIZED
MAG	0.540	15	0.46	0.62	1BOX	1.MAR.88	BEQ**	MT.MAGNET BIF OXIDIZED
MC1	1.600	10	1.44	1.76	1BIN	1.NOV.87	BEQ**	MT.COOLON OXIDIZED
MC2	1.550	8	1.40	1.71	5BIN	1.MAR.88	BEQ**	MT.COOLON OXIDIZED
MC3	6.130	4	5.52	6.74	1BOX	1.MAR.88	BEQ**	MT.COOLON OXIDIZED
MC6	0.888	5	0.80	0.98	6BOX	1.FEB.90	BEQ	MOUNT COOLON OXIDIZED
MD1	0.387	6	0.36	0.43	2BOX	1.AUG.87	BEQ	MT.DAVID CLAY OXIDIZED
MD2	0.400	25	0.30	0.50	1BOX	1.AUG.87	BEQ	MT.DAVID CLAY OXIDIZED
MD3	1.000	15	0.85	1.15	1BIN	1.MAR.88	BEQ**	MT.DAVID CLAY OXIDIZED
MM1	0.565	15	0.47	0.64	1BOX	1.JUN.87	ANALAB	MT.MORGAN STREAM SED.
MM2	1.320	30	0.92	1.72	3BIN	1.MAR.88	BEQ	MILKY WAY PART OXID
MM3	0.370	15	0.31	0.43	3BIN	1.MAR.88	BEQ	MILKY WAY PART OXID
PHQ	1.510	10	1.36	1.66	2BIN	1.JUN.87	ANALAB	PEAK HILL
PHR	0.668	10	0.60	0.74	3BIN	1.JUN.87	ANALAB	PEAK HILL
PHZ	0.965	17	0.80	1.13	2BOX	1.JAN.88	BEQ	PEAK HILL OXIDIZED
POX	1.220	15	1.04	1.40	1BOX	1.MAR.88	BEQ**	WAU PNG PARTIALLY OXIDIZED
PRIM	0.990	15	0.84	1.14	2BOX	1.NOV.87	BEQ**	WAU PNG PRIMARY
WAU	0.617	16	0.52	0.72	4BIN	1.JAN.88	BEQ	WAU PNG OXIDIZED

ID	MEAN GRADE	PREC. %	ACCEPT. RANGE(96%)		STAT	DATE	LAB	DESCRIPTION
B1	1.000	20	0.80	1.20	GONE	1.NOV.87	BEQ**	BURRAGA HC QTZ CHLOR
B2	0.020	50	0.01	0.03	GONE	1.JUN.87	ANALAB	BURRAGA RAB
B24	2.900	7	2.61	3.19	GONE	1.JUN.87	NAA	BURRAGA RAB
B25	0.832	4	0.75	0.92	GONE	1.AUG.87	BEQ	BURRAGA RAB
B3	0.060	15	0.04	0.06	GONE	1.NOV.87	BEQ**	BURRAGA HC QTZ CHLOR
B43	1.600	5	1.44	1.76	GONE	1.JUN.87	NAA	BURRAGA RAB
B44	0.590	5	0.53	0.65	GONE	1.JUN.87	NAA	BURRAGA RAB
B65	1.700	5	1.53	1.87	GONE	1.JUN.87	NAA	BURRAGA RAB
B7	3.200	7	2.88	3.52	GONE	1.JUN.87	NAA	BURRAGA RAB
B71	0.130	20	0.10	0.15	GONE	1.JUN.87	ANALAB	BURRAGA RAB
B72	0.640	10	0.58	0.70	GONE	1.JUN.87	NAA	BURRAGA RAB
GC1	1.420	30	0.99	1.85	GONE	1.JUN.87	ANALAB	PINE CREEK OXIDIZED
GC11	0.610	15	0.52	0.70	GONE	1.JUN.87	ANALAB	PINE CREEK OXIDIZED
GC13	3.850	5	3.47	4.24	GONE	1.JAN.88	BEQ	PINE CREEK PART.OXIDIZED
GC2	1.310	20	1.05	1.57	GONE	1.JUN.87	ANALAB	PINE CREEK OXIDIZED
GC3	1.064	20	0.85	1.28	GONE	1.FEB.87	ANALAB	PINE CREEK OXIDIZED
GC4	1.334	10	1.20	1.47	GONE	1.JUN.87	ANALAB	PINE CREEK OXIDIZED
GC6	0.736	10	0.66	0.81	GONE	1.JUN.87	NAA	PINE CREEK
GC9	3.120	8	2.81	3.43	GONE	1.JUN.87	KML	PINE CREEK
MC4	12.800	8	11.52	14.08	GONE	1.JAN.88	BEQ	MT.COOLON OXIDIZED
MC5	2.417	3	2.18	2.66	GONE	1.JUN.88	BEQ	MT. COOLON PARTIALLY OXIDIZED?
MM4	2.250	20	1.80	2.70	GONE	1.MAR.88	BEQ	MILKY WAY PART OXID

LAB. refers to laboratory from which grade is determined

MEAN GRADE is mean of 10 * 30gm. neutron activation analyses in a single contiguous batch at respective LAB.

PRECISION is (200 * std.dev.) / mean

ACCEPT RANGE is calculated from mean +- 2 std.dev. from test lab OR mean +/- 10% , whichever is greatest.

STAT GONE standard no longer available
STAT 1BIN approx. 100 standards.
STAT 1BOX approx. 1000 standards.

Current Cost $2.00/each

LAB marked BEQ** have estimates which are suspected of being 15% too low. The precision estimates of the standards are reasonaby good consequently these standards are available for use as repeatability standards

7. CONCLUSIONS AND RECOMMENDATIONS

The stream sediment sampling programme east of Mt. Dundas did not detect significant gold anomalism and the area does not warrant any further work. This conclusion also takes into account mapping in the area during 1990/91 which failed to detect any alteration or mineralisation, and found no evidence of any major structures apart from the Rosebery Fault which forms the NW limit of the area investigated. The area is dominated by monotonous turbiditic siltstone of the White Spur Formation, with some feldspar-quartz phyric "tuffs" toward the eastern margin of the E.L.

The mineralisation encountered on the Mt. Dundas Grid is probably mostly Devonian in origin and consists of large areas of low magnitude base metal anomalism spatially associated with major structures, principally the Rosebery Fault and a northerly trending fault at Moores Pimple. Additional evidence of magmatic origin was provided by the 1990/91 Soil Geochemistry programme which detected weak tungsten anomalism associated with a portion of the Pb-Zn anomalism northeast of Moores Pimple (Crossing, 1991). Dr. D.E. Leaman's Interpretative Report of gravity data, which is also in the 1990/91 Annual Report, interpreted a large granite cupola south of Hercules. This could have provided the focus for a hydrothermal system with fluid access to the Moores Pimple area provided along the shallow SE dipping Rosebery Fault.

It is less clear if the alteration and mineralisation at the south end of the grid is of Devonian origin, as the mineralisation, the Dundas Group stratigraphy and the Rosebery Fault are all sub parallel and the possibility of Pre-Devonian stratabound mineralisation cannot be altogether ruled out. The highest Zn grades in this area all occurred within a carbonate unit that appeared relatively undeformed.

Based on all the work undertaken to date on EL's 101/87 and 13/88, the following overall conclusions can be made:

1) Exploration along the Rosebery Fault for "Henty Style" gold mineralisation has been unsuccessful to-date and it is unlikely that significant gold mineralisation is present or is undetected.

2) The use of electrical geophysical methods to detect mineralisation has proved completely unsuccessful because of the common occurrence of carbonaceous shales in the Dundas Group, which become graphitic and thus conductive when deformed.

3) Exploration along the Montezuma Fault for Renison style tin mineralisation has been unsuccessful. Significant quantities of carbonate were located in areas anomalous for tin, however significant tin grades were found to be restricted to narrow veins occupying minor but persistent NNW trending fractures such as Frazers Lode. The Montezuma Fault is not an extension of the Federal-Bassett Fault, but rather is just another minor NNW trending mineralised fault similar to Frazers Lode and other tin bearing structures in the East Renison area. These structures have been extensively explored in the past by Comstaff, Minops, CSR and EZ without much success. All the best anomalies (East Renison, Godkin, Greens, Duck Creek) have been extensively drilled and the largest resource reported was the Salmon Vein with a probable resource of 0.83 Mt at 0.2% Sn, 0.6% Cu, 3% Pb, 2% Zn (Zetetic, 1985).

4) All base metal mineralisation so far located in the area as a result of extensive exploration by previous explorers and limited work by RGCE has been Devonian in origin. The typical base metal veins of the Dundas Field could not provide a target large enough to attract RGCE. Base metal skarn and/or replacement deposits, such as the Copper-skarn at Colebrook Hill,

offer the potential for larger deposits, however the Colebrook Hill cupola is probably already over-explored.

5) Work undertaken during 1990/91 on the area above the gravity interpreted "Carbine Hill" cupola (1km NE of the old Razorback Tin Mine) was unsuccessful in finding evidence of previously undetected alteration and/or tin mineralisation related to such a cupola. The Razorback-Grand Prize line of mineralisation is related to the cupola, but it is considered over-explored and the best ground is held by Minops.

In conclusion, the prospectivity of the EL's has been considerably reduced as a result of recent exploration and no high priority targets remain to be followed up. It is still possible that a large replacement tin deposit remains to be found in the area, though it would have to be a "blind" deposit as all surface anomalism has already been followed up unsuccessfully. Exploration would largely involve drilling of conceptual targets, based primarily on detailed geological mapping and gravity data. The Carbine Hill cupola has not been completely sterilised in this respect as work to date has been restricted to reconnaissance mapping and rock chip sampling, and potential for a blind Razorback-style deposit involving replacement of carbonated ultramafics is possible. However while tin prices remain depressed exploration of such relatively low order targets does not seem justified.

Polymetallic skarns and replacement deposits are a related target occurring in similar structural and stratigraphic settings, and the Colebrook Hill Sn-W-Cu skarn is evidence that metals other than tin occur in skarns in the area. Except for those related to porphyry stocks, Cu skarns are generally small, usually around 1 Mt (Einaudi, 1981). Pb-Zn skarns and/or replacement deposits are another possibility, and these range in size up to 32 Mt (Santa Eulalia, Mexico). The Pb-Zn skarns are often centred on

genetically related Pb-Zn-Ag vein systems (e.g. Darwin, California and Uchucchacua, Peru).

Finally, base metal VMS deposits are a remote possibility. The Dundas Group sediments are time equivalent to the Mt. Read Volcanics, and include acid to intermediate volcaniclastics and minor lavas in the Godkin Ridge area (the so-called Curtin-Davis Volcanics of Elliston, 1954). These volcanics are highly altered and the samples collected by RGC for petrographic description were identified as follows:-

T24276; sericitised rhyolitic ignimbrite
T24277; chloritised, sericitised dacite breccia
T24278; chloritised, carbonated dacite lava
T26870; Volcanogenic meta-grey wacke

Based on chemical analysis, Keith Corbett identifies them as andesites (Corbett, 1989) and correlates them stratigraphically with the Que-Hellyer volcanics, the Anthony Road andesites and the "Smelters Andesite" at Comstock (Corbett, 1990).

It is recommended that RGCE hold on to the tenements principally because they adjoin the Renison Mine Lease, so that future tin exploration around Renison is not impeded in the event of a recovery in the tin price. Future work will involve the following programme:

1) An assessment of VMS potential with respect to the Curtin Davis volcanics, which would involve mainly reconnaissance mapping, and rock chip sampling.

2) Continue assessing the potential of the E.L.'s for tin and/or base metal skarns and replacement bodies by further reconnaissance mapping in the vicinity of the Carbine Hill Cupola and by a review of the Colebrook Hill skarn. Reconnaissance sampling and mapping should also be conducted along the NE trending

U42

structure intersected by MZ004 to determine the extent of weak Cu mineralisation encountered during the 1989/90 drilling programme.

3) If warranted, gridding of a portion of the Carbine Hill cupola (based on results of reconnaissance) followed by detailed mapping and soil geochemistry.

Apart from possibly providing targets for ongoing exploration, the programme should aim to delineate areas for relinquishment in 1993. E.L. 101/87 is scheduled for 50% reduction on 1/7/93, and E.L. 13/88 on 14/9/93.

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084045

APPENDIX 1

Mt. Dundas Grid Rock & Stream Sediment Sampling

Analytical Results

RGC EXPLORATION PTY.LTD. DATA SHEET Page 1
25/ 5/92

PROJECT: DUNDAS INC. MONTEZUMA

SAMPLE NUMBER	NORTH metres	EAST metres	CODE	SAMPLR	DATE	OCONT	GRID	KIND	STREAM FLOW	CUT	WIDTH	RATING	COMPOS	BANK
T 35701	361700	374330	5524	IRBS		.	AMG	SS		1.5	2			
T 35702	361800	374350	5524	IRBS		.	AMG	SS		0.5	1			
T 35703	361740	374460	5524	IRBS		.	AMG	SS		2.0	3			
T 35704	362600	374200	5524	JCBS	MAY.91		AMG	SS	M	2	2		025300	
	Remark:1st order creek,permanent,steep (dominantly coarse fraction).													
T 35705	362650	374250	5524	JCBS	MAY.91		AMG	SS	M	2.0	1		014500	
	Remark:1st ORDER CREEK.STEEP,MODERATE AND COARSE SEDIMENTS.													
T 35706	362500	374220	5524	JCBS	MAY.91		AMG	SS		0.8	2		014500	
	Remark:1st ORDER CREEK.													
T 35707	362470	374280	5524	JCBS	MAY.91		AMG	SS		0.8	2		014500	
	Remark:1st ORDER CREEK. ROCKY OUTCROP IN BED.													
T 35708	362570	374600	5524	JCBS	MAY.91		AMG	SS		1.5	10		330200	
	Remark:2nd ORDER CREEK.													
T 35709	362760	374670	5524	JCBS	MAY.91		AMG	SS		0.8	1		014500	
	Remark:1st ORDER CREEK.													
T 35710	362730	374600	5524	JCBS	MAY.91		AMG	SS		1	5		225000	
	Remark:2nd ORDER CREEK.													
T 35712	361300	375400	5524	BSNP	MAY.91		AMG	SS		0.3	.5			
	Remark:COARSE SAND.													
T 35713	361320	375480	5524	BSNP	MAY.91		AMG	SS		0.3	2			
	Remark:COARSE SAND.													
T 35714	361400	375370	5524	BSNP	MAY.91		AMG	SS		0.5	1			
	Remark:COARSE SAND.													
T 35715	361460	375430	5524	BSNP	MAY.91		AMG	SS		0.2	2			
	Remark:COARSE SAND													
T 35716	363150	375100	5524	BSNP	MAY.91		AMG	SS		0.5	.7			
	Remark:GRAVEL.													
T 35717	363200	375150	5524	BSNP	MAY.91		AMG	SS		0.2	.4			
	Remark:COARSE SAND/GREYISH WHITE.													
T 35718	363130	375200	5524	BSNP	MAY.91		AMG	SS		0.4	2			
	Remark:GRAVEL.													
T 35719	362400	375110	5524	BSNP	MAY.91		AMG	SS		.5	1			
	Remark:SILTY.													
T 35720						.	STD							
	Remark:STANDARD B11 5.05 g/t													

Laboratory:
Method :
Det. Limit:

0840046

PROJECT: DUNDAS INC. MONTEZUMA

SAMPLE NUMBER	TNORTH metres	TEAST metres	CODE	SAMPLR	DATE	QCONT	GRID	KIND	STREAM FLOW	CUT	WIOTH	RATING	COMPOS	BANK
T 35721	363100	374550	5524	BSNP	AUG.91		AMG	SS		1	2			
Remark:PEBBLY.														
T 35722	363050	374600	5524	BSNP	AUG.91		AMG	SS		0.3	.3			
Remark:SANDY.														
T 35723	362970	374470	5524	BSNP	AUG.91		AMG	SS		.2	.5			
Remark:SAND/SILT.														
T 35724	363570	374370	5524	BSNP	AUG.91		AMG	SS		.2	1			
Remark:SANDY.														
T 35725	363530	374320	5524	BSNP	AUG.91		AMG	SS		1	2			
Remark:GRAVELY.														

Laboratory:
Method :
Det. Limit:

084047

RGC EXPLORATION PTY.LTD. DATA SHEET

PROJECT: DUNDAS INC. MONTEZUMA

SAMPLE NUMBER	TNORTH metres	TEAST metres	CODE	SAMPLR	DATE	QCONT	GRID	KIND	ROCK	UNIT	ALTER	OREMIN	VEINS
T 35726	362220	372960	5524	JC	JAN.92		AMG	RC	MUDS	Cd	PY		
Remark:Slightly sheared PY veined. 80m upstream of 1600N/5080E in 3rd ord ck.													
T 35727	362190	373010	5524	JC	JAN.92		AMG	RC	CARB	Cd	PY		
Remark:63m on ck traverse. Muds/carb sheared with py veinlets & Fe stains.													
T 35728	362120	373090	5524	JC	JAN.92		AMG	RC	MUDS	Cd	QZCBFE		
Remark:170m on creek traverse.Sheared mudstone.													
T 35729	362080	373130	5524	JC	JAN.92		AMG	RC	MUDS	Cd	PY		
Remark:231m on traverse, dk grey, sheared, pyritic(disseminated).													
T 35730	362160	373130	5524	JC	JAN.92		AMG	RC	BRXX				
Remark:Pyrite boxworks. ?Fault breccia.													
T 35731	362220	373075	5524	JC	JAN.92		AMG	RC	SILT	Cd			
Remark:Gossanous,sheared.													
T 35732	362240	373065	5524	JC	JAN.92		AMG	RC	CARB	Cd			GL
Remark:Ferruginous alt carb with possible visible galena ? in s.work veining.													
T 35733	362240	373055	5524	JC	JAN.92		AMG	RC	ARLI				
Remark:Weathered to an orange ferruginous rock.													
T 35734	362250	373050	5524	JC	JAN.92		AMG	RC	CARB		PY		
T 35735	362055	372970	5524	JC	JAN.92		AMG	RC	SILT	Cd	PY		
Remark:Altered greenish-grey with fine disseminated pyrite.													
T 35736	362685	373180	5524	JC	JAN.92		AMG	RC	SILT		PY		
Remark:Pyritic grey-green massive (calcareous ?) siltstone.													
T 35737	362635	373240	5524	JC	JAN.92		AMG	RC	SILT	Cd	PYCL		
Remark:L.grey-green siltstone with chloritic alt and vein and dissem PY.													
T 35738	362605	373280	5524	JC	JAN.92		AMG	RC	ARLI		PY		
Remark:Coarse grained "epiclastic" matrix supp with clasts to 5mm of shale.													
T 35739	362590	373300	5524	JC	JAN.92		AMG	RC	ARLI	Cd			
Remark:Feldspar-phyric epiclastics with shale fragments.													
T 35740						STD							
Remark:Standard B20; 1.77 g/t range (1.59 - 1.95)													
T 35741	364200	374455	5522	JC	JAN.92		AMG	RC	CONG	Cd	FUFE		
Remark:Limonitic.													
T 35742	364225	374420	5522	JC	JAN.92		AMG	RC	CONG	Cd	MSPYFU		
Remark:Limonitic with disseminated pyrite.													
T 35743	364235	374400	5522	JC	JAN.92		AMG	RC	CONG	Cd	FE		

Laboratory:
Method :
Det. Limit:

084048

PROJECT: DUNDAS INC. MONTEZUMA

SAMPLE NUMBER	NORTH metres	EAST metres	CODE	SAMPLR	DATE	QCONT	GRID	KIND	ROCK	UNIT	ALTER	OREMIN	VEINS
T 35744	364305	374295	5522	JC	JAN.92		AMG	RC	CONG	Cd	FE		
T 35745	364215	374385	5522	JC	JAN.92		AMG	RC	CONG	Cd	CBPY	GLJA	
	Remark:GL-JA-carbonate rich bands(veins?) in CONG.												
T 35746	364250	374310	5522	JC	JAN.92		AMG	RC	CONG		PYCB		
	Remark:101m from start of Moores Pimple walking track (N.end).												
T 35747	364300	374255	5522	JC	JAN.92		AMG	RC	CONG		PY		
	Remark:180m from start of Moores Pimple walking track.												
T 35748	364110	374280	5522	JC	JAN.92		AMG	RC	FALT				
	Remark:Rosebery thrust fault, forming contact between Cong and felsic volc's.												
T 35749	363785	374375	5522	JC	JAN.92		AMG	RC	FELS	Cd	PY		
	Remark:Felsic volcanic with disseminated pyrite.												
T 35750	363710	374470	5522	JC	JAN.92		AMG	RC	FELS	Cd	PY		
T 35751	363890	374230	5522	JC	JAN.92		AMG	RC	FELS		PY		
T 35752	363965	374155	5522	JC	JAN.92		AMG	RC	ROCK		SIFUPY		
T 35753	364010	374120	5522	JC	JAN.92		AMG	RC	CHER		PYFE		
	Remark:Cherty with 10% Pyrite and pyrite boxworks ? altered ultramafic.												
T 35754	364070	374080	5522	JC	JAN.92		AMG	RC	ROCK	Cd	PY		
	Remark:Altered ? felsic rock.												
T 35755	364100	374095	5522	JC	JAN.92		AMG	RC	ROCK		FUPY		
	Remark:V.silicified, fuchsitic, pyritic altered rock(alt U.mafic?) goss patch												

Laboratory:
Method :
Det. Limit:

0840449

RGC EXPLORATION PTY.LTD. DATA SHEET

PROJECT: DUNDAS INC. MONTEZUMA

SAMPLE NUMBER	CU PPM	PB PPM	ZN PPM	SN PPM	NI PPM	AG PPM	TA PPM	TH PPM	W PPM	U PPM	YB PPM	RB PPM	AU PPB	SB PPM	AS PPM	
T 35701						-5	1	13.2	339	2	2.6	60	7	0.9	6	
T 35702						-5	1	11.3	539	-2	2.9	86	-5	1.0	7	
T 35703						-5	-1	7.3	47	-2	1.9	71	-5	1.3	17	
T 35704						-5	1	13.3	462	2	2.5	93	31	1.8	14	
T 35705						-5	1	15.0	21	2	3.0	112	-5	1.5	9	
T 35706						-5	-1	13.0	22	2	2.2	118	-5	1.9	19	
T 35707						-5	1	14.5	10	2	3.1	111	-5	1.7	15	
T 35708						-5	-1	12.8	26	2	2.4	100	-5	1.8	14	
T 35709						-5	1	12.9	5	2	2.6	108	-5	1.9	18	
T 35710						-5	1	12.3	25	2	2.4	91	-5	3.2	22	
T 35712						-5	1	13.6	5	2	2.7	107	-5	0.9	6	
T 35713						-5	1	14.3	14	3	2.9	99	-5	1.1	12	
T 35714						-5	1	13.3	13	2	3.2	106	-5	1.0	13	
T 35715						-5	1	13.0	7	2	3.5	85	-5	1.0	8	
T 35716						-5	-1	13.5	19	2	2.7	91	-5	2.1	31	
T 35717						-5	1	12.7	4	2	2.7	61	-5	0.8	2	
T 35718						-5	1	13.9	3	2	2.9	85	-5	1.6	16	
T 35719						-5	-1	12.3	5	2	2.6	101	-5	2.0	28	
T 35720						-5	-1	18.2	-2	2	3.7	24	5070	0.3	12	
T 35721						-5	1	11.7	3	-2	2.6	95	-5	3.2	22	
T 35722						-5	1	14.6	7	2	3.2	98	-5	2.1	14	
T 35723						-5	1	14.4	-2	2	2.6	113	-5	1.7	11	
T 35724						-5	1	12.9	4	2	2.5	88	-5	3.9	25	
T 35725						-5	1	12.7	2	2	3.0	93	-5	5.4	32	SS
T 35726	32	65	28	10		-5	1	14.8	2	2	4.4	154	-5	10.3	13	RC
T 35727	112	53	175	3		-5	1	6.2	-2	-2	3.8	94	-5	2.7	25	
T 35728	33	14	258	7		-5	2	6.2	-2	-2	3.4	79	-5	7.8	14	
T 35729	44	78	56	8		-5	-1	11.8	-2	-2	2.6	193	-5	6.1	24	
T 35730	14	130	219	10		-5	2	12.2	-2	2	3.6	113	-5	46.8	10	
T 35731	69	69	73	14		-5	2	8.6	-2	-2	2.4	137	-5	24.9	52	
T 35732	74	260	855	18		-5	1	1.5	-2	-2	2.9	67	-5	25.9	37	
T 35733	89	194	330	3		-5	1	2.3	-2	-2	2.5	76	-5	34.9	26	
T 35734	37	105	472	19		-5	1	2.6	-2	-2	4.0	121	-5	4.9	29	
T 35735	62	-5	100	5		-5	2	6.1	-2	-2	3.5	55	-5	1.4	6	
T 35736	95	212	63	7		-5	2	4.7	-2	-2	2.9	-20	-5	2.7	107	
Laboratory	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	BECQ	BECQ	BECQ	BECQ	BECQ	BECQ	BECQ	BECQ	BECQ	BECQ	
Method	101	101	101	401	101	INAA30	INAA30	INAA30	INAA30	INAA30	INAA30	INAA30	INAA30	INAA30	INAA30	
Det. Limi	5.000	5.000	5.000	3.000	1.000	5.000	1.000	0.500	2.000	2.000	0.500	1.000	5.000	0.200	2.000	

084050

PROJECT: DUNDAS INC. MONTEZUMA

SAMPLE NUMBER	CU PPM	PB PPM	ZN PPM	SN PPM	NI PPM	AG PPM	TA PPM	TH PPM	W PPM	U PPM	YB PPM	RB PPM	AU PPB	SB PPM	AS PPM
T 35737	9	-5	203	10		-5	3	4.0	-2	-2	3.3	42	-5	-0.2	-1
T 35738	48	12	111	8		-5	-1	5.8	-2	-2	2.6	58	-5	0.6	7
T 35739	8	10	19	9		-5	-1	10.6	-2	-2	2.7	68	-5	2.0	4
T 35740												62	1710		
T 35741	32	77	33	6		-5	1	6.0	-2	6	4.2	92	-5	18.2	18
T 35742	114	11	93	5		-5	-1	-0.5	-2	-2	1.6	42	-5	2.5	16
T 35743	68	20	273	5		-5	2	6.6	-2	-2	3.7	66	-5	1.5	5
T 35744	17	-5	86	7		-5	1	5.3	-2	-2	2.8	61	-5	0.8	-1
T 35745	65	1980	2580	10		-5	-1	3.8	-2	-2	2.1	68	6	47.2	161
T 35746	106	-5	90	5		-5	1	4.9	-2	-2	3.0	45	-5	1.6	4
T 35747	8	-5	114	7		-5	-1	5.1	-2	-2	2.9	56	-5	0.4	1
T 35748	40	370	143	4		-5	1	17.9	-2	4	2.8	96	-5	8.3	30
T 35749	105	57	153	10		-5	-1	19.8	-2	2	2.5	100	-5	3.9	17
T 35750	-5	20	58	9		-5	2	20.2	-2	5	2.5	91	-5	1.2	3
T 35751	27	6	51	9		-5	-1	-0.5	-2	-2	1.0	97	-5	0.2	1
T 35752	73	-5	66	8		-5	-1	-0.5	-2	-2	-0.5	44	-5	0.8	3
T 35753	8	12	69	5		-5	-1	-0.5	-2	-2	-0.5	-20	-5	1.0	16
T 35754	121	-5	106	7		-5	2	4.7	-2	-2	3.5	81	-5	0.7	7
T 35755	-5	28	119	3		-5	-1	-0.5	-2	-2	-0.5	-20	-5	1.6	3

Laboratory	ANALAB	ANALAB	ANALAB	ANALAB	ANALAB	BECQ	BECQ	BECQ	BECQ	BECQ	BECQ	BECQ	BECQ	BECQ	BECQ
Method	101	101	101	401	101	INAA30	INAA30	INAA30	INAA30	INAA30	INAA30	INAA30	INAA30	INAA30	INAA30
Det. Limi	5.000	5.000	5.000	3.000	1.000	5.000	1.000	0.500	2.000	2.000	0.500	1.000	5.000	0.200	2.000

084051

RGC EXPLORATION PTY.LTD. DATA SHEET

PROJECT: DUNDAS INC. MONTEZUMA

SAMPLE NUMBER	BA PPM	MO PPM	LU PPM	BR PPM	CE PPM	CS PPM	CR PPM	CO PPM	EU PPM	HF PPM	FE %	LA PPM	IR (PPB)	SM PPM	SC PPM	
T 35701	261	11	0.5	37	100	4	126	18	1	15	2.22	44.2	-20	9.2	8.2	
T 35702	388	18	0.8	46	88	4	183	2	0	16	2.06	45.0	-20	8.1	10.9	
T 35703	352	-5	0.3	24	48	4	144	41	0	4	4.31	24.3	-20	4.5	10.5	
T 35704	453	16	0.6	55	89	4	218	22	-1	10	4.27	48.3	-20	8.3	11.5	
T 35705	536	-5	0.7	58	119	5	104	2	1	7	2.23	53.9	-20	9.4	15.5	
T 35706	504	-5	0.4	71	87	5	83	15	1	5	4.96	39.9	-20	7.1	15.4	
T 35707	622	-5	0.6	45	120	6	114	5	0	6	3.78	52.9	-20	9.4	16.4	
T 35708	480	-5	0.5	67	98	5	102	20	0	5	4.34	44.6	-20	7.7	14.8	
T 35709	527	-5	0.5	83	95	6	190	37	0	5	5.22	43.7	-20	7.7	15.9	
T 35710	420	-5	0.6	59	92	6	286	32	-0	7	4.90	44.4	-20	7.4	13.5	
T 35712	696	-5	0.6	44	80	6	68	2	0	10	1.14	38.9	-20	7.2	11.2	
T 35713	776	-5	0.5	38	69	5	97	2	0	11	1.57	31.9	-20	6.4	8.4	
T 35714	701	-5	0.6	65	85	6	91	2	0	8	2.78	38.9	-20	6.8	12.3	
T 35715	642	-5	0.7	21	77	5	91	-1	-0	10	1.50	37.1	-20	6.5	10.3	
T 35716	556	-5	0.6	48	107	5	176	30	0	7	5.15	48.6	-20	8.1	13.6	
T 35717	672	-5	0.5	30	96	3	31	-1	0	8	0.44	47.3	-20	6.7	6.9	
T 35718	549	-5	0.6	31	115	5	144	7	1	9	3.00	54.4	-20	8.8	12.1	
T 35719	588	-5	0.6	45	87	6	104	14	-0	7	5.70	43.5	-20	6.8	14.7	
T 35720	305	-5	0.9	2	120	3	175	154	1	5	15.70	61.9	-20	12.1	18.3	
T 35721	399	-5	0.6	80	92	6	399	25	0	6	4.87	42.9	-20	6.9	14.9	
T 35722	475	-5	0.7	68	117	6	254	3	1	9	3.39	57.5	-20	9.8	15.5	
T 35723	428	-5	0.5	43	95	5	95	2	0	7	2.38	48.1	-20	8.9	12.3	
T 35724	345	-5	0.5	77	89	7	349	14	1	5	4.89	39.9	-20	7.8	12.1	
T 35725	402	-5	0.5	46	95	6	405	28	1	6	5.68	45.2	-20	7.6	13.7	SS
T 35726	517	-5	0.7	-2	91	14	53	11	1	8	1.26	44.7	-20	8.5	12.3	RC
T 35727	317	-5	0.5	-2	58	7	113	72	1	4	8.66	27.7	-20	7.0	38.7	
T 35728	357	-5	0.5	5	72	7	163	40	2	5	8.20	34.3	-20	9.5	25.8	
T 35729	572	-5	0.4	-2	58	12	89	12	0	4	3.36	30.5	-20	5.3	15.1	
T 35730	683	-5	0.6	2	98	6	147	23	2	6	6.52	49.0	-20	9.2	19.0	
T 35731	257	-5	0.4	5	70	9	128	37	1	4	6.40	30.1	-20	6.9	20.7	
T 35732	250	-5	0.4	-2	22	8	195	59	1	2	10.50	11.2	-20	3.8	46.7	
T 35733	116	-5	0.4	3	34	4	236	115	1	3	18.40	16.0	-20	5.4	40.0	
T 35734	500	-5	0.6	-2	32	5	93	50	1	4	8.73	14.1	-20	5.8	49.4	
T 35735	-100	-5	0.6	-2	70	4	234	98	2	6	8.59	34.3	-20	7.4	39.3	
T 35736	-100	-5	0.4	3	58	-1	204	18	1	6	10.40	28.4	-20	7.3	24.6	
Laboratory Method	BECQ INAA30	BECQ INAA30	BECQ INAA30	BECQ INAA30	BECQ INAA30	BECQ INAA30	BECQ INAA30	BECQ INAA30	BECQ INAA30	BECQ INAA30	BECQ INAA30	BECQ INAA30	BECQ INAA30	BECQ INAA30	BECQ INAA30	
Det. Limi	1.000	5.000	0.100	2.000	5.000	1.000	5.000	1.000	1.000	1.000	0.050	0.500	1.000	0.100	0.100	

0840552

PROJECT: DUNDAS INC. MONTEZUMA

SAMPLE NUMBER	BA PPM	MO PPM	LU PPM	BR PPM	CE PPM	CS PPM	CR PPM	CO PPM	EU PPM	HF PPM	FE %	LA PPM	IR PPB	SM PPM	SC PPM
T 35737	822	-5	0.4	-2	59	2	183	39	2	5	11.60	27.7	-20	7.9	35.4
T 35738	538	-5	0.4	-2	50	4	70	13	1	3	5.20	26.4	-20	5.2	12.1
T 35739	567	-5	0.4	-2	71	5	20	3	1	5	1.68	37.2	-20	6.6	10.3
T 35740	225	-5	0.6	3	103	5	179	63	1	6	9.16	57.0	-20	11.1	18.2
T 35741	251	-11	0.6	-2	61	6	220	4	2	3	2.72	30.1	-20	9.8	28.9
T 35742	255	-5	0.2	-2	-2	3	719	51	-0	0	6.98	0.8	-20	0.7	37.4
T 35743	1100	-5	0.5	3	79	4	227	59	2	6	8.50	37.8	-20	8.6	29.9
T 35744	449	-5	0.4	-2	53	3	271	26	1	4	5.89	26.3	-20	5.4	28.6
T 35745	154	-5	0.3	-2	31	7	213	21	1	2	13.00	14.5	-20	4.1	21.0
T 35746	285	-5	0.4	-2	43	4	300	31	1	3	5.68	19.8	-20	5.2	29.7
T 35747	453	-5	0.4	-2	39	4	275	35	1	4	6.60	18.3	-20	4.6	32.8
T 35748	263	-5	0.4	2	120	3	72	2	1	4	2.74	71.2	-20	5.3	8.9
T 35749	216	-5	0.4	-2	91	3	-5	-1	0	4	1.22	52.2	-20	4.5	1.9
T 35750	196	-10	0.4	-2	103	2	11	7	0	4	0.77	54.8	-20	5.6	2.2
T 35751	340	-5	-0.2	-2	-2	7	300	23	-0	0	3.29	0.6	-20	0.5	36.1
T 35752	246	-5	-0.2	-2	-2	5	2300	69	-0	-0	3.89	-0.5	-20	0.3	22.8
T 35753	-100	-5	-0.2	-2	-2	-1	2280	86	-0	-0	3.15	-0.5	-20	-0.2	1.8
T 35754	304	-5	0.5	-2	62	4	138	82	2	5	6.75	29.1	-20	7.9	31.3
T 35755	-100	-5	-0.2	-2	-2	-1	2670	39	-0	-0	3.38	-0.5	-20	0.3	2.2

Laboratory	BECQ	BECQ	BECQ	BECQ	BECQ	BECQ	BECQ	BECQ	BECQ	BECQ	BECQ	BECQ	BECQ	BECQ	BECQ
Method	INAA30	INAA30	INAA30	INAA30	INAA30	INAA30	INAA30	INAA30	INAA30	INAA30	INAA30	INAA30	INAA30	INAA30	INAA30
Det. Limi	1.000	5.000	0.100	2.000	5.000	1.000	5.000	1.000	1.000	1.000	0.050	0.500	1.000	0.100	0.100

084053

APPENDIX 2

Petrographic Report

amdel

Amdel Limited
(Incorporated in S.A.)
31 Flemington Street,
Frewville, S.A. 5063

Telephone: (08) 372 2700

A.C.N. 008 127 802

P.O. Box 114,
Eastwood, S.A. 5063

Telex: AA82520
Facsimile: (08) 79 6623

084055

12 August 1991

RGC Exploration Pty Limited
PO Box 320
ROSNY PARK TAS 7018

ATT: MR JOHN CROSSING

REPORT G 6244/92

YOUR REFERENCE:	Letter reference DJC/5522/282
IDENTIFICATION:	[redacted], T26870
MATERIAL:	Drill core and grab rock samples
LOCATION:	Tasmania
DATE RECEIVED:	12 July 1991
WORK REQUIRED:	Thin sections, routine petrographic descriptions, photomicrographs
Investigation and Report by:	Dr Douglas R Mason

Keith Henley

Dr Keith J Henley
Manager, Geological Services

hk

PETROGRAPHIC DESCRIPTIONS FOR TWO ROCK SAMPLES

1. INTRODUCTION

Two (2) rock samples were received from Mr. John Crossing (Senior Geologist - Tas., RGC Exploration Pty. Ltd., Rosny Park, Tas.) on 7 July, 1991.

Specific requests were:

1) To prepare a thin section and routine petrographic descriptions for each sample;

2) To forward the report to Mr. Crossing at the Rosny Park office of RGC.

This report presents the results of this work.

2. METHODS

Conventional thin sections (C55679-680) were prepared from the rock samples provided. The sections were stained for calcite using alizarin red-S solution prior to cover-slipping.

Petrographic descriptions were prepared using conventional transmitted polarised light microscopy.

A limited number of photomicrographs were selected to illustrate the principal mineralogical and microtextural features of the samples.

3. PETROGRAPHIC DESCRIPTIONS

The routine petrographic descriptions are presented in following pages.

SAMPLE: T26870 ("Feldspar-quartz phyric volcaniclastic with shale fragments, in Dundas Group on Godkin Ridge").

Polished Thin Section: C55680

Rock Name:

Volcanogenic meta-greywacke (meta-tuffite)

Hand Specimen:

The rock sample contains abundant scattered small white crystals in a fine-grained grey matrix. A weak foliation is evident, and a porous texture is present in the weathered surfaces. Sparse large lithic fragments are fine-grained, massive, and dark grey in colour.

Petrography:

Mineral	**Vol.%**	**Origin**
Plagioclase	29	detrital crystal fragments
Quartz	10	detrital crystal fragments
Lithics	5	detrital lithic fragments
Lithics	5	intraformational fragments
Sericite	20	metamorphic
Chlorite	30	metamorphic
Opaques	1	metamorphic

In thin section, this sample displays a well-preserved poorly-sorted, immature detrital sedimentary texture that has been modified by subsequent low-grade regional metamorphism.

Plagioclase crystal fragments are moderately abundant. They occur as subhedral prismatic crystals and anhedral angular crystal fragments commonly in the size range 1-2 mm, but ranging down to <0.2 mm. Most are reasonably fresh, but partial replacement by fine-grained massive sericite and chlorite is evident in some crystals.

Quartz occurs as angular crystal fragments similar in size to the plagioclase. Many display relict textural features of magmatic resorption, indicating their volcanogenic origin.

Lithic fragments are present in minor amount. Most are fine- to medium-grained quartzites, but some poorly-defined, wispish fragments of altered volcanic origin are also present.

Much of the rock is composed of fine-grained matrix. Small angular quartz and feldspar fragments are evident in the matrix, but much appears to be composed of very fine-grained chlorite and sericite. Disseminated through the matrix are minute (micron-sized) equant opaque crystals that may be magnetite or pyrite. In places, opaques are sparsely concentrated along widely-spaced subparallel cleavage traces that cut the rock.

The large "shale fragment" observed in hand sample was captured in the thin section. It has a mineralogy and texture identical to the matrix of the rock. It may be interpreted as an intraformational fragment.

Interpretation:

The sample displays relict primary textural features of a clastic sediment. A rapid deposition, such as submarine mass flow mechanisms, may be inferred from:

i) The large particle size difference between the matrix and the clasts;
ii) The presence of a matrix-supported framework;
iii) The presence of intraformational fragments identical in mineralogy and texture to the matrix of the rock.

Two sources contributed to the deposited materials: a felsic (acid) volcanic source contributed the resorbed quartz and plagioclase crystals, and a more mature muddy source contributed the matrix materials.

Subsequent to deposition and compaction, the rock sequence suffered low grade regional metamorphism, possibly in the lower greenschist facies, to generate the new mineral assemblage of sericite + chlorite + accessory opaques.

PHOTOMICROGRAPHS

A limited number of photomicrographs are presented in the following pages. They illustrate the principal mineralogical and microtextural features of the samples.

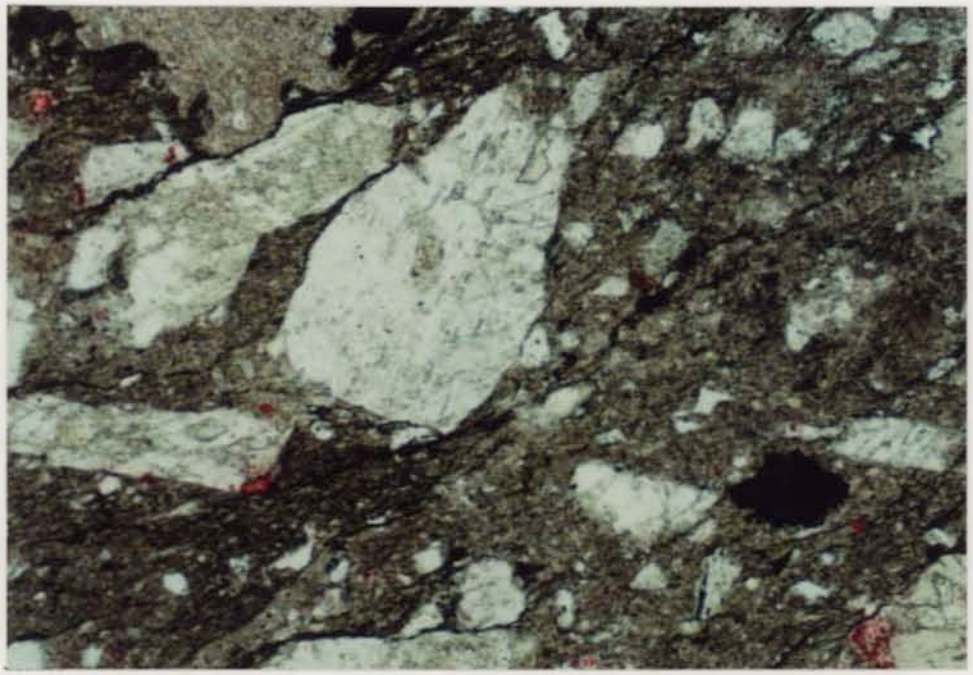


500 μm

a) Transmitted light, crossed polarisers (1/6a,5)

Volcanogenic crystal fragments of plagioclase (top, weakly sericitised) and quartz (white, resorbed, left) lie in a very fine-grained silty matrix that has been recrystallised to chlorite and sericite. To right is "shale fragment" which is indistinguishable from the matrix of the rock.

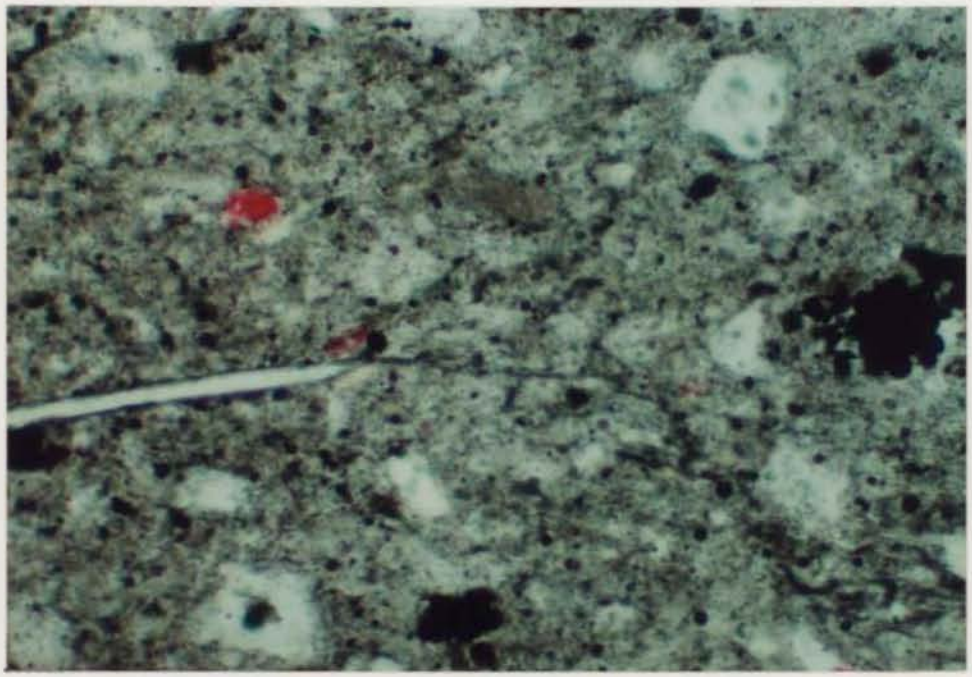
084061



500 μm

a) Transmitted plane polarised light (1/9a,5)

This general view shows the abundant angular crystal fragments (mainly plagioclase in this view) and fine-grained incipiently recrystallised matrix. Note the moderate foliation oriented NE-SW, in places defined by fine-grained opaques. Disseminated opaques also occur in accessory amount (lower right).



100 μm

b) Transmitted plane polarised light (1/8a,20)

This closer view of the matrix of the rock displays the presence of minute disseminated opaque crystals (possibly pyrite or magnetite).

10537


RENISON M.L.
RING RIVER GRID
MONTEZUMA GRID
MT. DUNDAS GRID
PASMINCO M.L.
E.L. 101/87
E.L. 42/87
E.L. 13/88
PARTING CREEK LAKE
ZEEHAN
Airfield
Dundas
Williamsford
MOUNT HAMILTON
MOUNT READ
Lake Johnston
Commonwealth Hill
Black Hill
Misery Hill
Kosminski Hill
Garbine Hill
MT RAZORBACK
MT DUNDAS
Copper Knob
Tower
BRICKFIELDS FAULT
PRIZE FAULT
KAPI FAULT
NORTHERN CREEK FAULT
GREAT ROSEBERY FAULT
MURCHISON HIGHWAY
ZEEHAN HIGHWAY
DUNDAS ROAD
RAILWAY
Henty River
Little Henty River
Frazer Falls
Montezumo Falls
Jukes Creek
Tramway
Abandoned
Conformable Contact
Inferred Contact
Gossan
Adit
Shaft
Open Cut
Mine
Tunnel
Quarry
Prospect
Bore
Trench
Hut
Tank
Yard
Power Line
Telephone Line
Track
Road
Bridge
Ford
Creek
River
Ridge
Spur
Hill
Falls
Tower
Airfield
Railway
Tramway
Contour
Spot Height
Trig. Station
Grid Line
Township
Locality
Lease
Mineral Claim
Mineral Lease
Exploration Licence
Mining Lease
Water Supply Lease
Water Supply Reserve
Forest Reserve
Timber Reserve
Reserve
Crown Land
Private Land
Boundary
Fence
Building

10538

GRID POSITIONS ARE MIS-PLOTTED ABOUT 50m NW OF ACTUAL POSITIONS AT SOUTH END OF MANTU ZUMA GRID.

GRID POSITIONS ARE MIS-PLOTTED ABOUT 90m SE OF ACTUAL LOCATIONS AT SOUTH END OF GRID (MT. DUNDAS GRID)

mapped by DMD

mapped by D.J.C.

GRID BASED FACTUAL GEOLOGY IS BASED ON LOGGING OF AUGER SAMPLES (BY DMD)

LEGEND

Bedding
Joint
Foliation
Schistosity
Folds
Fault
Cleavage

Shaft
Adit
Trench

alt - altered
bf - bluffed
bk - black
br - brown
cc - carbonate/calcareous
cg - conglomerate
ch - chert
chl - chlorite
dg - dark green
dis - disseminated
epi - epidote
fb - finebedded
Fe - iron
flam - finely laminated
felds - feldspathic
fg - fine grained
frac - fracture
frag - fragments
g - green
goss - gossan
gr/graph - graphite
gy - grey
intbd - interbedded
lam - laminated
la - lithic arenite
lg - light green
lith - lithic
Hm - hematite
Jam - Jamesonite
md - mudstone
meta - metamorphosed
mg - medium grained
mic - micaceous
musc - muscovite
or - orange
p - pink
por - porous
py - pyrite
qz - quartz
rx - rock
sh - shale
sil - siliceous
sla - slate
ss - sandstone
st - siltstone
sulph - sulphides
Tf - Tuff
Tss - Tuffaceous sandstone
v - very
vnlet - veinlet vn - vein
vol - volcanic
wd - weathered
wh - white
Xtalline - crystalline
yl - yellow

STRATIGRAPHY

JURASSIC — Jdl — Jurassic dolerite

CAMBRIAN — Ed — Dundas group (undifferentiated); Edw — White Spur Fm.

PROTEROZOIC — Eo — Oonah Fm (undifferentiated); Eod — Maestrier conglomerate (dolomitic); Eos — Concert Schist

5 cm

084063

RGC EXPLORATION PTY. LIMITED
(INC. IN N.S.W.)

COMPILED	DMD/DJC
DRAWN	GQ/DJC
DATE	April 1991
CHECKED	DJC
1:25,000 REFERENCE	

E.L. 13/88
MT. DUNDAS GRID
FACTUAL GEOLOGY
AND
SAMPLE LOCATION PLAN

BASE PLAN No. 5524/037
OVERLAY PLAN No.
SCALE 1:5 000 (50 0 50 100 200m)
FIG. 2

10539

LEGEND

QUATERNARY

- Qg — Glacial till

CAMBRIAN

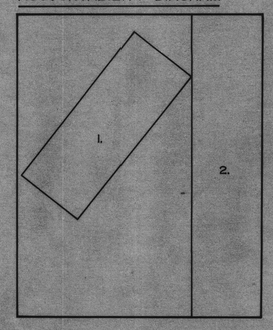
- Cfp — Pink carbonate rich siltstone/greywacke
- Cfg — Grey carbonate-rich siltstone/greywacke
- Cdt — Micaceous quartzwacke
- Cc — Polymict conglomerate
- Cvs — Tuffaceous quartzwackes
- Cvf — Rhyolitic volcanics
- Cwt — Turbiditic siltstone
- Cwf — Feldspar-quartz phyric tuff
- Cug — Gabbro/basalt
- Cus? — Serpentinite ? fuchsite/silica/carbonate altered
- Cll — Limestone (within Cfg)

PRECAMBRIAN

- Po — Micaceous quartzite and black phyllite
- Pod — Maestries conglomerate
- Pos — Concert schist

- Fault
- Interpreted geological contact
- Unconformity
- Strike and dip of bedding
- Strike and dip of joint
- Strike and dip of foliation
- Abandoned mine/prospect

ACCOUNTABILITY DIAGRAM



1. MAPPING BY R.POLTOCK MAY 1990.
2. MAPPING BY S.HALLEY JANUARY 1990.

92-3356.

5 cm

RGC EXPLORATION PTY. LIMITED
INC. IN N.S.W.

COMPILED	J.CROSSING	E.L. 13/88
DRAWN	M.WALTER	MT. DUNDAS GRID
DATE	MAY 1990	084064
CHECKED		INTERPRETED GEOLOGY
1:25,000 REFERENCE		
BASE PLAN No. 5524/012		SCALE 1:5000 (0 100 250m)
OVERLAY PLAN No.		3

10540

372500 373000 373500 374000 374500 375000 375500

364500 364000 363500 363000 362500 362000 361500 361000 360500

084065

RGC EXPLORATION PTY.LTD

MT.DUNDAS GRID
SAMPLE LOCATION PLAN

COMPILED BY: J.CROSSING & S.TRACEY

SCALE 1: 5000

0 100 200 300 400 500 M

DATE: 8/ 4/92 | PLAN 4

RENISON GOLD FIELDS CONSOLIDATED

92-3356.

5 cm