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**PETER H. STITT & ASSOCIATES PTY. LTD.**  
MINING AND GEOLOGICAL CONSULTANTS

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**OPEN FILE**

5TH FLOOR,  
KING YORK HOUSE,  
32 YORK STREET,  
SYDNEY N.S.W. 2000  
PHONE: (02) 29 1403  
FAX: (02) 262 2395

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REPORT NO 15/88

EL 7/87

Annual Report on Exploration Completed in the  
Nelson River Area of Western Tasmania  
to 26/6/87

Prepared for Bach Holdings Pty. Ltd.

A. Dove  
June, 1988

DISTRIBUTION LIST

Geoff Beckett	Ba ch Holdings Pty. Ltd.
Tasmanian Department of Mines, Hobart	
A. Dove	Peter H. Stitt & Assoc. Pty. Ltd.
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## C O N T E N T S

	Page
SYNOPSIS	
1. AIM	1
2. REASON	1
3. SUMMARY & CONCLUSIONS	1
4. RECOMMENDATIONS	3
REPORT	
5. INTRODUCTION	4
6. TENEMENT INFORMATION	5
7. PREVIOUS WORK	6
8. REGIONAL GEOLOGY	9
9. STRUCTURE	10
10. PROSPECTS	11
10.1 Nelson River Prospect	11
10.2 Possum Creek Prospect	16
10.3 Strickland Prospect	20
10.4 Little Eel Prospect	23
10.5 Other Prospects	24
11. DRILLCORE EXAMINATION	26
12. REFERENCES	29

LIST OF FIGURES

- FIGURE 1      EL 7/87 Location Map
- FIGURE 2      Drillhole Section LE 1
- FIGURE 3      Drillhole Section PG 1

SYNOPSIS1. AIM

To find the source of precious metals discovered in the strandline systems of Temma Harbour within EL 33/86 to the west.

2. REASON

The discovery of traces of platinum and gold within the strandline systems of Temma Harbour in EL 33/86 led to lodging EL 7/87 and the examination of previous literature and work carried out in and around the EL.

It was discovered that previous work tended to be concentrated on base metal and tungsten mineralization, with little mention made of precious metals. This fact plus the price of precious metals has given impetus to the re-examination of these areas.

3. SUMMARY & CONCLUSIONS

3.1 A Precambrian sequence comprised of siltstone, shales, quartzites and sandstones outcrops throughout the area.

3.2 Detailed investigations prior to this EL work programme involving gridding, geological mapping, soil/rock geochemistry and geophysical surveys, have been carried out over the large magnetic anomalies at Nelson river, Possum Creek, Strickland Mine and Little Eel Prospects.

3.2.1 Reconnaissance magnetic surveys and geological mapping have been carried out over nine other magnetic anomalies and mineral occurrences in the area.

3.2.2 The results indicate that the intense magnetic anomalies relate to narrow, crosscutting dyke or vein-like bodies

005

composed of varying assemblages of magnetite, carbonate, iron rich amphibole, chlorite and quartz. These contain considerable iron and manganese and are weakly anomalous in copper and titanium. Several occurrences of quartz-sulphide vein mineralization containing significantly anomalous copper, lead, silver and traces of gold were examined. These show a spatial and structural relationship to the magnetite lodes but appear to be of much lesser extent and continuity.

3.2.3 The surrounding sedimentary sequence also has potential to host economic quantities of sulphide mineralization. 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.

3.2.4 Five drillholes, one at Nelson River, one at Possum Creek, two at Strickland and one at Little Eel have been drilled.

3.3 Two CRAE drillholes LE 1 and PG 1 were examined and short lengths of core from the magnetite-rich zone and the surrounding contact zone sampled for mineralogical examination.

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4. RECOMMENDATIONS

To carry out surface mapping and geochemical sampling, concentrating around previously defined mineralized zones and magnetic anomalies. Previous work has concentrated on locating base metals and tungsten mineralization, and precious metals have not generally been investigated. If targets are located follow up by drilling and mineralogical examination.

## 5. INTRODUCTION

As a result of initial beach sand exploration in EL 33/86 within the strandline systems at Temma Harbour, traces of platinum group metals and gold were detected in the heavy mineral suite. Following these findings, Bach Holdings Pty. Ltd. decided to try and locate a potential PGM source to the east.

A literature review was carried out to ascertain the extent of previous exploration activity on the west coast of Tasmania in the region surrounding Temma. This review covered the extent of EL 7/87, as well as EL 33/86 which adjoins to the south and west. This report is based on work completed by Pickands Mather, ANZECC, CRAE and Geopeko.

Attention throughout the literature review was paid to the occurrence of precious metals, indications of possible ultramafics, anomalous geophysical and geochemical results, and drilling activities. Generally, previous exploration activities were confined to tin and base metals.

Three of the four major prospects, Nelson River, Possum Creek and Strickland, delineated from the previous investigations, are located on the boundary of EL 2/87 and EL 33/86.

As a result of the work reviewed, two existing drillholes were located and sampled, and samples are presently undergoing mineralogical examination.

Figure 1 shows the location of the magnetic anomalies and mineral occurrences discussed within this report.

6. TENEMENT INFORMATION

Exploration Licence 2/87 is held by Bach Holdings Pty. Ltd. It covers an area of 145 square kilometres of land in the Land District of Russell and Wellington in the vicinity of Nelson Bay River, on the west coast of Tasmania.

The area comprises:	Private Property	21 km <sup>2</sup>
	State Forest	95 km <sup>2</sup>
	Arthur-Pieman (Protected Area)	129 km <sup>2</sup>

The area includes:

Australian Heritage Act Registered Entry Bluff Hill Point (30 ha) and part of Australian Act Interim Norfolk Range (19.8 km<sup>2</sup>).

The area excludes 3.2 km<sup>2</sup> West Point Aboriginal Site. (Also Registered Entry Australian Heritage Act).

7. PREVIOUS WORK

The earliest published work is that of Ward, (1911) who spent the winter of 1910 in the field and reported on several of the magnetic or quartz-sulphide bearing lodes known at the time around the Temma area.

Ward noted the similarity between the iron rich lodes of the Temma area and other occurrences south of Mt Balfour and in the Norfolk Range. He indicated that the magnetite-hematite-ferriferous dolomite lodes were but variants of the 'normal' quartz-pyrite-chalcopyrite bearing 'copper lodes' of the region and suggested a zonal relationship between the copper lodes and the tin-tungsten lodes, all ultimately related to Devonian granite intrusives.

It seems that the area was fairly well prospected, even up to recent times, but very little ore was produced.

In the mid-1960's Pickands Mather & Co. International undertook detailed investigations of the Nelson River and Temma (Strickland) iron lodes, presumably to test for iron ore potential. The work culminated in drilling of three holes; one at Nelson and two at Temma. One of the latter intersected a 20m. magnetite zone reported to contain 0.1% tin.

Exploration in the early 1970's by the Australian and New Zealand Exploration Company was confined to the search for King Island type tungsten skarns, and also for vanadium potential in the Nelson River deposit because of its supposed ultrabasic affinity.

Panned concentrates were collected from tributaries draining the

010

Arthur and Frankland Rivers and analysed for tungsten only.

One sample draining the Salmon River copper workings returned an assay of 150 ppm Tungsten. Sampling and mapping precluded the possibility of King Island type skarns and the area was relinquished.

In response to a concept of the possible stratabound nature of some major Tasmanian tin deposits, a helicopter borne reconnaissance draining sampling programme was initiated to determine areas of possible tin potential by C.R.A. Exploration. The survey was completed in 1977 and a total of 200 panned concentrates were collected at an average density of 1 per 50 sq. km.

Anomalies obtained were divided into two groups:

- (a) Frankland River (reflecting Balfour), Nelsons Bay and associated rivers.
- (b) Lagoon River to Granville Harbour (reflecting tin bearing Devonian granites).

The majority of these anomalies were followed up by subsequent rock chip, soil sampling and ground magnetics. The ground reconnaissance established that magnetic anomalies were related to the 'banded magnetite unit(s)' intersected by Pickands Mather.

Limited soil and outcrop geochemical sampling failed to locate anomalous tin values. The mineralized intervals of the two Temma core holes were resampled and it was found that tin was not present at anomalous levels. Tungsten values ranged from 30 to 250 ppm and these were considered of possible significance.

Early in 1980 Geopeko entered into a Joint Venture agreement with CRAE over EL 1/77.

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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 cross-cutting magnetite lodes associated with anomalous copper-titanium geochemistry.

## 8. REGIONAL GEOLOGY

The regional geology comprises a Pre-Cambrian Sequence of rhythmically bedded and laminated pelitic to psammo-pelitic siltstones, quartzites, shales and sandstones. These virtually unmetamorphosed sediments generally dip moderately to steeply to the north-east with minor shallow plunging asymmetric 'drag' folds suggesting vergence to a major anticlinal axis to the west.

The accumulated evidence indicates that the magnetic anomalies of the area are attributable to magnetite bearing lodes or veins of dyke-like form, up to 15m. in width and one kilometre in strike length.

The lodes strike NNW-NW, parallel to the regional trend, but dip steeply to the west and are thus clearly cross-cutting with respect to the north-easterly dipping host sediments. The orientation of the lodes is generally coincident with (locally developed) cleavage and on a larger scale parallels NW trending faults and the 'Deep Faults' postulated by Carey (1981).

The magnetic lodes show considerable variation in composition, within and between occurrences. No systematic variation appears to be evident on either the small or regional scales.

The common mineral species is magnetite, from a few percent up to seventy percent, usually occurring with Ca-Fe-Mn carbonate, Fe amphiboles, chlorite and quartz in various proportions. Minor disseminated pyrite may be present. Alteration of the wallrocks within a few metres of the lodes is a common feature, usually involving recrystallization of quartz and replacement of pelitic component by chlorite or in extreme cases chlorite-garnet.

9. STRUCTURE

The most conspicuous feature of the region is the conflict of trends, NNE in the ESE part and NNW in the WSW part. These provinces are quite fundamental, and are separated by 'deep faults' which have been named the Balfour and Redpa 'deep faults', forming a corridor six to ten km wide. Along these 'deep faults' the superficial folds often swing sharply in trend, indicating dextral drag. Another parallel lineament occurs a few kilometres further to the NE along which the bending of fold traces is conspicuous.

There are strong through-going surface faults, the most conspicuous being the Lagoon River Fault, but this is one of a family en echelon. The 'deep faults' are followed by positive magnetic anomalies. The corridor delineated by them contains nearly all the mineralization prospects in the region, except the tin mineralization directly associated with the granites.

10. PROSPECTS10.1 NELSON RIVER PROSPECT

The Nelson River magnetic anomaly is situated about 10 km. NNE of Temma. The aeromagnetic contour plan shows a large central anomaly of about 1.5 km. strike length with two subordinate anomalies about 1 km. to the west and south-east respectively.

Pickands Mather & Co., in 1967, explored the central anomaly and tested it with a single drill hole N401. Magnetite zones intersected in the hole indicated a south-westerly dipping magnetic source, containing up to 48.0% iron and slightly anomalous copper and lead.

Geology

Rocks in the Nelson River area comprise a layered sequence of finely laminated psammo-pelitic siltstones and medium grained quartzites characteristic of Carey's (1981) Epsilon Group.

The quartzites are generally 'clean' and well sorted, massive or thinly bedded and somewhat subordinate to siltstones, occurring as laterally continuous units up to 200m. thick. The quartzites form subdued ridges capped by abundant float, however outcrops of quartzite in situ are very scarce.

The siltstones show considerable variation from very thinly laminated pelitic types to the dark and light banded psammo-pelitic 'pyjama' siltstones. Various soft sediment structures are locally evident and individual units are probably laterally discontinuous.

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The rocks strike uniformly NW and dip moderately to the NE. Graded bedding, sand filled dessication (?) cracks in the siltstones and cross-bedding and ripple marking in the quartzites indicate the succession is also younging to the NE.

In the west the rocks are folded about small open, NNW plunging assymmetric folds. Smaller folds of megascopic scale and similar orientation have been observed in siltstones near the northern end of the central grid area. The short western limbs are typical of these folds and suggest that they are complementary to a larger anticlinal structure somewhere to the west. Cleavage, apart from some fissility parallel to layering, is not generally developed except in the hinge zones of macro and mega-scopic folds. In these instances the cleavage appears to be axial to the folds, striking NNW and dipping steeply to the west.

An iron-rich lode outcrops discontinuously and at the surface is generally quite magnetic and consists of a medium granular aggregate of variably oxidized magnetite in an iron stained clayey or siliceous base.

The lode material does not appear to be layered but in places a prominent fracturing or jointing is present. The fracture planes strike about  $340^{\circ}$  (T) and dip  $60-70^{\circ}$  to the west, parallel to the trend of the lode outcrop. The strike of the lode cuts across the lithological boundaries of enclosing rocks at a low angle.

The detailed structural relationship between magnetite lode and enclosing rocks has not been observed in outcrop.

016

Carey's (1981) geological interpretation shows the Nelson River lode lying on the 'Lagoon River Fault' which is a major offshoot of the 'Balfour Deep Fault' but this could not be verified by surface mapping.

A rock composed of compact fine grained chlorite occurs adjacent to the contact of the (weathered) magnetite lode. The chloritic rock has similar geochemical characteristics to the magnetite lode.

Analysis of rock chips taken from various points along the lode outcrop, by CRAE, indicate iron contents in the range 19% to 48% and weakly anomalous copper. Mean and maximum values of metals analysed, are tabulated as follows:

	$\bar{X}$	<u>Max</u>
Cu	160	475 ppm
Pb	40	105 ppm
Zn	60	130 ppm
Fe	34%	48%
Mn	1470	7200 ppm
Co	35	45 ppm
Ni	85	115 ppm
As	40	170 ppm
Ag	0.1	1.3 ppm
Au	X	X
Bi	X	X
Mo	1.5	7 ppm
Sn	4	10 ppm
W		15 ppm

N401

DDH N401 (Pickands Mather, 1967) was collared at 10 005N, 10 099E (1981 grid co-ordinates) and drilled at inclination  $-45^{\circ}$  to grid east. Final depth: 137.66 metres.

The hole progressed more or less down dip in slightly metamorphosed psammo-pelitic siltstones and intersected two principal magnetite bearing zones between 53.2-54.0m. and 60.9-72.9m. depth. Projection of the latter intersection to the surface outcrop indicates a dyke-like body dipping at about  $55^{\circ}$  to the (grid) west.

This drill core was acquired (from the Tasmanian Department of Mines) and re-examined.

The upper magnetite intersection is rather oxidized but the principal zone is quite fresh. It consists of from 10-80 percent magnetite as equant euhedra 0.2-2 mm. diameter, in a fibrous-radiating base of pale greenish grey amphibole, probably grunerite. Minor amounts of quartz, carbonate, actinolite and sphene (?) are sometimes associated.

Alteration of the host siltstones adjacent to the magnetite zones, is quite pronounced. The host siltstones are generally strongly chloritized for up to several metres distance from the magnetite contacts. Close to the contacts, garnet sometimes occurs in a dense granular aggregate with minor interstitial chlorite. Garnet content generally decreases away from the magnetite zones but appears to be present as a minor constituent (<1%) in the siltstones throughout N401.

Even in strongly altered rocks primary layering and sedimentary structures are sometimes well preserved and it is evident that chloritization and garnet development has been more intense in the pelitic layers. Alteration is not restricted to the margins of the magnetite zones but also occurs, probably related to fractures, in several places further up and down the hole.

## 10.2 POSSUM CREEK PROSPECT

The Possum Creek anomaly is situated just north of the Balfour track, about 5 km. south-east of Temma.

Magnetic reconnaissance indicated a narrow linear anomaly of up to 8000 nT, with a strike length of about 1200 metres. Lode material, exposed in some old shafts at the southern end, and consisting of an assemblage of magnetite-siderite-quartz-pyrite-chalcopyrite was found to contain anomalous copper (up to 1.2%).

### Geology

The geological environment of the magnetic lode is largely obscured by superficial dune sands which cover much of the western part of the grid. The sands are unlithified, clean and fine grained and may be up to 12 metres thick. Marine shells and rounded pebbles found at the base of the sand suggest deposition onto receding shoreline.

At the southern end of the grid, rocks immediately east of the magnetic anomaly are finely laminated grey to greenish grey pelitic siltstones. Bedding trends are generally to the north with moderate easterly dips with local variations around small south plunging folds. In these pelitic rocks, a strong cleavage is usually developed and this maintains a fairly consistent orientation striking around  $345^{\circ}T$  and dipping steeply to the west. The cleavage orientation appears to be axial to the folds and exactly parallel to the trend of the magnetic anomaly in this area. Immediately west of the magnetic feature outcrops are of laminated 'pyjama' type siltstones and minor quartzite.

They dip and face to the east but are folded about small (megascopic) folds which plunge at low angle to the north. Similar outcrops exist further west along the Balfour track and to the south (out of the plan area). The abrupt change in lithology and variations in fold orientation on either side of the magnetic lode suggests that it may occupy a fault plane.

However, an eastward facing pyjama siltstone-quartzite unit also occurs and it is equally likely that psammo-pelitic and pelitic units form a rhythmically layered succession.

The geology of the north-eastern extension is equally imperfectly understood since it is entirely within forest and outcrop is poor. This area is partly covered by Tertiary basalt which outcrops in a couple of places. C-horizon iron values suggest fairly widespread basalt cover though boundaries cannot be confidently drawn.

The magnetic lode itself is exposed for a length of about 40m. in the vicinity of several abandoned shafts and trenches. Outcrop is incomplete but it seems that the lode is between 5 and 10 metres thick. In outcrop, the lode material consists of oxidized magnetite (hematite, limonite) almost massive or as disseminated granules in an apparently siliceous base. Fresher samples from the mullock dumps contain various assemblages of magnetite carbonate, ferromagnesian (amphibole?) chlorite, quartz, pyrite and chalcopryrite. Magnetite content varies considerably from about 10% (as small equant granules disseminated in a fine matrix of stellate amphibole) to upwards of 70% (near massive with interstitial

021

carbonate etc.). The carbonate is dark grey with brownish oxidation along cleavages and is probably a form of ankerite (Fe-Dolomite).

In the carbonate rich samples, sulphides (mainly pyrite lesser chalcopyrite) constitute up to about 15% of the bulk. The sulphides and magnetite occur in interstitial patches and chains between large (1 cm.) grains of carbonate and also as fine disseminated grains along cleavage planes in the carbonate. Samples collected from this area contained anomalous copper (220 ppm - 1.2%), up to 10.5 g/t silver and a trace of gold.

As at Nelson River, strong alteration of the enclosing siltstones occurs adjacent to the lode. Actual width of alteration zone was not observed but samples from the dumps consist of massive fine grained chlorite with small garnet grains disseminated or in trains suggesting selective replacement of sedimentary layers.

No surface expression of the north-eastern magnetite anomaly was observed. A small patch of surface float, consisting of fine chlorite-granular garnet rock, occurs slightly displaced from the peak of the magnetite profile.

A drill hole was sunk by Geopeko/CRA in 1982 to intersect a magnetite lode at 60 metres. The hole was drilled depressed at  $-60^{\circ}$ . The surface anomalies consisted of a 4000 gamma ground magnetic anomaly, V.L.F. - E.M. anomaly co-incident 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 cross-cutting relationship with the enclosing siltstones. The hole was logged and several samples were dispatched for petrological descriptions.

Mineralisation was mainly confined to the magnetite lode in this hole although copper values up to 0.7% were recorded in the footwall? sediments. A three metre section at 50 metres depth within the magnetite lode assayed 1.95% Pb and 12.9 gm Ag. Copper mineralisation averaging 0.25% Cu was intersected over 7.48 metres between 44.02 and 51.5 metres. Several thin sections of massive arsenopyrite were also noted. The magnetite lode was initially assayed for gold by AAS and one sample returned a value of 23.4 gm/t Au. The sample was re-submitted for confirmation by fire assay and the result was below detection limit for this sample, however other AAS gold results were confirmed by the fire assay results. One sample from 50.5 - 51.5 metres recover 0.6 metres which contained 1.78% Pb, 26 gm/t Ag and 2% As, returned a value of 1.08 gm/tAu. All other gold values were below 300 ppb.

10.3 STRICKLAND PROSPECT

The Strickland Prospect is the name applied to a group of old mine workings in the vicinity of a large aeromagnetic anomaly 3.5 km. east of Temma.

Numerous small shafts and trenches were sunk along a magnetite bearing lode and on small lead-silver veins slightly to the west.

Pickands Mather & Co. International explored the area (referring to it as Temma Prospect) during the mid-1960's and drilled two diamond core holes under the peaks of the magnetic anomaly. One of these, T301, intersected a 20m. magnetite zone reported to contain 0.08-0.10% tin.

Porter (1977) described reconnaissance work carried out at the prospect (termed Temma No. 1) and mentioned the occurrence of "massive fine grained banded galena and fine magnetite-quartzite". Porter (1980) discovered that the intersection in T301 was not anomalous in tin but did contain up to 250 ppm W.

Geology

Much of the area is overlain by thin cover of superficial sand and, to the east, by Tertiary basalt. The underlying rocks are finely laminated pale grey pelitic siltstones with minor psammitic components. They trend regularly north-west and dip steeply, 55-75°, to the north-east.

The principal magnetic anomaly trends about 335° T and relates to a partly outcropping magnetic lode up to about

024

15m. in width. At surface this generally consists of variably oxidized magnetite (hematite, limonite) with quartz and clayey minerals. At depth (intersected in T301) it is seen to consist of fractured granules of magnetite (0.2-2mm) in a matrix of quartz, carbonate and white mica. The strong wallrock alteration (so characteristic of Nelson River and Possom lodes) does not occur and the enclosing siltstones are composed mainly of fine quartz, white mica (and carbonaceous particles) with minor chlorite, usually in distinct bands parallel to layering. At the northern end of the main anomaly some pyrite occurs within (or in quartz veins associated with) the magnetite lode. Surface rock chip and re-analysis of core indicates that the main lode contains slightly anomalous copper, lead, zinc and iron up to 3.25%.

The cluster of shafts to the west are related to a smaller, less intense, magnetic anomaly en echelon to the principal anomaly. The mineralization consisted of two types:

1. Magnetite-quartz-carbonate-mica? assemblage similar to the main lode as intersected in T301, perhaps with a little pyrite.
2. Veinlet associated quartz-chalcopyrite, pyrite, galena mineralization occurring in wallrock siltstones and in fine fractures and veinlets within type (1) above.

It appears that fairly intense, but localized, chloritization of the siltstone host rocks accompanied both types of mineralization.

Selected samples of galena bearing vein material contained up to 40.9% Pb and 535 gm/t Ag. Samples of galena bearing magnetite material returned up to 13.9% Pb and 150 gm/t Ag. A sample of quartz-chalcopyrite veins in chloritized siltstone contained 3.3% Cu and 74 gm/t Ag. The sulphide vein association appears to be a very restricted occurrence superimposed on the magnetite lode but not co-extensive with it.

Geological exposure in the north-east is very poor, the most part being covered by basalt. Apart from a small outcrop of quartz-magnetite lode and some similar floaters to the north-west, there is no exposure of the magnetic source in this area. The exposures mentioned consist of magnetite-quartz quite similar in appearance to that of the principal lode some 400m. to the west. Analyses of rock chips indicate absence of anomalous metals apart from iron (up to 42.0% Fe).

10.4 LITTLE EEL PROSPECT

On the Little Eel grid there was found a coincident ground magnetic anomaly (7000 gammas) with a geochemical soil anomaly (800 ppm copper) and a strong V.L.F. - E.M. crossover. A drill hole was sited and drilled depressed at  $-50^{\circ}$  to intersect the steeply east dipping magnetite lode at 60 metres.

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 and several samples were dispatched for petrological descriptions.

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 cross-cutting 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.

The source is not exposed and has a very limited strike extent (<200m.).

027

10.5 OTHER PROSPECTS

The features of the remaining nine anomalies and mineral occurrence are briefly listed below:

- REBECCA: Strong, linear magnetic anomaly approx 900m. strike length. Attributable to outcropping magnetite-pyrite-quartz lode. Mildly anomalous Cu, Pb, Ag and Au.
- GRACE CREEK: Very small but intense magnetic anomaly related to narrow, steeply dipping bodies of magnetite-ferromagnesian cross-cutting chloritized siltstones. Maximum 475 ppm. copper. Associated quartz-pyrite vein - not anomalous.
- COUTA MINE: Sulphide bearing quartz stringers in zone 10m. wide, strike,  $340^{\circ}$  T dip  $80^{\circ}$  E, cross-cutting folded pyjama siltstones. Up to 0.29% Cu, 9.9 gm/t Ag, anomalous As, Au.
- SARAH ANNE: Fairly broad 3000 nT magnetic anomaly, strike length less than 300m. No exposure of source but quantitative modelling of magnetic data suggests source could be magnetite type lode 40 metres thick, but with depth to top of about 40m.
- COUTA ROCKS Irregular magnetic anomaly up to 1000 nT above background, maximum strike length 200m.
- RICHARDSON'S POINT: Several thin, parallel, discontinuous gossanous

quartz veins in 5m. wide zone, striking for about 200m. NNW. Near vertical, cross-cutting flat lying siltstones. Up to 840 ppm. Cu.

UPPER SYMES  
CREEK:

Very weak broad anomaly 100 nT. Response due to geologic formation?

INGRAM BAY:

Erratic magnetic "spikes" up to 800 nT above background in zone 150m. wide in "pyjama" siltstones. Source not observed.

GANNET:

Magnetically noisy zone, 400m. wide in 'pyjama' siltstones. Source not observed.

11. DRILLCORE EXAMINATION

Two drill holes LE 1 and PG 2 completed by CRAE in October, 1982 were examined and sampled in January, 1988.

Upon examination of the drill cores it appears that these rich zones are intrusive and generally conformable with the surrounding Precambrian sediments. As a source of possible precious metal mineralization there seems little potential outside of the magnetite-rich zone and the surrounding contact zone. These zones are generally less than 1 metre in width.

The core was sampled in short lengths from each of the zones and representative types where variation occurred within the magnetite zone. Listed below are comments on the intervals which were sampled.

Little Eel (LE 1)

- |               |  |
|---------------|--|
| 79.5 - 84.6m. | Quarried chloride hornfels core extremely broken. Pyrite crystals and films on slickensided surfaces. Sample comprises fragments of core approximately 25% of the available core over the interval length. |
| 84.6 - 85.1m. | Quartz vein with pyrite crystals and minor chlorite, MAJOR CORE LOSS. No sample.   |
| 85.1 - 91.1m. | Magnetite/quartz, magnetite crystals up to 2 mm. in fine grained quartz matrix. MAJOR CORE LOSS. Sample 20% of available core.   |
| 91.1 - 91.6m. | This sample represents the top section of the  |

main magnetite body and is representative of the interval 91.1 - 92.4m.

93.26 - 93.74m.

This sample represents massive magnetite in the interval between 92.43 and 93.84m.

96.28 - 96.60m.

This sample contains increasing siderite and represents the interval 93.84 - 96.60m.

96.60 - 97.05m.

This sample represents a quartz magnetite grading down to chlorite with sulphides. Core is mostly broken. Sample represents 25% of available core. This zone is probably part of the contact.

97.05 - 102.63m.

This zone contains massive core loss and probably contains most of the contact margin.

Possum Grid (PG 1)

38.50 - 41.80m.

This is a talc-chlorite-garnet zone. Two samples have been obtained, that is 39.20 - 39.40m. which is a whitish talc-rich rock.

41.80 - 56.60m.

Magnetite  $\pm$  GOLD ZONE. Samples obtained from intervals 44.02 - 44.67m. with a gold assay of 0.18 ppm. Sample from interval 46.95 - 47.0m. which comprises magnetite blebs in host rock.

56.20 - 56.35m.

Magnetite blebs in host rock.

031

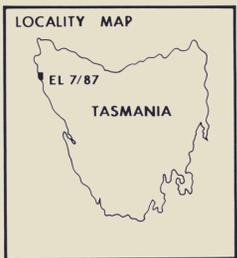
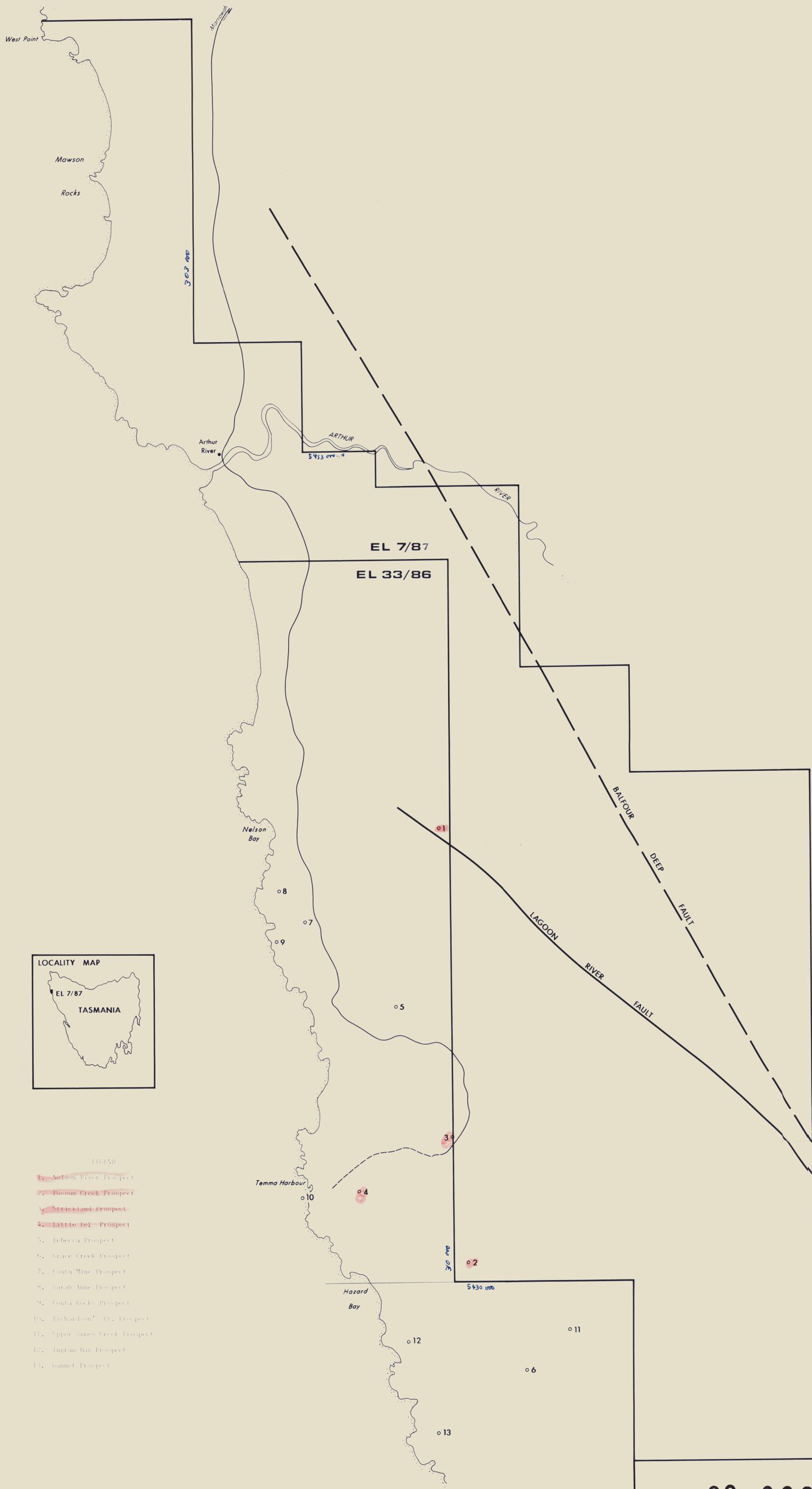
57.00 - 47.70m. Chlorite contact zone comprising mostly broken core.

It should be noted that, from assays carried out by CRAE, the interval 50.5 - 51.5m. in Drill Hole PG 1, carried gold value of 1.08 gm. The core in this interval is broken and weathered with considerable core loss, and probably as much as anything represents an enrichment zone. Similarly the interval 52.9 - 53.5m. is high in both lead and silver with significant core loss.

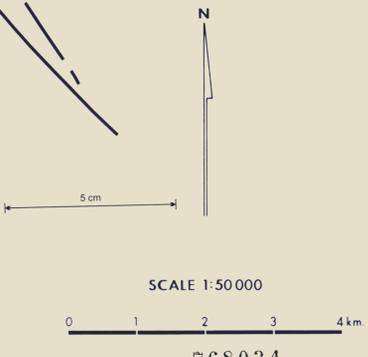
Drill hole sections from PG 1 and LE 1 are shown as Figures 2 and 3.

12. REFERENCES

- |                           |      |  |
|---------------------------|------|--|
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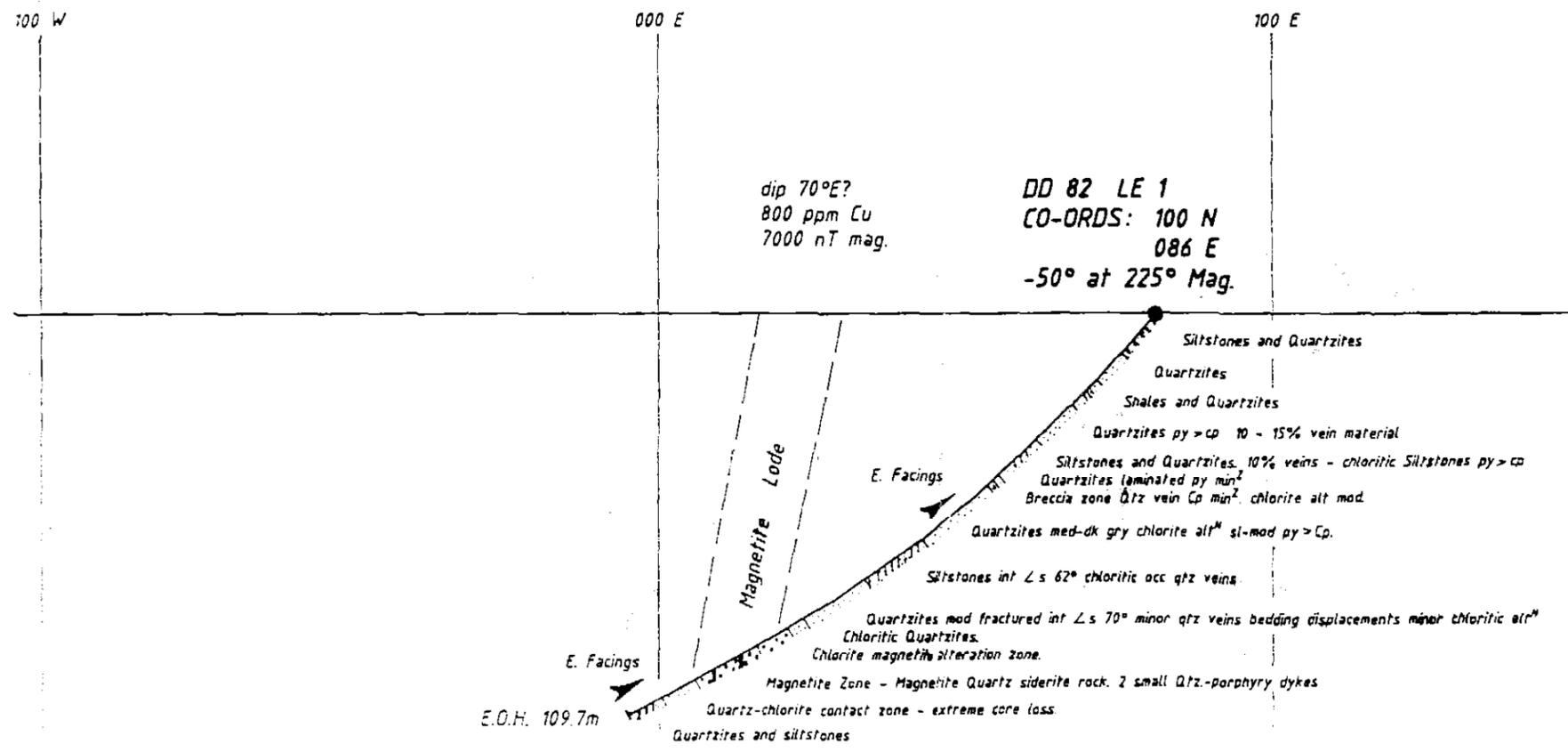
- LEGEND
- 1. Nelson River Prospect
  - 2. Bossum Creek Prospect
  - 3. Strickland Prospect
  - 4. Little Bel Prospect
  - 5. Rebecca Prospect
  - 6. Grace Creek Prospect
  - 7. Gouta Mine Prospect
  - 8. Sarah Anne Prospect
  - 9. Gouta Rocks Prospect
  - 10. Richardson's Pt. Prospect
  - 11. Upper Sines Creek Prospect
  - 12. Ingram Bay Prospect
  - 13. Gannet Prospect



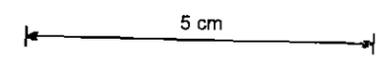
SCALE 1:50 000  
768034

<b>BACH HOLDINGS</b>		
EL 7/87		
<b>LOCATION MAP</b>		
Author: A.DOVE	Date: JUNE '88	Figure No: 1

88-2823



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

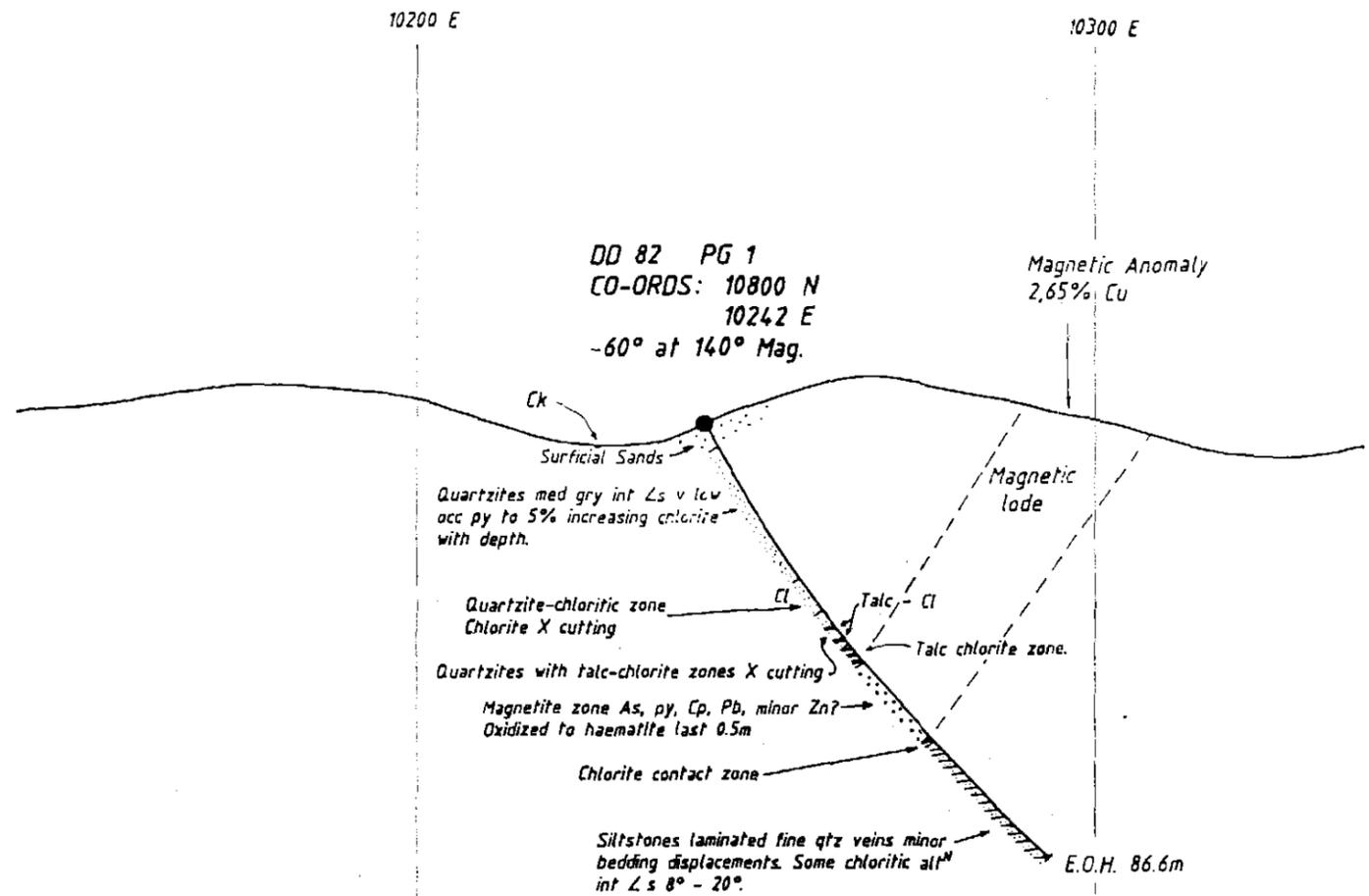


RESULTS

38.15m - 39.74m 1.59m @ 1.14% Cu 1700 ppm. Zn 10 ppm. Ag  
14m - 24m (percussion) 10m @ 4750 ppm Cu

# 88 - 2823

CRA EXPLORATION PTY. LIMITED			
LITTLE EEL GRID DRILLHOLE SECTION DD 82 LE 1			
REF.	SK55 - 3	FIGURE 2	
SCALE	1 : 1000	DRAWN	R. T.
AUTHOR	G. B. W.	REPORT N°	11983
DATE	DEC 1982	TASK N°	1124



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

5 cm

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.

88 - 2823

CRA EXPLORATION PTY. LIMITED			
POSSUM GRID DRILLHOLE SECTION DD 82 PG 1			
REF.	SK55 - 3	FIGURE 3	
SCALE.	1 : 1000	DRAWN.	R. T
AUTHOR.	G. B. W	REPORT N°	11983
DATE.	DEC 1982	TASh N°	1123