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| REP. No. 2094/83 | | | | |

ROCKY CAPE EL 1/77

PROGRESS REPORT ON THE TEMMA AREA

JANUARY 1983

Author : G. B. Weber

Date : 15th February, 1983.

Submitted To : T. W. Dickson

Accepted By : *J.W. Cuth*

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1. SUMMARY

The Temma area lies approximately 35 kilometres south of Marrawah and 15 kilometres west of Balfour in the north-western section of EL 1/77.

Previous exploration (Herrman and Sumpton 1982) showed that a series of discordant magnetite bodies with elevated geochemical values occurred in the area. Two drillholes were targeted to intersect the magnetite lodes to ascertain the possibility whether these bodies contained economic base metal/gold mineralisation similar to that which occurs at Tennant Creek, Northern Territory.

The first drillhole DD82 LE1 intersected 10 metres of 0.47% copper in Shales and Quartzites adjacent to the magnetite lode. The second drillhole DD82 PG1 intersected 3 metres of 1.95% lead and 12.9 gm/t silver within the magnetite horizon. Several thin zones of massive arsenopyrite were also intersected together with low grade copper mineralisation.

As a consequence of the drilling results a programme of bedrock geochemical sampling together with mapping and ground magnetometer traverses was undertaken to determine whether economic sulphide mineralisation, adjacent or along strike from the magnetite facies occurs. A series of grid lines approximately one kilometre apart were sampled between the Strickland and Possum Creek grids (Herrman and Sumpton 1982) using a Bombardier mounted auger rig. This programme is approximately 40 percent complete and will be finished in 1983.

2. INTRODUCTION

This report details the drilling programme during October, 1982 and reports briefly on the follow-up bedrock geochemical sampling programme partially completed late in 1982.

EL 1/77 was granted to CRA Exploration Pty. Ltd., on the 28th March, 1977. Early in 1980 Geopeko entered into a Joint Venture agreement on EL 1/77.

003

The Temma area was systematically explored by Geopeko during 1980 - 81. An aeromagnetic survey was flown to locate large magnetic anomalies in the area. Many of these anomalies were gridded and geologically mapped together with soil/rock chip geochemistry and geophysical surveys. The results showed crosscutting magnetite lodes associated with anomalous copper-titanium geochemistry (Herrman and Sumpton 1982).

Two grids (Little Eel and Possum) were selected for followup drilling. The Little Eel grid showed a ground magnetic anomaly of 7000 gammas which indicated a magnetite lode dipping steeply to the east. This anomaly had a coincident 800 ppm soil copper anomaly with a strong V.L.F. - E.M. crossover. Earlier prospectors had sunk a 'shaft' on a series of quartz veins about 60 centimetres wide some 50 metres west of the magnetite lode. These veins contained upto 1.6% Cu, 24 gm/t Ag and 0.09 gm/t Au. The Possum Grid was drilled on a 2.54% Cu, 5000 ppm Pb soil anomaly coincident with a V.L.F. - E.M. and a 4000 gamma ground magnetic anomaly.

This report details the drilling results and outlines the initial portion of the bedrock geochemical sampling programme. The area will be re-assessed at the conclusion of the bedrock geochemical programme.

3. CONCLUSIONS

The drilling confirmed magnetite lodes are in a crosscutting relationship to the surrounding laminated siltstones and minor quartzites.

The surrounding sedimentary sequence also has potential to host economic quantities of sulphide mineralisation. Sediments on the hanging-wall side of the magnetite lode on the Little Eel prospect returned a value of 10 metres at 0.47% copper.

Mineralisation associated with the magnetite lode at the Possum Grid indicated the potential of the area for economic sulphide deposition along strike from the magnetite lodes.

4. RECOMMENDATIONS

The bedrock geochemical sampling between the Possum and Strickland grid be completed. Anomalous values be followed up with infill gridding and sampling.

A bedrock geochemical sampling programme be extended to cover all magnetite lode extensions in the Temma area depending on the initial results.

5. GEOLOGY

The geology of the area was described prospect by prospect in Herrman and Sumpton's report 1982. A brief review of the general geology follows.

The rocks are mostly comprised of finely laminated 'pjama' psammpelitic siltstones and medium grained fairly clean, well sorted subordinate quartzites. The general strike is north to north-west with moderate to steeply dipping beds to the east.

The magnetite lodes are generally parallel to strike of the enclosing sediments but are much more steeply dipping (intrusion along cleavage?). They have a variable iron composition and have associated with them considerable amounts of iron amphibole (grunerite), siderite, chlorite - stilpnomelane, sericite, quartz and sulphides.

6. DRILLING

6.1 Little Eel Prospect

On the Little Eel grid the 100N line was found to have a coincident ground magnetic anomaly (7000 gammas) with a geochemical soil anomaly (800 ppm copper) and a strong V.L.F. - E.M. crossover between 10 and 30 metres east of the base line. The drillhole was sited at 100N 86E and was drilled at 225⁰m (grid west) depressed at -50⁰ to intersect the steeply east dipping magnetite lode at 60 metres.

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The magnetite lode was intersected at 85 metres indicating the Little Eel lode was dipping steeply west similar to the other magnetite lodes in the Temma area. The hole was logged in detail (refer Appendix One) and several samples were dispatched for petrological descriptions (refer Appendix Two) and a drillhole section was drawn (TASh 1124).

The hole was percussion drilled to 36.5 metres before water flow became too heavy to lift the cuttings. Water was intersected in a fault? at approximately 15 metres.

The magnetite lode seemed to be parallel to the strike of the sediments but its crosscutting nature could not be confirmed due to the soft nature of the rocks (extreme core loss) on either side of the magnetite lode itself.

Between 14 and 24 metres the percussion chippings averaged 0.47% Cu and a thin breccia zone at 38.15 metres returned a value of 1.14% Cu and 10 gms/t Ag over 1.59 metres. No significant mineralisation was associated with the magnetite lode.

6.2 Possum Prospect

The second hole was sited on line 10800N 10242E to intersect a magnetite lode at 60 metres. The hole was drilled 140⁰m (grid east) depressed at -60⁰. The surface anomalies consisted of a 4000 gamma ground magnetic anomaly, V.L.F. - E.M. anomaly coincident with a 2.54% Cu, 5000 ppm Pb soil geochemical anomaly.

The hole was percussion drilled to 11 metres and completed at 87 metres. The magnetite lode was intersected between 41.8 and 56.6 metres. The contact zones showed the magnetite - chlorite lode to have a definite crosscutting relationship with the enclosing siltstones. The hole was logged (refer Appendix One) and several samples were dispatched for petrological descriptions (refer Appendix Two) and a section prepared (TASh 1123).

007

10. LOCATION

Burnie SK55 - 3 1:250,000 Sheet Area.

11. LIST OF PLANS

| <u>Plan No.</u> | <u>Title</u> | <u>Scale</u> |
|-----------------|---|--------------|
| TASh 1277 | Locality Plan - Temma Area | 1 : 500 000 |
| TASh 1124 | Little Eel Grid Drillhole Section DD82 LE1 | 1 : 1000 |
| TASh 1123 | Possum Grid Drillhole Section DD82 PG1 | 1 : 1000 |

12. LIST OF APPENDICIES

- Appendix One. Drillhole Logs
DD82 LE1
DD82 PG1
- Appendix Two. Petrological Report
- Appendix Three. Report on Regional Soil Geochemistry and
Geological Mapping in the Temma Area EL 1/77.

APPENDIX ONE

DRILLHOLE LOGS

DD82 LE1

DD82 PG1

MG 306980E 5432110 N

C.R.A. EXPLORATION PTY. LIMITED
DRILL CORE LOG

592010

SHEET No. 1 of 5
No. 177

TENEMENT NAME ROCKY CAPE
PLAN - MAP REFERENCE TEMMA - LITTLE EAR GRID

CO-ORDINATES 100N 086E AZIMUTH 225° DRILLERS OVERLAND COMMENCED 05.10.82 DEPTH 103.7 metres HOLE No. DD82 LE1
RL COLLAR..... INCLINATION -50° DRILL TYPE SCOUT 250 COMPLETED 08.10.82 CASING LEFT Nil DPO No(s) 30211

| DEPTH | | Core Rec. (M) | Core Size | Graphic Log | CORE DESCRIPTION | SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization | Sample No. | From (M) | To (M) | Rec (M) | ASSAY VALUES (Analysed by ANALASS) | | | | | | | | | | |
|----------|--------|---------------|-----------|-------------|--|--|--|--------------------------|--------------------------|------------------|------------------------------------|--------------------|-----------------------|----------------------|--------------------|------------------|------------------|---------------------|------------------|--|--|
| From (M) | To (M) | | | | | | | | | | Cu | Pb | Zn | Ag | C _A | As | Fe | W | Sr | | |
| | | | | | PERCUSSION DRILLED TO 36.5m INTERSECTED H ₂ O AT 15m - NEEDED FOAM TO LIFT CUTTINGS - MUCH CONTAMINATION. | | | | | | | | | | | | | | | | |
| | | | | | <u>INTERBEDDED QUARTZITES AND SILTSTONES</u> | | | | | | | | | | | | | | | | |
| 0.0 | 8.0 | - | - | | Weathered siltstones and quartzites lt yellow gy. of weathered qtzites with occ. lt purple bands. At 5m becomes med-ht gy. qtzites and med-ht gy. laminated siltstones | Soil 0-1.0m py crystals = 1% sh py sh chlorite | 972935* 972936* 972937* 972938* | 0.0 2.0 4.0 6.0 | 2.0 4.0 6.0 8.0 | ? ? ? ? | 355 135 920 685 | 20 5 15 5 | 280 35 40 30 | 1.5 0.5 x x | 10 5 5 15 | x x x x | - - - - | 10 x 10 10 | 7 3 8 7 | | |
| | | | | | <u>QUARTZITES</u> | | | | | | | | | | | | | | | | |
| 0.0 | 14.0 | - | - | | Med and ht gy. qtzites, occ. silty interbeds. Becomes dk gy. qtzites at 10m. Some minor bl shales at 12m. | Occ py > cp minor qtz. veining, min ² in veins. Min ² stronger at 12m Cp + py min ² occ. with sh. chlorite zones - occ. with qtz veins. | 972939* 972940* 972941* | 8.0 10.0 12.0 | 10.0 12.0 14.0 | ? ? ? | 880 465 1100 | 5 5 x | 30 40 40 | 1.0 x x | 15 10 5 | x x x | - - - | 10 x x | 6 3 5 | | |
| | | | | | <u>SHALES AND QUARTZITES</u> | | | | | | | | | | | | | | | | |
| 14.0 | 20.0 | - | - | | Bl shale frags with 5% qtz veining. At 16.0m some v. dk gy siltstones/gytites. | Siltst. veins becomes 10% ht veins at 16m. Cp > py. Occ qtzite bands chlorite - med gy. sp. | 972942* 972943* 972944* | 14.0 16.0 18.0 | 16.0 18.0 20.0 | ? ? ? | 4800 4250 5900 | x 15 25 | 50 105 140 | 0.5 1.0 0.5 | 10 15 50 | x x x | - - - | x x x | 6 4 7 | | |
| | | | | | | | | | | | | | | | | | | | | | |

* PERCUSSION SAMPLES

592012

SHEET No. 3 of 5

C.R.A. EXPLORATION PTY. LIMITED
DRILL CORE LOG

TENEMENT NAME ROCKY CAPE No. 177

PLAN - MAP REFERENCE TERMA - LITTLE EEL GRD

CO-ORDINATES 100N 086E AZIMUTH 225° DRILLERS OVERLAND COMMENCED 05:10:82 DEPTH 109.7 metres HOLE No. DR82 LE1

RL COLLAR..... INCLINATION -50° DRILL TYPE SCOUT 250 COMPLETED 08:10:82 CASING LEFT Nil DPO No(s) 30211

| DEPTH | | Core Rec. (M) | Core Size | Graphic Log | CORE DESCRIPTION | SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization | Sample No. | From (M) | To (M) | Rec (M) | ASSAY VALUES (Analysed by <u>ANALABS</u>) | | | | | | | | | |
|----------|--------|---------------|-----------|-------------|--|--|---------------------|----------|--------|---------|--|----|-----|-----|----|----|-----|---|----|----|
| From (M) | To (M) | | | | | | | | | | Cu | Pb | Zn | Ag | Co | As | Fe | U | Sr | |
| | | | | | SS dykelets observed facing east (uphole). Increasing chlorite alt ⁿ with depth. | Minor bedding displacements upto 5mm - some beds show a greater degree of chlorite alt ⁿ than others. Sp. ranges 1-2mm wide 4.5:3 - 4.5:6mm - displaced | 972965 ^G | 48.15 | 50.8 | 2.65 | 295 | 20 | 35 | 1.0 | 25 | - | X | - | 10 | 5 |
| | | | | | | | 972966 ^G | 50.8 | 53.25 | 2.45 | 275 | 20 | 30 | 0.5 | 20 | - | X | - | 30 | 9 |
| | | | | | | | 972967 ^G | 53.25 | 56.3 | 3.05 | 145 | 30 | 55 | 0.5 | 25 | - | X | - | 15 | 4 |
| | | | | | THIN SECTION 64.2m (975868) INDURATED SILTSTONE. | bedding upto 1-2mm EAST FACINGS - uphole | 972968 ^G | 56.3 | 58.5 | 2.2 | 85 | 15 | 25 | 0.5 | 10 | - | X | - | X | X |
| | | | | | | 45.9m pale green chlorite veinlet 46.9m 20cm qtz vein - sweet qtz? Increasing chlorite alt ⁿ with depth 50.4m minor py min ² 52.3m 10cm qtz - chlorite vein + 20% py 53m - core broken chlorite alt ⁿ strong 54.7m - 56m mod - strong chlorite alt ⁿ | | | | | | | | | | | | | | |
| | | | | | <u>SILTSTONES</u> | | | | | | | | | | | | | | | |
| 58.5 | 65.8 | 7.3 | 8Q | | Mod - finely laminated creamy - grey siltstones with thin qtz bands - chlorite segregation in concave grainbed beds | Mod. fractured. Int L 67° at 64.2m Joint and qtz vein at 64.9m V. chlorite in general sequence only sil. chlorite | 972969 ^G | 58.5 | 61.4 | 2.9 | 120 | 20 | 25 | X | 20 | - | X | - | 15 | X |
| | | | | | | | 972970 ^G | 61.4 | 64.04 | 2.64 | 310 | 10 | 40 | 1.0 | 20 | - | X | - | 35 | X |
| | | | | | | | 972971 ^G | 64.04 | 65.08 | 1.76 | 245 | 5 | 35 | 0.5 | 20 | - | 100 | - | 40 | 11 |
| | | | | | | THIN SECTION 64.2m (975868) INDURATED SILTSTONE | | | | | | | | | | | | | | |
| 65.8 | 76.3 | 10.5 | 8Q | | <u>QUARTZITES</u> Sl. silty of 1 st meta - med. dk grey coarse finely broken - veined - dichonoided - micro faulting - beds displaced - some chloritic alt ⁿ when core more massive more thin qtz vein developed ≈ 1mm wide | Core moderately fractured. Int L 70° at 68.4m - minor thin qtz veins Core V. fractured at 68.7m - upto 20% py minor sp. Thin bedded wavy qtz veins. Jointing more prominent. Dec. dichonoided core - bedding displaced on micro - faults. | 972972 ^G | 65.08 | 69.10 | 3.0 | 275 | 10 | 135 | X | 45 | - | X | - | 40 | |
| | | | | | | | 972973 ^G | 69.10 | 72.0 | 1.9 | 330 | 15 | 80 | 1.5 | 30 | - | X | - | 30 | |
| | | | | | | | 972974 ^G | 72.0 | 74.6 | 2.07 | 280 | 10 | 60 | X | 25 | - | X | - | 55 | |
| | | | | | | | 972975 ^G | 74.6 | 76.3 | 1.7 | 75 | 20 | 50 | 1.0 | 15 | - | X | - | 30 | |

^G GRIND SAMPLES.

AME 309930E 5429570N

C.R.A. EXPLORATION PTY. LIMITED
DRILL CORE LOG

592015

SHEET No 1 of 4
No. EL 1/77

TENEMENT NAME ROCKY CAPE

PLAN - MAP REFERENCE Tenna - POSSUM GRID

CO-ORDINATES D800N 10242E AZIMUTH 140°m DRILLERS OVERLAND COMMENCED 08.10.82 DEPTH 86.6 metres HOLE No. DD82 P61

RL COLLAR..... INCLINATION -60° DRILL TYPE SCOUT 250 COMPLETED 12.10.82 CASING LEFT Nil DPO No(s) 30211

| DEPTH | | Core Rec. (M) | Core Size | Graphic Log | CORE DESCRIPTION | SPECIAL FEATURES Weath, Alteration, Fracturing, Veining, Mineralization | Sample No. | From (M) | To (M) | Rec (M) | ASSAY VALUES (Analysed by <u>ANALAB</u>) | | | | | | | | | | | |
|----------|--------|---------------|-----------|-------------|---|--|---------------------|----------|--------|---------|---|-----|----|----|-----|----|----|-----|----|----|----|--|
| From (M) | To (M) | | | | | | | | | | Cu | Pb | Zn | Ag | Co | As | Fe | W | Sr | | | |
| | | | | | PERCUSSION DRILLED TO 11 metres COULD NOT GO FURTHER CAUSING GROUND | | | | | | | | | | | | | | | | | |
| | | | | | <u>SURFICIAL SANDS</u> | | | | | | | | | | | | | | | | | |
| 0.0 | 4.0 | ? | | | <u>Db bn c-v.e.g. sands med- well rounded</u> | | 972953* | 0.0 | 4.0 | ? | | 30 | 5 | 30 | 0.5 | 5 | - | x | - | x | 4 | |
| | | | | | <u>QUARTZITES</u> | | | | | | | | | | | | | | | | | |
| 4.0 | 11.0 | ? | | | <u>Med-dk gy qtzites some qtz reef material - mica selings on joints Qtzites c-v.e.g. - sl. chloritic Occ lt gy qtzite bands (ca) 8m</u> | <u>Mica py mica</u> | 972954* | 4.0 | 6.0 | ? | | 20 | 10 | 35 | x | 5 | - | x | - | x | x | |
| | | | | | | | 972955* | 6.0 | 8.0 | ? | | 20 | 10 | 50 | x | 10 | - | x | - | x | 6 | |
| | | | | | | | 972956* | 8.0 | 10.0 | ? | | 25 | 5 | 50 | x | 10 | - | x | - | x | x | |
| | | | | | | | 972957* | 10.0 | 11.0 | ? | | 25 | 5 | 45 | x | 10 | - | x | - | x | 15 | |
| | | | | | <u>QUARTZITES</u> | | | | | | | | | | | | | | | | | |
| 11.0 | 26.5 | 14.89 | 80 | | <u>Med gy sometimes finely banded - more silty zones At 15m core very broken - jointed - some slickenside development probably fault zone</u> | <u>Int ls very low - at 13.4m // to core direction. Mica slump features. Occ thin qtz veins cut core Some py upto 5% in thin bands. Line angles generally < 20° Py in veins at 21.7m mod chlorite altⁿ at 23.2m = py mica. Quartzites show mod. chlorite altⁿ over last 4m but ls = 35° in this zone.</u> | 972990 ^G | 11.0 | 14.2 | 3.2 | | 60 | 10 | 70 | 0.5 | 5 | - | x | - | 35 | x | |
| | | | | | | | 972991 ^G | 14.2 | 17.2 | 3.0 | | 130 | 10 | 80 | 0.5 | 10 | - | x | - | 15 | 5 | |
| | | | | | | | 972992 ^G | 17.2 | 20.2 | 2.44 | | 80 | 15 | 35 | x | 5 | - | x | - | 10 | 6 | |
| | | | | | | | 972993 ^G | 20.2 | 23.2 | 2.95 | | 35 | 10 | 40 | 0.5 | 20 | - | x | - | 15 | 6 | |
| | | | | | | | 972994 ^G | 23.2 | 26.5 | 3.3 | | 30 | 35 | 70 | x | 35 | - | 200 | - | x | 7 | |

^G GRIND SAMPLES
* PERCUSSION SAMPLES

APPENDIX TWO

PETROLOGICAL REPORT

670

Central Mineralogical Services



39 Beulah Road
Norwood, S.A. 5067
Telephone 42 5659

Mr. G.B. Weber
Senior Geologist
C.R.A. Exploration Pty. Ltd.
P.O. Box 138
BURNIE / TAS. 7320

12th November, 1982

REPORT CMS 82/10/34

| | |
|-----------------|--------------------|
| YOUR REFERENCE: | D.P.O. No. 30210 |
| DATE RECEIVED: | 22nd October, 1982 |
| SAMPLE NOS.: | 975868 - 975876 |
| SUBMITTED BY: | G.B. Weber |
| WORK REQUESTED: | Petrology |

Copy to:
The Chief Geologist
C.R.A. Exploration Pty. Ltd.
G.P.O. Box 384D
MELBOURNE / VIC. 3001

H.W. Fander
H.W. Fander, M. Sc.

Copy & Invoice to:
Administration Officer
C.R.A. Exploration Pty. Ltd.
P.O. Box 138
ROSNY PARK / TAS. 7018

020

REPORT CMS 82/10/34

Samples 975868 - 975876

Nine rock samples were received for petrological descriptions; thin-sections were prepared of all samples, and six polished sections were also prepared and examined, mainly to identify sulphides. Each sample is briefly described in the accompanying table.

Summary

The suite consists of variably but generally severely metasomatised sediments; the exceptions are 975868 which is, at best, only incipiently metamorphosed, and 975872 and 975873 which are relatively unreactive quartzose rocks in which relict clastic features are still recognisable. All the others are metasomatised beyond recognition; 975869, 870, 871, 875 and 876 are similar, though 875 and 876 were modified by late-stage shearing.

The history of the rocks was complex and not all the processes are entirely clear from this study, but it seems that the sediments were pyrometasomatised, with the introduction/formation of silicates (amphibole, garnet, stilpnomelane), magnetite and sulphides. This was followed by retrograde metamorphism, with the introduction of siderite, formation of chlorite and sericite from other pre-existing silicates.

Some rocks were then sheared, with recrystallization of some components (carbonate, quartz, sericite).

The initial or early phase of pyrometasomatism might have been accompanied by Sn-W mineralisation, though none was actually detected in these rocks.

H.W. Fander, M. Sc.

| Sample No. | Rock Type - Composition | Fabric | Minor Minerals | Comments |
|---------------------------|---|---|--|---|
| 975868 (T.S. 44057) | <u>Indurated Siltstone</u> . Finely laminated, with coarser quartzose, finer sericitic layers, accentuated by carbonaceous matter. Some chlorite development. DD82 LE1 64.2m | Folded, with minor disruption. Graded bedding. Fine-scale recrystallization. | Crosscutting quartz veins with chlorite, oxide opaques (?magnetite). | Perhaps incipiently metamorphosed, but sedimentary features well preserved. No distinctly metamorphic minerals occur. |
| 975869 | <u>Magnetite-Quartz-Siderite Rock</u> . Bands of quartz with fibrous <u>stilpnomelane</u> , and of massive magnetite. Extensively impregnated/replaced by siderite. DD82 LE1 89.9m | No relict textures. Magnetite is fractured veined. Fine to coarse. | Scattered sulphides (pyrite, chalcopyrite, pyritised pyrrhotite) introduced with carbonate. | Origin of rock not known - history evidently complex. Sulphides younger than magnetite? |
| 975870 | <u>Quartz-Magnetite-Sericite Rock</u> . Massive quartz with subparallel tufts of sericite; scattered granular magnetite; fine sideritic carbonate throughout. DD82 LE1 93.8m | Vague preferred orientation. No relict features. Fine- to medium-grained. | A few sulphide patches of pyrite, chalcopyrite, pyrrhotite. Crosscutting quartz veins. | Similar to 869 in many respects. Origin not known. Broadly metasomatic, with several successive phases. |
| 975871 | <u>Quartz-Magnetite-Siderite Rock</u> . Scattered euhedral magnetite set in quartz with granular siderite, fibrous limonite after ?actinolite. DD82 LE1 96.4m | Random distribution, orientation; typical metasomatic fabric. | Fine sulphides throughout - pyritised pyrrhotite, trace chalcopyrite. | Rock was probably a metasomatic or skarn type with a Fe-silicate-magnetite assemblage, retrograded. |
| 975872 | <u>Chloritic Metaquartzite</u> . Dominantly small interlocking quartz patches; streaks and patches of fibrous chlorite. Irregular chalcopyrite grains. DD82 LE1 103.1m | Vague preferred orientation. Relict clastic textures, (rounded quartz grains). | Isolated zircon. Fine black (?carbon) coatings outline clastic textures. | Rock was mature fine orthoquartzite, recrystallized, weakly metasomatised and mineralised. |
| 975873 | <u>Stilpnomelane-Metaquartzite</u> . Mostly fine interlocking quartz grains with small chlorite patches. Bands of massive decussate <u>stilpnomelane</u> flakes, sheaves. DD82 PG1 29.9m | Relict clastic textures accentuated by dark rims. Replacive stilpnomelane. | Siderite, sulphides associated with mica. Pyritised pyrrhotite, chalcopyrite. | Rock closely resembles 872, i.e. representing metasomatised orthoquartzite. Weak sulphide mineralisation. |
| 975874 | <u>Chloritised Garnet Rock</u> . Ranging from garnetiferous mica schist to massive garnet, all extensively chloritised, with relict garnet and quartz. DD82 PG1 40.7m | Relict fine laminations indicated by carbonaceous matter. Euhedral garnet. | Massive fine chlorite veins. Thin layers of detrital zircon in schist. | Chloritisation was a retrograde, replacive process. Original sediment was contact-metamorphosed/metasomatised. |
| 975875 | <u>Magnetite-Stilpnomelane-Siderite Schist</u> . Subparallel matted <u>stilpnomelane</u> , sericite flakes; extensively fractured magnetite; abundant granular siderite. DD82 PG1 44.8 | Schistose fabric mainly due to late-stage shearing, with fracturing, recrystallization. | Patches of sulphides; rare tremolite. Quartz patches. Chalcopyrite, pyrite, arsenopyrite, bornite. | Probably a sheared metasomatic rock; several metasomatic prograde and retrograde phases recognisable. Sulphides are fragmented. |

| Sample No. | Rock Type - Composition | Fabric | Minor Minerals | Comments |
|------------------------|---|--|---|---|
| 975876 (T.S. 44065) | Magnetite-Grunerite-Siderite Rock. Extensively fragmented magnetite, penetrated by siderite; matted masses of fibrous grunerite (Mg-Fe amphibole). DD82 Pg 1 46.4m | Some preferred orientation, mainly though mild shearing. Medium-grained. | Sulphides are pyritised pyrrhotite, chalcopyrite, fractured arsenopyrite. | Broadly similar to 875, with similar polymetamorphic/metasomatic history. Possible potential for Sn-W mineralisation. |
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APPENDIX THREE
REPORT ON REGIONAL SOIL GEOCHEMISTRY
AND REGIONAL MAPPING IN THE
TEMA AREA EL 1/77

024



GEOPEKO

A DIVISION OF PEKO-WALLSEND OPERATIONS LTD.

592025

INTER-OFFICE MEMO

TO: R.R. LARGE

DATE: 26-1-83

FROM: R.J. PERRING

COPIES TO: G. Weber

SUBJECT: REPORT ON REGIONAL SOIL GEOCHEMISTRY AND GEOLOGICAL MAPPING IN THE TEMMA AREA - E.L. 1/77

INTRODUCTION

Exploration Licence 1/77 - Rocky Cape is held by CRA Exploration Pty. Ltd., and currently exploration is being undertaken in joint venture with Geopeko.

Previous work by CRAE (T.M. Porter, 1977) indicated anomalous levels of tin and tungsten in panned concentrates from streams draining magnetically anomalous zones in the Temma area.

The magnetically anomalous zones were investigated by Geopeko in 1981. Herrmann, 1982 concluded the intense magnetic anomalies relate to narrow, crosscutting dyke or vein like bodies composed of varying assemblages of magnetite, carbonate, iron rich amphibole, chlorite and quartz. Several occurrences of quartz-sulphide vein mineralization show a spatial and structural relationship to the magnetite lodes. On the basis of low base metal grades and moderate tonnages indicated for the magnetite lodes the deposits are considered uneconomic targets for exploration.

A program to investigate the possibility of economic sulphide facies of the ironstones occurring along strike from the Strickland and Possum Creek magnetite lodes is currently underway. This report presents the results of exploration undertaken by Geopeko in the Temma area in November and December, 1982.

WORK COMPLETED

1. Six northeast - southwest (055°M) lines approximately one kilometre apart were established in the area between the Grace and Strickland aeromagnetic anomalies (see figure 1). A total of 10.2 line kilometres of grid were pegged at 50 metre intervals using a chain and compass. Co ordinates are relative to the Possum Creek grid.

2. A Jacro rig mounted on a Bombardier is being used to auger through up to 10 metres of Recent and Tertiary unconsolidated sands and gravels to obtain C horizon samples of the Precambrian subcrop. Samples are taken at 25 metre intervals along lines and analysed for Cu-Pb-Zn-Ag-Fe by AAS, As by vapour hydride generation, and Sn-W by XRF. Approximately 40% of the grid has been sampled to date (see plan 1), and all assay results are given in Appendix 1. Line profiles of data will be prepared on completion of the sampling when all assay results received.
3. All new grid lines were surveyed with a magnetometer, with reading taken at 25 metre intervals. Stacked line profiles of total magnetic field intensity are given at scale 1:10,000 on Plan 2.
4. The area between the Grace and Strickland aeromagnetic anomalies was mapped on to a black and white aerial photograph of scale 1:10,000. Plan 3 shows the distribution of outcrop. The analytical results of rock chip samples taken in the course of geological mapping are given in Table 1.

SUMMARY OF RESULTS

1. C horizon soil geochemistry

Table 2 C horizon soil geochemistry - range of assays

| | | | |
|----|-------------------|----|------------------|
| Cu | 5ppm to 195ppm | Fe | 0.12% to 7.45% |
| Pb | <5ppm to 75ppm | As | < 1ppm to 53ppm |
| Zn | 5ppm to 280ppm | Sn | < 4ppm to 222ppm |
| Ag | <0.5ppm to 2.0ppm | W | < 4ppm to 244ppm |

A number of copper, lead and zinc anomalies mostly with coincident ? geochemistry occur throughout the sequence. Erratic anomalous tungsten geochemistry also occurs on all lines sampled. A broadly coincident tin (222ppm) - arsenic (53ppm) anomaly falls on the northeast end of line 10400N.

2. Magnetometer Survey

The narrow, 500nT anomaly centred on 13900N 11225E defines the southern extent of the Temma magnetite load. The narrow, 1700nT anomaly centred on 12400N 10775E defines the northern extent of the most eastern Possum Creek magnetite load. The 'spiky' nature of the data for 200 metres grid east and west of this anomaly is caused by Tertiary basalt. The two narrow, strong anomalies on line 11200N and one on line 10400N are caused by the Possum Creek magnetite lodges which strike 324°M.

3. GEOLOGY

The Precambrian sedimentary sequence in the area between the Grace and Strickland aeromagnetic anomalies consists of a sequence of laminated and bedded psammo-pelitic siltstones, fine and medium grained quartzites, laminated shales and micaceous sandstones.

The siltstones vary from rare massive pelitic siltstone through finely laminated, sometimes crossbedded (see figure 2) psammo pelitic siltstone generally found south of the Possum Creek prospect to interbedded psammitic and pelitic siltstones with ripple marks in the psammitic quartzose layers. This interbedded unit is common to most of the grid area.

The sandstones vary from clean, well sorted crossbedded white quartzites to grey silty micaceous sandstones which are also usually crossbedded. The most prominent exposures of this crossbedded unit fall on the western side of the gridded area between lines 12400N and 13900N.

A finely laminated shale outcrops near the eastern end of line 13100N on the banks of Big Eel Creek.

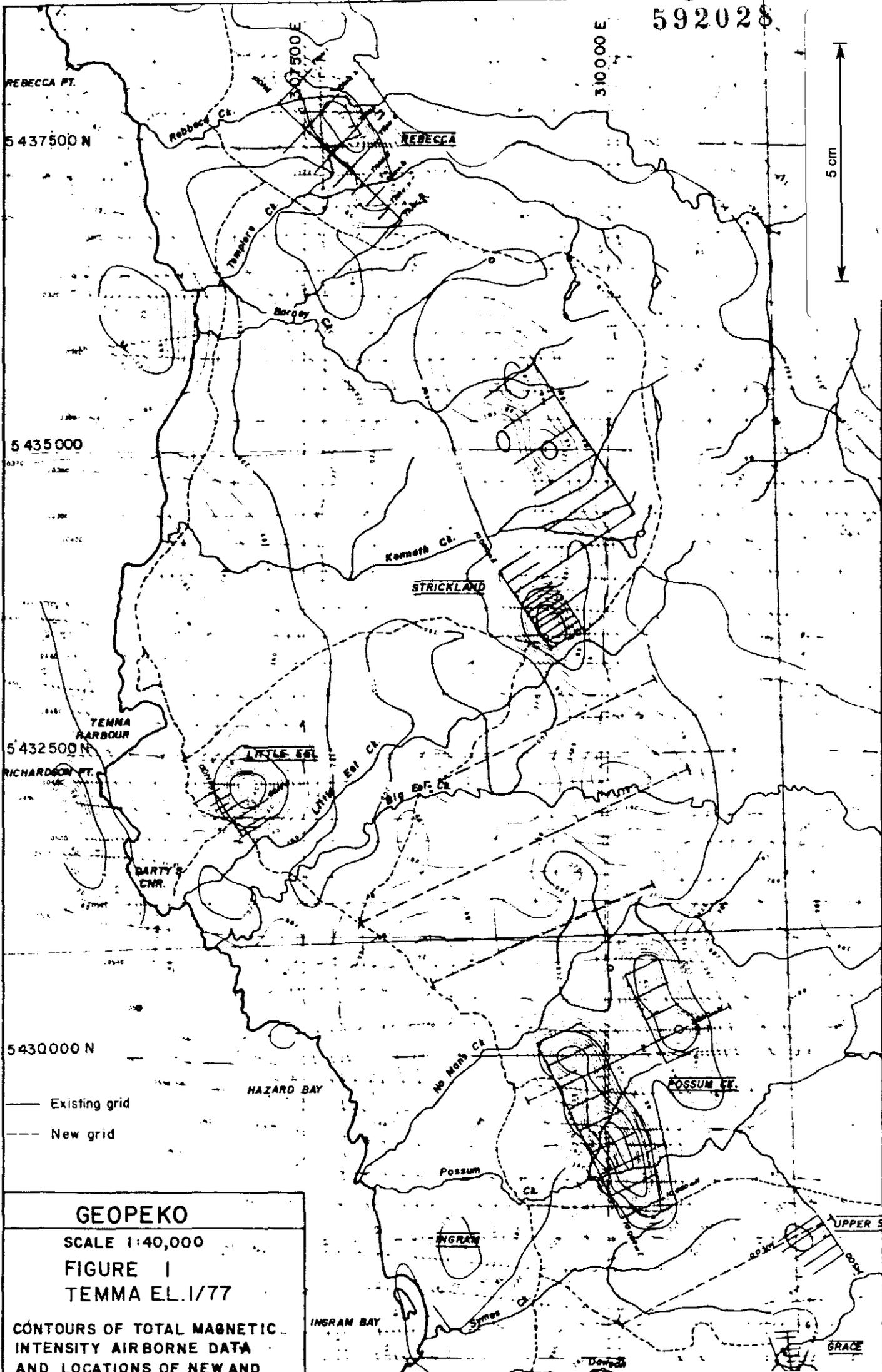
The shales are relatively well cleaved and contrasts with the poorly cleaved and non cleaved sandstones and quartzites. A broad spaced fracture cleavage (approximately 1/cm) was recorded in only a few outcrops. The alignment of (metamorphic) mica in the impure sandstones oblique to bedding also defines the cleavage. The few cleavages recorded strike between $160^{\circ}M$ and $170^{\circ}M$ and dip vertically.

Bedding dips both to the west and east from between 20° and 80° and sometimes to the south at 10° and less when on the hinge zone of relatively large folds.

There are at least two scales of folding. Mesoscale non planar non cylindrical folds occur in the psammo pelitic sequence 50 metres west of the Possum Creek magnetite outcrop, and in the shale in Big Eel Creek. (see Plan 3 for illustrations). These folds plunge from the vertical to at least 30° (to $145^{\circ}M$ in this case). The irregularity of these folds suggests soft sediment slumping. There is also folding with a wavelength in the order of 800 to 1000 metres however there is insufficient outcrop to determine a plunge direction for these folds.

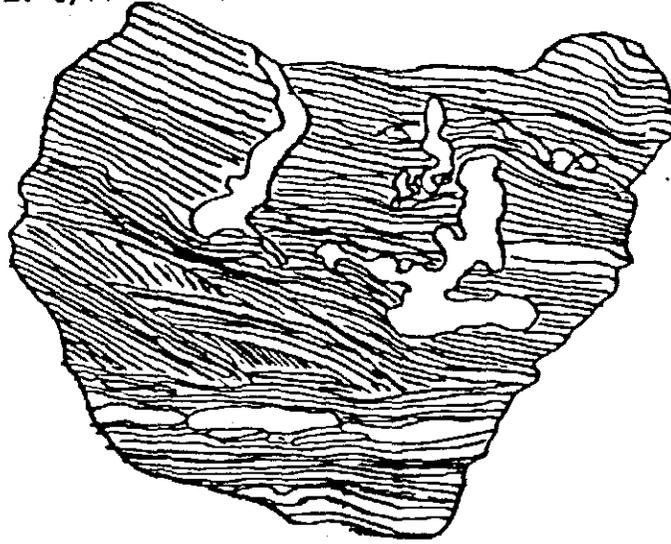
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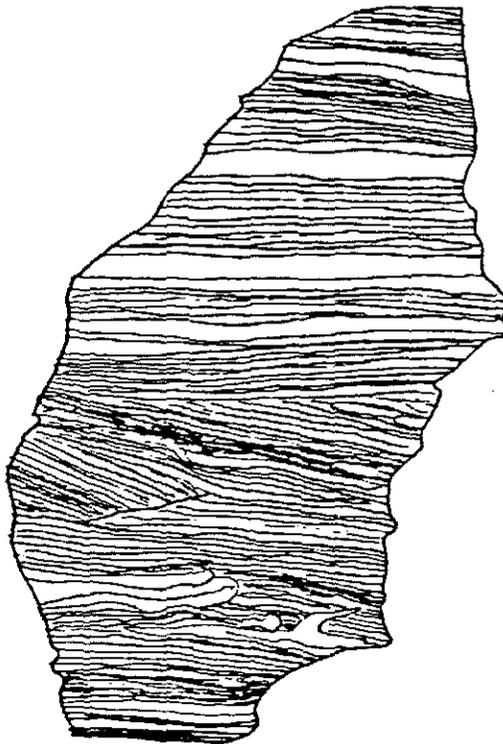
GEOPEKO
 SCALE 1:40,000
 FIGURE 1
 TEMMA EL. 1/77
 CONTOURS OF TOTAL MAGNETIC INTENSITY AIRBORNE DATA AND LOCATIONS OF NEW AND

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Finely laminated and cross bedded psammo-pelitic siltstone, crosscut by clastic dykes resulting from dewatering of sedimentary pile.

Possum Creek 9200N 10200E



Finely laminated psammo-pelitic siltstone, with truncated cross bedding.

Possum Creek 9200N 10200E

Scale 1:1

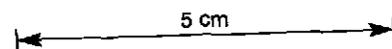


TABLE 1

TEMMA

ROCK CHIP ANALYSES

029

| Sample Number | Rock Type | AMG Co ordinates | Cu ppm | Pb ppm | Zn ppm | Ag ppm | Fe % | Ba ppm | As ppm | Sn ppm | W ppm | Au ppb |
|---------------|----------------------------------|---------------------|-----------|-----------|-----------|-----------|---------|-----------|-----------|-----------|----------|-----------|
| 12659 | massive coarse grained magnetite | 5429000N 310100E | 350 | 5 | 7 | X | 35.0 | X | 650 | X | X | X |
| 12660 | massive coarse grained magnetite | 5429000N 310100E | 1850 | 10 | 55 | 2.0 | 30.0 | X | 1500 | X | X | X |
| 12661 | massive coarse grained magnetite | 5431300N 310600E | 140 | 10 | 55 | X | 31.5 | 10 | 30 | 10 | X | X |
| 12662 | hematite-sulphide boxworks | 5431300N 310600E | 230 | 5 | 245 | 0.5 | 30.5 | 5 | 35 | X | 20 | 8 |
| 12663 | qtz veining-sulphide boxworks | 5431300N 310600E | 105 | 15 | 65 | 1.0 | 20.0 | 10 | 37 | 4 | X | X |
| 12664 | laterite | 5432500N 309600E | 15 | 5 | 50 | 0.5 | 33.0 | 30 | 16 | X | X | X |
| 12665 | spotted white quartzite | 5432650N 309000E | 5 | 15 | 25 | X | 0.585 | 5 | 3 | 4 | X | X |
| 12666 | limonitic ironstone | 5430400N 310600E | 10 | 5 | 35 | X | 27.5 | 1400 | 2 | 4 | X | X |
| 12667 | chloritic siltstone | 542800N 310650E | 5 | 15 | 65 | 0.5 | 3.25 | 240 | 1 | 6 | X | X |

SAMPLES FROM OUTSIDE GRID AREA

| | | | | | | | | | | | | |
|-------|------------------|---------------------|----|----|----|-----|-------|----|---|---|----|---|
| 12657 | black chert | 5445600N 307800E | 10 | 10 | 10 | X | 0.755 | 10 | 3 | 7 | X | X |
| 12658 | black chert | 5445600N 307800E | 10 | 10 | 10 | X | 0.605 | 10 | 3 | 8 | X | X |
| | DETECTION LIMITS | | 5 | 5 | 5 | 0.5 | 0.005 | 5 | 1 | 3 | 10 | 8 |

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APPENDIX 1

SOIL SAMPLE ASSAY RESULTS

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TEMMA

A Division of Macdonald Hamilton & Co. Pty. Ltd.

Phone (09) 458 7999

52 Murray Road, Welshpool, W.A. 6106

Telex AA92560

ANALYTICAL REPORT No. 15.2 09 1715

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

ORDER No. PROJECT

CRH Exploration Pty Ltd
PO Box 138
Rosny Park
Tasmania 7018

30434

DATE RECEIVED

RESULTS REQUIRED

13.12.82

No. OF PAGES OF RESULTS

DATE REPORTED

No. OF COPIES

TOTAL No. OF SAMPLES

159

| STATE OF SAMPLES | REFER BELOW | SAMPLE NUMBERS | PRE-TREATMENT | | | | | | OTHER SEE REMARKS | NONE | ANALYSIS | | |
|------------------|-------------|--------------------------------|---------------|-------|-------|-----------|-------|---------------------------|-------------------|----------------------------------|-------------|--------------------------|--|
| | | | DRY | CRUSH | SPLIT | PULVERISE | SIEVE | REFER TO ANALYSIS SECTION | | | PREPARATION | METHOD | |
| | | Ts 21001-177 Not Continuous | 1 | | | 3 | 2 | | | Cu Pb Zn Ag Fe As Sn Bi | 101 101 | 101 114 102 401 | |

RESULTS TO

TO

RESULTS TO

TO

REMARKS

1. Re: Rosny
2. Rosny
3. Rosny

4. Rosny
5. Rosny

| STATE OF SAMPLES | ANALYSIS — PREPARATION | ANALYSIS — METHOD |
|--------------------|---|--------------------------------|
| whole core WC | perchloric acid A1 cold acid | CA atomic absorption |
| split core SC | hydrochloric acid A2 specific sulphide | SS x-ray fluorescence |
| cutting CU | nitric acid A3 other mixed acids | Ma spectrophotometry |
| rock Ro | aqua regia A4 alkaline attack | AA colorimetry |
| soil SO | nitric-perchloric A5 volatilization | VO chromatography |
| pulp PU | HF mixture A6 ignition | IG titration |
| water WA | HF under pressure A7 pressed powder (XRF) | PP other chemicals means |
| tissue TI | fusion A8 glass fusion (XRF) | GF miscellaneous |
| stream sediment SS | | FLUOR fluorescence |
| heavy mineral HM | | ICP inductively coupled plasma |

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ANALYTICAL DATA

SAMPLE PREFIX REPORT NUMBER REPORT DATE CLIENT ORDER No. PAGE

| | | 15.2 08 1715 | | | | 24.12.82 | | 30434 | | 1 OF 8 | |
|----------|------------|--------------|----|----|-----|----------|----|-------|----|--------|--|
| TUBE No. | SAMPLE No. | Cu | Pb | Zn | Mg | Fe | Mn | Ca | Na | K | |
| 1 | 21001 | 5 | X | 50 | 0.5 | 2.20% | 15 | X | X | X | |
| 2 | 21002 | 10 | 35 | 60 | X | 8350 | X | X | X | 17 | |
| 3 | 21003 | 5 | 5 | 25 | X | 6900 | X | X | X | 7 | |
| 4 | 21004 | 10 | 15 | 26 | X | 1.20% | X | X | X | 10 | |
| 5 | 21005 | 5 | 10 | 15 | X | 4350 | X | X | X | 4 | |
| 6 | 21006 | 5 | 30 | 20 | X | 3400 | X | X | X | X | |
| 7 | 21007 | 5 | 5 | 17 | 0.5 | 5150 | X | X | X | X | |
| 8 | 21008 | 5 | 30 | 40 | 0.5 | 1.15% | X | X | X | 8 | |
| 9 | 21009 | 10 | 45 | 30 | X | 4900 | X | X | X | 13 | |
| 10 | 21010 | 5 | 10 | 50 | 0.5 | 2.65% | 9 | X | X | 8 | |
| 11 | 21011 | 5 | 5 | 30 | 0.5 | 5100 | X | X | X | 4 | |
| 12 | 21012 | 10 | 5 | 30 | X | 5500 | X | X | X | 4 | |
| 13 | 21013 | 30 | 5 | 60 | 0.5 | 2.00% | X | X | X | 244 | |
| 14 | 21014 | 30 | 25 | 75 | 0.5 | 1.65% | X | X | X | 23 | |
| 15 | 21015 | 10 | X | 16 | 0.5 | 1.45% | X | X | X | 8 | |
| 16 | 21016 | 5 | 5 | 10 | X | 8200 | X | X | X | X | |
| 17 | 21017 | 15 | 25 | 70 | 0.5 | 1.45% | X | X | X | X | |
| 18 | 21018 | 15 | 10 | 20 | X | 4.20% | 22 | X | X | 9 | |
| 19 | 21019 | 10 | 10 | 25 | X | 3.10% | 14 | X | X | 16 | |
| 20 | 21020 | 10 | 40 | 45 | 1.0 | 7450 | X | X | X | X | |
| 21 | 21021 | 10 | 15 | 30 | X | 6.50% | 21 | 4 | X | 4 | |
| 22 | 21022 | 10 | 15 | 30 | X | 7550 | X | X | X | 9 | |
| 23 | 21023 | 15 | 15 | 55 | 0.5 | 6.50% | 11 | X | X | X | |
| 24 | 21024 | 15 | 25 | 40 | X | 4.95% | 15 | X | X | 31 | |
| 25 | 21025 | 10 | 5 | 25 | X | 1.55% | 5 | X | X | 6 | |

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

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|----------|------------|--------------|----|-----|-----|----------|----|-------|----|--------|--|
| TUBE No. | SAMPLE No. | CU | | | | | | | | | |
| 1 | 21026 | 10 | 5 | 25 | X | 1.45% | 7 | X | 9 | | |
| 2 | 21032 | 70 | X | 155 | X | 6.35% | X | X | 23 | | |
| 3 | 21033 | 65 | 5 | 135 | X | 6.25% | 6 | X | 12 | | |
| 4 | 21034 | 60 | 5 | 135 | X | 7.45% | 6 | X | 8 | | |
| 5 | 21035 | 15 | 5 | 80 | X | 2.65% | 13 | X | 13 | | |
| 6 | 21036 | 5 | 5 | 60 | X | 10.85% | 9 | X | 18 | | |
| 7 | 21037 | 5 | 5 | 85 | X | 10.70% | 9 | X | 17 | | |
| 8 | 21038 | 5 | 10 | 40 | X | 9700 | X | X | 23 | | |
| 9 | 21039 | 20 | 10 | 50 | X | 2.80% | 13 | X | | | |
| 10 | 21040 | 10 | 5 | 30 | X | 2.45% | 12 | X | 10 | | |
| 11 | 21041 | 10 | 25 | 40 | 0.5 | 3.50% | 11 | | | | |
| 12 | 21042 | 5 | 5 | 25 | X | 2.65% | 9 | X | | | |
| 13 | 21043 | 10 | 10 | 20 | X | 4350 | X | X | 9 | | |
| 14 | 21044 | 15 | X | 50 | X | 1.25% | X | X | 5 | | |
| 15 | 21045 | 5 | 5 | 15 | X | 3300 | 8 | 4 | 11 | | |
| 16 | 21046 | 10 | 15 | 35 | X | 4750 | X | X | X | | |
| 17 | 21047 | 15 | 5 | 25 | X | 7450 | 8 | X | X | | |
| 18 | 21048 | 15 | 10 | 25 | X | 2.30% | 6 | X | 7 | | |
| 19 | 21049 | 10 | 5 | 20 | X | 3.85% | 13 | X | X | | |
| 20 | 21050 | 10 | 5 | 20 | X | 4.30% | 16 | X | X | | |
| 21 | 21051 | 10 | | 25 | X | 4.85% | 15 | X | X | | |
| 22 | 21052 | 15 | 5 | 15 | 0.5 | 2.85% | 11 | 4 | X | | |
| 23 | 21053 | 10 | 5 | 15 | X | 2.75% | 10 | X | 5 | | |
| 24 | 21054 | 15 | 5 | 25 | 0.5 | 2.80% | 10 | X | X | | |
| 25 | 21055 | 25 | 10 | 30 | X | 5.35% | 9 | X | 4 | | |

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

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SAMPLE PREFIX REPORT NUMBER REPORT DATE CLIENT ORDER No. PAGE

| TUBE No. | SAMPLE No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|----------|------------|--------------|----|-----|------|----------|----|-------|----|--------|----|
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| 1 | 21056 | 195 | 35 | 140 | X | 2.05% | 12 | X | 5 | | |
| 2 | 21057 | 15 | 5 | 50 | X | 1.25% | 8 | X | 5 | | |
| 3 | 21058 | 10 | 5 | 15 | 0.5 | 3.65% | 13 | 4 | 7 | | |
| 4 | 21059 | 30 | 15 | 45 | X | 3.96% | 9 | X | X | | |
| 5 | 21060 | 10 | 5 | 30 | X | 3.55% | 16 | X | 7 | | |
| 6 | 21061 | 5 | X | 10 | X | 3250 | 9 | 5 | 7 | | |
| 7 | 21062 | 5 | X | 15 | 0.75 | 4200 | 8 | X | X | | |
| 8 | 21063 | 30 | X | 25 | X | 1300 | 2 | X | 15 | | |
| 9 | 21064 | 130 | X | 100 | 2.0 | 8350 | X | X | 15 | | |
| 10 | 21065 | 70 | X | 60 | 0.5 | 1400 | X | X | 16 | | |
| 11 | 21066 | 40 | X | 35 | X | 1200 | 2 | X | 10 | | |
| 12 | 21067 | 20 | 10 | 60 | X | 3.50% | 11 | X | 4 | | |
| 13 | 21068 | 20 | 15 | 30 | X | 2.85% | 12 | X | 11 | | |
| 14 | 21069 | 20 | 10 | 25 | X | 2.90% | 12 | X | X | | |
| 15 | 21070 | 20 | 5 | 35 | X | 2.95% | X | X | 11 | | |
| 16 | 21071 | 30 | 5 | 50 | X | 9150 | X | X | X | | |
| 17 | 21072 | 5 | 5 | 10 | X | 3.75% | 13 | X | X | | |
| 18 | 21073 | 15 | 5 | 20 | 0.5 | 3.95% | 12 | X | 22 | | |
| 19 | 21074 | 15 | 5 | 30 | X | 3.40% | 8 | 4 | 10 | | |
| 20 | 21075 | 10 | 10 | 25 | 1.5 | 2.25% | X | X | X | | |
| 21 | 21076 | 20 | X | 30 | X | 3500 | 3 | X | 4 | | |
| 22 | 21077 | 35 | 10 | 30 | 1.0 | 4700 | 6 | X | 7 | | |
| 23 | 21078 | 15 | 5 | 20 | X | 3350 | 6 | X | 7 | | |
| 24 | 21079 | 15 | 10 | 35 | 1.0 | 3.75% | 12 | X | X | | |
| 25 | 21080 | 10 | 5 | 20 | X | 4.35% | 14 | X | X | | |

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

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| TUBE No. | SAMPLE No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|----------|------------|----|----|----------------|----------------|------------------|---------------|--------------|---------------|---|----|
| 1 | 21091 | 60 | X | 50 | 0.5 | 4150 | 7 | X | 66 | | |
| 2 | 21092 | 40 | X | 60 | 0.5 | 1.40% | 14 | X | 23 | | |
| 3 | 21094 | 40 | 15 | 70 | X | 1.45% | 15 | 4 | 18 | | |
| 4 | 21095 | 70 | 55 | 120 | X | 1.75% | 9 | 5 | 15 | | |
| 5 | 21096 | 15 | 25 | 60 | 0.5 | 1.20% | 8 | X | 5 | | |
| 6 | 21097 | 30 | 25 | 95 | X | 2.25% | 22 | X | 16 | | |
| 7 | 21098 | 35 | 75 | 200 | 170 | 2.65% | 17 | 8 | 13 | | |
| 8 | 21099 | 45 | 5 | 85 | X | 5.00% | 10 | X | 24 | | |
| 9 | 21090 | 10 | 5 | 15 | X | 4300 | X | X | X | | |
| 10 | 21091 | 10 | 5 | 40 | X | 1600 | X | 7 | X | | |
| 11 | 21092 | 15 | 5 | 25 | X | 1.30% | 5 | X | 4 | | |
| 12 | 21093 | 15 | 5 | 20 | X | 3600 | 7 | X | X | | |
| 13 | 21094 | 10 | 5 | 30 | X | 8150 | X | X | X | | |
| 14 | 21095 | 15 | 5 | 25 | X | 7800 | 1 | 4 | X | | |
| 15 | 21096 | 5 | 10 | 10 | X | 3500 | X | X | X | | |
| 16 | 21097 | 35 | 15 | 90 | X | 5.95% | 53 | 7 | 9 | | |
| 17 | 21098 | 40 | 15 | 100 | X | 6.85% | 8 | 222 | 14 | | |
| 18 | 21099 | 30 | 15 | 90 | 0.5 | 1.05% | 16 | 4 | 17 | | |
| 19 | 21100 | 15 | 25 | 65 | X | 2.20% | 10 | 10 | 18 | | |
| 20 | 21101 | 25 | 30 | 65 | X | 1.70% | 10 | X | 11 | | |
| 21 | 21102 | 30 | 10 | 65 | X | 1.75% | 15 | 4 | X | | |
| 22 | 21103 | 85 | 10 | 95 | 0.5 | 5100 | 11 | X | 4 | | |
| 23 | 21100 | 15 | 15 | 65 | X | 1.80% | 17 | 4 | 27 | | |
| 24 | 21106 | 25 | 10 | 170 | X | 1.90% | 16 | X | 30 | | |
| 25 | 21107 | 15 | 15 | 55 | 0.5 | 1.75% | 19 | X | 130 | | |

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

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| TUBE No. | SAMPLE No. | CU | Fe | Mn | P | S | Si | Ca | Mg | Al |
|----------|------------|-----|----|-----|-----|-------|----|----|-----|----|
| 1 | 21110 | 30 | 15 | 280 | X | 2.35% | 12 | X | 40 | |
| 2 | 21111 | 5 | 10 | 35 | 0.5 | 8850 | X | X | 11 | |
| 3 | 21112 | 10 | 20 | 60 | X | 1.95% | 10 | X | 12 | |
| 4 | 21113 | 115 | 5 | 95 | X | 5.75% | 15 | X | 20 | |
| 5 | 21114 | 100 | 10 | 90 | X | 6.20% | 23 | X | 16 | |
| 6 | 21117 | 45 | 5 | 95 | 0.5 | 1130% | 20 | X | 45 | |
| 7 | 21118 | 95 | 15 | 170 | X | 7.45% | 22 | X | 28 | |
| 8 | 21122 | 10 | 5 | 10 | X | 2100 | X | X | 27 | |
| 9 | 21123 | 5 | 5 | 10 | X | 2250 | 1 | X | 8 | |
| 10 | 21124 | 5 | 15 | 10 | X | 6350 | 7 | X | 9 | |
| 11 | 21125 | 10 | 50 | 25 | 0.5 | 6050 | X | X | X | |
| 12 | 21126 | 5 | X | 5 | 0.5 | 1700 | X | X | 13 | |
| 13 | 21127 | 15 | 20 | 25 | 0.5 | 1.55% | 7 | X | 150 | |
| 14 | 21128 | 5 | 10 | 25 | X | 8500 | 7 | 8 | 15 | |
| 15 | 21129 | 5 | 5 | 10 | X | 2300 | 2 | X | 6 | |
| 16 | 21130 | 5 | 10 | 35 | X | 1.95% | 10 | X | 8 | |
| 17 | 21131 | 10 | 10 | 30 | X | 2.70% | 12 | 6 | X | |
| 18 | 21132 | 5 | 15 | 40 | 0.5 | 8500 | 2 | X | X | |
| 19 | 21133 | 5 | 15 | 10 | 0.5 | 2800 | X | X | X | |
| 20 | 21134 | 25 | 10 | 55 | X | 1.25% | 5 | 5 | 17 | |
| 21 | 21135 | 10 | 10 | 25 | X | 3.65% | 32 | 4 | X | |
| 22 | 21136 | 10 | 5 | 40 | X | 1.00% | 8 | X | 6 | |
| 23 | 21137 | 5 | 50 | 20 | X | 2.70% | 10 | X | X | |
| 24 | 21138 | 5 | 5 | 20 | X | 1.80% | 8 | X | X | |
| 25 | 21139 | 5 | 40 | 30 | X | 2.55% | 12 | X | 7 | |

Results in ppm unless otherwise specified

T = element present; but concentration too low to measure

X = element concentration is below detection limit

= element not determined

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ANALYTICAL DATA

SAMPLE PREFIX REPORT NUMBER REPORT DATE CLIENT ORDER No. PAGE

15. 15.2 08 1715 24.12.82 30434 6 of 8

| TUBE No. | SAMPLE No. | | | | | | | | | |
|----------|------------|----|----|----|-----|-------|----|---|----|--|
| 1 | 21140 | 5 | 15 | 25 | X | 8150 | 7 | X | X | |
| 2 | 21141 | 5 | 5 | 10 | X | 4050 | 6 | X | 5 | |
| 3 | 21143 | 5 | 20 | 20 | X | 4750 | 8 | X | 14 | |
| 4 | 21144 | 5 | 15 | 20 | X | 5900 | X | X | X | |
| 5 | 21145 | 15 | 20 | 50 | X | 1.75% | 6 | X | 15 | |
| 6 | 21146 | 5 | 55 | 50 | X | 1.35% | 8 | X | 9 | |
| 7 | 21147 | 5 | 20 | 25 | X | 4650 | 7 | X | 95 | |
| 8 | 21148 | 5 | 25 | 15 | 0.5 | 2550 | 7 | X | 52 | |
| 9 | 21150 | 10 | 5 | 15 | X | 3950 | X | X | 17 | |
| 10 | 21151 | 70 | 45 | 60 | X | 5900 | 8 | X | X | |
| 11 | 21152 | 45 | 30 | 75 | X | 1.45% | 12 | X | X | |
| 12 | 21153 | 50 | 25 | 50 | X | 4250 | 10 | X | 17 | |
| 13 | 21154 | 20 | 15 | 35 | X | 1.05% | 8 | X | 15 | |
| 14 | 21155 | 25 | 10 | 35 | 0.5 | 1.10% | 5 | X | X | |
| 15 | 21156 | 15 | 15 | 30 | X | 9300 | 8 | X | 6 | |
| 16 | 21157 | 45 | 10 | 30 | 0.5 | 2300 | X | X | 33 | |
| 17 | 21158 | 5 | 10 | 10 | X | 1900 | 8 | X | X | |
| 18 | 21159 | 5 | 10 | 15 | X | 3.00% | 16 | X | 47 | |
| 19 | 21160 | 5 | 25 | 10 | X | 9200 | 7 | X | 30 | |
| 20 | 21161 | 5 | 5 | 10 | X | 2.10% | 7 | X | 9 | |
| 21 | 21162 | 20 | 30 | 30 | X | 4.70% | 8 | X | X | |
| 22 | 21163 | 20 | 20 | 60 | X | 6.15% | 10 | X | X | |
| 23 | 21164 | 5 | 45 | 15 | X | 6200 | 7 | X | 7 | |
| 24 | 21165 | 5 | X | 15 | X | 8900 | 6 | X | 13 | |
| 25 | 21166 | 10 | 45 | 25 | X | 1.70% | 12 | X | 6 | |

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

AUTHORISED OFFICER

DD-552

039

ANALABS

A Division of MacDonald Hamilton's Co., Ltd.

ANALYTICAL DATA

592040 JEMH

SAMPLE PREFIX REPORT NUMBER REPORT DATE CLIENT ORDER No. PAGE

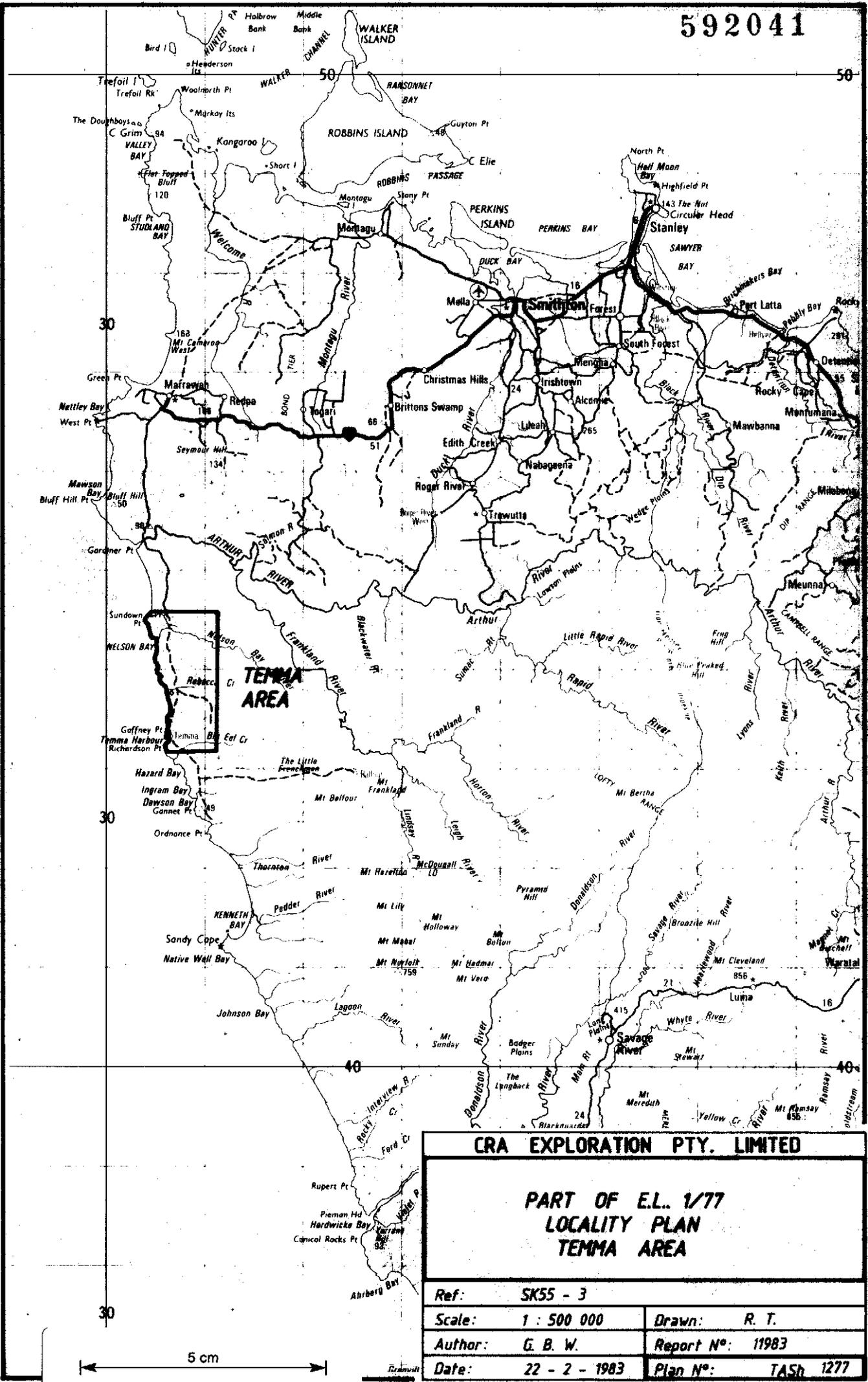
| 15 | | 15.2 06 1715 | 24.12.62 | 30434 | | 8 of 8 | | | | |
|----------|------------|--------------|----------|-------|-----|--------|-----|-----|-----|--|
| TUBE No. | SAMPLE No. | | | | | | | | | |
| 1 | STD F84 | 300 | 100 | 805 | 1.0 | 7.05% | 26 | | | |
| 2 | RPT 21001 | 5 | 5 | 55 | 0.5 | 2.20% | 12 | | | |
| 3 | RPT 21020 | 10 | 40 | 50 | 0.5 | 7400 | X | | | |
| 4 | STD F84 | 305 | 95 | 760 | 1.0 | 7.00% | 25 | | | |
| 5 | RPT 21046 | 10 | 15 | 30 | X | 4700 | X | | | |
| 6 | RPT 21055 | 70 | X | 60 | 0.5 | 1650 | X | | | |
| 7 | STD F84 | 305 | 95 | 795 | 0.5 | 7.00% | 24 | | | |
| 8 | RPT 21097 | 30 | 25 | 90 | X | 2.20% | 24 | | | |
| 9 | RPT 21100 | 25 | 10 | 175 | X | 1.95% | 17 | | | |
| 10 | STD F84 | 250 | 105 | 745 | 0.5 | 6.95% | 25 | | | |
| 11 | RPT 21124 | 30 | 10 | 35 | X | 1.00% | 1 | | | |
| 12 | RPT 21150 | 30 | 10 | 35 | 1.0 | 1.10% | 7 | | | |
| 13 | | | | | | | | | | |
| 14 | | | | | | | | | | |
| 15 | | | | | | | | | | |
| 16 | | | | | | | | | | |
| 17 | | | | | | | | | | |
| 18 | | | | | | | | | | |
| 19 | | | | | | | | | | |
| 20 | | | | | | | | | | |
| 21 | | | | | | | | | | |
| 22 | | | | | | | | | | |
| 23 | DETECTION | 5 | 5 | 5 | 0.5 | 50 | 1 | 4 | 4 | |
| 24 | DIGESTION | 101 | 101 | 101 | 101 | 101 | 101 | | | |
| 25 | METHOD | 101 | 101 | 101 | 101 | 101 | 114 | 402 | 401 | |

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

AUTHORISED OFFICER

040

592041



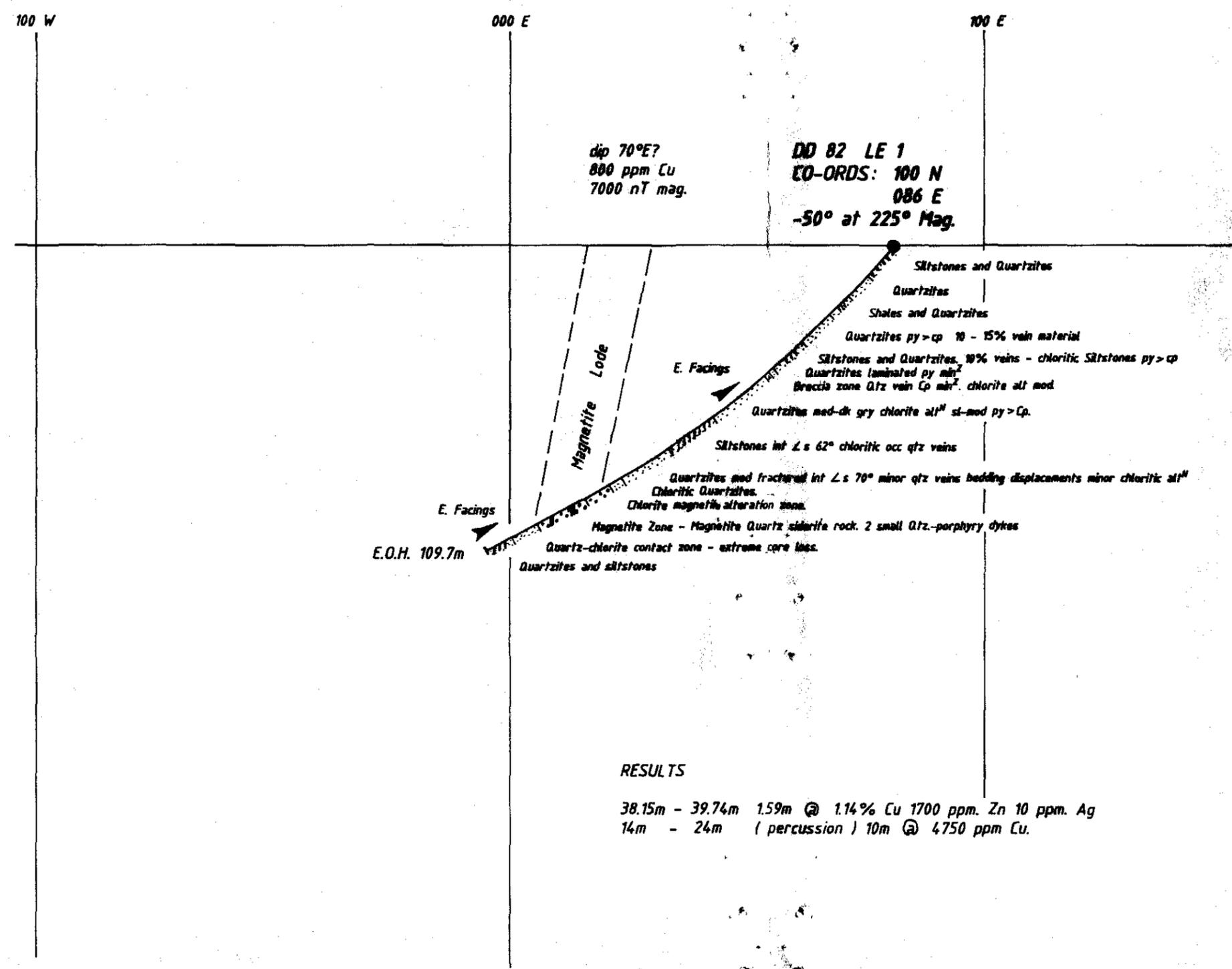
| | |
|---|--------------------|
| CRA EXPLORATION PTY. LIMITED | |
| PART OF E.L. 1/77 LOCALITY PLAN TEMMA AREA | |
| Ref: SK55 - 3 | |
| Scale: 1 : 500 000 | Drawn: R. T. |
| Author: G. B. W. | Report N°: 11983 |
| Date: 22 - 2 - 1983 | Plan N°: TASH 1277 |

5 cm

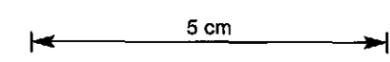
Transville

041

592042



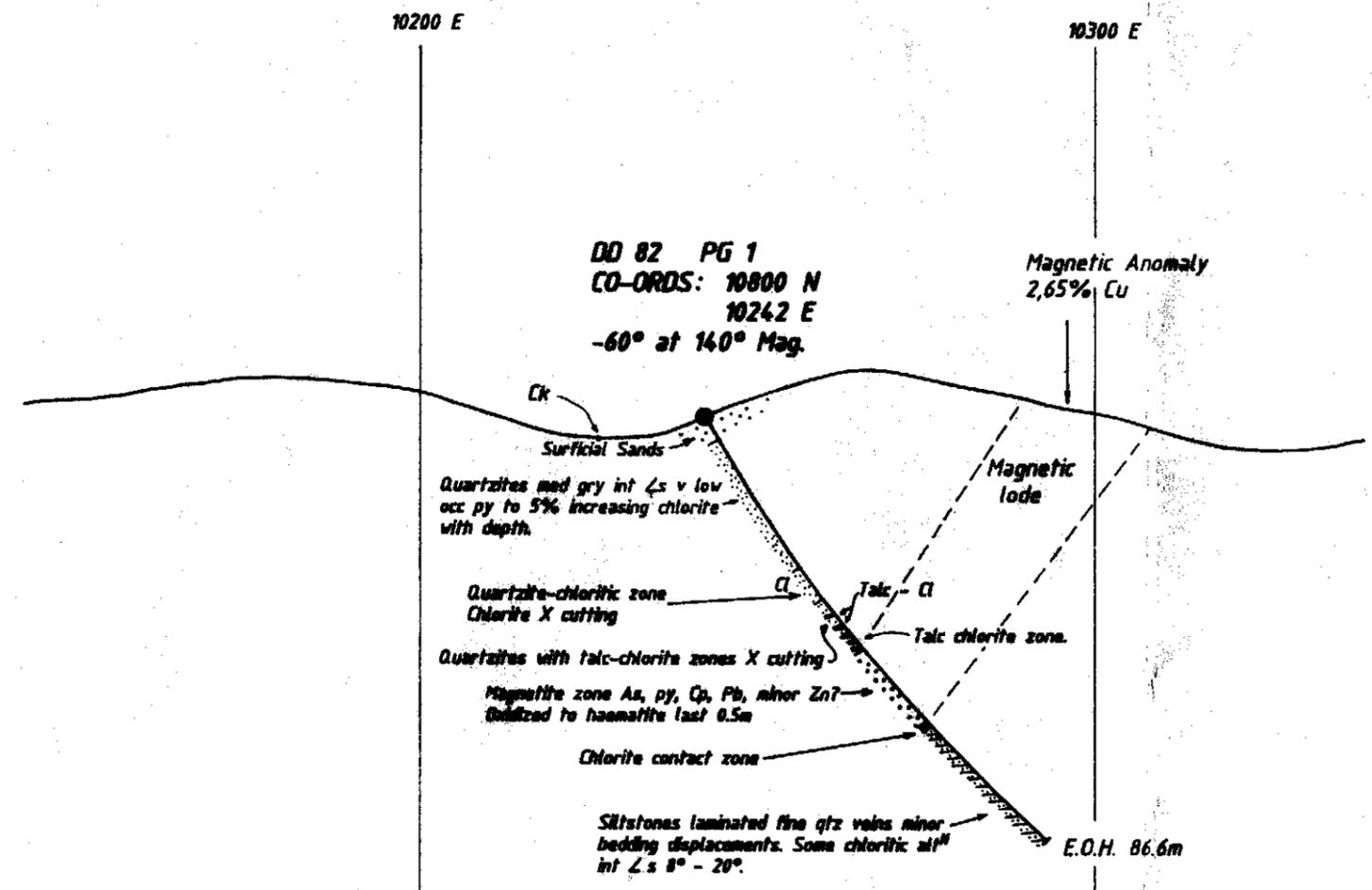
PERCUSSION to 36.5m
D.D. 36.5 - 109.7m



| | | | |
|--|----------|------------|-------|
| CRA EXPLORATION PTY. LIMITED | | | |
| LITTLE EEL GRID DRILLHOLE SECTION DD 82 LE 1 | | | |
| REF. | SK55 - 3 | | |
| SCALE. | 1 : 1000 | DRAWN. | R. T. |
| AUTHOR. | G. B. W. | REPORT N°. | 11983 |
| DATE. | DEC 1982 | TASh N°. | 1124 |

042

592043



PERCUSSION to 11 metres
D.D. 11 - 86.6 metres

RESULTS

50.5 - 53.5 3m @ 1.95% Pb 12.9 ppm Ag
 44.02 - 51.5 7.48m @ 2520 ppm Cu.
 Several zones contained up to 2.1% As - little Au associated.
 74.23 - 78.0 3.77 @ 3036 ppm Cu.

| | | | |
|--|------------|------------|----------|
| CRA EXPLORATION PTY. LIMITED | | | |
| POSSUM GRID DRILLHOLE SECTION DD 82 PG 1 | | | |
| REF | 592043 - 3 | SCALE | 1 : 1000 |
| AUTHOR | G. B. W. | REPORT NO. | 1793 |
| DATE | DEC 1982 | TASK NO. | 1123 |