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119001

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Aberfoyle Resources Limited

EXPLORATION DIVISION

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EXPLORATION LICENCE 40/85

ELLIOTT BAY

TASMANIA

PARTIAL RELINQUISHMENT REPORT

ON EXPLORATION TO DECEMBER, 1991

VOLUME 1. TEXT

91-3320
MINES
File Ref E.L. 40/85
23 DEC 1991
Doc. ID
Action Initials
REFER TO
CORRES 20.12.91
(FOLIO 32)
Date

Compiled by:

D B Wallace

Issued by:

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Regional Manager

December, 1991

Distribution

Aberfoyle - Burnie	(1/5)
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MAG. TAPE (~~GEOTEM~~ QUESTEM DATA) HELD

119002

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1.0 INTRODUCTION

The lithologies in the Elliott Bay region have been recognised for some time as correlates of the Mount Read Volcanic belt (Hall et. al. 1969, White 1975). North of Macquarie Harbour these volcanics host five significant massive sulphide deposits, being Rosebery, Hercules, Hellyer, Que River and Mount Lyell.

These deposits may be grouped into two model types:

1. high grade polymetallic (Zn, Pb, Cu, Ag and Au) strataform massive sulphides.
   and
2. low grade copper rich disseminated to massive stratabound deposits.

The Elliott Bay joint venture partners, Cyprus and Poseidon, considered the high grade strata form type deposits as attractive targets in the Elliott Bay tenement.

In addition, models developed elsewhere in eastern Australia suggested that the Elliott Bay region held potential for gold mineralisation related to Cambrian intrusions. Various gold mineralisation models including stockworks, skarn/replacement, breccia or vein style could be associated with the known porphyry-granite intrusions.

The joint venture partners submitted a tender application for ETA 8479 to take advantage of these opportunities.

2.0 TENURE & OWNERSHIP

Exploration Licence 40/85 Elliott Bay (250 sq. km.) was granted to Cyprus Minerals Aust. Co., on 24 December, 1985.

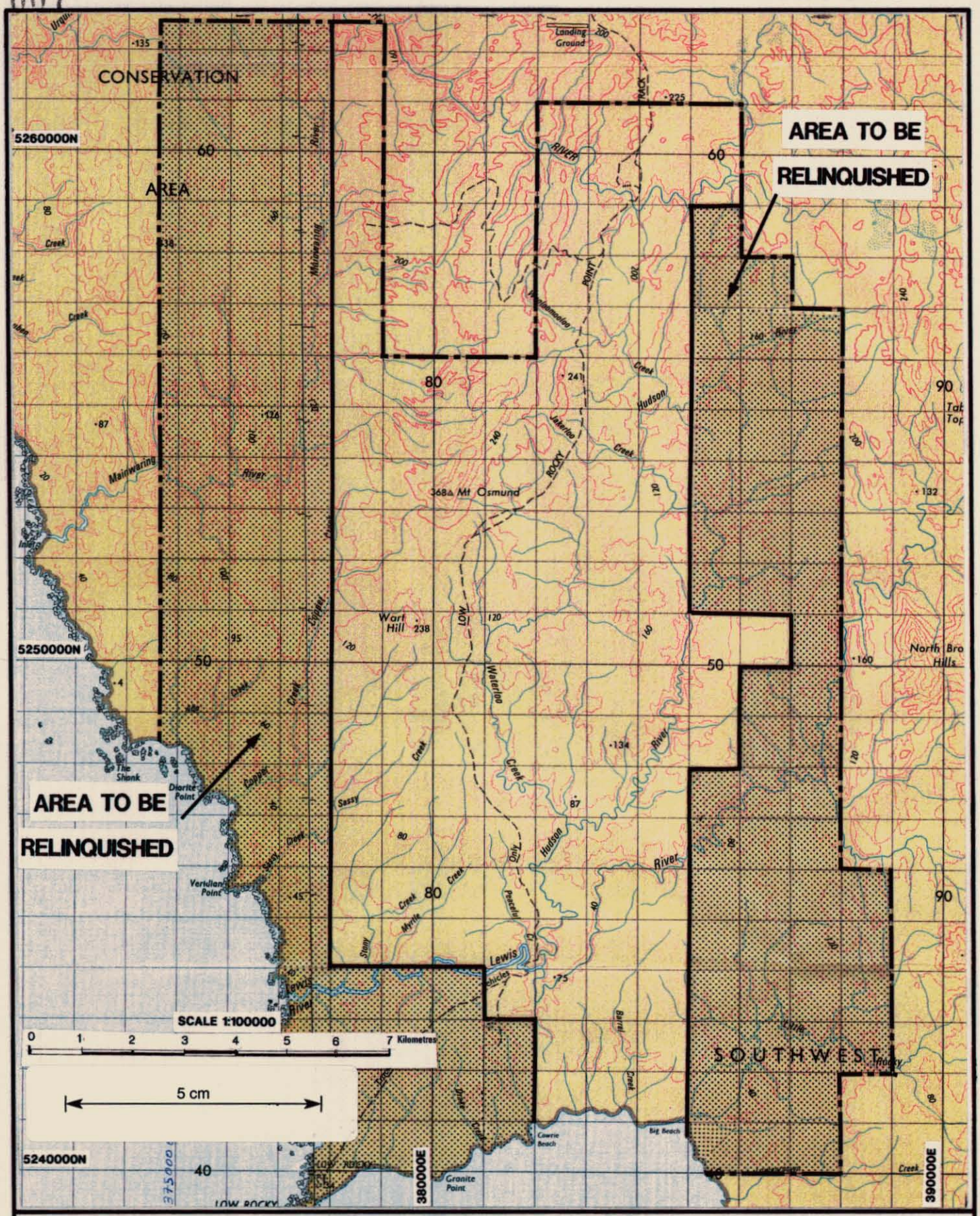
Subsequent to the granting of the licence, Cyprus entered into a joint venture agreement with Poseidon Minerals Ltd. whereby each party contributed 50% of exploration expenditure and Cyprus acted as manager.

The statutory 50% relinquishment required by the end of year five (December 1990) was deferred for one year, pending the outcome of joint venture negotiations with Aberfoyle Resources Ltd. A further joint venture agreement was then signed in January 1991 between Hudspeth & Co. Pty. Ltd. (formerly Cyprus), Poseidon and Aberfoyle, whereby Aberfoyle could earn a majority interest in the tenement by managing and funding exploration.

The one year deferral expires on 24 December 1991 and application for licence renewal has been made on the reduced area of 125 sq. km. The area to be relinquished is shown on Figure 1.

The interest of Hudspeth & Co. has now been transferred to Arimco Mining Pty. Ltd.

119008



Aberfoyle Resources Limited

EXPLORATION DIVISION

FIG. 1.

REVISIONS			
Init.	Date	Init.	Date

SOUTH WEST TASMANIA

ELLIOTT BAY E.L 40/85

PROPOSED RELINQUISHMENT

Compiled : DBW

Drawn :

Traced : JLR

Checked :

Location Code :

Scale : 1:100 000

Date : December, 1991

Plate No. : EB 5

3.0 PREVIOUS EXPLORATION

Prior to the granting of this tenement, the Elliott Bay area had been actively explored by both BHP (1965-1975) and Geopeko (1977-1984).

The area was initially held by BHP under EL 13/65. They conducted a helicopter-borne EM (H-400) survey in 1975 but apparently did not follow-up any of the numerous anomalies. Minor ground work in the area comprised wide spread stream sediment and rockchip samples analysed for copper, zinc and nickel.

No samples were assayed for gold and no follow-up programmes were undertaken.

From 1977 to 1984, Geopeko completed the following work within exploration licence 27/76 which includes areas retained under EL 40/85 in addition to the relinquished area.

1. Regional geological mapping of the Cambrian volcanics at scale 1:10,000 with particular emphasis on mapping zones of chlorite, sericite, silica and pyrite alteration.

2. Stream sediment sampling over the Lewis River Volcanics with a sample density of ten samples per sq. km. Broad coverage of the Mainwaring Group has been completed at a density of about eight samples per square kilometre.

3. Follow-up of all significant aeromagnetic anomalies over the Lewis River Volcanics (defined in a previous airborne survey by BHP).

4. Follow-up of about 20% of the EM anomalies detected by a McPhar H-400 airborne survey.

5. Gridding and bedrock geochemistry over the most easily accessible of the potential volcanic succession.

6. Diamond drilling 3008 metres in 16 holes and a further 638 metres in 16 Jacro AQ holes.

7. A dipole-dipole IP survey on 200 metre line spacing over the Wart Hill Pyroclastics in the Mount Osmund syncline area.

8. A UTEM survey over ground considered most prospective for high grade volcanogenic massive sulphide deposits including Voyagers 19, 29 and 9.

- compilation of geological and geochemical data from previous programs
- regional geological mapping of selected areas at 1:10,000 scale and compilation at 1:25,000 scale
- geochemical sampling of drainage systems using both -80 mesh and panned concentrate samples
- rockchip geochemical sampling
- air photographic interpretation of structure

Inevitably work on individual prospects contributed information to the regional geological, geochemical and geophysical understanding of the tenement. This information is incorporated into the geological map represented as Enclosure 1.

All phases of exploration were undertaken with the aid of recently flown colour air photographs at 1:10,000 scale.

GEOLOGY

The following combines the work of Cyprus geologists with studies by White 1975, Large 1981, Lea 1985, Jackson 1985, Herrmann 1983 and Large et al 1987. Work presented here follows the nomenclature used by Large et. al. 1987. Differences in usage will be explained within the text. Units will be described from east to west because most writers consider that to be the younging direction. Geologic maps are presented as Figure 3 and Enclosures 1 and 2.

4.0 SUMMARY OF WORK COMPLETED

This section describes the exploration data collected from the area relinquished under the five year, 50% statutory reduction requirement.

4.1 To June 1986

4.1.1 Geophysics

Dighem Limited was contracted in January 1986 to fly 500 line km. of EM with a minimum line length specification of three kilometres and 150 metre spacings between lines (Figure 2).

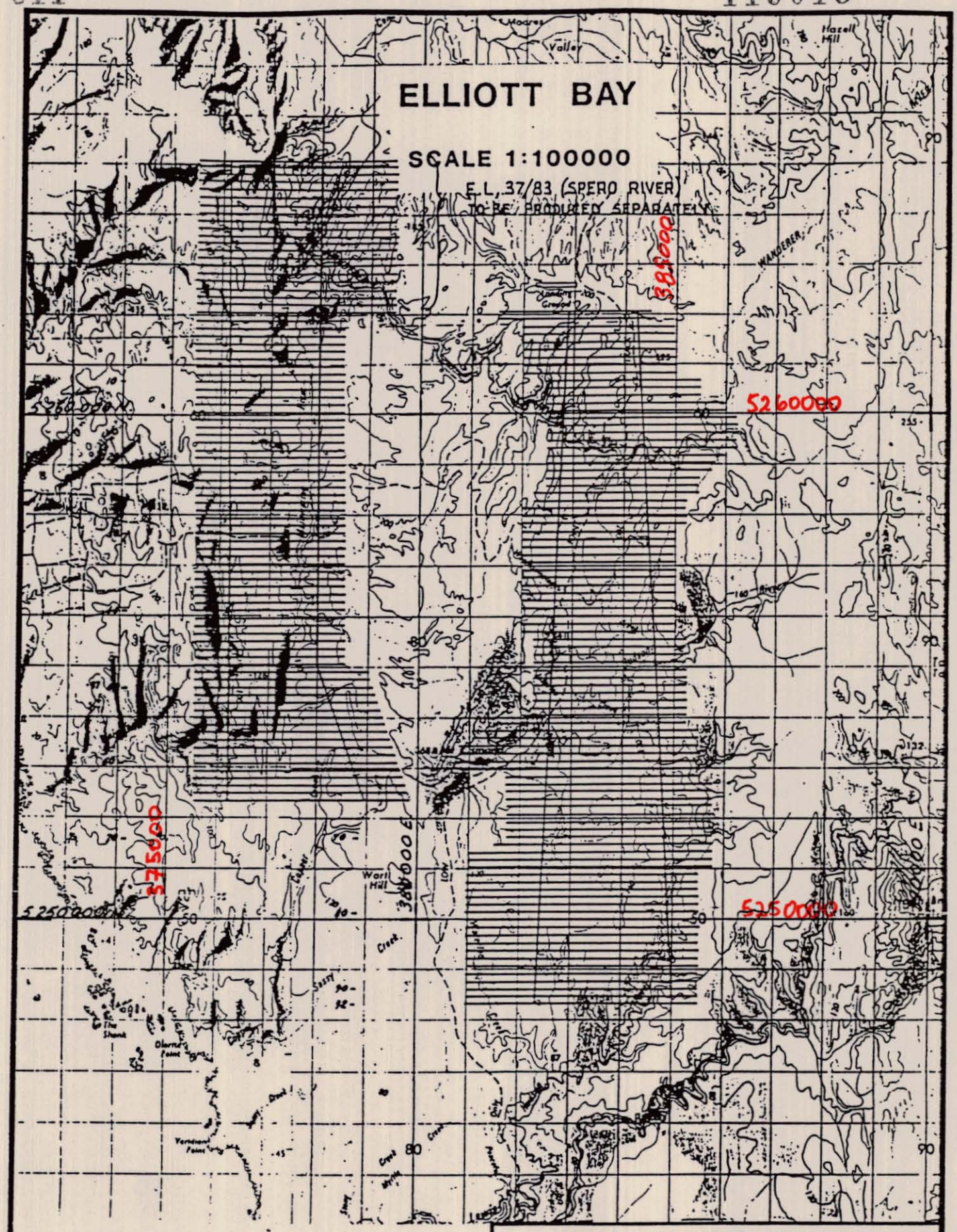
The two volcanic belts outcropping on both the western and eastern limbs of the Mount Osmund Syncline were surveyed. Both these areas had received little work by preceding explorers and Dighem was chosen as a cost effective method of screening the prospective sequence to an approximate depth of 50 metres.

Mitre Geophysics conducted a preliminary evaluation of the analog data during February in order to identify targets worthy of ground follow-up prior to the cessation of the summer field season (Appendix 1). None of those areas targetted for follow-up were within the relinquished area.

4.2 To June 1987

4.2.1 Regional Exploration

The main objective of the regional exploration program was to ascertain the potential for gold mineralisation at the margins of Cambrian intrusions. Exploration involved:



630 line-km
+~56 line km magnetics tie-lines

5 cm

MITRE GEOPHYSICS PTY. LTD.

ELLIOTT BAY, TAS.
PROPOSED FLIGHT LINES
DIGHEM SURVEY

DRAWN BY : J.R.B
DRAFTSMAN:
DATE : Nov.'83
REVISIONS :
FILE NO.

SCALE 1: 100,000 1000 0 2000 Metres

FIG. 2.

TERTIARY

1	Quartzose Gravel

JURASSIC

2 (49)	Dolerite

LATE CAMBRIAN – EARLY ORDOVICIAN

3 (33)	Owen Conglomerate – undifferentiated
3a	– coarse quartzose sandstone
3b	– siltstone

4 (70)	Waterloo Creek Group – undifferentiated
4a (71)	– hematitic volcaniclastic conglomerate
4b (36)	– tuffaceous coarse sandstone and grit
4c (68)	– black shale ± pyrite
4d (67)	– fine–med. grained rhyolitic volcaniclastic

CAMBRIAN – MT. READ VOLCANICS

5 (2)	Wart Hill and Hudson River Volcanics – undifferentiated
5a (6)	– fine to med. grained rhyolitic volcaniclastic
5b (8)	– rhyolitic quartz–feldspar porphyry (lavas and intrusives)
5c (9)	– dacitic porphyry
5d (11)	– coarse rhyolitic volcaniclastic
5e (63)	– siltstone
5f (55)	– siliceous conglomerate
5g (61)	– greywacke and siltstone

CAMBRIAN INTRUSIVES

6 (17)	Elliott Point Porphyry
7 (21)	Granite
8 (14)	Microgranite
9 (14)	Porphyritic Microgranite

CAMBRIAN – WESTERN EPICLASTICS

10 (48)	Western Epiclastics – undifferentiated
10a (47)	– andesitic – basaltic volcanics
10b (56)	– brown–grey tuffaceous siltstone and quartzoze conglomerate
10c (53)	– black shale ± pyrite
10d (69)	– fine to medium grained rhyolitic volcanics
10e (45)	– gabbro
10f (10)	– coarse rhyolitic volcaniclastic sandstone

CAMBRIAN – MAINWARING GROUP

11 (all 42)	Mainwaring Group – undifferentiated
11a	– gabbro
11b	– andesite–basaltic volcanics
11c	– dolomite
11d	– black shale ± pyrite
11e	– siltstone and sandstone

PRECAMBRIAN

12 (25)	Metamorphics – quartzite, schist and phyllite

Geological contact

Unconformity

Fault

60° Strike and dip of schistosity

60° Strike and dip of bedding – facing indicated

Plunging syncline

Old workings

ALTERATION – Pervasive and vein controlled

Chlorite – magnetite

Sericite

Sericite – quartz

S S S Chlorite – pyrite

Quartz – chlorite – pyrite – tourmaline

Quartz – sericite – talc ± chlorite

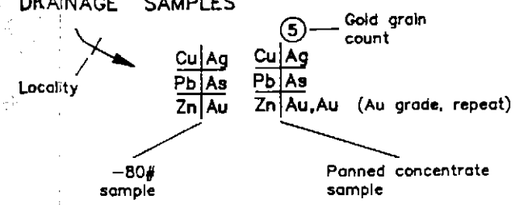
qc qc qc Quartz – chlorite

Quartz vein

Alteration boundary

GEOCHEMISTRY

DRAINAGE SAMPLES



ROCK CHIP SAMPLES

Δ 202567 — Sample location and number

Δ 202569
Cu Ag
Pb As
Zn Au
— Sample location number and assays

Δ 202569 TS — Thin section sample

V33/1 — Diamond drill hole location

DETECTION LIMITS (ppm)

	Cu	Pb	Zn	Ag	As	Au	
Rocks	5	5	5	0.5	1	0.005	
–80# plus panned concentrates	5	5	5	0.5	1	0.008	
Soils	5	5	5	0.5	1	0.01 0.008	(AAS) (Fire assay)

– = Below limit of detection

113014

CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

ELLIOTT BAY – E.L. 40/85

L E G E N D

DRAWN BY :
DRAFTSMAN : T.G.D.S.
DATE : April '87
REVISIONS :
FILE No.

SCALE 1 : METRES

FIG. 3

014

76000mE.

77000mE.

78000mE.

79000mE.

62000mN.

61000mN.

1000W

1600W

500W

00

171434 171433 171432 171430 171431 171418 171417 171416 171419 171415 171413 171414

LINE 5

LINE 6

LINE 7

11b 11d 10 10a 10c 10d 3a

E.L. 40/85

5 cm

CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

ELLIOTT BAY – E.L. 40/85

WANDERER SOUTH
GEOLOGY

SCALE 1:10,000 100 0 100 200 METRES

DRAWN BY : R.P.
DRAFTSMAN : T.G.D.S.
DATE : June '87
REVISIONS :
FILE No.

FIG. 4

Precambrian (Arthur Group)

Metamorphic rocks consisting of quartzite, schist and phyllite outcrop in the far eastern part of the licence. They are part of the Tyennan Block and to date have been considered unprospective. No work was undertaken within this unit.

Cambrian

Elliott Point Porphyry

This unit occurs along the eastern margin of the Cambrian volcanic belt. It is a massive, locally chloritic and magnetite-pyrite-bearing quartz-feldspar-biotite porphyry up to 3 kilometres thick. It locally contains tonalitic and microgranitic phases. Volcanic rocks adjacent to or overlying the porphyry are variably altered to sericite, quartz-sericite, chlorite-pyrite or quartz-chlorite-pyrite-tourmaline assemblages. Quartz veins are extensively developed within volcanic rocks up to 1 kilometre away from the porphyry.

Wart Hill and Hudson River Volcanics

Large et. al. 1987, subdivide these rocks into the Hudson River Pyroclastics (east) and Wart Hill Pyroclastics (west). The boundary between the two is shown on Enclosure 1. It is not well defined but according to Large et. al., 1987 marks:

. a change from dominantly chlorite altered volcanics (east) to sericite altered volcanics (west)

- a change in lithotypes - submarine rhyolitic lavas, volcaniclastics and tuffaceous sediments occur in the east whilst subaerial to shallow marine deposits of flow banded rhyolite and coarse grained pyroclastics occur in the west. Furthermore in the west tuffaceous sediments are poorly developed and there is an abundance of lensoidal bodies of rhyolitic quartz, quartz-feldspar and dacite porphyries.

Mapping by Cyprus geologists has not been as comprehensive as that of Geopeko from which Large et. al., 1987, drew their data. Although Cyprus agreed there is a distinctive change in lithotypes from east to west they do not consider that the Large et. al., 1987 boundary is a true lithostratigraphic break, rather it is a zone of gradational lithofacies change. Rock types transgress the boundary. Furthermore detailed mapping along the western margin of the Elliott Point Porphyry suggests sericite-quartz alteration may be as important in the Hudson River area as it is in the Wart Hill area. Cyprus therefore question the validity of the proposed boundary and combine the subgroups for the purposes of this report.

Lithotypes within the sequence generally strike north-south and dips are between 60^{o} and 80^{o} to the west. Sediments include greywacke-siltstone units, tuffaceous siltstone, black and grey siltstone, siliceous conglomerate and fine to coarse grained rhyolitic volcaniclastics. The difference between tuff and volcaniclastic is difficult to define. Generally the rocks are quartz or quartz-feldspar porphyritic and locally contain lithic fragments which are strongly sericitised. A north-south trending schistocity is commonly defined by parallel alignment of sericite flakes.

Massive rhyolitic quartz, quartz-feldspar and dacite porphyries may be intrusive or extrusive.

Intrusives

Apart from the Elliott Point Porphyry to the east and massive rhyolitic and dacitic porphyries within the Wart Hill and Hudson River Volcanics there are four other discrete bodies of intrusive rock.

Two bodies lie to the south of Wart Hill and consist of porphyritic mocrogranite which contains euhedral phenocrysts of feldspar up to 5 cm long and rounded quartz phenocrysts up to 1 cm in diameter. Muscovite flakes are common. The granites on the south coast around Low Rocky Point and in the southeast corner of the licence are pink, coarse grained and locally porphyritic. On the wave-cut platform south of where the Osmund Fault intersects the coastline (Enclosure 1) granite and volcanic units appear to have assimilated to form a hybrid (?) rock. In this area large blocks of felsic volcanic rock remain as pendants in the roof of the granite.

Western Epiclastics

These rocks lie to the west of and are considered to conformably overlie the Wart Hill and Hudson River Volcanics (Jackson 1985). In the northern part of the tenement the Western Epiclastics are in fault contact with Late Cambrian-Early Ordovician rocks of the Waterloo Creek Group and Owen Conglomerate.

Rock types include intercalated rhyolitic volcaniclastic sandstones and rhyolitic tuffs (the Penders Pyroclastics of Jackson, 1985 and Pleasant Creek Formation of Large et. al., 1987), fine tuffaceous siltstones, dolomite (Sassy Creek Formation of Jackson, 1985), pyritic black shales, andesitic-basaltic volcanic lenses and locally gabbroic intrusions. This group of rocks is characterised by the abundance of felsic volcanic units intercalated with fine sediments. Andesite-basalt volcanics and gabbros are not abundant.

Much of the exploration effort this season concentrated on follow-up of DIGHEM anomalies within this group of rocks.

Mainwaring Group

In contrast to the Western Epiclastics this group is dominated by intermediate-mafic lavas and green volcaniclastic sandstones. Black shales, siltstones, sandstones and dolomite interdigitate with volcanics. Rhyolitic volcanics are absent and gabbroic intrusions are common.

LATE CAMBRIAN - EARLY ORDOVICIAN

Waterloo Creek Group

Rock types include:

- coarse volcaniclastic conglomerate and coarse sandstone which contain abundant hematitic silica clasts and have a weak purple-red hematitic coloration

- fine to medium grained rhyolitic volcaniclastic sandstone

. black shales up to 300 metres thick

These rocks unconformably overlie the Wart Hill and Hudson River Volcanics.

Owen Conglomerate

In the Elliott Bay region field mapping and air photographic interpretation suggests these rocks unconformably overlie the Waterloo Creek Formation. Rock types consist of coarse quartzose sandstones, quartzose siltstones and quartz-pebble conglomerates. Pyritic quartz sandstones occur in the basal parts of this sequence.

Jurassic

A previously unmapped, fresh dolerite presumed to be of Jurassic age forms subdued outcrop in the northeastern part of the tenement. It is considered responsible for a large magnetic anomaly in that region.

Tertiary

In the northeastern part of the tenement quartz-rich gravels infill the southern part of a northwest trending Tertiary graben (Macquarie Graben). Throughout the tenement patches of gravel overlie Palaeozoic rocks. In places gravel/sand depths in excess of 1.5 m have been recorded. More commonly a lag of rounded and angular quartz gravel up to 50 cm deep occurs over bedrock.

STRUCTURE/AIR PHOTOGRAPHIC INTERPRETATION

This section attempts to correlate an air photographic compilation of lineaments with geological features. In this report air photographic lineaments have been subdivided into three categories (Enclosure 3). These are:

- major lineaments with appreciable topographic expression and/or lateral extent. These are interpreted to be major faults

- significant lineaments with moderate topographic expression and restricted lateral extent. These are interpreted to be faults, bedding, schistosity and/or joints

- form lineaments which often have significant topographic expression but are clearly stratigraphic features (bedding) or in some places can be attributed to schistosity.

Form Lineaments

These predominate in the central northern part of the tenement where sediments of the Osmund Syncline outcrop. Folding of sediments is evident. Other form lineament are recognised:

- immediately east of Veridian Point where outcrops of silicified conglomerate occur with the Wart Hill and Hudson River Volcanic rocks

- immediately north of the Waterloo Creek prospect where folding of volcanic layers is evident

- in the far western part of the tenement within rocks of the Mainwaring Group and the Western

Epiclastic sequence. These are thought to be attributable to laterally continuous, alternating, resistive volcanics and non-resistive shale sequences. Strike is generally northward.

Significant Lineaments

Osmund Syncline Region: Within this area a number of lineament orientations are evident.

- north-northwest trending features appear to be faults which are axial planar to the synclinal axis. They tend to crenulate and truncate bedding

- east-west or east-northeast trending features appear to be relatively young crosscutting faults

- northwest trending features generally lie subparallel to major lineaments and are also attributed to relatively recent faulting. These lie subparallel to Tertiary faults at the margin of the Macquarie Graben

Mainwaring Group and Western Epiclastics: In the western part of the tenement significant lineaments generally have north to northwest trends which are probably attributable to stratigraphic features and bedding plane faults. In the Mainwaring River region crosscutting east-west, west-northwest and west-southwest structures are evident. These are attributed to faults and joint systems.

Wart Hill and Hudson River Volcanics: North to northeast trending lineaments are generally oriented subparallel to major lineaments and appear to be sympathetic faults or schistosity. For example the

Osmund Fault trends northeastward from Penders prospect and swings north just west of the Waterloo Creek prospect. Significant lineaments on either side of the fault do the same. In places (notable the Lewis River grid) chlorite-pyrite alteration and arsenic-gold mineralisation occurs along this fault. Tourmalinisation occurs at the North Lewis prospect.

- northwest trending lineaments lie subparallel to major lineaments which truncate sediments within the Osmund Syncline or cut granites in the south. This trend is subparallel to the southwestern margin of the Macquarie Graben and is considered to represent a relatively young deformational event

- east-west trending lineaments occur mainly in the southern part of the tenement and are considered to be faults sympathetic to the major Lewis River Fault

MAJOR LINEAMENTS

Several distinctive lineaments are recognised.

The Osmund Fault: This extends from the coastline south of Penders prospect to the zone of massive sulphide mineralisation at Wart Hill. The fault has an arcuate trace and splays occur around the nose of the Osmund Syncline. Substantial sericite and chlorite-dominated alteration occurs on or in close proximity to the fault at Penders prospect, Voyager 19 and Wart Hill prospect.

Massive sulphide mineralisation (lead-zinc) occurs within the fault at Wart Hill. Numerous porphyritic intrusions occur in splays around the nose of the Osmund Syncline and Waterloo Creek.

Lewis River Fault: This fault has been interpreted from air photography. It traverses the exploration licence in an easterly direction up the Lewis River and trends slightly north of east through the Lewis River prospect.

Gold mineralisation occurs within this zone at Voyager 6 whilst lead-silver mineralisation occurs at the old Lewis River prospect.

Copper Creek Fault: This structure traverses up Copper Creek and along the western side of the Osmund Syncline where it truncates bedding. Lead-silver mineralisation occurs in this zone at Voyager 33.

Other major lineaments (interpreted as faults) occur. Northwest-southeast trending features cut Osmund Syncline sediments. These are thought to be related to Tertiary Graben formation to the north. One lineament in the headwaters of the Hudson River and the southwestward draining part of the Wanderer River appears to truncate the Elliott Point Porphyry. It contains pyrite-galena mineralisation at the North Porphyry Contact prospect and is associated with chlorite and sericitie-quartz alteration.

Conclusion

It appears mineralisation, alteration and porphyritic intrusive rocks are spatially related to major and significant faults which have been recognised as lineaments on air photos. Major structures such as the Osmund Fault may be long lived features and provide excellent conduits for mineralising fluids.

GEOCHEMISTRY

Stream Sediments

A total of 269 -80 mesh and 285 pan concentrated stream sediment samples were collected. The bulk of the samples were collected from the eastern side of the licence where the Elliott Point Porphyry has intruded felsic volcanic rocks. Samples were also collected within and around old prospects, DIGHEM anomalies and granite contacts. Sample density was approximately 5 to 7 per sq. km. in zones of interest.

Methods: Sampling

Where possible a -80 mesh and a panned concentrate sample were collected at each site. Fine sediment was sieved while still wet in order to obtain a large -80 mesh sample. Usually the wet weight varied between 100 and 600 grams. For pan concentrated samples bed load gravel was obtained from as close as possible to bedrock by digging with a small shovel. This material was sieved through a 2 mm mesh into a pan which held approximately 5 kg. Two pan-loads (approximately 10 kg) of -2 mm material was then panned to a single concentrate which ranged in dry weight from 80 to 400 g.

The number of gold grains in the concentrate were counted and other heavy minerals noted.

Methods: Analyses

The majority of sediment samples were assayed at Analabs in Burnie for copper, lead, zinc, silver, arsenic and gold by the following methods:

Cu, Pb, Zn, Ag	AAS (lab code 101)
As	cold vapor generation/AAS (lab code 114)
Au	Fire Assay 30 g charge with AAS finish (lab code 309)

A number of samples were assayed by Analytical Services (WA) Pty Ltd in Perth for gold, platinium, palladium, ruthenium, rhodium, iridium, osmium, copper, lead, zinc, nickel, cobalt and chromium. Methods are as follows:

Au, Pt, Pd, Ru Rh, Ir, Os	have been determined by Fire Assay of the sample (in new pots) using nickel sulphide as the collection media. The platinoids have been recovered from the nickel sulphide and analysed by ICP-Mass Spectrometry
Cu, Pb, Zn, Ni Co	have been brought into solution with a mixed acid digest. This digest procedure approaches total extraction. The digest has been analysed by atomic absorption spectrophotometry

Cr	has been brought into solution with a mixed acid digest. This digest procedure approaches total extraction. The digest has been analysed by inductively coupled plasma emission spectrophotometry

Rockchips

A total of 309 rockchip samples were submitted for analysis of copper, lead, zinc, silver, arsenic and gold. Analytical techniques are the same as those for sediments with the exception of gold which was fire assayed using a 50 g charge with an AAS finish (Lab code 313).

Results

This section summarises results of this season's sediment and rockchip sampling programme and presents a regional synthesis. Results are discussed with respect to individual prospects in a separate section. Results of -80 mesh samples are presented on Enclosures 5 to 10. Results of panned concentrate samples are presented on Enclosures 11 to 16. Gold grain counts, gold values for both sediment sample types and rockchip results are presented on Enclosure 17 to 22. Anomalous levels in sediment samples are listed in Table 3. Laboratory analytical result sheets for all samples taken are included as Appendix 2.

TABLE 1 LEVELS OF ANOMALISM IN STREAM SEDIMENT SAMPLES

	-80 mesh			Panned Concentrates		
	Weak	Moderate	Strong	Weak	Moderate	Strong
Copper	10 -20	21 - 35	> 35	10-20	21- 35	> 35
Lead	30 -50	51 -100	>100	30-50	51-100	>100
Zinc	30 -50	51 -100	>100	30-50	51-100	>100
Silver	1 - 5		> 5	1- 5		> 5
Arsenic	5 -10	11 - 20	> 20	5-10	11- 20	> 20
Gold	0.1-0.29	0.3-0.6	>0.6	20-80	81-200	>200
Number of grains in Au Grain Count				10-15	16- 25	> 25

Values in ppm

-80 Mesh Sediment Samples

Copper: Copper values were generally low (usually <15 ppm) in felsic and sedimentary sequences. Where streams drain mafic rocks (for example the Mainwaring Group or Jurassic Dolerite) values of up to 95 ppm were recorded. This has been attributed to disseminated native copper, chalcopyrite and the generally high copper content of mafic rocks. Anomalous values of up to 80 ppm were obtained from streams draining the North Lewis mineralised zone.

Lead: Several anomalies are recognised:

- the North Porphyry Contact prospect contains values up to 65 ppm in streams. Anomalism is attributed to small quartz-chlorite-galena veins
- the North Lewis mineralised zone contains 30 to 50 ppm lead in streams
- the Porphyry Dolerite Contact prospect returned up to 40 ppm in streams

- values up to 115 ppm in streams draining the Voyager 24 prospect reflect the presence of quartz-galena-sphalerite-calcite veins

Zinc: Several anomalies are recognised:

- a 335 ppm value was obtained from a stream draining the old Lewis River or Voyager 2 (Geopeko) prospect. Values of up to 650 ppm zinc were obtained from rockchips in this area

- streams draining the Porphyry Dolerite Contact zone contain values up to 60 ppm

- mafic rocks from within the Western Epiclastics or Mainwaring Group return stream values up to 120 ppm

- a value of 85 ppm at the Voyager 24 prospect probably has a similar source as lead, i.e. mineralised veins

Silver: No silver values were considered significantly anomalous.

Arsenic: Anomalous arsenic values occur in streams draining the old Lewis River prospect (Voyager 2) and the North Lewis mineralised zone. In the latter, values of up to 210 ppm are recorded and are coincident with copper and lead anomalies. Rockchips from this area returned in excess of 1% arsenic. Rockchips from the old Lewis River prospect (Voyager 2) returned up to 2800 ppm arsenic.

Weakly anomalous arsenic values (5 to 10 ppm range) occur in streams draining westward from the porphyry/volcanic contact for up to 4 km north of the North Lewis mineralised zone. In the Lewis River grid area anomalous rockchip samples (up to 5.5% arsenic) from the headwaters of Barrel Creek are not reflected in stream geochemistry in that area.

Panned Concentrate Samples

As a general statement it was discovered pan concentrating of samples led to an enhancement of gold, zinc and locally silver and lead values and a depletion of copper, arsenic and locally lead values when compared to the equivalent -80 mesh samples. Levels of relative anomalism in panned concentrates are not markedly different from -80 mesh samples with the notable exception of gold and in places silver and zinc (Table 1).

Copper: Like the -80 mesh samples copper values are elevated in streams which drain mafic rocks in the Mainwaring Group and Jurassic Dolerite (80 and 40 ppm respectively). Similarly streams draining the North Lewis mineralised zone contain up to 95 ppm copper.

Lead: Two anomalous zones are recognised:

- a value of 645 ppm lead was obtained in a stream at the North Porphyry contact prospect and corresponds to a value of 65 ppm in -80 mesh. A weak dispersion train occurs for up to 1.5 km downstream. The source rocks are small quartz-chlorite-galena veins.

- a value of 85 ppm was obtained from a sample in the vicinity of the Voyager 3 prospect (Geopeko). This value was accompanied by anomalous zinc (240 ppm). The area displays weak zinc and copper anomalism. Geopeko identified galena-sphalerite quartz and chalcopyrite-malachite quartz veins in the area

Zinc: Apart from the above-mentioned zone of anomalism at Voyager 3, other zinc-rich drainages were identified:

- Enclosure 14 - 47500N:84500E. Though the zinc anomaly here is weak it has accompanying weak lead, copper and gold anomalies. Streams in this area drain the volcanic/porphyry contact and zones of numerous quartz-sericite veins

- values are elevated in streams which drain mafic rocks of the Mainwaring Group and Jurassic Dolerite (up to 70 ppm)

- anomalous values up to 330 ppm occur within the granite south of Voyager 6. No apparent source was identified

- values up to 135 ppm are recorded from a zone of argillites and mafic tuffs of the Western Epiclastic sequence (Enclosure 15 44500N:77000E)

- a value of 60 ppm is recorded in a stream draining the eastern part of the Lewis River grid. Though no apparent source has been identified soil values on the eastern extremity of the grid have returned up to 4350 ppm zinc.

Silver: Anomalies recognised include:

- a value of 10.5 ppm in a stream that drains southwestward from the old Lewis River prospect. This is a lead-silver prospect.

- a value of 46 ppm was recorded from a stream near the Penders prospect which drains the granite/volcanic contact. This value corresponds to a value of 365.5 ppm gold. Mineralisation was located upstream in highly sheared rocks. It consisted of quartz-pyrite±bornite±chalcopyrite veins with chlorite halos. Rockchip samples (Enclosure 21) did not return anomalous silver or gold

- a value of 6 ppm was recorded from the North Porphyry Contact prospect and corresponds to a value of 645 ppm lead

- values of up to 25 ppm silver were obtained from the Mount Osmund West area. The 25 ppm value corresponds with a value of 173.3 ppm gold.

It would appear anomalous silver is locally associated with anomalous gold or lead in panned concentrates. This is attributed to the significant proportions of silver in gold and galena. One notable exception to this generalisation is the sample taken from Voyager 24 which contains high gold but no silver.

Arsenic: Arsenic values in panned concentrates are generally lower than in -80 mesh. Zones of anomalism include:

- the Wanderer South prospect where marginally elevated values may be attributed to sparse arsenopyrite in black shales.

- the old Lewis River prospect and the North Lewis prospect returned anomalous arsenic values but were generally of a lower tenor compared to -80 mesh samples (cf 47 ppm and 83 ppm in -80 mesh)

Gold - Panned Concentrates, -80 Mesh and Grain Counts
Results of the above three sampling techniques are presented on Enclosures 17 to 22 in conjunction with results of rockchip sampling. Because laboratory turnaround of results was relatively slow, panning of sediment and visual identification of gold grains was utilised as a basic prospecting technique. Variations in sample size, sample trap sites, individual sampling techniques and concentration factors make the comparison of absolute gold values in panned concentrates difficult to interpret. We have consequently combined all our sampling techniques (-80 mesh for fine gold and panned concentrates and visual counts for coarse gold) to define areas of gold anomalism. In general areas of interest are those that contain high grain counts and high -80 mesh values. High grain counts are almost everywhere matched by high panned concentrate values. Zones of gold anomalism are listed below.

- **Headwaters of Barrel Creek and Western Branch of Little Rocky River** - referred to as the Lewis River grid. Gold grain counts in the area range from 3 to 45 with the average approximately 18 to 20. Results from panned concentrates returned values up to 95 ppm which corresponds to a grain count of 30.

The average value in the area is approximately 20 to 25 ppm gold. -80 mesh samples return values up to 2.7 g/t and a dispersion train 1.5 km long occurs in the Little Rocky River drainage.

Rockchip samples in the area returned up to 5.55% arsenic and 0.64 ppm gold in small gossans. The area was gridded for detailed study.

- One sample was collected at a site previously identified as anomalous within the Voyager 24 prospect (Geopeko). It returned a highly anomalous 500.8 ppm in panned concentrate, 2.02 ppm in -80 mesh and had a grain count of 25. Stratabound gold has been identified by Geopeko at this prospect.

- **Waterloo Creek:** Samples from this zone returned relatively low values in panned concentrates (22.27 ppm gold) and had low grain counts (9) but returned anomalous -80 mesh values of up to 1.97 ppm gold. Samples occurred in stream which drained a number of old workings on quartz reefs. The area was gridded for detailed study.

- **Osmund West:** Streams running parallel to DIGHEM anomalies identified on Enclosure 8 contained anomalous grain counts of up to 25 corresponding to analysis of 173.3 ppm gold. -80 mesh samples returned up to 0.36 ppm. No apparent source was identified due to the largely impenetrable bush in the area.

From the relative position of the anomalies in the stratigraphic sequence it is postulated the source rocks lie within the same horizon which contains massive sulphide pods at Wart Hill. From Geopeko sampling it is known that gold values of up to 1 ppm -80 mesh samples occur in streams draining the Wart Hill alteration zone.

- **Voyager 6 - Granite Zone:** Immediately south of the Voyager 6 prospect (Enclosure 21 43500N:79500E) anomalous gold occurs in -80 mesh samples (up to 0.9 ppm). Grain counts are low and panned concentrate values are up to 22.6 ppm. It appears fine gold is anomalous in the westernmost stream sampled and has a dispersion train of approximately 0.5 km. This stream drains the inferred southern extension of the Osmund Fault Zone. Outcrop in the area is minimal and no source rocks were recognised. West of Voyager 6 (43200N:78000E) where granite is in contact with felsic volcanics one sample returned a weakly anomalous grain count of 12 with a corresponding analysis of 41.7 ppm and 0.07 ppm gold in -80 mesh.

- **Penders:** A highly anomalous grain count of 50 (365 ppm gold) and corresponding 0.16 ppm gold in -80 mesh occur in a stream draining the volcanic/granite contact (Enclosure 21 42000N:77700E). Immediately south of this another stream also draining the contact returned 0.9 ppm gold in -80 mesh. Pyrite-rich veins located upstream did not contain anomalous gold.

Hudson River: A number of samples were collected from tributaries draining into the Hudson River north of the North Lewis River mineralised zone. Samples returned anomalous grain counts and panned concentrate analyses (up to 20 and 89.33 ppm gold respectively) however none contained anomalous gold in -80 mesh. Coarse gold appears to have its source in rocks near the contact between the Elliott Point Porphyry and felsic volcanic rocks. Arsenic is also elevated in this zone.

No mineralisation has been identified here, however the zone is generally characterised by intense quartz-sericite veins. As yet sampling of veins has not yielded anomalous gold. A spurious value of 456.1 ppm gold corresponds to an extremely low grain count of 4 (Enclosure 20 52500N:85300E). This discrepancy has not been explained.

In the upper reaches of the Hudson River and within the northward draining tributaries of the Wanderer River a heavy black mineral occurred and was often associated with high gold contents. This mineral appeared to be abundant in Tertiary lag gravels and alluvium. Mineralographic identification by Amdel (Appendix 3) indicates the mineral is rutile. The occurrence of gold with this mineral suggests the gold source at least in part may be the Tertiary gravels.

- **Old Lewis River prospect (Voyager 2):** of siderite-rich pyrite-chalcopyrite-g bearing veinlets and ironstone rocks o prospect returned values up to 2.04% c ppm lead, 650 ppm zinc, 180 ppm silver arsenic and 0.45 ppm gold

- **Elliott Bay Coastline (from 83000E to** Sampling of quartz-tourmaline-chlorite pyrite, arsenopyrite and chalcopyrite to 4.28% copper, 2825 ppm lead, 5850 p ppm silver, 400 ppm arsenic and 0.05 p (Enclosure 22)

- **Voyager 6:** Values up to 1150 ppm copp ppm lead, 610 ppm zinc, 57 ppm silver, arsenic and 7.25 ppm gold were returne small quartz-gossan veins and iron-st volcanics

- **Penders:** Highest values were obtaine sulphide pods (2.65% copper, 245 ppm ppm zinc, 70 ppm silver, 550 ppm arse 0.675 ppm gold). Quartz-chlorite±malachite±chalcopyrite veins returned up to 8400 ppm copper but we anomalous in other elements.

- **Mt Osmund West:** Resampling of silici sheared shales in trench samples at V returned values of up to 2500 ppm cop ppm lead, 545 ppm zinc, 52 ppm silver arsenic and 0.045 ppm gold (Enclosure 52600N:78200E)

- **Wart Hill:** One sample of massive sulphide from this prospect returned 6.6% lead, 39.5% zinc, 0.62% copper, 206 ppm silver, 260 ppm arsenic and 0.97 ppm gold

Regional Synthesis

Sampling of streams, rockchip and soils by Cyprus has to date delineated two zones of geochemical anomalism.

Zone 1: Elliott Point Porphyry/Felsic Volcanic Contact (Gold/Arsenic)

The area is defined as a corridor of rock approximately 1 to 1.5 km wide which extends from the headwaters of Barrel Creek, northward through the Lewis River grid, the Lewis River prospect (Voyager 2) and the North Lewis grid to the point where the Hudson River intersects the contact between Elliott Point Porphyry and felsic volcanics. The zone is characterised by:

- sericite-quartz alteration and veining adjacent to the porphyry in the area north of the North Lewis grid

- quartz-chlorite-pyrite-tourmaline alteration and veining of the North Lewis grid

- chlorite alteration with siderite-pyrite-chalcopyrite-galena at the old Lewis River prospect (Voyager 2)

- chlorite-pyrite alteration on the Lewis River grid and the headwaters of Barrel Creek

Geochemically the area is anomalous in gold and arsenic in rocks and/or sediment samples. Elevated

base metals (copper, lead, zinc) values in streams and rockchips are associated with highly altered rocks and mineralisation. The zone is enigmatic. Best gold anomalism in streams occurs in the southern part where no apparent source is recognised.

In this area arsenic in rockchips is elevated (up to 5.55%) but no anomalous arsenic occurs in streams. In contrast gold mineralisation occurring in rocks in association with arsenic (and copper, lead, zinc, silver) in the North Lewis area is not recognised in streams whereas arsenic anomalism is recognised.

The area within the corridor that is considered to be most geochemically anomalous (Lewis River grid - old Lewis River prospect - North Lewis grid) lies entirely within volcano-sedimentary units of the Wart Hill and Hudson River Volcanics. The area is interpreted to be either underlain by, or on the margins of, the Elliott Point Porphyry. The area is also characterised by the occurrence of a number of large albeit interpreted faults (e.g. the Lewis River Fault). In many places these faults are recognised merely as linear zones of chloritized-iron stained outcrops which are anomalous in arsenic.

Zone 2: Granite Contacts (Gold)

Several areas of anomalous gold mineralisation are recognised at granite contacts. These are outlined as follows:

- Magnetic Anomaly 3 - soil samples on the margin of the granite return up to 0.03 ppm gold and anomalous arsenic (10 ppm), copper (5100 ppm), lead (100 ppm) and elevated zinc. Stream draining this anomaly contains 9.9 ppm gold in panned concentrates

- Voyager 6 - anomalous gold (up to 7.25 ppm) occurs in rocks at the granite contact. Streams returned up to 0.9 ppm in -80 mesh from within the granite

- Penders prospect - streams draining the western side of the granite in the Low Rocky Point region contain anomalous gold in both panned concentrates and -80 mesh samples

- Voyager 9 - Geopeko have documented anomalous gold in panned concentrates in streams draining the porphyritic granite contact 8 km east of Veridian Point

Most zones of anomalism at granite contacts are characterised by chlorite and/or sericite alteration, complex magnetics (due to veins of magnetite (?)) and locally intense shearing.

Sampling of prospects on the western side of the tenement has been relatively restricted to old prospects (e.g. Voyager 24) or DIGHEM anomalies. Further work is required before a synthesis of this area can be made.

4.2.2 Prospect Evaluation

Prospect evaluation this season consisted of four parts:

- follow-up of DIGHEM anomalies
- evaluation of old prospects primarily for gold potential but also for polymetallic massive sulphides
- follow-up of air magnetic anomalies
- follow-up of geological and geochemical anomalies resulting from the Cyprus stream and rockchip sampling program

The localities of prospects are presented on Enclosure 23 at 1:25,000 scale. Geology of individual prospects is presented at 1:10,000 and 1:15,000 scales in foldout figures. The legend for all maps is presented as Figure 3.

DIGHEM anomalies are numbered and given an order of priority (Appendix 5). Anomalies were ground located using a frequency domain, horizontal loop electromagnetic system (MAXMIN II). A standard transmitter/receiver separation of 100 m was adopted. Data from three frequencies (222, 888 and 3555 Hz) were recorded and slope corrected. In addition to these data a 'normalized' plot of 3555 Hz minus 222 Hz is also presented.

Magnetic anomalies considered to be of interest were identified from the Mines Department 1:50,000 scale air magnetic maps and/or DIGHEM magnetic maps at 1:10,000 scale. All grids and MAXMIN traverse lines were surveyed for magnetic susceptibility. Proton magnetometers with a base station recorder were used.

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C-horizon soil and rockchip samples were assayed for copper, lead, zinc, silver, arsenic and gold by Analabs in Burnie. Analytical methods for soils were the same as those outlined for stream sediments with the exception that in some areas AAS was used for gold. In rock samples elements were also analysed by the same techniques with the exception of gold which required fire assay with a 50 g charge (code 313). Platinum group elements were analysed by Australian Analytical Services (WA) - methods are outlined in the previous section. All analyses are included in Appendix 2.

4.2.2.1 Wanderer South

Previous Work

The area has been covered by airborne magnetics and DIGHEM but no previous ground work. The Cyprus Urquart South Grid is located west of Wanderer South in EL 37/83 (Sorell Peninsula project).

Introduction

Field work this season was aimed at assessing several DIGHEM anomalies in Cambrian volcanics and sediments. Wanderer South is located in the northwest sector of EL 40/85 (Enclosure 23) at the headwaters of tributaries of the Wanderer and Urquart Rivers. Access is via two helipads (5262400N:77400E and 5261650N:78100E) and cut access tracks. The area is covered by impenetrable vegetation. Average line cutting progress was approximately 300 m per day.

Gridding

A total of 3.15 km of lines and 1 km of access tracks have been cut. Lines are numbered 5 to 7 (Enclosure 23).

Geology

Outcrop is poor but soil cover is usually less than 5 cm thick. Lithologies can be mapped from bedrock cuttings in auger samples. Structural trends in the Cambrian and Ordovician area north-northeast and steeply dipping (Figure 4).

The Cambrian can be divided into:

- Western Epiclastics, a sequence dominated by fine-medium grained rhyolitic volcaniclastics with lenses of andesitic-basaltic volcanics

- Mainwaring Group, an alternating sequence of andesitic-basic volcanics and black pyritic shales. Gabbroic intrusives are common in the volcanics

A variety of types of mineralisation occur in the grid:

- pyritic shales at 900-950W on Line 6 and 425-460W on Line 5. These are associated with the strongest MAXMIN response

- disseminated fine pyrite in rhyolitic volcaniclastics at 700W on Line 6, sample 171415

- quartz pyrite veining associated with clay-rich soils at 825W on Line 5

044

76000mE.

77000mE.

78000mE.

79000mE.

62000mN.

61000mN.

LINE 5

LINE 6

LINE 7

1000W

1600W

500W

00

171434 171433 171432 171430 171431 171418 171417 171416 171419 171415 171413 171414

11b 11d 10 10a 10c 3a 10d

E.L. 40 / 85

5 cm

CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

ELLIOTT BAY – E.L. 40/85

WANDERER SOUTH
GEOLOGY

DRAWN BY : R.P.
DRAFTSMAN : T.G.D.S.
DATE : June '87
REVISIONS :
FILE No.

SCALE 1:10,000 100 0 100 200 Metres

FIG. 4

- quartz epidote veining and minor native copper in basic volcanics at 1480W on Line 6

- gabbroic intrusives with disseminated pyrrhotite

- ilmenite sands in streams draining a shale/basic volcanic contact at 1050W on Line 6 and at 550W on Line 5. Ilmenite was identified by microprobe (Appendix 3)

Stream Geochemistry

A total of 13 pan concentrate/-80 mesh sites were sampled (Figure 4). The best gold values were 0.22 ppm in pan concentrates and 0.13 ppm in -80 mesh. Both samples were collected from streams draining quartz-epidote veined basic volcanics with native copper located on the western end of Line 6.

Maximum base metal values in -80 mesh samples were copper 35 ppm, lead 20 ppm and zinc 65 ppm. Pan concentrates returned similar values. These barely anomalous streams drain basic volcanic lenses in the southeast in the vicinity of Line 7.

Soil Geochemistry

The B/C-horizon was consistently sampled throughout the grid at 25 m spacings (Enclosures 24 to 26). All gold values are <0.01 ppm. Anomalous copper (375 ppm) and arsenic (130 ppm) reflect lithological units. Copper occurs within the basic volcanics and arsenic in pyritic shales.

Rock Geochemistry

There is limited exposure for rockchip sampling. Three samples assayed returned <0.008 ppm gold. Maximum base metal values were copper 145 ppm, lead 15 ppm and zinc 45 ppm. A clay soil containing abundant quartz pyrite fragments assayed 100-300 ppm copper, lead and zinc with gold <0.008 ppm (Appendix 2).

Geophysics

Both magnetics and MAXMIN anomalies highlight lithological units. Black pyritic shales at 800-850W on Line 6 and at 425-475W on Line 5 are associated with strong EM responses. Magnetics have a more varied response over the basic-intermediate volcanics; this is probably due to localised pyrrhotite in gabbros and magnetite in volcanics (Enclosures 24 to 26).

Conclusions

The DIGHEM anomalies have been adequately located and tested and are not associated with significant mineralisation. Quartz sulphide veins with anomalous gold at Wanderer North do not appear to strike south into this grid.

Recommendations

- assay stream sediment data for platinum group elements
- integrate the Urquart South data and unexplained stream gold anomalies occurring near the boundaries of EL 40/85 and 37/83

TABLE 2 WANDERER SOUTH - GEOLOGIC SAMPLE DESCRIPTIONS

Sample	Description (no samples assayed)
171413	Fine-medium grained, grey-green volcaniclastic
171414	Fine chloritized sediment - basic/intermediate volcanic
171415	Volcaniclastic: medium grained quartz feldspar phyric, 5% fine disseminated pyrite
171416	Intermediate volcanic, lava ? with epidote quartz veining
171417	Volcaniclastic, fine grained, green-maroon, derived from intermediate/basic volcanics. Epidote veining with minor native copper
171418	Grey silstone and medium grained volcaniclastic (quartz feldspar crystal and lithics)
171419	Volcaniclastic float blocks, medium grained

4.2.2.2. **Python Pit**

Previous Work

During the previous season a line was cut westward through dense rain forest from the old Voyager 28 prospect (Enclosure 23) in order to intercept a group of DIGHEM anomalies identified on analog data. Abrupt cessation of the field season curtailed geochemical and geophysical surveys. Computer processed data effectively moved the anomalies further to the north and west. This season further line cutting 500 m to the north and 1000 m westward intercepted the anomaly.

Geology

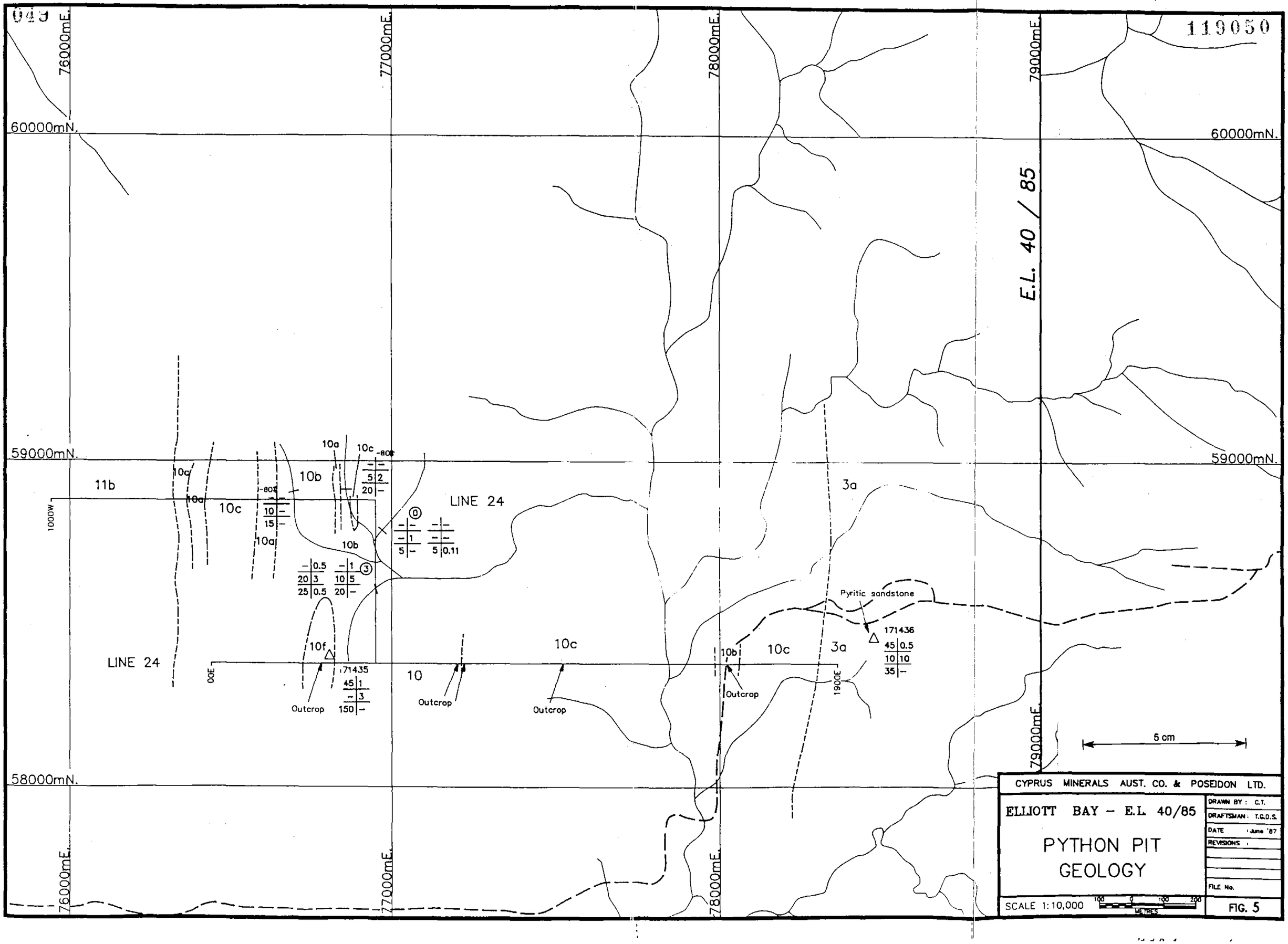
Rock types identified from rockchips in soil samples include andesitic-basaltic volcanics, tuffaceous siltstones and black pyritic shales of the Western Epiclastic sequence and andesitic-basaltic rocks of the Mainwaring Group (Figure 5). The only mineralisation identified consisted of pyrite and minor arsenopyrite (sulphide up to 10%) which occurred in black shale units.

Stream Geochemistry

Four -80 mesh and two panned concentrate samples were collected from streams in the area (Figure 5). No results were considered anomalous. It was noted abundant ilmenite sand occurred in pan concentrated samples.

Soil Geochemistry

A total of 41 C-horizon soil samples were collected at 25 m intervals along Line 23 (Enclosure 27). Peak values were 200 ppm copper, 35 ppm lead, 150 ppm zinc, 42 ppm arsenic and 0.65 ppm gold. Silver was below detection in all samples. Erratic but locally anomalous copper, lead, zinc and arsenic occur in pyritic black shales. A single highly anomalous gold value (0.65 ppm) also occurs in black shale. Copper is also elevated within andesitic-basaltic rocks of the Mainwaring Group (up to 200 ppm). A characteristic feature of black shale units is arsenic anomalism (up to 42 ppm).


76000mE.
77000mE.
78000mE.
79000mE.
60000mN.
59000mN.
58000mN.
E.L. 40 / 85
LINE 24
LINE 24
1000W
300
1900E
10
10a
10b
10c
10f
11b
3a
Outcrop
Outcrop
Outcrop
Outcrop
Pyritic sandstone
171435
171436
5 cm
CYPRUS MINERALS AUST. CO. & POSEIDON LTD.
ELLIOTT BAY - E.L. 40/85
PYTHON PIT
GEOLOGY
DRAWN BY : C.T.
DRAFTSMAN : T.G.D.S.
DATE : June '87
REVISIONS :
FILE No.
SCALE 1:10,000
METRES
FIG. 5

Rock Geochemistry

Outcrop is sparse in the area of electromagnetic anomalism. No samples were collected. Further eastward samples of pyritic sandstone in the basal part of the Ordovician sequence returned low values (Figure 5).

Geophysics

A magnetic profile (Enclosure 27) clearly marks the boundary between the sediment dominated Western Epiclastic sequence and the mafic volcanics of the Mainwaring Group. The boundary which occurs at approximately 265W is marked by a rapid election in magnetic susceptibility westwards. MAXMIN profiles indicate a weak conductor centered at 500W coincident with pyritic black shale.

Conclusions and Recommendations

The DIGHEM anomaly has been located and is attributed to pyritic black shale units near the western margin of the Western Epiclastic sequence. No further work is recommended.

4.2.2.3 **Mainwaring River**

Previous Work

The Poltock brothers under contract to Geopeko had undertaken geological mapping, rockchip and stream sediment sampling in the area in the early 1980s. No significant results were recorded.

Introduction

The DIGHEM anomalies are located within an area of deeply incised and heavily forested terrain. Access is via a helicopter pad on the Mainwaring River some 500 m upstream from the anomaly or from a helipad and overgrown walking track at Voyager 26. No line cutting was undertaken in the area as adequate rock exposure occurs in the bed and tributaries of the Mainwaring River.

Geology

Rock types comprise part of the Mainwaring Group and include pyritic black shales, sericitic phyllites, quartz-mica phyllites and limonitic (or sideritic) carbonates which are enclosed in an andesitic volcaniclastic-lava sequence (Figure 6). The EM anomaly (No 11, Appendix 5) occurs on the western, highly sheared (faulted) and schistose contact between black shales and volcanics. The anomaly is attributed to this shear zone.

Stream Geochemistry

Two -80 mesh and panned concentrate samples were collected from stream draining the anomaly (Figure 6). Copper and zinc values were moderately elevated in both sample types - up to 95 ppm copper and 120 ppm zinc (-80 mesh) and 80 ppm and 75 ppm respectively in panned concentrates. These results are attributed to the higher zinc and especially copper contents of the Mainwaring Group mafic volcanics. Arsenic is weakly anomalous in panned concentrate samples. This is attributed to pyrite and arsenopyrite-bearing black shales. Silver and gold were not considered anomalous.

75000mE.
76000mE.
77000mE.
78000mE.
54000mN.
53000mN.

DIGHEM ANOMALIES
(NO. 11)

11d
11b
11b
11d
11b
11b

95 | – | 80 | –
5 | 1 | – | 2
120 | 0.06 | 45 | 2.61
③

45 | – | 55 | –
10 | 5 | – | 9
75 | – | 75 | 0.03
②

171988
171991
171990
171989

Highly sheared
black shales

Helipad
(H)

MAINWARING

RIVER

Walking
Track

E.L. 40 /85

Rock Chip Samples

No.	Cu	Pb	Zn	Ag	As	Au
171988	90	10	70	0.5	29	–
171989	35	–	120	–	64	–
171990	40	30	45	0.5	30	–
171991	35	5	65	–	26	–

5 cm

CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

ELLIOTT BAY – E.L. 40/85
MAINWARING RIVER
DIGHEM ANOMALY NO. 11
GEOLOGY

DRAWN BY : C.T.
DRAFTSMAN : T.G.D.S.
DATE : June '87
REVISIONS :
FILE No.

SCALE 1:10,000 100 0 100 200 METRES

FIG. 6.

N. W. Comp. Ltr. Ald. d Drafting Centre (004 354315)

Rock Geochemistry

Four rockchip samples were collected from the area (Figure 6). Results (which are not considered anomalous) are in ppm and tabled below together with sample description.

Sample	Cu	Pb	Zn	Ag	As	Au	Description
171988 (over 15 metres)	90	10	70	0.5	29	-	grey-black pyritic shale
171989	35	-	120	-	64	-	micaceous phyllite
171990	40	30	45	0.5	30	-	grey-black pyritic shale
171991	35	5	65	-	26	-	quartz-mica phyllite

Conclusions and Recommendations

Electromagnetic anomalism is associated with sheared rocks at the contact between pyritic black shales and basic volcanics. Geochemical samples did not return anomalous values. No further work is recommended.

4.2.2.4 Penders Prospect

Previous Work

Penders was mined early this century. No records of production are available, however several shafts and stockpiled ore still remain. Geopeko began work on Penders (Voyager 1) in 1976. Gridding, mapping, soil sampling, rockchip sampling and VLF-EM surveys were undertaken. In the 1977-78 season gridding continued as did soil sampling, magnetic and IP surveys.

In the 1978-79 season two short AQ diamond drillholes were targeted to intercept magnetic VLF-EM anomalies 1 km north of Penders. The holes intersected a magnetite-pyrite 'chemical' sediment with traces of scheelite.

Continued gridding was accompanied by magnetic, VLF-EM and Turam-EM in the 1979-80 season. Drilling was recommended but not carried out and work on the area ceased.

Introduction

The prospect is located on the western coastline approximately 3 km north of Low Rocky Point (Enclosure 23). The old workings are 200 to 300 m north of where the Osmund Fault intercepts the coast (Enclosure 1). Reconnaissance mapping and rockchip sampling this season suggested a number of geological features which may be prospective for gold. These include:

. a major deformation zone (the southern extension of the Osmund Fault)

- the contact between the Low Rocky Point granite and Western Epiclastic rocks

- Penders magnetite-pyrite beds. In early Geopeko reports values of >0.5 g/t gold were quoted.

Work during the 1986/87 season included regional mapping, rockchip sampling, sediment sampling and petrographic studies.

Geology

Rock types in the area of old workings consist of highly deformed fine to coarse grained quartz-feldspar porphyritic rhyolitic tuffs and lavas of the Western Epiclastic sequence (Penders Tuffs). They display two predominant schistosities. In the area of old workings S_1 dips approximately 45° northward. A later crenulation cleavages S_2 has a shallow (20° to 35°) dip to the northwest. Numerous quartz and quartz-chlorite veins form along the crenulation cleavage. These deformation features have been recognised as microfabrics in this section (Appendix 6). The rocks outcrop on the western coastline south of the Lewis River. East of, and intrusive into the volcanic rocks, is the Low Rocky Point Granite. Both rock types are interpreted to be cut by the Osmund Fault although faulting is not at all obvious within the granite because of its subdued outcrop. It may be intrusion post-dates faulting. On the wave-cut platform south of the Osmund Fault volcanic rocks appear to have partly assimilated with granite forming a hybrid rock. Further south, rafts of volcanics occur as pendants in granite. Numerous green dolerite dykes cut the granite. Geology is presented as Figure 7.

10d

5a

RIVER

LEWIS

7

10d

7

10d

7

10d

BLACK ISLAND

WAVE-CUT PLATFORM

43000mN.

42000mN.

41000mN.

77000mE.

78000mE.

79000mE.

5 cm

MASSIVE & BANDED MAGNETITE-PYRITE-CHLORITE BEDS

Rock Chip Samples

171284-287

202720-732 (A) } Strip

202733-736 (B) } Samples

202924-925 (Thin Sections)

171282

171283

171237-241

171288

171289

171290

171291

202713/1

202715

202718/19

202718/17

10 –	10 3	5 –	5 –
– –	– –	– –	– –
– 0.07	140 41.7	20 4.45,8.4	5 0.19

5 –	10 –	10 –	5 –
– –	– –	– –	– –
– –	55 .56,1.35	10 –	25 0.05

10 –	5 –	5 –	5 –
– –	– –	– –	– –
– –	5 5.84	15 24.13	– 0.1

10 –	60	5 –	10 –
– –	5 46	– –	– –
– 0.16	– –	– –	– –
25 250,365.5			

5 –	10 –	10 –	5 5
– –	– –	– –	– –
– 0.4,.95	– –	– 0.03	5 45.35,38.6

10 –	5 –	5 –	5 –
– –	– –	– –	– –
– 1.07	– 0.13	– 0.43	0.01

10 –	10 –
– –	– –
20 1.48	– –

CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

ELLIOTT BAY - E.L. 40/85

PENDERS PROSPECT

GEOLOGY

SCALE 1:10,000

METRES 100 0 100 200

DRAWN BY : C.I.

DRAFTSMAN : T.G.D.S.

DATE : June '87

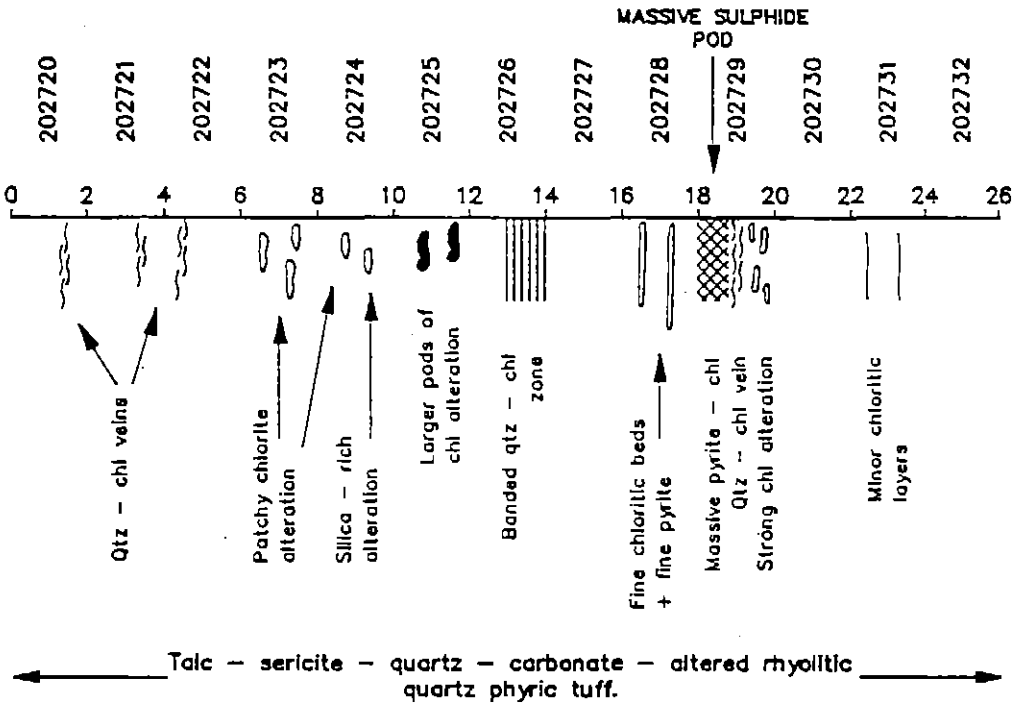
REVISIONS :

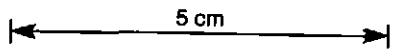
FILE No.

FIG. 7.

115057

SAMPLE NUMBERS	Cu	Pb	Zn	Ag	As	Au
202720	15	–	10	–	1	–
202721	10	–	15	–	–	–
202722	15	–	35	–	1	–
202723	10	–	35	–	–	–
202724	10	–	15	–	–	–
202725	25	–	40	–	–	–
202726	40	–	40	–	2	–
202727	10	–	60	–	1	–
202728	15	–	110	–	3	–
202729	7500	245	3100	7.0	71	0.03
202730	35	–	65	–	6	–
202731	15	20	50	–	4	–
202732	30	25	50	–	7	–





CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

ELLIOTT BAY – E.L. 40/85

PENDERS PROSPECT

ROCK CHIP GEOCHEMISTRY

STRIP 'A'

DRAWN BY : C.T.
DRAFTSMAN: T.G.D.S.
DATE : May '87
REVISIONS :
FILE NO.

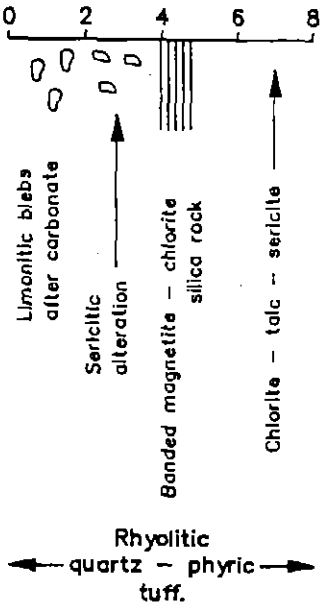
SCALE 1:200 2 0 2 4 Metres

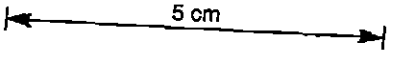
FIG. 8.

058

119059

SAMPLE NUMBERS	Cu	Pb	Zn	Ag	As	Au
202733	20	–	55	–	1	–
202734	550	–	110	–	7	–
202735	80	70	185	–	8	0.005
202736	50	–	55	–	1	–





CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

ELLIOTT BAY – E.L. 40/85

PENDERS PROSPECT

ROCK CHIP GEOCHEMISTRY

STRIP 'B'

DRAWN BY : C.T.
DRAFTSMAN: T.G.D.S.
DATE : May '87
REVISIONS :
FILE NO.

SCALE 1:200 2 0 2 4 Metres

FIG. 9.

Widespread chlorite alteration occurs within the volcanic rocks and is interpreted to be areally related to the Osmund Fault. In the fault itself chlorite-magnetite veinlets are common. Chlorite alteration is locally pervasive with the granite especially at contacts. Alteration around the old workings is somewhat different in that alteration types appear to lie in conformable beds parallel to massive sulphide pods. Sulphide pods, alteration and geochemical results are shown on Figures 8 and 9.

In the area of old workings there are two beds of interest. The western most (Strip 'A', Figure 8) comprises a sheared zone conformable with bedding which contains lenticular pods (2 m by 30 cm) of massive pyrite-chlorite±magnetite±chalcopyrite rock. Alteration either side of this steeply northwest dipping bed (only 1 m wide) consists of talc-sericite-quartz-carbonate with bedded zones of chlorite (Appendix 6). This alteration extends outward up to 20 m on either side of the sulphide bed.

The eastern most bed (Strip 'B', Figure 9) consists of a banded magnetite-rich chlorite±pyrite rock (1 m thick). Alteration is similar to that in Strip 'A'. Further to the south along the coastline beds of fine chloritic and locally pyritic mudstone are intercalated with volcanic rocks.

Other mineralisation encountered in the area occurs at the western margin of the granite. Just south of the Lewis River a small vein of quartz-pyrite±arsenopyrite was discovered (sample 202713). Immediately west of the old workings on the granite contact veins of quartz-pyrite±bornite±chalcopyrite occur. These contain blebs of chlorite and have well defined chlorite-pyrite alteration holes.

Stream Geochemistry

A total of 12 sites were sampled, 12 -80 mesh and 11 panned concentrate samples (Figure 7). Peak values for -80 mesh samples were as follows: 10 ppm copper and 1.07 ppm gold. Lead, zinc, silver and arsenic were below detection limits. Peak values for panned concentrate samples were 10 ppm copper, 140 ppm zinc, 46 ppm silver and 365.5 ppm gold. Lead and arsenic were below detection limits.

The most anomalous gold value in panned concentrate occurs immediately east of the old workings below the granite contact and was reflected in the gold grain count (50 grains of coarse gold).

Two samples further north also collected from below the granite contact similarly returned elevated values (i.e. 24.13 and 41.7 ppm gold) from panned samples. One -80 mesh sample returned 1.07 ppm gold and occurred within granite.

Rockchip Geochemistry

A total of 41 rockchip samples were collected in the area. Thirty nine of these were submitted for assay and two for petrographic description (Table 3, Figures 8, 9, Appendix 6). Anomalous copper up to 2.65%, lead up to 310 ppm, zinc up to 3100 ppm, silver up to 27 ppm, arsenic up to 450 ppm and gold up to 0.675 ppm occur in grab samples of sulphide-rich rocks within the old workings. Two metre strip samples over the sulphide-bearing pods and adjacent alteration zones returned consistently low tenor results in all elements except where the sample included sulphide.

Veins of quartz with minor malachite were also sampled and locally returned anomalous copper (up to 8400 ppm). Follow-up of anomalous gold stream values immediately west of the old workings revealed quartz-pyrite±bornite±chalcopyrite veins with chlorite halos in highly sheared rocks. These contained up to 540 ppm copper but no gold. The source of the anomalous coarse gold in streams has not been adequately defined.

Conclusions

The sulphide pods at Penders prospect appear to be syngenetic 'chemical' precipitates. Rockchip sampling suggests they are unprospective with respect to lead-zinc, copper or gold. Anomalous gold values in streams draining the western side of the Low Rocky Point granite have not been explained. The granite contact and the Osmund Fault are considered to be excellent conduits for mineralising fluids. The area is considered to be highly prospective.

Recommendations

- re-establishment of that part of the old grid which covers the granite contact - much of it is still intact
- geological mapping
- rockchip sampling
- soil sampling for gold

TABLE 3 PENDERS PROSPECT - ROCKCHIP SAMPLES (PPM)

Sample	Cu	Pb	Zn	Ag	As	Au	Description
171282	225	215	560	1	83	0.01	Silicified rhyolitic tuff minor py and malachite
171283	1950	10	505	-	94	0.065	Limonite-chlorite vein (0.5m)
171284	2.65%	220	940	27	450	0.675	Pyrite-magnetite -chlorite chalcopyrite massive sulphide
171285	9350	310	1800	20	550	0.2	as for 284
171286	435	70	630	1.5	31	0.02	Banded magnetite -pyrite chlorite bed (1.5m)
171287	590	-	160	2.5	6	-	Chloritic siltstone-minor py
171288	30	-	35	1	10	-	Carbonate-chlorite altered tuff with dissem pyrite
171289	15	5	50	0.5	2	-	Limonitic-chlorite tuff
171290	25	-	10	1	7	-	Chlorite-sericite -talc pyrite altered tuff
171291	30	-	30	1.5	32	0.04	Massive pyrite-quartz pod, 80% py
202713	85	5	15	-	43	-	Gossanous py -arsenopyrite quartz vein
202714	10	-	-	-	2	0.005	Quartz stockworked, quartz phyric tuff
202715	5	-	10	-	1	-	Chlorite altered, quartz stockworked tuff
202716	10	-	10	-	1	-	Sheared granite with quartz-chl-pyrite veins
202717	540	-	10	-	1	-	Chloritic microgranite with veins and dissem bn -cpy-py
202718	15	-	10	-	1	-	Chloritic tuff with veins and dissem of pyrite
202719	25	-	5	-	1	-	Chloritic tuff with veins and dissem of pyrite

Sample	Cu	Pb	Zn	Ag	As	Au	Description
202737	1400	15	90	-	16	0.01	Quartz-chlorite -pyrite veins-minor cpy-malachite
202738	135	-	10	-	1	-	Quartz-chlorite vein
202739	770	-	40	-	58	0.01	Quartz-chlorite vein with trace malachite
202740	240	-	40	-	9	-	Quartz-chlorite vein
202741	8400	75	90	3	16	0.01	Quartz-chlorite vein with malachite and cpy

4.2.2.5 Voyager 18-23 Coastal Section

Previous Work

Geopeko identified a stratigraphic horizon on the western coastline which contained dolomitic siltstones. Within these they found disseminated 'replacement' copper mineralisation (V18 and 23). Rockchip sampling and mapping were undertaken. Grades of up to 0.1% copper were obtained but assays for gold for the most part were absent (Enclosure 23).

1986/87 Field Season Work

Work comprised evaluation of the coastline for potential gold-bearing replacement horizons involved reconnaissance prospecting and rockchip sampling. The V18-23 zone comprises rocks of the Mainwaring Group which include silstones, dolomitic silstones, green volcaniclastic sandstone of andesite derivation and andesitic-basaltic lavas. Many rocks appear to be calc-silicate-rich and epidote was most common. Quartz and siderite veining was also common.

Large boudins of quartz or quartz-epidote occur in dolomitic horizons and in one locality (north of Copper Creek mouth) a hydrothermal (?) breccia with an epidote matrix occurs. In many places along the coastal strip quartz stockworked zones up to 500 sq. m occur. These have no associated alteration halos.

Rock Geochemistry

A total of 22 rockchip samples were collected (Enclosures 19 to 21 and Appendix 4). Values range from 5 ppm to 2.15% copper, <5 to 30 ppm lead, 15 to 375 ppm zinc, 1 to 36 ppm arsenic and <0.008 to 0.055 gold. Only one sample contained gold above detection limited and only two samples contained greater than 1000 ppm copper. No other elements were considered anomalous.

Conclusions and Recommendations

Anomalous gold was not obtained from the rockchip sampling program. No further work is recommended.

4.2.2.6 ***Voyager 6***

Previous Work

Geopeko identified one aeromagnetic anomaly on the northern contact of the Low Rocky Point granite (Enclosure 23). The area was gridded, mapped, soil and rockchip sampled (analyses for copper, lead, zinc, iron, tungsten, tin) and surveyed by VLF-EM and magnetic methods. Rockchips returned up to 0.14% copper, 430 ppm lead and 0.74 ppm gold from gossanous tuff.

1986/87 Field Season Work

Work consisted of stream sediment sampling, reconnaissance mapping and rockchip sampling.

Geology

The prospect is located on the southern bank of the Lewis River where a narrow finger of granite penetrates northward into felsic volcanics of the Wart Hill and Hudson River Volcanics (Figure 10). The contact zone is not well exposed but appears to be locally sheared. Granite adjacent to the contact is weakly sericitised and contains hematite veinlets. Volcanics adjacent to the contact contain magnetite-chlorite and quartz-gossan veinlets. The volcanics are intensely chloritised, seriticized and limonitic. Massive magnetite float occurs within talus in the prospect area. The Lewis River Fault Zone is interpreted to pass through the prospect. Joints in the area have a northeasterly trend and are vertical.

Stream Geochemistry

A total of 15 sites were sampled for -80 mesh and panned concentrate samples (Enclosures 15 and 21). Most samples were obtained from within the granite. Values of up to 5 ppm copper, 5 ppm lead, 50 ppm zinc, 4 ppm arsenic and 0.9 ppm gold were obtained from -80 mesh and 5 ppm copper, 10 ppm lead, 330 ppm zinc, 4 ppm arsenic, 0.5 ppm silver and 22.6 ppm gold from panned concentrates. Five -80 mesh samples are considered to be anomalous in gold (>0.1 ppm) with numerous others above detection limits. In contrast only one panned concentrate sample returned greater than 20 ppm gold.

80000mE.

81000mE.

44000mN.

5a

7

LEWIS

RIVER

171987

171985/6

171984

216398

216397

216396

216393-5

171981-5

171983

171986

216391/2

216394

216395

171982

171881

216393

216391

216392

43950mN.

80420mE.

JOINT

50

Quartz sulphide vein 5cm wide

80

10m

5 cm

⓪	– | 0.5	– | 1				
	– | 2	– | 1				
	10 | 0.01	15 | 0.1				
⓪	– | 0.5	– | 0.5				
	– | 1	– | 2				
	20 | –	25 | 0.04				
⓪	– | 1	– | 1				
	– | 2	– | –				
	40 | –	35 | .01				
⓪	– | –	– | 0.5				
	– | 2	– | –				
	30 | 0.15	40 | –				
③	– | –	– | –				
	5 | 2	– | 4				
	15 | 0.63	10 | –				

Rock Chip Samples

No.	Cu	Pb	Zn	Ag	As	Au
171980	90	505	610	<0.5	37	0.15
171981	910	675	60	21	25	7.25
171982	1150	395	30	14	21	0.77
171983	30	5	15	<0.5	8	<0.008
171984	20	15	60	<0.5	7	<0.01
171985	20	5	130	<0.5	6	<0.008
171986	45	50	85	<0.5	4	<0.008
171987	15	95	160	<0.5	3	<0.008
216391	590	3700	125	57	<1	0.590
216392	220	255	40	1.0	<1	0.07
216393	530	455	40	1.0	6	0.65
216394	40	<5	50	<0.5	<1	0.05
216395	125	60	20	<0.5	<1	0.04
216396	10	<5	5	<0.5	<1	0.01
216397	5	<5	15	<0.5	<1	0.01
216398	280	135	10	28	19	1.81

CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

ELLIOTT BAY – E.L. 40/85

VOYAGER 6
GEOLOGY

DRAWN BY : R.P.
DRAFTSMAN : T.G.D.S.
DATE : June '87
REVISIONS :
FILE No.

SCALE 1:5000

50 0 50 100 METRES

FIG. 10

This suggests the granite is shedding fine but not coarse gold unlike much of the volcanic sequence. Most anomalous values occur in the westernmost streams sampled (1:10,000 stream sediment maps). This area is interpreted to drain the southern extension of the Osmund Fault Zone. Similarly streams to the west of Voyager 6 which lie within the zone contain anomalous gold (e.g. 0.105 ppm in Geopeko's sampling).

Rockchip Geochemistry

Abundant exposure occurs on the southern bank of the Lewis River. Here 16 rockchip samples were collected. These included a number of 5 m strip samples. Descriptions and results are listed in Table 4. Values of up to 1150 ppm copper, 3700 ppm lead, 610 ppm zinc, 57 ppm silver, 37 ppm arsenic and 7.25 ppm gold were recorded. Anomalous values for all elements occurred within quartz-limonite, gossanous veins within chlorite and sericite altered rhyolite tuff adjacent to granite contacts.

TABLE 4 VOYAGER 6 - ROCKCHIP SAMPLES (PPM)

Sample	Cu	Pb	Zn	Ag	As	Au	Description
171980	90	505	610	<0.5	37	0.15	Pughy chloritic shear in rhyolitic tuffs within 50 m of granite contact
171981	910	675	60	21	25	7.25	Limonitic quartz vein in sericitized rhyolitic tuffs
171982	1150	395	30	14	21	0.77	Limonitic quartz vein in sericitized rhyolitic tuffs
171983	30	5	15	<0.5	8	<0.08	Specular hematite veinlets in sericitized coarse grained granite
171984	20	15	60	<0.05	7	<0.1	Fractured, limonitic, chloritic quartz phyric rhyolitic tuff
171985	20	5	130	<0.5	6	<0.008	Chloritic quartz phyric tuff with finely disseminated magnetite
171986	45	50	85	<0.5	4	<0.008	Same location 171985, massive magnetite
171987	15	95	160	<0.5	3	<0.008	Chloritic quartz phyric tuff with patches of limonite sub/schistocity
216391	590	3700	125	57	<1	0.59	Quartz sulphide vein 297.8 <5 cm wide
216392	220	225	40	1	<1	0.7	Limonitic and quartz veined quartz phyric tuff 5 m chip sample
216393	530	455	40	1	6	0.65	Limonitic and quartz veined quartz phyric tuff 5 m chip sample Resample of 171981 and 171982
216394	40	<5	50	<0.5	<1	0.05	Limonitic and quartz veined quartz phyric tuff 5 m chip sample Resample of 171981 and 171982
216395	125	60	20	<0.5	<1	0.04	Limonitic and quartz veined quartz phyric tuff 5 m chip sample Resample of 171981 and 171982
216396	10	<5	5	<0.5	<1	0.01	Quartz hematite/ magnetite veining on granite/tuff contact

Sample	Cu	Pb	Zn	Ag	As	Au	Description
216397	5	<5	15	<0.5	<1	0.01	Quartz hematite/ magnetite veining on granite/tuff contact
216398	280	135	10	28	19	1.81	Limonitic and quartz veined tuffs 10 m from granite contact

Conclusions

Gold mineralisation occurs in veins within altered volcanic rocks on the margin of granite contacts. Fine gold occurs in -80 mesh samples within the granite in an area which drains the inferred Osmund Fault Zone.

Recommendations

While potential for a sizeable deposit occurring at Voyager 6 itself seems limited, the presence of mineralisation at the granite contact warrants further investigation. The similarity of features (complex magnetics, gold anomalism in streams, rocks and soils) in Voyager 6, part of Penders prospect and Magnetic Anomaly 3, suggest intrusive-related gold mineralisation does occur on the margins of granites at Elliott Bay. More detailed mapping and stream sampling of granite contacts is required.

4.2.2.7 Air Magnetic Anomalies

Porphyry Dolerite Contact

Previous Work

The only ground coverage in this area has been Geopeko's -80 mesh stream sediment geochemistry.

Introduction

This area lies in the far northeastern corner of EL 40/85 in headwaters of the Hudson River.

Interest was initially drawn to the area by several anomalous features:

- air magnetic anomaly associated with a dolerite and possibly underlain by Ordovician Gordon Limestone
- ridge coincident with the eastern Elliott Point Porphyry/dolerite contact interpreted to be silicification
- 230 ppm gold in pan concentrate

With mafic rocks outcropping in the area all samples were additionally assayed for platinum group elements and nickel, cobalt, chromium.

Gridding

A single 800 m long east-west line from the porphyry to just east of the licence boundary was surveyed. The line is partly covered by bedrock soil sampling, magnetics and MAXMIN. Gridding is relatively easy, the area is covered by open heath.

Geology

The prospect is located on a major fault which has been active from early Cambrian until the Tertiary (Figure 11, Enclosure 63). It is locus for:

- Elliott Point Porphyry's intrusive contact with the Precambrian
- Jurassic ? dolerite intrusion
- graben faults controlling Tertiary sedimentation in Macquarie Harbour

There are four main lithological components in the area:

- Elliott Point Porphyry, a medium-coarse quartz feldspar porphyry
- slither of Precambrian phyllite and quartzite between 225 and 300E interpreted to be the original porphyry Precambrian contact
- dolerite, medium grained, probably Jurassic age on the basis of absence of veining and alteration and intrusive contact with Ordovician sediments
- sandstone on eastern end of line mapped as basal Ordovician (see Mines Department 1:250000 Port Davey). These sandstones dip west and the dolerite occupies the Gordon Limestone stratigraphic position.

119073

57000mN.

12

2

△171445 Dolerite

202617
202618
202637

202614
202640

Chloritized shear

6

00

202615
202639

12

202616
202638

Silicified porphyry

?

?

3a

E.L. 40 / 85

56000mN.

87000mE.

88000mE.

89000mE.

Sample Numbers

		Pan Con				−80#			
		202614	202615	202616	202617	202637	202638	202639	202640
Au	ppb	160	24	470	230m	<2	120	880	30
Pf	"	1.0	1.5	1.0	1.0	0.5	0.5	0.5	<0.5
Pd	"	3.5	5.0	4.5	22	2.5	4.0	1.5	2.0
Ru	"	4.0	3.5	3.5	5.0	3.0	4.0	3.0	3.5
Rh	"	1.0	1.5	0.5	1.0	<0.5	0.5	0.5	0.5
In	"	0.5	<0.5	<0.5	1.0	<0.5	<0.5	<0.5	<0.5
Os	"	<2	<2	<2	<2	<2	<2	<2	<2
Cu	ppm	40	20	10	20	<10	<10	20	<10
Pb	"	20	<10	<10	<10	20	20	20	40
Zn	"	70	20	<10	50	20	10	60	10
Ag	"	NA							
As	"	NA							
Ni	"	100	30	30	90	40	20	20	40
Co	"	40	<10	<10	40	<10	<10	<10	<10
Cr	"	340	210	140	330	60	110	60	130

m Denotes ppm for this sample
NA No analysis

5 cm

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ELLIOTT BAY – E.L. 40/85

PORPHYRY DOLERITE CONTACT

GEOLOGY

DRAWN BY : R.P.
DRAFTSMAN : T.G.D.S.
DATE : June '87
REVISIONS :
FILE No.

SCALE 1:10 000 100 0 100 200 METRES

FIG 11

Stream Geochemistry

Four stream sediment and pan concentrate sample sites were taken immediately downstrean from the porphyry/dolerite contact. Stream detritus is predominantly derived from the porphyry. Analytical details are presented on Figure 11. A pan concentrate sample (202617) contains anomalous gold and possibly anomalous palladium (230 ppm and 22 ppb respectively). An anomalous -80 mesh at 202639 contains 0.88 ppm gold with 0.47 ppm gold in pan concentrate at the same site. This could be viewed with suspicion as the concentrates usually return higher values than -80 mesh. The significance of the platinum group elements is difficult to assess due to small data base to work from in the Elliott Bay and Cape Sorell licences.

Soil Geochemistry

B/C-horizon soils have been sampled at 25 m spacings between 0 and 375E covering the porphyry, Precambrian and dolerite contacts. Samples were assayed for copper, lead, zinc, silver, arsenic, gold but not platinum group elements. All gold and silver are below detection limits. Base metals are slightly elevated on the porphyry/phyllite contact and chloritic clay zone between phyllite and dolerite. Base metals are less than 100 ppm.

Recommendations

No further work is recommended.

Magnetic Anomaly 1

A traverse line, 8800N was extended eastward from the Lewis River grid. Magnetic intensity readings were taken every 25m. The centre of the anomaly occurred at 11000E. Short traverses north and south were impeded by dense bush. The centre of the anomaly appears to be south of Line 8800N and probably occurs along the contact between porphyry and rhyolitic tuffs. Soil samples were collected along Line 8800N and one sample was collected at 8720N:11000E. No anomalous geochemical values were recorded (Figure 12).

Intensely chlorite altered rhyolitic tuff was encountered on and to the west of the anomaly centre. A large quartz outcrop coincident with the anomaly suggests it may be a fault related feature. The source of the magnetic anomaly has not been explained as no significant sulphide or magnetite was discovered.

Recommendations

Line cutting and gridding to the south of Line 8800N is recommended in order to obtain coverage of the anomaly and porphyry contact.

Magnetic Anomaly 2

Four traverse lines totalling 1.1 line km were completed over this anomaly accurately locating its centre of 200 nT. The anomaly occurs over coarse grained rhyolitic quartz crystal tuffs containing minor quartz veins which are orientated approximately north-south.

075

85000mE.

86000mE.

45000mN.

44000mN.

43000mN.

8800N

1100E

LEWIS RIVER GRID

5a

5g

6

216347

⑫	– | –	– | 1		
	– | 2	– | 2		
	10 | –	20 | 18.3		
⓪	– | –	– | –		
	15 | 3	10 | 2		
	5 | 0.06	10 | –		
⑫	– | –	– | –		
	10 | 2	– | 1		
	10 | 6.6	10 | 0.03		
⑪	– | –	– | –		
	– | 2	15 | 13		
	10 | –	60 | 4.6		
②	– | –	5 | –		
	5 | 2	– | 2		
	5 | 1.2	20 | 1.16		
⑬	– | –	– | –		
	– | 3	– | 2		
	10 | 8.9	70 | –		
③	– | –	– | –		
	– | 2	5 | 2		
	15 | –	5 | 0.7		
㉓	– | –	– | –		
	– | 1	– | 3		
	– | –	15 | 25		

LINE 8800N

119076

Cu ×
Pb +
Zn ⊙

ppm

100
50

216346 216345 216344 216343 216342 216341 216340 216339

SOIL SAMPLE NUMBERS

As

ppm

3
2
1
0

Ag RESULTS <0.5
Au RESULTS <0.1

As ×

10925E 10950E 10975E 11000E 11025E 11050E 11075E 11100E 11125E

62734 62734 62734 62734 62734 62734 62734 +804 +820 +839 +857 +867 +882 +897 +914 +939 +982 63288 62734 62734 62734 62734 62734 62750nt

216347
10 | –
15 | 2
65 | –

VERTICAL SCALE 1cm = 25nt
HORIZONTAL SCALE 1:2000

5 cm

× SOIL SAMPLE LOCATIONS

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ELLIOTT BAY – E.I. 40/85

MAGNETIC ANOMALY

1

DRAWN BY : R.H.
DRAFTSMAN : T.G.D.S.
DATE : June '87
REVISIONS :
FILE No.

SCALE 1:10,000 100 0 100 200 METRES

FIG. 12

Soil samples collected over the anomaly centre were generally disappointing with only one sample above detection limit in gold (0.06 g/t gold, Figure 13).

The magnetic anomaly has been well located, however the magnetic source appears to be quite deep. There is no surface explanation for anomaly.

Recommendations

No further work is warranted due to the depressed soil geochemistry.

Magnetic Anomaly 3

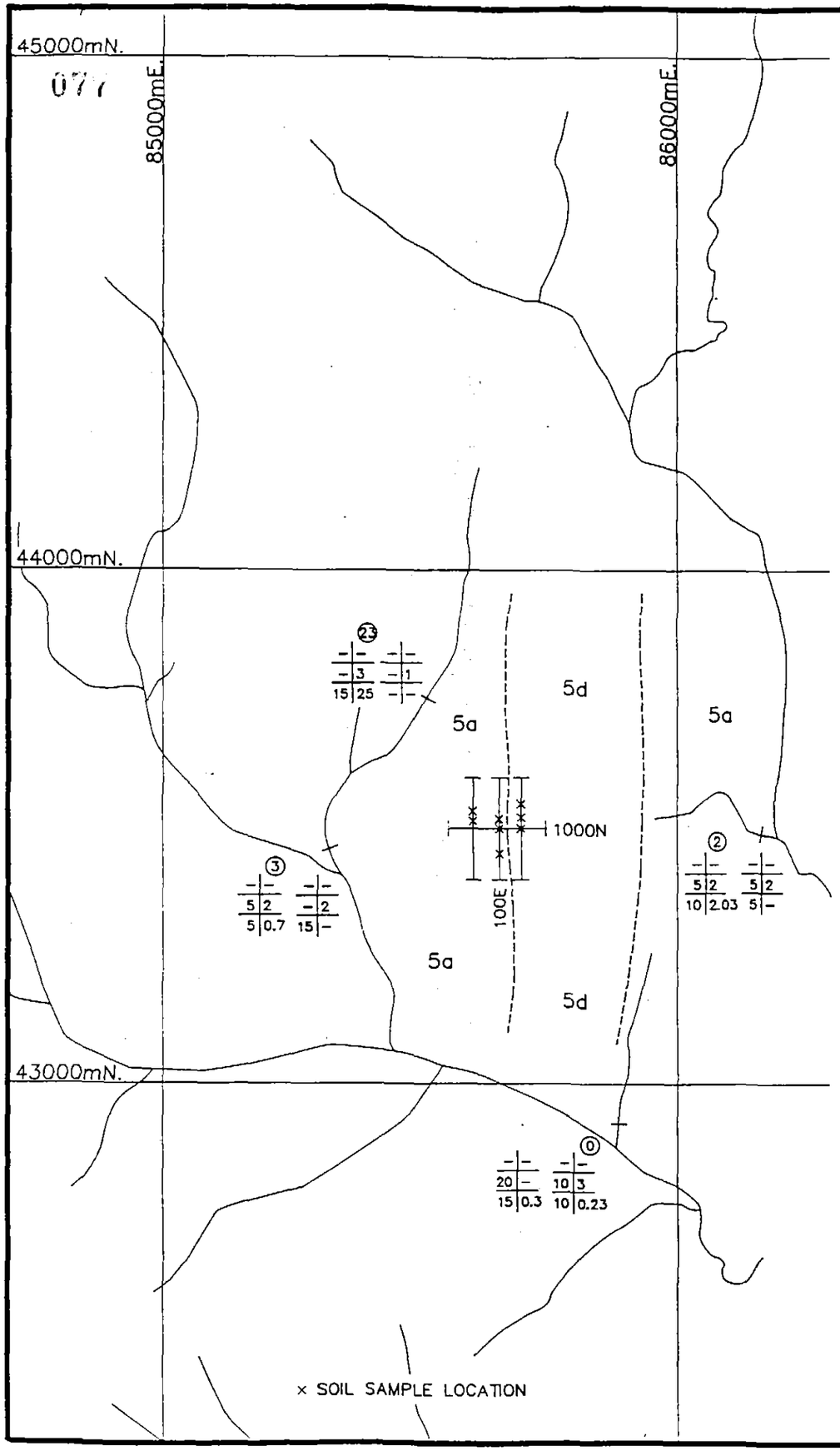
Six traverse lines totalling 2.1 line km were completed and delineated a 150 nT anomaly centred at 350S:225E. This anomaly occurs within granite approximately 100 m from its contact with rhyolitic tuff. Soil samples were collected along line 350S over the centre of the anomaly. Anomalous soil results were obtained at the eastern end of the line (5100 ppm copper, 98 ppm lead, 10 ppm arsenic and 0.03 g/t gold). The source for this appears to be the contact between the granite and rhyolitic tuffs (Figures 14 and 15).

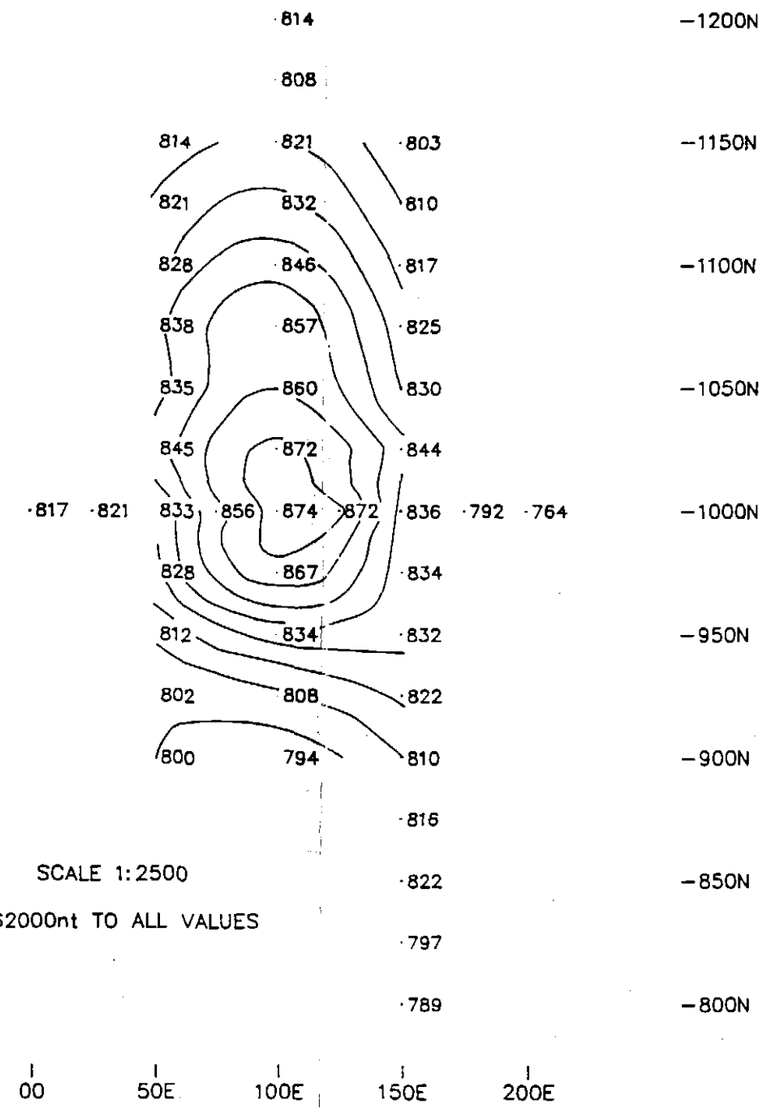
The magnetic anomaly appears to be deep (>100 m) and may occur at the granite tuff contact. This would suggest the contact dips to the southwest. Coincident magnetic and soil geochemical anomalies may indicate the presence of mineralisation at depth.

Recommendations

Detailed soil sampling and ground magnetics are required over the anomalous contact zone.

119078





Soil Sample Results

No.	Location	Cu	Pb	Zn	Ag	As	Au
216348	1025N 50E	10	10	25	–	–	–
216349	1050N 50E	10	–	25	–	1	–
216350	1025N 100E	10	–	15	–	–	0.06
216401	950N 100E	5	20	25	–	1	–
216402	1000N 150E	5	5	15	–	1	–
216403	1025N 150E	5	15	20	–	–	–
216404	1050N 150E	5	15	25	–	–	–

5 cm

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ELLIOTT BAY – E.L. 40/85

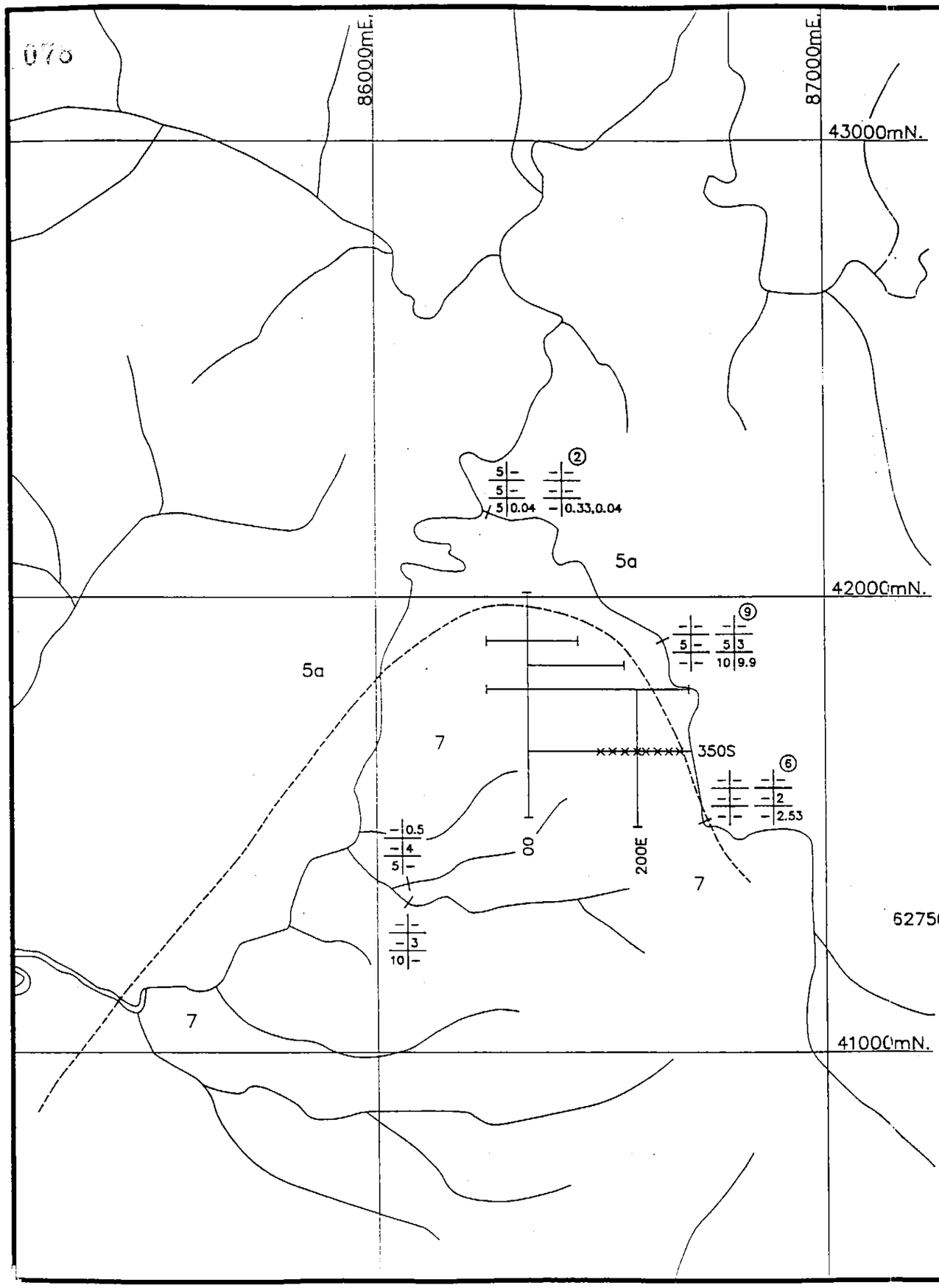
MAGNETIC ANOMALY 2

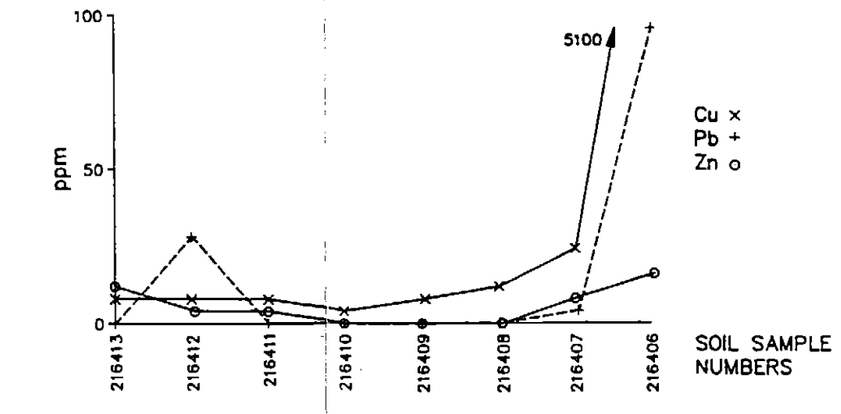
DRAWN BY : R.H.
DRAFTSMAN : T.G.D.S.
DATE : June '87
REVISIONS :
FILE No.

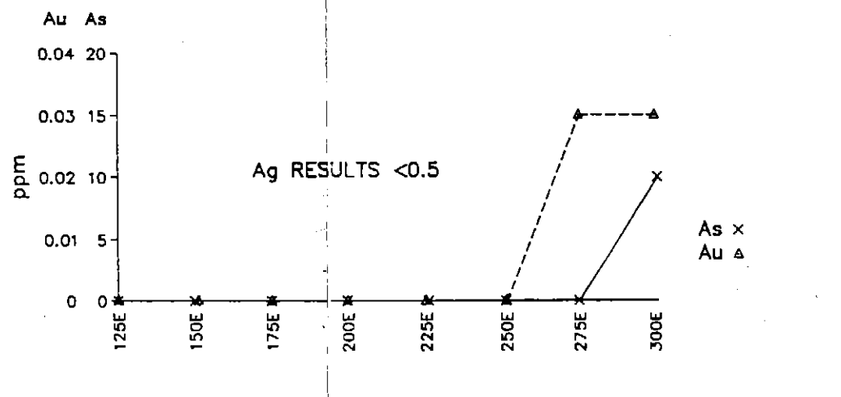
SCALE 1:10,000 100 0 100 200 METRES

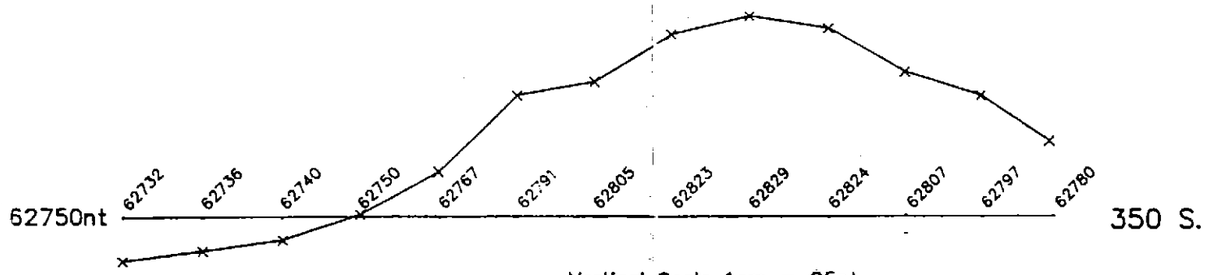
FIG. 13

119079









Vertical Scale 1cm = 25nt
Horizontal Scale 1 : 2000

5 cm

× Soil Sample Locations

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ELLIOTT BAY – E.L. 40/85

MAGNETIC ANOMALY

3

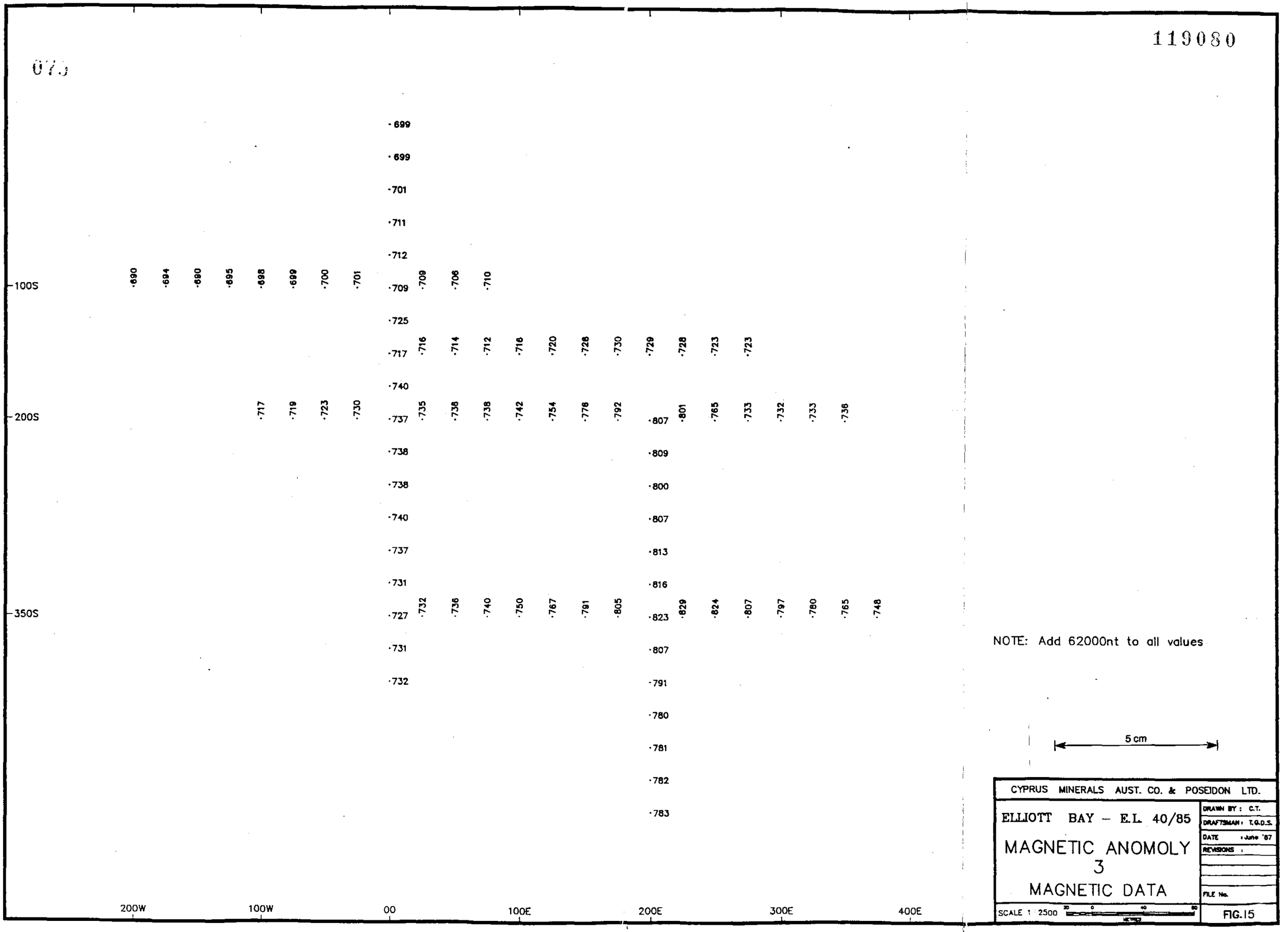
DRAWN BY : R.H.
DRAFTSMAN : T.G.D.S.
DATE : June '87
REVISIONS :
FILE No.

SCALE 1:10,000 100 0 100 200 METRES

FIG. 14

119080

07.3


100S
200S
350S
200W
100W
00
100E
200E
300E
400E
690 694 680 695 698 699 700 701
699 699 701 711 712 709 706 710 725 717 716 714 712 716 720 726 730 729 728 723 723 740 737 717 719 723 730 735 738 738 742 754 776 792 807 801 765 733 732 733 736 738 740 737 731 732 736 740 750 767 791 805 809 800 807 813 816 823 829 824 807 797 780 765 748 807 791 780 781 782 783
NOTE: Add 62000nt to all values
5 cm
CYPRUS MINERALS AUST. CO. & POSEIDON LTD.
ELLIOTT BAY – E.L. 40/85
MAGNETIC ANOMOLY 3
MAGNETIC DATA
DRAWN BY : C.T.
DRAFTSMAN : T.G.D.S.
DATE : June '87
REVISIONS :
FILE No.
SCALE 1 : 2500
FIG. 15

Magnetic Anomaly 5

Previous Work

The area was covered by Geopeko's regional stream geochemistry and mapping.

Introduction

This small magnetic anomaly is located on the west bank of the Hudson River at 5 252 300N:385 300E (Enclosure 23). The anomaly has been located on the ground with one 400 m long line.

Geology

Rhyolitic to dacitic volcanics forming part of the Wart Hill and Hudson River volcanics outcrop along the grid line (Figure 16). These volcanics include:

- volcaniclastics, fine to medium grained with occasional clasts <150 mm, chloritized
- lava-ignimbrites, fine to medium grained, 325 to 400E

The intrusive contact between these volcanics and the Elliott Point Porphyry is located 400 m to the east. 100 m south of the line a remnant of Tertiary gravels is perched on a hill top.

Magnetics

Magnetics were recorded at 10 m intervals along the line (Enclosure 64) the anomaly peaking at 62808 nT over dacite lavas and ignimbrite at 350E. No magnetic minerals were located.

85000mE.

86000mE.

87000mE.

53000mN.

52000mN.

51000mN.

5

5

6

6

5

5

1

Ferricrete

5 | –
25 | 310
275 | –

0 | 70
5d
5a
400E
5a

RIVER

Lavaf quartz biotite phyric

HUDSON

⑦
– | –
– | 1
10 | –

– | –
– | 1
10 | 45

⑳
5 | –
– | 1
15 | –

– | 1.5
– | –
10 | 37.7

⑳
5 | –
– | 1
15 | –

– | 2
– | –
10 | 89.33

⓪
– | –
– | –
– | –

5 | 3
10 | 0.03

⓪
– | –
– | 3
– | –

⓪
10 | 3
5 | –

10 | –
5 | –

5 cm

CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

ELLIOTT BAY – E.L. 40/85

MAGNETIC ANOMALY 5
GEOLOGY

DRAWN BY : R.P.
DRAFTSMAN : T.C.D.S.
DATE : June '87
REVISIONS :
FILE No.

SCALE 1:10,000 100 0 100 200 METRES

FIG.16

Geochemistry

-80 mesh and pan concentrate stream samples were collected as part of the volcanic/porphyry contact sampling program (Enclosure 64). Base metals were all below 20 ppm and 89.33 ppm gold occurs in a panned concentrate from a stream with Tertiary gravels in its drainage. Soil and rockchip samples were taken at 25 m intervals along the line unless the quartz lag cover was too thick to penetrate by auger. Copper, lead, zinc values were all less than 50 ppm with the exception of one zinc value of 100 ppm. Gold values were all below 0.01 ppm. A ferricrete deposit located 300 m downstream from the line assayed 275 zinc and 310 arsenic. The source may be a chloritic volcaniclastic at 100E.

Recommendations

No further work is recommended.

4.3 To June 1988

4.3.1 **Regional Exploration**

Air Photo and Magnetic Lineament Interpretation

A structural/air photographic interpretation last season defined 3 categories of lineament. These are:

- major lineaments with appreciable topographic expressions and/or lateral extent which are interpreted to be major faults. The most important of these were the Osmund, Lewis River and Copper Creek Faults

- Significant lineaments with moderate topographic expression and restricted lateral extent. These are interpreted to be faults, bedding, schistosity and/or joints. These features often display sympathetic orientations to major lineaments.

- Form lineaments which have significant topographic expression but are clearly stratigraphic features (bedding) or in some places can be attributed to schistosity.

Work during 1988 on computer processed magnetic images was undertaken by Mitre Geophysics (Appendix 7). Magnetic lineaments were defined and superimposed on photographic lineament map (Enclosure 3a). Features are discussed below in relation to geologic domains outlined on Enclosure 1.

Late Cambrian Ordovician Rocks of the Mt Osmund Syncline

Even though relatively young axial planar northeast-trending lineaments have been recognised in these rocks no magnetic lineaments occur.

The above features have been interpreted as Devonian and Tertiary structural features respectively.

Western Epiclastics

North-south trending magnetic lineaments in this domain are a response to stratigraphic features. Basaltic, andesitic and gabbroic rocks with high magnetic susceptibilities trend north-south. Two other magnetic lineament orientations are observed.

- North-northwest Orientation - in the southern part of this domain these do not appear to be related to any photographic lineaments. To the north major lineaments interpreted to be Tertiary in age lie subparallel to but distal from magnetic lineaments

- North-northeast Orientation - one lineament occurs in the northwest corner of the tenement and is interpreted to be related to a fundamental crustal discontinuity similar to those outlined below

Cambrian Intrusives and Felsic Volcanics

This domain includes all rocks not covered in the first two domains but excludes Precambrian and Jurassic rocks. It is clearly the most structurally complex domain and to date, holds the greatest economic potential within the tenement.

- North-northwest to North and Northeast to North-northeast Trends - These lineaments form conjugate-like sets in which the acute angle of intersection is between 50 and 75°. A number of these lineaments traverse the boundary between Cambrian volcanic rocks and Late Cambrian-Lower Ordovician rocks of the Mt Osmund Syncline at the southern apex of the Mt Osmund Syncline and in the Wart Hill area these magnetic lineaments lie subparallel and in close proximity to the Osmund Fault and its accompanying splays. North-northeast and north-northwest trends are both represented by the Osmund Fault (because it bends immediately west of the Waterloo Creek Prospect), and both trends have accompanying magnetic lineaments.

Further to the south these magnetic lineaments lie parallel to major and significant structural features within the Low Rocky Point Granite.

One magnetic linear extends from the Drake Creek Prospect northward in a large arc to the Lewis River Prospect. Its curvature is similar to that of the Osmund Fault except that its concave surface lies to the east.

These magnetic lineaments are interpreted to represent fundamental, possibly long lived, crustal discontinuities similar to that of the Osmund Fault. As such they represent zones of potential fluid migration, alteration and mineralisation.

Intersection of magnetic linears and/or other structural features are of exploration interest. Bishop (1988) has outlined exploration targets on the basis of magnetic data (Appendix 7).

- Northwest Trend - One major magnetic linear has the above trend. It extends from Wart Hill to the southeast and appears to truncate north-northeast-trending linears. Because of its similar orientation it is possible this feature is related to graben formation in the Tertiary.

Cambrian-Precambrian Contact

In this zone magnetic lineaments broadly follow major photographic features from south to north. At the northeastern corner of the licence, both linear types tend to swing northwestward and lie parallel to the southwestern margin of the Tertiary Macquarie Graben. At the Porphyry-Dolerite Contact prospect in the northeastern part of the tenement, a major magnetic lineament follows an elongate Jurassic dolerite outcrop.

Conclusion

Interpretation of orientations of magnetic and photographic lineaments and geological data suggest magnetic lineaments may be explained by:

- Stratigraphic features
- Structural features

Conjugate-like sets of northwest to north and northeast to north-northeast magnetic lineament are considered to represent fundamental structural discontinuities. These may have been active during Cambrian volcanism, Ordovician sedimentation and Devonian deformation. Because of their relationship to known mineralised structures, they are considered potential exploration targets.

4.3.2 Prospect Evaluation

4.3.2.1 Low Rocky Point

The Low Rocky Point prospect area lies in the southwestern corner of EL 40/85. It encompasses a number of old Geopeko prospects (Voyager 1, 3A, 5, 6 and 11) on the western, eastern and northern margins of the Low Rocky Point Granite. Work on the Voyager 1 to 5 area (referred to jointly as Penders Prospect) and Voyager 6, was undertaken in the 1986-87 field season. Results from rockchip and stream geochemical samples and the occurrence of favourable geology and alteration were considered to be encouraging with respect to potential gold mineralisation.

Gold occurs in streams, both on the margins, and within the Low Rocky Point Granite. Values of up to 1.07 g/t gold were returned from -80 mesh sediment samples. In panned concentrates results of up to 365.5 g/t gold were obtained and gold grain counts of up to 50 were recorded.

At Voyager 6, narrow quartz-sulphide veins returned up to 7.25 g/t gold in rockchip samples. It was concluded the margins of Cambrian granites at Elliott Bay were prospective and that more work was required in order to isolate anomalies.

This field season, work was designed to test gold anomalies in streams on the western margin of the granite (Western Contact). Further stream sampling was also undertaken on the eastern side of the granite (Eastern Contact). Field work included:

- Re-establishment of old Geopeko grid (total of 1.9 km)
- B/C horizon soil sampling at 25 m intervals
- Collection of drainage samples on the eastern side of the granite (total of 11 sites).

Western Contact

Geology

Rhyolitic volcanic rocks of Cambrian age (the Western Epiclastics) have been intruded by the Low Rocky Point Granite also of Cambrian age. The contact between the two is sheared and trends north-south (Enclosure 29). Both the volcanic and intrusive rocks are interpreted to be transected by the Osmund Fault.

Chlorite alteration is observed on both sides of the contact and chlorite-magnetite alteration occurs where rocks are cut by the Osmund Fault. Veins of quartz which contain pyrite and arsenopyrite occur at Voyager 5. Quartz-pyrite veins with minor bornite and chalcopyrite are observed within volcanic rocks at granite contacts. These contain blebs of chlorite and have well developed chlorite-pyrite alteration halos.

Gridding

Three lines were established over the headwaters of the anomalous drainage immediately east of Penders Prospect (Enclosure 29). Another line was established further to the south and covered the granite contact. Time constraints curtailed further work.

Soil Geochemistry

Outcrop in the area is minimal. Hand-auger samples were collected from a well developed soil profile within the B/C horizon. Results for base metals were generally disappointing but some lines display gold anomalism (Enclosures 30 to 33).

Geochemical ranges are <5 to 35 ppm copper, <5 to 15 ppm lead, <5 to 45 ppm zinc, <1 to 4 ppm arsenic and <0.008 to 0.07 g/t gold. Zones of interest are:

- The extreme western end of Line 11600N where two gold anomalies occur (0.03 and 0.07 g/t gold)

- Line 11400N from 10525 to 10875E. Here spiky, anomalous gold values occur in soils (up to 0.06 g/t gold) immediately adjacent to, and upstream from the highly anomalous stream sample (50 gold grains and 365.5 g/t gold in panned concentrates and 0.16 g/t gold in -80 mesh sediment). There is no concomitant base metal response to this zone.

Eastern Contact

Geology

The Low Rocky Point Granite is in contact with rhyolitic volcanic rocks of the Wart Hill and Hudson River Volcanic Sequence. From the coastline at Elliott Bay for 2 km in a north-northwest direction the contact is faulted. At Elliott Bay volcanic rocks on the coastal outcrop are hornfelsed and highly sheared. At the contact they are silicified, locally carbonate altered, contain abundant quartz stockworks and minor hematite-pyrite-quartz veins.

Adjacent to the contact the granite is highly sheared, foliated and brecciated. Quartz-pyrite-specular hematite veins are common.

At the headwaters of the stream draining the contact volcaniclastic rocks contain patchy chlorite alteration. Outcrop is extremely poor in this area due to a cover of quartz pebble Tertiary gravels.

Stream Geochemistry

A total of 11 sites were sampled. At each site two pans of bed load gravel were panned to a concentrate. Visible gold grains were counted, but the material was not assayed. In addition up to 100 g of -80 mesh material was collected for assay. Results are shown on Enclosure 29.

Of the eleven samples collected seven returned values above detection limits (0.008 g/t gold) and four samples returned values greater than 0.10 g/t gold. The best value was 0.57 g/t gold (sample 292798).

It appears fine gold is responsible for the above anomalies since no anomalous gold was recognised in panned samples (best grain count was one).

Inspection of anomalous sites proved fruitless as little or no outcrop occurs. One possible source of gold may be Tertiary gravels encountered at the head of the anomalous drainings. Results to date are inconclusive.

Rockchip Geochemistry

A total of nine samples were collected. Descriptions and results are outlined below:

Sample	Cu	Pb	Zn ppm	As	Au	Description
292247	<5	<5	<5	2	0.680	Quartz-pyrite-specular hematite vein
293501	<5	10	50	<1	0.005	Silicified fine volcanic-lastic with quartz-carbon-ate-pyrite-hematite veins
293502	5	85	125	20	<0.005	Quartz vein
293503	5	<5	130	13	<0.005	Quartzose, hematite veined hornfelsed tuff
293504	5	5	180	1	<0.005	Quartz-specular hematite vein
293505	35	125	45	3	<0.005	Quartz stockwork in felsic tuff
293506	5	<5	5	<1	<0.005	Specular hematite, pyrite, chlorite-bearing foliated granite
293507	<5	<5	5	<1	<0.005	Granite breccia with specular hematite matrix
293508	5	<5	5	3	0.040	Quartz-specular hematite-pyrite-sericite vein

Best results were obtained from veins, for example 0.68 g/t gold in sample 292247

Conclusions and Recommendations

Western Contact

. Gold occurs in soil on Line 11400N. Gridding, soil sampling and geological mapping is required in order to expand on this one line anomalous zone

Eastern Contact

- Anomalous gold occurs in -80 mesh sediment samples along this contact. Anomalous gold also occurs in pyrite-quartz-hematite veins

- Detailed stream sampling is required to further delineate gold anomalies

4.4 To June 1989

All work completed in the reporting year was undertaken within the retained area.

4.5 To December 1990

No field work was undertaken during the period July 1989 to December 1990 pending the outcome of negotiations between the existing joint venture partners and the incoming partner Aberfoyle.

4.6 To December 1991

4.6.1 **Airborne EM Survey**

The southern extent of the Mount Read Volcanics at Elliott Bay have been extensively explored by Geopeko and Cyprus/Poseidon over the last decade. The discovery of what appears to be massive sulphide rafts and clasts at Wart Hill, emphasise that suitable conditions for the formation of massive sulphides have occurred in this part of the belt. The restricted amount of deep search EM used in exploration and the numerous VMS type mineral occurrences have encouraged further exploration.

The low relief and lack of tall vegetation combine to make this one of the few areas in Tasmania which are suitable for surveying by the new generation of airborne EM techniques.

To exploit this opportunity Aerodata of Perth W.A. were commissioned to fly a QUESTEM airborne EM survey over the prospective volcanics at Elliott Bay. The objective of this exploration was to locate conductive targets at depths greater than 100m. Previous airborne EM surveys such as Dighem effectively penetrated only to that depth.

The survey specifications are listed below:

Aircraft	- Britten Norman Trislander
Magnetometer	- Split beam Cesium Scintrex V201
Resolution	- 0.1 nanoTesla
Cycle rate	- 0.5
Sample interval	- 25
Electromagnetics	- Questem Time Domain EM
Receiver	- Horizontal axis coil in towed bird
Transmitter	- 75 Hz
Cycle rate	- 0.25 seconds

Sample interval	- 12m
Data acquisition	- 11 channel RMS GR33A Chart Recorder - Picodas Digital Acquisition System
Traverse line spacing	- 200 metres
direction	- 090 - 270 degrees
Mean terrain clearance	- 120 metres
Navigation	- Visual from planned flight strips

Flight path recovery onto AMG controlled photographs

The flight line diagram for the relinquished area is shown as Plate EB 9.

The data is provided in digital format on magnetic tape.

No anomalies attributable to bedrock conductors were interpreted from the data in the relinquished area.

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119101

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EXPLORATION DIVISION

VOLUME 2

APPENDICES 1 - 7

OPEN FILE

91-3320.
MINES
File Ref. E.L. 40/85
23DEC1991
Doc. Ref.
Action Officer | Initials
REFER TO
CORRES 20.12.91
FOLIO 32
Resubmit to | Date

91-3320.
VOL 2/4

119102

APPENDIX 1

PRELIMINARY INTERPRETATION OF THE ELLIOTT BAY DIGHEM SURVEYS. MITRE GEOPHYSICS JANUARY 1986

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ANALABS

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04189	05/03/87	E 00252	8 OF 16

TUBE No.	SAMPLE No.	Cu	Pb	Pb	Zn	Ag	Ag	As	Au	Au
1	[redacted]									-
2	[redacted]									-
3	171472	35	20	-	65	1.0	-	4	<0.008	-
4	171473	10	5	-	45	1.0	-	9	<0.008	-
5	171474	<5	10	-	20	<0.5	-	1	<0.008	-
6	171292	45	30	-	25	1.0	-	5	-	<0.005
7										
8										
9										
10										
11										
12										
13										
14										
15										
17										
18										
19										
20										
21										
22										
23	DETECTION	5	5	25	5	0.5	2	1	0.008	0.005
24	UNITS	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM
25	METHOD	101	101	104	101	101	104	114	309	313

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
	7.5.08.04189	05/03/87	E 00252	9 OF 16

TUBE No.	SAMPLE No.	AuRpt									
1	171282	–									
2	171283	–		Rock Chip							
3	171284	–									
4	171285	–		Western Coastline							
5	171286	–									
6	171287	–									
7	171288	–									
8	171289	–									
9	171290	–									
10	171291	–									
11	[redacted]										
12	171430	–									
13	171431	–		Rock Chip	Line 5	Wanderer South.					
14	171432	–									
15	171434	–									
	171435	–		Rock Chip	Voyager 28.						
17	171436	–									
18	171762	–									
19	171763	–									
20	171764	–		Soil	Samples						
21	171765	–									
22	171766	–		Voyager 12.							
23	171767	–									
24	171768	–									
25	171769	–									

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
	7.5.08.04189	05/03/87	E 00252	10 OF 16

TUBE No.	SAMPLE No.	AuRpt
1	171770	-
2	171771	<0.008
3	171772	-
4	171773	-
5	171774	-
6	171775	-
7	171776	-
8	171777	-
9	171778	-
10	171779	-
11	171780	-
12	171781	-
13	171782	-
14	171783	-
15	171784	-
	171785	-
17	171786	-
18	171787	-
19	171788	-
20	171789	-
21	171790	-
22	171791	-
23	171792	-
24	171793	-
25	171794	<0.008

Soil Samples.

Voyager 12

↑

↓

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
	7.5.08.04189	05/03/87	E 00252	11 OF 16

TUBE No.	SAMPLE No.	AuRpt
1	171795	–
2	171796	–
3	171797	–
4	171798	–
5	171799	–
6	171800	–
7	171801	–
8	171802	–
9	171803	–
10	171804	<0.008
11	171805	–
12	171806	–
13	171807	–
14	171808	–
15	171809	–
	171810	<0.008
17	171811	–
18	171812	–
19	171813	–
20	171814	<0.008
21	171815	–
22	171816	–
23	171817	–
24	171818	–
25	171819	–

↑
Soil
Samples
Voyager 12.
↓

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
	7.5.08.04189	05/03/87	E 00252	12 OF 16

TUBE No.	SAMPLE No.	AuRpt
1	171820	–
2	171821	–
3	171822	–
4	171823	–
5	171824	<0.008
6	171825	–
7	171826	–
8	171827	–
9	171828	–
10	171829	–
11	171830	–
12	171831	–
13	171832	–
14	171833	–
15	171834	<0.008
	171835	–
17	171836	–
18	171837	–
19	171838	–
20	171839	–
21	171840	–
22	171901	–
23	171902	–
24	171903	–
25	171904	–

Soil Samples

Voyager 12.

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
	7.5.08.04189	05/03/87	E 00252	13 OF 16

TUBE No.	SAMPLE No.	AuRpt
1	171905	<0.008
2	171906	–
3	171907	–
4	171908	–
5	171871	–
6	171872	–
7	171873	–
8	171874	–
9	171875	–
10	171876	<0.008
11	171877	–
12	171878	–
13	171879	–
14	171880	–
15	171881	–
	171882	–
17	171883	–
18	171884	–
19	171885	–
20	171886	–
21	171887	–
22	171888	–
23	171889	–
24	171890	–
25	171891	–

Soil Samples
Voyager 12.

Soil Samples
Line 5

Wanderer South.

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
	7.5.08.04189	05/03/87	E 00252	14 OF 16

TUBE No.	SAMPLE No.	AuRpt									
1	171892	–									
2	171893	–									
3	171894	–									
4	171895	–			Soil	Samples					
5	171896	<0.008									
6	171897	–									
7	171898	–			Line 5						
8	171899	–									
9	171900	–			Wanderer	South.					
10	171422	–									
11	171423	–									
12	171424	–									
13	171425	–									
14	171426	–									
15	171427	<0.008									
	171428	–									
17	171429	–									
18	171477	–	Panned		Concentrate		Voyager 28				
19	171478	–	Panned		Concentrate		Wanderer South.				
20	171479	–									
21	[redacted]										
22	[redacted]										
23	171482	–	Panned		Concentrate		Wanderer South.				
24	171483	–									
25	171484	–									

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
	7.5.08.04189	05/03/87	E 00252	15 OF 16

TUBE No.	SAMPLE No.	AuRpt	
1	171485	-	Panned Concentrate Line 5 Wanderer South.
2	171293	<0.008	
3	171294	-	
4	171295	-	Panned Concentrate
5	171296	-	
6	171297	-	Voyager 6
7	171298	-	
8	171299	-	
9	171300	-	
10	171999	0.030	
11	172000	-	
12	171951	-	
13	171952	-	
14	171953	-	-80# Stream Sediment
15	171954	-	Samples
	171955	-	
17	171956	-	Voyager 6
18	171957	-	
19	171958	-	
20	171959	<0.008	
21	171960	-	
22	171466	-	-80# Stream Sediment Samples
23	171467	-	Line 5
24	171468	-	Wanderer South.
25	171469	-	

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
	7.5.08.04189	05/03/87	E 00252	16 OF 16

TUBE No.	SAMPLE No.	AuRpt									
1	[redacted]										
2	[redacted]										
3	171472	-	-80# Stream Sediment Samples								
4	171473	-	Wanderer South.								
5	171474	<0.008									
6	171292	-	Rock Chip South Penders.								
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23	DETECTION	0.008									
24	UNITS	PPM									
25	METHOD	309									

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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TLX: AA 59224

ANALYTICAL REPORT No. 7.5.08.04053

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

ORDER No.	PROJECT
E [illegible]	DN 3451

DATE RECEIVED	RESULTS REQUIRED
08/12/86	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
6	[illegible]	1	132

REFER BELOW	SAMPLE NUMBERS	PRE-TREATMENT: DRY	CRUSH	SPLIT	PULVERISE	SIEVE	OTHER SEE REMARKS	NONE	ANALYSIS: REFER TO ANALYSIS SECTION	PREPARATION	METHOD
	171151/275	60	Prep: 900,916						Cu,Pb,Zn,Ag/101,As/114		
	171151/275	60							Au/329,As/Sb/Bi		
	180537/43	60	Prep: 900,909,916,917,918						Cu,Pb,Zn,Ag/101,As/114		
	180537/43	60							Au/313		

RESULTS TO

[illegible]

RESULTS TO

[illegible]

REMARKS

STATE OF SAMPLES		ANALYSIS — PREPARATION				ANALYSIS — METHOD	
[illegible]ole core	WC	perchloric acid	A1	cold acid	CA	atomic absorbtion	AAS
[illegible]plit core	SC	hydrochloric acid	A2	specific sulphide	SS	x-ray fluorescence	XRF
[illegible]utting	CU	nitric acid	A3	other mixed acids	Ma	spectrophotometry	SPEC
[illegible]ack	Ro	aqua regia	A4	alkaline attack	AA	colorimetry	COL
[illegible]il	SO	nitric-perchloric	A5	volatilization	VO	chromatography	CHR
[illegible]ip	PU	HF mixture	A6	ignition	IG	titration	TTN
[illegible]ater	WA	HF under pressure	A7	pressed powder (XRF)	PP	other chemicals means	CHEM
[illegible]issue	TI	fusion	A8	glass fusion (XRF)	GF	miscellaneous	MISC
[illegible]stream sediment	SS					fluorescence	FLUOR
[illegible]avy mineral	HM					inductively coupled plasma	ICP

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04053	17/12/86	E 19310	1 OF 6

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	As	Au	Au		
1	171151	5	15	15	<0.5	2	-	<0.01		
2	171152	<5	<5	5	0.5	1	-	<0.01		
3	171153	<5	5	5	<0.5	1		<0.01		
4	171154	<5	25	60	<0.5	7	-	0.02		
5	171155	5	60	70	0.5	11	-	<0.01		
6	171156	<5	5	15	<0.5	2		<0.01		
7	171157	5	10	15	<0.5	1	-	<0.01		
8	171158	5	35	10	1.0	1	-	<0.01		
9	171159	15	120	170	0.5	1	-	<0.01		
10	171160	10	90	170	<0.5	6	-	<0.01		
11	171161	10	65	1150	<0.5	21	-	<0.01		
12	171162	5	130	1150	<0.5	27	-	<0.01		
13	171163	5	35	1150	<0.5	21		<0.01		
14	171164	5	15	25	<0.5	11		<0.01		
15	171165	<5	<5	10	<0.5	7		<0.01		
16	171166	5	110	525	1.0	61		<0.01		
17	171167	5	25	70	0.5	27		<0.01		
18	171168	5	5	10	<0.5	1		<0.01		
19	171169	5	5	30	<0.5	5		<0.01		
20	171170	5	30	855	<0.5	13		<0.01		
21	171171	<5	45	260	<0.5	18		0.01		
22	171172	25	410	8700	4.5	94		<0.01		
23	171173	5	120	1050	0.5	66		0.01		
24	171174				<0.5	14		<0.01		
25	171175	5	45	70	<0.5		-	<0.01		

Samples. Soil 19 Voyager

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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PRELIMINARY INTERPRETATION

OF THE ELLIOTT BAY AND MUDDY COVE DIGHEM SURVEYS.

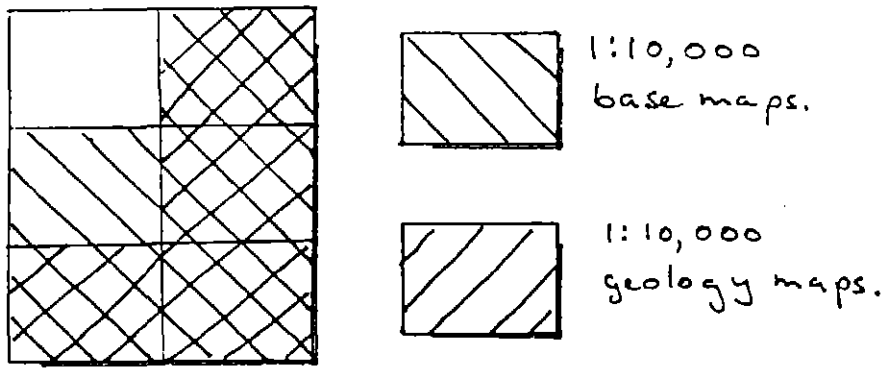
The Dighem surveys of Elliott Bay and Muddy Cove were completed on the 19th January, 1986. Processing of the data is expected to take about two months. Since some follow up is desired this field season, a preliminary interpretation has been made of both areas.

The preliminary interpretation was carried out by picking responses from the analog records and positioning these on to the aerial photographs (enlarged to approximately 1:10,000 scale). (The locations were mostly made using the navigator's in-flight positioning: some of these will be in error, particularly on the western side of the Elliott Bay survey where there are few landmarks.)

The responses were graded into three categories according to their conductances. On the photographs, the most conductive are coloured blue, then green and the least conductive, red. On the maps, three different symbols have been used (see legends).

ELLIOTT BAY

A base map for Elliott Bay was prepared by tracing from Geopeko's 1:10,000 scale maps (no map for the north-west corner). The geology was traced from four 1:10,000 scale maps with the missing segments (see diagram below) filled in using a 1:42,000 scale map. (The 1:42,000 scale map is more recent than the 1:10,000 scale maps and is different in some details, however these are not shown on this plan).



The Dighem responses were placed on the base map by matching rivers and tracks. Agreement between the photographs and the base map was generally good (ie, the photographs are close to scale).

The long zones of responses on either side of the Osmond syncline are most likely due to Tyndall shales, thus the geology appears

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to be incorrectly located on the Geopeko base maps. (Note also the discrepancy between the V23 position marked on the geology sheet and as seen on the air-photograph.) The final plans from Dighem Ltd will undoubtedly have responses in slightly different positions to those shown here, particularly in the north-western quarter where there are few features to assist recovery. Accurate plotting of the geology on to these plans is recommended.

MUDDY COVE

The map for this area was traced directly from the photographs. The AMG lines were drawn in by best fitting a number of landmarks positioned from the 1:20,000 topography map (again the fits were reasonably good). The geology has been sketched in from a 1:20,000 scale map (which in turn is an enlargement of a 1:50,000 scale map).

RECOMMENDATIONS AND CONCLUSIONS

No first-class anomalies have been interpreted (ie, no responses indicating good conductors recorded over a short strike length in an area of prospective geology). However a large number of responses have outlined weak to moderate conductors, several in areas of favourable geology. Since a massive sulphide deposit in these areas is likely to be only a moderate conductor, all of these responses are valid targets for follow up. The most promising have been outlined on the plans and numbered in order of priority and listed in the accompanying table. There are several other likely targets, but investigation of these can await the final interpretation. Any ground investigations should be planned directly from the aerial photographs.

A Maxmin EM system with highest frequency of 3555hz* is recommended for ground follow up. Extra care and certain procedures have to be taken in areas of steep topography‡, but it has been my experience that the system is more sensitive than 'Genie' which was not particularly successful at Sorell. Magnetics should also be read to help the location (using the final Dighem plans). One or two lines should be surveyed in for each anomaly or anomalous zone, as was done at Sorell.

For the western side of Elliott Bay and the Muddy Cove area, the possibility of hiring a satellite navigation system could be investigated. This would both assist location of the anomalies and permit a more accurate (and confident) plotting of the ground data.

JRB

J.R. Bishop
Jan., 1986.

---

* Some Maxmin systems read only to 1777hz.
‡ Most of the Elliott Bay areas should be relatively flat.

List of prospects arising from the preliminary interpretation of the Dighem surveys over Elliott Bay & Muddy Cove. (in order of priority)

ELLIOTT BAY

1. Numerous short zones (2 or 3 responses) of intermediate conductors within HRF and WRF*. Close to V28 which had very good base metal geochem and no further work (by Geopeko). Access is very good.

2. A single intermediate to good conductor in WHF with good access. Also a short zone of intermediate responses in WRT with good access.

3. A single intermediate response on the western side of the licence: probably in acid volcanics. Difficult access and navigation.

4. A single intermediate response within acid volcanics on the western side of the licence. Access is not good, but it may be within the recently burnt area. Also a zone of intermediate responses apparently within the Tyndall tuffs & agglomerates. The southern end is in open country and should be easily located. A useful check on the western geology.

5. A single zone of weak and intermediate responses in WHF; near and sub-parallel to a fault or contact. Access is good.

6. A single zone of weak responses with one intermediate response near the (eastern) contact of the HRF and Porphyry. In open country.

7. Three or four zones of intermediate responses within HRF. It lies immediately to the south of prospect no. 1 with good access.

8. Two zones of weak and intermediate responses within a broad area of WHF. Good access.

9. Three short zones of weak and intermediate responses: mapped as Mainwaring and Western Sequence, in the north-western section of the survey.

10. Two long zones including one 'good' response: mapped as Ordovician sediments, but may be Tyndall shales. In the north-western section of the survey.

---

* WHF: Wart Hill Pyroclastics
HRF: Hudson River Pyroclastics
WRT: Wanderer River Tuffs.

APPENDIX 2

ANALYTICAL RESULT SHEETS, JUNE 1987

ANALABS

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Phone (09) 458 7999 — 27 Forrest Road, Wolhaven, W.A. 6106 — Telex AA92560

ANALYTICAL REPORT No. 7.5.08.04168

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

RECEIVED 9 MAR 1987

Roxburgh
Cyprus Minerals
P.O. Box 493
North Sydney
N.S.W. 2060

ORDER No.	PROJECT
E 00251	DN 4817,8,9

DATE RECEIVED	RESULTS REQUIRED
24/01/87	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
28	27/02/87	1	328

OWNER	SAMPLE NUMBERS	PRE-TREATMENT: TYPE	CRUSH	SPLIT	PULVERISE	DRY	OTHER (SEE REMARKS)	NONE	ANALYSIS	REFER TO ANALYSIS SECTION	PREPARATION	METHOD
	Various	RC	Prep: 003,017						Cu,Pb,Zn,Ag/101,As/114			
	Various	RC							Au/313			
	171662	RC							Mo/101			
	171451/65,171551/65	SO	Prep: 006,9807,013,007						Cu,Cu+,Pb,Pb+,Zn,Zn+,Ag,Ag+/101,As,As+/114,Wght			
	171451/65,171551/65	SO							Au,Au+,AuR,AuR+/329			

RESULTS TO

B. Roxburgh
Cyprus Minerals
P.O. Box 493
North Sydney
N.S.W. 2060

RESULTS TO

C. Torrey
Cyprus Minerals
P.O. Box 230
Zeehan
Tasmania 7469

REMARKS

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

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See page 15 for Sample Descriptions

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04168	03/03/87	E 00251	1 OF 28

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	As	Au	Au	AuRpt	AuRpt
1	171276	10	10	15	0.5	30	<0.008	–	–	–
2	171277	2625	47450	350	186.0	27500	1.070	–	–	–
3	171278	200	525	25	1.0	700	0.010	–	–	–
4	171279	80	80	25	0.5	320	<0.008	–	–	–
5	171280	10025	4225	275	67.0	5700	0.520	–	–	–
	171281	1100	45	95	4.0	150	0.020	–	–	–
7									–	–
8									–	–
9									–	–
10									–	–
11									–	–
12									–	–
13									–	–
14									–	–
15									–	–
16									–	–
17									–	–
18									–	–
19									–	–
20									–	–
21									–	–
22									–	–
23									–	–
24									–	–
25									–	–

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
	7.5.08.04168	03/03/87	E 00251	4 OF 28

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	As	Au	Au	AuRpt	AuRpt
1	[redacted]	[redacted]							–	<0.01
2	[redacted]								–	–
3	[redacted]								–	–
4	[redacted]								–	–
5	[redacted]								–	–
	[redacted]								–	–
7	[redacted]								–	–
8	[redacted]								–	–
9	[redacted]								–	–
10	[redacted]								–	–
11	[redacted]								–	<0.01
12	[redacted]								–	–
13	[redacted]								–	–
14	[redacted]								0.030	–
15	[redacted]								–	–
16	[redacted]								–	–
17	[redacted]								–	–
18	[redacted]								–	–
19	[redacted]								–	–
20	[redacted]								–	–
21	[redacted]								–	<0.01
22	[redacted]								–	–
23	[redacted]								–	–
24	171393	150	<5	75	<0.5	<1	<0.008	<0.01	–	–
25	171394	40	<5	25	1.0	1	<0.008	<0.01	–	–

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

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04168	05/03/87	E 00251	1 OF 2

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	As	Au	Au	AuRpt	AuRpt
1	171395	95	<5	70	<0.5	2	<0.008	-	-	-
2	171396	80	<5	65	0.5	<1	<0.008	-	-	-
3	171397	70	<5	100	<0.5	<1	0.010	-	-	-
4	171398	215	<5	90	<0.5	2	<0.008	-	-	-
5	171399	140	<5	80	<0.5	5	<0.008	-	-	-
	171400	65	10	75	0.5	<1	<0.008	-	-	-
7	171415	15	15	10	<0.5	12	<0.008	-	-	-
8	171416	145	10	40	<0.5	12	<0.008	-	-	-
9	171417	70	15	45	<0.5	10	<0.008	-	-	-
10	[redacted]							-	-	-
11	[redacted]							-	-	-
12	171453	5	<5	15	<0.5	2	<0.008	-	-	-
13	171454	5	<5	10	0.5	2	<0.008	-	-	-
14	171455	5	<5	10	<0.5	2	<0.008	-	-	-
15	171456	10	<5	25	<0.5	4	<0.008	-	-	-
16	171457	5	<5	25	<0.5	2	<0.008	-	-	-
17	171458	5	10	10	<0.5	1	<0.008	-	-	-
18	171459	15	5	10	<0.5	2	0.130	-	-	-
19	171460	10	<5	15	<0.5	1	<0.008	-	-	-
20	171461	10	<5	15	<0.5	5	<0.008	-	-	-
21	[redacted]							-	-	-
22	[redacted]							-	-	-
23	[redacted]							-	-	-
24	[redacted]							-	-	-
25	[redacted]							-	-	-

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04168	03/03/87	E 00251	6 OF 28

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	As	Au	Au	AuRpt	AuRpt
1	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	-	-	-
2	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	-	[redacted]	-
3	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	-	-	-
4	171490	<5	20	30	0.5	<1	0.690	-	-	-
5	171491	5	20	40	1.0	<1	22.000	-	5.430	-
	171492	15	<5	30	1.0	<1	1.080	-	4.690	-
7	171493	<5	40	20	14.0	<1	<0.008	-	-	-
8	171494	<5	10	30	1.0	<1	<0.008	-	-	-
9	171495	<5	<5	5	<0.5	1	<0.008	-	-	-
10	171496	<5	<5	10	0.5	1	0.040	-	0.030	-
11	171497	<5	<5	20	1.0	3	0.400	-	-	-
12	171498	<5	15	20	0.5	<1	1.720	-	-	-
13	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	-	-	-
14	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	-
15	171501	SNR	SNR	SNR	SNR	SNR	IS	-	-	-
16	171502	15	<5	45	0.5	2	<0.008	<0.01	-	-
17	171503	45	<5	35	<0.5	5	<0.008	<0.01	-	-
18	171504	35	<5	110	<0.5	4	<0.008	<0.01	-	-
19	171505	10	<5	15	1.0	<1	<0.008	<0.01	-	-
20	171506	65	70	235	0.5	8	<0.008	<0.01	-	-
21	171507	5	<5	40	<0.3	<1	<0.008	<0.01	-	-
22	171508	70	<5	70	0.5	3	<0.008	<0.01	-	-
23	171509	340	30	50	1.0	9	<0.008	<0.01	-	-
24	171510	10	<5	20	0.5	12	<0.008	<0.01	-	<0.01
25	171511	30	<5	60	<0.5	6	<0.008	<0.01	-	-

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
	7.5.08.04168	03/03/87	E 00251	7 OF 28

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	As	Au	Au	AuRpt	AuRpt
1	171512	65	20	120	1.0	18	<0.008	<0.01	-	-
2	171513	65	10	120	1.0	4	<0.008	<0.01	-	-
3	171514	25	<5	60	<0.5	<1	<0.008	<0.01	-	-
4	171515	20	10	55	0.5	<1	<0.008	<0.01	-	-
5	171516	15	<5	55	1.0	<1	<0.008	<0.01	-	-
	171517	10	<5	30	0.5	<1	<0.008	<0.01	-	-
7	171518	10	<5	50	<0.5	1	<0.008	<0.01	-	-
8	171519	45	<5	85	<0.5	9	<0.008	<0.01	-	-
9	171520	15	<5	75	0.5	24	<0.008	<0.01	-	<0.01
10	171521	10	15	50	0.5	7	0.020	<0.01	-	-
11	171522	5	10	35	<0.5	2	<0.008	<0.01	-	-
12	171523	35	40	70	0.5	16	<0.008	<0.01	-	-
13	171524	45	35	190	0.5	33	<0.008	<0.01	-	-
14	171525	15	20	45	<0.5	7	<0.008	<0.01	-	-
15	171526	45	25	65	1.0	16	<0.008	<0.01	-	-
16	171527	5	20	5	1.0	5	0.010	<0.01	-	-
17	171528	5	5	5	<0.5	2	<0.008	<0.01	-	-
18	171529	5	5	5	0.5	2	<0.008	<0.01	-	-
19	171530	5	10	5	<0.5	2	<0.008	<0.01	-	<0.01
20	171531	5	5	<5	<0.5	<1	<0.008	<0.01	-	-
21	171532	5	10	5	<0.5	2	<0.008	<0.01	-	-
22	171533	5	5	10	<0.5	5	<0.008	<0.01	-	-
23	171534	5	10	15	0.5	3	<0.008	<0.01	-	-
24	171535	5	<5	<5	<0.5	2	<0.008	<0.01	-	-
25	171536	10	15	10	<0.5	<1	<0.008	<0.01	-	-

Results in ppm unless otherwise specified
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04168	03/03/87	E 00251	8 OF 28

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	As	Au	Au	AuRpt	AuRpt
1	171537	5	<5	<5	<0.5	<1	<0.008	<0.01	-	-
2	171538	10	<5	<5	<0.5	3	<0.008	<0.01	-	-
3	171539	25	30	35	0.5	9	<0.008	<0.01	-	-
4	171540	15	10	5	<0.5	3	<0.008	<0.01	-	<0.01
5	171541	5	5	<5	<0.5	2	<0.008	<0.01	-	-
6	171542	5	<5	<5	<0.5	2	<0.008	<0.01	-	-
7	171543	<5	<5	<5	<0.5	<1	<0.008	<0.01	-	-
8	171544	55	15	45	0.5	<1	<0.008	<0.01	-	-
9	171545	25	20	50	0.5	1	<0.008	<0.01	-	-
10	171546	55	30	50	0.5	2	<0.008	<0.01	-	-
11	171547	55	15	65	0.5	12	<0.008	<0.01	-	-
12	171548	40	10	60	<0.5	4	<0.008	<0.01	-	-
13	171549	25	15	55	<0.5	3	<0.008	<0.01	-	-
14	171550	10	10	50	<0.5	5	<0.008	<0.01	-	<0.01
15	171551	<5	<5	5	<0.5	2	<0.008	-	-	-
16	171552	<5	<5	10	<0.5	2	<0.008	-	-	-
17	171553	<5	<5	5	<0.5	2	<0.008	-	-	-
18	171554	<5	<5	10	<0.5	2	<0.008	-	-	-
19	171555	<5	<5	15	<0.5	1	<0.008	-	-	-
20	171556	5	5	10	<0.5	2	<0.008	-	-	-
21	171557	5	<5	5	<0.5	2	<0.008	-	-	-
22	171558	5	20	10	<0.5	19	<0.008	-	-	-
23	171559	5	<5	5	<0.5	5	<0.008	-	-	-
24	171560	10	15	335	<0.5	9	<0.008	-	-	-
25	171561	5	5	5	<0.5	5	<0.008	-	-	-

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04168	03/03/87	E 00251	9 OF 28

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	As	Au	Au	AuRpt	AuRpt
1	171562	5	<5	5	0.5	2	<0.008	–	–	–
2	171563	5	<5	5	1.0	5	<0.008	–	–	–
3	171564	5	<5	10	1.0	5	0.080	–	–	–
4	171565	5	30	10	0.5	10	<0.008	–	–	–
5	171600	–	–	–	–	–	–	–	–	–
	171601	<5	<5	20	2.0	1	<0.008	–	–	–
7	171602	<5	<5	5	<0.5	<1	<0.008	–	–	–
8	171603	<5	<5	5	1.5	1	<0.008	–	–	–
9	171604	<5	<5	5	0.5	1	<0.008	–	–	–
10	171605	<5	<5	5	<0.5	1	<0.008	–	–	–
11	171606	<5	<5	15	1.5	1	<0.008	–	–	–
12	171607	<5	<5	5	1.0	<1	<0.008	–	–	–
13	171608	<5	<5	10	1.0	16	<0.008	–	–	–
14	171609	<5	<5	5	3.0	4	<0.008	–	–	–
15	171610	<5	<5	10	2.0	9	<0.008	–	–	–
16	171611	<5	<5	10	1.5	14	<0.008	–	–	–
17	171612	5	<5	10	0.5	13	<0.008	–	–	–
18	171613	5	<5	10	0.5	14	<0.008	–	–	–
19	171614	<5	30	20	2.0	31	<0.008	–	–	–
20	171631	70	35	100	0.5	45	<0.006	–	–	–
21	171652	150	115	95	2.0	170	0.020	–	–	–
22	171653	3700	155	220	2.5	110	0.020	–	–	–
23	171654	445	200	340	1.5	22	<0.008	–	–	–
24	171655	1500	90	160	1.0	13	<0.008	–	–	–
25	171656	42775	75	675	<0.5	15	<0.008	–	–	–

Results in ppm unless otherwise specified
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04168	03/03/87	E 00251	10 OF 28

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	As	Au	Au	AuRpt	AuRpt
1	171657	3400	640	135	6.5	6	0.050	–	–	–
2	171658	140	360	1300	1.0	15	<0.008	–	–	–
3	171659	22425	175	300	<0.5	26	<0.008	–	–	–
4	171660	11875	2825	5850	28.0	400	<0.008	–	–	–
5	171661	7750	2750	1050	5.0	88	0.020	–	–	–
	171662	2100	2650	5100	7.5	400	0.020	–	–	–
7	171663	180	445	155	4.5	250	0.010	–	–	–
8	171664	310	585	190	2.5	3800	0.040	–	–	–
9	171665	1125	6600	825	30.0	4700	0.140	–	–	–
10	171666	395	145	65	2.0	800	0.030	–	–	–
11	171667	575	1225	50	12.0	15500	1.090	–	–	–
12	171668	20	85	20	1.0	300	<0.008	–	–	–
13	171669	325	1950	25	21.0	4900	0.030	–	–	–
14	171670	325	795	100	3.5	150	<0.008	–	–	–
15	171671	2200	75	1875	38.0	12500	0.790	–	–	–
16	171672	805	2000	240	5.5	2100	0.140	–	–	–
17	171673	780	7400	555	7.5	8900	0.590	–	–	–
18	171674	655	3150	830	4.5	5300	0.650	–	–	–
19	171675	230	340	65	1.0	380	<0.008	–	–	–
20	171676	275	795	220	1.5	700	<0.006	–	–	–
21	171677	1450	875	900	28.0	8300	1.650	–	–	–
22	171678	560	215	900	3.5	3400	0.130	–	–	–
23	171679	725	100	25	35.0	1100	0.210	–	–	–
24	171680	4500	9450	525	276.0	14500	2.630	–	–	–
25	171681	2425	8750	950	8.0	14500	4.720	–	–	–

Results in ppm unless otherwise specified
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04168	03/03/87	E 00251	11 OF 28

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	As	Au	Au	AuRpt	AuRpt
1	171682	500	2475	50	32.0	9900	0.370	-	-	
2	171683	510	140	95	3.0	660	0.030	-	-	-
3	171684	475	1275	45	201.0	2400	0.100	-	-	-
4	171685	900	4200	500	2.0	9500	0.980	-	-	-
5	171686	80	740	200	2.0	200	<0.008	-	-	-
	171687	20	5	10	<0.5	59	<0.008	-	-	-
7	171688	5	<5	10	<0.5	12	<0.008	-	-	-
8	171689	5	15	235	<0.5	12	<0.008	-	-	-
9	171690	10	15	40	<0.5	17	<0.008	-	-	-
10	171691	145	150	155	<0.5	10	<0.008	-	-	-
11	171751	5	<5	5	0.5	4	0.170	-	-	-
12	171752	5	<5	5	<0.5	2	<0.008	-	-	-
13	171753	5	<5	<5	1.0	2	<0.008	-	-	-
14	171754	5	<5	10	1.0	1	<0.008	-	-	-
15	171755	5	<5	10	0.5	<1	<0.008	-	-	-
16	171756	5	<5	10	0.5	<1	<0.008	-	-	-
17	171757	5	<5	10	0.5	<1	<0.008	-	-	-
18	171758	5	25	10	0.5	19	<0.008	-	-	-
19	171759	5	<5	5	0.5	5	<0.008	-	-	-
20	171760	10	20	375	1.0	8	<0.008	-	-	-
21	171761	5	5	5	1.0	2	<0.008	-	-	-
22	171851	10	20	20	0.5	3	<0.008	<0.01	-	-
23	171852	5	10	10	0.5	<1	<0.008	<0.01	-	-
24	171853	5	10	5	<0.5	3	<0.008	<0.01	-	-
25	171854	5	10	5	<0.5	<1	<0.008	<0.01	-	-

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
	7.5.08.04168	03/03/87	E 00251	12 OF 28

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	As	Au	Au	AuRpt	AuRpt
1	171855	5	5	5	<0.5	<1	<0.008	<0.01	-	-
2	171856	5	10	5	<0.5	1	<0.008	<0.01	-	-
3	171857	10	<5	5	<0.5	1	<0.008	<0.01	-	-
4	171858	5	10	5	<0.5	3	<0.008	<0.01	-	-
5	171859	5	10	5	<0.5	1	<0.008	<0.01	-	<0.01
6	171860	5	10	5	<0.5	1	<0.008	<0.01	-	-
7	171861	10	5	10	0.5	2	<0.008	<0.01	-	
8	171862	5	5	5	0.5	4	<0.008	<0.01	-	-
9	171863	5	<5	55	<0.5	1	<0.008	<0.01	-	-
10	171864	5	<5	15	1.0	1	<0.008	<0.01	-	-
11	171865	5	<5	15	0.5	1	<0.008	<0.01	-	-
12	171866	5	<5	20	0.5	2	<0.008	<0.01	-	-
13	171867	10	<5	15	0.5	9	<0.008	<0.01	-	-
14	171868	5	<5	10	0.5	2	<0.008	<0.01	-	-
15	171869	10	<5	15	<0.5	1	<0.008	<0.01	-	<0.01
16	171870	5	<5	10	<0.5	2	<0.008	<0.01	-	-
17	180544	1750	735	380	<0.5	1800	0.020	-	-	-
18	180545	6025	17750	200	383.0	30500	2.030	-	-	-
19	180546	8875	925	325	15.0	640	0.250	-	-	-
20	180547	740	325	410	4.0	28	0.010	-	-	-
21	180549	65	10	100	<0.5	31	<0.008	-	-	-
22	180550	15	<5	45	<0.5	17	<0.008	-	-	-
23	180551	30	<5	5	<0.5	16	<0.008	-	-	-
24	180552	30	<5	70	<0.5	8	<0.008	-	-	-
25	180553	5	<5	50	<0.5	9	<0.008	-	-	-

Results in ppm unless otherwise specified
T = element present: but concentration too low to measure
X = element concentration is below detection limit
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04168	03/03/87	E 00251	13 OF 28

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	As	Au	Au	AuRpt	AuRpt
1	180554	485	<5	85	<0.5	7	<0.008	–	–	–
2	180555	185	5	90	<0.5	7	<0.008	–	–	–
3	180556	140	25	375	<0.5	2	<0.008	–	–	–
4	180557	60	<5	15	<0.5	3	<0.008	–	–	–
5	180558	325	5	120	<0.5	5	<0.008	–	–	–
	180559	80	5	75	<0.5	2	<0.008	–	–	–
7	180560	15	<5	35	<0.5	1	<0.008	–	–	–
8	180561	130	<5	50	<0.5	1	<0.008	–	–	–
9	180562	35	<5	40	<0.5	<1	<0.008	–	–	–
10	180563	65	<5	60	<0.5	1	<0.008	–	–	–
11	180564	85	5	25	<0.5	3	<0.008	–	–	
12	180565	55	30	135	<0.5	36	<0.008	–	–	–
13	180566	45	5	55	<0.5	3	<0.008	–	–	
14	180567	25	10	115	<0.5	2	<0.008	–	–	
15	180568	5	<5	30	<0.5	7	<0.008	–	–	–
16	180569	1650	70	145	<0.5	800	0.050	–	–	–
17	180570	20425	200	475	24.0	250	0.330	–	–	–
18	180571	2150	235	170	7.0	410	0.220	–	–	–
19	180572	3100	1750	325	24.0	2400	0.450	–	–	–
20	180573	1000	285	405	1.5	600	0.030	–	–	–
21	180574	1300	350	285	1.0	190	0.030	–	–	–
22	180575	55	125	40	<0.5	22500	<0.008	–	–	–
23	180576	2250	805	525	9.5	1300	0.070	–	–	–
24	180577	6900	955	650	180.0	200	0.050	–	–	–
25	180578	6750	850	510	6.5	1500	0.050	–	–	–

Results in ppm unless otherwise specified
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04168	03/03/87	E 00251	14 OF 28

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	As	Au	Au	AuRpt	AuRpt
1	180579	1350	60	115	3.5	700	<0.008	-	-	-
2	180580	175	355	130	27.5	2800	<0.008	-	-	-
3	180582	40	15	135	<0.5	51	<0.008	-	-	-
4										
5										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19	NB: AuRpt 171277=1.08, 171666=0.01, 180569=0.04, 180579=0.03									
20	Result for Sample 171400/2 Cu=40, Pb=20, Zn=70, Ag=<0.5									
21	SNR Denotes Sample Not Received, DTF Denotes Data to Follow									
22	IS Denotes Insufficient sample. More Au Checks to follow.									
23	DETECTION	5	5	5	0.5	1	0.008	0.01	0.008	0.01
24	UNITS	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM
25	METHOD	101	101	101	101	114	309	329	309	329

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.S.08.04168	03/03/87	E 00251	15 OF 26

TUBE No.	SAMPLE No.	AuChk	Wght	
1	171276	–	175.7	Panned Concentrate Voyager 12.
2	171277	–	–	
3	171278	–	–	Rock Chip Voyager 12.
4	171279	–	–	
5	171280	–	–	
6	171281	–	–	Rock Chip Voyager 2.
7	[redacted]	–	–	
8	[redacted]	–	–	
9	[redacted]	–	–	
10	[redacted]	–	–	Soil Samples
11	[redacted]	–	–	
12	[redacted]	–	–	Line 2
13	[redacted]	–	–	
14	[redacted]	–	–	Wanderer North.
15	[redacted]	–	–	
16	[redacted]	–	–	
17	[redacted]	–	–	
18	[redacted]	–	–	
19	[redacted]	–	–	
20	[redacted]	–	–	
21	[redacted]	–	–	
22	[redacted]	–	–	
23	[redacted]	–	–	
24	[redacted]	–	–	
25	[redacted]	–	–	

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04168	03/03/87	E 00251	18 OF 28

TUBE No.	SAMPLE No.	AuChk	Wght							
1	[redacted]	—	—							
2	[redacted]	—	—							
3	[redacted]	—	—							
4	[redacted]	—	—							
5	[redacted]	—	—		[redacted]	[redacted]				
	[redacted]	—	—							
7	[redacted]	—	—		[redacted]					
8	[redacted]	—	—							
9	[redacted]	—	—		[redacted]					
10	[redacted]	—	—							
11	[redacted]	—	—							
12	[redacted]	—	—							
13	[redacted]	—	—							
14	[redacted]	—	—							
15	[redacted]	—	—							
16	[redacted]	—	—							
17	[redacted]	—	—							
18	[redacted]	—	—							
19	[redacted]	—	—							
20	[redacted]	—	—							
21	[redacted]	—	—							
22	[redacted]	—	—							
23	[redacted]	—	—							
24	171393	—	—	Soil Samples Line 6						
25	171394	—	—	Wandered South.						

Results in ppm unless otherwise specified
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X = element concentration is below detection limit
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04168	03/03/87	E 00251	19 OF 28

TUBE No.	SAMPLE No.	AuChk	Wght	
1	171395	–	–	
2	171396	–	–	
3	171397	–	–	Soil Samples
4	171398	–	–	
5	171399	–	–	Line 6
6	171400	–	–	
7	171415	–	–	Wanderer South.
8	171416	–	–	
9	171417	–	–	
10	[redacted]	–	[redacted]	[redacted]
11	[redacted]	–	[redacted]	[redacted]
12	171453	–	236.9	-80 # Stream Sediment
13	171454	–	319.3	Waterloo Creek.
14	171455	–	309.3	
15	171456	–	94.6	-80 # Stream Sediment
16	171457	–	780.3	
17	171458	–	660.0	Wanderer South
18	171459	–	371.5	
19	171460	–	450.0	
20	171461	–	233.4	
21	[redacted]	–	[redacted]	[redacted]
22	[redacted]	–	[redacted]	
23	[redacted]	–	[redacted]	[redacted]
24	[redacted]	–	[redacted]	
25	[redacted]	–	[redacted]	[redacted]

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04168	03/03/87	E 00251	20 OF 28

TUBE No.	SAMPLE No.	AuChk	Wght	
1	[redacted]	–	[redacted]	[redacted]
2	[redacted]	–	[redacted]	[redacted]
3	[redacted]	–	[redacted]	
4	171490	–	64.5	
5	171491	9.970	87.6	Panned Concentrates
6	171492	–	160.3	
7	171493	–	259.0	Wanderer South.
8	171494	–	277.1	
9	171495	–	60.5	
10	171496	–	55.7	
11	171497	–	47.9	Panned Concentrates.
12	171498	–	45.0	Waterloo Creek.
13	[redacted]	–	[redacted]	[redacted]
14	[redacted]	–	[redacted]	[redacted]
15	171501	–	–	
16	171502	–	–	
17	171503	–	–	Soil Samples.
18	171504	–	–	
19	171505	–	–	Line 6.
20	171506	–	–	
21	171507	–	–	Wanderer South.
22	171508	–	–	
23	171509	–	–	
24	171510	–	–	
25	171511	–	–	

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04168	03/03/87	E 00251	21 OF 28

TUBE No.	SAMPLE No.	AuChk	Wght							
1	171512	–	–							
2	171513	–	–							
3	171514	–	–							
4	171515	–	–							
5	171516	–	–							
.	171517	–	–							
7	171518	–	–		Soil Samples					
8	171519	–	–							
9	171520	–	–							
10	171521	–	–		Line 6					
11	171522	–	–							
12	171523	–	–		Wanderer South.					
13	171524	–	–							
14	171525	–	–							
15	171526	–	–							
16	171527	–	–							
17	171528	–	–							
18	171529	–	–							
19	171530	–	–							
20	171531	–	–							
21	171532	–	–							
22	171533	–	–							
23	171534	–	–							
24	171535	–	–							
25	171536	–	–							

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04168	03/03/87	E 00251	22 OF 28

TUBE No.	SAMPLE No.	AuChk	Wght							
1	171537	–	–							
2	171538	–	–							
3	171539	–	–							
4	171540	–	–		Soil Samples					
5	171541	–	–							
.	171542	–	–		Line 6					
7	171543	–	–							
8	171544	–	–		Wanderer South.					
9	171545	–	–							
10	171546	–	–							
11	171547	–	–							
12	171548	–	–							
13	171549	–	–							
14	171550	–	–							
15	171551	–	122.6							
16	171552	–	143.6							
17	171553	–	120.8		-80# Stream Sediment					
18	171554	–	212.5							
19	171555	–	290.0		Porphyry Contact.					
20	171556	–	149.7							
21	171557	–	148.6							
22	171558	–	102.9							
23	171559	–	151.6		-80# Stream Sediment					
24	171560	–	265.4		Voyager 2.					
25	171561	–	155.8							

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04168	03/03/87	E 00251	23 OF 28

TUBE No.	SAMPLE No.	AuChk	Wght								
1	171562	–	105.2			-80#	Stream Sediment				
2	171563	–	122.2								
3	171564	–	64.8			Voyager 2.					
4	171565	–	71.8								
5	171600	–	–		-80#	Stream Sediment Porphyry Contact.					
6	171601	–	189.0								
7	171602	–	187.9								
8	171603	–	246.6		Panned Concentrates						
9	171604	–	295.7								
10	171605	–	331.6		Porphyry Contact.						
11	171606	–	288.1								
12	171607	–	238.8								
13	171608	–	254.6								
14	171609	–	381.0								
15	171610	–	248.7		Panned Concentrates						
16	171611	–	316.4								
17	171612	–	359.6		Voyager 2						
18	171613	–	349.8								
19	171614	–	269.5		Panned Concentrate Voyager 2.						
20	171651	–	–								
21	171652	–	–		Rock Chip						
22	171653	–	–								
23	171654	–	–		Elliott Bay						
24	171655	–	–								
25	171656	–	–								

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04168	03/03/87	E 00251	24 OF 28

TUBE No.	SAMPLE No.	AuChk	Wght							
1	171657	–	–							
2	171658	–	–		Rock Chip					
3	171659	–	–							
4	171660	–	–		Elliott Bay					
5	171661	–	–							
6	171662	–	–							
7	171663	–	–							
8	171664	–	–							
9	171665	–	–							
10	171666	–	–							
11	171667	–	–		Rock Chip					
12	171668	–	–							
13	171669	–	–		Voyager 12.					
14	171670	–	–							
15	171671	–	–							
16	171672	–	–							
17	171673	–	–							
18	171674	–	–							
19	171675	–	–							
20	171676	–	–							
21	171677	–	–							
22	171678	–	–							
23	171679	–	–							
24	171680	–	–							
25	171681	–	–							

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04168	03/03/87	E 00251	25 OF 28

TUBE No.	SAMPLE No.	AuChk	Wght							
1	171682	--	--							
2	171683	--	--							
3	171684	--	--		Rock Chip					
4	171685	--	--							
5	171686	--	--		Voyager 12.					
6	171687	--	--							
7	171688	--	--							
8	171689	--	--							
9	171690	--	--							
10	171691	--	--							
11	171751	--	--							
12	171752	--	--							
13	171753	--	--							
14	171754	--	--							
15	171755	--	--		Soil Samples					
16	171756	--	--							
17	171757	--	--							
18	171758	--	--		Voyager 12.					
19	171759	--	--							
20	171760	--	--							
21	171761	--	--							
22	171851	--	--							
23	171852	--	--		Soil Samples		Line 6			
24	171853	--	--		Wanderer South.					
25	171854	--	--							

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04168	03/03/87	E 00251	26 OF 28

TUBE No.	SAMPLE No.	AuChk	Wght		
1	171855	–	–		
2	171856	–	–		
3	171857	–	–	Soil Samples.	
4	171858	–	–		
5	171859	–	–	Line 6	
6	171860	–	–		
7	171861	–	–	Wanderer South.	
8	171862	–	–		
9	171863	–	–		
10	171864	–	–		
11	171865	–	–		
12	171866	–	–		
13	171867	–	–	Soil Samples.	
14	171868	–	–	Line 5	
15	171869	–	–	Wanderer South.	
16	171870	–	–		
17	180544	–	–	Rock Chip	
18	180545	–	–	Voyager 12	
19	180546	–	–		
20	180547	–	–	Rock Chip	Voyager 3
21	180549	–	–	Rock Chip	Voyager 16
22	180550	–	–		
23	180551	–	–	Rock Chip	
24	180552	–	–		
25	180553	–	–	Veridian	Point

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04168	03/03/87	E 00251	27 OF 28

TUBE No.	SAMPLE No.	AuChk	Wght							
1	180554	–	–							
2	180555	–	–							
3	180556	–	–		Rock Chip.					
4	180557	–	–							
5	180558	–	–							
6	180559	–	–		Veridian Point.					
7	180560	–	–							
8	180561	–	–							
9	180562	–	–							
10	180563	–	–							
11	180564	–	–							
12	180565	–	–							
13	180566	–	–							
14	180567	–	–							
15	180568	–	–							
16	180569	–	–							
17	180570	–	–							
18	180571	–	–		Rock Chip					
19	180572	–	–							
20	180573	–	–		Voyager R.					
21	180574	–	–							
22	180575	–	–							
23	180576	–	–							
24	180577	–	–							
25	180578	–	–							

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
	7.5.08.04168	03/03/87	E 00251	28 OF 28

TUBE No.	SAMPLE No.	AuChk	Wght							
1	180579	–	–		Rock	Chip	Voyager		12	
2	180580	–	–		Rock	Chip				
3	180582	–	–		Voyager 2					
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19	NB: AuRpt 171277=1.08, 171666=0.01, 180569=0.04, 180579=0.03									
20	Result for Sample 171400/2 Cu=40, Pb=20, Zn=70, Ag=<0.5									
21	SNR Denotes Sample Not Received, DTF Denotes Data to Follow									
22	IS Denotes Insufficient sample. More Au Checks to follow.									
23	DETECTION	0.008	0.1							
24	UNITS	PPM	GMS							
25	METHOD	309	199							

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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An Australian Laboratory Services (A.L.S.) Pty. Ltd. Company

Unit 7/20 Murray Road, Welshpool, W.A. 6106 Telex: AA92560

RECEIVED

ANALYTICAL REPORT No. 7.5.08.04189

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

	ORDER No.	PROJECT
B. Roxburgh Cyprus Minerals P.O. Box 493 North Sydney N.S.W. 2060	E 00252	D/N 4820,1,2
	DATE RECEIVED	RESULTS REQUIRED
	30/01/87	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
16	05/03/87	1	181

SAMPLE	PRE-TREATMENT	CRUSH	SPLIT	DRY	GRIND	OTHER SEE REMARKS	MONEY	ANALYSIS	PREPARATION	METHOD
Various	RC Prep: 006,017							Cu,Pb,Zn,Ag/101,As/114		
Various	RC							Au/313		
Various	SO Prep: 005,018							Cu,Pb,Zn,Ag/101,As/114		
Various	SO							Au,AuRpt/329		
Various	PC Prep: 006,018							Cu,Pb,Zn,Ag/101,As/114		

RESULTS TO

B. Roxburgh
Cyprus Minerals
P.O. Box 493
North Sydney
N.S.W. 2060

RESULTS TO

C. Torrey
Cyprus Minerals
P.O. Box 230
Zeehan
Tasmania 7469

REMARKS

STATE OF SAMPLES — ANALYSIS — PREPARATION — ANALYSIS — METHOD

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ANALYTICAL DATA

See page 9 for Sample Descriptions

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04189	05/03/87	E 00252	1 OF 16

TUBE No.	SAMPLE No.	Cu	Pb	Pb	Zn	Ag	Ag	As	Au	Au
1	171282	255	215	-	560	1.0	-	83	-	0.010
2	171283	1950	10	-	505	<0.5	-	94	-	0.065
3	171284	26500	220	-	940	-	27	450	-	0.675
4	171285	9350	310	-	1800	-	20	550	-	0.200
5	171286	435	70	-	630	1.5	-	31	-	0.020
6	171287	590	<5	-	160	2.5	-	6	-	<0.005
7	171288	30	<5	-	35	1.0	-	10	-	<0.005
8	171289	15	5	-	50	0.5	-	2	-	<0.005
9	171290	25	<5	-	10	1.0	-	7	-	<0.005
10	171291	30	<5	-	20	1.5	-	32	-	0.040
11	[redacted]									
12	171430	45	<5	-	160	1.0	-	7	-	<0.005
13	171431	40	<5	-	85	0.5	-	4	-	<0.005
14	171432	40	<5	-	95	1.0	-	4	-	<0.005
15	171434	105	<5	-	55	0.5	-	1	-	<0.005
	171435	45	<5	-	150	1.0	-	3	-	<0.005
17	171436	45	10	-	35	0.5	-	10	-	<0.005
18	171762	10	20	-	20	0.5	-	7	<0.008	-
19	171763	<5	<5	-	20	<0.5	-	2	<0.008	-
20	171764	10	20	-	20	2.5	-	2	<0.008	-
21	171765	10	15	-	25	1.5	-	2	<0.008	-
22	171766	<5	15	-	20	2.0	-	2	<0.008	-
23	171767	5	25	-	40	<0.5	-	2	<0.008	-
24	171768	<5	<5	-	15	0.5	-	2	<0.008	-
25	171769	5	<5	-	15	1.5	-	2	<0.008	-

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
	7.5.08.04189	05/03/87	E 00252	2 OF 16

TUBE No.	SAMPLE No.	Cu	Pb	Pb	Zn	Ag	Ag	As	Au	Au
1	171770	10	10	–	20	<0.5	–	2	<0.008	–
2	171771	10	15	–	20	0.5	–	2	<0.008	–
3	171772	5	15	–	20	0.5	–	2	<0.008	–
4	171773	<5	<5	–	20	<0.5	–	2	<0.008	–
5	171774	15	<5	–	20	0.5	–	2	<0.008	–
6	171775	10	<5	–	15	0.5	–	2	<0.008	–
7	171776	10	<5	–	20	1.0	–	2	<0.008	–
8	171777	50	50	–	25	1.0	–	40	<0.008	–
9	171778	70	185	–	110	0.5	–	50	<0.008	–
10	171779	140	300	–	40	1.0	–	67	<0.008	–
11	171780	10	20	–	15	0.5	–	2	<0.008	–
12	171781	15	<5	–	10	1.0	–	5	<0.008	–
13	171782	<5	<5	–	15	2.0	–	5	<0.008	–
14	171783	<5	<5	–	15	1.0	–	5	<0.008	–
15	171784	10	<5	–	20	1.0	–	7	<0.008	–
	171785	20	15	–	20	1.0	–	130	<0.008	–
17	171786	<5	<5	–	15	1.0	–	2	<0.008	–
18	171787	5	5	–	15	0.5	–	2	<0.008	–
19	171788	10	25	–	20	1.0	–	2	<0.008	–
20	171789	<5	15	–	15	0.5	–	2	<0.008	–
21	171790	<5	10	–	20	0.5	–	2	<0.008	–
22	171791	10	10	–	20	1.0	–	2	<0.008	–
23	171792	<5	15	–	20	1.5	–	2	<0.008	–
24	171793	<5	10	–	15	1.5	–	2	<0.008	–
25	171794	<5	<5	–	15	1.0	–	2	<0.008	–

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
	7.5.08.04189	05/03/87	E 00252	3 OF 16

TUBE No.	SAMPLE No.	Cu	Pb	Pb	Zn	Ag	Ag	As	Au	Au
1	171795	10	<5	–	15	1.0	–	2	<0.008	–
2	171796	5	<5	–	20	0.5	–	2	<0.008	–
3	171797	5	<5	–	15	<0.5	–	2	<0.008	–
4	171798	<5	15	–	15	1.5	–	2	<0.008	–
5	171799	<5	10	–	20	<0.5	–	2	<0.008	–
6	171800	<5	10	–	15	1.0	–	2	<0.008	–
7	171801	65	–	1675	35	1.0	–	15	<0.008	–
8	171802	5	5	–	20	<0.5	–	5	<0.008	–
9	171803	<5	10	–	30	<0.5	–	5	<0.008	–
10	171804	5	30	–	20	<0.5	–	5	<0.008	–
11	171805	<5	<5	–	15	<0.5	–	2	<0.008	–
12	171806	<5	<5	–	15	0.5	–	3	<0.008	–
13	171807	5	<5	–	20	<0.5	–	2	<0.008	–
14	171808	10	20	–	20	<0.5	–	27	0.110	–
15	171809	10	40	–	20	0.5	–	160	<0.008	–
	171810	5	5	–	20	0.5	–	3	<0.008	–
17	171811	10	10	–	30	1.0	–	10	<0.008	–
18	171812	5	<5	–	20	<0.5	–	5	<0.008	–
19	171813	5	<5	–	20	<0.5	–	5	<0.008	–
20	171814	20	15	–	15	0.5	–	130	<0.008	–
21	171815	10	35	–	20	1.0	–	20	0.020	–
22	171816	10	10	–	20	<0.5	–	36	0.020	–
23	171817	20	10	–	20	<0.5	–	95	<0.008	–
24	171818	25	10	–	20	0.5	–	57	<0.008	–
25	171819	15	10	–	15	0.5	–	13	<0.008	–

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04189	05/03/87	E 00252	4 OF 16

TUBE No.	SAMPLE No.	Cu	Pb	Pb	Zn	Ag	Ag	As	Au	Au
1	171820	5	25	–	15	0.5	–	8	<0.008	–
2	171821	15	50	–	25	0.5	–	62	0.010	–
3	171822	<5	<5	–	20	0.5	–	5	<0.008	–
4	171823	70	40	–	35	<0.5	–	35	<0.008	–
5	171824	15	30	–	15	1.0	–	4	<0.008	–
6	171825	5	<5	–	15	<0.5	–	5	<0.008	–
7	171826	5	<5	–	15	0.5	–	3	<0.008	–
8	171827	<5	<5	–	20	0.5	–	4	<0.008	–
9	171828	<5	<5	–	15	1.0	–	3	<0.008	–
10	171829	<5	<5	–	10	<0.5	–	3	<0.008	–
11	171830	<5	<5	–	20	<0.5	–	2	<0.008	–
12	171831	<5	<5	–	15	<0.5	–	3	<0.008	–
13	171832	5	<5	–	15	<0.5	–	2	<0.008	–
14	171833	5	<5	–	15	0.5	–	4	<0.008	–
15	171834	<5	<5	–	10	0.5	–	2	<0.008	–
	171835	<5	<5	–	15	1.0	–	3	<0.008	–
17	171836	5	<5	–	20	2.0	–	3	<0.008	–
18	171837	<5	<5	–	15	1.0	–	3	0.010	–
19	171838	<5	<5	–	20	1.5	–	3	<0.008	–
20	171839	<5	<5	–	20	1.0	–	2	<0.008	–
21	171840	5	<5	–	15	1.0	–	3	<0.008	–
22	171901	35	55	–	20	1.5	–	150	0.030	–
23	171902	690	540	–	600	<0.5	–	1000	0.090	–
24	171903	375	30	–	20	<0.5	–	63	<0.008	–
25	171904	155	35	–	30	<0.5	–	15	0.110	–

Results in ppm unless otherwise specified
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04189	05/03/87	E 00252	5 OF 16

TUBE No.	SAMPLE No.	Cu	Pb	Pb	Zn	Ag	Ag	As	Au	Au
1	171905	280	185	–	50	<0.5	–	24	<0.008	–
2	171906	155	145	–	55	<0.5	–	13	<0.008	–
3	171907	295	130	–	25	<0.5	–	120	<0.008	–
4	171908	245	100	–	20	<0.5	–	59	0.030	–
5	171871	5	<5	–	<5	<0.5	–	1	<0.008	–
6	171872	10	5	–	5	<0.5	–	<1	<0.008	–
7	171873	5	<5	–	<5	<0.5	–	3	<0.008	–
8	171874	5	<5	–	5	<0.5	–	5	0.010	–
9	171875	10	<5	–	5	<0.5	–	3	<0.008	–
10	171876	10	<5	–	5	<0.5	–	4	<0.008	–
11	171877	<5	<5	–	<5	<0.5	–	2	<0.008	–
12	171878	<5	<5	–	5	<0.5	–	3	<0.008	–
13	171879	<5	<5	–	<5	<0.5	–	3	<0.008	–
14	171880	10	5	–	30	<0.5	–	5	<0.008	–
15	171881	15	10	–	30	<0.5	–	31	<0.008	–
	171882	<5	<5	–	<5	<0.5	–	4	<0.008	–
17	171883	<5	<5	–	<5	<0.5	–	2	<0.008	–
18	171884	<5	10	–	5	<0.5	–	3	<0.008	–
19	171885	40	35	–	70	<0.5	–	130	<0.008	–
20	171886	35	15	–	40	<0.5	–	6	<0.008	–
21	171887	20	15	–	60	<0.5	–	4	<0.008	–
22	171888	30	5	–	40	<0.5	–	6	<0.008	–
23	171889	25	30	–	30	<0.5	–	26	<0.008	–
24	171890	40	5	–	100	<0.5	–	3	<0.008	–
25	171891	5	15	–	55	<0.5	–	3	<0.008	–

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
	7.5.08.04189	05/03/87	E 00252	6 OF 16

TUBE No.	SAMPLE No.	Cu	Pb	Pb	Zn	Ag	Ag	As	Au	Au
1	171892	5	5	–	80	<0.5	–	2	<0.008	–
2	171893	<5	<5	–	70	<0.5	–	3	<0.008	–
3	171894	10	10	–	60	<0.5	–	3	<0.008	–
4	171895	20	15	–	75	<0.5	–	3	<0.008	–
5	171896	10	15	–	25	<0.5	–	4	<0.008	–
6	171897	5	<5	–	115	<0.5	–	5	<0.008	–
7	171898	55	5	–	105	<0.5	–	6	<0.008	–
8	171899	45	10	–	70	<0.5	–	9	<0.008	–
9	171900	15	15	–	275	0.5	–	8	<0.008	–
10	171422	115	110	–	235	<0.5	–	10	<0.008	–
11	171423	10	5	–	35	0.5	–	1	<0.008	–
12	171424	20	<5	–	55	<0.5	–	12	<0.008	–
13	171425	<5	25	–	<5	1.0	–	3	<0.008	–
14	171426	25	30	–	60	1.5	–	4	<0.008	–
15	171427	25	20	–	60	1.0	–	2	<0.008	–
	171428	40	20	–	55	1.0	–	2	<0.008	–
17	171429	35	20	–	55	1.5	–	3	<0.008	–
18	171477	<5	20	–	25	0.5	–	3	0.570	–
19	171478	5	<5	–	25	1.0	–	8	<0.008	–
20	171479	10	<5	–	35	1.0	–	5	<0.008	–
21										–
22										–
23	171482	<5	5	–	25	0.5	–	5	0.600	–
24	171483	<5	25	–	25	1.0	–	2	<0.008	–
25	171484	5	<5	–	10	0.5	–	3	<0.008	–

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
	7.5.08.04189	05/03/87	E 00252	7 OF 16

TUBE No.	SAMPLE No.	Cu	Pb	Pb	Zn	Ag	Ag	As	Au	Au
1	171485	25	<5	–	15	<0.5	–	3	0.030	–
2	171293	<5	<5	–	10	0.5	–	2	0.010	–
3	171294	5	<5	–	10	<0.5	–	1	0.010	–
4	171295	<5	<5	–	25	0.5	–	2	0.040	–
5	171296	<5	<5	–	40	1.0	–	2	<0.008	–
6	171297	<5	<5	–	15	<0.5	–	1	<0.008	–
7	171298	<5	<5	–	10	0.5	–	1	<0.008	–
8	171299	<5	<5	–	10	1.0	–	6	0.010	–
9	171300	<5	<5	–	10	0.5	–	2	<0.008	–
10	171999	<5	<5	–	5	0.5	–	2	<0.008	–
11	172000	<5	<5	–	30	<0.5	–	2	0.150	–
12	171951	<5	<5	–	15	1.0	–	1	0.010	–
13	171952	<5	<5	–	15	0.5	–	<1	0.420	–
14	171953	<5	<5	–	20	0.5	–	1	<0.008	–
15	171954	<5	<5	–	35	1.0	–	<1	0.010	–
	171955	<5	<5	–	25	1.0	–	<1	<0.008	–
17	171956	<5	<5	–	15	<0.5	–	<1	<0.008	–
18	171957	<5	<5	–	20	0.5	–	<1	0.010	–
19	171958	<5	<5	–	15	1.0	–	<1	<0.008	–
20	171959	<5	<5	–	40	0.5	–	<1	<0.008	–
21	171960	<5	<5	–	20	0.5	–	<1	<0.008	–
22	171466	25	<5	–	20	0.5	–	1	<0.008	–
23	171467	15	5	–	45	0.5	–	4	<0.008	–
24	171468	<5	10	–	40	1.0	–	5	<0.008	–
25	171469	<5	<5	–	20	0.5	–	7	<0.008	–

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
	7.5.08.04053	17/12/86	E 19316	OF

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	As	Au	Au		
1	[illegible]	%	35	10	<0.5	1		0.01		
2	[illegible]	%	30	910	0.5	[illegible]	-	<0.01		
3	[illegible]	%	35	40	0.5	[illegible]		[illegible]		
4	[illegible]	3%	110	90	<0.5	[illegible]		0.01		
5	[illegible]	1%	45	440	0.5	17		[illegible]		
6	[illegible]	1%	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		
7	[illegible]	1%	490	[illegible]	[illegible]	18	-	[illegible]		
8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		
9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			[illegible]		
10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		
11	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		
12	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		
13	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		
14	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		
15	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		
16	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		
17	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		
18	[illegible]					[illegible]		[illegible]		
19	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		
20	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		
21	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		
22	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]				
23	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]		[illegible]		
24								[illegible]		
25	[illegible]	[illegible]			[illegible]			[illegible]		

Soil Samples
Voyager 19

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
	7.5.08.04053	1/12/86	E 1910	1 OF 1

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	As	Au	Au		
1	171201	10	10	210	1.0	2		<0.01		
2	171202	5	15	255	1.0	1	-	<0.01		
3	171203	10	40	80	0.5	1	-	<0.01		
4	171204	5	30	25	1.0	1	-	<0.01		
5	171205	65	360	730	3.0	25	-	<0.01		
6	171206	5	90	280	1.0	8	-	<0.01		
7	171207	10	130	1050	1.0	5	-	<0.01	19	
8	171208	10	5400	9700	5.0	74	-	0.01		
9	171209	5	25	20	1.0	3		0.01	Voyager	
10	171210	210	1700	3520	2.5	59		0.01		
11	171211	5	40	10	1.5	91		0.01		
12	171212	5	45	10	0.5	2	-	<0.01		
13	171213	5	75	95	0.5	4		<0.01		
14	171214	15	60	10	0.5	1	-	<0.01		
15	171215	10	20	15	1.0	2		<0.01	Samples	
16	171216	<5	5	5	0.5	1		<0.01		
17	171217	20	<5	5	1.0	1	-	<0.01		
18	171218	<5	10	5	1.0	1	-	<0.01		
19	171219	5	5	5	1.0	1	-	<0.01	Soil	
20	171220	20	10	5	1.0	3	-	<0.01		
21	171221	10	10	5	0.5	2	-	<0.01		
22	171222	5	5	5	0.5	1	-	<0.01		
23	171223	<5	10	85	1.0	1	-	<0.01		
24	171224	<5	5	5	1.0	1		<0.01		
25	171225	5	20	40	0.5	1		<0.01		

Results in ppm unless otherwise specified
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04053	17/12/86	E 19510	4 OF 6

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	As	Au	Au		
1	171226	5	15	20	0.5	2		<0.01		
2	171227	5	35	165	0.5	12	-	<0.01		
3	171228	5	45	30	1.0	2	-	0.02		
4	171229	20	35	10	0.5	3	-	<0.01		
5	171230	10	40	25	1.0	2	-	<0.01		
6	171231	35	400	80	1.0	10	-	<0.01		
7	171232	5	45	70	0.5	3	-	<0.01	Voyager 19	
8	171233	20	550	1950	2.5	19	-	<0.01		
9	171234	10	45	440	0.5	3		<0.01		
10	171235	10	45	60	0.5	2	-	0.01		
11	171236	5	20	60	<0.5	1	-	0.01		
12	171237	5	200	360	<0.5	1	-	0.01		
13	171238	<5	15	10	0.5	3	-	<0.01		
14	171239	5	10	5	<0.5	<1		0.01		
15	171240	5	100	15	<0.5	1	-	0.01	Samples	
16	171241	<5	15	30	<0.5	1	-	0.01		
17	171242	<5	10	<10	1.0	<1		0.01		
18	171243	10	<5	15	<0.5	<1		<0.01		
19	171244	5	15	15	0.5	1	-	<0.01	Soil	
20	171245	10	10	35	0.5	1	-	0.01		
21	171246	15	400	1250	1.0	15	-	0.02		
22	171247	5	<5	10	<0.5	<1		<0.01		
23	171248	<5	<5	10	<0.5	<1	-	0.01		
24										
25										

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

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04053	17/12/86	E 19310	5 OF 6

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	As	Au	Au		
1	171251	5	15	275	0.5	<1	-	0.01		
2	171252	5	10	55	<0.5	1	-	<0.01		
3	171253	40	640	100	3.0	14	-	<0.01		
4	171254	20	315	300	0.5	11	-	<0.01		
5	171255	25	685	480	1.0	17	-	<0.01		
6	171256	5	30	160	0.5	6	-	<0.01		
7	171257	5	55	60	0.5	1	-	0.01		
8	171258	75	1150	540	1.5	13	-	0.01		
9	171259	5	35	20	0.5	1	-	0.03		
10	171260	10	60	35	0.5	<1	-	0.01		
11	171261	5	30	10	0.5	1	-	<0.01		
12	171262	5	20	10	0.5	1	-	0.01		
13	171263	<5	<5	10	0.5	<1	-	<0.01		
14	171264	5	10	5	0.5	<1	-	<0.01		
15	171265	<5	<5	5	0.5	<1	-	<0.01		
16	171266	5	35	20	0.5	<1	-	<0.01		
17	171267	5	40	45	<0.5	<1	-	<0.01		
18	171268	20	1150	3250	4.0	20	-	<0.01		
19	171269	5	30	40	2.0	2		<0.01		
20	171270	15	25	20	1.0	1	-	<0.01		
21	171271	5	50	55	17.5	1	-	0.32		
22	171272	<5	20	10	1.0	1		<0.01		
23	171273	<5	10	10	0.5	1	-	<0.01		
24	171274	<5	10	10	<0.5	2		<0.01		
25	171275	<5	5	5	0.5	1	-	<0.01		

Voyager 19. Samples Soil

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04053	17/12/06	[illegible]	[illegible] OF [illegible]

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	As	Au	Au	
1	180537	90	25	90	<0.5	3	[illegible]	-	
2	180538	115	10	75	<0.5	8	[illegible]	-	Rock Chip Voyager 9.
3	180539	20	20	40	<0.5	3	[illegible]	-	
4	180540	<5	<5	10	0.5	<1	0.005	-	
5	180541	10	10	20	<0.5	3	0.005		Rock Chip Voyager 19.
6	180542	[illegible]	25	15	0.5	21	[illegible]		Rock Chip Voyager 9.
7	180543	[illegible]	2200	435	17.0	[illegible]	[illegible]		Rock Chip Hudson R.
8									
9									
10									
11									
12									
13									
14									
15									
16									
[illegible]									
18									
19	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
20									
21									
22									
23	[illegible]	5	5	5	0.5	1	0.005	0.01	
24	[illegible]	[illegible]	PPM	PPM	PPM	PPM	PPM	PPM	
25	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
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A division of MacDonald Hamilton & Co. Pty. Ltd.
Phone (09) 458 7999 52 Murray Road, Welshpool, W.A. 6106 Telex AA92560
TLX: AA 59224

ANALYTICAL REPORT No. 7.5.08.04204

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

B. Roxburgh
Cyprus Minerals
P.O. Box 493
North Sydney
N.S.W. 2060

ORDER No.	PROJECT
E00253	

DATE RECEIVED	RESULTS REQUIRED
04/02/88	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
11	08/04/87	1	365

FER - ROW	SAMPLE NUMBERS	PRE-TREATMENT: DRY	CRUSH	SPLIT	PUL-VERISE	SIEVE	OTHER SEE REMARKS	NONE	ANALYSIS: REFER TO ANALYSIS SECTION	PREPARATION	METHOD
	Various	RO							Cu,Pb,Zn,Ag/101,As/114		
	Various	SO							Au,AuChk/309		
	Various	SS							Cu,Pb,Zn,Ag/101,As/114		
	Various	SS							Au,AuChk/309		
	Various	SS							Cu,Pb,Zn,Ag/101,As/114		

RESULTS TO

C. Torrey
Cyprus Minerals
P.O. Box 230
Zeehan
Tasmania 7469

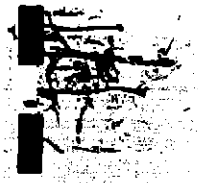
RESULTS TO

B. Roxburgh
Cyprus Minerals
P.O. Box 493
North Sydney
N.S.W. 2060

REMARKS

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

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04204	08/04/87	E00253	1 OF 11

TUBE No.	SAMPLE No.		Au	AuChk	
1	171437		<0.008	<0.008	Rock Chip Porphyry Contact
2	171438		<0.008	–	
3	171692		0.330	–	
4	171693		0.380	–	Rock Chip
5	171694		0.190	–	
6	171695		0.510	–	Voyager 12
7	171696		0.910	–	
8	171697		24.270	–	
9	171698		1.150	–	
10	171980		0.150	0.125	
11	171981		7.250	6.610	
12	171982		0.770	–	Rock Chip
13	171983		<0.008	–	
14	171984		0.010	–	Voyager 6
15	171985		<0.008	–	
16	171986		<0.008	–	
17	171987		<0.008	–	
18	180583		<0.008	–	Rock Chip Voyager 16
19	180584		<0.008	–	
20	171475	-80#+150#	<0.008	–	-80# Stream Sediment Voyager 12
21	171566	-80#+150#	<0.008	–	-80# Stream Sediment
22	171567	-80#+150#	<0.008	–	Voyager 16
23	171568	-80#+150#	<0.008	–	
24	171699	-80#+150#	<0.008	–	-80# Stream Sediment
25	171700	-80#+150#	<0.008	–	Porphyry Contact

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
	7.5.08.04204	08/04/87	E00253	2 OF 11

TUBE No.	SAMPLE No.		Au	AuChk						
1	171701	-80#+150#	<0.008	-						
2	171702	-80#+150#	<0.008	-						
3	171703	-80#+150#	<0.008	-						
4	171704	-80#+150#	<0.008	-						
5	171705	-80#+150#	<0.008	-						
6	171706	-80#+150#	<0.008	-						
7	171707	-80#+150#	<0.008	-	-80# Stream					
8	171708	-80#+150#	<0.008	-						
9	171709	-80#+150#	<0.008	-	Sediment					
10	171710	-80#+150#	<0.008	-						
11	171711	-80#+150#	<0.008	-	Porphyry Contact					
12	171712	-80#+150#	<0.008	-						
13	171713	-80#+150#	0.020	-						
14	171714	-80#+150#	0.090	-						
15	171715	-80#+150#	<0.008	-						
16	171716	-80#+150#	<0.008	<0.008						
17	171717	-80#+150#	<0.008	-						
18	171718	-80#+150#	0.090	-						
19	171719	-80#+150#	<0.008	-						
20	171720	-80#+150#	<0.008	-						
21	171721	-80#+150#	<0.008	-						
22	171961	-80#+150#	<0.008	-	-80# Stream Sediment					
23	171962	-80#+150#	0.010	-						
24	171963	-80#+150#	0.930	-	Granite Contact.					
25	171964	-80#+150#	0.850	-						

Results in ppm unless otherwise specified
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04204	08/04/87	E00253	3 OF 11

TUBE No.	SAMPLE No.		Au	AuChk	
1	171965	-80#+150#	<0.008	–	-80# Stream Sediment
2	202001	-80#+150#	<0.008	–	Granite Contact.
3	202002	-80#+150#	0.040	–	
4	202003	-80#+150#	<0.008	–	
5	202004	-80#+150#	<0.008	–	
6	202005	-80#+150#	<0.008	<0.008	
7	202006	-80#+150#	0.050	–	Stream Sediment
8	202007	-80#+150#	<0.008	–	
9	202008	-80#+150#	0.070	–	Porphyry Contact.
10	202009	-80#+150#	0.010	–	
11	202010	-80#+150#	<0.008	<0.008	
12	202011	-80#+150#	0.020	–	
13	171476		<0.008	–	Panned Concentrate Voyager 12.
14	171615		<0.008	–	
15	171616		<0.008	–	Panned Concentrates
16	171617		<0.008	–	Voyager 16
17	171618		<0.008	–	
18	171994		<0.008	<0.008	Panned Concentrates
19	171995		1.190	–	Granite Contact
20	171996		1.990	–	
21	171997		22.600	22.010	
22	171998		0.630	–	
23	202040		22.570	–	Panned Concentrates
24	202041		1.330	–	Porphyry Contact.
25	202042		35.470	45.090	

Results in ppm unless otherwise specified
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04204	08/04/87	E00253	4 OF 11

TUBE No.	SAMPLE No.		Au	AuChk	
1	202043		6.080	–	
2	202044		1.110	1.030	
3	202045		59.170	80.020	
4	202046		53.000	48.570	
5	202047		1.160	–	
6	202048		5.310	–	
7	202049		14.130	–	
8	202050		11.730	–	
9	202101		<0.008	–	
10	202102		0.010	–	
11	202103		<0.008	–	
12	202104		<0.008	–	
13	202105		0.030	0.030	
14	202106		<0.008	–	
15	202107		<0.010	–	
16	202108		<0.008	–	
17	202109		<0.007	–	
18	202110		0.016	–	
19	202111		<0.030	–	
20	202112		<0.008	–	
21	202113		0.190	–	
22	202114		<0.006	–	
23	202115		<0.008	<0.008	
24	202116		<0.007		
25	202117		<0.008	–	

Panned Concentrates
Porphyry Contact.

Panned Concentrates
Porphyry Contact.

Results in ppm unless otherwise specified
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04204	08/04/87	E00253	5 OF 11

TUBE No.	SAMPLE No.		Au	AuChk		
1	202118		<0.008	–		
2	202119		0.040	–		Panned Concentrates
3	202120		<0.008	–		
4	202121		<0.008	–		Porphyry Contact.
5	202122		<0.008	–		
6	202123		<0.008	–		
7	171841		<0.008	–		
8	171842		<0.008	–		
9	171843		<0.008	–		
10	171844		0.010	<0.008		Soil Samples
11	171845		<0.008	–		Voyager 12
12	171846		0.010	–		
13	171847		<0.008	–		
14	171848		<0.008	–		
15	171849		0.010	–		
16	171850		0.070	–		
17	171909		<0.008	–		
18	171910		<0.008	–		Soil Samples
19	171911		<0.008	–		Voyager 12
20	171912		<0.008	–		
21	171913		<0.008	–		
22	171914		<0.008	–		
23	171915		<0.008	–		
24	171916		0.010	–		
25	171917		0.010	–		

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04204	08/04/87	E00253	6 OF 11

TUBE No.	SAMPLE No.		Au	AuChk						
1	171918		<0.008	–						
2	171919		<0.008	–						
3	171920		<0.008	–						
4	171921		<0.008	–						
5	171922		<0.008	<0.008						
6	171923		<0.008	–						
7	171924		<0.008	–						
8	171925		0.030	–		Soil Samples				
9	171926		<0.008	–						
10	171927		0.010	–		Voyager 12.				
11	171928		<0.008	–						
12	171929		<0.008	–						
13	171930		<0.008	–						
14	171931		<0.008	–						
15	171932		<0.008	0.010						
16	171933		<0.008	–						
17	171934		<0.008	–						
18	171935		<0.008	–						
19	171936		<0.008	–						
20	171937		<0.008	–						
21	171938		<0.008	–						
22	171939		<0.008	–						
23	171940		<0.008	–						
24	171941		<0.008	–						
25	171942		<0.008	–						

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
	7.5.08.04204	08/04/87	E00253	7 OF 11

TUBE No.	SAMPLE No.		Au	AuChk						
1	171943		<0.008	-						
2	171944		<0.008	-						
3	171945		<0.008	-						
4	171946		<0.008	-						
5	171947		<0.008	-						
6	171948		<0.008	-						
7	171949		<0.008	-						
8	171950		<0.008	-						
9	202051		<0.008	-		Soil Samples.				
10	202052		0.030	0.030						
11	202053		<0.008	-		Voyager 12.				
12	202054		<0.008	-						
13	202055		<0.008	-						
14	202056		<0.008	-						
15	202057		<0.008	-						
16	202058		<0.008	-						
17	202059		<0.008	-						
18	202060		<0.008	-						
19	202061		<0.008	-						
20	202062		<0.008	-						
21	202063		<0.008	-						
22	202064		<0.008	-						
23	202065		<0.008	-						
24	202066		<0.008	-						
25	202067		0.050	-						

Results in ppm unless otherwise specified
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04204	08/04/87	E00253	8 OF 11

TUBE No.	SAMPLE No.		Au	AuChk						
1	202068		0.130	-						
2	202069		<0.008	-						
3	202070		<0.008	-						
4	202071		<0.008	-						
5	202072		<0.008	<0.008						
6	202073		<0.008	-						
7	202074		0.010	-						
8	202075		0.020	-		Soil Samples				
9	202076		<0.008	-						
10	202077		<0.008	-		Voyager 12.				
11	202078		<0.008	-						
12	202079		<0.008	-						
13	202080		<0.008	-						
14	202081		<0.008	-						
15	202082		<0.008	-						
16	202083		<0.008	-						
17	202084		<0.008	-						
18	202085		<0.008	-						
19	202086		<0.008	-						
20	202087		<0.008	-						
21	202088		<0.008	-						
22	202089		<0.008	-						
23	202090		<0.008	-						
24	202091		<0.008	-						
25	202092		<0.008	-						

Results in ppm unless otherwise specified
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04204	08/04/87	E00253	9 OF 11

TUBE No.	SAMPLE No.		Au	AuChk						
1	202093		<0.008	–						
2	202094		<0.008	–						
3	202095		<0.008	–						
4	202096		<0.008	–						
5	202097		<0.008	–						
6	202098		<0.008	–						
7	202099		<0.008	–						
8	202100		<0.008	–		Soil Samples				
9	202151		<0.008	–						
10	202152		<0.008	–		Voyager 12.				
11	202153		<0.008	–						
12	202154		<0.008	–						
13	202155		<0.008	–						
14	202156		<0.008	–						
15	202157		<0.008	–						
16	202158		<0.008	–						
17	202159		<0.008	–						
18	202160		<0.008	–						
19	202161		<0.008	–						
20	202162		<0.008	–						
21	202163		<0.008	–						
22	202201		<0.008	–						
23	202202		<0.008	–						
24	202203		<0.008	–						
25	202204		<0.008	–						

Results in ppm unless otherwise specified
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04204	08/04/87	E00253	10 OF 11

TUBE No.	SAMPLE No.		Au	AuChk						
1	202205		0.020	–						
2	202206		0.010	–						
3	202207		<0.008	–						
4	202208		0.010	–						
5	202209		0.040	–						
6	202210		0.060	–						
7	202211		0.020	–						
8	202212		<0.008	<0.008						
9	202213		<0.008	–		Soil Samples				
10	202214		<0.008	–						
11	202215		<0.008	–		Voyager 12.				
12	202216		<0.008	–						
13	202217		<0.008	–						
14	202218		0.020	–						
15	202219		0.010	–						
16	202220		<0.008	–						
17	202221		<0.008	–						
18	202222		[illegible]	0.010						
19	202223		<0.008	–						
20	202224		<0.008	–						
21	202225		0.110	–						
22	202226		<0.008	–						
23	202227		<0.008	–						
24	202228		<0.008	–						
25	202229		<0.008	–						

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04204	08/04/87	E00253	11 OF 11

TUBE No.	SAMPLE No.		Au	AuChk						
1	202230		<0.008	-						
2	202231		<0.008	-						
3	202232		0.010	0.010						
4	202233		<0.008	-						
5	202234		<0.008	-						
6	202235		<0.008	-						
7	202236		<0.008	-						
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23	DETECTION		0.008	0.008						
24	UNITS		PPM	PPM						
25	METHOD		30G	30G						

Soil Samples
Voyager 12.

Results in ppm unless otherwise specified
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04204	08/04/87	E00253	1 OF 11

TUBE No.	SAMPLE No.		Cu	Pb	Pb	Zn	Ag	Ag	As	
1	171437		10	40	–	50	0.5	–	5	
2	171438		50	5	–	10	<0.5	–	3	
3	171692		7800	–	2475	205	–	93	3700	
4	171693		2000	–	4175	300	–	13	4100	
5	171694		28500	–	3000	335	–	34	4900	
6	171695		1900	–	2750	1800	–	20	6500	
7	171696		535	–	2125	560	–	16	4700	
8	171697		46500	–	8800	1900	–	161	24000	
9	171698		3600	–	1950	595	<0.5	–	10500	
10	171980		90	505	–	610	<0.5	–	37	
11	171981		910	675	–	60	–	21	25	
12	171982		1150	395	–	30	–	14	21	
13	171983		30	5	–	15	<0.5	–	8	
14	171984		20	15	–	60	<0.5	–	7	
15	171985		20	5	–	130	<0.5	–	6	
16	171986		45	50	–	85	<0.5	–	4	
17	171987		15	95	–	160	<0.5	–	3	
18	180583		10	10	–	100	<0.5	–	4	
19	180584		50	30	–	120	0.5	–	7	
20	171475	_80#+150#	40	30	–	25	<0.5	–	12	
21	171566	_80#+150#	<5	15	–	20	<0.5	–	4	
22	171567	_80#+150#	5	5	–	30	<0.5	–	5	
23	171568	_80#+150#	<5	10	–	15	<0.5	–	4	
24	171569	_80#+150#	<5	<5	–	10	<0.5	–	3	
25	171700	_80#+150#	<5	<5	–	10	<0.5	–	4	

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04204	08/04/87	E00253	2 OF 11

TUBE No.	SAMPLE No.		Cu	Pb	Pb	Zn	Ag	Ag	As	
1	171701	_80#+150#	<5	<5	-	5	<0.5	-	2	
2	171702	_80#+150#	<5	<5	-	5	0.5	-	3	
3	171703	_80#+150#	<5	<5	-	5	<0.5	-	4	
4	171704	_80#+150#	<5	<5	-	5	<0.5	-	3	
5	171705	_80#+150#	<5	<5	-	5	<0.5	-	3	
6	171706	_80#+150#	<5	<5	-	10	<0.5	-	4	
7	171707	_80#+150#	<5	<5	-	10	0.5	-	4	
8	171708	_80#+150#	<5	<5	-	10	<0.5	-	7	
9	171709	_80#+150#	<5	<5	-	20	0.5	-	5	
10	171710	_80#+150#	<5	<5	-	20	<0.5	-	4	
11	171711	_80#+150#	<5	<5	-	10	<0.5	-	4	
12	171712	_80#+150#	<5	<5	-	10	<0.5	-	3	
13	171713	_80#+150#	<5	<5	-	20	<0.5	-	3	
14	171714	_80#+150#	<5	<5	-	15	<0.5	-	4	
15	171715	_80#+150#	<5	<5	-	10	<0.5	-	3	
16	171716	_80#+150#	<5	<5	-	25	0.5	-	5	
17	171717	_80#+150#	<5	<5	-	10	0.5	-	3	
18	171718	_80#+150#	<5	5	-	5	<0.5	-	3	
19	171719	_80#+150#	<5	<5	-	10	<0.5	-	3	
20	171720	_80#+150#	<5	<5	-	5	0.5	-	4	
21	171721	_80#+150#	<5	<5	-	5	0.5	-	4	
22	171961	_80#+150#	<5	<5	-	10	<0.5	-	4	
23	171962	_80#+150#	5	<5	-	15	0.5	-	3	
24	171963	_80#+150#	<5	<5	-	10	0.5	-	4	
25	171964	_80#+150#	5	<5	-	25	<0.5	-	4	

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04204	08/04/87	E00253	3 OF 11

TUBE No.	SAMPLE No.		Cu	Pb	Pb	Zn	Ag	Ag	As	
1	171965	_80#+150#	<5	<5	-	50	0.5	-	4	
2	202001	_80#+150#	10	15	-	25	0.5	-	6	
3	202002	_80#+150#	5	<5	-	15	<0.5	-	5	
4	202003	_80#+150#	5	5	-	15	<0.5	-	4	
5	202004	_80#+150#	<5	5	-	10	<0.5	-	3	
6	202005	_80#+150#	5	10	-	15	0.5	-	7	
7	202006	_80#+150#	<5	<5	-	10	<0.5	-	5	
8	202007	_80#+150#	5	10	-	20	<0.5	-	5	
9	202008	_80#+150#	5	<5	-	10	0.5	-	4	
10	202009	_80#+150#	<5	<5	-	15	<0.5	-	4	
11	202010	_80#+150#	<5	<5	-	10	<0.5	-	7	
12	202011	_80#+150#	<5	<5	-	5	<0.5	-	4	
13	171976		95	15	-	25	<0.5	-	10	
14	171615		<5	<5	-	15	<0.5	-	2	
15	171616		<5	5	-	25	<0.5	-	<1	
16	171617		<5	<5	-	10	<0.5	-	<1	
17	171618		<5	<5	-	10	<0.5	-	<1	
18	171974		5	5	-	170	<0.5	-	4	
19	171975		<5	5	-	165	<0.5	-	4	
20	171976		5	10	-	330	<0.5	-	4	
21	171977		30	<5	-	75	<0.5	-	3	
22	171978		<5	5	-	15	<0.5	-	2	
23	202040		<5	<5	-	25	<0.5	-	<1	
24	202041		<5	<5	-	15	<0.5	-	<1	
25	202042		<5	5	-	25	1.5	-	<1	

Results in ppm unless otherwise specified
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
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TUBE No.	SAMPLE No.		Cu	Pb	Pb	Zn	Ag	Ag	As	
1	202043		<5	<5	-	15	<0.5	-	<1	
2	202044		<5	10	-	15	<0.5	-	<1	
3	202045		<5	5	-	10	<0.5	-	<1	
4	202046		<5	5	-	20	<0.5	-	<1	
5	202047		<5	5	-	15	<0.5	-	<1	
6	202048		5	<5	-	40	<0.5	-	<1	
7	202049		10	30	-	35	0.5	-	<1	
8	202050		10	5	-	30	<0.5	-	2	
9	202101		<5	<5	-	5	<0.5	-	2	
10	202102		<5	<5	-	10	<0.5	-	<1	
11	202103		<5	<5	-	10	0.5	-	<1	
12	202104		<5	<5	-	5	<0.5	-	<1	
13	202105		<5	<5	-	10	<0.5	-	<1	
14	202106		<5	<5	-	5	<0.5	-	<1	
15	202107		5	<5	-	10	<0.5	-	<1	
16	202108		<5	<5	-	10	<0.5	-	<1	
17	202109		<5	<5	-	10	<0.5	-	2	
18	202110		<5	<5	-	10	<0.5	-	<1	
19	202111		<5	<5	-	5	<0.5	-	<1	
20	202112		<5	<5	-	5	<0.5	-	<1	
21	202113		<5	<5	-	10	<0.5	-	<1	
22	202114		<5	<5	-	5	<0.5	-	2	
23	202115		5	<5	-	10	<0.5	-	<1	
24	202116		5	<5	-	25	<0.5	-	2	
25	202117		<5	<5	-	10	<0.5	-	<1	

Results in ppm unless otherwise specified
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04204	08/04/87	E00253	5 OF 11

TUBE No.	SAMPLE No.		Cu	Pb	Pb	Zn	Ag	Ag	As	
1	202118		<5	<5	-	15	<0.5	-	2	
2	202119		5	<5	-	25	<0.5	-	2	
3	202120		5	10	-	5	<0.5	-	<1	
4	202121		5	10	-	5	<0.5	-	<1	
5	202122		5	5	-	5	<0.5	-	<1	
6	202123		5	5	-	5	<0.5	-	<1	
7	171841		15	50	-	15	5.0	-	1	
8	171842		<5	<5	-	10	3.5	-	<1	
9	171843		<5	<5	-	10	<0.5	-	<1	
10	171844		<5	10	-	15	0.5	-	29	
11	171845		<5	<5	-	10	1.0	-	3	
12	171846		5	<5	-	300	1.5	-	1	
13	171847		5	<5	-	20	1.0	-	1	
14	171848		<5	<5	-	10	0.5	-	18	
15	171849		40	10	-	15	<0.5	-	230	
16	171850		605	15	-	15	<0.5	-	2110	
17	171909		15	[illegible]	-	600	<0.5	-	11	
18	171910		5	[illegible]	-	85	<0.5	-	22	
19	171911		<5	[illegible]	-	10	0.5	-	1	
20	171912		5	[illegible]	-	10	<0.5	-	<1	
21	171913		10	<5	-	15	<0.5	-	6	
22	171914		15	[illegible]	-	70	0.5	-	100	
23	171915		5	[illegible]	-	25	<0.5	-	41	
24	171916		[illegible]	[illegible]	-	10	<0.5	-	22	
25	171917		[illegible]	[illegible]	-	25	<0.5	-	[illegible]	

Results in ppm unless otherwise specified
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— = element not determined

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04204	08/04/87	E00253	6 OF 11

TUBE No.	SAMPLE No.		Cu	Pb	Pb	Zn	Ag	Ag	As	
1	171918		25	25	–	20	<0.5	–	130	
2	171919		10	15	–	15	0.5	–	4	
3	171920		5	<5	–	20	<0.5	–	1	
4	171921		5	5	–	20	<0.5	–	<1	
5	171922		5	5	–	15	<0.5	–	<1	
6	171923		<5	10	–	20	<0.5	–	1	
7	171924		25	25	–	35	0.5	–	6	
8	171925		25	250	–	70	–	10	170	
9	171926		65	290	–	170	9.0	–	290	
10	171927		70	30	–	35	1.5	–	130	
11	171928		20	20	–	85	<0.5	–	44	
12	171929		30	20	–	25	<0.5	–	170	
13	171930		75	45	–	35	<0.5	–	31	
14	171931		100	75	–	25	2.0	–	200	
15	171932		25	40	–	15	1.0	–	7	
16	171933		5	<5	–	20	1.5	–	2	
17	171934		5	15	–	20	2.5	–	1	
18	171935		205	200	–	150	1.0	–	8	
19	171936		10	20	–	20	<0.5	–	2	
20	171937		10	25	–	30	<0.5	–	6	
21	171938		15	35	–	40	<0.5	–	11	
22	171939		5	10	–	10	0.5	–	3	
23	171940		<5	5	–	10	0.5	–	6	
24	171941		<5	5	–	10	<0.5	–	7	
25	171942		10	30	–	10	1.5	–	4	

Results in ppm unless otherwise specified
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04204	08/04/87	E00253	7 OF 11

TUBE No.	SAMPLE No.		Cu	Pb	Pb	Zn	Ag	Ag	As	
1	171943		470	–	1700	185	–	12	11	
2	171944		10	5	–	10	<0.5	–	3	
3	171945		<5	5	–	10	<0.5	–	2	
4	171946		<5	<5	–	10	<0.5	–	7	
5	171947		5	<5	–	15	<0.5	–	5	
6	171948		115	180	–	25	<0.5	–	290	
7	171949		340	–	1375	35	0.5	–	520	
8	171950		80	295	–	10	<0.5	–	51	
9	202051		15	<5	–	10	<0.5	–	10	
10	202052		920	–	1650	25	<0.5	–	2200	
11	202053		55	120	–	10	<0.5	–	44	
12	202054		5	<5	–	10	<0.5	–	14	
13	202055		5	15	–	10	<0.5	–	10	
14	202056		10	<5	–	20	<0.5	–	11	
15	202057		10	<5	–	15	<0.5	–	13	
16	202058		125	35	–	165	<0.5	–	6	
17	202059		10	10	–	50	<0.5	–	6	
18	202060		5	<5	–	10	0.5	–	6	
19	202061		<5	<5	–	15	<0.5	–	4	
20	202062		10	5	–	10	<0.5	–	7	
21	202063		335	255	–	40	<0.5	–	120	
22	202064		50	135	–	25	0.5	–	200	
23	202065		10	15	–	15	<0.5	–	17	
24	202066		<35	40	–	25	<0.5	–	1200	
25	202067		60	25	–	20	<0.5	–	200	

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04204	08/04/87	E00253	8 OF 11

TUBE No.	SAMPLE No.		Cu	Pb	Pb	Zn	Ag	Ag	As	
1	202068		235	115	-	25	0.5	-	1500	
2	202069		15	<5	-	20	<0.5	-	32	
3	202070		5	<5	-	15	<0.5	-	6	
4	202071		5	<5	-	15	0.5	-	6	
5	202072		5	<5	-	15	0.5	-	4	
6	202073		5	<5	-	20	<0.5	-	5	
7	202074		10	<5	-	20	<0.5	-	4	
8	202075		5	<5	-	15	1.0	-	78	
9	202076		<5	30	-	15	0.5	-	13	
10	202077		5	40	-	15	0.5	-	12	
11	202078		<5	<5	-	15	<0.5	-	3	
12	202079		5	<5	-	15	<0.5	-	3	
13	202080		5	<5	-	20	<0.5	-	3	
14	202081		5	<5	-	20	<0.5	-	3	
15	202082		25	10	-	20	<0.5	-	78	
16	202083		45	15	-	25	<0.5	-	37	
17	202084		10	<5	-	20	<0.5	-	13	
18	202085		5	<5	-	15	<0.5	-	5	
19	202086		5	<5	-	10	<0.5	-	4	
20	202087		10	75	-	20	0.5	-	660	
21	202088		10	10	-	15	<0.5	-	13	
22	202089		95	30	-	25	<0.5	-	56	
23	202090		5	<5	-	15	<0.5	-	3	
24	202091		10	110	-	50	0.8	-	12	
25	202092		10	10	-	30	<0.5	-	5	

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04204	08/04/87	E00253	9 OF 11

TUBE No.	SAMPLE No.		Cu	Pb	Pb	Zn	Ag	Ag	As	
1	202093		5	95	–	25	<0.5	–	4	
2	202094		5	<5	–	15	<0.5	–	3	
3	202095		<5	<5	–	20	<0.5	–	2	
4	202096		<5	<5	–	15	<0.5	–	3	
5	202097		5	<5	–	15	<0.5	–	3	
6	202098		5	5	–	10	<0.5	–	<1	
7	202099		5	15	–	15	<0.5	–	12	
8	202100		5	10	–	10	<0.5	–	4	
9	202151		5	15	–	20	<0.5	–	4	
10	202152		<5	15	–	15	<0.5	–	<1	
11	202153		5	150	–	20	<0.5	–	2	
12	202154		<5	10	–	15	<0.5	–	<1	
13	202155		<5	5	–	10	<0.5	–	<1	
14	202156		5	10	–	10	<0.5	–	2	
15	202157		<5	10	–	10	<0.5	–	2	
16	202158		5	15	–	20	<0.5	–	3	
17	202159		5	10	–	20	<0.5	–	2	
18	202160		<5	10	–	30	<0.5	–	2	
19	202161		5	<5	–	20	<0.5	–	3	
20	202162		5	<5	–	10	<0.5	–	4	
21	202163		5	<5	–	5	<0.5	–	4	
22	202201		75	90	–	25	<0.5	–	200	
23	202202		30	75	–	30	<0.5	–	12	
24	202203		<5	10	–	5	<0.5	–	3	
25	202204		<5	5	–	10	<0.5	–	5	

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04204	08/04/87	E00253	10 OF 11

TUBE No.	SAMPLE No.		Cu	Pb	Pb	Zn	Ag	Ag	As	
1	202205		5	<5	-	10	<0.5	-	3	
2	202206		70	5	-	15	<0.5	-	27	
3	202207		20	15	-	15	<0.5	-	12	
4	202208		<5	15	-	10	<0.5	-	3	
5	202209		110	85	-	30	3.5	-	130	
6	202210		600	545	-	35	-	12	1100	
7	202211		15	<5	-	20	<0.5	-	120	
8	202212		20	<5	-	30	<0.5	-	29	
9	202213		10	<5	-	15	0.5	-	8	
10	202214		5	<5	-	15	<0.5	-	4	
11	202215		205	180	-	50	<0.5	-	51	
12	202216		205	20	-	40	<0.5	-	14	
13	202217		190	35	-	35	<0.5	-	16	
14	202218		100	80	-	20	<0.5	-	65	
15	202219		100	495	-	15	0.5	-	380	
16	202220		545	300	-	120	<0.5	-	180	
17	202221		1400	415	-	440	<0.5	-	2000	
18	202222		470	-	1200	40	<0.5	-	210	
19	202223		5	<5	-	15	<0.5	-	6	
20	202224		5	<5	-	20	<0.5	-	10	
21	202225		40	35	-	15	0.5	-	110	
22	202226		10	<5	-	10	<0.5	-	46	
23	202227		5	<5	-	10	<0.5	-	4	
24	202228		<5	<5	-	10	<0.5	-	3	
25	202229		10	<5	-	15	<0.5	-	4	

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04204	08/04/87	E00253	11 OF 11

TUBE No.	SAMPLE No.		Cu	Pb	Pb	Zn	Ag	Ag	As	
1	202230		5	<5	–	10	<0.5	–	4	
2	202231		25	<5	–	15	<0.5	–	5	
3	202232		5	<5	–	10	<0.5	–	5	
4	202233		<5	<5	–	10	<0.5	–	3	
5	202234		5	<5	–	60	<0.5	–	6	
6	202235		10	<5	–	100	<0.5	–	5	
7	202236		<5	<5	–	15	2.5	–	3	
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23	DETECTION		5	5	25	5	0.5	2	1	
24	UNITS		PPM	PPM	PPM	PPM	PPM	PPM	PPM	
25	METHOD		101	101	104	101	101	104	114	

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Phone (09) 458 7999 — 52 Murray Road, Welshpool, W.A. 6106 — Telex AA92560
TLtr: AA 59224

ANALYTICAL REPORT No. 7.5.08.04222

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

B. Roxburgh
Cyprus Minerals
P.O. Box 493
North Sydney
N.S.W. 2060

ORDER No.	PROJECT
4827/31	

DATE RECEIVED	RESULTS REQUIRED
11/02/87	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
2	10/03/87	1	356

PER FLOW	SAMPLE NUMBERS	PRE-TREATMENT: DRY	CRUSH	SPLIT	PULVERISE	SIEVE	OTHER SEE REMARKS	NONE	ANALYSIS: REFER TO ANALYSIS SECTION	PREPARATION	METHOD
	Various	SO	Prep: 006,009,016						Cu,Pb,Zn,Ag/101,As/114,Au/329		
	Various	PU							Au,AuChk/309		
	Various	SS	Prep: 006,007,016						Cu,Pb,Zn,Ag/101,As/114		
	Various	PU							Au,AuChk/309		
	Various	PO	Prep: 002,004,009,016						Cu,Pb,Zn,Ag/101,As/114		

RESULTS TO

B. Roxburgh
Cyprus Minerals
P.O. Box 493
North Sydney
N.S.W. 2060

RESULTS TO

REMARKS

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

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04222	10/03/87	4827/31	1 OF 15

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Ag	As	Au	AuChk	Wgh
1	202237	<5	335	240	<0.5	–	1	0.160	–	–
2	202238	<5	<5	35	<0.5	–	1	0.050	–	–
3	202239	<5	10	20	<0.5	–	1	0.030	–	Creek.
4	202240	<5	<5	10	<0.5	–	1	0.010	–	–
5	202241	<5	10	15	<0.5	–	<1	0.010	–	Water leo
6	202242	<5	<5	50	<0.5	–	<1	0.030	–	–
7	202243	<5	10	50	<0.5	–	1	<0.008	<0.008	–
8	202244	5	10	40	<0.5	–	1	<0.008	–	–
9	202245	<5	10	20	<0.5	–	1	0.010	–	Soil Samples
10	202246	<5	5	50	<0.5	–	1	0.010	–	–
11	202247	5	10	50	<0.5	–	1	<0.008		–
12	202248	<5	5	30	<0.5	–	<1	<0.008		–
13	202249	<5	5	15	<0.5	–	1	<0.008		–
14	202250	<5	10	25	0.5	–	1	<0.008	–	–
15	202251	<5	15	25	<0.5	–	1	<0.008		–
16	202252	<5	5	5	<0.5	–	1	<0.008		–
17	202253	<5	<5	<5	<0.5	–	1	0.020	<0.008	Voyager 16.
18	202254	<5	10	5	<0.5	–	1	0.010		–
19	202255	<5	10	5	<0.5	–	1	0.010		–
20	202256	<5	10	10	<0.5	–	1	<0.008		–
21	202257	<5	10	10	<0.5	–	1	<0.008		–
22	202258	25	55	300	<0.5	–	1	0.010		Soil Samples
23	202259	<5	<5	5	<0.5	–	<1	<0.008	–	–
24	202260	<5	5	10	<0.5	–	1	<0.008		–
25	202261	<5	15	<5	<0.5	–	1	<0.008	<0.008	–

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04222	10/03/87	4827/31	2 OF 15

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Ag	As	Au	AuChk	Wgh
1	202354	<5	95	115	<0.5	–	<1	<0.008	–	–
2	202355	<5	20	95	<0.5	–	1	<0.008	–	–
3	202356	<5	10	70	<0.5	–	1	<0.008	–	–
4	202357	<5	65	50	<0.5	–	1	<0.008	–	–
5	202358	<5	10	30	<0.5	–	1	<0.008	–	–
6	202359	<5	45	35	<0.5	–	1	<0.008	–	–
7	202360	<5	5	120	<0.5	–	1	<0.008	–	– 16
8	202361	125	370	65	<0.5	–	2	<0.008	–	–
9	202362	<5	35	140	<0.5	–	<1	<0.008	–	Voyager
10	202363	<5	10	190	<0.5	–	2	<0.008	<0.008	
11	202364	<5	50	65	<0.5	–	<1	<0.008	–	
12	202365	<5	5	30	<0.5	–	<1	<0.008	–	
13	202366	30	330	95	<0.5	–	3	<0.008	–	
14	202367	25	430	515	<0.5	–	1	<0.008	–	
15	202368	<5	5	25	<0.5	–	1	<0.008	–	Samples
16	202369	10	<5	30	<0.5	–	1	<0.008	–	
17	202370	10	<5	25	<0.5	–	1	<0.008	–	
18	202371	<5	<5	<5	<0.5	–	<1	<0.008	–	
19	202372	<5	<5	60	<0.5	–	1	<0.008	–	
20	202373	5	5	70	<0.5	–	<1	<0.008	–	Soil
21	202374	20	175	245	<0.5	–	<1	<0.008	<0.008	
22	202375	5	<5	55	<0.5	–	1	<0.008	–	
23	202376	<5	<5	5	<0.5	–	1	<0.008	–	
24	202377	<5	<5	60	<0.5	–	<1	<0.008		
25	202378	5	10	100	<0.5	–	1	<0.008	–	

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04222	10/03/87	4827/31	3 OF 15

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Ag	As	Au	AuChk	Wgh
1	202379	<5	10	35	<0.5	-	1	<0.008	-	-
2	202380	<5	10	30	<0.5	-	<1	<0.008	-	-
3	202381	<5	<5	<5	<0.5	-	<1	0.080	-	-
4	202382	<5	<5	10	<0.5	-	<1	0.070	-	-
5	202383	5	<5	15	<0.5	-	<1	<0.008	-	-
6	202384	5	15	10	<0.5	-	1	<0.008	-	-
7	202385	5	10	45	<0.5	-	<1	<0.008	-	-
8	202386	5	90	30	<0.5	-	3	<0.008	<0.008	
9	202387	5	85	40	<0.5	-	2	<0.008	-	
10	202388	<5	<5	5	<0.5	-	<1	<0.008	-	
11	202389	25	50	320	<0.5	-	2	<0.008	-	
12	202390	5	15	125	<0.5	-	1	0.050	-	
13	202391	<5	<5	5	<0.5	-	1	<0.008	-	
14	202392	<5	<5	5	<0.5	-	<1	<0.008	-	
15	202393	<5	<5	15	<0.5	-	1	<0.008	-	
16	202394	<5	10	25	<0.5	-	1	<0.008	-	
17	202395	10	<5	15	<0.5	-	<1	<0.008	-	
18	202396	5	5	110	<0.5	-	1	<0.008	<0.008	
19	202397	<5	5	15	<0.5	-	1	0.010		
20	202398	<5	<5	10	<0.5	-	1	<0.008	-	
21	202399	5	<5	<5	<0.5	-	1	<0.008	-	
22	202400	10	10	20	<0.5	-	6	<0.008	-	
23	202401	15	20	10	<0.5	-	1	<0.008	-	
24	202402	<5	5	10	<0.5	-	4	<0.008	-	
25	202403	5	15	10	<0.5	-	1	<0.008	-	

16 Voyager Soil Samples

Soil Sample Waterloo Ck A.M. Anomaly

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04222	10/03/87	4827/31	4 OF 15

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Ag	As	Au	AuChk	Wgh	
1	202404	5	15	70	<0.5	–	1	<0.008	<0.008	–	
2	202405	10	20	150	<0.5	–	2	<0.008	–	–	
3	202406	<5	<5	5	<0.5	–	1	<0.008	–	–	
4	202407	<5	<5	10	<0.5	–	1	<0.008	–	–	
5	202408	<5	<5	5	<0.5	–	1	<0.008	–	–	14.
6	202409	<5	5	15	<0.5	–	<1	<0.008	–	–	Anomaly
7	202410	5	20	15	<0.5	–	<1	<0.008	–	–	
8	202411	<5	5	15	<0.5	–	1	0.020	<0.008	–	E.M.
9	202412	<5	20	90	<0.5	–	2	<0.008	–	–	
10	202413	<5	15	75	<0.5	–	<1	<0.008	–	–	
11	202414	<5	<5	40	<0.5	–	<1	<0.008	–	–	
12	202415	<5	<5	25	<0.5	–	<1	<0.008	–	–	Creek
13	202416	<5	10	40	<0.5	–	<1	<0.008	–	–	
14	202417	<5	<5	30	<0.5	–	<1	<0.008	–	–	Waterloo
15	202418	<5	5	15	<0.5	–	<1	<0.008	–	–	
16	202419	<5	10	50	<0.5	–	<1	<0.008	–	–	
17	202420	<5	10	255	<0.5	–	<1	<0.008	–	–	
18	202421	<5	10	155	<0.5	–	<1	<0.008	<0.008	–	
19	202422	<5	10	70	<0.5	–	<1	<0.008	–	–	Samples
20	202423	<5	10	15	<0.5	–	<1	<0.008	–	–	
21	202424	<5	<5	30	<0.5	–	2	<0.008	–	–	
22	202425	<5	10	15	<0.5	–	<1	<0.008	–	–	Soil
23	202451	<5	15	70	<0.5	–	<1	<0.008	–	–	
24	202452	<5	10	50	<0.5	–	<1	<0.008	–	–	
25	202453	<5	10	40	<0.5	–	<1	0.070	–	–	

Results in ppm unless otherwise specified
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— = element not determined

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04222	10/03/87	4827/31	5 OF 15

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Ag	As	Au	AuChk	Wgh
1	202454	<5	15	20	<0.5	–	<1	<0.008	<0.008	–
2	202455	<5	110	20	<0.5	–	<1	0.020	–	–
3	202456	<5	10	15	<0.5	–	<1	<0.008	–	Soil Samples Waterloo Creek EM Anomaly 11
4	202457	<5	10	15	<0.5	–	<1	<0.008	–	
5	202458	<5	10	20	<0.5	–	<1	<0.008	–	
6	202459	<5	10	45	<0.5	–	<1	<0.008	–	
7	202460	<5	5	20	<0.5	–	<1	<0.008	<0.008	
8	202461	<5	10	20	<0.5	–	<1	<0.008	–	–
9	202462	<5	100	220	<0.5	–	1	<0.008	–	–
10	202463	<5	5	40	<0.5	–	<1	<0.008	–	–
11	202464	<5	55	135	<0.5	–	<1	0.010	–	–
12	202465	<5	10	100	<0.5	–	<1	<0.008	–	Line 1B. –
13	202466	<5	5	20	<0.5	–	<1	<0.008	–	
14	202467	<5	20	270	<0.5	–	<1	<0.008	–	–
15	202468	<5	10	110	<0.5	–	<1	<0.008	–	Mt Osmund East –
16	202469	<5	15	180	<0.5	–	<1	<0.008	–	–
17	202470	<5	115	235	<0.5	–	2	<0.008	<0.008	–
18	202471	<5	25	65	<0.5	–	<1	<0.008	–	–
19	202472	<5	15	70	<0.5	–	<1	<0.008	–	Soil Samples –
20	202473	<5	10	30	<0.5	–	<1	<0.008	–	
21	202474	5	20	15	<0.5	–	3	<0.008	–	–
22	202475	10	90	250	<0.5	–	3	<0.008	–	–
23	202476	<5	5	140	<0.5	–	3	0.010	–	–
24	202477	<5	<5	25	<0.5	–	2	<0.008	–	–
25	202478	<5	85	90	<0.5	–	2	<0.008	–	–

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04222	10/03/87	4827/31	6 OF 15

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Ag	As	Au	AuChk	Wgh	
1	202479	<5	50	45	<0.5	–	2	<0.008	<0.008	–	Mt Osmund
2	202480	5	20	70	<0.5	–	2	0.008	–	–	
3	202481	<5	15	135	<0.5	–	3	<0.008	–	–	
4	202482	5	15	35	<0.5	–	2	0.090	–	–	
5	202483	5	10	25	<0.5	–	2	<0.008	–	–	Soil Samples Mt Osmund Line 15
6	202484	5	5	30	<0.5	–	2	<0.008	<0.008	–	
7	202485	<5	<5	25	<0.5	–	2	0.020	–	–	
8	202486	<5	5	25	<0.5	–	3	<0.008	–	–	East
9	202487	<5	20	10	<0.5	–	1	<0.008	–	–	
10	202488	5	10	60	<0.5	–	3	<0.008	–	–	
11	202489	10	75	200	<0.5	–	3	<0.008	–	–	
12	202490	5	10	105	<0.5	–	2	0.030	–	–	Soil Samples Mt Osmund East 16
13	202491	65	175	420	<0.5	–	2	<0.008	–	–	
14	202492	5	10	170	<0.5	–	<1	0.020	0.020	–	
15	202493	5	15	30	<0.5	–	2	<0.008	–	–	
16	202494	<5	5	5	<0.5	–	<1	0.010	–	–	
17	202495	<5	<5	10	<0.5	–	<1	1.850	–	–	
18	171569	5	25	35	<0.5	–	<1	1.970	–	–	Soil Stream Sediment
19	171570	<5	10	<5	<0.5	–	<1	0.840	–	–	Voyager 16
20	171576	<5	<5	<5	<0.5	–	<1	<0.008	–	–	Stream Sediment Samples Hudson River
21	171577	<5	<5	<5	<0.5	–	<1	<0.008	–	–	
22	171578	<5	10	5	<0.5	–	<1	<0.008	–	–	
23	171579	<5	<5	<5	<0.5	–	<1	0.010	–	–	
24	171580	<5	5	<5	<0.5	–	1	<0.008	–	–	
25	171722	<5	<5	<5	<0.5	–	<1	<0.008	–	–	Soil Stream Sediment Lewis River

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04222	10/03/87	4827431	7 OF 15

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Ag	As	Au	AuChk	Wgh
1	171723	<5	5	<5	<0.5	–	<1	<0.008	<0.008	–
2	171724	5	5	5	<0.5	–	<1	0.040	–	–
3	171725	<5	5	10	<0.5	–	<1	0.070	–	–
4	171726	<5	15	35	<0.5	–	<1	0.010	–	–
5	171727	<5	<5	<5	<0.5	–	<1	<0.008	–	–
6	171728	<5	<5	<5	<0.5	–	<1	<0.008	–	–
7	171729	<5	5	65	<0.5	–	1	0.110	–	–
8	171730	<5	<5	<5	<0.5	–	<1	0.010	<0.008	–
9	171731	<5	<5	<5	<0.5	–	<1	<0.008	–	–
10	171732	<5	5	10	<0.5	–	<1	<0.008	–	–
11	171733	<5	10	15	<0.5	–	1	0.020	–	–
12	171734	<5	<5	<5	<0.5	–	<1	0.700	–	–
13	171735	<5	20	15	<0.5	–	<1	0.290	–	–
14	171736	<5	<5	<5	<0.5	–	<1	<0.008	–	–
15	171737	<5	10	<5	<0.5	–	<1	0.480	–	–
16	202017	<5	5	<5	<0.5	–	<1	<0.008	–	–
17	202018	<5	<5	<5	<0.5	–	<1	<0.008	<0.008	–
18	202165	<5	<5	<5	<0.5	–	<1	<0.008	–	–
19	202167	<5	<5	<5	<0.5	–	1	<0.008	–	–
20	202169	<5	<5	<5	<0.5	–	<1	<0.008	–	–
21	202171	5	<5	<5	<0.5	–	<1	0.010	–	–
22	202173	5	<5	<5	<0.5	–	<1	<0.008	–	–
23	202175	<5	10	15	<0.5	–	<1	<0.008	–	–
24	202177	<5	10	<5	<0.5	–	<1	<0.008	–	–
25	202179	<5	<5	<5	<0.5	–	<1	<0.008	–	–

Sample Region on Sediment Stream Lewis River – 80 # Stream Sediment – 80# Stream Sediment Voyager Lts. – 80 # Sediment – Stream Porphyry Contact

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04222	10/03/87	4827#31	8 OF 15

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Ag	As	Au	AuChk	Wgh
1	202181	<5	10	<5	<0.5	–	<1	<0.008	–	Stream Sediment -80# Porphyry Contact.
2	202183	<5	10	<5	<0.5	–	<1	0.040	<0.008	
3	202184	<5	5	<5	<0.5	–	<1	0.070	–	–
4	202185	<5	<5	<5	<0.5	–	1	0.030	–	–
5	202186	<5	5	<5	<0.5	–	1	0.260	–	1 - Soft Stream Sediment 10. Voyager
6	202187	<5	10	5	<0.5	–	<1	0.050	–	
7	202188	<5	<5	15	<0.5	–	1	<0.008	–	
8	202189	5	5	20	<0.5	–	3	<0.008	–	
9	202301	<5	<5	<5	<0.5	–	1	<0.008	–	–
10	202302	<5	<5	5	<0.5	–	1	<0.008	–	–
11	202303	<5	<5	5	<0.5	–	1	0.070	0.010	–
12	202304	<5	<5	<5	<0.5	–	1	<0.008	–	Samples –
13	202305	<5	<5	<5	<0.5	–	1	<0.008	–	–
14	202306	<5	<5	<5	<0.5	–	2	0.270	–	–
15	202307	<5	<5	<5	<0.5	–	1	<0.008	–	–
16	202308	<5	<5	<5	<0.5	–	1	<0.008	–	Sediment –
17	202309	<5	5	<5	<0.5	–	1	<0.008	–	–
18	202310	<5	<5	<5	<0.5	–	1	<0.008	–	Sed Contact. –
19	202311	<5	<5	<5	<0.5	–	1	<0.008	–	–
20	202312	<5	<5	20	<0.5	–	1	<0.008	–	–
21	202313	5	15	15	<0.5	–	1	0.550	–	1 - 80# Stream Porphyry
22	202314	5	5	10	<0.5	–	1	0.790	0.790	–
23	202315	<5	5	10	<0.5	–	1	2.680	2.130	–
24	202316	5	<5	20	<0.5	–	2	1.160	–	–
25	202317	<5	<5	15	<0.5	–	2	<0.008	–	–

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04222	10/03/87	4827/31	9 OF 15

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Ag	As	Au	AuChk	Wgh
1	202318	<5	<5	<5	<0.5	–	1	<0.008	<0.008	–
2	202319	<5	<5	10	<0.5	–	1	0.030	<0.008	–
3	202320	<5	<5	10	<0.5	–	2	<0.008	–	–
4	202321	<5	5	10	<0.5	–	2	<0.008	–	–
5	202322	<5	10	10	<0.5	–	2	<0.008	–	–
6	202323	10	15	20	<0.5	–	2	0.030	–	–
7	202497	<5	5	5	<0.5	–	2	<0.008	<0.008	–
8	202499	<5	<5	5	<0.5	–	2	0.080	–	–
9	202501	<5	<5	10	<0.5	–	2	<0.008	–	–
10	202503	<5	<5	70	<0.5	–	2	<0.008	–	–
11	202505	<5	<5	20	<0.5	–	1	<0.008	–	–
12	202507	<5	<5	<5	<0.5	–	2	0.010	–	–
13	202509	<5	<5	10	<0.5	–	2	0.050	–	–
14	202511	<5	<5	10	<0.5	–	5	<0.008	<0.008	–
15	202513	<5	10	10	<0.5	–	4	<0.008	–	–
16	202515	<5	<5	15	<0.5	–	2	<0.008	–	–
17	202517	<5	<5	45	<0.5	–	1	<0.008	–	–
18	202519	40	5	20	<0.5	–	1	<0.008	–	–
19	202520	<5	<5	5	<0.5	–	2	<0.008	–	–
20	202522	<5	<5	10	<0.5	–	3	<0.008	–	–
21	202524	<5	25	10	<0.5	–	2	0.010	–	–
22	202526	<5	15	15	<0.5	–	3	0.008	–	–
23	202528	5	10	15	<0.5	–	3	0.270	–	–
24	202530	<5	<5	10	<0.5	–	3	0.008	0.008	–
25	71619	<5	25	35	1.0	–	3	2.270	–	46.2

- 60# Stream Sediment Samples - Voyageur 10.
- 80# Stream Sediment Samples Contact Porphyry
- 80# Stream Sediment Samples Barrel Creek

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04222	10/03/87	4827 C1	10 OF 15

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Ag	As	Au	AuChk	Wgh
1	71620	5	10	20	0.5	–	2	8.330	–	30.2
2	71625	<5	5	10	<0.5	–	3	0.030	0.030	276.2
3	71626	<5	<5	<5	<0.5	–	3	<0.008	–	269.8
4	71627	<5	10	5	<0.5	–	3	<0.008	–	296.5
5	71628	<5	<5	<5	<0.5	–	3	<0.008	–	279.2
6	71629	<5	10	<5	<0.5	–	3	<0.008	–	252.1
7	71630	<5	10	<5	<0.5	–	2	<0.008	–	145.3
8	202012	<5	15	<5	<0.5	–	3	<0.008	–	265.4
9	202013	<5	10	<5	<0.5	–	3	<0.008	–	303.4
10	202014	<5	10	10	<0.5	–	2	<0.008	–	199.6
11	202015	<5	5	<5	<0.5	–	3	<0.008	–	196.1
12	202016	<5	<5	<5	<0.5	–	3	0.008	0.008	258.4
13	202033	<5	<5	<5	<0.5	–	1	0.150	–	252.1
14	202034	<5	<5	<5	<0.5	–	2	0.570	–	233.2
15	202035	<5	5	<5	<0.5	–	3	<0.008	–	201.5
16	202036	<5	<5	<5	<0.5	–	3	0.330	–	162.3
17	202037	<5	5	<5	<0.5	–	3	0.610	–	150.8
18	202038	<5	<5	<5	<0.5	–	3	0.600	–	295.3
19	202039	<5	10	<5	<0.5	–	3	0.040	–	123.4
20	202124	<5	<5	<5	<0.5	–	2	2.530	–	169.3
21	202125	<5	5	10	<0.5	–	3	9.940	–	263.8
22	202126	<5	<5	<5	<0.5	–	2	0.040	0.040	241.6
23	202127	<5	<5	<5	<0.5	–	3	3.600	–	220.2
24	202128	<5	5	15	<0.5	–	2	0.050	–	143.4
25	202129	<5	<5	<5	<0.5	–	2	0.050	–	235.0

Panned Concentrates from Madson River.

~80m Stream Sediment Samples for phyry Contact.

Panned Concentrates for phyry Contact.

Panned Concentrates Lewis River.

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04222	10/03/87	4827/31	11 OF 15

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Ag	As	Au	AuChk	Wgh
1	202130	<5	<5	<5	<0.5	-	4	<0.008	-	141.9
2	202131	<5	<5	50	<0.5	-	4	1.460	-	237.8
3	202132	<5	5	<5	<0.5	-	2	<0.008	-	253.1
4	202133	<5	<5	<5	<0.5	-	3	<0.008	-	212.8
5	202134	<5	<5	15	<0.5	-	3	0.770	-	122.6
6	202135	<5	<5	20	<0.5	-	4	0.250	-	266.3
7	202136	<5	<5	<5	<0.5	-	3	<0.008	<0.008	334.1
8	202137	<5	10	10	<0.5	-	3	0.230	-	187.1
9	202138	<5	<5	<5	<0.5	-	3	<0.008	-	345.2
10	202139	<5	10	10	<0.5	-	4	24.270	15.630	439.2
11	202164	<5	<5	<5	<0.5	-	3	0.010	-	158.3
12	202166	<5	<5	<5	<0.5	-	3	0.490	-	63.4
13	202168	<5	<5	<5	<0.5	-	3	<0.008	-	53.4
14	202170	<5	<5	<5	<0.5	-	3	<0.008	-	78.5
15	202172	<5	<5	<5	<0.5	-	4	<0.008	-	77.6
16	202174	<5	<5	<5	1.5	-	3	34.830	-	55.3
17	202176	<5	5	<5	<0.5	-	3	2.950	2.270	99.1
18	202178	<5	<5	<5	<0.5	-	3	1.180	-	95.9
19	202180	<5	<5	<5	<0.5	-	3	0.730	-	66.1
20	202182	<5	<5	5	<0.5	-	2	0.830	-	61.4
21	202198	<5	10	10	<0.5	-	5	5.470	-	112.8
22	202199	<5	<5	20	<0.5	-	1	0.290	-	94.1
23	202324	<5	<5	30	<0.5	-	3	0.090	-	83.1
24	202325	<5	<5	<5	<0.5	-	4	36.000	32.880	114.8
25	202326	<5	<5	5	<0.5	-	4	37.870	-	74.8

Planned Concentrates Porphyry - Contact.

Planned Concentrates Porphyry - Contact.

Planned Concentrates Voyager 10.

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04222	10/03/87	48271/31	12 OF 15

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Ag	As	Au	AuChk	Wgh
1	202327	<5	<5	5	<0.5	-	<1	7.270	-	103.5
2	202328	<5	25	15	<0.5	-	3	6.370	6.340	186.4
3	202329	<5	15	5	<0.5	-	3	0.060	-	113.1
4	202330	<5	<5	20	1.0	-	2	8.270		70.6
5	202331	<5	15	60	<0.5	-	13	4.640		124.6
6	202332	<5	10	10	<0.5	-	2	6.630		105.5
7	202333	<5	<5	15	<0.5	-	3	25.080		50.5
8	202334	<5	5	5	<0.5	-	2	0.750	-	175.4
9	202335	<5	5	5	<0.5	-	2	1.210	-	105.3
10	202336	<5	10	10	<0.5	-	2	1.250	-	97.5
11	202337	<5	15	20	2.0	-	3	35.330	35.020	82.8
12	202338	<5	20	20	<0.5	-	3	23.470	-	77.5
13	202339	<5	20	20	<0.5	-	2	3.400	-	110.8
14	202340	<5	<5	<5	<0.5	-	2	0.008	-	83.1
15	202341	<5	<5	<5	<0.5	-	2	0.008	-	111.2
16	202342	<5	<5	<5	<0.5	-	1	0.110	-	95.2
17	202343	<5	45	10	<0.5	-	2	0.450	-	64.4
18	202344	<5	<5	<5	<0.5	-	2	0.110		99.7
19	202345	<5	20	5	<0.5	-	2	0.670	0.320	96.2
20	202346	<5	<5	5	<0.5	-	3	0.010		60.7
21	202347	<5	15	10	0.5	-	2	11.000	8.87	72.2
22	202348	<5	15	<5	<0.5	-	2	0.008		63.5
23	202349	<5	<5	<5	<0.5	-	1	1.190	-	83.7
24	202350	<5	<5	<5	<0.5	-	2	0.008	-	61.2
25	202496	<5	<5	10	<0.5	-	2	2.030		77.6

Planned Concentrates Voyager 10.

Planned Concentrates Voyager 10.

Planned Concentrates Voyager South.

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
	7.5.08.04222	10/03/87	4827/31	13 OF 15

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Ag	As	Au	AuChk	Wgh
1	202498	<5	<5	5	<0.5	–	2	1.670	–	76.5
2	202500	<5	<5	10	<0.5	–	3	3.210	–	83.2
3	202502	<5	<5	10	<0.5	–	3	8.910	–	108.5
4	202504	<5	<5	5	<0.5	–	4	0.710	–	72.1
5	202506	<5	5	<5	0.5	–	3	30.270	–	132.5
6	202508	<5	<5	<5	1.0	–	4	39.330	–	60.3
7	202510	<5	<5	15	<0.5	–	4	1.160	2.590	77.2
8	202512	10	5	10	<0.5	–	4	0.008	–	85.8
9	202514	<5	<5	35	<0.5	–	4	0.070	–	77.0
10	202516	<5	<5	10	<0.5	–	3	0.030	–	84.6
11	202518	20	<5	30	<0.5	–	7	27.000	–	83.2
12	202521	<5	<5	5	<0.5	–	3	0.750	–	89.1
13	202523	<5	<5	20	<0.5	–	3	0.008	–	111.7
14	202525	<5	5	5	<0.5	–	2	5.470	4.020	96.5
15	202527	5	15	30	<0.5	–	4	31.410	–	78.4
16	202529	<5	20	50	1.0	–	4	67.200	–	71.9
17	202531	15	15	50	3.0	–	5	100.57	–	46.4
18	71969	15	<5	<5	<0.5	–	1	0.008	–	–
19	71970	20	10	25	<0.5	–	2	0.008	–	–
20	71971	15	20	65	<0.5	–	2	0.008	–	–
21	71972	35	110	490	<0.5	–	59	0.008	–	–
22	71973	15	120	250	<0.5	–	8	0.008	–	–
23	80585	15	15	255	<0.5	–	2	0.008	–	–
24	80586	20	<5	235	<0.5	–	1	0.008	–	–
25	80587	20	<5	<5	<0.5	–	<1	0.008	–	–

Planned Concentrate Porphyry Contact

Planned Concentrates Barrell Creek.

Rock Chip Voyager 6

Rock Chip Voyager 24.

Rock Chip Waterloo Creek.

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

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04222	11/03/87	4823/31	1 OF 2

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Ag	As	Au	AuChk	Wgh
1	180588	15	<5	5	<0.5	–	<1	0.020	Rock chip Waterloo Creek.	–
2	180589	30	<5	<5	<0.5	–	1	0.070		–
3	180590	20	<5	10	<0.5	–	<1	<0.008		–
4	180591	45	<5	15	<0.5	–	1	<0.008	Rock Chip Hibbs Point	–
5	180592	15	<5	10	<0.5	–	<1	<0.008		–
6	180593	<5	40	45	<0.5	–	2	<0.008	–	–
7	180594	65	370	610	<0.5	–	2	0.030	–	–
8	180595	10	10	125	<0.5	–	1	0.040	Rock Chip Voyager 10	–
9	180596	24	85	150	<0.5	–	2	<0.008		–
10	180598	<5	370	315	<0.5	–	<1	<0.008		–
11	180599	30	<5	10	<0.5	–	<1	<0.008	Rock Chip Voyager 10	–
12	180600	10	<5	60	<0.5	–	<1	<0.008		–
13	202200	540	25	160	<0.5	–	3410	0.110	–	–
14	202426	10	5	25	<0.5	–	71	0.040	Rock Chip Waterloo Ck.	–
15	202551	10	<5	40	<0.5	–	4	<0.008		–
16	202552	15	5	35	<0.5	–	1	<0.008	Rock Chip Voyager 10	–
17	202553	5	15	95	<0.5	–	5	0.060		–
18	202554	390	170	780	–	12	17400	0.760	–	–
19	202555	10	5	5	<0.5	–	200	<0.008	–	–
20	202556	60	135	25	1.0	–	1700	0.090	–	–
21	202557	25	285	510	<0.5	–	85	<0.008	Rock Chip	–
22	202558	15	<5	45	<0.5	–	54	<0.008		–
23	202559	35	5	30	<0.5	–	55	<0.008	Rock Chip Barrel Creek	–
24	202560	20	40	20	<0.5	–	880	<0.008		–
25	202561	305	80	220	2.5	–	15	<0.008	–	–

Results in ppm unless otherwise specified
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04222	10/03/87	4827/31	2 OF 2

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Ag	As	Au	AuChk	Wgh
1	202562	610	25	40	2.0	–	160	0.100	Rock Chip	
2	202563	400	135	85	<0.5	–	540	0.030	Barrel	–
3	171975	35	<5	60	<0.5	–	5	<0.008	Creek.	–
4	171976	45	180	120	1.0	–	55	<0.008	–	–
5										
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18										
19										
20										
21										
22										
23	DETECTION	5	5	5	0.5	2	1	0.008	0.008	0.1
24	UNITS	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM
25	METHOD	101	101	101	101	104	114	309	309	199

Results in ppm unless otherwise specified
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Phone (09) 458 7999 — 52 Murray Road, Welshpool, W.A. 6106 — Telex AA92560

ANALYTICAL REPORT No. 7.5.08.04247

See page 10 for Sample Descriptions

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

B. Roxburgh
Cyprus Minerals
P.O. Box 493
North Sydney
N.S.W. 2060

ORDER No.	PROJECT
E 00254	DN 3452

DATE RECEIVED	RESULTS REQUIRED
19/02/87	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
18	11/03/87	1	206

SEE BELOW	SAMPLE NUMBERS	PRE-TREATMENT: DRY	CRUSH	SPLIT	PULVERISE	SIEVE	OTHER SEE REMARKS	NONE	ANALYSIS: REFER TO ANALYSIS SECTION	PREPARATION	METHOD
	Various	RO Prep: 005,009,012,013,017							Cu,Pb,Zn,Ag/101,As/114		
	Various	RO							Au,AuChk/313		
	Various	SS Prep: 005,013,017							Cu,Pb,Zn,Ag/101,As/114		
	Various	SS							Au,AuChk/307		
	Various	PC Prep: 005,013,017							Cu,Pb,Zn,Ag/101,As/114,Mgh/199		

REMARKS

RESULTS TO

B. Roxburgh
Cyprus Minerals
P.O. Box 493
North Sydney
N.S.W. 2060

RESULTS TO

G. Torrey
Cyprus Minerals
P.O. Box 230
Zeehan
Tasmania 7469

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

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ANALYTICAL DATA

See page 10 for Samples

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04247	11/03/87	E 00254	1 OF 18

TUBE No.	SAMPLE No.	Cu	Pb	Pb	Zn	Ag	Ag	As	Au	Au
1	171439	5	25	-	275	<0.5	-	310	-	<0.005
2	171440	40	35	-	70	<0.5	-	3	-	<0.005
3	171441	<5	140	-	345	<0.5	-	150	-	<0.005
4	171442	<5	<5	-	20	<0.5	-	2	-	<0.005
5	171443	30	270	-	45	<0.5	-	84	-	<0.005
6	171444	45	310	-	395	<0.5	-	35	-	0.025
7	171449	380	85	-	110	<0.5	-	1130	-	<0.005
8	171450	830	315	-	105	<0.5	-	890	-	<0.005
9	202427	30	25	-	100	<0.5	-	24	-	0.005
10	202428	5	5	-	70	<0.5	-	7	-	<0.005
11	202429	105	500	-	85	2.5	-	5500	-	0.020
12	202430	620	430	-	115	-	10	3210	-	0.005
13	202431	55	245	-	30	1.5	-	5380	-	0.005
14	202432	10	10	-	50	<0.5	-	82	-	0.005
15	202433	20	5	-	70	<0.5	-	52	-	0.005
16	202434	<5	<5	-	10	<0.5	-	7	-	<0.005
17	202435	5	35	-	295	<0.5	-	12	-	0.005
18	202436	5	<5	-	30	<0.5	-	4	-	0.005
19	202437	5	35	-	245	<0.5	-	5	-	0.005
20	202438	<5	<5	-	90	<0.5	-	17	-	0.005
21	202439	95	225	-	105	1.0	-	320	-	0.005
22	202440	430	685	-	215	1.5	-	5440	-	0.005
23	202441	170	120	-	55	<0.5	-	850	-	<0.005
24	202442	<5	10	-	15	<0.5	-	12	-	0.005
25	202443	105	150	-	45	1.5	-	1030	-	0.010

Results in ppm unless otherwise specified
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04247	11/03/87	E 00254	2 OF 18

TUBE No.	SAMPLE No.	Cu	Pb	Pb	Zn	Ag	Ag	As	Au	Au
1	202444	185	–	1525	320	2.0	–	1980	–	0.040
2	202445	45	35	–	50	<0.5	–	260	–	<0.005
3	202446	770	380	–	35	1.5	–	1600	–	0.060
4	202447	215	665	–	285	0.5	–	1530	–	1.010
5	202448	<5	<5	–	20	<0.5	–	13	–	<0.005
6	202449	70	180	–	25	0.5	–	590	–	0.035
7	202450	255	880	–	210	4.5	–	5520	–	0.235
8	202564	140	5	–	50	<0.5	–	82	–	0.650
9	202565	35	<5	–	50	<0.5	–	34	–	<0.005
10	202566	<5	<5	–	40	<0.5	–	5	–	<0.005
11	202567	<5	<5	–	<5	<0.5	–	4	–	<0.005
12	202568	21500	<5	–	70	0.5	–	4	–	<0.005
13	202569	240	<5	–	65	<0.5	–	8	–	<0.005
14	202570	1450	25	–	75	<0.5	–	14	–	0.050
15	202701	905	650	–	80	2.0	–	1180	–	0.040
16	202702	460	195	–	140	<0.5	–	1650	–	<0.005
17	202703	590	240	–	345	1.0	–	30	–	0.250
18	202704	50	705	–	40	1.5	–	960	–	0.100
19	202705	25	55	–	15	0.5	–	280	–	<0.005
20	202706	145	200	–	95	<0.5	–	1570	–	1.150
21	202707	600	445	–	135	1.0	–	970	–	0.025
22	202708	35	10	–	10	<0.5	–	70	–	<0.005
23	202709	410	–	1875	270	–	7	3560	–	0.600
24	202710	45	80	–	75	<0.5	–	1350	–	0.100
25	202711	80	540	550	10	–	10	4790	–	0.1

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04247	11/03/87	E 00254	3 OF 18

TUBE No.	SAMPLE No.	Cu	Pb	Pb	Zn	Ag	Ag	As	Au	Au
1	202712	10	25	-	15	<0.5	-	140	-	<0.005
2	171581	<5	<5	-	5	<0.5	-	1	<0.008	-
3	171582	<5	<5	-	5	<0.5	-	1	<0.008	-
4	171583	<5	<5	-	10	<0.5	-	1	<0.008	-
5	171584	<5	<5	-	<5	<0.5	-	1	<0.008	-
6	171585	<5	<5	-	10	<0.5	-	1	<0.008	-
7	171586	10	<5	-	5	<0.5	-	1	<0.008	-
8	171587	<5	<5	-	20	<0.5	-	1	<0.008	-
9	171588	<5	10	-	20	<0.5	-	1	<0.008	
10	171589	<5	<5	-	5	<0.5	-	1	<0.008	-
11	171590	<5	<5	-	5	<0.5	-	<1	<0.008	
12	171591	5	<5	-	10	<0.5	-	1	<0.008	
13	171592	<5	<5	-	<5	<0.5	-	<1	<0.008	
14	171593	<5	<5	-	5	<0.5	-	1	<0.008	
15	171594	<5	<5	-	5	<0.5	-	<1	<0.008	
16	171595	5	<5	-	10	<0.5	-	1	<0.008	
17	171596	15	10	-	15	<0.5	-	1	<0.008	
18	171656	5	<5	-	<5	<0.5	-	1	<0.008	
19	171730	<5	<5	-	10	<0.5	-	<1	<0.008	
20	171737	<5	<5	-	15	<0.5	-	1	<0.008	
21	171740	<5	<5	-	10	<0.5	-	<1	<0.008	
22	171741	5	<5	-	15	<0.5	-	<1	<0.008	
23	171742	<5	<5	-	20	<0.5	-	<1	<0.008	-
24	171743	5	<5	-	30	<0.5	-	<1	<0.008	
25	171744	5	<5	-	10	<0.5	-	2	<0.008	

Results in ppm unless otherwise specified
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04247	11/03/87	E 00254	4 OF 18

TUBE No.	SAMPLE No.	Cu	Pb	Pb	Zn	Ag	Ag	As	Au	Au
1	171745	15	<5	–	5	<0.5	–	5	<0.008	–
2	171746	5	<5	–	30	<0.5	–	7	<0.008	–
3	171747	15	<5	–	10	<0.5	–	2	<0.008	–
4	171748	5	<5	–	10	<0.5	–	2	<0.008	–
5	202019	<5	<5	–	<5	<0.5	–	<1	<0.008	–
6	202020	<5	<5	–	<5	<0.5	–	<1	<0.008	–
7	202021	10	20	–	15	<0.5	–	1	<0.008	–
8	202022	5	<5	–	15	<0.5	–	1	<0.008	–
9	202023	5	<5	–	15	<0.5	–	1	<0.008	–
10	202024	15	20	–	20	<0.5	–	1	<0.008	–
11	202025	<5	<5	–	10	<0.5	–	1	<0.008	–
12	202190	10	<5	–	15	<0.5	–	1	<0.008	–
13	202191	10	<5	–	15	<0.5	–	1	<0.008	
14	202192	15	<5	–	20	<0.5	–	1	<0.008	–
15	202193	10	<5	–	20	<0.5	–	<1	<0.008	–
16	202532	30	<5	–	20	<0.5	–	1	<0.008	–
17	202534	15	5	–	20	<0.5	–	1	<0.008	–
18	202536	15	<5	–	15	<0.5	–	1	<0.008	–
19	202538	15	<5	–	5	<0.5	–	2	<0.008	–
20	202641	5	<5	–	10	<0.5	–	<1	<0.008	–
21	202642	<5	<5	–	5	<0.5	–	<1	<0.008	–
22	202643	<5	<5	–	5	<0.5	–	1	<0.008	–
23	202644	<5	10	–	30	<0.5	–	1	<0.008	–
24	202645	<5	<5	–	10	<0.5	–	1	<0.008	
25	202646	<5	<5	–	15	<0.5	–	<1	<0.008	

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04247	11/03/87	E 00254	5 OF 18

TUBE No.	SAMPLE No.	Cu	Pb	Pb	Zn	Ag	Ag	As	Au	Au
1	202647	<5	<5	-	5	<0.5	-	<1	<0.008	-
2	202648	<5	10	-	15	<0.5	-	1	<0.008	-
3	202649	<5	15	-	30	0.5	-	1	<0.008	-
4	202650	<5	5	-	10	<0.5	-	1	<0.008	-
5	202664	<5	5	-	10	<0.5	-	1	<0.008	-
6	202665	<5	<5	-	<5	<0.5	-	<1	<0.008	-
7	202666	<5	15	-	30	<0.5	-	1	0.060	-
8	202667	5	<5	-	10	<0.5	-	1	<0.008	-
9	202668	<5	<5	-	<5	<0.5	-	1	<0.008	
10	202669	<5	<5	-	10	<0.5	-	1	<0.008	-
11	202670	<5	<5	-	10	<0.5	-	1	<0.008	-
12	202671	10	<5	-	20	<0.5	-	1	<0.008	-
13	202672	<5	<5	-	10	<0.5	-	1	<0.008	-
14	202673	<5	<5	-	10	<0.5	-	1	<0.008	-
15	202674	<5	10	-	15	0.5	-	1	<0.008	-
16	202675	<5	5	-	5	<0.5	-	1	<0.008	
17	202676	<5	<5	-	5	<0.5	-	<1	<0.008	-
18	202677	<5	<5	-	15	<0.5	-	1	<0.008	-
19	202678	<5	<5	-	10	<0.5	-	<1	<0.008	
20	202679	<5	5	-	10	<0.5	-	1	0.060	
21	202680	<5	<5	-	10	<0.5	-	1	<0.008	-
22	202681	<5	<5	-	5	<0.5	-	<1	<0.008	
23	202682	<5	<5	-	10	<0.5	-	1	<0.008	-
24	171631	<5	<5	-	<5	0.5	-	1	[illegible]	
25	171632	<5	<5	-	10	<0.5	-	1	[illegible]	

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
	7.5.08.04247	11/03/87	E 00254	6 OF 18

TUBE No.	SAMPLE No.	Cu	Pb	Pb	Zn	Ag	Ag	As	Au	Au
1	171633	<5	<5	-	10	<0.5	-	1	0.450	-
2	171634	<5	<5	-	5	<0.5	-	1	0.570	-
3	171635	<5	<5	-	5	<0.5	-	<1	2.010	-
4	171636	<5	<5	-	5	<0.5	-	<1	2.760	-
5	171637	<5	<5	-	15	<0.5	-	<1	0.020	-
6	171638	<5	5	-	25	<0.5	-	1	0.020	-
7	171639	<5	<5	-	<5	<0.5	-	<1	0.010	-
8	171640	<5	<5	-	<5	<0.5	-	<1	0.020	-
9	171641	<5	<5	-	10	<0.5	-	1	3.870	
10	171642	<5	<5	-	<5	<0.5	-	1	32.810	-
11	171643	<5	<5	-	<5	<0.5	-	<1	0.020	-
12	171644	<5	<5	-	<5	<0.5	-	<1	1.820	-
13	171645	<5	<5	-	<5	<0.5	-	1	<0.008	
14	171646	<5	<5	-	<5	<0.5	-	1	<0.008	-
15	202026	<5	<5	-	10	<0.5	-	1	4.550	-
16	202027	<5	20	-	15	<0.5	-	<1	4.240	-
17	202028	<5	<5	-	10	1.5	-	<1	37.750	-
18	202029	<5	<5	-	10	2.0	-	<1	29.330	
19	202030	<5	30	-	10	<0.5	-	1	6.640	-
20	202031	<5	25	-	35	<0.5	-	<1	5.070	
21	202032	<5	10	-	20	<0.5	-	<1	30.530	-
22	202140	<5	<5	-	30	<0.5	-	<1	0.040	-
23	202141	<5	<5	-	<5	<0.5	-	<1	1.720	-
24	202142	<5	<5	-	10	<0.5	-	<1	<0.008	
25	202143	5	<5	-	<5	<0.5	-	1	0.020	

Results in ppm unless otherwise specified
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04247	11/03/87	E 00254	7 OF 18

TUBE No.	SAMPLE No.	Cu	Pb	Pb	Zn	Ag	Ag	As	Au	Au
1	202144	<5	<5	-	25	<0.5	-	<1	<0.008	-
2	202145	<5	<5	-	15	<0.5	-	<1	<0.008	-
3	202146	<5	<5	-	5	<0.5	-	1	<0.008	-
4	202147	<5	<5	-	5	<0.5	-	2	<0.008	-
5	202148	<5	<5	-	10	<0.5	-	2	<0.008	-
6	202149	<5	<5	-	<5	<0.5	-	1	<0.008	-
7	202150	<5	<5	-	<5	<0.5	-	1	0.910	-
8	202194	<5	<5	-	70	<0.5	-	1	1.230	-
9	202195	<5	<5	-	175	<0.5	-	1	0.260	-
10	202196	<5	<5	-	20	<0.5	-	<1	0.110	-
11	202197	<5	85	-	240	<0.5	-	1	0.370	-
12	202533	<5	<5	-	5	<0.5	-	<1	0.110	-
13	202535	<5	<5	-	15	<0.5	-	2	4.210	-
14	202537	<5	<5	-	10	<0.5	-	1	<0.008	-
15	202539	<5	<5	-	5	<0.5	-	2	<0.008	-
16	202543	<5	<5	-	<5	<0.5	-	1	<0.008	-
17	202544	<5	<5	-	<5	<0.5	-	1	<0.008	-
18	202601	<5	<5	-	<5	<0.5	-	1	0.010	-
19	202602	20	30	-	15	<0.5	-	1	16.690	-
20	202603	<5	<5	-	15	<0.5	-	1	0.320	-
21	202604	<5	<5	-	50	<0.5	-	3	0.730	-
22	202605	<5	<5	-	10	<0.5	-	1	0.510	-
23	202606	<5	645	-	20	6.0	-	1	5.400	-
24	202607	<5	10	-	15	<0.5	-	1	<0.008	-
25	202608	<5	20	-	35	0.5	-	1	3.600	-

Results in ppm unless otherwise specified
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04247	11/03/87	E 00254	8 OF 18

TUBE No.	SAMPLE No.	Cu	Pb	Pb	Zn	Ag	Ag	As	Au	Au
1	202609	<5	<5	-	5	<0.5	-	1	10.360	-
2	202612	<5	<5	-	10	<0.5	-	1	0.680	-
3	202613	<5	<5	-	10	<0.5	-	1	0.060	-
4	202683	30	35	-	15	1.0	-	2	30.500	-
5	202684	<5	45	-	10	<0.5	-	1	0.590	-
6	202685	<5	5	-	10	0.5	-	1	1.030	-
7	202686	<5	30	-	20	1.0	-	1	36.330	-
8	202687	<5	<5	-	15	1.5	-	1	<0.008	-
9	202688	<5	10	-	15	0.5	-	1	31.650	-
10	202689	<5	<5	-	5	1.5	-	1	163.30	-
11	202690	<5	20	-	15	1.0	-	1	2.630	-
12	202691	<5	<5	-	20	<0.5	-	1	7.150	-
13	202692	<5	<5	-	10	<0.5	-	1	0.400	-
14	202693	<5	<5	-	15	0.5	-	1	0.910	-
15	202694	<5	<5	-	10	<0.5	-	1	1.450	-
16	202695	<5	<5	-	10	<0.5	-	1	5.760	-
17	202696	<5	20	-	15	0.5	-	1	5.170	-
18	202697	<5	10	-	5	<0.5	-	1	0.410	-
19	202698	<5	20	-	10	<0.5	-	1	2.890	-
20	202699	<5	50	-	15	0.5	-	1	0.360	-
21	202700	<5	<5	-	15	1.5	-	1	456.10	-
22	171647	<5	10	-	10	0.5	-	1	8.530	-
23	171648	<5	5	-	10	<0.5	-	1	2.410	-
24	171649	<5	5	-	10	<0.5	-	<1	1.170	-
25	202540	<5	<5	-	5	<0.5	-	1	0.160	-

Results in ppm unless otherwise specified
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04247	11/03/87	E 00254	9 OF 18

TUBE No.	SAMPLE No.	Cu	Pb	Pb	Zn	Ag	Ag	As	Au	Au
1	202541	<5	<5	-	10	<0.5	-	1	0.050	-
2	202542	<5	<5	-	10	<0.5	-	<1	0.040	-
3	202259	10	<5	-	5	<0.5	-	1	-	-
4	202260	5	<5	-	10	<0.5	-	<1	-	-
5	202261	<5	15	-	5	0.5	-	<1	-	-
6	202262	<5	<5	-	5	<0.5	-	<1	-	-
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23	DETECTION	5	5	25	5	0.5	2	1	0.008	0.005
24	UNITS	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PP.
25	METHOD	101	101	104	101	101	104	114	309	31?

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04247	11/03/87	E 00254	10 OF 18

TUBE No.	SAMPLE No.	Au	AuChk	AuChk	Wgh	
1	171439	–	–	–	–	Rock Chip
2	171440	–	–	<0.005	–	Hudson River
3	171441	–	–	–	–	
4	171442	–	–	–	–	
5	171443	–	–	–	–	
6	171444	–	–	–	–	
7	171449	–	–	–	–	Rock Chip Voyager 12.
8	171450	–	–	–	–	Rock Chip
9	202427	–	–	–	–	Rock Chip
10	202428	–	–	<0.005	–	Barrel Creek.
11	202429	–	–	–	–	Rock Chip
12	202430	–	–	–	–	Voyager 2.
13	202431	–	–	–	–	
14	202432	–	–	–	–	
15	202433	–	–	–	–	Rock Chip
16	202434	–	–	–	–	Voyager 16
17	202435	–	–	–	–	
18	202436	–	–	–	–	
19	202437	–	–	<0.005	–	Rock Chip Voyager 3
20	202438	–	–	–	–	
21	202439	–	–	–	–	Rock Chip
22	202440	–	–	–	–	Voyager 12.
23	202441	–	–	–	–	
24	202442	–	–	–	–	
25	202443	–	–	<0.005	–	

Results in ppm unless otherwise specified
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	[illegible]8.04247	11/03/87	E 00254	11 OF 18

TUBE No.	SAMPLE No.	Au	AuChk	AuChk	Wgh					
1	[illegible]									
2	[illegible]						Rock Chip			
3	[illegible]						Voyager 12.			
4	[illegible]									
5	[illegible]									
6	[illegible]									
7	[illegible]									
8	[illegible]						Rock Chip			
9							Voyager 9.			
10	[illegible]			0.005		Dar				
11						Rock	Chip	Voyager 30.		
12	[illegible]						Voyager 18			
13							Rock Chip			
14										
15	[illegible]									
16	[illegible]									
17							Rock Chip.			
18	[illegible]						Voyage 12			
19	[illegible]									
20	[illegible]									
21	[illegible]									
22	[illegible]									
23	[illegible]									
24	[illegible]			[illegible]						
25	[illegible]									

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04247	11/03/87	E 00254	12 OF 18

TUBE No.	SAMPLE No.	Au	AuChk	AuChk	Wgh					
1	202712	–	–	–	–	Rock Chip		Voyager	12	
2	171581	–	–	–	–					
3	171582	–	–	–	–	-80# Stream				
4	171583	–	–	–	–	Sediment Sample				
5	171584	–	–	–	–	North Hudson				
6	171585	–	–	–	–	River				
7	171586	–	–	–	–					
8	171587	–	–	–	–					
9	171588	–	<0.008	–	–					
10	171589	–	–	–	–					
11	171590	–	–	–	–					
12	171591	–	–	–	–					
13	171592	–	–	–	–					
14	171593	–	–	–	–					
15	171594	–	–	–	–					
16	171595	–	–	–	–					
17	171596	–	–	–	–					
18	171600	–	–	–	–					
19	171738	–	<0.008	–	–	– 80# Stream				
20	171739	–	–	–	–	Sediment Sample				
21	171740	–	–	–	–	Voyager 3.				
22	171741	–	–	–	–					
23	171742	–	–	–	–					
24	171743	–	–	–	–					
25	171744	–	–	–	–	– 80 Mesh Stream Sediment Sample Voyager 2				

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04247	11/03/87	E 00254	13 OF 18

TUBE No.	SAMPLE No.	Au	AuChk	AuChk	Wgh	
1	171745	–	–	–	–	-80# Stream Sediment
2	171746	–	–	–	–	Sample Voyager 2.
3	171747	–	–	–	–	
4	171748	–	–	–	–	-80# Stream Sediment Sample Kid Creek
5	202019	–	<0.008	–	–	
6	202020	–	–	–	–	-80# Stream Sediment
7	202021	–	–	–	–	Samples
8	202022	–	–	–	–	Porphyry Contact.
9	202023	–	–	–	–	
10	202024	–	–	–	–	
11	202025	–	–	–	–	
12	202190	–	–	–	–	-80# Stream Sediment
13	202191	–	–	–	–	Samples
14	202192	–	<0.008	–	–	Voyager 10 Region
15	202193	–	–	–	–	
16	202532	–	–	–	–	-80# Stream Sediment
17	202533	–	–	–	–	Porphyry
18	202534	–	–	–	–	Contact.
19	202535	–	–	–	–	
20	202641	–	–	–	–	-80# Stream
21	202642	–	–	–	–	Sediment Samples
22	202643	–	–	–	–	Porphyry Contact.
23	202644	–	–	–	–	
24	202645	–	<0.008	–	–	
25	202646	–	–	–	–	

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04247	11/03/87	E 00254	14 OF 18

TUBE No.	SAMPLE No.	Au	AuChk	AuChk	Wgh	
1	202647	–	–	–	–	
2	202648	–	–	–	–	
3	202649	–	–	–	–	
4	202650	–	–	–	–	
5	202664	–	–	–	–	
6	202665	–	–	–	–	-80# Stream
7	202666	–	–	–	–	
8	202667	–	–	–	–	Sediment Samples
9	202668	–	<0.008	–	–	
10	202669	–	–	–	–	Porphyry Contact.
11	202670	–	–	–	–	
12	202671	–	–	–	–	
13	202672	–	–	–	–	
14	202673	–	–	–	–	
15	202674	–	–	–	–	
16	202675	–	–	–	–	
17	202676	–	–	–	–	
18	202677	–	–	–	–	
19	202678	–	<0.008	–	–	
20	202679	–	–	–	–	
21	202680	–	–	–	–	
22	202681	–	–	–	–	
23	202682	–	–	–	–	
24	171.31	–	160.30	–	58.3	Panned Concentrate
25	171.32	–	–	–	56.1	North Hudson River.

Results in ppm unless otherwise specified
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04247	11/03/87	E 00254	15 OF 18

TUBE No.	SAMPLE No.	Au	AuChk	AuChk	Wgh					
1	171633	-	-	-	59.8					
2	171634	-	-	-	64.7					
3	171635	-	-	-	145.5		Panned	Concentrate		
4	171636	-	-	-	107.5					
5	171637	-	-	-	102.5		Hudson	River.		
6	171638	-	-	-	140.8					
7	171639	-	-	-	103.9					
8	171640	-	-	-	127.3					
9	171641	-	-	-	81.5					
10	171642	-	40.620	-	86.4					
11	171643	-	-	-	124.5					
12	171644	-	-	-	96.0					
13	171645	-	-	-	131.5					
14	171646	-	<0.008	-	124.5					
15	202026	-	-	-	43.6					
16	202027	-	-	-	62.0		Panned	Concentrate		
17	202028	-	-	-	88.6					
18	202029	-	88.650	-	65.7		Porphyry	Contact.		
19	202030	-	-	-	81.1					
20	202031	-	-	-	67.4					
21	202032	-	-	-	51.1					
22	202140	-	-	-	46.6		Panned	Concentrate		
23	202141	-	-	-	123.1					
24	202142	-	<0.008	-	150.4		Voyager	3.		
25	202143	-	-	-	113.4					

Results in ppm unless otherwise specified
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04247	11/03/87	E 00254	16 OF 18

TUBE No.	SAMPLE No.	Au	AuChk	AuChk	Wgh	
1	202144	–	–	–	182.1	Panned Concentrate
2	202145	–	–	–	149.1	Voyager 3
3	202146	–	–	–	159.1	
4	202147	–	–	–	105.8	Panned Concentrate
5	202148	–	–	–	169.0	Voyager 2
6	202149	–	–	–	146.5	
7	202150	–	–	–	127.0	Panned Concentrate Kid Creek.
8	202194	–	–	–	81.9	Panned Concentrate
9	202195	–	–	–	56.2	Barrel Creek.
10	202196	–	–	–	127.4	
11	202197	–	–	–	110.2	
12	202533	–	–	–	96.7	
13	202535	–	–	–	83.5	
14	202537	–	–	–	66.0	
15	202539	–	–	–	78.3	
16	202543	–	–	–	152.2	Panned Concentrates
17	202544	–	–	–	132.5	Voyager 18.
18	202601	–	–	–	91.0	
19	202602	–	–	–	43.8	
20	202603	–	–	–	40.6	Panned Concentrates
21	202604	–	–	–	58.1	Porphyry Contact.
22	202605	–	–	–	56.5	
23	202606	–	–	–	49.7	
24	202607	–	–	–	50.7	
25	202608	–	–	–	59.4	

Results in ppm unless otherwise specified
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04247	11/03/87	E 00254	17 OF 18

TUBE No.	SAMPLE No.	Au	AuChk	AuChk	Wgh	
1	202609	–	–	–	60.6	Panned Concentrate
2	202612	–	–	–	52.8	Porphyry Contact.
3	202613	–	–	–	40.1	
4	202683	–	–	–	50.5	
5	202684	–	–	–	43.6	
6	202685	–	–	–	48.8	
7	202686	–	–	–	50.7	
8	202687	–	–	–	42.1	
9	202688	–	–	–	17.8	5 Panned Concentrate
10	202689	–	221.80	–	59.2	
11	202690	–	–	–	31.8	Porphyry Contact.
12	202691	–	–	–	39.5	
13	202692	–	–	–	50.1	
14	202693	–	–	–	53.7	
15	202694	–	–	–	39.1	
16	202695	–	–	–	47.5	
17	202696	–	–	–	43.5	
18	202697	–	–	–	42.3	
19	202698	–	–	–	36.2	
20	202699	–	–	–	53.0	
21	202700	–	688.70	–	63.1	
22	171647	–	–	–	–	Panned Concentrate
23	171648	–	–	–	–	Hudson River.
24	171649	–	–	–	–	
25	202540	–	–	–	–	Panned Concentrate Wanderer River

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

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119213

ANALABS

A division of MacDonald Hamilton & Co. Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04247	11/03/87	E 00254	18 OF 18

TUBE No.	SAMPLE No.	Au	AuChk	AuChk	Wgh
1	202541	–	–	–	–
2	202542	–	–	–	–
3	202259	0.02	–	–	–
4	202260	0.02	–	–	–
5	202261	0.03	–	–	–
6	202262	0.03	–	–	–
7					
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20					
21					
22					
23	DETECTION	0.01	0.008	0.005	0.1
24	UNITS	PPM	PPM	PPM	GMS
25	METHOD	329	329	313	199

Panned Concentrates Wanderer River.

Soil Samples Voyager 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 _____

213

119214

ANALABS

Tel: (08) 244 0100 Telex: AA92540

7.5.08.04277

Soil Analysis for Sample Descriptions

RESULTS OF ANALYTICAL DATA TO

B. Roxburgh
Cyprus Minerals
P.O. Box 49?
North Sydney
N.S.W. 2060

ORDER No.: [illegible]

PROJECT: DN 4832-83

DATE RECEIVED: 26/02/87

RESULTS REQUIRED: ASAP

No. of SAMPLES	DATE REPORTED	PAGE No.	STATE No. OF SAMPLES	
10	05/03/87	1	[illegible]	

ANALYSES

Various	SS	Prep: 002,017					Cu,Pb,Zn,Ag:[illegible],Au:[illegible]		
Various	SS						[illegible]		
202571,202619/23,202751/52	SC	Prep: 002,017					Cu,Pb,Zn,Mg:[illegible],Ms:[illegible],Mgh:[illegible]		
202571,202619/23,202751/52	PU						Mg:[illegible]		
Various	SC	Prep: 002,010,[illegible]2,014,017					Cu,Pb,Zn,Mg:[illegible],Ms:[illegible]		

REMARKS

RESULTS TO

B. Roxburgh
Cyprus Minerals
P.O. Box 49?
North Sydney
N.S.W. 2060

RESULTS TO

[illegible]

STATE OF SAMPLES

WC wet
SC soil
CU core
RO rock
SO solid
PU pulp
WA water
TT tailings
SE sediment
HM mineral

ANALYSIS — PREPARATION

perchloric acid — A1
hydrochloric acid — A2
nitric acid — A3
aqua regia — A4
nitric-perchloric — A5
HF digestion — A6
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ANALYSIS — METHOD

atomic absorption — AAS
x-ray fluorescence — XRF
spectrophotometry — SPEC
colorimetry — COL
chromatography — CHR
titration — TTN
other chemicals method — CHEM
miscellaneous — MISC
fluorescence — FLUOR
inductively coupled plasma — ICP

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04277	09/03/87	E00256	1 OF 10

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Ag	As	Wgh	Au	Au
1	202598	<5	5	20	<0.5	-	2	-	<0.008	-
2	202599	<5	10	15	<0.5	-	<1	-	<0.008	-
3	202600	<5	<5	5	<0.5	-	1	-	0.008	-
4	202633	<5	10	20	<0.5	-	1	-	2.310	-
5	202634	<5	<5	15	<0.5	-	1	-	<0.008	-
6	202635	<5	<5	15	<0.5	-	<1	-	<0.008	-
7	202636	<5	<5	5	<0.5	-	1	-	<0.008	-
8	202797	45	10	75	<0.5	-	5	-	<0.008	-
9	202800	95	5	120	0.5	-	1	-	0.060	-
10	202571	<5	<5	5	<0.5	-	<1	57.4	0.110	-
11	202619	<5	<5	10	-	25	1	53.1	173.33	-
12	202620	<5	5	20	3.5	-	<1	51.0	5.270	-
13	202631	<5	<5	5	<0.5	-	<1	47.2	0.930	-
14	202632	<5	<5	5	0.5	-	1	29.8	0.010	-
15	202629	<5	<5	25	1.5	-	1	36.2	4.960	-
16	202751	80	<5	45	<0.5	-	2	42.9	2.610	-
17	202752	55	<5	75	<0.5	-	9	37.3	0.650	-
18	171443	45	195	55	2.0	-	160	-	-	0.[illegible]
19	171445	15	455	500	<0.5	-	12	-	-	-
20	171447	30	115	100	3.5	-	55	-	-	0.[illegible]
21	171477	10	5	25	0.5	-	5	-	-	0.[illegible]
22	171478	5	5	15	<0.5	-	<1	-	-	<0.[illegible]
23	171479	10	360	720	<0.5	-	1	-	-	0.005
24	171480	[illegible]	[illegible]	[illegible]	<0.5	-	2	-	-	0.[illegible]
25	171481	[illegible]	[illegible]	[illegible]	0.5	-	64	-	-	0.[illegible]

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
	7.5.83.0427	09/05/83	[illegible]	2 OF 10

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Ag	As	Wgh	Au	Au
1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-	[illegible]	-	-	0.005
2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.005
3	[illegible]	[illegible]	[illegible]	[illegible]	<0.5	[illegible]	1	[illegible]	[illegible]	[illegible]
4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	-	[illegible]
5	[illegible]	[illegible]	[illegible]	[illegible]	<0.5	-	<1	[illegible]	[illegible]	[illegible]
6	[illegible]	10	90	125	<0.5	-	1	-	-	-
7	[illegible]	5	<5	10	<0.5	-	<1	-	-	[illegible]
8	[illegible]	<5	10	25	<0.5	-	<1	-	-	[illegible]
9	[illegible]	<5	10	60	<0.5	-	<1	-	[illegible]	[illegible]
10	[illegible]	10	25	120	<0.5	-	1	-	-	[illegible]
11	[illegible]	5	25	210	<0.5	-	2	-	-	[illegible]
12	[illegible]	<5	75	125	<0.5	-	1	[illegible]	[illegible]	[illegible]
13	[illegible]	<5	75	155	<0.5	-	1	[illegible]	[illegible]	[illegible]
14	[illegible]	<5	20	35	<0.5	-	1	-	[illegible]	[illegible]
15	[illegible]	<5	<5	20	<0.5	-	<1	-	[illegible]	[illegible]
16	[illegible]	<5	<5	70	<0.5	-	<1	-	-	[illegible]
17	[illegible]	5	<5	40	<0.5	-	2	-	-	[illegible]
18	[illegible]	[illegible]	[illegible]	10	[illegible]	-	[illegible]	[illegible]	[illegible]	[illegible]
19	[illegible]	[illegible]	[illegible]	130	<0.5	-	4	[illegible]	[illegible]	[illegible]
20	[illegible]	[illegible]	5	10	[illegible]	-	<1	-	[illegible]	[illegible]
21	[illegible]	[illegible]	10	20	<0.5	-	1	-	[illegible]	[illegible]
22	[illegible]	[illegible]	[illegible]	15	<0.5	-	1	-	-	[illegible]
23	[illegible]	[illegible]	[illegible]	[illegible]	<0.5	-	<1	-	-	-
24	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
25	[illegible]	[illegible]	10	[illegible]	0.5	[illegible]	1	-	-	[illegible]

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
X = element concentration is below detection limit
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.S.08.04277	09/03/87	E00256	3 OF 10

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Ag	As	Wgh	Au	Au
1	202286	<5	5	120	<0.5	-	1	-	-	-
2	202287	5	10	145	<0.5	-	3	-	-	-
3	202288	<5	10	115	<0.5	-	4	-	-	-
4	202289	5	<5	75	<0.5	-	1	-	-	-
5	202290	<5	15	380	<0.5	-	1	-	-	-
6	202291	<5	<5	95	<0.5	-	1	-	-	-
7	202292	<5	15	25	<0.5	-	1	-	-	-
8	202293	5	30	30	1.0	-	1	-	-	-
9	202294	5	30	70	0.5	-	<1	-	-	-
10	202295	<5	45	65	<0.5	-	1	-	-	-
11	202296	5	10	20	<0.5	-	1	-	-	-
12	202297	<5	<5	40	<0.5	-	<1	-	-	-
13	202298	<5	20	30	<0.5	-	<1	-	-	-
14	202299	5	90	35	<0.5	-	1	-	-	-
15	202300	<5	<5	5	<0.5	-	<1	-	-	-
16	202301	<5	<5	5	<0.5	-	<1	-	-	-
17	202302	35	25	75	<0.5	-	1	-	-	-
18	202303	5	10	60	<0.5	-	1	-	-	-
19	202304	5	<5	5	<0.5	-	1	-	-	-
20	202305	5	<5	5	<0.5	-	<1	-	-	-
21	202306	<5	5	30	<0.5	-	1	-	-	-
22	202307	5	5	55	<0.5	-	1	-	-	-
23	202308	5	<5	75	<0.5	-	1	-	-	-
24	202309	10	5	60	<0.5	-	1	-	-	-
25	202310	5	<5	10	<0.5	-	<1	-	-	-

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04277	09/03/87	E00256	4 OF 10

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Ag	As	Wgh	Au	Au
1	202805	<5	<5	10	<0.5	-	<1	-	-	-
2	202806	5	<5	15	<0.5	-	1	-	-	-
3	202807	10	10	55	<0.5	-	5	-	-	-
4	202808	10	15	55	<0.5	-	4	-	-	-
5	202809	15	<5	20	<0.5	-	1	-	-	-
6	202810	55	<5	50	<0.5	-	3	-	-	-
7	202811	35	<5	25	<0.5	-	1	-	-	-
8	202812	120	20	85	<0.5	-	21	-	-	-
9	202813	55	20	60	<0.5	-	14	-	-	-
10	202814	20	40	150	<0.5	-	11	-	-	-
11	202815	140	15	75	<0.5	-	16	-	-	-
12	202816	40	<5	15	<0.5	-	7	-		
13	202817	15	40	70	<0.5	-	16	-	-	-
14	202818	190	20	65	<0.5	-	42	-	-	-
15	202819	15	<5	20	<0.5	-	2	-	-	-
16	202820	15	<5	15	<0.5	-	1	-	-	-
17	202821	20	<5	45	<0.5	-	<1	-	-	
18	202822	60	<5	75	<0.5	-	<1	-	-	-
19	202823	170	<5	95	<0.5	-	1	-	-	-
20	202824	200	<5	130	<0.5	-	1	-	-	-
21	202825	40	<5	60	<0.5	-	1	-	-	-
22	202826	40	<5	60	<0.5	-	1	-	-	
23	202827	15	<5	65	<0.5	-	1	-	-	-
24	202828	20	<5	45	<0.5		1	-	-	
25	202829	20	<5	45	<0.5	-	1	-	-	

Results in ppm unless otherwise specified
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X = element concentration is below detection limit
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04277	09/03/87	E00256	5 OF 10

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Ag	As	Wgh	Au	Au
1	202830	15	<5	50	<0.5	-	<1	-	-	-
2	202831	90	<5	90	<0.5	-	1	-	-	-
3	202832	60	<5	65	<0.5	-	2	-	-	-
4	202833	20	<5	15	<0.5	-	1	-	-	-
5	202834	20	<5	30	<0.5	-	8	-	-	-
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22										
23	DETECTION	5	5	5	0.5	2	1	0.1	0.008	0.005
24	UNITS	PPM	PPM	PPM	PPM	PPM	PPM	GMS	PPM	PPM
25	METHOD	101	101	101	101	104	114	199	309	313

Results in ppm unless otherwise specified
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04277	09/03/87	E00256	6 OF 10

TUBE No.	SAMPLE No.	Au	AuChk	AuChk	AuChk	
1	202598	–	–	–	–	– 80# Stream Sediment
2	202599	–	–	–	–	
3	202600	–	–	–	–	
4	202633	–	–	–	–	– 80# Stream Sediment
5	202634	–	–	–	–	
6	202635	–	–	–	–	
7	202636	–	–	–	–	
8	202799	–	–	–	–	– 80# Stream Sediment
9	202800	–	–	–	–	
10	202571	–	–	–	–	Panned Concentrate EM Anomaly 8
11	202619	–	177.96	–	–	Panned Concentrate Voyager 3B
12	202620	–	–	–	–	
13	202621	–	–	–	–	Rock Chip
14	202622	–	–	–	–	
15	202623	–	–	–	–	
16	202751		–	–	–	
17	202752	–	–	–	–	
18	171447	–	–	–	–	Rock Chip
19	171448	–	–	–	–	
20	171449	–	–	–	–	
21	171977	–	–		–	Rock Chip
22	171978		–	0.005	–	E.M. Anomaly 9.
23	171979	–	–	–	–	
24	171988		–		–	Rock Chip
25	171989	–	–	–	–	

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
	7.5.08.04277	09/03/87	E00256	7 OF 10

TUBE No.	SAMPLE No.	Au	AuChk	AuChk	AuChk	
1	171990	–	–	–	–	Rock Chip
2	171991	–	–	–	–	
3	202263	<0.01	–	–	–	
4	202264	<0.01	–	–	–	
5	202265	<0.01	–	–	–	
6	202266	<0.01	–	–	–	
7	202267	<0.01	–	–	–	Line 9
8	202268	<0.01	–	–	–	Soil Samples.
9	202269	<0.01	–	–	–	
10	202270	<0.01	–	–	–	
11	202271	<0.01	–	–	–	
12	202272	<0.01	–	–	<0.01	
13	202273	<0.01	–	–	–	
14	202274	<0.01	–	–	–	
15	202275	<0.01	–	–	–	
16	202276	<0.01	–	–	–	
17	202277	<0.01	–	–	–	
18	202278	<0.01	–	–	–	
19	202279	<0.01	–	–	–	
20	202280	<0.01	–	–	–	Line 8
21	202281	<0.01	–	–	–	Soil Samples.
22	202282	<0.01	–	–	<0.01	
23	202283	<0.01	–	–	–	
24	202284	<0.01	–	–	–	
25	202285	<0.01	–	–	–	

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
	7.5.08.04277	09/03/87	E00256	8 OF 10

TUBE No.	SAMPLE No.	Au	AuChk	AuChk	AuChk					
1	202286	<0.01	–	–	–					
2	202287	<0.01	–	–	–					
3	202288	<0.01	–	–	–					
4	202289	<0.01	–	–	–	Line 8				
5	202290	<0.01	–	–	–	Soil Samples				
6	202291	<0.01	–	–	–					
7	202292	<0.01	–	–	<0.01					
8	202293	<0.01	–	–	–					
9	202294	<0.01	–	–	–					
10	202295	<0.01	–	–	–					
11	202296	<0.01	–	–	–					
12	202297	<0.01	–	–	–					
13	202298	<0.01	–	–	–					
14	202299	<0.01	–	–	–					
15	202300	<0.01	–	–	–					
16	202545	<0.01	–	–	–					
17	202546	<0.01	–	–	<0.01					
18	202547	<0.01	–	–	–	Line 23				
19	202548	<0.01	–	–	–					
20	202549	<0.01	–	–	–	Soil Samples				
21	202550	<0.01	–	–	–					
22	202801	<0.01	–	–	–					
23	202802	<0.01	–	–	–					
24	202803	<0.01	–	–	–					
25	202804	<0.01	–	–	–					

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
	7.5.08.04277	09/03/87	E00256	9 OF 10

TUBE No.	SAMPLE No.	Au	AuChk	AuChk	AuChk					
1	202805	<0.01	–	–	–					
2	202806	<0.01	–	–	–					
3	202807	<0.01	–	–	–					
4	202808	<0.01	–	–	–					
5	202809	<0.01	–	–	–					
6	202810	<0.01	–	–	–					
7	202811	<0.01	–	–	–					
8	202812	<0.01	–	–	–		Line	23		
9	202813	<0.01	–	–	–					
10	202814	<0.01	–	–	–		Soil	Samples.		
11	202815	<0.01	–	–	–					
12	202816	<0.01	–	–	<0.01					
13	202817	<0.01	–	–	–					
14	202818	<0.01	–	–	–					
15	202819	0.06	–	–	–					
16	202820	<0.01	–	–	–					
17	202821	<0.01	–	–	–					
18	202822	<0.01	–	–	–					
19	202823	<0.01	–	–	–					
20	202824	<0.01	–	–	–					
21	202825	<0.01	–	–	–					
22	202826	<0.01	–	–	<0.01					
23	202827	<0.01	–	–	–					
24	202828	<0.01	–	–	–					
25	202829	<0.01	–	–	–					

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
	7.5.08.04277	09/03/87	E00256	10 OF 10

TUBE No.	SAMPLE No.	Au	AuChk	AuChk	AuChk
1	202830	<0.01	-	-	-
2	202831	<0.01	-	-	-
3	202832	<0.01	-	-	-
4	202833	<0.01	-	-	-
5	202834	<0.01	-	-	-
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23	DETECTION	0.01	0.003	0.005	0.01
24	UNITS	PPM	PPM	PPM	PPM
25	METHOD	329	309	313	329

Line 23
Soil Samples

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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A division of MacDonald Hamilton & Co. Pty. Ltd.
52 Murray Road, Welshpool, W.A. 6106
Phone (09) 458 2999 TLX: AA 93221 Telex AA92560

ANALYTICAL REPORT No. 7.5.08.04294

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

B. Roxburgh
Cyprus Minerals
P.O. Box 493
North Sydney
N.S.W. 2060

ORDER No.	PROJECT
E00257	DN 4834

DATE RECEIVED	RESULTS REQUIRED
06/03/87	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
7	20/03/87	1	157

REPEAT (ONE)	CLIENT SAMPLE NUMBER	PRE-TREATMENT: DRY	CRUSH	SPLIT	PUL. VERIFY	SIEVE	OTHER SEE REMARKS	NONE	ANALYSIS	REFER TO ANALYSIS SECTION	PREPARATION	METHOD
	Various	RO	Prep: 005,009,012,013,017						Cu,Pb,Zn,Ag/101,As/114			
	Various	RO							Au,AuRpt/313			
	Various	SO	Prep: 005,009,017						Cu,Pb,Zn,Ag/101,As/114			
	Various	SO							Au,AuChk/329			
	202624/27	PC	Prep: 005,091,017						Cu,Pb,Zn,Ag/101,As/114,Wgh/199			

RESULTS TO

B. Roxburgh
Cyprus Minerals
P.O. Box 493
North Sydney
N.S.W. 2060

RESULTS TO

C. Torrey
Cyprus Minerals
P.O. Box 230
Zeehan
Tasmania 7469

REMARKS

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

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.[illegible]8.04294	20/03/87	E00257	1 OF 7

TUBE No.	SAMPLE No.	Au	Au	Au	AuRpt	AuRpt	
1	171507		<0.005	–	<0.005	–	Rock Chips Voyager 24
2	171596	–	<0.005	–	–	–	
3	[illegible]	–	<0.005	–	–	–	
4	171650	–	<0.005	–	–	–	
5	171992	–	<0.005	–	–	–	
6	171993	–	<0.005	–	–	–	
7	202[illegible]6	–	<0.005	–	–	–	Rock Chips EM Anom 12/13
8	202[illegible]	–	<0.005	–	–	–	
9	202902	–	<0.005	–	–	–	Rock Chips Voyager 24
10	202903	–	<0.005	–	–	–	
11	[illegible]2759	–	–	[illegible]	–	–	Soils – Mt Osmund East Line 17
12	[illegible]760	–	–	<0.01	–	–	
13	[illegible]1	–	–	<0.01	–	–	
14	[illegible]62	–	–	<0.01	–	–	
15	[illegible]	–	–	<0.01	–	–	
16	[illegible]1	–	–	<0.01	–	–	
17	[illegible]	–	–	<0.01	–	–	
18	[illegible]	–	–	<0.01	–	–	
19	[illegible]	–	–	<0.01	–	–	
20	[illegible]68	–	–	<0.01	–	–	
21	[illegible]7	–	–	<0.01	–	–	
22	[illegible]	–	–	<0.01	–	–	
23	[illegible]1	–	–	<0.01	–	–	
24	[illegible]	–	–	<0.01	–	–	
25	[illegible]	–	–	<0.01	–	–	

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
	7.5.08.04294	20/03/87	E00257	2 OF 7

TUBE No.	SAMPLE No.	Au	Au	Au	AuRpt	AuRpt
1	202774	-	-	<0.01	-	-
2	202775	-	-	<0.01	-	-
3	202776	-	-	<0.01	-	-
4	202777	-	-	<0.01	-	-
5	202778	-	-	<0.01	-	-
6	202779	-	-	<0.01	-	-
7	202780	-	-	<0.01	-	-
8	202781	-	-	<0.01	-	-
9	202782	-	-	<0.01	-	-
10	202783	-	-	<0.01	-	-
11	202784	-	-	<0.01	-	-
12	202785	-	-	<0.01	-	-
13	202786	-	-	<0.01	-	-
14	202787	-	-	<0.01	-	-
15	202788	-	-	<0.01	-	-
16	202789	-	-	<0.01	-	-
17	[illegible]	-	-	<0.01	-	-
18	[illegible]	-	-	<0.01	-	-
19	[illegible]	-	-	<0.01	-	-
20	202793	-	-	<0.01	-	-
21	202794	-	-	<0.01	-	-
22	202795	-	-	<0.01	-	-
23	202796	-	-	<0.01	-	-
24	[illegible]	-	-	<0.01	-	-
25	[illegible]	-	-	<0.01	-	-

Soils
- Mt Osmund East
Line 17

Soils
- Nth Porphyry
Contact
Line 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
	7.5.08.04294	20/03/87	E00257	3 OF 7

TUBE No.	SAMPLE No.	Au	Au	Au	AuRpt	AuRpt
1	202835	-	-	<0.01	-	-
2	202836	-	-	<0.01	-	-
3	202837	-	-	<0.01	-	-
4	202838	-	-	<0.01	-	-
5	202839	-	-	<0.01	-	-
6	202840	-	-	<0.01	-	-
7	202841	-	-	<0.01	-	-
8	202842	-	-	<0.01	-	-
9	202843	-	-	<0.01	-	-
10	202844	-	-	<0.01	-	-
11	202845	-	-	<0.01	-	-
12	202846	-	-	<0.01	-	-
13	202847	-	-	<0.01	-	-
14	202848	-	-	<0.01	-	-
15	202849	-	-	<0.01	-	-
16	202850	-	-	<0.01	-	-
17	202851	-	-	<0.01	-	-
18	202852	-	-	<0.01	-	-
19	202853	-	-	<0.01	-	-
20	202854	-	-	<0.01	-	-
21	202855	-	-	<0.01	-	-
22	202856	-	-	<0.01	-	-
23	202857	-	-	<0.01	-	-
24	202858	-	-	<0.01	-	-
25	202859	-	-	<0.01	-	-

Soils - Osmund East Line 16

Soil - Line 17 Mt Osmund East

Soils - Nth Porphry Contact Line 7

Soils - Nth Porphry Contact Line 7.6

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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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04294	20/03/87	E00257	4 OF 7

TUBE No.	SAMPLE No.	Au	Au	Au	AuRpt	AuRpt
1	202860	–	–	<0.01	–	–
2	202861	–	–	<0.01	–	–
3	202862	–	–	<0.01	–	–
4	202863	–	–	<0.01	–	–
5	202864	–	–	<0.01	–	–
6	202865	–	–	<0.01	–	–
7	202866	–	–	<0.01	–	–
8	202867	–	–	<0.01	–	–
9	202868	–	–	<0.01	–	–
10	202869	–	–	<0.01	–	–
11	202870	–	–	<0.01	–	–
12	202871	–	–	<0.01	–	–
13	202872	–	–	<0.01	–	–
14	202873	–	–	<0.01	–	–
15	202874	–	–	<0.01	–	–
16	202875	–	–	<0.01	–	–
17	202876	–	–	<0.01	–	–
18	202877	–	–	<0.01	–	–
19	202878	–	–	<0.01	–	–
20	202879	–	–	<0.01	–	–
21	202880	–	–	<0.01	–	–
22	202881	–	–	<0.01	–	–
23	202882	–	–	<0.01	–	–
24	202883	–	–	<0.01	–	–
25	202884	–	–	<0.01	–	–

Soils
– Nth Porphyry Contact
Line 7.6

Soils
– Nth Porphyry Contact
Line 7.5

Soils
– Dolerite – Porphyry Contact

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
	7.5.08.04294	20/03/87	E00257	5 OF 7

TUBE No.	SAMPLE No.	Au	Au	Au	AuRpt	AuRpt
1	202885	-	-	<0.01	-	-
2	202886	-	-	<0.01	-	-
3	202887	-	-	<0.01	-	-
4	202888	-	-	<0.01	-	-
5	202889	-	-	<0.01	-	-
6	202890	-	-	<0.01	-	-
7	202891	-	-	<0.01	-	-
8	202892	-	-	<0.01	-	-
9	202951	-	-	<0.01	-	-
10	202952	-	-	<0.01	-	-
11	202953	-	-	<0.01	-	-
12	202954	-	-	<0.01	-	-
13	202955	-	-	<0.01	-	-
14	202956	-	-	<0.01	-	-
15	202957	-	-	<0.01	-	-
16	202958	-	-	<0.01	-	-
17	202959	-	-	<0.01	-	-
18	202960	-	-	<0.01	-	-
19	202961	-	-	<0.01	-	-
20	202962	-	-	<0.01	-	-
21	202963	-	-	<0.01	-	-
22	202964	-	-	<0.01	-	-
23	202965	-	-	<0.01	-	-
24	[illegible]			<0.01	-	-
25	202967	-	-	<0.01	-	-

Soils
- Dolerite - Porphry Contact

Soils
- Mt Osmund West
Line 14600N

Soils
- Mt Osmund West
Line 14200N

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
	7.5.08.04294	20/03/87	E00257	6 OF 7

TUBE No.	SAMPLE No.	Au	Au	Au	AuRpt	AuRpt
1	202968	-	-	<0.01	-	-
2	202969	-	-	<0.01	-	-
3	202970	-	-	<0.01	-	-
4	202971	-	-	<0.01	-	-
5	202972	-	-	<0.01	-	-
6	202973	-	-	<0.01	-	-
7	202974	-	-	<0.01	-	-
8	202975	-	-	<0.01	-	-
9	202976	-	-	<0.01	-	-
10	202977	-	-	<0.01	-	-
11	202978	-	-	<0.01	-	-
12	202979	-	-	<0.01	-	-
13	202980	-	-	<0.01	-	-
14	202981	-	-	<0.01	-	-
15	202982	-	-	<0.01	-	-
16	202983	-	-	<0.01	-	-
17	202984	-	-	<0.01	-	-
18	202985	-	-	<0.01	-	-
19	202986	-	-	<0.01	-	-
20	202987	-	-	<0.01	-	-
21	202988	-	-	<0.01	-	-
22	202989	-	-	<0.01	-	-
23	202990	-	-	<0.01	-	-
24	202991	-	-	<0.01	-	-
25	202624	<0.008	-	-	-	

Soils
Mt Osmund West
Line 14200N

Soils
Mt Osmund West
Line 25

Panned Conc
EM anom 12/13

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
	7.5.08.04294	20/03/87	E00257	7 OF 7

TUBE No.	SAMPLE No.	Au	Au	Au	AuRpt	AuRpt	
1	202625	2.490	-	-	-	-	PANNED CONCENTRATE
2	202626	2.930	-	-	-	-	EM ANOM. 12/13
3	202627	<0.008	-	-	-	-	
4	202629	<0.008	-	-	-	-	
5	202630	<0.008	-	-	-	<0.008	-80#
6	202631	<0.008	-	-	-	-	EM ANOM 12/13
7	202632	<0.008	-	-	-	-	
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23	DETECTION	0.008	0.005	0.01	0.005	0.008	
24	UNITS	PPM	PPM	PPM	PPM	PPM	
25	METHOD	309	313	329	313	309	

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
	7.5.08.04294	20/03/87	E00257	1 OF 7

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Ag	As			
1	171597	25	<5	5	<0.5	-	<1			
2	171598	75	15	10	<0.5	-	<1			
3	171599	35	<5	5	<0.5	-	<1			
4	171650	50	5	10	<0.5	-	<1			
5	171992	20	145	120	<0.5	-	<1			
6	171993	65	10	10	<0.5	-	<1			
7	202756	45	30	115	<0.5	-	<1			
8	202757	50	435	670	<0.5	-	11			
9	202902	15	<5	20	<0.5	-	<1			
10	202903	45	<5	<5	<0.5	-	<1			
11	202759	<5	30	70	<0.5	-	<1			
12	202760	5	<5	60	<0.5	-	<1			
13	202761	5	210	460	<0.5	-	1			
14	202762	<5	<5	75	<0.5	-	<1			
15	202763	10	45	110	<0.5	-	3			
16	202764	5	35	50	<0.5	-	1			
17	202765	70	125	105	<0.5	-	1			
18	202766	5	330	1700	<0.5	-	1			
19	202767	15	305	360	<0.5	-	1			
20	202768	10	10	70	<0.5	-	<1			
21	202769	<5	35	80	<0.5	-	<1			
22	202770	<5	<5	45	<0.5	-	<1			
23	202771	10	40	30	<0.5	-	<1			
24	202772	<5	105	15	<0.5		<1			
25	202773	5	315	220	<0.5	-	<1			

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

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A division of MacDonald Hamilton & Co. Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04294	20/03/87	E00257	2 OF 7

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Ag	As
1	202774	<5	95	175	<0.5	-	<1
2	202775	5	60	150	<0.5	-	<1
3	202776	<5	195	135	<0.5	-	1
4	202777	15	165	225	<0.5	-	<1
5	202778	20	145	185	<0.5	-	1
6	202779	15	195	95	<0.5	-	<1
7	202780	5	<5	<5	<0.5	-	2
8	202781	<5	<5	<5	<0.5	-	<1
9	202782	10	<5	<5	<0.5	-	2
10	202783	<5	<5	<5	<0.5	-	<1
11	202784	<5	<5	<5	<0.5	-	<1
12	202785	5	<5	<5	<0.5	-	<1
13	202786	<5	<5	<5	<0.5	-	<1
14	202787	<5	<5	<5	<0.5	-	<1
15	202788	<5	<5	<5	<0.5	-	<1
16	202789	<5	<5	20	<0.5	-	<1
17	202790	<5	<5	15	<0.5	-	<1
18	202791	15	50	15	<0.5	-	<1
19	202792	15	30	560	<0.5	-	1
20	202793	<5	40	70	3.0	-	<1
21	202794	15	110	55	<0.5	-	<1
22	202795	10	220	565	<0.5	-	3
23	202796	10	25	65	<0.5	-	2
24	202797	<5	<5	<5	<0.5	-	1
25	202798	<5	<5	105	<0.5	-	<1

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

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04294	20/03/87	E00257	3 OF 7

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Ag	As
1	202835	<5	<5	10	<0.5	–	<1
2	202836	10	10	190	<0.5	–	<1
3	202837	<5	<5	45	<0.5	–	<1
4	202838	<5	<5	70	<0.5	–	<1
5	202839	10	15	90	<0.5	–	<1
6	202840	10	40	80	<0.5	–	<1
7	202841	15	105	1300	<0.5	–	1
8	202842	10	55	130	<0.5	–	<1
9	202843	<5	<5	40	<0.5	–	<1
10	202844	5	<5	60	<0.5	–	<1
11	202845	15	25	155	<0.5	–	1
12	202846	5	535	640	<0.5	–	1
13	202847	10	65	500	<0.5	–	<1
14	202848	5	<5	15	<0.5	–	<1
15	202849	5	<5	140	<0.5	–	<1
16	202850	10	105	140	<0.5	–	<1
17	202851	<5	<5	30	<0.5	–	<1
18	202852	5	<5	80	<0.5	–	<1
19	202853	5	<5	105	<0.5	–	<1
20	202854	5	<5	70	<0.5	–	<1
21	202855	<5	<5	45	<0.5	–	1
22	202856	<5	<5	15	<0.5	–	<1
23	202857	<5	<5	15	<0.5	–	<1
24	202858	10	<5	15	<0.5	–	<1
25	202859	<5	<5	15	<0.5	–	<1

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
	7.5.08.04294	20/03/87	E00257	4 OF 7

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Ag	As			
1	202860	<5	<5	45	<0.5	-	<1			
2	202861	5	<5	25	<0.5	-	<1			
3	202862	10	15	140	<0.5	-	<1			
4	202863	5	<5	45	<0.5	-	17			
5	202864	20	170	125	3.0	-	2			
	202865	5	35	100	<0.5	-	1			
7	202866	5	30	245	<0.5	-	1			
8	202867	10	150	430	<0.5	-	3			
9	202868	10	75	990	-	13	<1			
10	202869	5	<5	45	<0.5	-	1			
11	202870	<5	<5	20	<0.5	-	1			
12	202871	10	20	70	<0.5	-	2			
13	202872	5	190	245	<0.5	-	1			
14	202873	5	30	35	<0.5	-	<1			
15	202874	5	<5	35	<0.5	-	<1			
16	202875	<5	25	165	<0.5	-	1			
17	202876	<5	25	110	<0.5	-	<1			
18	202877	10	20	45	<0.5	-	1			
19	202878	10	45	55	<0.5	-	1			
20	202879	5	15	30	<0.5	-	<1			
21	202880	5	15	60	<0.5	-	<1			
22	202881	<5	<5	15	<0.5	-	1			
23	202882	<5	10	60	<0.5	-	<1			
24	202883	10	<5	100	<0.5	-	<1			
25	202884	10	30	105	<0.5	-	<1			

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

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ANALABS

A division of MacDonald Hamilton & Co. Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04294	20/03/87	E00257	5 OF 7

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Ag	As			
1	202885	<5	<5	10	<0.5	-	<1			
2	202886	5	10	10	<0.5	-	<1			
3	202887	10	10	10	<0.5	-	<1			
4	202888	10	<5	15	<0.5	-	<1			
5	202889	25	50	335	<0.5	-	<1			
6	202890	90	10	50	<0.5	-	1			
7	202891	55	<5	65	<0.5	-	1			
8	202892	50	<5	65	<0.5	-	<1			
9	202951	5	10	10	<0.5	-	1			
10	202952	<5	15	15	<0.5	-	<1			
11	202953	<5	<5	10	<0.5	-	<1			
12	202954	5	<5	15	<0.5	-	<1			
13	202955	<5	<5	10	<0.5	-	<1			
14	202956	5	<5	15	<0.5	-	<1			
15	202957	5	<5	15	<0.5	-	1			
16	202958	5	<5	20	<0.5	-	1			
17	202959	5	<5	10	<0.5	-	<1			
18	202960	5	<5	10	<0.5	-	1			
19	202961	5	<5	10	<0.5	-	<1			
20	202962	5	<5	10	<0.5	-	<1			
21	202963	<5	30	15	<0.5	-	<1			
22	202964	<5	<5	15	<0.5	-	<1			
23	202965	<5	<5	15	<0.5	-	<1			
24	202966	<5	<5	20	<0.5	-	16			
25	202967	<5	10	15	<0.5	-	370			

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04294	20/03/87	E00257	6 OF 7

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Ag	As			
1	202968	<5	<5	10	<0.5	–	8			
2	202969	<5	<5	10	<0.5	–	2			
3	202970	5	<5	60	<0.5	–	1			
4	202971	<5	<5	20	<0.5	–	<1			
5	202972	<5	<5	10	<0.5	–	<1			
6	202973	<5	<5	10	<0.5	–	<1			
7	202974	<5	<5	10	<0.5	–	<1			
8	202975	5	20	20	<0.5	–	1			
9	202976	65	940	40	<0.5	–	2			
10	202977	5	30	25	<0.5	–	3			
11	202978	<5	10	35	<0.5	–	1			
12	202979	25	40	25	<0.5	–	9			
13	202980	5	10	20	<0.5	–	1			
14	202981	15	270	50	<0.5	–	4			
15	202982	5	15	5	<0.5	–	1			
16	202983	5	15	15	<0.5	–	1			
17	202984	10	10	10	<0.5	–	<1			
18	202985	<5	20	10	<0.5	–	1			
19	202986	<5	<5	<5	<0.5	–	<1			
20	202987	5	10	65	<0.5	–	1			
21	202988	10	40	65	<0.5	–	1			
22	202989	5	15	25	<0.5	–	1			
23	202990	<5	<5	5	<0.5	–	1			
24	202991	<5	5	20	<0.5	–	1			
25	202992	<5	15	75	<0.5	–	2			

Results in ppm unless otherwise specified
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04294	20/03/87	E00257	7 OF 7

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Ag	As			
1	202625	<5	80	25	<0.5	-	4			
2	202626	<5	15	125	<0.5	-	2			
3	202627	<5	10	25	<0.5	-	<1			
4	202629	<5	<5	10	<0.5	-	<1			
5	202630	<5	<5	15	<0.5	-	<1			
6	202631	<5	30	25	<0.5	-	<1			
7	202632	<5	10	25	<0.5	-	<1			
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23	DETECTION	5	5	5	0.5	2	1			
24	UNITS	PPM	PPM	PPM	PPM	PPM	PPM			
25	METHOD	101	101	101	101	104	114			

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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239 119240

ANALABS

A division of MacDonald Hamilton & Co. Pty. Ltd.
Phone (09) 458 7999 52 Murray Road, Welshpool, W.A. 6106 Telex AA92560
TELEX AA 93724

ANALYTICAL REPORT No. 7.5.08.04311

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

B. Roxburgh
Cyprus Minerals
P.O. Box 493
North Sydney
N.S.W. 2060

ORDER No.	PROJECT
E00258	DN 4835

DATE RECEIVED	RESULTS REQUIRED
12/03/87	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
0		0	88

EXCLUDE FROM LOW %	SAMPLE NUMBERS	PRE-TREATMENT: DRY	CRUSH	SPLIT	PULVERISE	SIEVE	OTHER SEE REMARKS	NONE	ANALYSIS: REFER TO ANALYSIS SECTION	PREPARATION	METHOD
	202713/741	RC	Prep: 003,009,012,013,017						Cu,Pb,Zn,Ag/101,As/114		
	202713/741	RC							Au,AuChk/313		
	202893/900,202904/917	SD	Prep: 003,013,017						Cu,Pb,Zn,Ag/101,As/114		
	202893/900,202904/917	SD							Au,AuChk/329		
	202572/583,202918/923	PC	Prep: 003,001,013,017						Cu,Pb,Zn,Ag/101,As/114,Hgh/199		

RESULTS TO

B. Roxburgh
Cyprus Minerals
P.O. Box 493
North Sydney
N.S.W. 2060

RESULTS TO

C. Torrey
Cyprus Minerals
P.O. Box 230
Zeehan
Tasmania 7469

REMARKS

STATE OF SAMPLES		
whole core	WC	
split core	SC	
cutting	CU	
rock	Ro	
soil	SO	
pulp	PU	
water	WA	
tissue	TI	
stream sediment	SS	
heavy mineral	HM	

ANALYSIS — PREPARATION			
perchloric acid	A1	cold acid	CA
hydrochloric acid	A2	specific sulphide	SS
nitric acid	A3	other mixed acids	Ma
aqua regia	A4	alkaline attack	AA
nitric-perchloric	A5	volatilization	VO
HF mixture	A6	ignition	IG
HF under pressure	A7	pressed powder (XRF)	PP
fusion	A8	glass fusion (XRF)	GF

ANALYSIS — METHOD	
atomic absorption	AAS
x-ray fluorescence	XRF
spectrophotometry	SPEC
colorimetry	COL
chromatography	CHR
titration	TTN
other chemicals means	CHEM
miscellaneous	MISC
fluorescence	FLUOR
inductively coupled plasma	ICP

AUTHORISED OFFICER A. J. Sobell

240 119241

ANALABS

A division of MacDonald Hamilton & Co. Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04311	25/03/87	E00258	1 OF 4

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Ag	As			
1	202713	85	5	15	<0.5	-	43	South Lewis River.		
2	202714	10	<5	<5	<0.5	-	2	Rock chip.		
3	202715	5	<5	10	<0.5	-	1			
4	202716	10	<5	10	<0.5	-	1			
5	202717	540	<5	10	<0.5	-	1			
6	202718	15	<5	10	<0.5	-	1			
7	202719	25	<5		<0.5	-	<1			
8	202720	10	<5		<0.5	-	1			
9	202721		5	15	<0.5	-	1	Rock chips Penders Alteration Zone.		
10	202722		<5	35	<0.5	-	1			
11	202723	10	5	35	<0.5	T	<1			
12	202724		5	15	<0.5	-	<1			
13	202725	45	<5	40	<0.5	-	<1			
14	202726	40	<5		0.5		2			
15	2027	10	<5		<0.5		1			
16	202728				<0.5	-	3			
17	202729		30	3100	7.0	-	71			
18	202730	35	<5	60	<0.5		6			
19	202731	15	20	50	<0.5	-	4			
20	202732	30	25	50	<0.5	-	7			
21	202733	20	<5	55	<0.5	-	1			
22	202734	550	5	10	<0.5	-	7			
23	202735	80	10	135	<0.5	-	2			
24	202736	10	15	55	<0.5	-	1			
25	202737	1400	10	10	<0.5	-	16			

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
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ANALABS

A division of MacDonald Hamilton & Co. Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04311	25/03/87	E00258	2 OF 4

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Ag	As	
1	202738	135	<5	10	<0.5	-	1	PENDERS ROCK CHIP.
2	202739	770	<5	40	<0.5	-	58	
3	202740	240	<5	40	<0.5	-	9	
4	202741	8400	75	90	3.0	-	16	
5	202893	20	30	65	<0.5	-	2	
6	202894	10	20	75	<0.5	-	2	
7	202895	5	60	245	<0.5	-	2	
8	202896	10	40	40	<0.5	-	1	
9	202897	35	135	65	0.5	-	1	
10	202898	10	<5	15	<0.5		1	WANDERER SOUTH Line 7. SOIL SAMPLES.
11	202899	10	35	5	<0.5	T	3	
12	202900	10	15	15	<0.5	-	1	
13	202904	10	25	30	<0.5	-	1	
14	202905	5	20	35	<0.5	-	1	
15	202906	5			<0.5	-	4	
16	202907	1			<0.5		2	
17	202908	1						
18		5						
19		10						
20		10						
21		5						
22		5						
23		5						
24								
25								

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

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ANALABS

A division of MacDonald Hamilton & Co. Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04311	25/03/87	E00258	3 OF 4

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Ag	As	
1	202917	5	<5	<5	<0.5	–	<1	WANDERER SOUTH SOIL SAMPLE. Line 7.
2	202572	10	<5	140	3.0	–	<1	SOUTH LEWIS RIVER
3	202573	10	<5	55	<0.5	–	<1	PANNED CONCENTRATES
4	202574	5	<5	5	<0.5	–	<1	PENDERS
5	202575	5	<5	15	<0.5	–	<1	PANNED
6	202576	5	<5	25	–	46	<1	CONCENTRATES.
7	202577	10	<5	20	<0.5	–	<1	
8	202578	5	<5	<5	<0.5	–	<1	LOWER ROCKY POINT PANNED CONCENTRATES.
9	202579	5	<5	<5	<0.5	–	<1	
10	202580	5	<5	5	5.0		<1	
11	202581	5	<5	<5	<0.5		1	
12	202582		<5	25	<0.5	–	<1	SOUTH LOUIS RIVER MOUTH.
13	583		<5	20	<0.5	–	<1	PANNED CONCENTRATES.
14	718				<0.5	–	<1	
15					<0.5	–	1	NORTH LEWIS
16						–	<1	RIVER
17					.5	–	<1	PANNED
18								CONCENTRATES.
19								
20								
21							1	– 80# STREAM
22								SEDIMENTS
23							1	LOWER ROCKY
24								POINT SASSY CK
25		10					1	COASTLINE

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
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AUTHORISED OFFICER

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119244

ANALABS

A division of MacDonald Hamilton & Co. Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04311	25/03/87	E00258	4 OF 4

TUBE No.	SAMPLE No.	Cu	Pb	Zn	Ag	Ag	As	
1	202591	5	<5	<5	<0.5	-	<1	} -80# Stream Sediments Lower Rocky Point
2	202592	10	<5	<5	<0.5	-	<1	} Sassy Ck Coastline
3	202593	10	<5	<5	<0.5	-	<1	} Pender Prospect
4	202594	5	<5	<5	<0.5	-	1	} -80# Stream
5	202595	10	<5	<5	<0.5	-	<1	} Sediment.
6	202596	5	<5	<5	<0.5	-	<1	} South Lewis River
7	202597	10	<5	<5	<0.5	-	<1	} -80# Stream Sediment.
8	202945	10	<5	10	<0.5	-	1	}
9	202946	5	<5	5	<0.5	-	<1	} NORTH LEWIS
10	202947	5	<5	5	<0.5	-	<1	} RIVER
11	202948	10	<5	15	<0.5	-	<1	} -80# STREAM
12	202949	5	<5	10	<0.5	-	<1	} SEDIMENT.
13	202950	5	<5	5	<0.5	-	<1	}
14								
15								
16								
17								
18								
19								
20								
21								
22								
23	DETECTION	5	5	5	0.5	2	1	
24	UNITS	PPM	PPM	PPM	PPM	PPM	PPM	
25		101	101	101	101	104	114	

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
	7.5.08.04311	25/03/87	E00258	1 OF 4

TUBE No.	SAMPLE No.	Au	Au	Au	AuChk	AuChk	AuChk	Wgh		
1	202713	–	<0.005	–	–	–	–	–		
2	202714	–	0.005	–	–	–	–	–		
3	202715	–	<0.005	–	–	–	–	–		
4	202716	–	<0.005	–	–	–	–	–		
5	202717	–	<0.005	–	–	–	–	–		
6	202718	–	<0.005	–	–	–	–	–		
7	202719	–	<0.005	–	–	–	–	–		
8	202720	–	<0.005	–	–	–	–	–		
9	202721	–	<0.005	–	–	–	–	–		
10	202722	–	<0.005	–	–	–	–	–		
11	202723	–	<0.005	–	–	–	–	–		
12	202724	–	<0.005	–	–	–	–	–		
13	202725	–	<0.005	–	–	–	–	–		
14	202726	–	<0.005	–	–	–	–	–		
15	202727	–	<0.005	–	–	–	–	–		
16	202728	–	<0.005	–	–	–	–	–		
17	202729	–	0.030	–	–	0.030	–	–		
18	202730	–	<0.005	–	–	–	–	–		
19	202731	–	<0.005	–	–	–	–	–		
20	202732	–	<0.005	–	–	<0.005	–	–		
21	202733	–	<0.005	–	–	–	–	–		
22	202734	–	<0.005	–	–	–	–	–		
23	202735	–	0.005	–	–	<0.005	–	–		
24	202736	–	<0.005	–	–	–	–	–		
25	202737	–	0.010	–	–	–	–	–		

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04311	25/03/87	E00258	2 OF 4

TUBE No.	SAMPLE No.	Au	Au	Au	AuChk	AuChk	AuChk	Wgh		
1	202738	–	<0.005	–	–	–	–	–		
2	202739	–	0.010	–	–	–	–	–		
3	202740	–	<0.005	–	–	–	–	–		
4	202741	–	0.010	–	–	–	–	–		
5	202893	–	–	<0.01	–	–	–	–		
6	202894	–	–	<0.01	–	–	–	–		
7	202895	–	–	<0.01	–	–	–	–		
8	202896	–	–	<0.01	–	–	–	–		
9	202897	–	–	<0.01	–	–	–	–		
10	202898	–	–	<0.01	–	–	–	–		
11	202899	–	–	<0.01	–	–	–	–		
12	202900	–	–	<0.01	–	–	–	–		
13	202904	–	–	<0.01	–	–	–	–		
14	202905	–	–	<0.01	–	–	–	–		
15	202906	–	–	<0.01	–	–	–	–		
16	202907	–	–	<0.01	–	–	–	–		
17	202908	–	–	<0.01	–	–	–	–		
18	202909	–	–	<0.01	–	–	–	–		
19	202910	–	–	<0.01	–	–	–	–		
20	202911	–	–	<0.01	–	–	–	–		
21	202912	–	–	<0.01	–	–	–	–		
22	202913	–	–	<0.01	–	–	–	–		
23	202914	–	–	<0.01	–	–	–	–		
24	202915	–	–	<0.01	–	–	–	–		
25	202916	–	–	<0.01	–	–	–	–		

Results in ppm unless otherwise specified
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04311	25/03/87	E00258	3 OF 4

TUBE No.	SAMPLE No.	Au	Au	Au	AuChk	AuChk	AuChk	Wgh		
1	202917	-	-	<0.01	-	-	-	-		
2	202572	41.710	-	-	-	-	-	51.5		
3	202573	0.560	-	-	1.350	-	-	73.2		
4	202574	5.840	-	-	-	-	-	92.9		
5	202575	24.130	-	-	18.130	-	-	100.5		
	202576	250.00	-	-	365.50	-	-	74.7		
7	202577	1.480	-	-	-	-	-	43.4		
8	202578	0.430	-	-	-	-	-	91.4		
9	202579	0.130	-	-	-	-	-	68.8		
10	202580	45.350	-	-	38.680	-	-	48.0		
11	202581	<0.008	-	-	-		-	87.9		
12	202582	0.050	-	-	-	-	-	108.5		
13	202583	4.450	-	-	8.400	-	-	93.2		
14	202918	4.610	-	-	8.610	-	-	99.0		
15	202919	1.530	-	-	-	-	-	76.2		
	202920	<0.008	-	-	-	-	-	78.3		
17	202921	0.910	-	-	-	-	-	93.2		
18	202922	0.790	-	-	-	-	-	106.9		
19	202923	<0.008	-	-	-	-	-	66.3		
20	202585	<0.008	-	-	-	-	-	-		
21	202586	0.190	-	-	-	-	-	-		
22	202587	<0.008	-	-	-		-	-		
23	202588	0.400	-	-	0.950	-	-	-		
24	202589	0.030	-	-	-	-	-	-		
25	202590	1.070	-	-	-	-	-	-		

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04311	25/03/87	E00258	4 OF 4

TUBE No.	SAMPLE No.	Au	Au	Au	AuChk	AuChk	AuChk	Wgh		
1	202591	0.010	–	–	–	–	–	–		
2	202592	<0.008	–	–	–	–	–	–		
3	202593	0.160	–	–	–	–	–	–		
4	202594	0.010	–	–	–	–	–	–		
5	202595	<0.008	–	–	–	–	–	–		
6	202596	<0.008	–	–	–	–	–	–		
7	202597	0.070	–	–	–	–	–	–		
8	202945	<0.008	–	–	0.050	–	–	–		
9	202946	<0.008	–	–	–	–	–	–		
10	202947	<0.008	–	–	–	–	–	–		
11	202948	<0.008	–	–	–	T	–	–		
12	202949	1.310	–	–	0.450	–	–	–		
13	202950	<0.008	–	–	–	–	–	–		
14										
15										
16										
17										
18										
19										
20										
21										
22										
23	DETECTION	0.008	0.005	0.01	0.008	0.005	0.01	0.1		
24	UNITS	PPM	PPM	PPM	PPM	PPM	PPM	GMS		
25	METHOD	309	313	329	309	313	329	199		

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
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Phone (09) 458 7999 — 52 Murray Road, Welshpool, W.A. 6106 — Telex AA92560
TLX: AA-59224

ANALYTICAL REPORT No. 7.5.08.04332

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

B. Roxburgh
Cyprus Minerals
P.O. Box 493
North Sydney
N.S.W. 2060

ORDER No.	PROJECT
E00259	DN 4836,7,8

DATE RECEIVED	RESULTS REQUIRED
19/03/87	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
18	31/03/87	1	215

REFER	SAMPLE NUMBERS	PRE-TREATMENT: DRY	CRUSH	SPLIT	PULVERISE	SIEVE	OTHER (SEE REMARKS)	NONE	ANALYSIS: REFER TO ANALYSIS SECTION	PREPARATION	METHOD
	Various	SO Prep: 003,017							Cu,Pb,Zn,Ag/101,As/114		
	Various	SO							Au,AuChk/329		
	216079/80,216139/50	SS Prep: 003,017							Cu,Pb,Zn,Ag/101,As/114		
	216079/80,216139/50	SS							Au,AuChk/309		
	216097/98,216101/11	PC Prep: 003,001,017							Cu,Pb,Zn,Ag/101,As/114		

RESULTS TO

B. Roxburgh
Cyprus Minerals
P.O. Box 493
North Sydney
N.S.W. 2060

RESULTS TO

C. Torney
Cyprus Minerals
P.O. Box 230
Zeehan
Tasmania 7469

REMARKS

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

AUTHORISED OFFICER A.J. Smith

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04332	31/03/87	E00259	1 OF 18

TUBE No.	SAMPLE No.	Cu	Cu	Pb	Pb	Zn	Zn	Ag	Ag	As
1	202742	<5	-	<5	-	195	-	<0.5	-	<1
2	202743	<5	-	<5	-	25	-	<0.5	-	<1
3	202744	<5	-	<5	-	55	-	<0.5	-	<1
4	202745	<5	-	<5	-	30	-	<0.5	-	<1
5	202746	<5	-	585	-	430	-	2.0	-	2
6	202747	<5	-	<5	-	40	-	<0.5	-	<1
7	202748	<5	-	540	-	60	-	<0.5	-	6
8	202749	<5	-	135	-	100	-	<0.5	-	<1
9	202750	<5	-	35	-	10	-	<0.5	-	<1
10	202926	<5	-	<5	-	10	-	<0.5	-	<1
11	202927	<5	-	<5	-	10	-	<0.5	-	<1
12	202928	<5	-	<5	-	10	-	<0.5	-	<1
13	202929	<5	-	<5	-	15	-	<0.5	-	<1
14	202930	<5	-	<5	-	10	-	<0.5	-	<1
15	202931	<5	-	<5	-	25	-	<0.5	-	<1
16	202932	<5	-	<5	-	10	-	<0.5	-	<1
17	202933	<5	-	<5	-	15	-	<0.5	-	<1
18	202934	<5	-	<5	-	15	-	<0.5	-	<1
19	202935	<5	-	<5	-	10	-	<0.5	-	<1
20	202936	<5	-	<5	-	15	-	<0.5	-	<1
21	202937	<5	-	100	-	75	-	<0.5	-	<1
22	202938	<5	-	<5	-	25	-	<0.5	-	<1
23	202939	<5	-	<5	-	55	-	<0.5	-	<1
24	202940	<5	-	<5	-	45	-	<0.5	-	<1
25	202941	<5	-	<5	-	150	-	<0.5	-	<1

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

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04332	31/03/87	E00259	2 OF 18

TUBE No.	SAMPLE No.	Cu	Cu	Pb	Pb	Zn	Zn	Ag	Ag	As
1	202942	<5	-	15	-	95	-	<0.5	-	1
2	216001	<5	-	<5	-	60	-	<0.5	-	<1
3	216002	10	-	70	-	15	-	<0.5	-	83
4	216003	<5	-	10	-	45	-	<0.5	-	2
5	216004	<5	-	<5	-	5	-	<0.5	-	<1
6	216005	<5	-	<5	-	10	-	<0.5	-	<1
7	216006	<5	-	<5	-	10	-	<0.5	-	<1
8	216007	<5	-	<5	-	10	-	<0.5	-	<1
9	216008	<5	-	<5	-	5	-	<0.5	-	
10	216009	<5	-	<5	-	10	-	<0.5	-	<1
11	216010	<5	-	<5	-	10	-	<0.5	-	
12	216011	<5	-	<5	-	85	-	<0.5	-	
13	216012	<5	-	<5	-	25	-	<0.5	-	
14	216013	<5	-	<5	-	10	-	<0.5	-	
15	216014	<5	-	<5	-	15	-	<0.5	-	
16	216015	<5	-	5	-	35	-	<0.5	-	
17	216016	<5	-	290	-	630		<0.5		
18	216017	10	-	<5	-	20	-	<0.5	-	
19	216018	<5	-	<5	-	10	-	<0.5	-	
20	216019	<5	-	<5	-	10	-	<0.5	-	<1
21	216020	<5	-	<5	-	10	-	<0.5	-	<1
22	216021	5	-	35	-	95	-	0.5	-	
23	216022	10	-	80	-	120	-	2.0	-	
24	216023	<5	-	30	-	110	-	<0.5	-	
25	216024	<5	-	<5	-	30	-	<0.5	-	

Results in ppm unless otherwise specified
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04332	31/03/87	E00259	3 OF 18

TUBE No.	SAMPLE No.	Cu	Cu	Pb	Pb	Zn	Zn	Ag	Ag	As
1	216025	<5	-	<5	-	35	-	<0.5	-	<1
2	216026	<5	-	90	-	100	-	<0.5	-	<1
3	216027	5	-	90	-	55	-	<0.5	-	<1
4	216028	<5	-	10	-	40	-	<0.5	-	<1
5	216029	<5	-	10	-	35	-	<0.5	-	<1
6	216030	<5	-	<5	-	60	-	<0.5	-	<1
7	216031	<5	-	<5	-	85	-	<0.5	-	<1
8	216032	<5	-	<5	-	15	-	<0.5	-	<1
9	216033	<5	-	<5	-	25	-	<0.5	-	<1
10	216034	<5	-	<5	-	10	-	<0.5	-	<1
11	216035	<5	-	<5	-	25	-	<0.5	-	<1
12	216036	10	-	<5	-	15	-	<0.5	-	<1
13	216037	<5	-	<5	-	10	-	<0.5	-	<1
14	216038	<5	-	<5	-	15	-	<0.5	-	<1
15	216039	5	-	<5	-	390	-	<0.5	-	<1
16	216040	<5	-	165	-	290	-	<0.5	-	<1
17	216041	<5	-	<5	-	30	-	<0.5	-	<1
18	216042	<5	-	<5	-	15	-	<0.5	-	<1
19	216043	<5	-	<5	-	25	-	<0.5	-	<1
20	216044	<5	-	<5	-	150	-	<0.5	-	<1
21	216045	<5	-	<5	-	45	-	<0.5	-	<1
22	216046	<5	-	<5	-	30	-	<0.5	-	<1
23	216047	<5	-	<5	-	15	-	<0.5	-	<1
24	216048	<5	-	<5	-	10	-	<0.5	-	<1
25	216049	<5	-	10	-	35	-	<0.5	-	<1

Results in ppm unless otherwise specified
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— = element not determined

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04332	31/03/87	E00259	4 OF 18

TUBE No.	SAMPLE No.	Cu	Cu	Pb	Pb	Zn	Zn	Ag	Ag	As
1	216050	<5	-	<5	-	10	-	<0.5	-	<1
2	216051	<5	-	<5	-	10	-	2.0	-	<1
3	216052	80	-	35	-	45	-	<0.5	-	15
4	216053	10	-	<5	-	140	-	<0.5	-	1
5	216054	<5	-	<5	-	40	-	<0.5	-	<1
6	216055	<5	-	<5	-	20	-	<0.5	-	<1
7	216056	5	-	20	-	30	-	<0.5	-	<1
8	216057	<5	-	<5	-	30	-	<0.5	-	<1
9	216058	<5	-	70	-	40	-	<0.5	-	<1
10	216059	<5	-	10	-	10	-	<0.5	-	<1
11	216060	<5	-	40	-	95	-	<0.5	-	<1
12	216061	<5	-	20	-	45	-	<0.5	-	<1
13	216062	<5	-	<5	-	20	-	<0.5	-	<1
14	216063	<5	-	<5	-	30	-	<0.5	-	<1
15	216064	<5	-	<5	-	20	-	<0.5	-	<1
16	216065	<5	-	<5	-	45	-	<0.5	-	1
17	216066	<5	-	<5	-	90	-	<0.5	-	1
18	216067	<5	-	<5	-	20	-	<0.5	-	1
19	216068	<5	-	<5	-	15	-	<0.5	-	1
20	216069	<5	-	5	-	80	-	<0.5	-	1
21	216070	<5	-	<5	-	10	-	<0.5	-	1
22	216071	<5	-	<5	-	15	-	<0.5	-	1
23	216072	<5	-	<5	-	10	-	<0.5	-	<1
24	216073	5	-	10	-	30	-	<0.5	-	1
25	216074	225	-	5	-	10	-	<0.5	-	1

Results in ppm unless otherwise specified
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— = element not determined

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04332	31/03/87	E00259	5 OF 18

TUBE No.	SAMPLE No.	Cu	Cu	Pb	Pb	Zn	Zn	Ag	Ag	As
1	216075	<5	-	235	-	215	-	<0.5	-	1
2	216076	<5	-	<5	-	35	-	<0.5	-	<1
3	216077	<5	-	<5	-	50	-	<0.5	-	<1
4	216078	<5	-	<5	-	30	-	<0.5	-	<1
5	216151	<5	-	<5	-	75	-	<0.5	-	<1
6	216152	<5	-	<5	-	70	-	<0.5	-	<1
7	216153	<5	-	<5	-	65	-	<0.5	-	<1
8	216154	<5	-	<5	-	45	-	<0.5	-	2
9	216155	<5	-	<5	-	50	-	<0.5	-	1
10	216156	<5	-	<5	-	30	-	<0.5	-	1
11	216157	<5	-	<5	-	25	-	<0.5	-	1
12	216158	<5	-	<5	-	35	-	<0.5	-	<1
13	216159	<5	-	<5	-	25	-	<0.5	-	<1
14	216160	<5	-	<5	-	25	-	<0.5	-	<1
15	216161	<5	-	<5	-	125	-	<0.5	-	<1
16	216162	<5	-	<5	-	55	-	<0.5	-	<1
17	216163	5	-	<5	-	30	-	<0.5	-	
18	216164	<5	-	<5	-	30	-	<0.5	-	
19	216165	<5	-	<5	-	35	-	<0.5	-	<1
20	216166	5	-	<5	-	30	-	<0.5	-	
21	216167	5	-	465	-	295	-	<0.5	-	<1
22	216168	10	-	75	-	20	-	<0.5	-	
23	216169	<5	-	5	-	20	-	<0.5	-	<1
24	216170	<5	-	<5	-	50	-	<0.5	-	
25	216171	5	-	<5	-	25	-	<0.5	-	<1

Results in ppm unless otherwise specified
T = element present: but concentration too low to measure
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— = element not determined

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ANALYTICAL DATA

* SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
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TUBE No.	SAMPLE No.	Cu	Cu	Pb	Pb	Zn	Zn	Ag	Ag	As
1	216172	<5	–	<5	–	10	–	<0.5	–	<1
2	216173	<5	–	<5	–	25	–	<0.5	–	<1
3	216174	<5	–	<5	–	15	–	<0.5	–	<1
4	216175	<5	–	<5	–	15	–	<0.5	–	<1
5	216176	<5	–	<5	–	20	–	<0.5	–	<1
6	216177	<5	–	<5	–	5	–	<0.5	–	<1
	216178	<5	–	<5	–	<5	–	<0.5	–	<1
8	216179	<5	–	<5	–	10	–	<0.5	–	<1
9	216180	<5	–	<5	–	10	–	<0.5	–	<1
10	216181	<5	–	<5	–	10	–	<0.5	–	<1
11	216182	<5	–	<5	–	5	–	<0.5	–	<1
12	216183	<5	–	<5	–	15	–	<0.5	–	<1
13	216184	<5	–	<5	–	5	–	<0.5	–	<1
14	216185	<5	–	10	–	170	–	<0.5	–	<1
15	216186	<5	–	<5	–	65	–	<0.5	–	<1
16	216187	<5	–	<5	–	120	–	<0.5	–	<1
17	216188	<5	–	<5	–	5	–	<0.5		
18	216189	<5	–	<5	–	30	–	<0.5	–	<1
19	216190	<5	–	<5	–	<5	–	<0.5	–	<1
20	216191	<5	–	<5	–	40	–	<0.5		<1
21	216192	<5	–	<5	–	20	–	<0.5	–	<1
22	216193	<5		100		15		2.0	–	<1
23	216194	<5	–	<5	–	<5	–	<0.5	–	<1
24	216195	<5	–	<5	–	<5	–	<0.5	–	<1
25	216201	350	–	125	–	30	–	<0.5	–	<1

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
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TUBE No.	SAMPLE No.	Cu	Cu	Pb	Pb	Zn	Zn	Ag	Ag	As
1	216202	25	-	<5	-	<5	-	<0.5	-	7
2	216203	285	-	<5	-	15	-	<0.5	-	8
3	216204	30	-	<5	-	105	-	<0.5	-	3
4	216205	<5	-	<5	-	<5	-	<0.5	-	5
5	216206	<5	-	<5	-	70	-	<0.5	-	1
6	216207	<5	-	<5	-	20	-	<0.5	-	1
	216208	<5	-	<5	-	35	-	<0.5	-	1
8	216209	<5	-	<5	-	<5	-	<0.5	-	2
9	216210	<5	-	<5	-	20	-	<0.5	-	1
10	216211	<5	-	<5	-	45	-	<0.5	-	1
11	216212	<5	-	<5	-	35	-	<0.5	-	
12	216213	55	-	45	-	<5	-	<0.5	-	64
13	216214	<5	-	25	-	15	-	<0.5	-	2
14	216215	<5	-	270	-	10	-	<0.5	-	1
15	216216	25	-	45	-	65	-	<0.5	-	11
16	216217	105	-	<5	-	25	-	<0.5	-	13
17	216218	215	-	7	-	30	-	<0.5	-	17
18	216219	200	-	<5	-	10	-	<0.5	-	9
19	216220	30	-	17	-	<5	-	<0.5	-	1
20	216221	65	-	<5	-	15	-	<0.5	-	3
21	216222	45	-	<5	-	40	-	<0.5	-	13
22	216223	45	-	<5	-	10	-	<0.5	-	7
23	216224	65	-	<5	-	10	-	<0.5	-	15
24	216225	<5	-	<5	-	15	-	<0.5	-	6
25	216226	<5	-	<5	-	10	-	<0.5	-	

Results in ppm unless otherwise specified
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SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04332	31/03/87	E00259	8 OF 18

TUBE No.	SAMPLE No.	Cu	Cu	Pb	Pb	Zn	Zn	Ag	Ag	As
1	216227	<5	–	<5	–	15	–	<0.5	–	4
2	216228	<5	–	<5	–	15	–	<0.5	–	11
3	216229	<5	–	<5	–	10	–	<0.5	–	10
4	216079	5	–	<5	–	<5	–	<0.5	–	1
5	216080	10	–	<5	–	30	–	<0.5	–	1
6	216139	<5	–	<5	–	<5	–	<0.5	–	<1
7	216140	5	–	<5	–	10	–	<0.5	–	1
8	216141	<5	–	<5	–	<5	–	<0.5	–	<1
9	216142	5	–	<5	–	<5	–	<0.5	–	<1
10	216143	<5	–	<5	–	<5	–	<0.5	–	<1
11	216144	<5	–	<5	–	<5	–	<0.5	–	1
12	216145	<5	–	<5	–	10	–	<0.5	–	<1
13	216146	<5	–	<5	–	<5	–	<0.5	–	<1
14	216147	<5	–	<5	–	<5	–	<0.5	–	<1
15	216148	<5	–	<5	–	<5	–	<0.5	–	<1
16	216149	<5	–	<5	–	<5	–	<0.5	–	<1
17	216150	<5	–	<5	–	20	–	<0.5	–	1
18	216097	<5	–	<5	–	10	–	<0.5	–	1
19	216098	<5	–	<5	–	<5	–	3.0	–	<1
20	216101	<5	–	<5	–	25	–	<0.5	–	1
21	216102	<5	–	<5	–	10	–	4.0	–	<1
22	216103	<5	–	<5	–	5	–	<0.5	–	<1
23	216104	<5	–	<5	–	5	–	<0.5	–	1
24	216105	<5	–	<5	–	20	–	<0.5	–	1
25	216106	<5	–	<5	–	5	–	<0.5	–	<1

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04332	31/03/87	E00259	9 OF 18

TUBE No.	SAMPLE No.	Cu	Cu	Pb	Pb	Zn	Zn	Ag	Ag	As
1	216107	<5	-	<5	-	10	-	<0.5	-	<1
2	216108	<5	-	<5	-	15	-	<0.5	-	<1
3	216109	<5	-	<5	-	15	-	<0.5	-	<1
4	216110	<5	-	<5	-	<5	-	<0.5	-	<1
5	216111	<5	-	<5	-	<5	-	<0.5	-	<1
6	202943	<5	-	<5	-	30	-	<0.5	-	<1
	202944	5	-	<5	-	150	-	<0.5	-	<1
8	202998	-	0.620	-	66000	-	39.500	-	206	260
9	202999	510	-	-	1100	1900	-	-	39	3000
10	203000	-	37.500	145	-	960	-	-	41	75
11	216099	1500	-	-	1875	545	-	-	52	7400
12	216100	2500	-	215	-	190	-	-	43	85
13	216196	90	-	<5	-	70	-	<0.5	-	3
14	216199	335	-	<5	-	140	-	<0.5	-	17
15	216200	80	-	<5	-	260	-	<0.5	-	13
16										
17										
18										
19										
20										
21										
22										
23	DETECTION	5	0.003	5	25	5	0.003	0.5	2	1
24	UNITS	PPM	%	PPM	PPM	PPM	%	PPM	PPM	PPM
25	METHOD	101	104	101	104	101	104	101	104	114

Results in ppm unless otherwise specified
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04332	31/03/87	E00259	10 OF 18

TUBE No.	SAMPLE No.	Au	Au	Au	AuChk	AuChk	AuChk			
1	202742	–	–	<0.01	–	–	–			
2	202743	–	–	<0.01	–	–	–			
3	202744	–	–	<0.01	–	–	–			
4	202745	–	–	<0.01	–	–	–			
5	202746	–	–	<0.01	–	–	–			
6	202747	–	–	<0.01	–	–	–			
7	202748	–	–	<0.01	–	–	–			
8	202749	–	–	<0.01	–	–	–			
9	202750	–	–	<0.01	–	–	–	Soils		
10	202926	–	–	<0.01	–	–	–	Keyger 10		
11	202927	–	–	<0.01	–	–	–			
12	202928	–	–	<0.01	–	–	–			
13	202929	–	–	<0.01	–	–	–			
14	202930	–	–	<0.01	–	–	–			
15	202931	–	–	<0.01	–	–	–			
16	202932	–	–	<0.01	–	–	–			
17	202933	–	–	<0.01	–	–	–			
18	202934	–	–	<0.01	–	–	–			
19	202935	–	–	<0.01	–	–	–			
20	202936	–	–	<0.01	–	–	–			
21	202937	–	–	<0.01	–	–	–			
22	202938	–	–	<0.01	–	–	–			
23	202939	–	–	<0.01	–	–	–			
24	202940	–	–	<0.01	–	–	–			
25	202941	–	–	<0.01	–	–	–			

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04332	31/03/87	E00259	11 OF 18

TUBE No.	SAMPLE No.	Au	Au	Au	AuChk	AuChk	AuChk			
1	202942	–	–	<0.01	–	–	–	Soil	V10	
2	216001	–	–	<0.01	–	–	–			
3	216002	–	–	<0.01	–	–	–			
4	216003	–	–	<0.01	–	–	–			
5	216004	–	–	0.06	–	–	0.03			
6	216005	–	–	<0.01	–	–	–			
7	216006	–	–	<0.01	–	–	–			
8	216007	–	–	<0.01	–	–	–			
9	216008	–	–	<0.01	–	–	–			
10	216009	–	–	<0.01	–	–	–	Soils		
11	216010	–	–	<0.01	–	–	–	Voyager	10	
12	216011	–	–	<0.01	–	–	–			
13	216012	–	–	<0.01	–	–	–			
14	216013	–	–	<0.01	–	–	–			
15	216014	–	–	<0.01	–	–	–			
16	216015	–	–	<0.01	–	–	–			
17	216016	–	–	<0.01	–	–	–			
18	216017	–	–	<0.01	–	–	–			
19	216018	–	–	<0.01	–	–	–			
20	216019	–	–	<0.01	–	–	–			
21	216020	–	–	<0.01	–	–	–			
22	216021	–	–	<0.01	–	–	–			
23	216022	–	–	<0.01	–	–	–			
24	216023	–	–	<0.01	–	–	0.12			
25	216024	–	–	<0.01	–	–	–			

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04332	31/03/87	E00259	12 OF 18

TUBE No.	SAMPLE No.	Au	Au	Au	AuChk	AuChk	AuChk			
1	216025	–	–	<0.01	–	–	–			
2	216026	–	–	<0.01	–	–	–			
3	216027	–	–	<0.01	–	–	–			
4	216028	–	–	<0.01	–	–	–			
5	216029	–	–	<0.01	–	–	–			
6	216030	–	–	<0.01	–	–	–			
7	216031	–	–	<0.01	–	–	–			
8	216032	–	–	<0.01	–	–	–			
9	216033	–	–	<0.01	–	–	–			
10	216034	–	–	<0.01	–	–	–	Soils		
11	216035	–	–	<0.01	–	–	–	Ukyuger		10
12	216036	–	–	<0.01	–	–	–			
13	216037	–	–	<0.01	–	–	–			
14	216038	–	–	<0.01	–	–	–			
15	216039	–	–	<0.01	–	–	–			
16	216040	–	–	<0.01	–	–	–			
17	216041	–	–	<0.01	–	–	–			
18	216042	–	–	<0.01	–	–	<0.01			
19	216043	–	–	<0.01	–	–	–			
20	216044	–	–	<0.01	–	–	–			
21	216045	–	–	0.04	–	–	0.03			
22	216046	–	–	<0.01	–	–	–			
23	216047	–	–	<0.01	–	–	–			
24	216048	–	–	<0.01	–	–	–			
25	216049	–	–	<0.01	–	–	–			

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04332	31/03/87	E00259	13 OF 18

TUBE No.	SAMPLE No.	Au	Au	Au	AuChk	AuChk	AuChk			
1	216050	–	–	<0.01	–	–	–			
2	216051	–	–	<0.01	–	–	–			
3	216052	–	–	<0.01	–	–	–			
4	216053	–	–	<0.01	–	–	–			
5	216054	–	–	<0.01	–	–	–			
6	216055	–	–	<0.01	–	–	–			
7	216056	–	–	<0.01	–	–	–			
8	216057	–	–	<0.01	–	–	–	Soils		
9	216058	–	–	<0.01	–	–	–	Voyager 10		
10	216059	–	–	<0.01	–	–	–			
11	216060	–	–	<0.01	–	–	–			
12	216061	–	–	<0.01	–	–	–			
13	216062	–	–	<0.01	–	–	–			
14	216063	–	–	<0.01	–	–	–			
15	216064	–	–	<0.01	–	–	–			
16	216065	–	–	<0.01	–	–	–			
17	216066	–	–	<0.01	–	–	–			
18	216067	–	–	<0.01	–	–	–			
19	216068	–	–	<0.01	–	–	–			
20	216069	–	–	<0.01	–	–	–			
21	216070	–	–	<0.01	–	–	–			
22	216071	–	–	<0.01	–	–	–			
23	216072	–	–	<0.01	–	–	–			
24	216073	–	–	<0.01	–	–	–			
25	216074	–	–	<0.01	–	–	–			

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04332	31/03/87	E00259	14 OF 18

TUBE No.	SAMPLE No.	Au	Au	Au	AuChk	AuChk	AuChk			
1	216075	–	–	<0.01	–	–	–			
2	216076	–	–	<0.01	–	–	–			
3	216077	–	–	<0.01	–	–	–			
4	216078	–	–	<0.01	–	–	–			
5	216151	–	–	<0.01	–	–	–			
6	216152	–	–	<0.01	–	–	–			
7	216153	–	–	<0.01	–	–	–			
8	216154	–	–	<0.01	–	–	–			
9	216155	–	–	<0.01	–	–	–			
10	216156	–	–	<0.01	–	–	–			
11	216157	–	–	<0.01						
12	216158	–	–	<0.01	–	–	–			
13	216159	–	–	<0.01	–	–	–			
14	216160	–	–	<0.01	–	–	–			
15	216161	–	–	<0.01	–	–	–			
16	216162	–	–	<0.01	–	–	–			
17	216163	–	–	<0.01	–	–	–			
18	216164	–	–	<0.01	–	–	–			
19	216165	–	–	<0.01	–	–	–			
20	216166	–	–	<0.01	–	–	–			
21	216167	–	–	<0.01	–	–	–			
22	216168	–	–	<0.01	–	–	–			
23	216169	–	–	<0.01	–	–	–			
24	216170	–	–	<0.01	–	–	–			
25	216171	–	–	<0.01	–	–	–			

Soils
Voyager 10

Soils
Woodsmoor Creek.

Soils
Waterloo Creek

Results in ppm unless otherwise specified
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04332	31/03/87	E00259	15 OF 18

TUBE No.	SAMPLE No.	Au	Au	Au	AuChk	AuChk	AuChk			
1	216172	–	–	<0.01	–			Soils Waterloo Creek		
2	216173	–	–	<0.01	–	–	–			
3	216174	–	–	<0.01	–	–	–			
4	216175	–	–	<0.01	–	–	–			
5	216176	–	–	<0.01	–	–	–			
6	216177	–	–	<0.01	–	–	–			
7	216178	–	–	<0.01	–	–	–			
8	216179	–	–	<0.01	–	–	–			
9	216180	–	–	<0.01	–	–	–			
10	216181	–	–	<0.01	–	–	–	Soils		
11	216192	–	–	<0.01	–	–	–	Woolloomooloo		
12	216183	–	–	<0.01	–	–	–	Creek		
13	216184	–	–	<0.01	–	–	–			
14	216185	–	–	<0.01	–	–	–			
15	216186	–	–	<0.01	–	–	–			
16	216187	–	–	<0.01	–	–	–			
17	216188	–	–	<0.01	–	–	–			
18	216189	–	–	<0.01	–	–	–			
19	216190	–	–	<0.01	–	–	–			
20	216191	–	–	<0.01	–	–	–			
21	216192	–	–	<0.01	–	–	–			
22	216193	–	–	<0.01						
23	216194	–	–	<0.01	–	–	–			
24	216195	–	–	<0.01	–	–	–			
25	216201	–	–	<0.01	–	–	–	Soils	V12	

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
	7.5.08.04332	31/03/87	E00259	16 OF 18

TUBE No.	SAMPLE No.	Au	Au	Au	AuChk	AuChk	AuChk			
1	216202	–	–	<0.01	–	–	–			
2	216203	–	–	<0.01	–	–	–			
3	216204	–	–	<0.01	–	–	–			
4	216205	–	–	<0.01	–	–	–			
5	216206	–	–	<0.01	–	–	–			
6	216207	–	–	<0.01	–	–	–			
7	216208	–	–	<0.01	–	–	–			
8	216209	–	–	<0.01	–	–	–	Soils		
9	216210	–	–	<0.01	–	–	–	Voyager 12		
10	216211	–	–	<0.01	–	–	–			
11	216212	–	–	<0.01	–	–	–			
12	216213	–	–	<0.01	–	–	–			
13	216214	–	–	<0.01	–	–	–			
14	216215	–	–	<0.01	–	–	–			
15	216216	–	–	<0.01	–	–	–			
16	216217	–	–	<0.01	–	–	–			
17	216218	–	–	<0.01	–	–	–			
18	216219	–	–	<0.01	–	–	–			
19	216220	–	–	<0.01	–	–	–			
20	216221	–	–	<0.01	–	–	–			
21	216222	–	–	<0.01	–	–	–			
22	216223	–	–	0.03	–	–	0.02			
23	216224	–	–	<0.01	–	–	–			
24	216225	–	–	<0.01	–	–	–			
25	216226	–	–	<0.01	–	–	–			

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04332	31/03/87	E00259	17 OF 18

TUBE No.	SAMPLE No.	Au	Au	Au	AuChk	AuChk	AuChk			
1	216227	–	–	<0.01	–	–	–	Soils		
2	216228	–	–	<0.01	–	–	–	Voyager	12	
3	216229	–	–	<0.01	–	–	–			
4	216079	0.080	–	–	0.010	–	–	Voyager	33	
5	216080	0.360	–	–	–	–	–	-80#		
6	216139	0.030	–	–	–	–	–			
7	216140	0.030	–	–	–	–	–			
8	216141	<0.008	–	–	–	–	–	Woodmadoo		
9	216142	0.430	–	–	–	–	–	CREEK		
10	216143	<0.008	–	–	–	–	–			
11	216144	<0.008	–	–	–	–	–	-80#		
12	216145	<0.008	–	–	–	–	–			
13	216146	<0.008	–	–	–	–	–			
14	216147	<0.008	–	–	–	–	–			
15	216148	<0.008	–	–	–	–	–			
16	216149	0.080	–	–	–	–	–			
17	216150	<0.008	–	–	0.010	–	–			
18	216097	0.040	–	–	–	–	–	Pinned	Core	
19	216098	52.000	–	–	56.400	–	–	Voyager	33	
20	216101	1.030	–	–	–	–	–			
21	216102	102.70	–	–	103.40	–	–	Woodmadoo		
22	216103	0.450	–	–	–	–	–	Creek		
23	216104	1.150	–	–	–	–	–	Pinned	Core	
24	216105	10.670	–	–	4.810	–	–			
25	216106	0.340	–	–	–	–	–			

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04332	31/03/87	E00259	18 OF 18

TUBE No.	SAMPLE No.	Au	Au	Au	AuChk	AuChk	AuChk			
1	216107	1.170	–	–	–	–	–			
2	216108	14.270	–	–	16.350	–	–	Woolcamoolloo Creek		
3	216109	<0.008	–	–	–	–	–			
4	216110	0.390	–	–	–	–	–	Panned Concentrates		
5	216111	1.500	–	–	–	–	–			
6	202943	–	<0.005	–	–	–	–	Voyager 10		
7	202944	–	<0.005	–	–	–	–	Rock Chips		
8	202998	–	0.970	–	–	0.930	–	Voyager 19 Rock Chip		
9	202999	–	0.440	–	–	–	–	Voyager 17 Rock Chip		
10	[illegible]		[illegible]							
11	216097	–	0.015	–	–	–	–	Voyager 33		
12	216100	–	0.045	–	–	–	–	Rock Chips		
13	216196	–	<0.005	–	–	–	–	Woolcamoolloo Creek Rock Chip		
14	216199	–	<0.005	–	–	–	–	WATERLOO CREEK		
15	216200	–	<0.005	–	–	–	–	Rock Chips		
16										
17										
18										
19										
20										
21										
22										
23	DETECTION	0.008	0.005	0.01	0.008	0.005	0.01			
24	UNITS	PPM	PPM	PPM	PPM	PPM	PPM			
25	METHOD	309	313	329	309	313	329			

Results in ppm unless otherwise specified
T = element present; but concentration too low to measure
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Phone (09) 458 7999 52 Murray Road, Welshpool, W.A. 6106 Telex AA92560
TLX: AA 59224

ANALYTICAL REPORT No. 7.5.08.04349

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

B. Roxburgh
Cyprus Minerals
P.O. Box 493
North Sydney
N.S.W. 2060

ORDER No.	PROJECT
E00260	DN 4839,40

DATE RECEIVED	RESULTS REQUIRED
25/03/87	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
18	08/04/87	1	218

REFER BELOW	SAMPLE NUMBERS	STATE OF SAMPLES	PRE-TREATMENT: DRY	CRUSH	SPLIT	PULVERISE	SIEVE	OTHER SEE REMARKS	NONE	ANALYSIS: REFER TO ANALYSIS SECTION	PREPARATION	METHOD
	Various	SO	Prep: 005,013,016							Cu,Pb,Zn,Ag/101,As/114		
	Various	SO								Au,AuChk/329		
	216132/136	SS	Prep: 005,007,016							Cu,Pb,Zn,Ag/101,As/114		
	216132/136	SS								Au,AuChk/309		
	216112/117	PC	Prep: 005,001,016							Cu,Pb,Zn,Ag/101,As/114,Wght/199		

RESULTS TO

B. Roxburgh
Cyprus Minerals
P.O. Box 493
North Sydney
N.S.W. 2060

RESULTS TO

C. Torney
Cyprus Minerals
P.O. Box 230
Zeehan
Tasmania 7469

REMARKS

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

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	.5.08.04349	08/04/87	E00260	1 OF 18

TUBE No.	SAMPLE No.	Cu	Pb	Pb	Zn	Ag	Ag	As	Au	Au
1	216081	5	<5	-	85	<0.5	-	1	-	-
2	216082	5	<5	-	75	<0.5	-	<1	-	-
3	216083	5	10	-	100	<0.5	-	<1	-	-
4	216084	5	10	-	15	<0.5	-	<1	-	-
5	216085	5	<5	-	15	<0.5	-	<1	-	-
6	216086	5	<5	-	10	<0.5	-	<1	-	-
7	216087	10	110	-	55	<0.5	-	2	-	-
8	216088	10	10	-	5	<0.5	-	<1	-	-
9	216089	5	<5	-	20	<0.5	-	<1	-	-
10	216090	5	<5	-	20	<0.5	-	<1	-	-
11	216091	10	<5	-	15	<0.5	-	<1	-	-
12	216092	5	<5	-	10	<0.5	-	1	-	-
13	216093	5	<5	-	10	<0.5	-	<1	-	-
14	216094	<5	<5	-	55	<0.5	-	1	-	-
15	216095	5	5	-	15	0.5	-	1	-	-
16	216096	<5	<5	-	10	<0.5	-	<1	-	-
17	216230	10	5	-	10	0.5	-	1	-	-
18	216231	5	5	-	5	0.5	-	1	-	-
19	216232	5	<5	-	10	<0.5	-	1	-	-
20	216233	10	<5	-	10	<0.5	-	1	-	-
21	216234	5	5	-	10	<0.5	-	1	-	-
22	216235	5	10	-	50	0.5	-	1	-	-
23	216236	5	15	-	10	<0.5	-	1	-	-
24	216237	5	10	-	50	0.5	-	1	-	-
25	216238	5	<5	-	25	0.5	-	1	-	-

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
	7.5.08.04349	08/04/87	E00260	2 OF 18

TUBE No.	SAMPLE No.	Cu	Pb	Pb	Zn	Ag	Ag	As	Au	Au
1	216239	10	10	-	30	<0.5	-	1	-	-
2	216240	<5	<5	-	25	<0.5	-	<1	-	-
3	216241	5	<5	-	15	<0.5	-	<1	-	-
4	216242	5	5	-	15	<0.5	-	<1	-	-
5	216243	5	<5	-	15	<0.5	-	<1	-	-
6	216244	5	<5	-	20	<0.5	-	<1	-	-
7	216245	<5	10	-	15	<0.5	-	<1	-	-
8	216246	5	20	-	15	<0.5	-	<1	-	-
9	216247	15	100	-	200	<0.5	-	1	-	-
10	216248	5	15	-	10	<0.5	-	<1	-	-
11	216249	5	<5	-	10	<0.5	-	<1	-	-
12	216250	5	<5	-	5	<0.5	-	1	-	-
13	216251	<5	<5	-	10	<0.5	-	5	-	-
14	216252	5	<5	-	5	<0.5	-	23	-	-
15	216253	5	<5	-	<5	<0.5	-	3	-	-
16	216254	5	<5	-	5	<0.5	-	<1	-	-
17	216255	5	<5	-	5	<0.5	-	<1	-	-
18	216256	5	<5	-	<5	<0.5	-	<1	-	-
19	216257	<5	<5	-	<5	<0.5	-	<1	-	-
20	216258	5	<5	-	<5	<0.5	-	1	-	-
21	216259	5	<5	-	5	<0.5	-	2	-	-
22	216260	625	<5	-	25	1.0	-	2	-	-
23	216261	10	<5	-	10	<0.5	-	<1	-	-
24	216262	10	<5	-	15	<0.5	-	<1	-	-
25	216263	10	10	-	15	<0.5	-	<1	-	-

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04349	08/04/87	E00260	3 OF 18

TUBE No.	SAMPLE No.	Cu	Pb	Pb	Zn	Ag	Ag	As	Au	Au
1	216264	<5	<5	-	10	<0.5	-	<1	-	-
2	216265	5	<5	-	15	<0.5	-	<1	-	-
3	216266	5	5	-	165	<0.5	-	<1	-	-
4	216267	5	<5	-	15	<0.5	-	<1	-	-
5	216268	5	<5	-	25	<0.5	-	<1	-	
6	216269	<5	<5	-	10	<0.5	-	<1	-	
7	216270	5	<5	-	25	<0.5	-	<1	-	
8	216271	5	<5	-	15	<0.5	-	<1	-	-
9	216272	5	<5	-	20	<0.5	-	<1	-	
10	216273	10	<5	-	50	<0.5	-	<1	-	
11	216274	<5	<5	-	15	<0.5	-	<1	-	
12	216275	5	330	-	4350	<0.5	-	<1	-	
13	216276	5	<5	-	40	<0.5	-	<1	-	
14	216277	5	95	-	555	<0.5	-	2	-	
15	216278	5	<5	-	10	<0.5	-	<1	-	
16	216279	<5	<5	-	10	<0.5	-	<1	-	
17	216280	5	<5	-	10	<0.5	-	<1	-	
18	216281	10	<5	-	20	<0.5	-	<1	-	
19	216282	5	<5	-	10	<0.5	-	1	-	
20	216283	<5	<5	-	10	<0.5	-	<1	-	
21	216284	<5	<5	-	15	<0.5	-	<1	-	
22	216285	20	20	-	10	<0.5	-	<1	-	
23	216286	5	<5	-	5	<0.5	-	1	-	
24	216287	35	<5	-	15	<0.5	-	21	-	
25	216288	20	15	-	15	<0.5	-	<1	-	

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04349	08/04/87	E00260	4 OF 18

TUBE No.	SAMPLE No.	Cu	Pb	Pb	Zn	Ag	Ag	As	Au	Au
1	216289	5	<5	-	15	<0.5	-	1	-	-
2	216290	5	15	-	15	<0.5	-	4	-	-
3	216291	70	<5	-	10	<0.5	-	3	-	-
4	216292	20	<5	-	10	<0.5	-	1	-	-
5	216293	5	<5	-	10	<0.5	-	16	-	-
6	216294	10	<5	-	10	<0.5	-	1	-	-
7	216295	5	<5	-	5	<0.5	-	<1	-	-
8	216296	5	<5	-	5	<0.5	-	<1	-	-
9	216297	15	15	-	10	<0.5	-	1	-	-
10	216298	5	<5	-	10	<0.5	-	<1	-	-
11	216299	5	<5	-	<5	<0.5	-	<1	-	-
12	216300	5	<5	-	5	<0.5	-	<1	-	-
13	216301	5	<5	-	10	<0.5	-	<1	-	-
14	216302	15	<5	-	10	<0.5	-	<1	-	-
15	216303	10	20	-	5	<0.5	-	4	-	-
16	216304	5	<5	-	5	<0.5	-	<1	-	-
17	216305	10	<5	-	10	<0.5	-	<1	-	-
18	216306	5	<5	-	5	<0.5	-	<1	-	-
19	216307	15	<5	-	<5	<0.5	-	<1	-	-
20	216308	<5	<5	-	<5	<0.5	-	<1	-	-
21	216309	<5	<5	-	<5	<0.5	-	<1	-	-
22	216310	10	<5	-	10	<0.5	-	1	-	-
23	216311	5	<5	-	20	<0.5	-	<1	-	-
24	216312	5	15	-	20	<0.5	-	<1	-	-
25	216313	5	<5	-	10	<0.5	-	<1	-	-

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04349	08/04/87	E00260	5 OF 18

TUBE No.	SAMPLE No.	Cu	Pb	Pb	Zn	Ag	Ag	As	Au	Au
1	216314	5	<5	–	45	<0.5	–	<1	–	–
2	216315	5	<5	–	10	<0.5	–	<1	–	–
3	216316	10	<5	–	25	<0.5	–	<1	–	–
4	216317	15	15	–	55	<0.5	–	2	–	–
5	216318	5	<5	–	10	<0.5	–	<1	–	–
6	216319	5	<5	–	10	<0.5	–	<1	–	–
7	216320	<5	<5	–	5	<0.5	–	<1	–	–
8	216321	5	<5	–	10	<0.5	–	<1	–	–
9	216322	5	<5	–	5	<0.5	–	<1	–	–
10	216323	5	<5	–	<5	<0.5	–	<1	–	–
11	216324	<5	<5	–	5	<0.5	–	<1	–	–
12	216325	10	<5	–	<5	<0.5	–	10	–	–
13	216326	5	<5	–	10	<0.5	–	1	–	–
14	216327	5	<5	–	<5	<0.5	–	1	–	–
15	216328	5	<5	–	<5	<0.5	–	3	–	–
16	216329	5	<5	–	10	<0.5	–	<1	–	–
17	216330	10	<5	–	5	<0.5	–	<1	–	–
18	216331	5	<5	–	<5	<0.5	–	<1	–	–
19	216332	5	<5	–	5	<0.5	–	<1	–	–
20	216333	5	<5	–	5	<0.5	–	<1	–	–
21	216334	5	<5	–	5	<0.5	–	<1	–	–
22	216335	5	<5	–	10	<0.5	–	<1	–	–
23	216336	5	70	–	5	<0.5	–	<1	–	–
24	216337	<5	10	–	<5	<0.5	–	2	–	–
25	216338	<5	<5	–	<5	<0.5	–	2	–	–

Results in ppm unless otherwise specified
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04349	08/04/87	E00260	6 OF 18

TUBE No.	SAMPLE No.	Cu	Pb	Pb	Zn	Ag	Ag	As	Au	Au
1	216339	5	<5	-	5	<0.5	-	<1	-	-
2	216340	5	60	-	100	<0.5	-	2	-	
3	216341	5	<5	-	15	<0.5	-	<1	-	
4	216342	5	<5	-	10	<0.5	-	<1	-	-
5	216343	5	<5	-	75	<0.5	-	1	-	-
6	216344	<5	15	-	10	<0.5	-	<1	-	
7	216345	5	<5	-	45	<0.5	-	1	-	-
8	216346	5	5	-	120	<0.5	-	1	-	-
9	216347	10	15	-	65	<0.5	-	2	-	
10	216348	10	10	-	25	<0.5	-	<1	-	
11	216349	10	<5	-	25	<0.5		1	-	-
12	216350	10	<5	-	15	<0.5	-	<1	-	-
13	216352	5	<5	-	40	<0.5	-	<1	-	
14	216353	10	50	-	90	<0.5	-	2	-	
15	216354	5	15	-	70	<0.5	-	1	-	
16	216355	10	15	-	30	<0.5	-	1	-	
17	216356	10	10	-	80	<0.5	-	2	-	-
18	216357	5	<5	-	50	<0.5	-	2	-	-
19	216358	10	<5	-	120	<0.5	-	1	-	-
20	216359	5	<5	-	35	<0.5	-	2	-	-
21	216360	5	<5	-	30	<0.5	-	1	-	-
22	216361	5	65	-	45	<0.5	-	1	-	
23	216362	<5	<5	-	10	<0.5	-	<1	-	
24	216363	<5	<5	-	<5	<0.5	-	<1	-	
25	216364	<5	<5	-	15	<0.5	-	<1	-	

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
	7.5.08.04349	08/04/87	E00280	7 OF 18

TUBE No.	SAMPLE No.	Cu	Pb	Pb	Zn	Ag	Ag	As	Au	Au
1	216365	15	30	-	25	<0.5	-	<1	-	-
2	216366	5	20	-	10	<0.5	-	<1	-	-
3	216367	10	30	-	100	<0.5	-	1	-	-
4	216368	5	<5	-	20	<0.5	-	<1	-	-
5	216369	5	10	-	65	<0.5	-	<1	-	-
6	216370	5	15	-	10	<0.5	-	<1	-	-
7	216371	<5	10	-	10	<0.5	-	<1	-	-
8	216372	5	<5	-	15	<0.5	-	1	-	-
9	216373	<5	35	-	10	<0.5	-	<1	-	-
10	216374	10	<5	-	25	<0.5	-	<1	-	-
11	216375	25	<5	-	85	<0.5	-	2	-	-
12	216376	<5	<5	-	20	<0.5	-	<1	-	-
13	216377	15	5	-	55	<0.5	-	1	-	-
14	216378	5	<5	-	10	<0.5	-	2	-	-
15	216379	5	<5	-	10	<0.5	-	1	-	-
16	216380	5	<5	-	10	<0.5	-	<1	-	-
17	216381	5	<5	-	20	<0.5	-	<1	-	-
18	216382	5	<5	-	25	<0.5	-	1	-	-
19	216401	5	20	-	25	<0.5	-	1	-	-
20	216402	5	5	-	15	<0.5	-	1	-	-
21	216403	5	15	-	20	<0.5	-	<1	-	-
22	216404	5	15	-	25	<0.5	-	<1	-	-
23	216406	5100	120	-	20	<0.5	-	10	-	-
24	216407	20	5	-	10	<0.5	-	1	-	-
25	216408	15	<5	-	<5	<0.5	-	<1	-	-

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04349	08/04/87	E00260	8 OF 18

TUBE No.	SAMPLE No.	Cu	Pb	Pb	Zn	Ag	Ag	As	Au	Au
1	216409	10	<5	-	<5	<0.5	-	<1	-	
2	216410	5	<5	-	<5	<0.5	-	<1	-	
3	216411	10	<5	-	5	<0.5	-	<1	-	
4	216412	10	35	-	5	<0.5	-	<1	-	
5	216413	10	<5	-	15	<0.5	-	<1	-	
6	216414	70	140	-	220	<0.5	-	1	-	
7	216415	10	<5	-	10	<0.5	-	<1	-	
8	216416	5	30	-	40	<0.5	-	<1	-	
9	216417	10	25	-	45	<0.5	-	1	-	
10	216418	15	15	-	65	<0.5	-	<1	-	
11	216419	25	<5	-	35	<0.5	-	<1	-	
12	216420	50	<5	-	45	<0.5	-	<1	-	
13	216421	25	<5	-	30	<0.5	-	<1	-	
14	216422	10	<5	-	35	<0.5	-	<1	-	
15	216423	40	190	-	220	<0.5	-	<1	-	
16	216424	2700	-	13325	35	<0.5	-	46	-	
17	216132	15	115	-	85	<0.5	-	5	2.040	
18	216133	80	150	-	25	<0.5	-	30	0.010	
19	216134	35	30	-	15	<0.5	-	8	0.008	
20	216135	15	110	-	255	<0.5	-	5	<0.008	
21	216136	50	<5	-	115	<0.5	-	12	0.020	
22	216137	75	<5	-	100	<0.5	-	12	0.230	
23	216138	65	<5	-	90	<0.5	-	12	<0.008	
24	216112	25	<5	-	35	0.5	-	4	0.020	
25	216113	45	<5	-	60	<0.5	-	10	0.310	

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04349	08/04/87	E00260	1 OF 2

TUBE No.	SAMPLE No.	Cu	Pb	Pb	Zn	Ag	Ag	As	Au	Au
1	216114	20	<5	-	45	<0.5	-	7	<0.008	-
2	216115	10	55	-	85	<0.5	-	<1	2.930	-
3	216116	15	<5	-	10	<0.5	-	47	1.030	-
4	216117	5	10	-	10	-	117	<1	500.80	-
5	202992	10	5	-	10	<0.5	-	3	-	0.370
6	202993	15	<5	-	25	<0.5	-	10	-	4.030
7	202994	1400	-	60600	36500	-	25	2	-	0.050
8	202995	15	610	-	770	<0.5	-	8	-	0.040
9	216391	590	-	3700	125	-	57	<1	-	0.540
10	216392	220	255	-	40	1.0	-	<1	-	0.070
11	216393	530	455	-	40	1.0	-	6	-	6.450
12	216394	40	<5	-	50	<0.5	-	<1	-	0.050
13	216395	125	60	-	20	<0.5	-	<1	-	0.020
14	216396	10	<5	-	5	<0.5	-	<1	-	0.010
15	216397	5	<5	-	15	<0.5	-	<1	-	0.010
16	216398	280	135	-	10	28.0	-	19	-	1.610
17	216399	5	<5	-	10	<0.5	-	<1	-	0.020
18	216400	10	60	-	20	<0.5	-	<1	-	<0.010
19										
20										
21										
22										
23	DETECTION	5	5	25	5	0.5	2	1	0.008	0.005
24	UNITS	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	%
25	METHOD	101	101	102	101	101	104	114	305	71

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04349	08/04/87	E00260	10 OF 18

TUBE No.	SAMPLE No.	Au	AuChk	AuChk	AuChk	Wght				
1	216081	<0.01	-	-	-	-				
2	216082	<0.01	-	-	-	-				
3	216083	<0.01	-	-	-	-				
4	216084	<0.01	-	-	-	-				
5	216085	<0.01	-	-	-	-				
6	216086	<0.01	-	-	-	-	Soil Sample			
7	216087	<0.01	-	-	-	-	Voyager 10			
8	216086	<0.01	-	-	-	-				
9	216089	<0.01	-	-	-	-				
10	216090	<0.01	-	-	-	-				
11	216091	<0.01	-	-	-	-				
12	216092	<0.01	-	-	-	-				
13	216093	<0.01	-	-	-	-				
14	216094	<0.01	-	-	-	-				
15	216095	<0.01	-	-	-	-				
16	216096	<0.01	-	-	-	-				
17	216230	<0.01	-	-	-	-				
18	216231	<0.01	-	-	-	-				
19	216232	<0.01	-	-	-	-				
20	216233	<0.01	-	-	-	-				
21	216234	<0.01	-	-	-	-				
22	216235	<0.01	-	-	-	-				
23	216236	<0.01	-	-	-	-				
24	216237	<0.01	-	-	-	-				
25	216238	<0.01	-	-	-	-				

Results in ppm unless otherwise specified
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04349	08/04/87	E00260	11 OF 18

TUBE No.	SAMPLE No.	Au	AuChk	AuChk	AuChk	Wght				
1	216239	<0.01	–	–	–	–				
2	216240	<0.01	–	–	–	–				
3	216241	<0.01	–	–	–	–				
4	216242	<0.01	–	–	–	–				
5	216243	<0.01	–	–	–	–				
6	216244	<0.01	–	–	–	–				
7	216245	<0.01	–	–	–	–				
8	216246	<0.01	–	–	–	–				
9	216247	<0.01	–	–	–	–	Soil	Samples		
10	216248	<0.01	–	–	–	–				
11	216249	<0.01	–	–	–	–	Voyager	10.		
12	216250	<0.01	–	–	–	–				
13	216251	<0.01	–	–	–	–				
14	216252	<0.01	–	–	–	–				
15	216253	0.03	–	–	–	–				
16	216254	<0.01	–	–	–	–				
17	216255	<0.01	–	–	–	–				
18	216256	<0.01	–	–	–	–				
19	216257	<0.01	–	–	–	–				
20	216258	<0.01	–	–	–	–				
21	216259	<0.01	–	–	–	–				
22	216260	<0.01	–	–	–	–				
23	216261	<0.01	–	–	–	–				
24	216262	<0.01	–	–	–	–				
25	216263	<0.01	–	–	–	–				

Results in ppm unless otherwise specified
T = element present: but concentration too low to measure
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04347	08/04/87	E00260	12 OF 18

TUBE No.	SAMPLE No.	Au	AuChk	AuChk	AuChk	Wght				
1	216264	<0.01	–	–	–	–				
2	216265	<0.01	–	–	–	–				
3	216266	<0.01	–	–	–	–				
4	216267	<0.01	–	–	–	–				
5	216268	<0.01	–	–	–	–				
6	216269	<0.01	–	–	–	–				
7	216270	<0.01	–	–	–	–				
8	216271	<0.01	–	–	–	–				
9	216272	<0.01	–	–	–	–		Soil Samples		
10	216273	<0.01	–	–	–	–				
11	216274	<0.01	–	–	–	–		Voyager 10.		
12	216275	<0.01	–	–	–	–				
13	216276	<0.01	–	–	–	–				
14	216277	<0.01	–	–	–	–				
15	216278	0.71	–		0.02					
16	216279	<0.01	–		–	–				
17	216280	<0.01	–							
18	216281	<0.01	–			–				
19	216282	<0.01	–		–	–				
20	216283	<0.01	–	–	–	–				
21	216284	<0.01	–			–				
22	216285	<0.01				–				
23	216286	<0.01	–			–				
24	216287	<0.01	–		–	–				
25	216288	<0.01	–			–				

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04349	08/04/87	E00260	13 OF 18

TUBE No.	SAMPLE No.	Au	AuChk	AuChk	AuChk	Wght				
1	216289	<0.01	–	–	–	–				
2	216290	<0.01	–	–	–	–				
3	216291	<0.01	–	–	–	–				
4	216292	<0.01	–	–	–	–				
5	216293	<0.01	–	–	–	–				
6	216294	<0.01	–	–	–	–				
7	216295	<0.01	–	–	–	–				
8	216296	<0.01	–	–	–	–				
9	216297	<0.01	–	–	–	–	Soil Samples			
10	216298	<0.01	–	–	–	–				
11	216299	<0.01	–	–	–	–	Voyager 10.			
12	216300	<0.01	–	–	–	–				
13	216301	<0.01	–	–	–	–				
14	216302	<0.01	–	–	–	–				
15	216303	<0.01	–	–	–	–				
16	216304	<0.01	–	–	–	–				
17	216305	<0.01	–	–	–	–				
18	216306	<0.01	–	–	–	–				
19	216307	<0.01	–	–	–	–				
20	216308	<0.01	–	–	–	–				
21	216309	<0.01	–	–	–	–				
22	216310	<0.01	–	–	–	–				
23	216311	<0.01	–	–	–	–				
24	216312	<0.01	–	–	–	–				
25	216313	<0.01	–	–	–	–				

Results in ppm unless otherwise specified
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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04349	08/04/87	E00260	14 OF 18

TUBE No.	SAMPLE No.	Au	AuChk	AuChk	AuChk	Wght				
1	216314	<0.01	–	–	–	–				
2	216315	<0.01	–	–	–	–				
3	216316	<0.01	–	–	–	–				
4	216317	<0.01	–	–	–	–				
5	216318	<0.01	–	–	–	–				
6	216319	<0.01	–	–	–	–				
7	216320	<0.01	–	–	–	–				
8	216321	0.03	–	–	–	–				
9	216322	<0.01	–	–	–	–	Soil Samples			
10	216323	<0.01	–	–	–	–				
11	216324	<0.01	–	–	–	–	Voyager 10.			
12	216325	<0.01	–	–	–	–				
13	216326	<0.01	–	–	–	–				
14	216327	<0.01	–	–	–	–				
15	216328	<0.01	–	–	–	–				
16	216329	<0.01	–	–	–	–				
17	216330	<0.01	–	–	–	–				
18	216331	<0.01	–	–	–	–				
19	216332	<0.01	–	–	–	–				
20	216333	<0.01	–	–	–	–				
21	216334	<0.01	–	–	–	–				
22	216335	<0.01	–	–	–	–				
23	216336	<0.01	–	–	–	–				
24	216337	<0.01	–	–	–	–				
25	216338	<0.01	–	–	–	–				

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04349	06/04/87	E00260	15 OF 18

TUBE No.	SAMPLE No.	Au	AuChk	AuChk	AuChk	Wght	
1	216339	<0.01	-	-	-	-	
2	216340	<0.01	-	-	-	-	
3	216341	<0.01	-	-	-	-	Soil Samples
4	216342	<0.01	-	-	-	-	
5	216343	<0.01	-	-	-	-	Voyager 10.
6	216344	<0.01	-	-	-		
7	216345	<0.01	-	-	-	-	
8	216346	<0.01	-	-	-	-	
9	216347	<0.01	-	-	-	-	
10	216348	<0.01	-	-	-	-	Soil Samples
11	216349	<0.01	-	-	-	-	Magnetic Anamoly 2
12	216350	0.06	-	-	-	-	
13	216352	<0.01	-	-	-	-	
14	216353	<0.01	-	-	-	-	
15	216354	<0.01	-	-	-	-	Soil Samples
16	216355	<0.01	-	-	-	-	
17	216356	<0.01	-	-	-	-	Line 6
18	216357	<0.01	-	-	-	-	
19	216358	<0.01	-	-	-	-	North Porphyry
20	216359	<0.01	-	-	-	-	Contact.
21	216360	<0.01	-	-	-	-	
22	216361	<0.01	-	-	-	-	
23	216362	<0.01	-	-	-	-	
24	216363	<0.01	-	-	-	-	
25	216364	<0.01	-	-	-	-	

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04349	08/04/87	E00260	16 OF 18

TUBE No.	SAMPLE No.	Au	AuChk	AuChk	AuChk	Wght	
1	216365	<0.01	-	-	-	-	Soil Samples
2	216366	<0.01	-	-	-	-	Line 6
3	216367	<0.01	-	-	-	-	North Porphyry
4	216368	<0.01	-	-	-	-	Contact.
5	216369	<0.01	-	-	-	-	
6	216370	<0.01	-	-	-	-	
7	216371	<0.01	-	-	-	-	Soil Sample Magnetic Anomaly 5
8	216372	<0.01	-	-	-	-	Rock Chip
9	216373	<0.01	-	-	-	-	Magnetic Anomaly 5.
10	216374	<0.01	-	-	-	-	
11	216375	<0.01	-	-	-	-	
12	216376	<0.01	-	-	-	-	Soil Sample Magnetic Anomaly 5
13	216377	<0.01	-	-	-	-	Rock Chip Sample Magnetic Anom
14	216378	<0.01	-	-	-	-	Soil Sample Magnetic Anomaly 5.
15	216379	<0.01	-	-	-	-	Rock-Chip Sample Magnetic Anomaly 5
16	216380	<0.01	-	-	-	-	
17	216381	<0.01	-	-	-	-	
18	216382	<0.01					
19	216401	<0.01	-	-	-	-	Soil Sample
20	216402	<0.01					Magnetic Anomaly 2
21	216403	<0.01	-	-	-	-	
22	216404	<0.01	-	-	-	-	
23	216406	0.03	-	-	-	-	Soil Sample
24	216407	0.03					Magnetic Anomaly 3.
25	216408	<0.01	-	-	-	-	

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04349	08/04/87	E00260	17 OF 18

TUBE No.	SAMPLE No.	Au	AuChk	AuChk	AuChk	Wght	
1	216409	<0.01	–	–	–	–	
2	216410	<0.01	–	–	–	–	Soil Sample
3	216411	<0.01	–	–	–	–	Magnetic Anomaly 3.
4	216412	<0.01	–	–	–	–	
5	216413	<0.01	–	–	–	–	
6	216414	<0.01	–	–	–	–	
7	216415	<0.01	–	–	–	–	
8	216416	<0.01	–	–	–	–	
9	216417	<0.01	–	–	–	–	Soil Samples
10	216418	<0.01	–	–	–	–	Magnetic Anomaly 4.
11	216419	<0.01	–	–	–	–	
12	216420	<0.01	–	–	–	–	
13	216421	<0.01	–	–	–	–	
14	216422	<0.01	–	–	–	–	
15	216423	<0.01	–	–	–	–	
16	216424	0.01	–	–	–	–	
17	216132	–	–	–	–	–	-80# Stream Sediment Voyager 24
18	216133	–	–	–	–	–	- 80# Stream Sediment
19	216134	–	–	–	–	–	Voyager 12.
20	216135	–	0.150	–	–	–	
21	216136	–	–	–	–	–	-80# Stream
22	216137	–	–	–	–	–	Sediment
23	216138	–	–	–	–	–	Wanderer North.
24	216112	–	–	–	–	95.0	Panned Concentrates
25	216113	–	–	–	–	76.1	Wanderer North.

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04349	08/04/87	E00260	18 OF 18

TUBE No.	SAMPLE No.	Au	AuChk	AuChk	AuChk	Wght	
1	216114	-	-	-	-	63.9	Panned Concentrates
2	216115	-	-	-	-	76.2	Wanderer North.
3	216116	-	0.620	-	-	98.3	
4	216117	-	-	-	-	36.4	
5	202992	-	-	-	-	-	Rock Chip
6	202993	-	-	-	-	-	Wanderer North.
7	202994	-	-	-	-	-	
8	202995	-	-	-	-	-	
9	216391	-	-	-	-	-	Rock Chip
10	216392	-	-	-	-	-	Voyager 6
11	216393	-	-	-	-	-	
12	216394	-	-	0.020	-	-	
13	216395	-	-	-	-	-	
14	216396	-	-	-	-	-	
15	216397	-	-	-	-	-	
16	216398	-	-	-	-	-	Rockchip Voyager 6.
17	216399	-	-	-	-	-	Rockchip Porphyry Contact.
18	216405						Rock Chip
19							Magnetic Anomaly 2.
20							
21							
22							
23	DETECTION	0.01	0.008	0.005	0.01	0.1	
24	UNITS	PPM	PPM	PPM	PPM	GMS	
25	METHOD	329	309	313	329	199	

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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ANALABS

A division of MacDonald Hamilton & Co. Pty. Ltd.
Phone (09) 458 7999 — 52 Murray Road, Welshpool, W.A. 6106 — Telex AA92560

ANALYTICAL REPORT No. 7-5.08.04411

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

B. Roxburgh
Cyprus Minerals
P.O. Box 493
North Sydney
N.S.W. 2060

ORDER No.	PROJECT
00260	RE 04349

DATE RECEIVED	RESULTS REQUIRED
14/04/87	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
8	21/04/87	1	191

PER JOB	SAMPLE NUMBERS	PRE-TREATMENT: DRY	CRUSH	SPLIT	PULVERISE	SIEVE	OTHER SEE REMARKS	NONE	ANALYSIS: REFER TO ANALYSIS SECTION	PREPARATION	METHOD
Various	PC								Au,AuChk/309		

RESULTS TO
B. Roxburgh
Cyprus Minerals
P.O. Box 493
North Sydney
N.S.W. 2060

RESULTS TO
C. Torrey
Cyprus Minerals
P.O. Box 230
Zeehan
Tasmania 7469

REMARKS

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

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04411	21/04/87	00260	1 OF 8

TUBE No.	SAMPLE No.	Au	AuChk
1	216081	<0.008	-
2	216082	0.020	<0.008
3	216083	0.020	-
4	216084	0.010	-
5	216085	<0.008	-
6	216086	<0.008	-
7	216087	<0.008	-
8	216088	<0.008	-
9	216089	<0.008	-
10	216090	<0.008	-
11	216091	[illegible]	-
12	216092	<0.008	<0.008
13	216093	<0.008	-
14	216094	<0.008	-
15	216095	<0.008	-
16	216096	<0.008	-
17	216230	<0.008	-
18	216231	<0.008	-
19	216232	<0.008	-
20	216233	<0.008	-
21	216234	<0.008	-
22	216235	<0.008	<0.008
23	216236	<0.008	-
24	216237	<0.008	-
25	216238	<0.008	-

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
	7.5.08.04411	21/04/87	00260	2 OF 8

TUBE No.	SAMPLE No.	Au	AuChk							
1	216239	<0.008	–							
2	216240	<0.008	–							
3	216241	<0.008	–							
4	216242	<0.008	–							
5	216243	<0.008	–							
6	216244	<0.008	–							
7	216245	<0.008	–							
8	216246	<0.008	–							
9	216247	<0.008	–							
10	216248	<0.008	–							
11	216249	<0.008	–							
12	216250	<0.008	<0.008							
13	216251	<0.008	–							
14	216252	<0.008	–							
15	216253	<0.008								
16	216254	0.010	–							
17	216255	0.030								
18	216256	<0.008								
19	216257	0.010								
20	216258	<0.008								
21	216259	0.020	–							
22	216260	0.010	0.008							
23	216261	<0.008								
24	216262	<0.008								
25	216263	<0.008								

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
	7.5.08.04411	21/04/87	00260	3 OF 8

TUBE No.	SAMPLE No.	Au	AuChk							
1	216264	<0.008	-							
2	216265	<0.008	-							
3	216266	<0.008	-							
4	216267	<0.008	-							
5	216268	<0.008	-							
6	216269	<0.008	-							
7	216270	<0.008	<0.008							
8	216271	<0.008	-							
9	216272	<0.008	-							
10	216273	<0.005	-							
11	216274	<0.008	-							
12	216275	<0.008	-							
13	216276	<0.008	-							
14	216277	<0.008	-							
15	216278	<0.005	-							
16	216279	<0.005	<0.005							
17	216280	0.010	-							
18	216281	<0.008	-							
19	216282	<0.005	-							
20	216283	<0.008	-							
21	216284	<0.008	-							
22	216285	<0.008	-							
23	216286	<0.008	-							
24	216287	<0.005	-							
25	216288	<0.008	<0.008							

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
	7.5.08.04411	21/04/87	00260	4 OF 8

TUBE No.	SAMPLE No.	Au	AuChk							
1	216289	<0.008	–							
2	216290	<0.008	–							
3	216291	<0.008	–							
4	216292	<0.008	–							
5	216293	<0.008	–							
6	216294	<0.008	–							
7	216295	<0.008	–							
8	216296	<0.008	–							
9	216297	<0.008	–							
10	216298	<0.008	–							
11	216299	<0.008	–							
12	216300	<0.008	–							
13	216301	<0.008	–							
14	216302	<0.008	–							
15	216303	<0.008	–							
16	216304	<0.008	–							
17	216305	<0.008	–							
18	[illegible]	<0.008	–							
19	[illegible]	<0.008	–							
20	[illegible]	0.250	–							
21	216309	<0.008	–							
22	216310	<0.008	–							
23	216311	<0.008	–							
24	[illegible]	<0.008	–							
25	[illegible]	<0.008	–							

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
	7.5.08.04411	21/04/87	00260	5 OF 8

TUBE No.	SAMPLE No.	Au	AuChk							
1	216314	<0.008	-							
2	216315	0.010	-							
3	216316	0.010	-							
4	216317	<0.008	-							
5	216318	<0.008	-							
6	216319	<0.008	-							
7	216320	<0.008	-							
8	216321	<0.008	-							
9	216322	<0.008	-							
10	216323	<0.008	-							
11	216324	<0.008	-							
12	216325	<0.008	-							
13	216326	<0.008	-							
14	216327	0.830	-							
15	216328	<0.008	-							
16	216329	<0.008	-							
17	216330	<0.008	-							
18	216331	<0.008	-							
19	216332	<0.008	-							
20	216333	<0.008	-							
21	216334	<0.008	<0.008							
22	216335	<0.008	-							
23	216336	<0.008	-							
24	216337	<0.008	-							
25	216338	<0.008	-							

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
	7.5.08.04411	21/04/87	00260	6 OF 8

TUBE No.	SAMPLE No.	Au	AuChk							
1	216339	<0.008	<0.008							
2	216340	<0.008	–							
3	216341	0.010	–							
4	216342	<0.008	–							
5	216343	<0.008	–							
6	216344	<0.008	–							
7	216345	<0.008	–							
8	216346	<0.008	–							
9	216347	<0.008	–							
10	216348	<0.008	–							
11	216349	<0.008	–							
12	216350	<0.008	<0.008							
13	216352	<0.008	–							
14	216353	<0.008	–							
15	216354	<0.008	–							
16	216355	<0.008	–							
17	216356	<0.008	–							
18	216357	<0.008	–							
19	216358	<0.008	–							
20	216359	<0.008	–							
21	216360	<0.008	–							
22	216361	<0.008	–							
23	216362	<0.008	<0.008							
24	216363	<0.008	–							
25	216364	<0.008	–							

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
	7.5.08.04411	21/04/87	00260	7 OF 8

TUBE No.	SAMPLE No.	Au	AuChk							
1	216365	<0.008	-							
2	216366	<0.008	-							
3	216367	<0.008	-							
4	216368	<0.008	-							
5	216369	<0.008	-							
6	216370	<0.008	-							
7	216371	<0.008	-							
8	216372	<0.008	-							
9	216373	<0.008	-							
10	216374	<0.008	<0.008							
11	216375	<0.008	-							
12	216376	<0.008	-							
13	216377	<0.008	-							
14	216378	<0.008	-							
15	216379	<0.008	-							
16	216380	<0.008	-							
17	216381	<0.008	-							
18	216382	<0.008	-							
19	216401	<0.008	-							
20	216402	<0.008	-							
21	216403	<0.008	-							
22	216404	<0.008	-							
23	216406	<0.008	-							
24	216407	<0.008								
25	216408	<0.008	<0.008							

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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A division of MacDonald Hamilton & Co. Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04411	21/04/87	00260	8 OF 8

TUBE No.	SAMPLE No.	Au	AuChk							
1	216409	<0.008	-							
2	216410	<0.008	-							
3	216411	<0.008	-							
4	216412	<0.008	-							
5	216413	0.030	-							
6	216414	<0.008	-							
7	216415	<0.008	-							
8	216416	<0.008	-							
9	216417	<0.008	-							
10	216418	<0.008	-							
11	216419	<0.008	-							
12	216420	<0.008	-							
13	216421	<0.008	<0.008							
14	216422	<0.008	-							
15	216423	<0.008	-							
16	216424	<0.008	-							
17										
18										
19										
20										
21										
22										
23	DETECTION	0.008	0.008							
24	UNITS	PPM	PPM							
25	METHOD	309	309							

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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ANALABS

A division of MacDonald Hamilton & Co. Pty. Ltd.
Phone (09) 458 7999 — 52 Murray Road, Welshpool, W.A. 6106 (GPO Box 5121K) — Telex AA92560

ANALYTICAL REPORT No. 7.5.08.04373

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

B. Roxburgh
Cyprus Minerals
P.O. Box 493
North Sydney
N.S.W. 2060

ORDER No.	PROJECT
00259	

DATE RECEIVED	RESULTS REQUIRED
02/04/87	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
2	10/04/87	1	42

REFER BELOW	SAMPLE NUMBERS	PRE-TREATMENT: DRY	CRUSH	SPLIT	PUL-VERISE	SIEVE	OTHER SEE REMARKS	NONE	ANALYSIS: REFER TO ANALYSIS SECTION	PREPARATION	METHOD
	216160/72,216201/29	PU							Au,AuChk/309		

RESULTS TO

B. Roxburgh
Cyprus Minerals
P.O. Box 493
North Sydney
N.S.W. 2060

RESULTS TO

C. Torrey
Cyprus Minerals
P.O. Box 230
Zeehen
Tasmania 7469

REMARKS

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

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ANALABS

A division of MacDonald Hamilton & Co. Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04373	10/04/87	00259	1 OF 2

TUBE No.	SAMPLE No.	Au	AuChk							
1	216160	<0.008	-							
2	216161	<0.008	-							
3	216162	<0.008	-							
4	216163	<0.008	-							
5	216164	<0.008	-							
6	216165	<0.008	-							
7	216166	<0.008	-							
8	216167	<0.008	-							
9	216168	<0.008	-							
10	216169	<0.008	-							
11	216170	<0.008	-							
12	216171	<0.008	-							
13	216172	<0.008	-							
14	216201	<0.008	-							
15	216202	<0.008	-							
16	216203	<0.008	-							
17	216204	<0.008	-							
18	216205	<0.008	-							
19	216206	<0.008	-							
20	216207	<0.008	-							
21	216208	<0.008	-							
22	216209	<0.008	-							
23	216210	<0.008	-							
24	216211	<0.008	-							
25	216212	<0.008	-							

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

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A division of MacDonald Hamilton & Co. Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04373	10/04/87	00259	2 OF 2

TUBE No.	SAMPLE No.	Au	AuChk							
1	216213	<0.008	–							
2	216214	<0.008	–							
3	216215	<0.008	–							
4	216216	<0.008	–							
5	216217	<0.008	–							
6	216218	<0.008	–							
7	216219	<0.008	–							
8	216220	<0.008	–							
9	216221	<0.008	–							
10	216222	<0.008	–							
11	216223	0.020	–							
12	216224	<0.008	–							
13	216225	<0.008	–							
14	216226	<0.008	–							
15	216227	<0.008	<0.008							
16	216228	0.030	–							
17	216229	<0.008	–							
18										
19										
20										
21										
22										
23	DETECTION	0.008	0.008							
24	UNITS	PPM	PPM							
25	METHOD	309	309							

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

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ANALABS

A division of MacDonald Hamilton & Co. Pty. Ltd.
Phone (09) 458 7999 52 Murray Road, Welshpool, W.A. 6106 Telex AA92560

ANALYTICAL REPORT No. 7.5.08.04379

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

B. Roxburgh
Cyprus Minerals
P.O. Box 493
North Sydney
N.S.W. 2060

ORDER No.	PROJECT
00259	

DATE RECEIVED	RESULTS REQUIRED
02/04/87	ASAP

No. OF PAGES OF RESULTS	DATE REPORTED	No. OF COPIES	TOTAL No. OF SAMPLES
5	10/04/87	1	104

		PRE-TREATMENT							ANALYSIS		
	SAMPLE NUMBERS	DRY	CRUSH	SPLIT	PUL-VERISE	SIEVE	OTHER SEE REMARKS	NONE	REFER TO ANALYSIS SECTION	PREPARATION	METHOD
	Various	PU							Au,AuChk/309		
	Various	PU							Au(2)/309		

RESULTS TO

B. Roxburgh
Cyprus Minerals
P.O. Box 493
North Sydney
N.S.W. 2060

RESULTS TO

C. Torrey
Cyprus Minerals
P.O. Box 230
Zeehan
Tasmania 7469

REMARKS

STATE OF SAMPLES		ANALYSIS — PREPARATION				ANALYSIS — METHOD	
...ole core	WC	perchloric acid	A1	cold acid	CA	atomic absorbtion	AAS
...plit core	SC	hydrochloric acid	A2	specific sulphide	SS	x-ray fluorescence	XRF
...utting	CU	nitric acid	A3	other mixed acids	Ma	spectrophotometry	SPEC
...ck	Ro	aqua regia	A4	alkaline attack	AA	colorimetry	COL
...il	SO	nitric-perchloric	A5	volatilization	VO	chromatography	CHR
...lp	PU	HF mixture	A6	ignition	IG	titration	TTN
...ater	WA	HF under pressure	A7	pressed powder (XRF)	PP	other chemicals means	CHEM
...issue	TI	fusion	A8	glass fusion (XRF)	GF	miscellaneous	MISC
...tream sediment	SS					fluorescence	FLUOR
...avy mineral	HM					inductively coupled plasma	ICP

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A division of MacDonald Hamilton & Co. Pty. Ltd.

ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04379	10/04/87	00259	1 OF 5

TUBE No.	SAMPLE No.	Au	Au (2)	AuChk						
1	202742	1.270	<0.008	<0.008						
2	202743	<0.008	–	–						
3	202744	<0.008	–	–						
4	202745	<0.008	–	–						
5	202746	<0.008	–	–						
6	202747	<0.008	–	–						
7	202748	<0.008	–	–						
8	202749	<0.008	–	–						
9	202750	<0.008	–	–						
10	202926	<0.008	–	–						
11	202927	<0.008	–	–						
12	202928	<0.008	–	–						
13	202929	<0.008	–	<0.008						
14	202930	<0.008	–	–						
15	202931	<0.008	–	–						
16	202932	<0.008	–	–						
17	202933	<0.008	–	–						
18	202934	<0.008								
19	202935	<0.008	–	–						
20	202936	<0.008	–							
21	202937	<0.008	–	–						
22	202938	<0.008	–	–						
23	202939	<0.008	–	–						
24	202940	<0.008		–						
25	202941	<0.008		–						

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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119301

ANALABS

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ANALYTICAL DATA

SAMPLE PREFIX	REPORT NUMBER	REPORT DATE	CLIENT ORDER No.	PAGE
	7.5.08.04379	10/04/87	00259	2 OF 5

TUBE No.	SAMPLE No.	Au	Au (2)	AuChk
1	202942	<0.008	–	–
2	216001	<0.008	–	–
3	216002	<0.008	–	–
4	216003	<0.008	–	–
5	216004	0.030	–	–
6	216005	<0.008	–	–
7	216006	<0.008	–	–
8	216007	<0.008	–	–
9	216008	<0.008	–	–
10	216009	<0.008	–	–
11	216010	<0.008	–	–
12	216011	<0.008	–	–
13	216012	<0.008	–	–
14	216013	<0.008	–	–
15	216014	<0.008	–	–
16	216015	<0.008	–	<0.008
17	216016	<0.008	–	–
18	216017	<0.008	–	–
19	216018	<0.008	–	–
20	216019	<0.008	–	–
21	216020	<0.008	–	–
22	216021	<0.008	–	–
23	216022	SNR	–	–
24	216023	SNR	–	–
25	216024	<0.008	–	–

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
	7.5.08.04379	10/04/87	00259	3 OF 5

TUBE No.	SAMPLE No.	Au	Au(2)	AuChk						
1	216025	<0.008	–	<0.008						
2	216026	<0.008	–	–						
3	216027	<0.008	–	–						
4	216028	<0.008	–	–						
5	216029	<0.008	–	–						
6	216030	<0.008	–	–						
7	216031	<0.008	–	–						
8	216032	<0.008	–	–						
9	216033	<0.008	–	–						
10	216034	<0.008	–	–						
11	216035	<0.008	–	–						
12	216036	<0.008	–	–						
13	216037	<0.008	–	–						
14	216038	<0.008	–	–						
15	216039	<0.008	–	–						
16	216040	<0.008	–	–						
17	216041	<0.008	–	<0.008						
18	216042	<0.008	–	–						
19	216043	<0.008	–	–						
20	216044	<0.008	–	–						
21	216045	<0.008	–	–						
22	216046	<0.008	–	–						
23	216047	<0.008	–	–						
24	216048	<0.008	–	–						
25	216049	<0.008	–	–						

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
	7.5.08.04379	10/04/87	00259	4 OF 5

TUBE No.	SAMPLE No.	Au	Au(2)	AuChk						
1	216050	<0.008	–	–						
2	216051	<0.008	–	<0.008						
3	216052	0.010	–	–						
4	216053	<0.008	–	–						
5	216054	<0.008	–	–						
6	216055	<0.008	–	–						
7	216056	<0.008	–	–						
8	216057	<0.008	–	–						
9	216058	<0.008	–	–						
10	216059	<0.008	–	–						
11	216060	<0.008	–	–						
12	216061	<0.008	–	–						
13	216062	<0.008	–	<0.008						
14	216063	<0.008	–	–						
15	216064	<0.008	–	–						
16	216065	<0.008	–	–						
17	216066	<0.008	–	–						
18	216067	<0.008	–	–						
19	216068	<0.008	–	–						
20	216069	<0.008	–	–						
21	216070	<0.008	–	–						
22	216071	<0.008	–	<0.008						
23	216072	<0.008	–	–						
24	216073	<0.008	–	–						
25	216074	<0.008	–	–						

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
	7.5.08.04379	10/04/87	00259	5 OF 5

TUBE No.	SAMPLE No.	Au	Au(2)	AuChk						
1	216075	<0.008	–	–						
2	216076	<0.008	–	–						
3	216077	<0.008	–	–						
4	216078	<0.008	–	–						
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23	DETECTION	0.008	0.008	0.008						
24	UNITS	PPM	PPM	PPM						
25	METHOD	309	309	309						

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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119305

APPENDIX 3

MINERALOGRAPHIC DESCRIPTIONS, AMDEL 1987

amdel
technology and enterprise

Amdel
31 Flemington Street,
Frewville, S.A. 5063

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Facsimile: (08) 79 6623

119306

6 April 1987

GS 3/1030/0

Cyprus Minerals Australia Company,
P.O. Box 230,
ZEEHAN, TAS. 7469

ATT: MR. CHRIS TORREY - GEOLOGIST-IN-CHARGE

REPORT G 7023/87

YOUR REFERENCE:	Letter dated 20/3/87 and Order No. E00255
IDENTIFICATION:	202610, 202540, 171647, 171494, 202618 and 202611
MATERIAL:	Pan concentrate samples
DATE RECEIVED:	27 March 1987
WORK REQUIRED:	Mineral identification

Investigation and Report by: Frank Radke and Dr Roger Brown

Manager - Geological Services: Dr Keith J Henley

Keith Henley

for Dr William G Spencer
General Manager
Applied Sciences Group

bp

MINERALOGY OF SIX SAMPLES

1. INTRODUCTION

Six pan concentrate samples were submitted by the Zeehan base (Mr. Chris Torrey) of Cyprus Minerals Australia Company for mineralogical examination. Five of the samples (202610, 202540, 171647, 171494 and 202618) contained abundant dark grains considered by Mr. E. James to be cassiterite. Identification of the dark grains was requested by optical methods with confirmation by scanning electron microscopy. One sample (No. 202611) consisted of 5 bluish-coloured, transparent to translucent, prismatic grains for positive identification.

2. IDENTIFICATION OF SAMPLE 202611

A portion of each grain was powdered and examined in a temporary oil mount with a petrographic microscope. All 5 grains are similar consisting of prismatic cleavage fragments with inclined extinction and a high refractive index (R.I. >1.63). The grains are all considered to be kyanite. One grain was finely powdered and examined by X-ray diffractometry confirming it as kyanite.

3. DARK MINERAL IDENTIFICATIONS

3.1 Procedure

Samples 202610, 202540, 171647 and 171494 were separated in methylene iodide (sp. gr. = 3.3) to concentrate the dense, dark coloured minerals into the heavy product. Polished sections (PS46549-53) were made of the heavy products and of the six dark grains which comprised Sample 202618. The polished sections were microscopically examined in reflected light and mineral identifications confirmed with the scanning electron microscope.

3.2 Results

Heavy liquid separation gave the following proportions of heavy products.

Sample	% Sp. Gr. >3.3
202610	69.9
202540	32.4
171647	26.4
171494	48.5

The mineralogy of the heavy products is as follows.

Sample	Mineralogy
202610	Rutile
202540	Abundant dense non-opaques with about 10% rutile and very minor ilmenite and altered ilmenite.
171647	Mainly rutile with minor ilmenite and altered ilmenite. Some zircon and dense non-opaques also present.
171494	Mainly ilmenite and altered ilmenite. Trace of chromite. Minor dense non-opaques.

The six grains of sample 202618 are all rutile although some show exsolution of an Fe-Ti mineral (possibly pseudobrookite).

The rutile and ilmenite in all samples as well as the chromite in sample 171494 was confirmed by semi-quantitative analysis with a scanning electron microscope.

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APPENDIX 4

REGIONAL ROCK CHIP ANALYSES AND DESCRIPTIONS

REGIONAL ROCKCHIPS

Sample	Description	Cu	Pb	Zn	Ag	As	Au
171281	Chloritic ferruginous tuffaceous siltstone	1100	45	95	4	150	0.02
171651	Quartz-tourmaline vein + pyrite + calcite	70	35	100	0.5	-	-
171652	Pyrite-quartz-tourmaline vein	150	115	95	2	170	0.02
171653	Malachite veinlets within rhyolite tuff	3700	155	220	2.5	110	0.02
171654	Quartz-pyrite vein	445	200	340	1.5	22	-
171655	Malachite stained porphyry	1500	90	160	1	13	-
171656	Quartz-chalcopyrite-tourmaline vein ± pyrite	4.28%	75	675	-	15	-
171657	Malachite stained contact, porphyry/tuff	3400	640	135	6.5	6	0.05
171658	Rhyolitic quartz crystal tuff + MnOx veinlets	140	360	1300	1	15	-
171659	Malachite vein with rhyolitic tuff	2.24%	175	300	-	26	-
171660	Malachite vein with rhyolitic tuff	1.19%	2825	5850	28	400	-
171661	Malachite vein with rhyolitic lithic tuff	7750	2750	1050	5	88	0.02
171662	Quartz-pyrite vein + chalcopyrite + molybdenite	2100	2650	5100	7.5	400	0.02
180568	Ferruginous siliceous tuff	5	-	30	-	7	-
180569	Gossan	1650	70	145	-	800	0.05
180570	Mangoniferous, limonitic, gossan + magnetite	2.04%	200	475	24	250	0.33
180571	Mangoniferous quartz vein	2150	235	170	7	410	0.22
180572	Gossan	3100	1750	325	20	2400	0.45
180573	Gossan	1000	285	405	1.5	600	0.03
180574	Gossanous quartz vein	1300	360	300	0.5	190	0.03
180575	Gossanous float	55	120	40	-	2.25%	-
180576	Gossanous quartz vein	2250	805	525	9.5	1300	0.07
180577	Gossan	6900	955	650	180	1300	0.05
180578	Gossan + chalcopyrite + trace malachite	6750	850	510	6.5	1500	0.05
180579	Gossanous quartz vein	1350	60	115	3.5	700	-
180580	Ferruginous rhyolitic tuff	175	355	130	27.5	2800	-
180582	Ferruginous rhyolitic tuff + quartz stockwork	40	15	135	-	51	-
180594	Limonitic crystal tuff + trace pyrite	65	370	610	-	2	0.03
180595	Chloritic, tuffaceous sediment + minor MnOx	10	10	125	-	1	0.04
180596	Chloritic, tuffaceous sediment + minor MnOx	24	85	105	-	2	-
180598	Chloritic, tuffaceous siltstone	-	370	315	-	-	-
180599	Massive milk white quartz + minor limonite	30	-	10	-	-	-
180600	Slightly limonitic rhyolitic quartz crystal tuff	10	-	60	-	-	-

Sample	Description	Cu	Pb	Zn	Ag	As	Au
171975	Chlorite altered quartz phyric lapilli tuff	35	-	60	-	5	-
171976	Chlorite altered quartz phyric lapilli tuff	45	180	120	1	55	-
202427	Quartz-feldspar-biotite porphyry + pyrite	50	25	100	-	24	-
202428	Chlorite rhyolitic quartz crystal tuff	5	5	70	-	7	-
202429	Gossan + galena + chlorite	105	500	85	2.5	5.55%	0.64
202430	Limonitic crystal tuff + major As oxides	626	430	115	10	3710	-
202431	Gossan + quartz-tourmaline breccia veins	55	345	30	1.5	5380	-
202432	Chloritic tuffaceous siltstone	10	10	50	-	82	-
202433	Chlorite-pyrite altered quartz crystal tuff	20	-	70	-	32	-
202434	Quartz-chlorite-sericite vein stockworks	-	-	10	-	9	-
202435	Chloritic crystal tuff	5	25	295	-	12	-
202436	Chloritic crystal tuff	-	-	30	-	6	-
202437	Vitric rhyolitic tuff + minor chlorite	-	25	245	-	5	-
202438	Chloritic arenaceous sandstone	-	10	90	-	19	-
202551	Limonitic quartz crystal tuff	10	-	40	-	4	-
202552	Chloritic, slickensided crystal tuff	15	5	35	-	1	-
202553	Chloritic, slickensided crystal tuff + pyrite	5	15	95	-	5	0.08
202554	Limonitic vein within chloritized tuffs	690	170	780	12	1.74%	0.78
202555	Fine quartz stockworks with sediments	10	5	5	-	200	-
202556	Silvery sulfide veins within tuffaceous sandstone	60	135	25	1	1.71%	0.09
202557	Limonitic chloritized tuffaceous sediment	25	285	510	-	85	-
202558	Limonitic chloritized tuffaceous sediment	15	-	45	-	54	-
202559	10m strip sample of chloritized siltstones, cherts, shales	305	80	220	2.5	15	-
202561	10m strip sample of chloritized siltstones, cherts, shales	20	40	20	-	880	-
202562	10m strip sample of chloritized siltstones, cherts, shales	35	5	30	-	55	-
202562	Gossanous sediment outcrop	610	25	40	2	160	0.1
202563	Gossanous sediment outcrop	400	135	85	-	540	0.03
202943	Brecciated quartz vein	-	-	30	-	-	-
202944	Brecciated quartz vein	5	-	150	-	-	-

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See 87-2696A

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APPENDIX 5

INTERPRETATION OF ELECTRICAL AND ELECTRO MAGNETIC SURVEYS AT ELLIOTT BAY. MITRE GEOPHYSICS OCTOBER 1986

119313

MITRE GEOPHYSICS PTY LTD
MINERAL EXPLORATION AND ENGINEERING CONSULTANTS
BUGGS LANE ELLIOTT TASMANIA 7325 PHONE 004-363143

INTERPRETATION OF ELECTRICAL AND ELECTROMAGNETIC SURVEYS AT ELLIOTT BAY (E.L. 40/85).

for

Cyprus Minerals Australia Company

by

Dr J.R. Bishop

CM/MG86/07
Oct., 1986

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Figure 2. Dighem EM anomalies and location of Maxmin traverses (1:25,000 scale).

Figure 3. Contours of averaged chargeabilities (1:10,000 scale).

Figure 4. Contours of averaged resistivities (1:10,000 scale).

Figure 5. UTEM interpretation (1:10,000 scale).

Figure 6. A comparison of overlapping sections of the Sorell and Elliott Bay Dighem surveys.

Figure 7. Areas recommended for further work.

Figures referred to, but not included in this report.

Dighem EM, resistivity, magnetic and enhanced magnetic maps for Elliott Bay (1:10,000 scale).

IP and resistivity pseudosections (1:5,000 scale).

Maxmin profiles (1:5,000 scale).

UTEM profiles (1:5,000 scale).

Geology of Wart Hill area, E.L. 27/76 (1:10,000 scale).

SUMMMARY

A Dighem survey over the northern section of E.L. 40/85 has not produced any responses of prime interest, however a number of anomalous zones have been chosen for follow up. Similarly, examination of IP and UTEM surveys carried out for Geopeko in the Wart Hill area has not lead to any VMS targets, but the results may assist a gold exploration program.

Despite these negative findings, Elliott Bay is still a highly prospective area. Large regions with favourable lithologies remain ungridded and little explored. It is recommended that these areas be covered by gradient array IP surveys to look for zones of alteration.

INTRODUCTION

E.L. 40/85 (Elliott Bay) covers the southern section of the highly mineralised Mt Read Volcanics which form a long, arcuate belt across western Tasmania. The licence is held by Cyprus Minerals who are managing the exploration program with Poseidon as a joint venture partner.

Elliott Bay is a remote area within the Southwest Conservation Area. Access is by aeroplane to a landing strip in the north of the licence or, since much of the lease is open button-grass, by helicopter. A disused track to the lighthouse at Low Rocky Point runs through the area and Cyprus used a four wheel motorcycle along this track during the 1985/86 field season, to ferry gear to the campsites. Poor weather for seven or eight months of the year usually restricts field work to the summer season.

A Dighem survey was carried out over the northern section of the licence for the joint venture partners in January, 1986. This report evaluates the results of that survey and the follow-up field work using the Maxmin electromagnetic (EM) system. It also comments on the induced polarisation (IP) and UTEM surveys undertaken for the previous licence-holders, Geopeko.

EXPLORATION TARGETS AND GEOLOGICAL SETTING

The prime target is for a polymetallic volcanogenic massive sulphide (VMS) body, similar to those found at the Rosebery and Hellyer mines. The prospectivity of the Elliott Bay licence has been considerably enhanced by the discovery, by Geopeko, of two small pods of such sulphides.

A secondary target is for a volcanic-hosted gold deposit. Although there are no type deposits within the Mt Read Volcanics, an area anomalously high in gold has been defined within E.L. 40/85 and other exploration companies are having some encouragement elsewhere in the belt.

Geophysical surveys over Rosebery, Que River and Hellyer and petrophysical measurements of samples, have shown these ores to have similar properties. They are not magnetic, but they are chargeable, dense and good, though not excellent, conductors. Testing of two samples from the Elliott Bay sulphides indicates that deposits with rather less desirable geophysical properties may occur here. The results, given in Table 1, are much less chargeable and only weakly conductive. Although only two specimens have been measured, the results are in agreement with detailed IP surveys which were carried out by Geopeko over both pods.

The sulphide pods occur within a belt of north-south striking pyroclastics which have been classified as direct correlates of the 'Central Belt' of the Cambrian Mt Read Volcanics in the Queenstown area. These rocks, the Lewis River Volcanics, occupy

the central and eastern parts of the licence. In the north-central section, they are overlain by a syncline of Late-Cambrian (Tyndall Group) and Ordovician sediments. On the western flank of the licence there are basic Cambrian volcanics of the Mainwaring Group and sediments correlated with the 'Western Sequence' of the Mt Read Volcanics (see Figure 1). Thus the regional strike is approximately north-south, with the rocks interpreted to face, and dip steeply, to the west. Black shales occur in both the Tyndall Group and Western Sequence and these may give rise to IP &/or EM responses.

EXPLORATION HISTORY

The Elliott Bay area was first held by Mt Lyell and EZ (the LEE syndicate) in the 1950's and early 1960's, as part of their large southwest exploration licence. They flew an aeromagnetic survey over the area and may have done some ground work at Elliott Bay, but no search has been made for any record of this.

The area was next held by BHP as part of E.L. 13/65. In 1975, Geoex carried out a helicopter-borne EM and magnetic survey using the McPhar H-400 system for BHP, who dropped the ground before following up the 100 or so anomalies defined by the survey.

The ground was picked up by Geopeko (as E.L. 27/76). Initially, they followed up the airborne EM and magnetic anomalies defined by the H-400 survey, as well as investigating several old workings. During the 1981/82 field seasons, two small, high-grade Pb-Zn-Ag lenses were discovered during a soil geochemistry survey. A large area of anomalous gold in stream sediments was also defined.

In 1982/83, a dipole-dipole IP survey and c-horizon soil geochemistry program covered the altered rocks around the VMS deposits. No good targets were defined by this survey and in the 1983/84 season, the exploration program concentrated on the potential of the gold zone, with disappointing results. The results of the IP survey are further discussed later in this report. During the next field season, a UTEM survey was carried out over several of the better prospects covered by the IP survey, to explore to greater depths (ie, say 150m to 250m compared to 50m to 100m for the IP). No obvious VMS targets were defined by this survey, but a detailed interpretation is given below.

Apart from the areas covered in detail by the IP, UTEM and geochemistry, Geopeko have looked at a number of other prospects, apparently in isolation (a total of 35 'Voyager' prospects; V1 to V36, with no V13). That is, there are no maps showing a synthesis of their work. It is recommended later in this report that such a compilation be carried out by Cyprus. Several of the prospects showed interesting results and some of these were recommended for further investigation by Geopeko's geologists.

Cyprus' first field season started in March, 1986 following the Dighem survey in January. Work consisted of Maxmin surveys along reconnaissance lines to locate anomalies picked from a preliminary interpretation of the Dighem results (Bishop, 1986). These lines were also soil sampled and geologicallly mapped. The traverses covered are shown in Figure 2 and a report on the work is given by Jones (1986). The Maxmin results are also discussed below.

SURVEY DETAILS

DIGHEM

The Dighem survey was carried out in January, 1986. It covered about 700 line-kms, using a nominal line spacing of 150m and a nominal terrain clearance of 30m. The system used coaxial and coplanar coils at ~900Hz and coplanar coils at 7200Hz. A Geometrics G813 magnetometer monitored the total magnetic field. Flight line positioning was done from strip film only (no navigation systems) and recovery was apparently difficult over the largely featureless (and forested) western side of the licence (see later coments).

The usual Dighem maps of EM anomalies; apparent resistivity (assuming a uniform earth); magnetics and high-pass filtered magnetics were produced on photo-mosaic bases at 1:10,000 scale (see Kilty, 1986). The location of the EM anomalies is shown in Figure 2 of this report. Only responses interpreted as bedrock conductors have been differentiated here. For the more detailed classifications, the reader is referred to the original Dighem maps.

MAXMIN

Location of the preliminary Dighem anomalies was carried out using the Maxmin EM system. The planned traverses were surveyed with compass, tape and clinometer and flagged at horizontally corrected 25m intervals. The % inclination for each 25m interval was recorded and this data was then used to slope-correct the Maxmin readings.

The survey was carried out with the coils horizontal (ie, vertical axes) at a 100m spacing. Three frequencies, 3555; 888 & 222Hz, were read at 25m station spacings. The results have been presented as profiles at 1:5,000 in Jones (1986).

INDUCED POLARISATION

The survey was carried out by Geopeko during the 1982/83 field season. Two different IP receivers were used: an IPR-11 and an IPR-8. The latter instrument was used in the more inaccessible areas. For plotting, the decay between 510 and 1050msecs was used



for the IPR-11 results (channel 6+7) and for the IPR-8, the decay between 650 and 1170msecs (channel 232): both measuring a 2 second on, 2 second off square wave pulse. For both receivers a dipole-dipole array was used with a 50m dipole spacing, read to n=6 and a line separation of 200m (with some infill lines). Sumpton (in Herrmann, 1983) found that channel 232 on the IPR-8 gave a chargeability reading about 3 times the plotted IPR-11 value and the contours in Figure 3 tend to confirm this conversion factor. The resistivities (Figure 4) are instrument independant.

There are a number of areas where the IP data is of doubtful quality (eg. isolated 'diagonals' of high numbers; negative values) and Sumpton (in Herrmann, 1983) noted that the IPR-11 did "suffer moisture related problems". A repeat survey was carried out over one apparently interesting response (line 11400N; Herrmann and Sumpton, 1984) and different, non-anomalous, results were obtained.

The data have been presented by Geopeko as pseudosections in book form; one book of chargeabilities and a second one of resistivities, both at 1:5,000 scale. Those sections considered anomalous, are shown in Herrmann (1983). Geopeko also produced 1:10,000 scale plans with most of the pseudosections shown (data from the few 100m infill lines are missing).

UTEM

The survey was carried out by Lamontagne Geophysics in March, 1984 for Geopeko. A total of four loops, each 800m x 1600m were used for the survey. One loop covered V19; two loops covered the area immediately to the south (V29 & V29W) and the fourth loop covered V9, further to the south again (see Figure 5). A station spacing of 25m was used with line spacings of 100m or 200m. Only the vertical component was measured, using a frequency of 26Hz.

Data quality was reasonably good with some noise towards the ends of the 1000m+ lines. Some lines on loop 1 apparently suffered from a (?)'sync' problem with the early-time channels having large offsets. The data appears as 1:5,000 scale profiles in Herrmann and Sumpton (1984).

INTERPRETATION

DIGHEM

The Dighem survey was designed to cover the northern section of the licence which was largely unexplored. The survey was split into two halves, east and west of the Mt Osmund syncline.

A preliminary interpretation, from the analog records, was carried out at the completion of the survey. All possible anomalies were noted under three classifications. Those responses which

had in-phase excursions on the 900Hz channels were given the highest grade (#A); those with in-phase excursions on the 7200Hz were classed as intermediate (#B); while those with out-of-phase on 7200Hz only, were given the lowest grading (#C). These results are given in Jones (1986). Only two #A responses were located over the Lewis River Volcanics and these were in close proximity to the conductive Tertiary gravels in the north-east corner of the survey. A large number of #B and #C grade responses were picked over the Volcanics on the eastern side of the syncline with a considerably fewer number on the western side. This preliminary interpretation formed the basis of the first season's field work which located several weak conductors (see later, under Maxmin). The follow up of the 'preliminary anomalies' was not completed, but the areas have been superceded by the prospects recommended below.

The final Dighem results were delivered in July; difficulty in flight line location being blamed for the long delay. Some idea of the accuracy of the survey can be obtained by comparing the results with those from the adjacent Sorell survey. Figure 6 compares the EM responses in one area of overlap. Some of the differences in the results can perhaps be ascribed to improvements in instrumentation, but the poor correspondence between the two EM maps is certainly cause for concern. These differences were being discussed with Dighem Ltd at the time of writing this report.

The survey recorded a large number of weak, low amplitude responses which were mostly interpreted as being due to surficial sources (Kilty, 1986). Very few responses were interpreted as being due to bedrock conductors and those that were, are mostly of small amplitude thus making the interpretation less certain. (Thus it is also possible that some of the low amplitude responses interpreted as being due to surficial sources, may in fact be caused by bedrock conductors.) Several of the interpreted bedrock responses are outside of the E.L. boundary, but these lie either within E.L. 37/83 or in the narrow strip of vacant ground between the two licences, thus all anomalies are dealt with in this report.

A total of 17 anomalies or zones of anomalies have been picked for follow up. The strongest response lies on the 'Spero River' sheet. Although geophysically the best response and given priority '1', the northern section of the zone may coincide with the edge of the conductive Tertiary gravels and the whole zone may be within the Tyndall Group, which is usually regarded as a less prospective unit of the Mt Read Volcanics.

The remaining anomalies are geophysically much poorer, but most are in more favourable locations. Kilty (1986) suggests (weakly conducting and magnetic) sulphides as a cause for only one

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* Cyprus Minerals is a joint venture partner in E.L. 37/83 and manages the exploration program there.

response and this is a possible ('X') anomaly. For the other bedrock conductors, geologic contacts are mostly suggested. Nevertheless, some of these should be followed up. The anomalies to be further investigated are listed in Table 2 and shown in Figure 7 with numbering in order of priority.

The Dighem survey has also produced some detailed aeromagnetic maps with 5nt contouring. There is little response on the eastern side of the syncline, but on the western side, the relatively non-magnetic and little explored acid volcanics can be distinguished from the more basic rocks .

MAXMIN

Following the preliminary interpretation of the Dighem results, a number of zones were chosen for follow up. The Maxmin system was used to try and locate the Dighem responses on the ground and it was largely successful. Ten areas were picked and labelled in order of priority (see Figure 2), however a geographical approach was taken for the field program, starting from the northeast corner.

A total of 15 lines were surveyed with Maxmin, which covered prospects 1, 2 & 7. On most lines there was a good correspondence with the interpreted Dighem responses. However all of the Maxmin responses were small amplitude, out-of-phase, local anomalies indicating surficial zones of low resistivity. Most of these lines were also surveyed with a magnetometer and soil sampled. Some high base-metal values were obtained, but since no geophysical target has been defined, these will not be immediately followed up. Some further work; eg, a fixed loop EM survey, giving a deeper penetration, could be carried out if the geology was considered favourable.

INDUCED POLARISATION

Geopeko carried out this survey, which covered about 25 sq km of "favourable lithologies" to try and locate a VMS deposit buried to 100m or less from the surface. The results were rather disappointing; no good, well defined responses were obtained away from the graphitic shales. The data was integrated with geochem and geology and by 'over-interpreting', a total of 60 anomalies were defined by Geopeko. Three of these were recommended for drilling of which only one was largely based on the IP: this was at 9400E/11400N. Since this anomaly included some suspect data, the line was resurveyed and no results of interest were recorded by the repeat survey.

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* One of the reasons for the overlap between the Sorell and Elliott Bay Dighem surveys, was to allow merging of the magnetic data from these two surveys but so far, this has not been done.

To give an over-view of the results, Geopeko presented the results as 'stacked pseudosections' at 1:10,000 scale. Coloured in, this gives some appreciation of the response levels. However for this report, the data has been averaged as described by Fraser (1981), which makes the data readily amenable to contouring (assuming a factor of 3 for the difference between the two types of IP receivers).

Figure 3 shows a fairly uniform chargeability contour plan. The high values at the northwestern corner are due to black shales at both ends of the lines. The V19 massive sulphides occur in this region, but cause only a gentle widening of the lowest (5msec) contour. The anomalous zone in the centre of the survey (lines 10,000N to 11,000N) is also ascribed to black shales within the Tyndall Group at the southern end of the Mt Osmund syncline. The 5+msec values in the southwest quarter of the survey overlie a granitic intrusion and dacitic lavas and tuffs. This last unit is host to the V24 gold mineralisation, however the chargeabilities may be largely due to black shales in this area (Large, 1985). Certainly the results do not appear to correlate with the V24 mineralisation. However in the southeast quadrant, they do appear to define an interesting elongate feature partially enclosing the V9 prospect.

UTEM

No formal interpretation of the UTEM survey was produced by Geopeko. Herrmann and Sumpton (1984) stated that "the results of the survey were on the whole disappointing, with no conductors being detected which are likely to relate to massive sulphide mineralisation".

A detailed interpretation of the UTEM survey has been carried out here. This was deemed necessary since a buried, possibly poor conductor would give only a subtle response. The results are given in Figure 5. The responses were picked independant of the geology and location and apart from the black shales, the most pronounced anomalies do occur in the vicinity of the V19 sulphides. However, since only shallow depths are indicated (30-40m & ~50m, assuming line sources, for responses at 10025E/13200N and 10100E/13400N respectively) and since there were no corresponding anomalies from either of Geopeko's gravity or IP surveys, the sources are unlikely to be massive sulphides.

Pronounced anomalies were also interpreted on the two southernmost lines of the V9 grid, as was pointed out by Herrmann and Sumpton (1984). Again shallow causes were indicated (<30m) and since there were no corresponding IP anomalies, a VMS deposit is an unlikely source. However these two anomalies, at 10975E/7600N and 11600E/7800N, are within a zone of elevated chargeabilities and being coincident with a mapped fault, the area may have potential for a structurally controlled gold deposit. Being on the southernmost lines, the zone is open to the south.

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Pronounced anomalies are of course not necessarily those associated with ore deposits. A subtle response, preferably extending out to late times is a more likely target. No responses were picked extending out to late times, but given enough geological encouragement, some of the responses shown in Figure 5 could be recommended for drilling, on the assumption that the source had properties similar to those listed in Table 1.

CONCLUSIONS AND RECOMMENDATIONS

The Dighem survey has defined one good anomalous zone, located in an area of possible interest and a number of poor anomalies in areas of definite interest. A list of those anomalies chosen for ground follow up is given in Table 2 in order of priority.

Geopeko's semi-regional IP survey covered an area of alteration around known mineralisation. No VMS targets have been defined from this evaluation of the data, but a resistive zone may extend the V24 gold belt and the V9 chargeability zone may also be of interest for gold. Similarly, no drill targets have been recommended following the integration of the UTEM survey, but several responses lie within the V9 grid and may have structural relevance for gold.

A strong recommendation is made for a compilation of all of Geopeko's geophysical and geochemical data onto a series of 1:25,000 maps. This would permit a proper evaluation of the considerable amount of data gathered by the company and, most importantly, highlight those areas with prospective lithology which have received little attention or which showed early promise, but which were by-passed for apparently more promising areas.

Given the low percentage of outcrop within the licence, it is suggested that a gradient array IP survey may be the best way of rapidly evaluating the large areas of acid volcanics not examined by Geopeko. Whilst little depth penetration would be achieved, the survey should respond to pyritised 'host horizons' and thus considerably reduce the area of prospective ground to be explored. It is also possible that such a survey, in conjunction with a soil geochemistry program, would discover a relatively shallow deposit, such as occurs at V19.

The limited petrophysical measurements of the V19 samples have suggested that resistive bodies with low chargeability may constitute an economic target. Such bodies would be more difficult to find than the expected 'typical' west coast VMS deposit and a quite different exploration approach would be required. It is recommended that further measurements be made of the V19 mineralisation and if the results are confirmed and V19 type bodies are considered to be an attractive target, then some effort should be expended to determine why V19 is different and whether much larger bodies with similar properties are likely to occur.

Oct., 1986.

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Table 1

Petrophysical Measurements

The measurements were made on two hand-sized massive sulphide samples taken from a costean at Voyager 19.

SAMPLE No.	DENSITY t/m^3	MAGNETIC SUSCEPTIBILITY x 10^{-6} cgs units	CONDUCTIVITY @ 2.5MHz S/m	RESISTIVITY @ 0.1Hz ohm-m	IP EFFECT P.F.E. 0.1-1.0Hz	IP EFFECT Phase 0.1Hz
26/1a	4.39	20	negligible	1.9	0	0
26/1b	4.51	20	"	0.8	2	16
26/2a	3.74	20	"	(face 1) 632 (face 2) 805	16 14	104 71
26/2b	3.30	20	"	72	10	37

Measurements were made at the University of Sydney's petrophysical laboratory in July, 1986.

Electrical measurements were made using 4 electrodes on the sample surface.

Table 2

Summary of Recommendations

(A)

Follow up of Dighem anomalies.
(listed below in order of priority)

(1) 20031F-20040F-20050D-20060F-20070D-20080D-20090C.
20040H & 20050XB.

(2) 20120B-20130A-20140A-20150B-20160C-20170B-20180C-20192B-
20200A-20210B-20221C.

(3) 20140B-20150C-20160D.

(4) 20180D-20192C.

(5) 20210D-20221D.

(6) 20440B-20451XB.

(7) 20230XD-20240D-20251XD.

(8) 20390A-20400B-20410A-20421A.

(9a) 20700A-20710B-20720B-20731B-20740A-20750D.
(9b) 20800B-20810A-20820B-20830C-20840XD.

(10) 20810XA-20820XB.

(11) 20760A-20770B-20780C-20790C.

(12) 30740C-30750C-30760C-30770C-30770XA-30780E-30790B-30800A-
30810A-30820D-30830B.

(13) 30820E-30830C.

(14) 30900D-30910C-30920C.

(15) 30910A-30920B-30930A.

(16) 30540B-30550A-30560B-30570A.

(17) 30540A.

(B)

Down-hole EM surveys down any open holes at V19 and possibly at other prospects. The economics of reaming out blocked holes should also be examined.

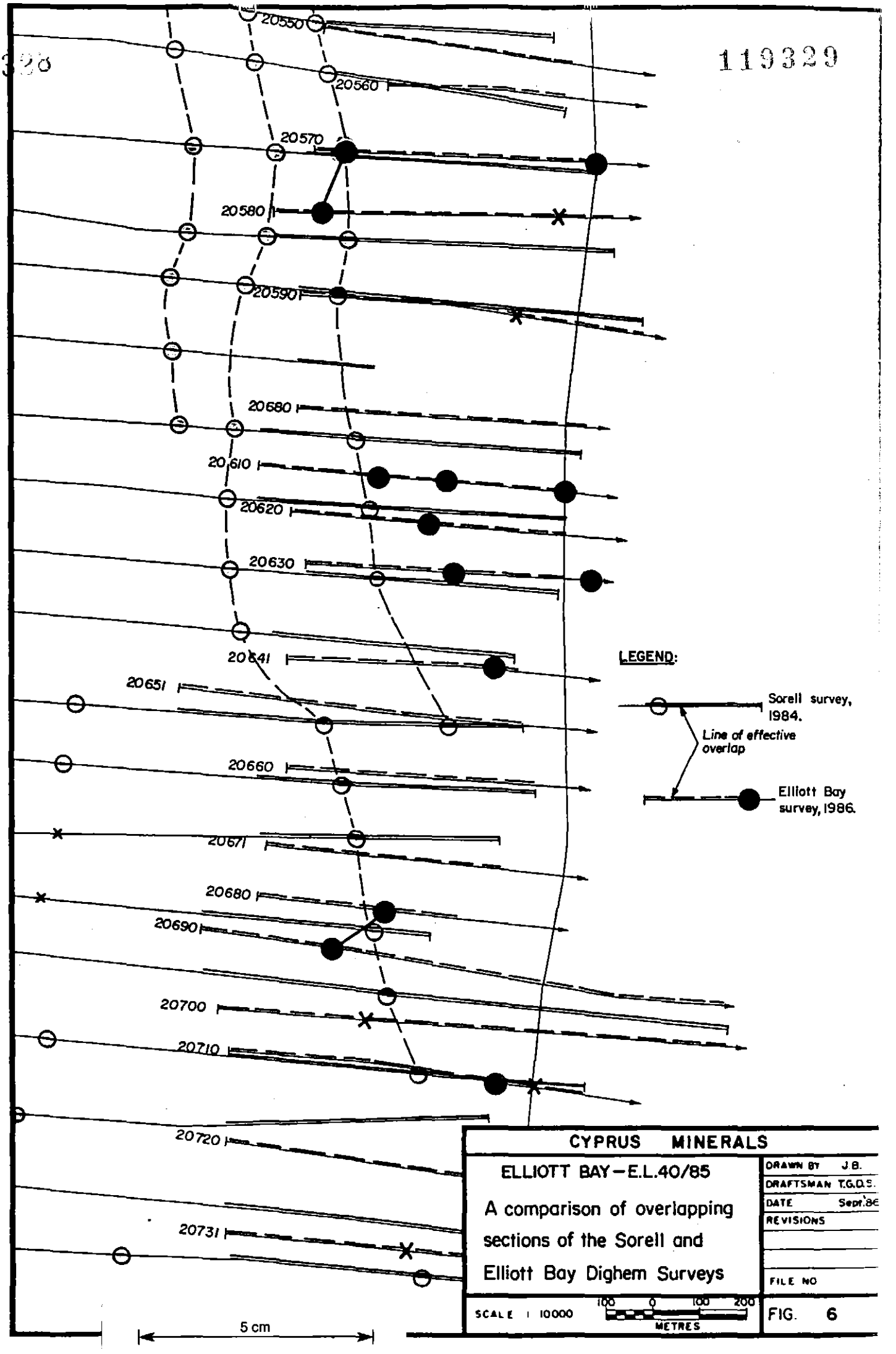
Summary of Recommendations (continued).

(C)

A compilation of all of Geopeko's geophysical and geochemical data onto 1:25,000 scale maps.

(D)

Regional gradient array IP surveys over prospective lithologies not gridded by Geopeko. The exact areas to be determined from (C) above.



CYPRUS MINERALS	
ELLIOTT BAY – E.L.40/85 A comparison of overlapping sections of the Sorell and Elliott Bay Dighem Surveys	DRAWN BY J.B. DRAFTSMAN T.G.D.S. DATE Sept.86 REVISIONS FILE NO
SCALE 1 10000 100 0 100 200 METRES	FIG. 6

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APPENDIX 6

PETROGRAPHIC DESCRIPTIONS. R N ENGLAND 1987

33 119331 1 Elliott Bay Project 1986-87 Season

ORDER No. E19330. PETROGRAPHIC NOTES ON 2 SAMPLES.

171974. Deformed, sericitised, Mn-mineralised rhyolitic(?) crystal-lithic tuff. VOYAGER 24 PROSPECT

0.1-2mm moderately strained roughly bipyramidal quartz phenocrysts form about 25% of the rock; most of the smaller quartz grains are fragmented. 0.1-(rarely)2mm blocky subhedra of orthoclase(10%) are in some cases weakly sericitised. The groundmass consists of 10-100 micron anhedra of orthoclase and quartz, with very common subparallel anastomosing trains of of 5-50 micron muscovite flakes whose preferred orientation defines a quite strong schistosity. Patchy variation in the abundance and texture of the groundmass, and in the relative proportions of orthoclase, quartz, and muscovite indicate that the rock consists partly of porphyritic rhyolite fragments up to several mm across, and partly of crystals derived from the same material. Clusters of 10-20 micron anatase replace 20-100 micron microphenocrysts of Fe-Ti oxide.

The black 1-10mm pockets and schlieren clearly visible in hand specimen are clusters and masses of 10-100 micron anhedra and rhombs of a MnIV hydroxide mineral which forms about 5% of the rock. This mineral and very minor 20-100 micron almost completely goethised pyrite cubes occur only in the groundmass.

The quite strong alteration has depleted Ca and Na and most Fe,Mg, and enriched K and Mn. One can never be sure with alteration like this, whether the original composition was rhyolite, rhyodacite, or even dacite in which all plagioclase has been made over to orthoclase by K enrichment.

180597. Metamorphosed fine-grained tonalite. LEWIS RIVER PROSPECT

Rare 1-2mm phenocrysts are tabular albitised plagioclase and fine prismatic pale olive green actinolitic hornblende. The rest of the rock consists mostly of abundant 0.2-0.4mm albitised plagioclase tablets, common interstitial micrographic intergrowths of orthoclase and quartz, and fairly minor interstitial 0.1-1mm clusters of 0.1-½mm pale olive green actinolitic hornblende. Feldspars are dusted with 10-20 micron prisms of the same hornblende. Very minor sphene forms 0.1mm anhedra, some enclosing small relics of ilmenite.

Minor but quite prominent ½-1mm myarolitic cavities contain euhedral quartz, plagioclase, and hornblende enclosed in coarse (½-1mm) anhedral dark red-brown strongly pleochroic allanite; the allanite is visible in hand specimen as very black equant grains. Lack of radiation damage indicates low U,Th, but there has clearly been hypothermal Ce-La-LREE-(probably Y) mineralisation accounting for perhaps 500ppm total REE.

The pale hornblende and albitisation of plagioclase are products of metamorphism at the threshhold of the amphibolite facies or perhaps its contact metamorphic equivalent.

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ORDER No. E19343. PETROGRAPHIC NOTES ON 2 SAMPLES FROM THE ALTERATION HALO OF A MASSIVE SULPHIDE POD

PENDERS PROSPECT

202924. Highly deformed altered felsic tuff.

Strained 0.1-2mm angular fragmented and rare bipyramidal quartz phenocrysts form about 10% of the rock; a few have been disrupted by the deformation. Angular 0.1-0.2mm albite fragments are much rarer. Rare 0.1mm Fe-Ti oxide microphenocrysts are altered to clusters of anatase.

The groundmass consists of 10-50 micron quartz anhedra, 0.02-(rarely)0.5mm flakes of whitemica(a term used here to include muscovite, paragonite, pyrophyllite, and even talc) and rare 10-50 micron chlorite flakes and 0.1-0.5mm anhedra and rhombs of dolomite(?magnesite). At least two episodes of deformation have produced 0.1-2mm streaky layers of granoblastic quartz with minor chlorite, and of whitemica flakes with a strong layer-parallel preferred orientation. This foliation forms the axial plane to kinks in an older whitemica foliation. Minor small rootless isoclinal folds, in the early foliation and an associated layering, are poorly preserved.

In minor 10mm-thick very quartz-fragment rich lenses(probably of sedimentary origin) quartz is highly deformed, with subgrain development and fine granoblastic recrystallisation. This material contains minor streaky layers of chlorite, clusters of 0.1-1mm dolomite(?magnesite) anhedra, and rare 0.2-0.4mm subhedral cubes of pyrite.

The whitemica is almost certainly not pyrophyllite(which is not compatible with albite). Muscovite(phengite), paragonite, and talc are not distinguishable optically, and all are possible in this kind of alteration. I have been tricked before into mistaking very friable muscovite(like this material) for talc. One needs XRD(in conjuction with petrography) to characterise this alteration properly. It would also solve the dolomite-magnesite dilemma. Analabs in Perth are fairly cheap.

Regional metamorphism appears to have been in the low greenschist facies.

202925. Highly deformed altered felsic tuff.

This rock is fairly similar to 202925, but quartz-rich lenses are absent and chlorite is much rarer. Streaky whitemica layers are rarer and not thicker than 0.2mm. Kinked relics of the older foliation are rare. The groundmass is dominated by 10-50 micron granoblastic quartz anhedra, minor whitemica flakes(parallel to the layering), minor anhedra and rhombs of dolomite(?magnesite), and extremely rare 10-20 micron octahedra of magnetite. The last two are partly limonitised.

This sample presents the same problems of identifying the whitemica-like phase and the carbonate as does 202924.

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ORDER No. E00265. PETROGRAPHIC NOTES ON 3 SAMPLES FROM THE ELLIOTT BAY AREA, TASMANIA

V12-5/106.2m. Metamorphosed altered rhyolitic tuff with pyrite-chalcopyrite-sphalerite schlieren. North Lewis Prospect

The host rock here is a lithic/crystal tuff. 0.5-5mm generally fragmented bipyramidal quartz phenocrysts form about 10% of it, and 1-3mm heavily sericitised K-feldspar about 2%. They lie in a goundmass of altered to 10-50 micron anhedra of quartz and very minor ?ankerite, with flakes of sericite and minor metamorphic biotite, and a tiny trace of 10-micron ilmenite. Muscovite and biotite tend to gather into schlieren parallel to a weak to moderate mica foliation, which wrap around quite common deformed relics of 10mm rhyolite lapilli. The texture is one of rhyolitic rock and crystal fragments in a moderately micaceous matrix. Rare slightly lenticular 1mm clots of randomly oriented 30-100 micron flakes and anhedra of biotite, and rare small grains of ilmenite may once have been ferromagnesian phenocrysts.

The mineral assemblage indicates biotite-grade regional metamorphism. Alteration which leached Na and possibly Ca was probably associated with the mineralisation.

Sulphides occur in 1 to 5mm-thick schlieren, with 10-300 micron anhedra of siderite(which also forms late cross-cutting veinlets), 30-100 micron flakes of muscovite and minor chlorite, and minor 0.1-0.2mm anhedral quartz; the preferred orientation of sheet silicates here is not nearly so evident as that of muscovite in the host rock. Pyrite, the commonest sulphide, forms irregular masses up to several mm across and minor 20-micron to 0.5mm veinlets, roughly parallel to the cleavage; much of it may be a retrograde alteration product of pyrrhotite. Slightly less common 10-micron to 1mm anhedra of red-brown sphalerite have minor 20-50 micron inclusions of pyrrhotite, much less common chalcopyrite, and rare bismuthinite(?). Chalcopyrite forms clusters of 10-200 micron anhedra. Bismuthinite(?), perhaps 0.02% of the schlieren, occurs separately as 2-250 micron anhedra and rare blades, almost invariably with 1-50 micron inclusions of bismuth.

Minor brecciation and microfaulting near sulphides and carbonate may have occurred during the deformation as a result of ductility contrast between these and the enclosing rock. In other words, the schlieren may be pre-metamorphic veins rotated into subparallelism with the foliation.

V24-3, 124.5m. Rhyolitic lithic tuff. Voyager 24 Prospect

Fragments of 1-10mm subangular altered rhyolite and subordinate fragmented and subhedral 0.1-2mm crystals of quartz and orthoclase are separated by moderately abundant matrix of altered fine ash, consisting of 10-50 micron anhedra of quartz and orthoclase, and 10-20 micron muscovite flakes; this material has a suggestion of relict eutaxitic texture. The rhyolite

fragments have groundmasses without relict eutaxitic textures, richer in K-feldspar and much poorer in muscovite than the matrix. Minor clusters of 10-400 micron anhedral siderite are disseminated through fragments and matrix. Muscovite has a quite strong preferred orientation, and is gathered in whisps parallel to it.

10-20 micron pyrite cubes and much rarer 2-20 micron chalcopyrite anhedra tend to concentrate in the muscovite whisps. Rare 2mm clusters of 10-100 micron yellow sphalerite and smaller less common galena and chalcopyrite occur in the ?matrix, apparently unconnected with any veins. Even this sample contains a few hundred ppm of Zn and Cu.

Moderately common 0.2 to 2mm-thick veinlets of 0.1-1mm quartz anhedra cut the foliation at large angles. High strain in relics of coxcomb textures in all the quartz grains suggest that they predate the foliation. Rare clusters in the veins of thin 0.3mm tablets of ilmenite(some altered to anatase) indicate hydrothermal mobility of Ti. The sulphides apparently predate these veins, and may have been introduced when fluids passed through poorly consolidated, very permeable and reactive sediment. Perhaps disseminated epithermal mineralisation in lapilli tuffs is most likely at this stage, e.g. at Drake, N.S.W., and Wau, PNG. In parts of the Drake deposit, what started out probably as a dacite is converted to rhyolite as hydrothermal fluids make over plagioclase to adularia! For this reason it is not wise to take the naming of altered acid volcanic rocks very seriously. Alteration here has apparently leached out Na and possibly Ca.

V24-3, 125.4m. Altered rhyolitic lithic tuff with sphalerite-galena-quartz-albite-orthoclase schlieren. VOYAGER 24 PROSPECT

Unfortunately I get my Econ. Geol. by sea mail, and haven't yet seen Ross Large's paper.

Only one large section was necessary.

The host rock is similar to the sample from 124.5m. Mineralisation occurs almost entirely in coarse-grained schlieren at least 20mm thick lying roughly parallel to the foliation. These consist mainly of 0.2-5mm quartz and honey-brown sphalerite anhedra. Quartz is highly strained with a tendency to form sutured boundaries and rare recrystallised granoblastic aggregates, but sphalerite is not strained enough to show anisotropy in transmitted or reflected light. Minor gangue minerals in the schlieren are 0.1-0.5mm albite, siderite, and K-feldspar; these are generally anhedral except for some albite in contact with sulphides, which forms euhedral tablets. Galena, about 5% of the schlieren, occurs as 1-micron to 4mm anhedra closely associated with sphalerite and albite. Spectacular curved patterns of the (111) polishing pits in the coarser galena crystals indicate high strain in their crystal lattices. 10-100 micron anhedral chalcopyrite is quite common as inclusions in the coarsest sphalerite(so is galena) but is very rare(though up to 0.5mm) elsewhere. Traces of pyrite form dissseminated 0.2mm cubes and anhedra, and tiny veinlets and anhedra included in

sphalerite.

A single 20-micron anhedral grain of gold occurs in contact with two small galena anhedra all included in a 0.2mm siderite grain near coarse sphalerite. The overall content of 17.5ppm suggests that gold may be more concentrated elsewhere(near the centre of the schlieren?) or generally form coarser grains than this.

High strain in quartz and galena is a pretty clear indication the the schlieren predate the deformation, and suggests that they may have been veins rotated into near-parallelism with the foliation.

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ORDER No. E00263. PETROGRAPHIC NOTES ON A SAMPLE OF METAMORPHOSED PORPHYRITIC ACID VOLCANIC ROCK.

Mt Osmund West

216118. Metamorphosed rhyodacite crystal-lithic tuff.

Moderately common 1-2mm blocky plagioclase phenocrysts and smaller angular fragments of them are altered to albite dusted with 10-micron sericite flakes and 10-30 micron clinozoisite anhedra. Minor 1-2mm blocky orthoclase phenocrysts are partly replaced by quartz and sericite. Moderately common 1-2mm bipyramidal quartz phenocrysts and angular fragments of them have been strained and in some places disrupted by deformation. Rare 0.2-1mm biotite phenocrysts have been heavily altered to quartz and vermiculite. Fairly prominent 0.1-0.4mm microphenocrysts of magnetite are altered completely to very fine sphene, or more rarely clusters of anatase. Much less common 0.1-0.4mm ilmenite tablets are altered to masses of anatase. The groundmass is altered mainly to 10-20 micron anhedra of quartz and flakes of sericite, with very minor clusters of fine clinozoisite. The sericite concentrates in subparallel whispy layers up to a mm thick and several mm long which envelop the phenocrysts and fairly common 1-5mm lenticular rhyodacite fragments. Minor similar anastomosing 0.1mm-thick layers of vermiculised, lightly limonitised biotite are resposible for the "dark partings" in the hand specimen. A layer-parallel mica preferred orientation defines a strong foliation. Rare 0.2mm roughly cube-shaped voids may once have contained disseminated pyrite.

The relics of igneous magnetite indicate an I-type composition. The alteration has produced a peraluminous composition, probably by leaching of alkalis and Ca. Perhaps this was accomplished by fairly acid fluids associated with sea-floor or epithermal sulphide mineralisation.

Biotite-grade metamorphism was accompanied by quite strong shearing, but not mylonitisation.

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119337

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See 88-2853A

APPENDIX 7

A COMPILATION OF GEOPHYSICAL SURVEYS CARRIED OUT AT ELLIOTT BAY. MITRE GEOPHYSICS 1988

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119338



MITRE GEOPHYSICS PTY LTD
MINERAL EXPLORATION AND ENGINEERING CONSULTANTS
BUGGS LANE ELLIOTT TASMANIA 7325 PHONE 004-363143

A COMPILATION OF GEOPHYSICAL SURVEYS CARRIED OUT AT ELLIOTT BAY (E.L. 27/76).

for

Cyprus Minerals Australia Company

by

Dr J.R. Bishop

CM/MG87/11
Jan., 1988

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Figure 13.	V9 residual gravity profile: line 11250N.	
Figure 14a & 14b.	V9 residual gravity profile: line 11350N.	

Note: Maps shown on this list at 1:25000 scale have been reproduced at 1:50000 scale for this Appendix 1 of Cyprus Report 595.

Figure 15. V19 Bouguer gravity.

Figure 16. V19 residual gravity.

Figure 17. V19 residual gravity profile: line 5,251,620N.

Figure 18. V19 residual gravity profile: line 5,251,320N.

Figure 19. V19 residual gravity profile: line 5,250,320N.

Figure 20. V29 residual gravity profile: line 5,248,620N.

Figures 21a & 21b. V29 residual gravity profile: line 5,248,820N.

Figure 22. V29 residual gravity profile: line 5,249,020N.

Figure 23. Geophysical anomaly compilation; Wart Hill area (1:10,000 scale).

Figure 24. Geophysical anomaly compilation; V3 to V12 (1:10,000 scale).

SUMMARY

The Elliott Bay area of south-west Tasmania is a remote, but highly prospective region for base and precious metals hosted by Cambrian volcanics. Prior to Cyprus' tenure, the area was held by Geopeko who defined thirty six prospects. These were mostly regarded as separate entities by Geopeko who produced no overall synthesis of their several years work in the area, a considerable portion of which involved geophysics. This was partly due to the discovery of some small, but high-grade massive sulphide pods in the Wart Hill area and some promising gold assays from stream sediments further to the south. The immediate areas around these two finds absorbed much of Geopeko's exploration effort with a concomitant reduction in work on the remaining prospects. One aim of this report has been to compile all of the geophysical data onto a digital data base which will enable the results to be presented at any desired scale. For this report, they have been plotted at 1:25,00 scale which shows the whole licence on one sheet. A second aim has been to evaluate the results. This has been done having regard to Cyprus' subsequent work which has emphasised gold rather than Geopeko's prime target of a massive sulphide deposit. Recommendations include the investigation of a number of aeromagnetic anomalies to determine their potential for gold and further evaluation of prospects V29 and V9 for base metal deposits in the light of some gravity modelling. Completion of the regional gravity coverage in the south of the E.L., plus some detailed profiles is recommended to confirm possible anomalies. A summary of all recommendations is given in Table 1.



INTRODUCTION

E.L. 40/85 (Elliott Bay), held under joint agreement by Cyprus Minerals and Poseidon Ltd, encompasses the ground explored by Geopeko Ltd under E.L. 27/76. Geopeko expended a considerable effort on this E.L. before their licence expired in 1985. They defined 36 separate prospects of varying interest: from very weak airborne EM anomalies over swamps, to pods of high-grade massive sulphide. Bishop (1986) commented that Geopeko had only looked at these prospects in isolation; ie, there were no maps showing a synthesis of their work. This report attempts to overcome that deficiency for the geophysical surveys and to identify areas deserving further investigation.

The data, presented in this report as a series of 1:25,000 scale maps, has been placed onto a digital data base. Thus results from any area within the E.L. can be extracted and plotted to a desired scale.

EXPLORATION TARGETS

E.L. 40/85 has been pegged over the southern end of the Cambrian Mt Read Volcanics. The initial target for Cyprus (who are managing the exploration program) was for a volcanogenic massive sulphide (VMS) deposit similar to those which occur within the same belt of rocks further to the north (eg, Rosebery or Hellyer). Following the 1986/87 field season, the exploration emphasis has swung to gold. Torrey et al (1987) have stated that gold at Elliott Bay may be expected to occur in the following styles:- (1) within structurally associated quartz-chlorite-pyrite-tourmaline zones near the margins of intrusions; (2) within quartz-gossan zones associated with magnetite-chlorite alteration at granite margins; (3) as stratabound replacement of coarse pyroclastic units; (4) in quartz veins; (5) as alluvial gold in the (thin) cover of Tertiary gravels; (6) in VMS deposits. Geophysics may be of assistance in locating the first type of deposit by helping to define the structure; eg, with magnetics &/or VLF. Magnetics would also be used to search for the second style. IP may be applicable for replacement deposits if the gold is associated with disseminated sulphides, but this may not occur. The piezoelectric exploration method is the only geophysical technique for finding quartz veins (type no. 4), but it is not yet developed for routine use. If alluvial deposits, (type no. 5) are an attractive target, geophysical methods such as gravity or seismic could help locate the areas of thickest cover. The expected geophysical responses to volcanogenic deposits (type no. 6) have been described in Bishop (1986). Description of the geology at Elliott Bay is given in Torrey et al (1987).

EXPLORATION HISTORY

The Elliott Bay area was first held by Mt Lyell and EZ (the LEE

syndicate) in the 1950's and early 1960's, as part of their large southwest exploration licence. But none of their work has been compiled for this report. The area was next held by BHP as part of E.L. 13/65. They relinquished the ground soon after flying an EM survey (using the HEM-400 system) over the region.

The area was then pegged (as E.L. 27/76) by Geopeko, who initially followed up the airborne EM and magnetic anomalies defined by the H-400 survey as well as investigating several old workings. During the 1981/82 field seasons, two small, high-grade Pb-Zn-Ag lenses were discovered during a soil geochemistry survey. A large area of anomalous gold in stream sediments was also defined. In 1982/83, a dipole-dipole IP survey and c-horizon soil geochemistry program covered the altered rocks around the VMS deposits. No good targets were defined by this survey and in the 1983/84 season, the exploration program concentrated on the potential of the gold zone, with disappointing results. Also during that season, a UTEM survey was carried out over several VMS prospects. Again, no drill targets were defined.

The evaluation of Geopeko's work in this report has been carried out in the light of the subsequent exploration. Cyprus have had two field seasons at Elliott Bay. In 1985/86, a Dighem survey was flown over the northern section of the licence and a number of anomalies were followed up with no targets defined (Jones, 1986). In 1986/87 more Dighem anomalies were unsuccessfully followed up, but interesting results were obtained from two zones carrying anomalous gold (Torrey et al, 1987).

The results from the aeromagnetic and regional gravity surveys carried out for the Tasmanian Mines Department's 'Mt Read Volcanics Project' in 1985/86 have also been included in this report.

SURVEY DETAILS

Geopeko named each of their prospects within E.L. 27/76 a 'Voyager' prospect and these were numbered chronologically. With no V13 and counting V29W as a separate entity, there are a total of 36 prospects. The positions of these are shown on a geological base on Figure 1 and the original reason for each prospect's existence is listed on the side of that figure. Copies of Geopeko's original prospect summaries are also appended to this report.

In the early years of exploration, Geopeko's geophysical surveys were mainly magnetics and VLF as first pass methods, with IP for more detailed work. SP and a modified Turam (EM) system were also used. Later exploration made more use of IP and gravity, with UTEM being used for deep exploration over the massive sulphide pods and adjacent areas. The results from these surveys have been compiled on to a series of 1:25,000 scale figures:-

(1) Prospect location and geology

(2) All grid lines and DDH locations

(3) Coverage of ground magnetics

(4) IP coverage and anomalies

(5) Resistivity coverage and anomalies

(6) EM and SP coverage and anomalies

All of these results have been combined onto one sheet and the Mines Dept's regional work has also been included:-

(7) Geophysical anomaly compilation

(8) Aeromagnetic contours

(9) Interpreted magnetic linears

(10) Regional gravity contours

(11) Residual gravity contours.

All of Geopeko's data has been re-examined for this report. In most cases an 'anomaly' has been defined rather generously; ie as a response above the background level. The main exception is the regional dipole-dipole IP survey where the results have been averaged, thus smoothing out isolated anomalies. In some instances anomalies originally defined by Geopeko have been down graded and ignored. The results of the ground magnetics could not be usefully presented at 1:25,000 scale, however the coverage is shown and the references for each of the prospects are listed. The IP coverage consists of a number of isolated dipole-dipole surveys; gradient array over individual prospects; and the regional 'Wart Hill' dipole-dipole survey. The anomalies for the first have been presented as bars; the results (ie not only the anomalies) for the second as contours; and for the third, the anomalous 'Fraser' contours (Fraser, 1981). A similar treatment has been given to the resistivity. The EM results consist of VLF and UTEM, there being no anomalies from the Turam. The VLF responses are shown as contours or as bars. The UTEM anomalies are shown as bars with zones shown as a continuous line. The very few SP anomalies are indicated on Figure 6 as dots. Geopeko carried out a considerable amount of gravity surveying at Elliott Bay. This data has been incorporated into the State Mines Dept's data base and the locations are shown on Figure 10.

GEOPHYSICAL EVALUATION

MAGNETICS

The magnetics shown in this report is the data from the 1985



Mines Dept survey (Figure 8). Also shown are 'linears' interpreted from processed images of that survey (Figure 9). (These images are in the form of slides, now held by the Mines Dept.) Geopeko investigated several of the anomalies defined by the 1975 airborne EM/magnetic survey flown for BHP. Targets included discrete anomalies within the volcanics as possible sites for VMS deposits and on the margins of the (Cambrian) granites for skarns. Geopeko down-graded these prospects with their follow up exploration, however Torrey et al (1987) have revived interest in one prospect, as well as investigating a number of other magnetic anomalies for their possible gold content. Specifically, six magnetic anomalies were looked at during the 1986/87 field season. These are labelled on Figure 8, with '#0' Torrey et al's 'Porphyry Dolerite Contact' and #1 to #5 as labelled in their report.

Torrey et al (1987) recommended that no further work be carried out on four of the anomalies, but suggested that further investigations be carried out on #1 and #3. (The latter was identified as V15 by Geopeko, however they apparently did no work over it.) Torrey et al (1987) note that anomaly #3 lies over Cambrian granite and suggest that the source "appears to be the contact between the granite and the rhyolite tuffs". Although the site of their surveys is at the junction of two linears (Figure 9), the bulk of the aeromagnetic anomaly is positioned some 500m to the north (Figure 8). I suggest that any further work include investigation of the main anomaly.

There are a number of other magnetic anomalies of potential interest: seven have been labelled on Figure 8 as @6 to @12 and these are listed below (not in order of priority).

@6 lies between 2 linears on the Lewis River and can perhaps be readily evaluated by looking at geochem values from any sampling already carried out there .

@7 lies within a 'cocked hat' of linears, over undifferentiated volcanics to the east of V22.

@8 is Geopeko's V17. The only work done on this prospect was magnetics and base metal assaying of soil samples. Its proximity to the 'gold prospects' V24 and V33 suggests that it also should be sampled for precious metals.

@9 is Geopeko's V16. This is a large area of alteration which has had little geophysics (regional magnetics and some VLF). Jones (1986) quotes anomalous gold in streams.

@10 is Geopeko's V14, which is a prominant anomaly on a well-defined linear within the Elliott Bay Porphyry. Geopeko

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* A compilation of Geopeko's geochemistry in a similar fashion to the geophysics would considerably enhance the usefulness of both sets of data.

located the anomaly with some ground follow up (Figure 3) and ascribed the anomaly to disseminated magnetite in chloritic quartz-feldspar porphyry (see Appendix 2). They apparently carried out no geochemical sampling.

@11 is Geopeko's V6, which was investigated for skarn related to the Rocky Point Granite. Although apparently unsuccessfully sampled for gold by Geopeko, it has the attributes of the second gold model described above and has been described by Torrey et al (1987) as having potential.

@12 is Geopeko's V5. This is similar to @11 and thus should also hold some interest for Cyprus as a potential gold deposit.

It is relevant to note here under the magnetics section, the structural interpretations carried out by Leaman (1986) on the aeromagnetic data. In particular, Leaman has suggested that the Precambrian rocks to the north-west of Elliott Bay on the Sorell Peninsula are shallow 'rafts' overlying Cambrian Volcanics. If correct, this hypothesis suggests much larger areas of interest on Tasmania's west coast, depending upon the thickness of overburden. A detailed structural interpretation of the magnetics and gravity is required in the Wart Hill region to help determine whether the sulphide pods in this area have been transported from a 'parent' deposit.

INDUCED POLARISATION

IP was regularly used by Geopeko on their prospects, employing both gradient and dipole-dipole arrays. These surveys culminated in a large and detailed exploration of the Wart Hill area using a 50m dipole-dipole array. The IP compilation sheet (Figure 4) shows the results from this survey as contours, with anomalies from all the other dipole-dipole array surveys as 'bars'. Gradient array results are also shown as contours. Most of the Wart Hill data was collected using an IPR11 and the values recorded (in msecs) were about one third that of an IPR8, which was the instrument used for most, if not all, of the other surveys. (Data collected with an IPR8 in the north-west corner of the Wart Hill survey has been divided by three to produce the contours shown in Figure 4.) All possible anomalies from the Wart Hill survey were integrated with geochemistry and any other results (Herrmann, 1983), however few targets were defined and none are considered to be drill targets without further upgrading.

Although there appear to be no out-standing IP anomalies to be tested, it was suggested by Bishop (1986) that regional gradient array IP surveys should be carried out over "prospective lithologies not gridded by Geopeko" and in particular, those areas covered with a veneer of Tertiary gravels. The compilation carried out for this report shows the gaps in Geopeko's coverage and

Torrey et al (1987) have identified three areas of interest from the 1986/87 field work (Zones 1 & 2, the latter consisting of two geologically similar, but geographically quite separate, areas). From Torrey et al's work and this compilation of Geopeko's data, the area south from the Lewis River Prospect through to the coast is one area which could usefully be surveyed with regional IP, with possibly others to the north of the Prospect within Torrey et al's Zone 1. In Appendix 1, it is noted that dipole-dipole IP might provide drill targets for gold mineralisation at V30. However for most other areas, such as to the east of V34, more information would be required before recommending such surveys.

The test IP surveys over the massive sulphide pods (Herrmann and Sumpton, 1984) together with the results of limited petrophysical testing (Bishop, 1986), indicate that the V19 mineralisation is much more resistive and has a lower chargeability than the similar grade, but much larger, deposits to the north. It is a moot point whether economic-sized deposits with these physical characteristics should be expected, or whether more 'normal' values would be recorded from such bodies. If the former, then some of the subtle anomalies recorded by Geopeko and at present rejected would assume more importance. Or, more pertinently, that the areas 'written off' due to the lack of an IP response, would still be regarded as prospective. However it seems reasonable to expect that an economic sized body would contain zones of conductive mineralisation (eg, a copper-rich zone) and would be associated with a significant volume of pyritic alteration such as occurs at all of the West Coast base-metal mines. Thus EM and IP should be appropriate techniques.

RESISTIVITY

The resistivity compilation (Figure 5) shows all of the Wart Hill results (as contours), but only the less resistive responses from the other dipole-dipole surveys (shown as bars). The one feature of potential interest seen in the resistivity results, is the resistive zone over the V24 gold prospect. The resistivity contours suggest that this zone of (?)silicified alteration extends some 900m to the north east beyond DDH V24/4. Similar observations could possibly be made over other gold prospects, given a similar coverage.

ELECTROMAGNMETICS

Several of the Voyager prospects were originally EM anomalies defined by the HEM-400 survey flown for BHP. Some of these have not been located (eg, V4), however none of the responses recorded by this survey were particularly promising and no follow up is recommended for any of the airborne EM anomalies in their own right. However, this assessment may change in some future evaluation and the (approximate) positions of all of the HEM-400 anomalies have been included on Figure 6. Much of the rest of the

'EM and SP' plan shows the results of VLF surveys. Where Geopeko have produced the Fraser filtered data (Fraser, 1969), this data has been shown. Elsewhere, responses have been shown as small 'blocks' (with both representations given for V3 and V12). The majority of the VLF responses are probably due to faults, geologic contacts or graphitic shales, with others possibly due to conductive overburden or topographic effects. However the massive sulphide pods at V19 do coincide with anomalous VLF zones.

Geopeko modified a Scintrex Turam system so that the ground was energised by a moving coil, rather than the usual large fixed loop. This instrument (referred to as Moving Source Turam or MST in Geopeko reports) does not appear to have been an unqualified success and I have not recognised any significant anomalies in the data and none have been marked on Figure 6. The figure does however show a number of anomalies from UTEM surveys carried out over parts of the Wart Hill area considered by Geopeko to be most prospective for a buried VMS deposit (the UTEM looking deeper, and with better resolution, than the IP survey). Although a number of moderate amplitude anomalies were defined, these were from shallow sources with short time constants: no drillable targets were defined. However some of the anomalous zones may be be useful for defining structure; particularly on the gold prospects. It is suggested that V9, which has a magnetic anomaly located on the margin of a (micro)granite intrusion and UTEM responses which overlap and parallel the Osmund Fault may be such a site. The strongest UTEM responses are on the southernmost lines, suggesting an extension to the south.

Geopeko have not carried out any down-hole EM (DHEM) surveys at Elliott Bay. Such surveys, which give an effective search radius of at least 100m for economic sized massive sulphide bodies, would have been particularly useful at V19. It is suggested that the cost-effectiveness of reaming out one or more of the V19 holes be examined. Certainly any further holes at V19 should be surveyed with this technique.

SELF POTENTIAL

The only significant SP results were obtained on V12 where a 170mv anomaly was recorded. Two drill holes (DDH's V12/3 & V12/5) sited to test this anomaly intersected only minor amounts of vein mineralisation, which failed to adequately explain the size of the anomaly. Although a large body of massive sulphide at shallow depth now appears unlikely to be the source (Large (1981) suggests a sudden change in the water table), this prospect still has potential for a buried VMS deposit. And although Cyprus are now concentrating on the area's gold potential, it is recommended that DHEM surveys be carried out down any drill-holes on V12.

GRAVITY

The Mines Dept's regional Bouguer gravity data for Elliott Bay,

is given in Figure 10. The detailed surveys over V9, V19 and V29 are from previous Geopeko work, the results of which have been reprocessed and added to the Mines Dept's data base. The contours show a strong gradient (increasing to the west) and a residual map (Figure 11) has been produced by subtracting a (hand drawn) regional. This plan shows several anomalies; some possibly artefacts of the contouring, others better (though poorly) defined by two or three points. The anomaly to the north of V19 is of particular interest: others, include one immediately to the south of the Waterloo Creek Prospect and one coincident with V9. The residual contours also suggest two highs at the southern limit of the coverage; one in Torrey et al's (1987) Zone 1, the other in Zone 2. The former is an area with VMS, as well as gold, potential and it is suggested that the regional gravity coverage be completed here. (The southern section of the lease was apparently not surveyed because of the difficulty in finding helicopter landing sites.)

Figure 12 shows that the residual anomaly to the north of V19 is very poorly defined. Detailed surveying is required here before any comment can be made about a possible source. The residual high over V9 was investigated by taking (straight line) regionals out of Geopeko's detailed profiles. This was done for lines 11250N and 11350N and some preliminary modelling was carried out to see whether a dense, buried body of significant size was a possible source. The profile for line 11250 shows noisy data with no definite anomaly (Figure 13) and low density contrasts (of 0.1 and 0.15t/c.m.) provide approximate fits to the observed profile. Line 11350 has a well defined anomaly; a shallow (27m), low contrast (0.15t/c.m.) body (more mafic volcanics(?)) is a likely source (Figure 14a), but a small buried body of high density contrast (0.8t/c.m.) also fits the observed data (Figure 14b).

V19 is, of course, a prospect of particular interest and Geopeko have carried out some very detailed gravity here. This data is shown in Figure 15 with the residual values on Figure 16. This latter figure also shows the approximate positions of the two main massive sulphide pods: neither coincides with a gravity anomaly. A residual profile across the more northerly pod shows very noisy data (Figure 17) with little potential for another, laterally displaced deposit. A profile across the southern pod (Figure 18) shows a high to the east, but this is readily explained by a subcropping slightly denser rock type. A profile across the (relatively) broad high in the south-east corner (Figure 19) shows a ~0.25mgal anomaly which again, can be explained by a moderately shallow (31m), low contrast (0.1t/c.m.) body (with a negative contrast body beyond the eastern end of the line; not modelled). Figure 19 also shows the section of DDH V19/5 which was drilled to test a "broadly coincident chargeability-geochemical zone (Wilson et al, 1982). Between these last two profiles, on line 5,250,920N, Geopeko drilled V19/3 to test a gravity high coinciding "with the main zone of hydrothermal alteration" (Wilson et al, 1982) with disappointing results. Thus there do not appear to be any V19 gravity anomalies which can be recommended as drill targets.

V29 has been suggested as a possible site for massive sulphides, based on lead isotope data (Gulson et al, 1987). Three profiles of residual gravity indicate that high contrast bodies (of 0.8t/c.m.) at depths of 50m to 70m, could account for the reasonably smooth anomalies. These sources (Figures 20, 21 & 22) can be correlated with UTEM anomalies (Figure 6), however the presence of dense, (poorly) conductive sulphides within 50m of the surface would appear to be negated by the lack of any IP responses from the Wart Hill IP survey. Nevertheless a more detailed evaluation of this prospect is recommended.

CONCLUSIONS AND RECOMMENDATIONS

The considerable amount of geophysical data collected by Geopeko at Elliott Bay has been compiled here to show what methods have been applied over which prospects and to better illustrate the areas of favourable lithologies left unexplored. Since the data has been digitally processed and stored, results from any area may now be presented at any desired scale. The anomaly plots define structural trends and in some cases, zones of possible ore host horizons. The coloured compilation (Figure 7) clearly shows those areas which have received the greatest attention and, the least. Much of Geopeko's work has been concentrated around Wart Hill and a 1:10,000 scale coloured compilation of this area is given in Figure 23. Similar treatment has been given to the region between V3 and V12 which is considered to be prospective for massive sulphides, as well as containing possible gold deposits (Figure 24). The work is somewhat limited in that similar treatment was not given to Geopeko's geochemical data. It was not expected that an evaluation of the data would reveal any untested drill targets, however further work has been recommended on a number of prospects. General recommendations are given in Appendix 1 and specific details are listed in Table 1.

The emphasis on gold exploration has renewed interest in the magnetic anomalies at Elliott Bay; some of these were originally designated 'gold' prospects by Geopeko, but further investigation is recommended for V5, V6, V9, V14, V15, V16 & V17. Where VLF or UTEM data exists for these prospects, this may be used to define faults and determine structural trends (eg, V9). Two aeromagnetic anomalies not considered by Geopeko but recommended here for follow up, have been labelled @6 and @7 on Figure 8. Gold has already been located at several non-magnetic prospects (eg, V12, V24) and other geophysical methods may assist their definition. A resistive zone would appear to extend V24 to the north-east beyond DDH 24/4 and a dipole-dipole IP survey is suggested for target delineation at V30.

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* The two alternatives given in Figures 21a & b illustrate the non-uniqueness of the modelling. However reasonable drill targets can be produced with further input from geology, geochemistry and other geophysical results.

Poor outcrop and the presence of Tertiary gravels over parts of the lease have considerably hindered the search for alteration and favourable lithologies. It is therefore recommended that semi-regional gradient array IP surveys be carried out over areas ungridded by Geopeko, but thought by Cyprus to have potential. Such surveys should serve to locate any pyritised zones which may be host horizons for gold or base-metals. Areas to the north and south of the Lewis River Prospect; ie, V12 to V3 probably have the highest priority.

There is still considerable potential for a base-metal deposit at Elliott Bay. The V2-V12 area has not been adequately tested for a buried VMS deposit and a fixed loop TEM survey (eg, UTEM) is recommended over this area. DHEM surveys should be carried out down any holes drilled for massive sulphides and in gold prospects such as V12, where there is also considered to be a possibility of massive sulphides. If cost-effective, consideration should also be given to surveying down reamed out holes at V19 where the surface geophysics suggests that there is no sulphide deposit of significant size in the top 100-150m. An alternative hypothesis for the V19 massive sulphide pods is that they may have been transported some distance from their source (Wilson et al, 1982). Detailed structure at V19 (and elsewhere on the lease) appears to be poorly understood. It is suggested that further study of the gravity and magnetic data could assist a structural interpretation which might point towards a location for a parent body of sulphide for the V19 mineralisation.

Gravity modelling of data from V29 and V9 has indicated that massive sulphides are a possible source of residual anomalies, although this conclusion is not supported by the results of electrical surveys. (More detailed modelling, integrated with the geology, is needed if a drill target is required here.) Completion of the regional gravity coverage in the southern part of the lease is recommended to confirm possible anomalies in prospective areas between V2 & V3 and between V5 & V6. Gravity anomalies on the residual contour map should be surveyed in detail if considered prospective from other criteria; for example, the high to the north of V19.

It would require little effort to add the results of Cyprus' surveys to these compilation sheets. If the same treatment were given to the considerable volume of geochemical data, the combined plans would provide a ready reference of work completed at Elliott Bay.

J.R. Bishop
Jan., 1988.



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Table 1

SUMMARY OF RECOMMENDATIONS

MAGNETICS

Further investigation of the following Voyager aeromagnetic anomalies: V5, V6, V9, V14, V15, V16 & V17, is recommended since these have not been thoroughly explored for gold by Geopeko. Only V9 has been covered by detailed ground magnetic surveys. V14 has minimal coverage, as has V15 (#3 of Torrey et al, 1987). Other prospects may have sufficient coverage, depending upon encouragement from the geochemistry. Further work should include: determining whether the anomaly has been adequately defined by the ground magnetics and evaluating the location and quality of any gold assaying carried out by Geopeko. VLF (carried out on most Geopeko prospects) will usually help determine structure. Also recommended for investigation for gold, are two aeromagnetic anomalies not recognised by Geopeko but associated with intersecting magnetic linears. These are labelled as @6 and @7 on Figure 8. Ground magnetics and soil sampling will be required for these prospects.

INDUCED POLARISATION

Gradient array IP surveys are recommended over ungridded and poorly mapped areas of (presumed) favourable lithologies to locate potential host horizons for both gold and base-metal mineralisation. Specifically, the area between V3 in the south to V12 in the north is recommended.

Dipole-dipole IP surveys may provide drill targets for gold prospects with associated disseminated sulphide. V30 may be one such prospect (?).

Investigation of the apparent north-east extension to the V24 gold prospect, as defined by the resistivity high is recommended.

ELECTROMAGNETICS

UTEM survey (or similar) of the V2 - V12 area to explore for a buried VMS deposit.

DHEM surveys to be carried out down any hole where massive sulphides may occur; eg, at V12 which is primarily a gold prospect, but which has VMS potential.

Investigate the feasibility of reaming out holes at V19 for DHEM surveys.

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Table 1 (cont.)

GRAVITY

Completion of the regional coverage in the south of the E.L., to confirm two possible anomalies within prospective zones and detailed surveying of selected residual highs; eg, to the north of V19.

Further evaluation of the geology and geochemistry of V29 and V9 in the light of the gravity modelling. (Note that drill targets should not be determined from the preliminary, illustrative modelling given in this report.)

An integrated interpretation of the aeromagnetic and gravity data to help define structure and possible displacement in the region around V19.

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APPENDIX 1

PROSPECT DESCRIPTIONS

A brief summary of each prospect is given here. Those of possible further interest have been marked with an asterisk (*).

*V1: Old workings (Penders).

Originally worked to locate economic concentrations of copper mineralisation, it has been identified by Torrey et al (1987) as being in a favourable environment next to a granite margin and containing anomalous gold. The "significant Turam" anomalies defined on this grid are not of interest.

*V2: Old workings (Lewis River).

This area has also been identified by Torrey et al (1987) as part of an anomalous gold zone. Drilling by Geopeko (6 holes) defined an area of anomalous base metals. The recommended extension of the grid to the north (Strickland and Herrmann, 1980) was never made, nor were the attempted extensions to the IP completed. This area appears to still hold potential for a (buried) VMS deposit.

*V3: Old workings (Drake Creek).

This is a southern continuation of the V2 geology and it has a similar (base metal) potential.

V4: AEM anomaly no. 18.

The AEM anomaly was not located, but no further work is warranted*.

*V5: Aeromagnetic anomaly.

The source of the anomaly has been ascribed to disseminated magnetite in the volcanics at a granite margin and of no further interest to Geopeko. However it has the attributes of Torrey et al's (1987) second gold model and thus it retains some potential for Cyprus.

---

* Follow up of any HEM-400 anomalies, even those outside the area covered by the Dighem survey, is probably not now warranted.

* V6: Aeromagnetic anomaly.

This is similar to V5 and has been recognised by Torrey et al (1987) to have potential for a gold deposit.

V7: Aeromagnetic anomaly.

Investigation by Geopeko defined a broad anomaly with no anomalous geochemistry. Large (1981) suggested disseminated magnetite within the volcanics as the probable source and no further work has been carried out.

V8: Anomalous tin in stream sediments.

Tin is not one of Cyprus' present targets at Elliott Bay, nor is there a model for an economic deposit which readily fits the known geology.

*V9: Aeromagnetic anomaly plus alteration.

This area has been thoroughly tested with IP, UTEM and gravity and appears to have little potential for VMS. The magnetic anomaly is located on the margin of a (micro)granite intrusion and together with strong UTEM anomalies at the south of the grid which overlap and parallel the Osmund Fault, the area fits the first of Torrey et al's (1987) gold models.

*V10: Anomalous base metals in stream sediments.

IP surveys over anomalous soil geochemistry failed to define targets. However the prospect lies within the area of favourable geology between V3 and V12.

V11: AEM anomaly no. 7.

The AEM anomalies have been approximately positioned from old plans and AEM no. 7 should be encompassed by the VLF traverses (Figure 6). No significant results were obtained.

*V12: Anomalous base metals in stream sediments.

This area also produced very high gold values in follow up rock chips (to 265g/t) and is one of the prime areas recommended for follow up by Torrey et al (1987). Drilling by Geopeko for a VMS deposit has revealed narrow veins of disseminated mineralisation. However the good structure defined by the VLF has not been tested by any of the five holes. It is recommended that the VLF (Figure 9) be integ-

rated with the soil geochemistry when planning drill targets. (The magnetics is generally flat and trends are not discernible.) This area still has untested potential for a buried VMS deposit and DHEM surveys are recommended down any holes drilled for gold.

*V14: Aeromagnetic anomaly.

This discrete anomaly, within the porphyry on the eastern edge of the E.L., lies on a magnetic linear. It is suggested that the anomaly be located on the ground and soil sampled.

*V15: Aeromagnetic anomaly.

This prospect was identified, but not followed up by Geopeko. It is discussed in Torrey et al (1987) as Magnetic Anomaly #3 (although their figure 33 suggests that only the south east corner of the anomaly has been defined) and recommended for further work. V15 is located at the junction of two cross cutting magnetic linears and is a potential gold target. (Torrey et al (1987) quote values to .03g/t.)

*V16: Aeromagnetic anomaly plus anomalous base metals.

This is a large area of alteration which has had little geophysics (regional magnetics and partial VLF coverage). Jones (1986) quotes anomalous gold in streams.

*V17: Aeromagnetic anomaly.

The only work done on this prospect has been magnetics and base metal assaying of soil samples. The proximity of the area to V24 and V33 suggests that it should also be sampled for gold.

*V18: Out cropping sulphides.

This prospect, which returned values to 1% Cu (as bornite) has not been gridded and has only been tested by three rock chips.

*V19: Alteration plus high-grade pods of massive sulphide.

IP, UTEM and gravity surveys have failed to define targets on this prospect and a significant sized massive sulphide body within 150m of the surface is considered to be unlikely. For deeper exploration, consideration should be given to reaming out Geopeko's deeper DDH's for DHEM surveys.

V20: Anomalous base metals in stream sediments.

This area was resurveyed by Cyprus in the 1985/86 season with no encouragement.

V21: Extension of V1.

No significant results were obtained from the VLF & SP or geochemistry. (The description of V21 in Jones '86 (Table 1) is apparently in error. AEM anomalies, given as the reason for the prospect, are in the area but are not mentioned in the prospect description (Large, '81). Nor have I found any reference to Turam surveys.)

V22: Area of alteration.

Covered by the regional IP survey (with no significant results for a VMS deposit) but not by the detailed Wart Hill gravity or UTEM.

V23: Out cropping mineralisation.

Minor copper mineralisation in dolomitic shales, which was not followed up.

*V24: Anomalous gold.

A resistive area coincides with the area of anomalous gold and extends it further to the north. The four lines of magnetics are mostly flat and show no trends. (Trends may become apparent from a detailed and accurate survey.) VLF is recommended to help delineate any structural control. Wilson et al (1981) refer to gold within the black shales: this does not appear to be mentioned in later reports.

V25: Anomalous tungsten in streams.

Not gridded and not followed up.

V26: AEM & aeromagnetic anomalies.

Follow up with geochemistry produced no significant results.

V27: Weakly anomalous base metals in stream sediments.

This area lies at the northern end of a zone of sericite-

quartz alteration defined by Torrey et al (1987), but no follow up work was done by Geopeko.

V28: Anomalous gold.

The gold was attributed to flooding of the Mainwaring River and was not followed up.

*V29: Anomalous base metals to the south of V19.

Defined as a potential site for VMS by lead isotope work (Gulson et al, 1987). Residual gravity highs associated with poor UTEM responses, but no coincident IP anomalies. This prospect has not been drilled.

*V29W: Anomalous gold.

Strong VLF responses define a complex structure. Integration of these results with geochem (plus IP) may produce drill targets.

*V30: Anomalous gold and base metals.

Integrate VLF and magnetics (clear responses) with (?)gold geochemistry. Dipole-dipole IP may provide drill targets.

*V31: Outcropping base metal mineralisation.

This prospect has been covered by magnetics and very regional VLF. It is located on the prominant Copper Creek Fault and may be prospective for gold.

*V32: Favourable stratigraphy.

Apart from some rock chip sampling providing anomalous base metal values, this area has had little attention. A regional gradient array IP survey is recommended over this area to map out areas of alteration.

*V33: Anomalous base metals to the north of V19.

Drilling of eastern IP anomalies revealed zone of weak mineralisation. This is a favourable area not covered by UTEM or detailed gravity. (The prospect sheet in the appendix states that VLF has been done here, however the data has not been sighted and it is not mentioned in Jones, 1986.)

V34: Favourable stratigraphy.

There are no worthwhile responses from the regional dipole-dipole IP, nor is there any gravity anomaly in the Mines Dept's regional survey.

*V35: Anomalous gold in stream sediments.

Geopeko did not follow up these results.

V36: Anomalous copper in stream sediments.

Geopeko did not follow up these results.

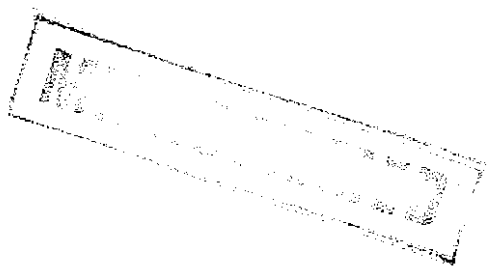
3b2

119363



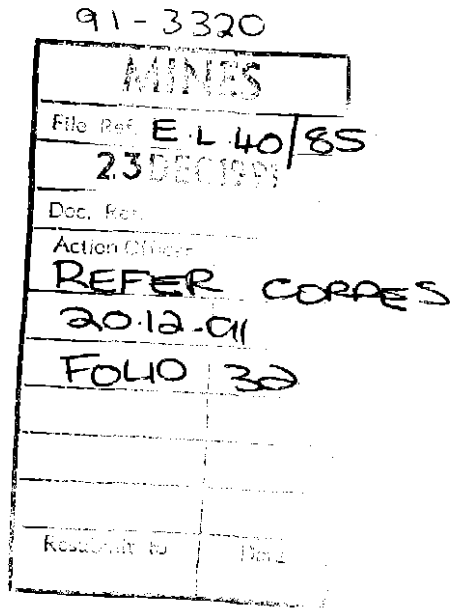
Aberfoyle Resources Limited

EXPLORATION DIVISION



VOLUME 3

ENCLOSURES 1 - 14



91-3320.
VOL 3/4

10400

EL 40/85

JORES VALLEY AIRSTRIP

WANDERER RIVER

RIVER

WANDERER

WANDERER CREEK

Sericite Qtz

Chlorite Pyrite

MAINWARING

COPPER CREEK FAULT

Wart Hill

WART HILL

Sericite Alt.

MT. OSMUND ▲ 388m

Wart Hill Pyroclastics / Hudson River Pyroclastics

(From Large et. al; 1982)

Sericite Quartz

RIVER

LEWIS

East Camp

Sassy Creek

Waterloo Creek

Chlorite Magnetite

HUDSON

North Lewis

Qtz–chl–py–tourmaline

LEWIS RIVER FAULT

Lewis River

DIORITE POINT

VERIDIAN POINT

OSMUND FAULT

Chlorite Pyrite

Penders

Qtz sericite talc ± chl.

BLACK ISLAND

Drake Creek

Low Rocky Point

LOW ROCKY POINT

ELLIOTT BAY

SOUTHERN OCEAN

LITTLE ROCKY RIVER

GRID CONVERGENCE 1.2°

GRID/MAGNETIC ANGLE 12.5°

E.L. 40 / 85

119364

5 cm

91-3320.

LEGEND

TERTIARY
- 1 — Quartzose Gravel

JURASSIC
- 2 — Dolerite (49)

LATE CAMBRIAN – EARLY ORDOVICIAN
- 3 — Owen Conglomerate – undifferentiated
- 3a — – coarse quartzose sandstone
- 3b — – siltstone (all 33)
- 4 — Waterloo Creek Group – undifferentiated (70)
- 4a — – hematitic volcaniclastic conglomerate (71)
- 4b — – tuffaceous coarse sandstone and grit (36)
- 4c — – black shale ± pyrite (68)
- 4d — – fine–med. grained rhyolitic volcaniclastic (67)

CAMBRIAN – MT. READ VOLCANICS
- 5 — Wart Hill and Hudson River Volcanics – undifferentiated (2)
- 5a — – fine to med. grained rhyolitic volcaniclastic (6)
- 5b — – rhyolitic quartz–feldspar porphyry (lavas and intrusives) (8)
- 5c — – dacitic porphyry (9)
- 5d — – coarse rhyolitic volcaniclastic (11)
- 5e — – siltstone (63)
- 5f — – siliceous conglomerate (55)
- 5g — – greywacke and siltstone (61)

CAMBRIAN INTRUSIVES
- 6 — Elliott Point Porphyry (17)
- 7 — Granite (21)
- 8 — Microgranite (14)
- 9 — Porphyritic Microgranite (14)

CAMBRIAN – WESTERN EPICLASTICS
- 10 — Western Epiclastics – undifferentiated (48)
- 10a — – andesitic – basaltic volcanics (47)
- 10b — – brown–grey tuffaceous siltstone and quartzoze conglomerate (56)
- 10c — – black shale ± pyrite (53)
- 10d — – fine to medium grained rhyolitic volcanics (68)
- 10e — – gabbro (49)
- 10f — – coarse rhyolitic volcaniclastic sandstone (10)

CAMBRIAN – MAINWARING GROUP
- 11 — Mainwaring Group – undifferentiated
- 11a — – gabbro
- 11b — – andesite–basaltic volcanics
- 11c — – dolomite (all 42)
- 11d — – black shale ± pyrite
- 11e — – siltstone and sandstone

PRECAMBRIAN
- 12 — Metamorphics – quartzite, schist and phyllite (25)

Alteration boundary

Geological contact

Unconformity

Fault

Plunging syncline

Old workings

Boundary between Wart Hill and Hudson River Pyroclastics. (Large et. al; 1982)

CYPRUS — ENCLOSURE 1

CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

ELLIOTT BAY – E.L. 40/85

GEOLOGICAL COMPILATION

DRAWN BY : CT/RP/RH

DRAFTSMAN : T.G.D.S.

DATE : June '87

REVISIONS :

FILE No.

SCALE 1 : 25000 (500 0 500 1000)

FIG.

I0409

See North Lewis for details

See Lewis River for details

OLD LEWIS RIVER PROSPECT

	Cu	Pb	Zn	Ag	As	Au
180568	5	–	30	–	7	–
180569	1650	70	145	–	800	0.05
180570	2.04%	200	475	24	250	0.33
180571	2150	235	170	7	410	0.22
180572	3100	1750	325	20	2400	0.45
180573	1000	285	405	1.5	600	0.03
180574	1300	360	300	0.5	190	0.03
180576	2250	805	525	9.5	1300	0.07
180577	6900	955	650	180	1300	0.05
180578	6750	850	510	6.5	1500	0.05
180580	175	355	130	27.5	2800	–
180582	40	15	135	–	51	–
171281	1100	45	95	4	150	0.02

ELLIOTT BAY

LEWIS RIVER

BARREL

LITTLE ROCKY RIVER

Hematitic siltstone

E.L. 40 / 85

46000mN. 45000mN. 44000mN. 43000mN. 42000mN. 41000mN. 40000mN. 52 39000mN.

83000mE. 84000mE. 85000mE. 86000mE. 87000mE. 88000mE. 89000mE. 90000mE. 390500mE.

119365

5 cm

91-3320.

SHEET LOCATION

SHEET 1	SHEET 2
SHEET 3	SHEET 4
SHEET 5	SHEET 6

GRID CONVERGENCE 1.2°

GRID/MAGNETIC ANGLE 12.5°

CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

ELLIOTT BAY – E.L. 40/85

INTERPRETIVE GEOLOGY AND ROCK CHIP SAMPLE RESULTS

SCALE 1 : 10000 200 0 200 400 METRES

DRAWN BY : R.J.H.
DRAFTSMAN : T.G.D.S.
DATE : June '87
REVISIONS :
FILE No.
FIG.

REPORT 525 ENCLOSURE 2

EL 40/85

MOORES VALLEY AIRSTRIP

WANDERER RIVER

MANNAPPEL FAULT

COPPER CREEK

MT. OSMUND

WARY HILL

WATERLOO CREEK PROSPECT

OSMUND FAULT

LEWIS RIVER FAULT

LEWIS RIVER PROSPECT

DIORITE POINT

VERIDIAN POINT

PENDERS PROSPECT

BLACK ISLAND

DRAKE CREEK PROSPECT

LOW ROCKY POINT

SOUTHERN OCEAN

ELLIOTT BAY

E.L. 40 / 85

119366

5 cm

91-3320

LEGEND

- MAJOR LINEAMENT – Predominantly faults
- SIGNIFICANT LINEAMENT – Faults, bedding, schistosity and joints
- FORM LINEAMENT – Predominantly bedding and schistosity

GRID CONVERGENCE 1.2°

GRID/MAGNETIC ANGLE 12.5°

CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

ELLIOTT BAY – E.L. 40/85

PHOTO INTERPRETED LINEAMENT MAP

DRAWN BY : G.T.

DRAFTSMAN : T.G.D.S.

DATE : June '87

REVISIONS :

FILE No.

SCALE 1 : 25000 METRES

FIG.

REPORT 525

ENCLOSURE 3

10402

EL 40/85

MOORES VALLEY AIRSTRIP

WANDERER RIVER

WANDERER RIVER

RIVER

RIVER

MAINWARING

WOOLOMOOLOO CREEK

M.T. OSMUND ▲368m

WART HILL ▲

COPPER CREEK

CAMP

WATERLOO CREEK PROSPECT

HUDSON RIVER

RIVER

LEMS

DIORITE POINT

BASIN CREEK

VERIDIAN POINT

LEWIS RIVER PROSPECT

LEWIS RIVER

LEWIS

XEBRO

BARREL

LITTLE ROCKY RIVER

PENDERS PROSPECT

BLACK ISLAND

DRAKE CREEK PROSPECT

E.L. 40 / 85

OCEAN

SOUTHERN

ELLIOTT BAY

LOW ROCKY POINT

75000mE. 80000mE. 85000mE. 90000mE.

260000mN. 255000mN. 250000mN. 245000mN. 240000mN. 239000mN.

119367

5 cm

L E G E N D

- MAJOR LINEAMENT – Predominantly faults
- SIGNIFICANT LINEAMENT – Faults, bedding, schistosity and joints
- FORM LINEAMENT – Predominantly bedding and schistosity
- AEROMAGNETIC LINEAMENT

GRID CONVERGENCE 1.2°

GRID/MAGNETIC ANGLE 12.5°

CYPRUS ENCLOSURE 3A

CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

ELLIOTT BAY – E.L. 40/85

PHOTO AND AEROMAGNETIC LINEAMENT MAP

DRAWN BY : C.T.
DRAFTSMAN : T.G.D.S.
DATE : Dec. '87
REVISIONS :
FILE No.

SCALE 1 : 25000 500 0 500 1000 METRES

FIG.

75000mE. 76000mE. 77000mE. 78000mE. 79000mE. 80000mE. 81000mE. 82000mE. 82500mE.

62000mN. 61000mN. 60000mN. 59000mN. 58000mN. 57000mN. 56000mN. 52 55000mN.

MOORES VALLEY AIRSTRIP

E.L. 40 / 85

WANDERER RIVER

RIVER

MAINWARING

171452 | Cu 5 | Ag 0.5 | Pb 15 | As 1 | Zn — | Au — | Au —

171455 | Cu 5 | Ag — | Pb — | As 2 | Zn 10 | Au — | Au —

171456 | Cu 10 | Ag — | Pb — | As 4 | Zn 25 | Au — | Au —

171457 | Cu 5 | Ag — | Pb — | As 2 | Zn 25 | Au — | Au —

171458 | Cu 5 | Ag 1 | Pb 10 | As 1 | Zn 10 | Au — | Au —

171459 | Cu 15 | Ag — | Pb 5 | As 2 | Zn 10 | Au 0.13 | Au —

171460 | Cu 10 | Ag — | Pb — | As 1 | Zn 15 | Au — | Au —

171466 | Cu 25 | Ag 0.5 | Pb — | As 1 | Zn 20 | Au — | Au —

171467 | Cu 15 | Ag 0.5 | Pb 5 | As 4 | Zn 45 | Au — | Au —

171468 | Cu — | Ag 1 | Pb 10 | As 5 | Zn 40 | Au — | Au —

171469 | Cu — | Ag — | Pb — | As 0.5 | Zn 20 | Au — | Au —

171472 | Cu 35 | Ag 1 | Pb 20 | As 4 | Zn 65 | Au — | Au —

171473 | Cu 10 | Ag 1 | Pb 5 | As 9 | Zn 45 | Au — | Au —

171474 | Cu — | Ag 1 | Pb 10 | As 5 | Zn 20 | Au — | Au —

202598 | Cu — | Ag — | Pb — | As 5 | Zn 20 | Au 2 | Au —

202599 | Cu — | Ag — | Pb — | As — | Zn 15 | Au — | Au —

202600 | Cu — | Ag — | Pb — | As 1 | Zn 5 | Au — | Au —

216139 | Cu — | Ag — | Pb — | As — | Zn — | Au 0.03 | Au —

216140 | Cu 5 | Ag — | Pb — | As 1 | Zn 10 | Au 0.03 | Au —

216141 | Cu — | Ag — | Pb — | As — | Zn — | Au — | Au —

5 cm

119368

91-3320.

LEGEND

171437 — Sample No.

Cu | Ag
Pb | As — Analyses (ppm)
Zn | Au, Au — (Gold grade, repeat assay)

– Denotes below analytical detection limit

Detection limits (ppm)
Cu = 5, Pb = 5, Zn = 5, Ag = 0.5,
As = 1.0, Au = 0.008

NA Denotes no analysis

SHEET LOCATION

SHEET 1	SHEET 2
SHEET 3	SHEET 4
SHEET 5	SHEET 6

GRID CONVERGENCE 1.2° — GN, TN, MN — GRID/MAGNETIC ANGLE 12.5°

CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

ELLIOTT BAY – E.L. 40/85

STREAM SEDIMENT GEOCHEMISTRY

–80# SAMPLES

DRAWN BY : G.T.
DRAFTSMAN : T.G.D.S.
DATE : May '87
REVISIONS :
FILE No.

SCALE 1 : 10000 200 0 200 400 METRES

SHEET 1

REPORT 525 ENCLOSURE 5

MOORES VALLEY AIRSTRIP

WANDERER RIVER

WOOLOOMOOLOO CREEK

E.L. 40 / 85

83000mE. 84000mE. 85000mE. 86000mE. 87000mE. 88000mE. 89000mE. 90000mE. 390500mE.

62000mN. 61000mN. 60000mN. 59000mN. 58000mN. 57000mN. 56000mN. 52 55000mN.

202643 5 | –
202642 5 | –
202641 5 | 10 | –
202644 10 | 30 | –
202645 10 | 1 | 10 | –
216146 10 | –
216145
216144 5 | 0.3
171583 10 | –
216147 216148 171584 1
171582 1 | 5 | –
171581 1 | 5 | –
202635 15 | –
202634 1 | 15 | –
202649 0.5 | 15 | 1 | 30 | –
202648
202646 65 | 15 | –
202647 5 | –
171586 216149 171585
171588 10 | 1 | 20 | –
171587 1 | 5 | 10 | 0.08 | 1 | 10 | –
1 | 20 | –
202633 216150
216141 10 | 1 | 20 | 9.3
171590 5 | 1 | 5 | –
171591 5 | 1 | 10 | –
171592 171593 5 | –
171589 1 | 5 | –
216142 5 | – | 0.43
171595 5 | 1 | 10 | –
171594 5 | –
171596 15 | 10 | 1 | 15 | –
202682 1 | 10 | –
202650
202681 5 | –
202680 5 | 1 | 10 | 0.06
202679
202678 10 | –
202677 1 | 15 | –
202676 5 | –
202639 20 | NA | 20 | NA | 60 | 0.88
202638 – | NA | 20 | NA | 10 | 0.12
202637 – | NA | 20 | NA | 20 | –
202640 – | NA | 40 | NA | 10 | 0.03

LEGEND

171437 —— Sample No.

Cu | Ag
Pb | As —— Analyses (ppm)
Zn | Au,AU —— (Gold grade, repeat assay)

– Denotes below analytical detection limit

Detection limits (ppm)
Cu = 5, Pb = 5, Zn = 5, Ag = 0.5,
As = 1.0, Au = 0.008

NA Denotes no analysis

SHEET LOCATION

SHEET 1	SHEET 2
SHEET 3	SHEET 4
SHEET 5	SHEET 6

GN TN MN
GRID CONVERGENCE 1.2°
GRID/MAGNETIC ANGLE 12.5°

91-3320.
119369

5 cm

CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

ELLIOTT BAY – E.L. 40/85

STREAM SEDIMENT GEOCHEMISTRY

–80# SAMPLES

DRAWN BY : G.T.
DRAFTSMAN : T.G.D.S.
DATE : May '87
REVISIONS :
FILE No.

SCALE 1 : 10000 200 0 200 400 METRES

SHEET 2

REPORT 525 ENCLOSURE 6

75000mE. 76000mE. 77000mE. 78000mE. 79000mE. 80000mE. 81000mE. 82000mE. 82500mE.

54000mN.
53000mN.
52000mN.
51000mN.
50000mN.
49000mN.
48000mN.
52 39000mN.
52 47000mN.

E.L. 40 /85

RIVER

MAINWARING

202800
95 | –
5 | 1
120 | 0.06

202799
45 | –
10 | 5
75 | 1

216079
5 | –
– | 1
– | 0.08

216080
10 | –
– | 1
30 | 0.36

MT. OSMUND
△ 368m

202636
– | –
– | –
5 | 1

WART △ 238m
HILL

5 | –
– | 2
15 | –
171453

5 | –
– | 2
10 | –
171454

CREEK

COPPER

CAMP

216132
10 | –
115 | 5
85 | 2.02

171568
– | –
10 | 4
15 | –

– | –
10 | –
– | 0.84
171570

5 | –
25 | –
35 | 1.97
171569

171567

171566
15 | 4
20 | –

5 | 5
30 | –

DIORITE
POINT

LEGEND

171437 — Sample No.

Cu | Ag
Pb | As — Analyses (ppm)
Zn | Au , Au — (Gold grade, repeat assay)

– Denotes below analytical detection limit

Detection limits (ppm)
Cu = 5, Pb = 5, Zn = 5, Ag = 0.5,
As = 1.0, Au = 0.008

NA Denotes no analysis

5 cm

SHEET LOCATION

SHEET 1	SHEET 2
SHEET 3	SHEET 4
SHEET 5	SHEET 6

GN
TN MN
GRID CONVERGENCE 1.2°
GRID/MAGNETIC ANGLE 12.5°

119370

91-3320.

CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

ELLIOTT BAY – E.L. 40/85
STREAM SEDIMENT
GEOCHEMISTRY
–80# SAMPLES

DRAWN BY : G.T.
DRAFTSMAN : T.G.D.S.
DATE : May '87
REVISIONS :
FILE No.

SCALE 1 : 10000 200 0 200 400 METRES

SHEET 3

REPORT 525 ENCLOSURE 7

83000mE. 84000mE. 85000mE. 86000mE. 87000mE. 88000mE. 89000mE. 90000mE. 390500mE.

54000mN. 53000mN. 52000mN. 51000mN. 50000mN. 49000mN. 48000mN. 52 47000mN.

202675 | - | 5 | 1 | 5 | -

202674 | - | 0.5 | 10 | 1 | 15 | -

202673 | - | - | 1 | 10 | -

202672 | - | - | 1 | 10 | -

202671 | - | - | 1 | 10 | -

202670 | 10 | - | 1 | 20 | -

202669 | - | - | 1 | 10 | -

202668 | - | - | 1 | - | -

202667 | 5 | - | 1 | 10 | -

202666 | - | - | 1 | 15 | 0.06 | 30 | -

202665 | - | - | - | - | -

202664 | - | - | 1 | 5 | 10 | -

202630 | - | - | - | 15 | -

202629 | - | - | - | 10 | -

202631 | - | - | - | 30 | - | 25 | -

202632 | - | - | - | 10 | - | 25 | -

202025 | Δ | Δ | 1 | 10 | -

202023 | 5 | - | 1 | 15 | -

202024 | 15 | - | 1 | 20 | -

202022 | 15 | - | 1 | 20 | -

202021 | 10 | - | 1 | 15 | -

202019 | - | - | - | - | -

202020 | - | - | - | - | -

171567 | - | - | - | - | -

171577 | - | - | - | - | -

171578 | - | - | - | 10 | - | 5 | -

171580 | - | - | - | - | -

171579 | - | - | - | - | -

202017 | - | - | - | - | -

202018 | - | - | - | - | -

202014 | 10 | 2 | - | 10 | -

202013 | 10 | 3 | - | - | -

202015 | - | - | - | 5 | 3 | - | -

202016 | - | - | - | - | 3 | - | -

202012 | - | - | - | 15 | 3 | - | -

202009 | - | - | - | - | 4 | 15 | 0.01

202010 | - | - | 7 | 10 | -

202011 | - | - | 4 | 5 | 0.02

202008 | 5 | 0.5 | - | 4 | 10 | 0.07

202007 | 5 | - | 10 | 5 | 20 | -

202006 | - | - | - | 5 | 10 | 0.05

202005 | 5 | 0.5 | 10 | 7 | 15 | -

202004 | - | - | 5 | 3 | 10 | -

202002 | 5 | - | - | 5 | 15 | 0.04

202003 | 5 | - | 5 | 4 | 15 | -

RIVER

RIVER

LEWIS

LEWIS

HUDSON

E.L. 40 / 85

LEGEND

171437 — Sample No.

Cu | Ag
Pb | As
Zn | Au ,Au — Analyses (ppm) (Gold grade, repeat assay)

– Denotes below analytical detection limit

Detection limits (ppm)
Cu = 5, Pb = 5, Zn = 5, Ag = 0.5,
As = 1.0, Au = 0.008

NA Denotes no analysis

SHEET LOCATION

SHEET 1	SHEET 2
SHEET 3	SHEET 4
SHEET 5	SHEET 6

5 cm

GRID CONVERGENCE 1.2°

GN TN MN

GRID/MAGNETIC ANGLE 12.5°

119371

91-3320.

CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

ELLIOTT BAY – E.L. 40/85

STREAM SEDIMENT GEOCHEMISTRY

–80# SAMPLES

DRAWN BY : G.T.
DRAFTSMAN : T.G.D.S.
DATE : May '87
REVISIONS :
FILE No.

SCALE 1 : 10000 200 0 200 400 METRES

SHEET 4

REPORT 525

ENCLOSURE 8

75000mE. 76000mE. 77000mE. 78000mE. 79000mE. 80000mE. 81000mE. 82000mE. 382500mE.

46000mN. 45000mN. 44000mN. 43000mN. 42000mN. 41000mN. 40000mN. 52 39000mN.

SASSY CREEK

VERIDIAN POINT

LEWIS RIVER

OCEAN

SOUTHERN

BLACK ISLAND

LOW ROCKY POINT

ELLIOTT BAY

202945 10/30/0.06
202946 10/25
202947 5/5
202948 10/15
202949 5/10/1.31,0.45
202950 10/5
202585 10
202586 5/5/0.19
202587 10
202588 5/0.4, 0.95
202589 10/0.03
202590 10/1.07
202591 5/0.01
202592 10
202593 10/0.16
202594 0.01
202595 10
202596 5
202597 10/0.07
171951 0.5/2/10/0.01
171952 0.5/15/0.42
171953 0.5/1/20
171954 1/35/0.01
171955 1/25
171956 15
171957 0.5/20/0.57
171958 1/15
171959
171960 0.5/20
171961 4/10
171962 5/0.5/3/15/0.1
171963 5/0.5/4/10/0.9
171964 5/4/25/0.85
171965 0.5/4/50

LEGEND

171437 — Sample No.

Cu | Ag
Pb | As — Analyses (ppm)
Zn | Au, Au — (Gold grade, repeat assay)

– Denotes below analytical detection limit

Detection limits (ppm)
Cu = 5, Pb = 5, Zn = 5, Ag = 0.5,
As = 1.0, Au = 0.008

NA Denotes no analysis

5 cm

SHEET LOCATION

SHEET 1	SHEET 2
SHEET 3	SHEET 4
SHEET 5	SHEET 6

GN TN MN
GRID CONVERGENCE 1.2°
GRID/MAGNETIC ANGLE 12.5°

91-3320.
119372

CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

ELLIOTT BAY – E.L. 40/85

STREAM SEDIMENT GEOCHEMISTRY

–80# SAMPLES

DRAWN BY : G.T.
DRAFTSMAN : T.G.D.S.
DATE : May '87
REVISIONS :
FILE No.

SCALE 1 : 10000 200 0 200 400 METRES

SHEET 5

REPORT 525 ENCLOSURE 9

83000mE. 84000mE. 85000mE. 86000mE. 87000mE. 88000mE. 89000mE. 90000mE. 390500mE.

46000mN. 45000mN. 44000mN. 43000mN. 42000mN. 41000mN. 40000mN. 52 39000mN.

RIVER LEWS CREEK BARREL LITTLE ROCK RIVER

ELLIOTT BAY

E.L. 40 / 85

171475 171560 171565 171564 171558 171559 171562 171561 171746 171744 171745 171747 171748 171749 171743 171742 171740 171739 171741 171738 171737 171736 171735 171734 171733 171732 171731 171730 171729 171728 171727 171726 171725 171724 171723 171722 171721 171720 171719 171718 171717 171716 171715 171714 171713 171712 171711 171710 171709 171708 171707 171706 171705 171704 171703 171702 171701 171700 171699 171557 171551 171552 171553 202050 202509 202507 202505 202503 202501 202499 202497 202321 202322 202320 202319 202318 202317 202316 202315 202313 202312 202323 202314 202310 202309 202308 202307 202306 202305 202304 202303 202302 202301 202179 202177 202175 202173 202171 202169 202167 202165 202186 202185 202184 202187 202188 202189 202536 202543 202532 202538 202530 202528 202526 202524 202522 202520 202519 202517 202515 202513 202511 202190 202191 202192 202193 216133 216134

40 / – / 30 / 18 / 25 / –
80 / 150 / 210 / 28 / 0.01
35 / – / 30 / 83 / 15 / –
10 / 0.5 / 15 / 6 / 25 / –
10 / – / 15 / 9 / 335 / –
5 / 0.5 / 30 / 10 / 10 / –
5 / 1 / – / 5 / 10 / 0.08
5 / – / 20 / 19 / 10 / –
5 / – / 5 / 5 / 5 / –
5 / 0.5 / – / 2 / 5 / –
– / – / – / 2 / 10 / 0.05
– / – / – / 2 / – / 0.01
– / – / – / 1 / 20 / –
– / – / – / 2 / 70 / –
– / – / – / 2 / 10 / –
– / – / – / 1 / 10 / 0.03
– / – / – / 2 / 10 / 0.08
– / – / – / 1 / 10 / 0.07
– / – / – / 1 / 5 / 0.07,0.01
– / – / – / 1 / 5 / –
– / – / – / 2 / 10 / 0.27
– / – / – / 1 / 5 / –
– / – / – / 2 / 10 / 0.04
– / – / – / 2 / 10 / –
– / – / – / 2 / 5 / –
– / – / – / 3 / 5 / –
– / – / – / 4 / 5 / –
– / – / – / 4 / 10 / –
– / – / – / 3 / 10 / –
– / – / – / 4 / 15 / 0.9
– / – / – / 3 / 20 / 0.02
– / – / – / 7 / 10 / –
– / – / – / 3 / 5 / –
– / – / – / 4 / 5 / –
– / – / – / 2 / 5 / –
– / – / – / 4 / 10 / –
– / – / – / 3 / 10 / –
– / – / – / 2 / 5 / –
– / – / – / 1 / 5 / –
– / – / – / 1 / – / –
– / – / – / 2 / 10 / –
– / – / – / 1 / 15 / –
– / – / – / 2 / 15 / –
– / – / – / 1 / 15 / –
– / – / – / 1 / 20 / –
– / – / – / 1 / 30 / –
– / – / – / 2 / 20 / –
– / – / – / 1 / 20 / –
– / – / – / 3 / 5 / –
– / – / – / 3 / 15 / –
– / – / – / 2 / 15 / –
– / – / – / 1 / 15 / –
– / – / – / 2 / 20 / –
– / – / – / 1 / 15 / –
– / – / – / 1 / 15 / –
– / – / – / 1

10410

75000mE. 76000mE. 77000mE. 78000mE. 79000mE. 80000mE. 81000mE. 82000mE. 82500mE.

62000mN. 61000mN. 60000mN. 59000mN. 58000mN. 57000mN. 56000mN. 52 55000mN.

MOORES VALLEY AIRSTRIP

E.L. 40 / 85

WANDERER RIVER

RIVER

MAINWARING

171485 25 | - | 3 / 15 | 0.03

171482 - | 0.5 / 5 | 5 / 25 | 0.6

171483 25 | 2 / 25 | - | 1

171490 - | 0.5 / 20 | - / 30 | 0.89

171484 5 | 0.5 / - | 3 / 10 | -

171499 - | - | 3.5 / 10 | 1.2

171491 5 | 1.0 / 20 | - / 40 | 22

171492 15 | 1 / - | - / 30 | 1.08

171493 40 | 14 / 20 | -

171494m - | 5 / - | 2 / 25 | -

171495 - | - | - / 5 | -

171496 - | 0.5 / - | 1 / 10 | 0.04

10 | 1 / - | 5 / 35 | - / 171479

171478 6 | 1 / - | 8 / 25 | -

202571 - | - / - | - / 5 | 0.11

171477 - | 0.5 / 20 | 3 / 25 | 0.5

216110 - | - / - | - / - | 0.39

216111 - | - / - | - / 30 | 1.5

216109 - | - / - | - / 15 | -

LEGEND

171437 — Sample No.

Cu | Ag
Pb | As — Analyses (ppm)
Zn | Au,Au — (Gold grade, repeat assay)

– Denotes below analytical detection limit

Detection limits (ppm)
Cu = 5, Pb = 5, Zn = 5, Ag = 0.5,
As = 1.0, Au = 0.008

m Indicates mineralogical determination

5 cm

SHEET LOCATION

SHEET 1	SHEET 2
SHEET 3	SHEET 4
SHEET 5	SHEET 6

GN
TN MN
GRID CONVERGENCE 1.2°
GRID/MAGNETIC ANGLE 12.5°

119374

91-3320.

CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

ELLIOTT BAY – E.L. 40/85

STREAM SEDIMENT GEOCHEMISTRY

PANNED CONCENTRATES

DRAWN BY : G.T.
DRAFTSMAN : T.G.D.S.
DATE : May '87
REVISIONS :
FILE No.

SCALE 1 : 10000 200 0 200 400 METRES

SHEET 1

REPORT 525 ENCLOSURE 11

10411

MOORES VALLEY AIRSTRIP

WANDERER RIVER

WOOLOOMOOLOO CREEK

E.L. 40 / 85

83000mE. 84000mE. 85000mE. 86000mE. 87000mE. 88000mE. 89000mE. 90000mE. 390500mE.

62000mN. 61000mN. 60000mN. 59000mN. 58000mN. 57000mN. 56000mN. 5255000mN.

202540m 5 | 0.16
202541 10 | 0.05
202542m 10 | 0.04
202609 202610m 202611m 5 | 10.36
202612 10
202613 10 | 0.06
202607 10 | 1 | 15
202608 35 | 5.6 | 20 | 1
202605 10 | 0.5
202603 15 | 0.32
202604 202606 50 | 3 | 645 | 1 | 20 | 5.4
202621 5 | 0.6
202622 5 | 0.01 | 0.5
202682 10 | 0.6
202602 15 | 16.69 | 30 | 1 | 20
202683 15 | 30.5 | 35 | 2
202684 10 | 0.59 | 45 | 1
202685 10 | 1.03 | 5 | 1 | 0.5
202686 20 | 36.3 | 30 | 1
202687 15 | 1.5 | 1
202688 15 | 31.68 | 10 | 1 | 0.5
202615 202616 10 | NS | NS | 0.49 | 20 | NS | 0.002
202617,202618m 50 | 230 | NS | NS | 20
202614 70 | 0.16 | 40 | NS | 20 | NS
216104 5 | 1.15
216105 20 | 10.67
216106 5 | 0.3
216103 5 | 0.45
171633 10 | 0.45
171634 5 | 0.57
171632 10 | 3.5
171631 5 | 0.5 | 130
216102,171636 10 | 102.7 | 5 | 2.7
171635 5 | 2.01
171637 15 | 0.2
171638 25 | 0.02 | 5 | 1
216107 10 | 1.17
202623 216101 25 | 4.9 | 1.5 | 1 | 25 | 1.03
216108 15 | 14.27
171640 0.02
171639 0.01
171641 10 | 3.8
171642 32.8
171643 0.02
171644 1.82
171645 171646 1
216108 5 | 1.15
216105 20 | 10.67

LEGEND

171437 — Sample No.

Cu | Ag
Pb | As
Zn | Au,AU — Analyses (ppm) — (Gold grade, repeat assay)

– Denotes below analytical detection limit

Detection limits (ppm)
Cu = 5, Pb = 5, Zn = 5, Ag = 0.5,
As = 1.0, Au = 0.008

m Indicates mineralogical determination

SHEET LOCATION

SHEET 1	SHEET 2
SHEET 3	SHEET 4
SHEET 5	SHEET 6

GN
TN
MN
GRID CONVERGENCE 1.2°
GRID/MAGNETIC ANGLE 12.5°

5 cm

119375

91-3320.

CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

ELLIOTT BAY – E.L. 40/85

STREAM SEDIMENT GEOCHEMISTRY

PANNED CONCENTRATES

DRAWN BY : G.T.
DRAFTSMAN : T.G.D.S.
DATE : May '87
REVISIONS :
FILE No.

SCALE 1 : 10000 200 0 200 400 METRES

SHEET 2

REPORT 525

ENCLOSURE 12

75000mE. 76000mE. 77000mE. 78000mE. 79000mE. 80000mE. 81000mE. 82000mE. 382500mE.

54000mN. 53000mN. 52000mN. 51000mN. 50000mN. 49000mN. 48000mN. 52 39000mN. 52 47000mN.

E.L. 40 /85

RIVER

MAINWARING

202751
80 | – | –
– | 2 | –
45 | 2.61

202752
55 | – | –
– | 9 | –
75 | 0.03

216098
– | 3 | –
– | – | –
– | 82.56

216097
– | – | –
– | 1 | –
10 | 0.04

202619
– | 25 | –
– | 1 | –
10 | 173.3

202620
– | 3.5 | –
5 | – | –
20 | 5.27

MT. OSMUND
△ 368m

WART △ 238m
HILL

CREEK

COPPER

CAMP

202544

202543

DIORITE
POINT

5 | – | –
10 | – | –
10 | 500.8
216117

– | 15 | 0.5
– | – | –
20 | 1.72
171498

171497
– | 1 | –
– | 3 | –
20 | 4

171617

171618
– | – | –
– | – | –
10 | –

5 | 0.5
10 | 2 | –
20 | 18.3
171620

171619
– | 1 | –
25 | 3 | –
35 | 22.27

171615
– | – | –
– | 2 | –
15 | –

171616
– | – | –
5 | – | –
25 | –

LEGEND

171437 —— Sample No.

Cu | Ag
Pb | As —— Analyses (ppm)
Zn | Au,Au —— (Gold grade, repeat assay)

– Denotes below analytical detection limit

Detection limits (ppm)
Cu = 5, Pb = 5, Zn = 5, Ag = 0.5,
As = 1.0, Au = 0.008

m indicates mineralogical determination

5 cm

SHEET LOCATION

SHEET 1	SHEET 2
SHEET 3	SHEET 4
SHEET 5	SHEET 6

GN
TN
MN
GRID CONVERGENCE 1.2°
GRID/MAGNETIC ANGLE 12.5°

119376

91-3320.

CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

ELLIOTT BAY – E.L. 40/85

STREAM SEDIMENT GEOCHEMISTRY

PANNED CONCENTRATES

DRAWN BY : G.T.
DRAFTSMAN : T.G.D.S.
DATE : May '87
REVISIONS :
FILE No.

SCALE 1 : 10000 200 0 200 400 METRES

SHEET 3

REPORT 525

ENCLOSURE 13

10413

83000mE. 84000mE. 85000mE. 86000mE. 87000mE. 88000mE. 89000mE. 90000mE. 390500mE.

54000mN.
53000mN.
52000mN.
51000mN.
50000mN.
49000mN.
48000mN.
52 47000mN.

202689 | - | 1.5 | - | 1 | 5 | 163.3
202690 | - | 1 | 20 | 1 | 15 | 2.62
202691 | - | - | - | 1 | 20 | 7.15
202692 | - | - | - | 1 | 10 | 0.4
202693 | - | 0.5 | - | 1 | 15 | 0.91
202694 | - | - | - | 1 | 10 | 1.45
202695 | - | - | - | 1 | 10 | 5.76
202696 | - | 0.5 | 20 | 1 | 15 | 5.17
202697 | - | - | 10 | 1 | 5 | 0.41
202698 | - | - | 20 | 1 | 10 | 2.89
202699 | - | 0.5 | 50 | 1 | 15 | 0.36
202700 | - | 1.5 | - | 1 | 15 | 456.1
202624 | - | - | 15 | 2 | 75 | -
202625 | - | - | 80 | 4 | 25 | 2.5
202626 | - | - | 15 | 2 | 125 | 2.93
202627 | - | - | 10 | - | 25 | -
202026 | - | - | - | 1 | 10 | 4.5
202027 | - | - | - | 1 | 20 | 4.24
202028 | - | 1.5 | - | - | 10 | 37.7
202029 | - | 2 | - | 1 | 10 | 89.33
202030 | - | - | 30 | 1 | 10 | 6.64
202031 | - | - | 25 | - | 35 | 5.07
202032 | - | - | 10 | - | 20 | 30.5
171625 | - | - | 5 | 3 | 10 | 0.03
171626 | - | - | - | 3 | - | -
171627 | - | - | 10 | 3 | 5 | -
171628 | - | - | - | 3 | - | -
171629 | - | - | 10 | 3 | - | -
171630 | - | - | 10 | 2 | - | -
171647M | - | 0.5 | 10 | 1 | 10 | 8.53
171648M | - | - | 5 | - | 10 | 2.4
171649M | - | - | 5 | - | 15 | 117
202033 | - | - | - | 1 | - | 0.15
202034 | - | - | - | 2 | - | 0.57
202035 | - | - | 5 | 3 | - | -
202036 | - | - | - | 3 | - | 0.33
202037 | - | - | 5 | 3 | - | 0.61
202038 | - | - | - | 3 | - | 0.61
202039 | - | - | 10 | 3 | - | 0.04
202040 | - | - | - | - | 25 | 22.6
202041 | - | - | - | - | 15 | 1.3
202042 | - | 1.5 | 5 | - | 20 | 35.5
202043 | - | - | - | - | 15 | 6.1
202044 | - | - | 10 | - | 15 | 1.1
202045 | - | - | 5 | - | 10 | 60.2
202046 | - | - | 5 | - | 20 | 53
202047 | - | 5 | - | 1 | 15 | 1.1
202048 | - | - | 5 | - | 40 | 5.3
202049 | 10 | 0.5 | 30 | - | 35 | 14.1

RIVER
RIVER
LEWIS
RIVER
LEWIS
HUDSON
E.L. 40 / 85

LEGEND

171437 — Sample No.

Cu | Ag
Pb | As
Zn | Au, Au — Analyses (ppm) — (Gold grade, repeat assay)

– Denotes below analytical detection limit

Detection limits (ppm)
Cu = 5, Pb = 5, Zn = 5, Ag = 0.5,
As = 1.0, Au = 0.008

m Indicates mineralogical determination

5 cm

SHEET LOCATION

SHEET 1	SHEET 2
SHEET 3	SHEET 4
SHEET 5	SHEET 6

GN
TN
MN
GRID CONVERGENCE 1.2°
GRID/MAGNETIC ANGLE 12.5°

119377
91-3320

CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

ELLIOTT BAY – E.L. 40/85

STREAM SEDIMENT GEOCHEMISTRY

PANNED CONCENTRATES

DRAWN BY : G.T.
DRAFTSMAN : T.G.D.S.
DATE : May '87
REVISIONS :
FILE No.

SCALE 1 : 10000 200 0 200 400 METRES

SHEET 4

REPORT 525

ENCLOSURE 14

365

119378

OPEN FILE

Aberfoyle Resources Limited

EXPLORATION DIVISION

RECEIVED

VOLUME 4

ENCLOSURES 15 - 64

PLATE EB9

91-3320

File Ref. E.L. 40/85
23 DEC 19
Doc. Ref.
Action Officer
REFER TO
CORRES 20.12.91
(FOLIO 32)
Resubmit to

91-3320
VOL 4/4

75000mE. 76000mE. 77000mE. 78000mE. 79000mE. 80000mE. 81000mE. 82000mE. 82500mE.

46000mN.

45000mN.

44000mN.

43000mN.

42000mN.

41000mN.

40000mN.

52 39000mN.

SASSY CREEK

VERIDIAN POINT

LEWIS RIVER

OCEAN

SOUTHERN

BLACK ISLAND

LOW ROCKY POINT

ELLIOTT BAY

202923 15 | – / 10 | – / 70 | –

202922 15 | – / 20 | – / 175 | 0.79

202921 10 | – / – | – / 65 | 0.91

202920 5 | – / 5 | – / 45 | –

202919 15 | – / 15 | – / 135 | 1.4,8.6

202918 10 | – / – | – / 100 | 1.53

202583 5 | – / – | – / 20 | 4.45,8.4

202582 5 | – / – | – / 25 | 0.05

202573 10 | – / – | – / 55 | 0.56,1.35

202572 10 | 3 / – | – / 140 | 41.7

202574 5 | – / – | – / 5 | 584

202575 5 | – / – | – / 15 | 24.13

202576 5 | 46 / – | – / 25 | 250,365.5

202581 5 | – / – | – / – | –

202580 5 | 5 / – | – / 5 | 45.35,38.6

202579 5 | – / – | – / 5 | 0.43

202578 5 | – / – | – / – | 0.43

202577 10 | – / – | – / 20 | 1.48

171998 – | – / 5 | 2 / 15 | 0.63

171294 5 | – / – | 1 / 10 | 0.01

171293 – | 0.5 / – | 2 / 10 | 0.01

171295 – | 0.5 / – | 2 / 25 | 0.04

171296 – | 1 / – | 2 / 40 | –

171297 – | – / – | 1 / 15 | –

171998 5 | – / 10 | 4 / 330 | 1.99

171997 30 | – / 3 / 75 | 22.6

171995 – | – / 5 | 4 / 165 | 1.19

171994 5 | – / 5 | 4 / 170 | –

171299 – | 1 / – | 6 / 10 | 0.01

171300 – | 0.5 / – | 2 / 10 | –

171200 – | – / 2 / 30 | 0.15

171999 – | 0.5 / – | 2 / 5 | –

119379

LEGEND

171437 — Sample No.

Cu | Ag
Pb | As
Zn | Au,Au — Analyses (ppm) — (Gold grade, repeat assay)

– Denotes below analytical detection limit

Detection limits (ppm)
Cu = 5, Pb = 5, Zn = 5, Ag = 0.5,
As = 1.0, Au = 0.008

m Indicates mineralogical determination

SHEET LOCATION

SHEET 1	SHEET 2
SHEET 3	SHEET 4
SHEET 5	SHEET 6

5 cm

GRID CONVERGENCE 1.2°

GN MN

GRID/MAGNETIC ANGLE 12.5°

91-3320.

CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

ELLIOTT BAY – E.L. 40/85

STREAM SEDIMENT GEOCHEMISTRY

PANNED CONCENTRATES

DRAWN BY : G.T.
DRAFTSMAN : T.G.D.S.
DATE : May '87
REVISIONS :
FILE No.

SCALE 1 : 10000 200 0 200 400 METRES

SHEET 5

REPORT 525 ENCLOSURE 15

83000mE. 84000mE. 85000mE. 86000mE. 87000mE. 88000mE. 89000mE. 90000mE. 390500mE.

46000mN. 45000mN. 44000mN. 43000mN. 42000mN. 41000mN. 40000mN. 52 39000mN.

RIVER
LEWS
CREEK
BARREL
LITTLE ROCKY RIVER
ELLIOTT BAY
E.L. 40 / 85

LEGEND

171437 — Sample No.

Cu | Ag
Pb | As — Analyses (ppm)
Zn | Au, Au — (Gold grade, repeat assay)

– Denotes below analytical detection limit

Detection limits (ppm)
Cu = 5, Pb = 5, Zn = 5, Ag = 0.5,
As = 1.0, Au = 0.008

m Indicates mineralogical determination

SHEET LOCATION

SHEET 1	SHEET 2
SHEET 3	SHEET 4
SHEET 5	SHEET 6

GN TN MN
GRID CONVERGENCE 1.2°
GRID/MAGNETIC ANGLE 12.5°

5 cm

119380
91-3320.

CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

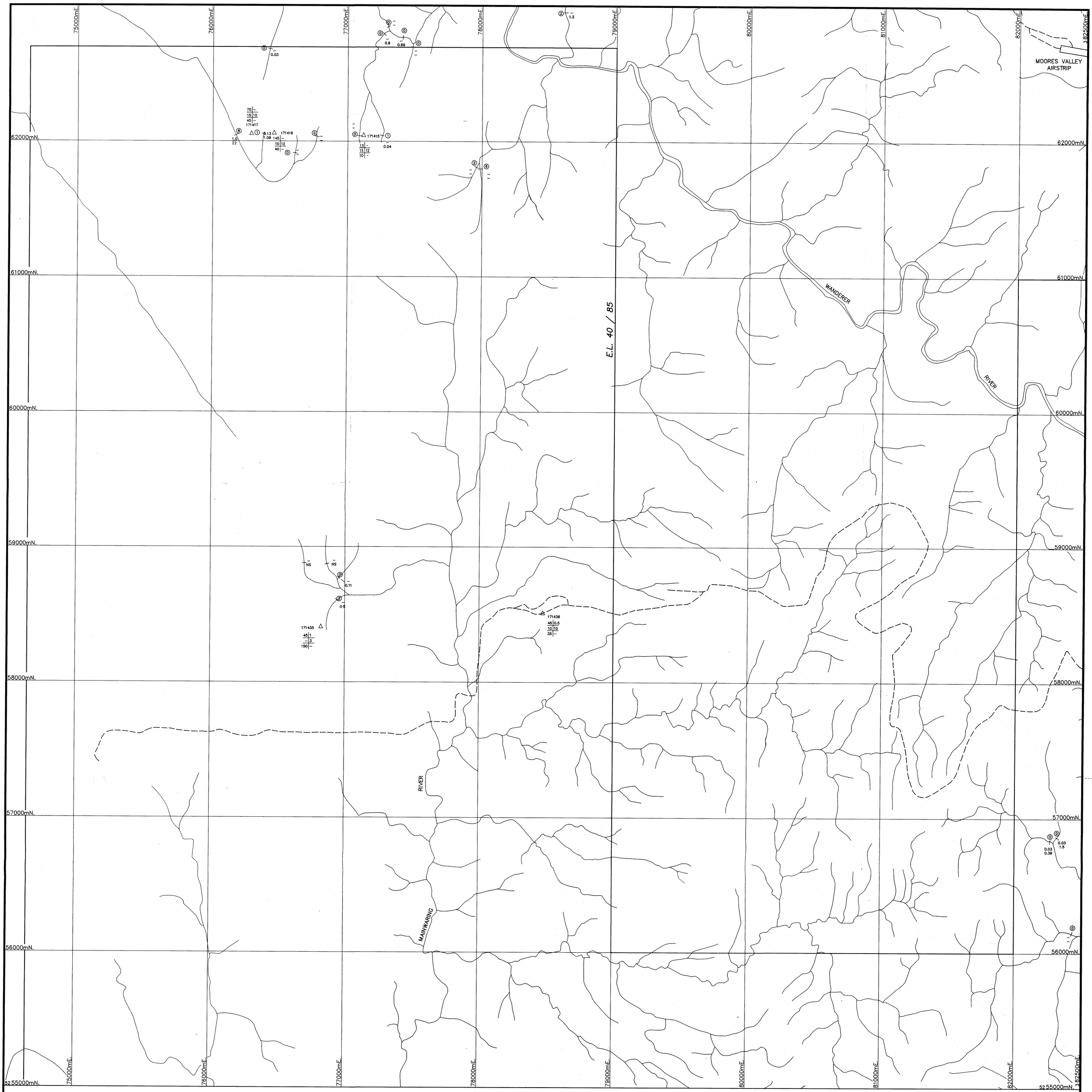
ELLIOTT BAY – E.L. 40/85
STREAM SEDIMENT GEOCHEMISTRY
PANNED CONCENTRATES

DRAWN BY : G.T.
DRAFTSMAN : T.G.D.S.
DATE : May '87
REVISIONS :
FILE No.

SCALE 1 : 10000 200 0 200 400 METRES

SHEET 6

REPORT 525 . ENCLOSURE 16



LEGEND

ROCK CHIP

△ 171437 — Sample No.

Cu | Ag
Pb | As
Zn | Au — Results (ppm)

STREAM SEDIMENT

② — Visible gold grain count in panned concentrate

– — –80# Au result (ppm)

68 — Panned concentrate Au result (ppm)

NS — No Sample

– — Below level of detection

SHEET LOCATION

SHEET 1	SHEET 2
SHEET 3	SHEET 4
SHEET 5	SHEET 6

GRID CONVERGENCE 1.2°

GRID/MAGNETIC ANGLE 12.5°

119381

91-3320.

CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

ELLIOTT BAY – E.L. 40/85

GOLD GEOCHEMISTRY

COMPILATION

STREAM SEDIMENTS & ROCK CHIPS

DRAWN BY : R.H.
DRAFTSMAN : T.G.D.S.
DATE : May '87
REVISIONS :
FILE No.

SCALE 1 : 10000 — METRES

SHEET 1

REPORT 525

ENCLOSURE 17

10414

MOORES VALLEY AIRSTRIP

WANDERER RIVER

WOOLOOMOOLOO CREEK

E.L. 40 / 85

83000mE. 84000mE. 85000mE. 86000mE. 87000mE. 88000mE. 89000mE. 90000mE. 390500mE.

62000mN. 61000mN. 60000mN. 59000mN. 58000mN. 57000mN. 56000mN. 52 55000mN.

	Cu	Pb	Zn	Ag	As	Au
171441	–	140	345	–	150	–
171442	–	–	20	–	2	–
171443	301	270	45	–	84	–
171444	45	310	395	–	35	0.025
171447	45	195	56	2	–	0.03
171448	15	455	500	–	12	–
171449	80	115	160	3.5	55	0.03

5 cm

119382

91-3320.

LEGEND

ROCK CHIP

△ 171437 — Sample No.

Cu | Ag
Pb | As
Zn | Au — Results (ppm)

STREAM SEDIMENT

② — Visible gold grain count in panned concentrate

– — –80# Au result (ppm)

68 — Panned concentrate Au result (ppm)

NS — No Sample

– — Below level of detection

SHEET LOCATION

SHEET 1	SHEET 2
SHEET 3	SHEET 4
SHEET 5	SHEET 6

GN TN MN

GRID CONVERGENCE 1.2°

GRID/MAGNETIC ANGLE 12.5°

CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

ELLIOTT BAY – E.L. 40/85

GOLD GEOCHEMISTRY COMPILATION

STREAM SEDIMENTS & ROCK CHIPS

DRAWN BY : R.H.

DRAFTSMAN : T.G.D.S.

DATE : May '87

REVISIONS :

FILE No.

SCALE 1 : 10000 200 0 200 400 METRES

SHEET 2

REPORT 525

ENCLOSURE 18

10415

75000mE. 76000mE. 77000mE. 78000mE. 79000mE. 80000mE. 81000mE. 82000mE. 82500mE.

54000mN.
53000mN.
52000mN.
51000mN.
50000mN.
49000mN.
48000mN.

52 39000mN.
52 47000mN.

E.L. 40 /85

RIVER
MAINWARING
MT. OSMUND
△ 368m
WART △ 238m HILL
COPPER CREEK
CAMP
DIORITE POINT

90 | 0.5
10 | 29
70 | –
△ 171988
35 | –
5 | 28
65 | –
△ 171991
△ 171990
△ 171989
40 | 0.5
30 | 30
45 | –
35 | –
– | 64
120 | –
③ 0.06 2.61
① 0.03

25 0.08 82.56
② 0.36 0.04

NS ① 5.27
△ 171978/79
5 | –
– | 1
15 | –
10 | –
360
720
20 – 173.3
△ 171977
10 | 0.5
5 | 5
25 | –
△△ 216099/100
1800 | 52
1575 | 7400
545 | 0.015
2500 | 43
215 | 86
190 | 0.045

202943 △
– | – | –
– | – | –
30 | – | –
△ 202944
5 | – | –
– | – | –
15 | – | –
② 1.72
③ 4

180543 △
825 | 17
2200 | 1100
<35 | 0.04

Cu Pb Zn Ag As Au
180586 25 – 235 – 1 –
180587 20 – – – – –
180588 15 – 5 – – 0.02
180589 30 – – – 1 0.07
180590 20 7 10 – – –

171993 △
65 | –
100 | –
10 | –
△ 171992
20 | –
145 | –
120 | –
171597/98 △ 171650
50 | –
5 | –
10 | –
25 | –
– | 75
– | 15 | –
5 | – | 10
△ 171599
35 | –
– | –
5 | –
25 2.02 500.8

1450 | –
25 | 14
75 | 0.055
△ 202570
NS
240 | –
– | 8
65 | –
△ 202569
△ 202568
2.1% | – | –
– | 4 | –
70 | – | –
65 | –
10 | 31
100 | –
△ 180549
△ 180550
△ 180551
18
– | 47
130 | – | 45
– | 16
5 | –

90 | – | 115 | –
25 | 3 | 10 | 8
90 | – | 75 | –
180537/38 △
– | 0.5 | 10 | –
– | – | 10 | –
10 | – | 20 | –
170 | 0.5
25 | 21
15 | 0.025
△ 180540/42
△ 202565
30 | –
– | –
80 | –
180539 △
20 | –
20 | 3
40 | –

③ NS
180583 △
180584 △ NS
0.84 18.3
△ 180586/90
③ ⑨ 1.97 22.27

119383
91-3320.

5 cm

SHEET LOCATION

SHEET 1	SHEET 2
SHEET 3	SHEET 4
SHEET 5	SHEET 6

GRID CONVERGENCE 1.2°
GRID/MAGNETIC ANGLE 12.5°

LEGEND

ROCK CHIP
△ 171437 — Sample No.
Cu | Ag
Pb | As — Results (ppm)
Zn | Au

STREAM SEDIMENT
② — Visible gold grain count in panned concentrate
– — –80# Au result (ppm)
68 — Panned concentrate Au result (ppm)
NS — No Sample
– — Below level of detection

CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

ELLIOTT BAY – E.L. 40/85
GOLD GEOCHEMISTRY
COMPILATION
STREAM SEDIMENTS & ROCK CHIPS

DRAWN BY : R.H.
DRAFTSMAN : T.G.D.S.
DATE : May '87
REVISIONS :
FILE No.

SCALE 1 : 10000 200 0 200 400 METRES

SHEET 3

REPORT 525 ENCLOSURE 19

10416

83000mE. 84000mE. 85000mE. 86000mE. 87000mE. 88000mE. 89000mE. 90000mE. 390500mE.

54000mN. 53000mN. 52000mN. 51000mN. 50000mN. 49000mN. 48000mN. 52 47000mN.

RIVER LEWS RIVER HUDSON LEWS E.L. 40 / 85

163.3 2.26 7.15 2.93 0.4 2.5 202756/57 45|–|50|– 30|–|435|11 45|–|670|– 5.76 0.41 0.06 2.89 5.17 0.91 1.45 0.36 4.5 171439 5|– 25|310 275|– 456.1 37.7 4.24 89.33 0.03 30.5 5.07 6.64 NS 1.17 NS 2.4 NS 8.53 202428 10|– 5|71 25|0.04 0.57 0.15 171438 50|– 5|3 10|– 0.61 0.33 0.8 0.04 0.01 35.5 13 0.02 22.8 0.07 6.1 171437 1.1 10|0.5 40|6 50|– 0.05 60.2 1.1 53 0.04 14.1 12 5.3

5 cm

119384

91-3320.

LEGEND

ROCK CHIP

△ 171437 — Sample No.

Cu|Ag / Pb|As / Zn|Au — Results (ppm)

STREAM SEDIMENT

② — Visible gold grain count in panned concentrate

– — –80# Au result (ppm)

68 — Panned concentrate Au result (ppm)

NS — No Sample

– — Below level of detection

SHEET LOCATION

SHEET 1	SHEET 2
SHEET 3	SHEET 4
SHEET 5	SHEET 6

GN TN MN

GRID CONVERGENCE 1.2°

GRID/MAGNETIC ANGLE 12.5°

CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

ELLIOTT BAY – E.L. 40/85

GOLD GEOCHEMISTRY

COMPILATION

STREAM SEDIMENTS & ROCK CHIPS

DRAWN BY : R.H.

DRAFTSMAN : T.G.D.S.

DATE : May '87

REVISIONS :

FILE No.

SCALE 1 : 10000 200 0 200 400 METRES

SHEET 4

REPORT 525 ENCLOSURE 20

1041?

	Cu	Pb	Zn	Ag	As	Au
171283	1950	10	505	–	94	0.065
171284	2.65%	220	940	27	450	0.675
171285	9350	310	1800	20	550	0.2
171286	435	70	630	1.5	31	0.02
171287	590	–	180	2.5	6	–
202716	10	–	10	–	1	–
202717	540	–	10	–	1	–
202718	15	–	10	–	1	–
202719	25	–	5	–	–	–
202720	15	–	10	–	1	–
202721	10	–	15	–	–	–
202722	15	–	35	–	1	–
202723	10	–	35	–	–	–
202724	10	–	15	–	–	–
202725	25	–	40	–	–	–
202726	40	–	40	–	2	–
202727	10	–	80	–	1	–
202728	15	–	110	–	3	–
202729	7500	245	3100	7.0	71	0.03
202730	35	–	65	–	6	–
202731	15	20	50	–	4	–
202732	30	25	50	–	7	–
202733	20	–	55	–	1	–
202734	550	–	110	–	2	–
202735	80	70	185	–	8	0.005
202736	50	–	55	–	1	–
202737	1400	15	90	–	16	0.01
202738	135	–	10	–	1	–
202739	770	–	40	–	58	0.01
202740	240	–	40	–	9	–
202741	8400	75	90	3.0	16	0.01

2m Strip Samples

	Cu	Pb	Zn	Ag	As	Au
180566	1.0	2	10	–	1	–
180565	1.0	2	10	–	1	–
180564	1.0	2	10	–	1	–
180563	1.0	2	10	–	1	–
180562	1.0	2	10	–	1	–
180561	1.0	2	10	–	1	–
180560	1.0	2	10	–	1	–
180559	1.0	2	10	–	1	–
180558	1.0	2	10	–	1	–
180557	1.0	2	10	–	1	–
180556	1.0	2	10	–	1	–
180555	1.0	2	10	–	1	–
180554	1.0	2	10	–	1	–
180553	1.0	2	10	–	1	–
180552	1.0	2	10	–	1	–

	Cu	Pb	Zn	Ag	As	Au
171980	90	505	610	–	37	0.15
171981	910	675	60	21	25	7.25
171982	1150	395	30	14	21	0.17
171983	30	5	15	–	8	–
171984	20	15	80	–	7	–
171985	20	5	130	–	6	–
171986	45	50	85	–	4	–
171987	15	95	198	–	3	–
216391	590	3700	125	57	–	0.59
216392	220	255	40	1	–	0.07
216393	530	455	40	1	6	0.85
216394	40	–	50	–	–	0.05
216395	125	60	20	–	–	0.04
216396	10	–	5	–	–	0.01
216397	5	–	15	–	–	0.01
216398	280	135	10	28	19	1.81

LEGEND

ROCK CHIP

△ 171437 — Sample No.

Cu | Ag
Pb | As
Zn | Au — Results (ppm)

STREAM SEDIMENT

② — Visible gold grain count in panned concentrate

– — –80# Au result (ppm)

68 — Panned concentrate Au result (ppm)

NS — No Sample

– — Below level of detection

SHEET LOCATION

SHEET 1	SHEET 2
SHEET 3	SHEET 4
SHEET 5	SHEET 6

5 cm

GN
TN MN
GRID CONVERGENCE 1.2°
GRID/MAGNETIC ANGLE 12.5°

119385
91-3320.?

CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

ELLIOTT BAY – E.L. 40/85

GOLD GEOCHEMISTRY COMPILATION

STREAM SEDIMENTS & ROCK CHIPS

SCALE 1 : 10000 200 0 200 400 METRES

DRAWN BY : R.H.
DRAFTSMAN : T.G.D.S.
DATE : May '87
REVISIONS :
FILE No.
SHEET 5

REPORT 525 ENCLOSURE 21

10418

Refer to North Lewis 1:2500 map

	Cu	Pb	Zn	Ag	As	Au
180568	5	–	30	–	7	–
180569	1650	70	145	–	800	0.05
180570	2.04%	200	475	24	250	0.33
180571	2150	235	170	7	410	0.22
180572	3100	1750	325	20	2400	0.45
180573	1000	285	405	1.5	600	0.03
180574	1300	360	300	0.5	190	0.03
180576	2250	805	525	9.5	1300	0.07
180577	6900	955	650	180	1300	0.05
180578	6750	850	510	8.5	1500	0.05
180580	175	355	130	27.5	2800	–
180582	40	15	135	–	51	–
171281	1100	45	95	4	150	0.02

RIVER

LEWS

CREEK

BARREL

LITTLE ROCK RIVER

E.L. 40 / 85

ELLIOTT BAY

83000mE. 84000mE. 85000mE. 86000mE. 87000mE. 88000mE. 89000mE. 90000mE. 390500mE.

46000mN. 45000mN. 44000mN. 43000mN. 42000mN. 41000mN. 40000mN. 52 39000mN.

5 cm

LEGEND

ROCK CHIP

△ 171437 — Sample No.

Cu | Ag
Pb | As
Zn | Au — Results (ppm)

STREAM SEDIMENT

② — Visible gold grain count in panned concentrate

– — –80# Au result (ppm)

88 — Panned concentrate Au result (ppm)

NS — No Sample

– — Below level of detection

SHEET LOCATION

SHEET 1	SHEET 2
SHEET 3	SHEET 4
SHEET 5	SHEET 6

GRID CONVERGENCE 1.2°

GRID/MAGNETIC ANGLE 12.5°

110386

91-3320.

CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

ELLIOTT BAY – E.L. 40/85

GOLD GEOCHEMISTRY COMPILATION

STREAM SEDIMENTS & ROCK CHIPS

DRAWN BY : R.H.

DRAFTSMAN : T.G.D.S.

DATE : May '87

REVISIONS :

FILE No.

SCALE 1 : 10000 200 0 200 400 METRES

SHEET 6

REPORT 525

ENCLOSURE 22

10-15

WANDERER SOUTH

PYTHON PIT

MAINWARING RIVER

MT. OSMUND WEST

WOOLOOMOOLOO CREEK

NORTH PORPHYRY CONTACT

PORPHYRY DOLERITE CONTACT

MT. OSMUND EAST

WART HILL GRID

NORTH WATERLOO CREEK

WATERLOO CREEK PROSPECT

WATERLOO CREEK GRID

NORTH LEWIS GRID

LEWIS RIVER PROSPECT

LEWIS RIVER GRID

DRAKE CREEK PROSPECT

PENDERS PROSPECT

DIORITE POINT

VERIDIAN POINT

BLACK ISLAND

LOW ROCKY POINT

E.L. 40 / 85

OCEAN

SOUTHERN

ELLIOTT BAY

MOORES VALLEY AIRSTRIP

LEGEND

- PROSPECT NAME — WATERLOO CREEK (14) — LINE 5100
- BIGHEM ANOMALY NUMBER (Mitre Geophysics Report 1986)
- TRAVERSE LINE NO. & COORDINATES
- BIGHEM ANOMALY AXIS
- V25 — VOYAGER 12 (GEOPEKO PROSPECT LOCALITIES)
- PENDERS PROSPECT — OLD WORKINGS
- MAGNETIC ANOMALY NUMBER
- MAGNETIC ANOMALY AXIS
- GRID CONVERGENCE 1.2°
- GRID/MAGNETIC ANGLE 12.5°

5 cm

119387

ENCLOSURE 23

CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

ELLIOTT BAY – E.L. 40/85

PROSPECT LOCALITY PLAN

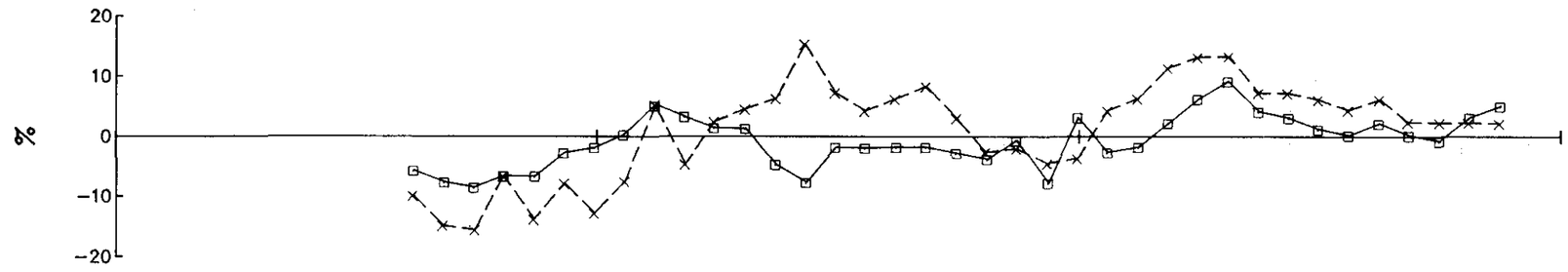
DRAWN BY : C.T.
DRAFTSMAN : T.G.D.S.
DATE : 9-4-'87
REVISIONS :
FILE No.

SCALE 1 : 25000 — METRES

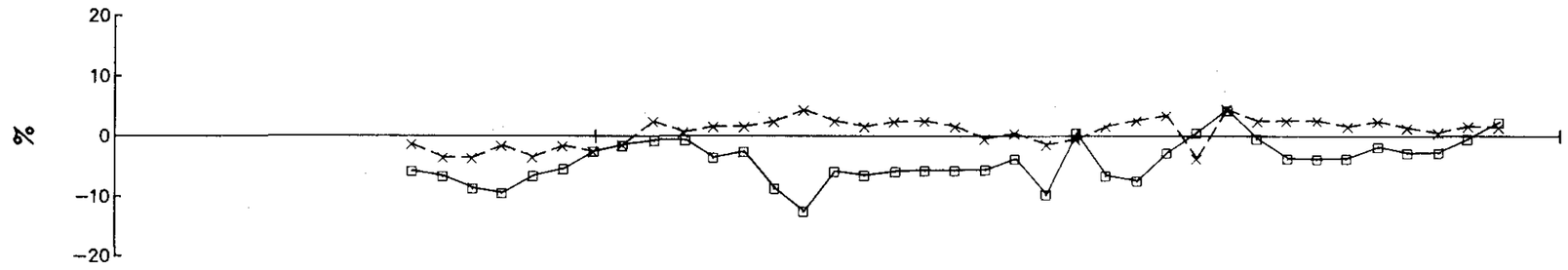
FIG.

REPORT 525 — ENCLOSURE 23

10420



3555 Hz



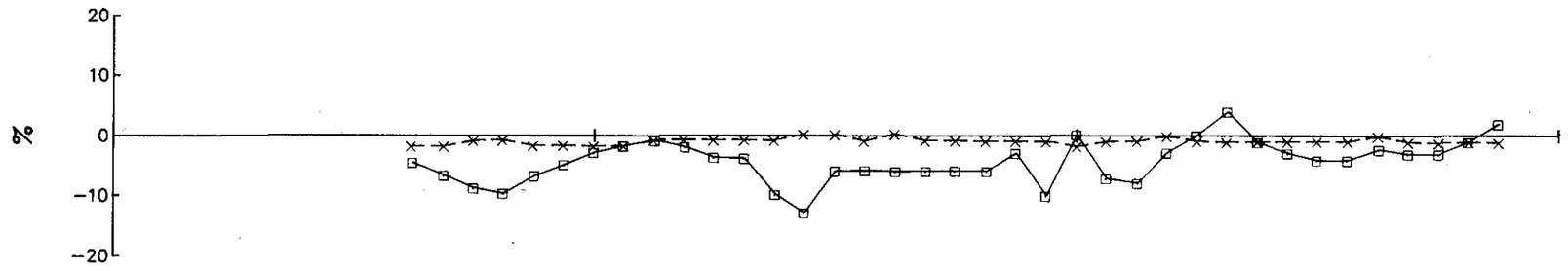
888 Hz

MAX — MIN

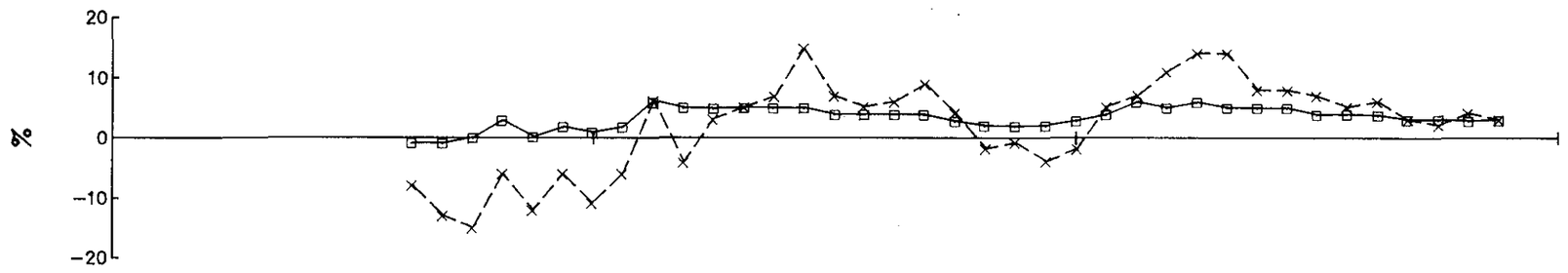
Tx ⟶ Rx = 100m

IN PHASE ⊡——⊡

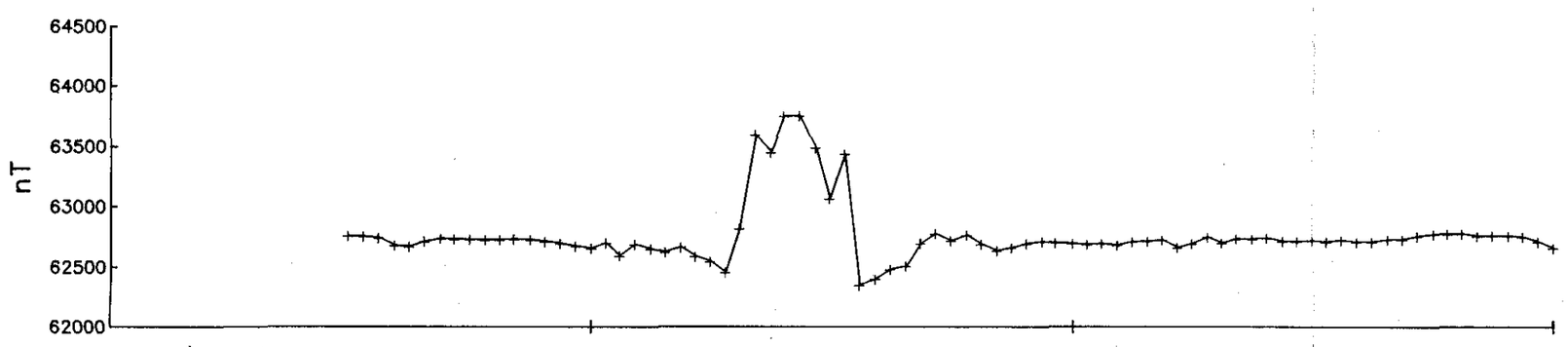
OUT OF PHASE ×– – –×



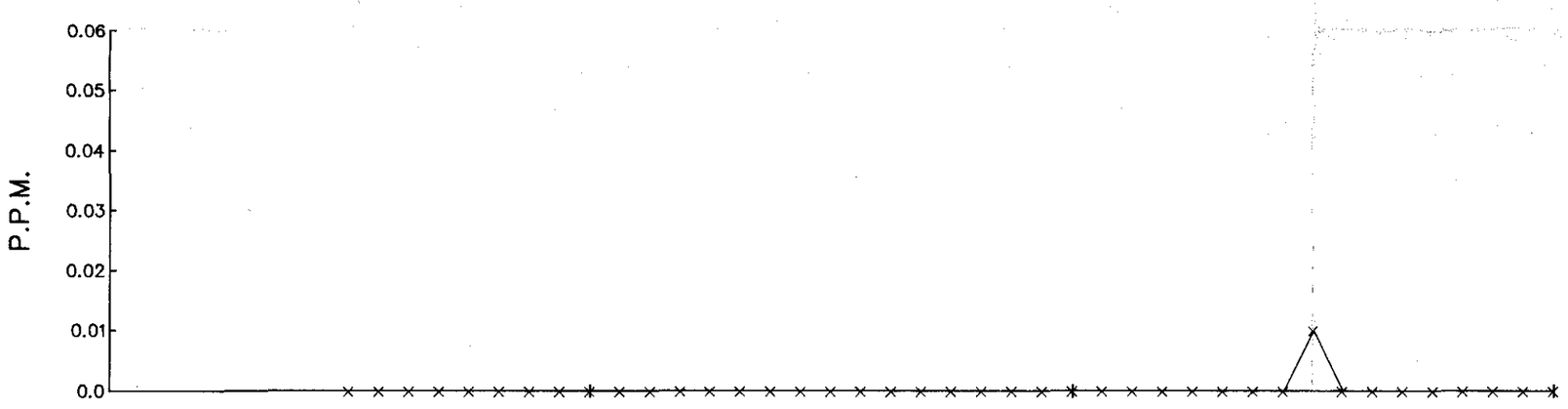
222 Hz



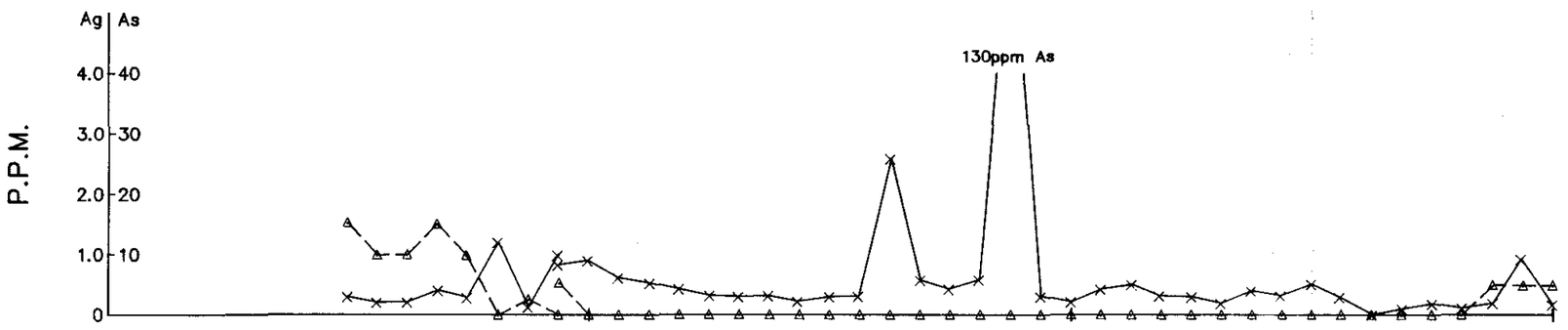
3555 Hz −222 Hz



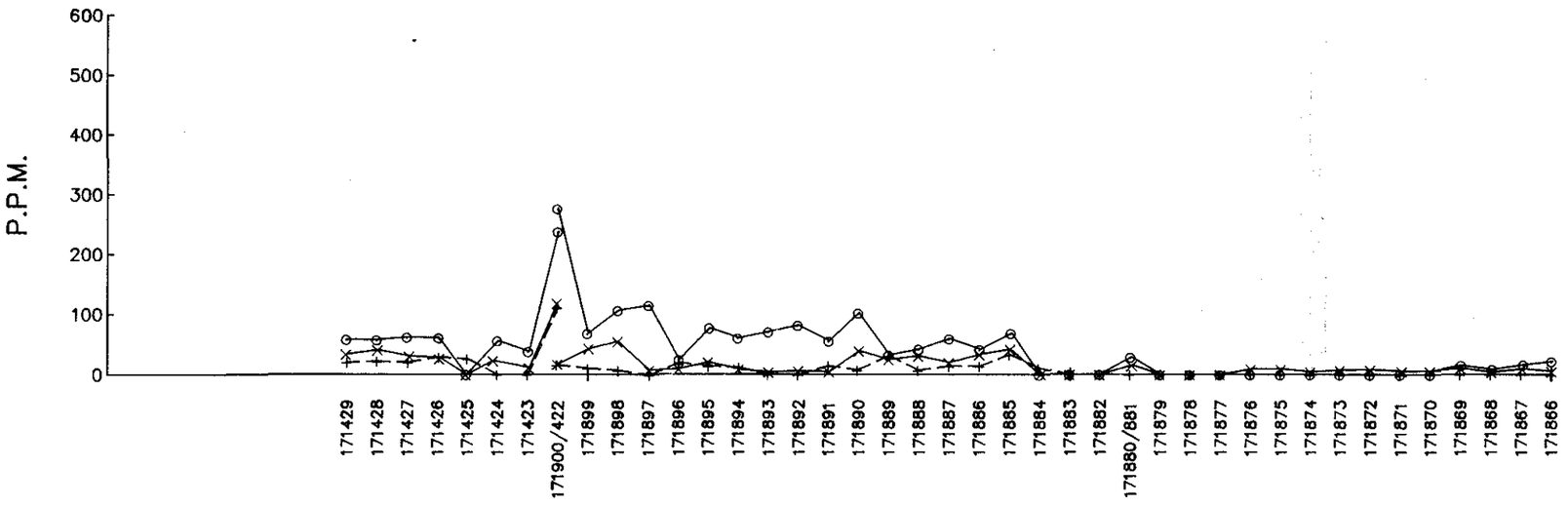
MAGNETICS



Au



As ×
Ag △



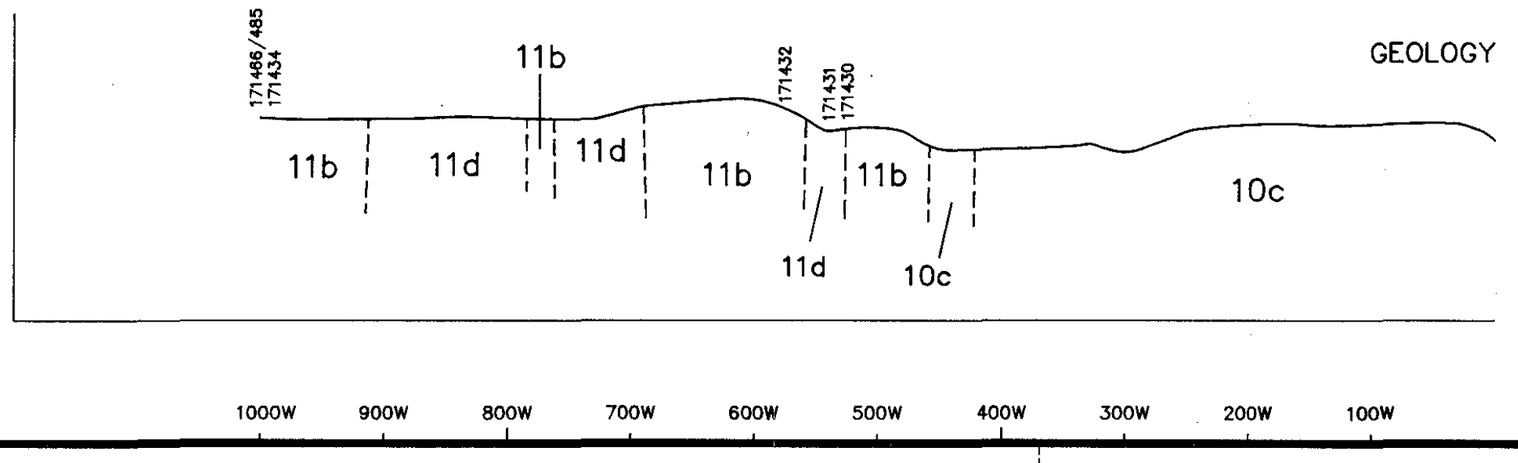
Cu ×
Pb +
Zn ⊙

119388

SOIL SAMPLE NUMBERS

5 cm

91-3320.



CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

ELLIOTT BAY — E.L. 40/85

WANDERER SOUTH
LINE 5
PROFILES

DRAWN BY : R.P.
DRAFTSMAN : T.G.D.S.
DATE : April '87
REVISIONS :
FILE No.

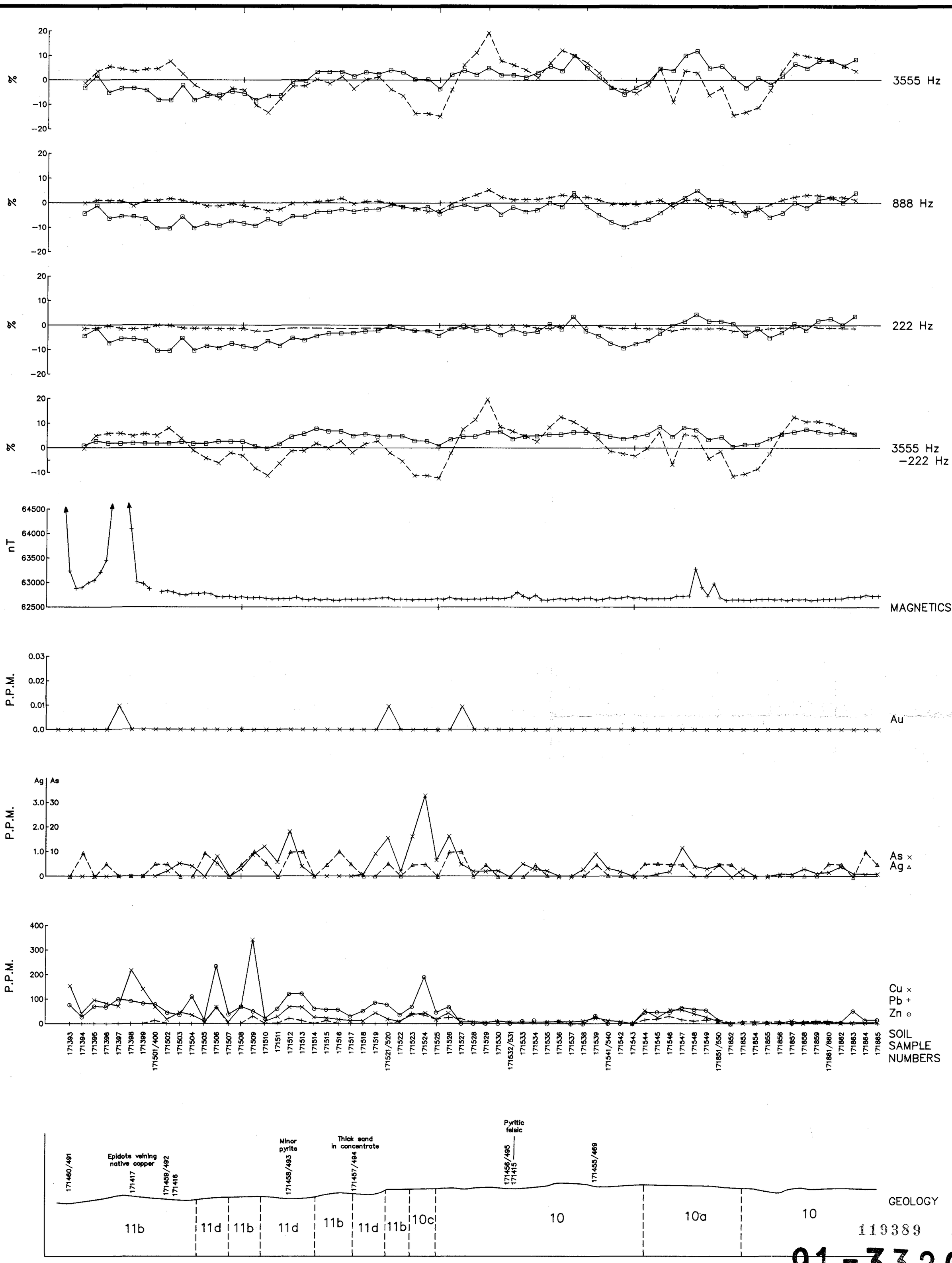
SCALE 1 : 5000 50 0 100 200 METRES

FIG.

REPORT 525

ENCLOSURE 24

10421



CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

ELLIOTT BAY – E.L. 40/85

WANDERER SOUTH
LINE 6
PROFILES

DRAWN BY : R.P.
DRAFTSMAN : T.G.D.S.
DATE : April '87
REVISIONS :
FILE No.

SCALE 1 : 5000 (50 0 100 200 METRES)

FIG.

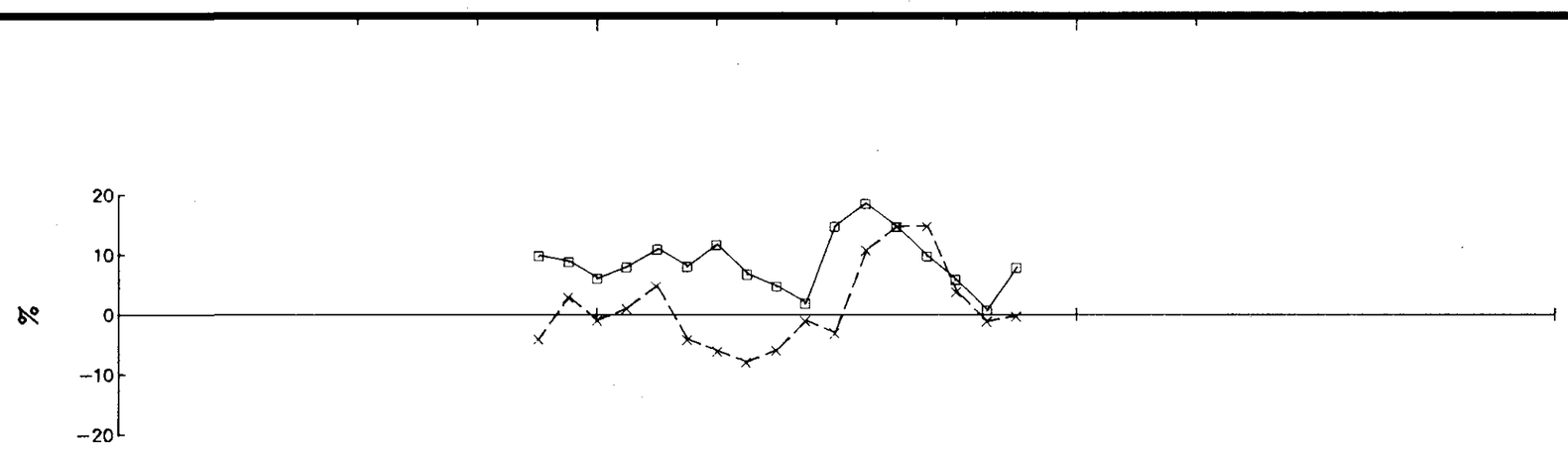
119389

91-3320.

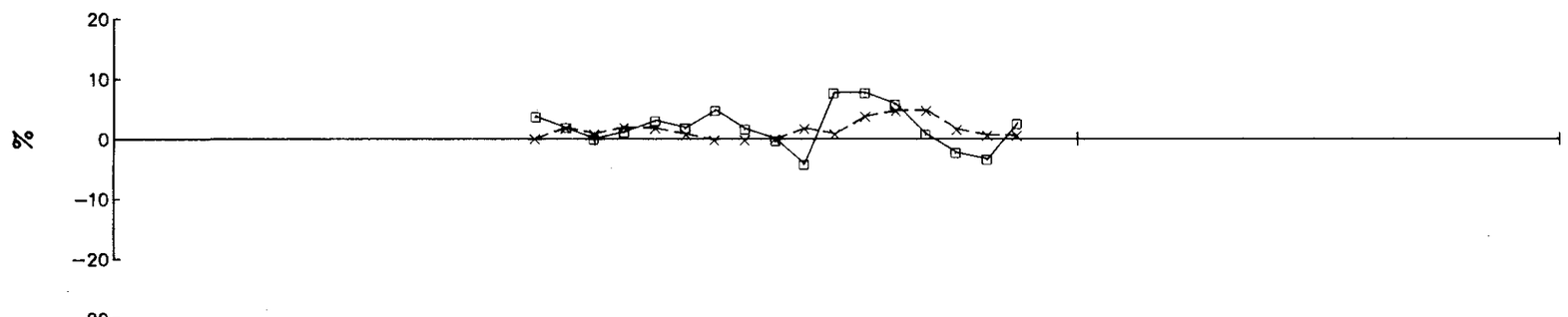
REPORT 525

ENCLOSURE 25

1C422



3555 Hz



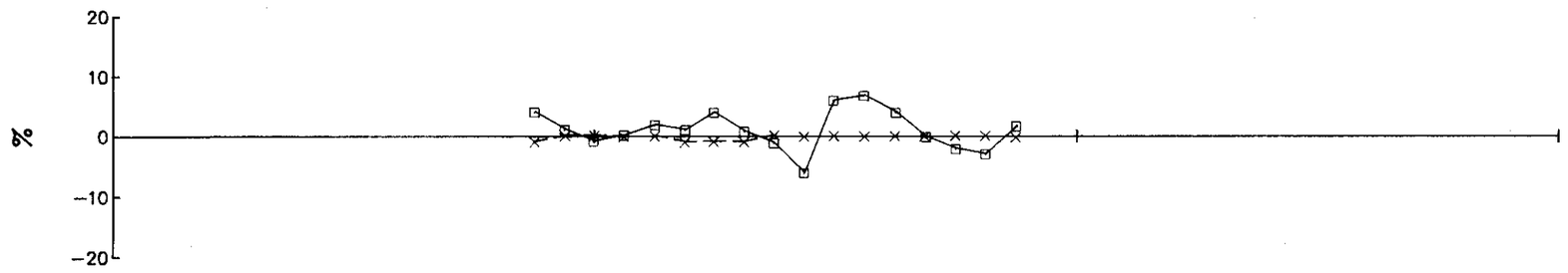
888 Hz

MAX – MIN

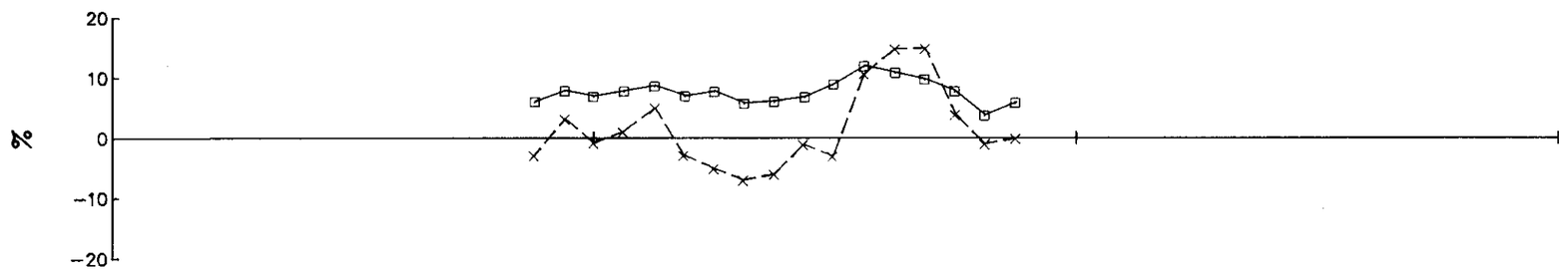
Tx ⟶ Rx = 100m

IN PHASE ⊡——⊡

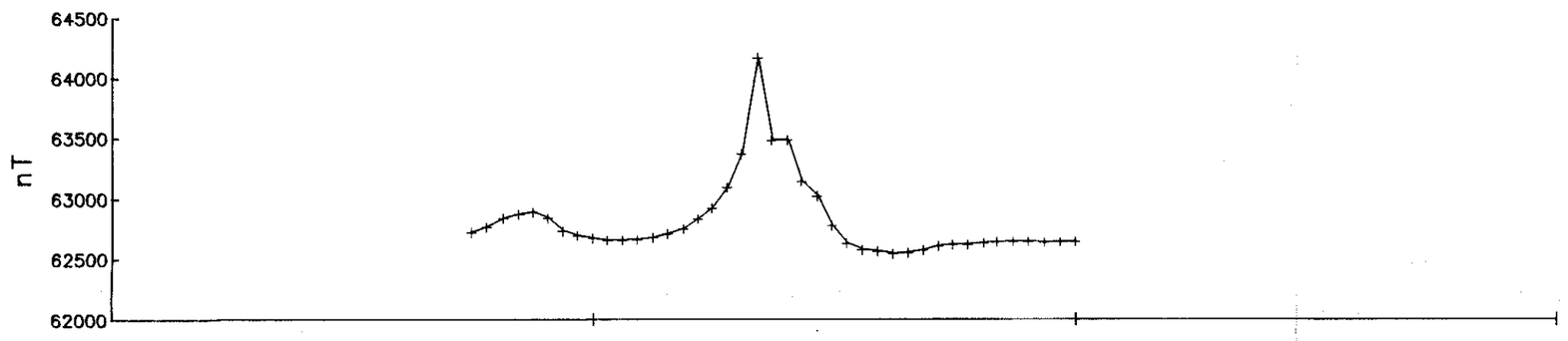
OUT OF PHASE ×– –×



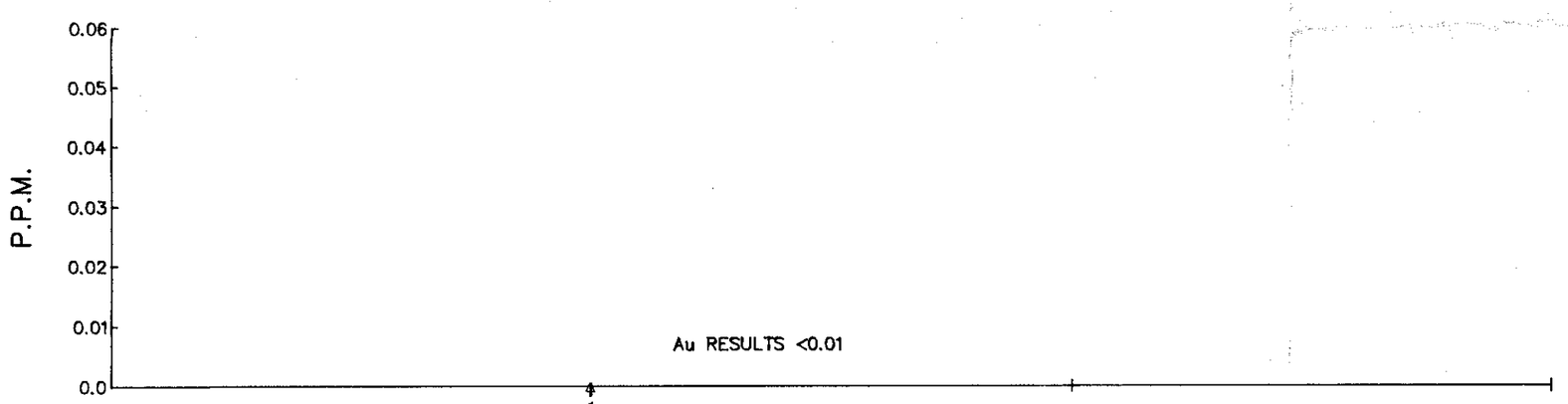
222 Hz



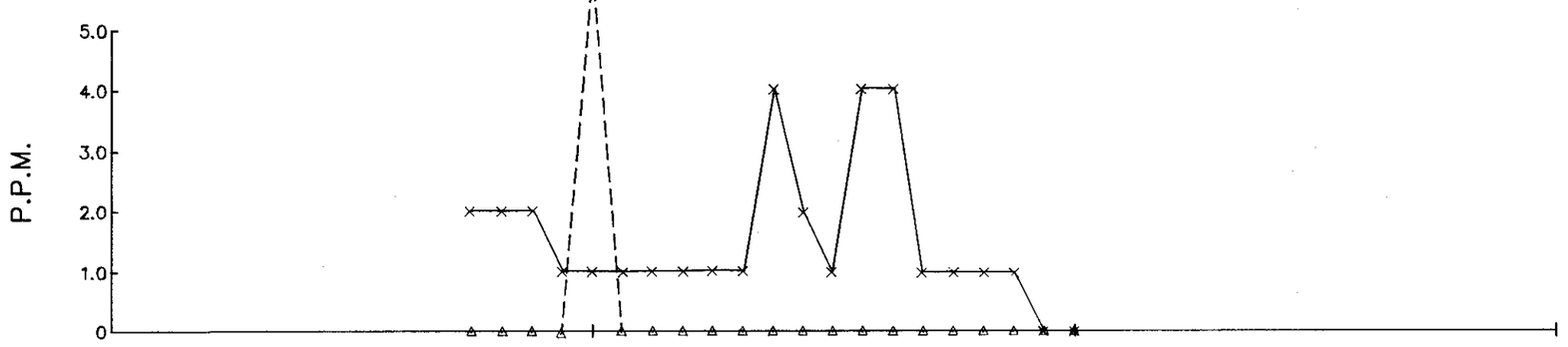
3555 Hz –222 Hz



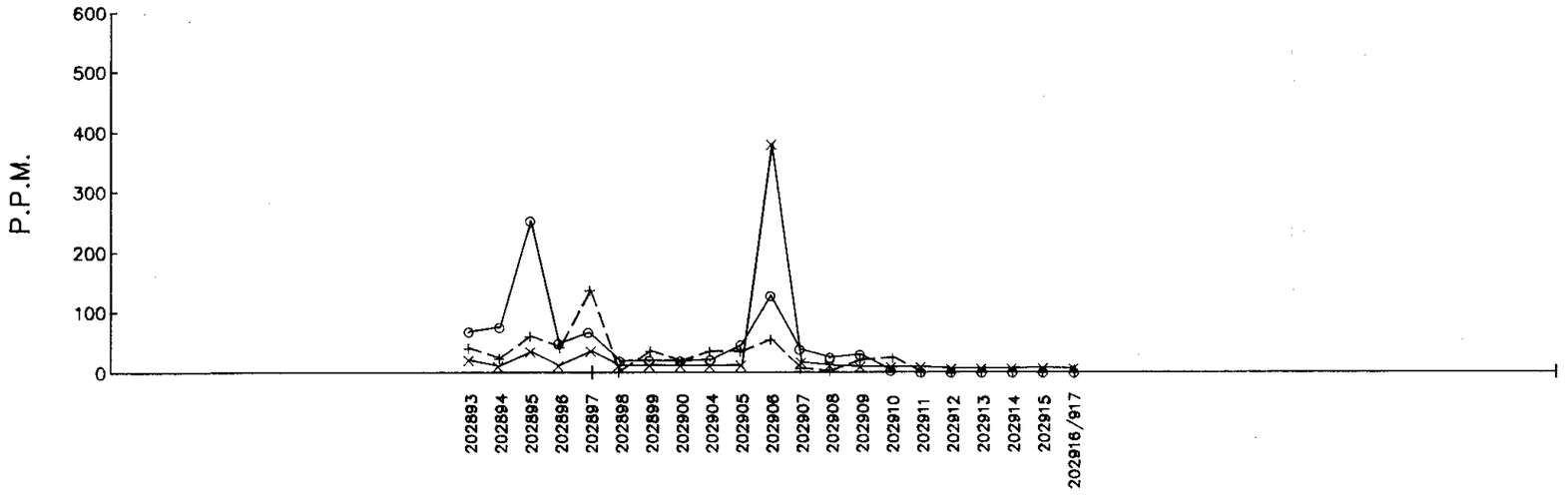
MAGNETICS



Au



As ×
Ag △

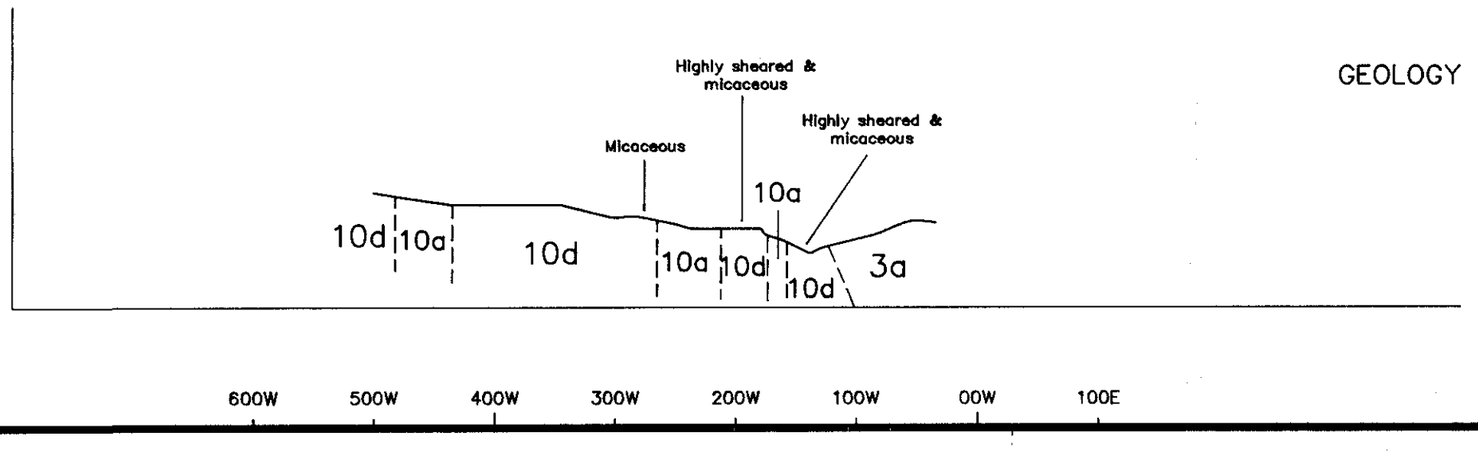


Cu ×
Pb +
Zn ○

SOIL SAMPLE NUMBERS

119390

5 cm



GEOLOGY

91-3320.1

CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

ELLIOTT BAY – E.L. 40/85

WANDERER SOUTH
LINE 7
PROFILES

DRAWN BY : R.P.
DRAFTSMAN : T.G.D.S.
DATE : April '87
REVISIONS :
FILE No.

SCALE 1 : 5000

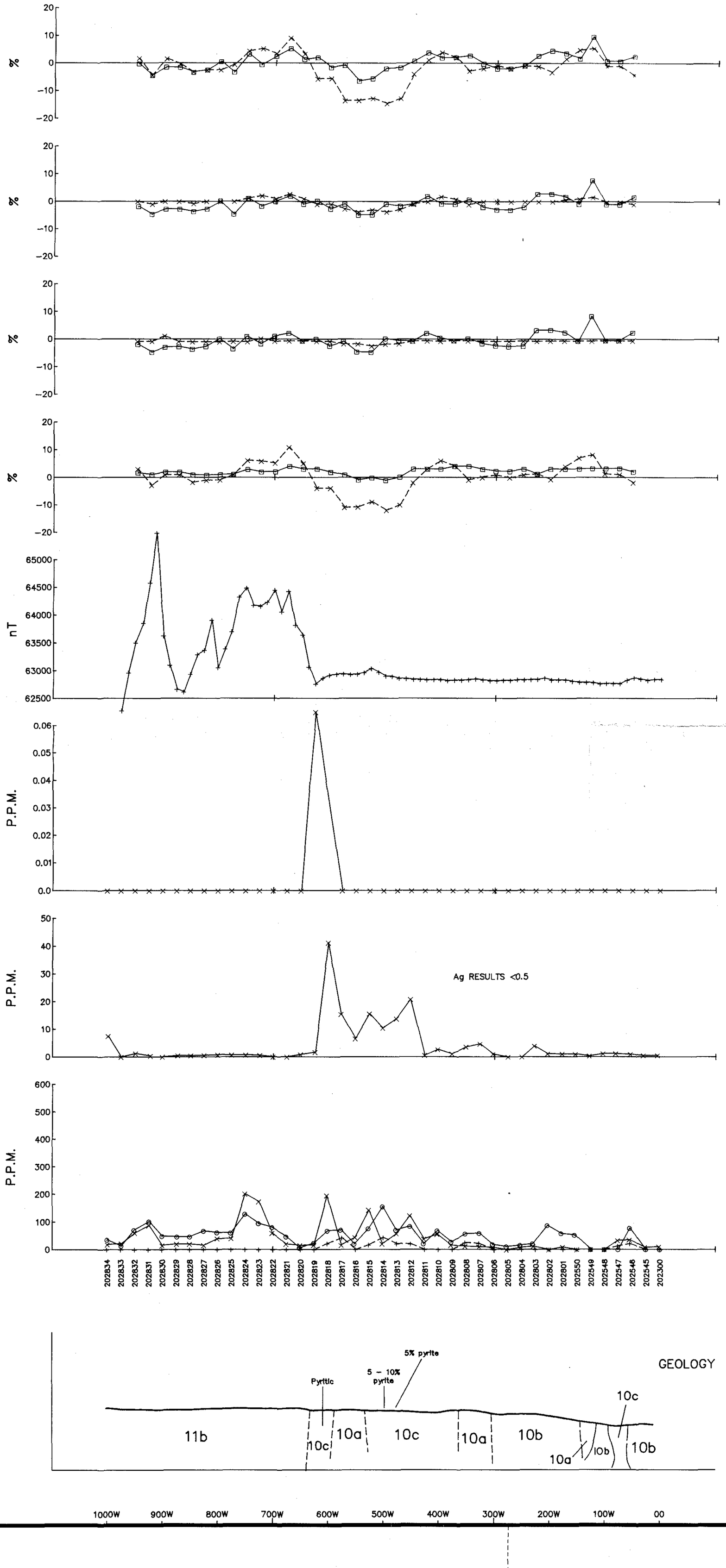
50 0 100 200
METRES

FIG.

REPORT 525

ENCLOSURE 26

10423



CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

ELLIOTT BAY - E.L. 40/85

PYTHON PIT
LINE 23
PROFILES

DRAWN BY : C.T.
DRAFTSMAN : T.G.D.S.
DATE : April '87
REVISIONS :
FILE No.

SCALE 1 : 5000 (50 0 100 200 METRES)

FIG.

REPORT 525

ENCLOSURE 27

VERIDIAN POINT

PENDERS PROSPECT

	Cu	Pb	Zn	Ag	As	Au
171283	1950	10	505	–	94	0.065
171284	2.65%	220	940	27	450	0.675
171285	9350	310	1800	20	550	0.2
171286	435	70	630	1.5	31	0.02
171287	590	–	160	2.5	6	–
202716	10	–	10	–	1	–
202717	10	–	10	–	1	–
202718	15	–	10	–	1	–
202719	25	–	5	–	1	–
202720	15	–	10	–	1	–
202721	10	–	15	–	–	–
202722	15	–	35	–	1	–
202723	10	–	35	–	–	–
202724	10	–	15	–	–	–
202725	25	–	40	–	–	–
202726	40	–	40	–	2	–
202727	10	–	60	–	1	–
202728	15	–	110	–	3	–
202729	7500	245	3100	7.0	71	0.03
202730	35	–	85	–	6	–
202731	15	20	50	–	4	–
202732	30	25	55	–	7	–
202733	20	–	55	–	1	–
202734	550	–	110	–	7	–
202735	80	70	185	–	8	0.005
202736	30	–	55	–	1	–
202737	1400	15	90	–	16	0.01
202738	135	–	10	–	1	–
202739	770	–	40	–	58	0.01
202740	240	–	40	–	9	–
202741	8400	75	80	3.0	16	0.01

2m Strip Samples

MASSIVE & BANDED MAGNETITE–PYRITE–CHLORITE BEDS

BLACK ISLAND

WAVE–CUT PLATFORM

LOW ROCKY POINT

OCEAN

SOUTHERN

ELLIOTT BAY

SASSY CREEK

OSMUND FAULT

LEWIS RIVER FAULT

LEWIS RIVER

LIMONITIC VOLCANICS QUARTZ–SULPHIDE VEINS. MAGNETIC ANOMALY Au TO 7.25g/t IN ROCK (V6)

VOLCANICS & GRANITE WITH DISSEMINATED MAGNETITE & QUARTZ–PYRITE VEINS (V5)

EM ANOMALY (1975 GEOEX DATA) (V11)

CYPRUS LINE 11600 N.

CYPRUS LINE 11500 N.

CYPRUS LINE 11400 N.

CYPRUS LINE 10900 N.

10300 E. CYPRUS

11000 E. CYPRUS

CYPRUS BASELINE 10800 E.

GEOPEKO BASELINE 10000 E.

MAGNETITE IN GRANITE (V3A)

	Cu	Pb	Zn	Ag	As	Au
171980	90	505	610	–	37	0.15
171981	910	675	60	21	25	7.25
171982	1150	395	30	14	21	8.77
171983	30	5	15	–	8	–
171984	20	15	60	–	7	–
171985	20	5	130	–	6	–
171986	45	50	85	–	4	–
171987	15	95	160	–	3	–
216391	590	3700	225	57	–	0.59
216392	220	255	40	1	6	0.07
216393	530	455	40	1	6	0.65
216394	40	–	50	–	–	0.05
216395	125	60	20	–	–	0.04
216396	10	–	5	–	–	0.01
216397	5	–	15	–	–	0.01
216398	280	135	10	28	19	1.81

LEGEND

- 5 / 5a — WART HILL and HUDSON RIVER VOLCANICS – undifferentiated – fine to medium grained rhyolitic volcaniclastic
- 7 — LOW ROCKY POINT GRANITE
- 10 / 10d — WESTERN EPICLASTICS – undifferentiated – fine to medium grained rhyolitic volcanics
- Fault
- Magnetic Lineament
- (V1) Geopeko Voyager Prospect
- △ 171437 – Sample No.
- CU|AG / PB|AS / ZN|AU – Results (ppm)
- Samples with a 17 or 20 prefix are 1986 – 87 season with a 29 prefix are 1987 – 88 season
- 1986 – 87 Season: Visible gold grain count in panned concentrate; –80# Au result (ppm); Panned concentrate Au result (ppm); NS — No Sample; – — Below level of detection
- 1987 – 88 Season: Visible gold grain count in panned concentrate; 292794 – –80# sample number; CU|AG / PB|AS / ZN|AU – Results (ppm)

SHEET LOCATION

SHEET 1	SHEET 2
SHEET 3	SHEET 4
SHEET 5	SHEET 6

GRID CONVERGENCE 1.2° — GRID/MAGNETIC ANGLE 12.5°

5 cm

119392

91-3320.1

CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

ELLIOTT BAY – E.L. 40/85

LOW ROCKY POINT

GEOLOGICAL / GEOCHEMICAL COMPILATION

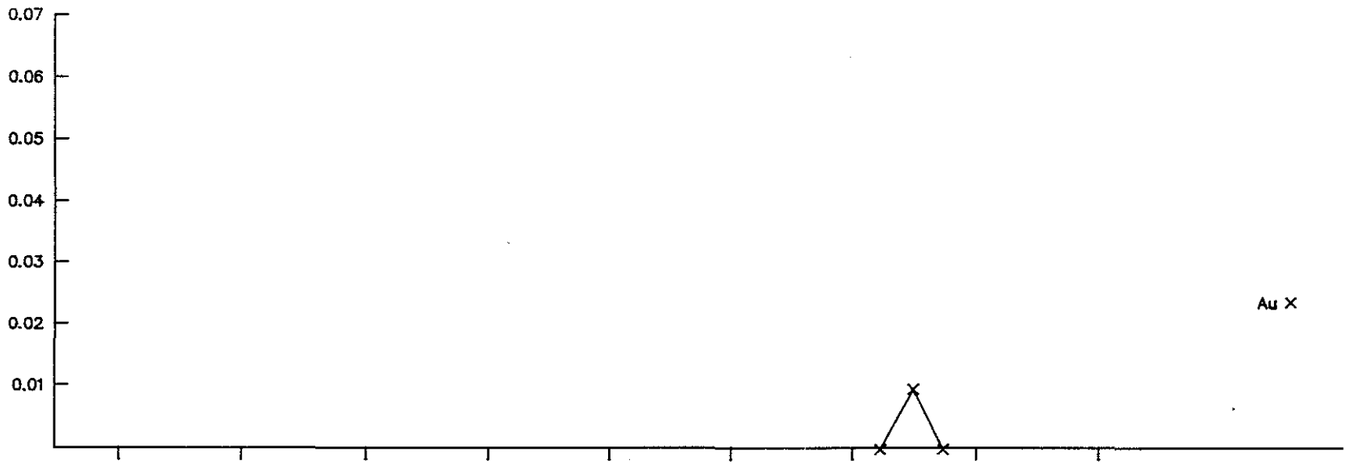
DRAWN BY : R.P.&C.T.
DRAFTSMAN : T.G.D.S.
DATE : May '87
REVISIONS : April '98
FILE No.

SCALE 1 : 10000 (200 0 200 400)

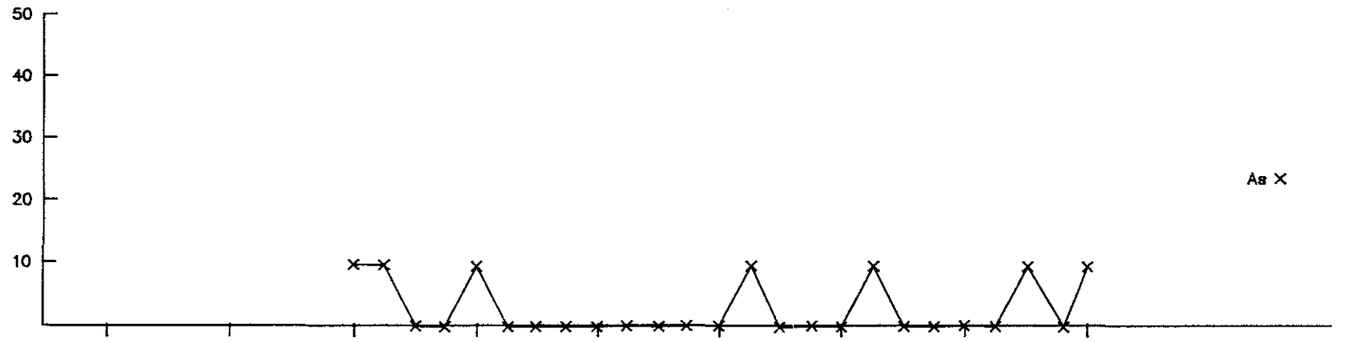
FIG. ENCLOSURE 29

16425

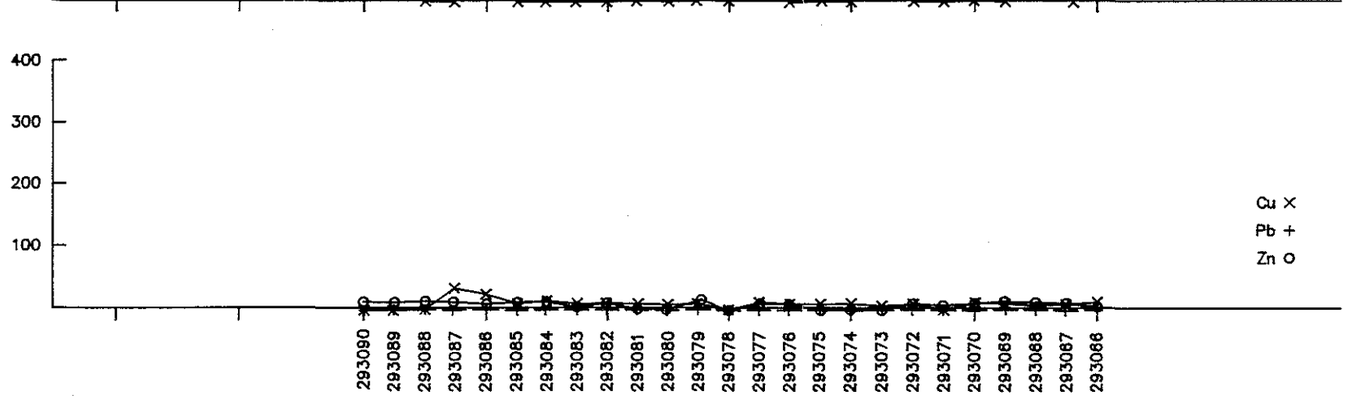
GOLD
ppm



ARSENIC
ppm



COPPER
LEAD
ZINC
ppm



VOLCANICS | GRANITE

BASE LINE GEOPEKO 10000 E.

10300 E. 10300 E. 10500 E. 10600 E. 10700 E. 10800 E. 10900 E. 11000 E. 11100 E.

119393

5 cm

91-3320.

REPORT 595 ENCLOSURE 30

CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

ELLIOTT BAY – E.L. 40/85

LOW ROCKY POINT

LINE PROFILE 10900 N.
GEOPEKO LINE 10400 N.

DRAWN BY : R.P.
DRAFTSMAN : T.G.D.S.
DATE : June '88
REVISIONS :
FILE No.

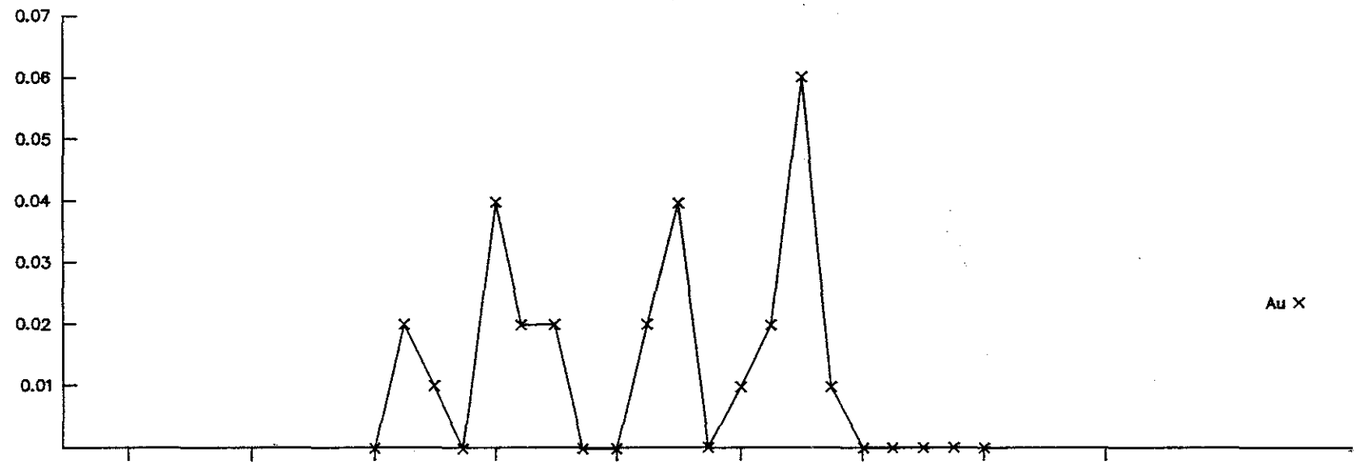
SCALE 1 : 5000 500 0 500 1000 METRES

FIG.

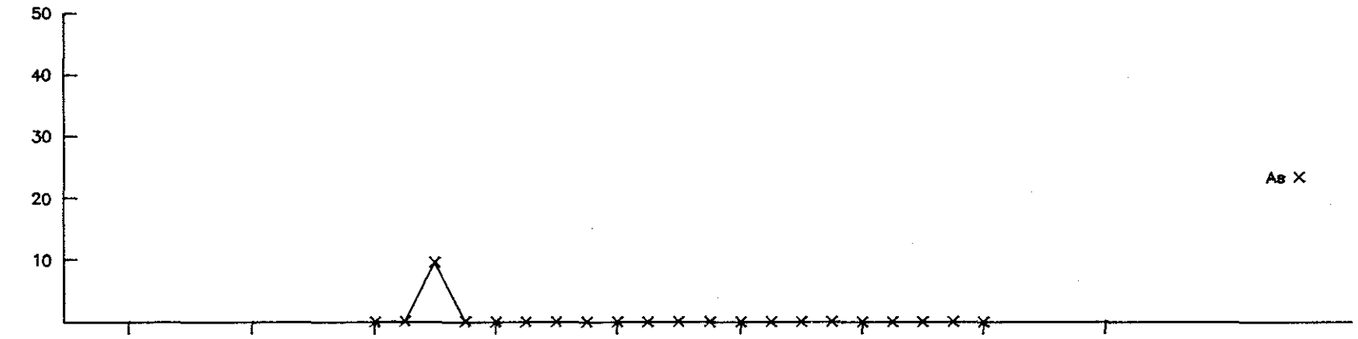
N.W. Coast Computer Aided Drafting Centre. Phone (004 354315)
Fax. (004 354495)

10426

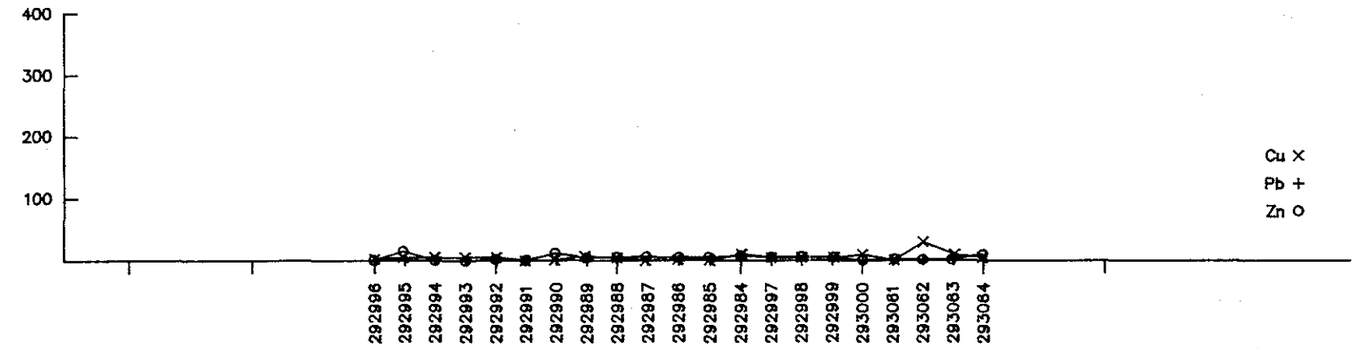
GOLD
ppm



ARSENIC
ppm



COPPER
LEAD
ZINC
ppm



119394

5 cm

91-3320.

REPORT 595 ENCLOSURE 31

VOLCANICS | GRANITE

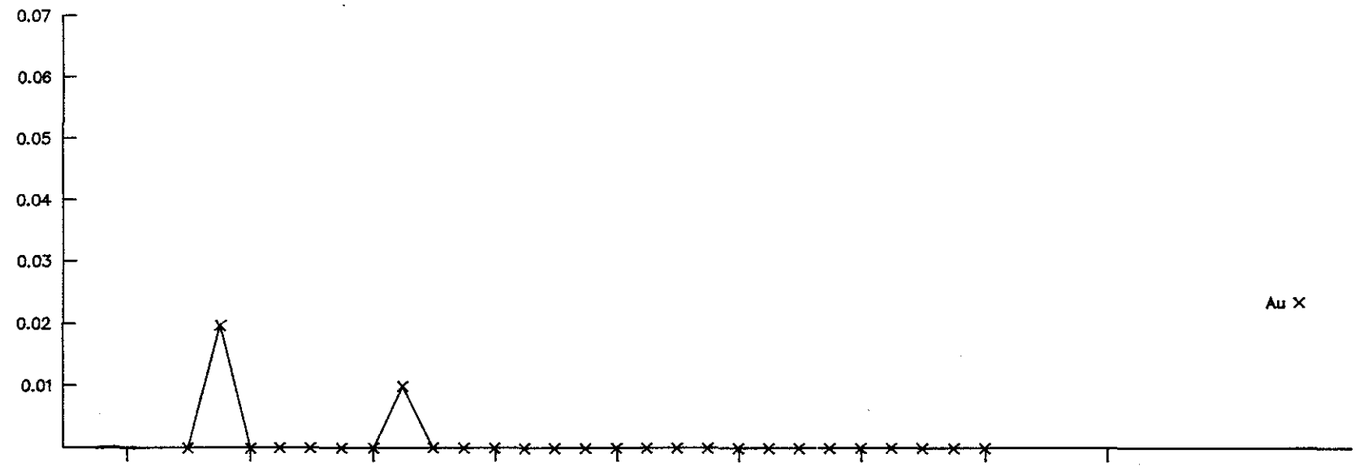
BASE LINE
GEOPEKO 10000 E.

10300 E. 10300 E. 10500 E. 10600 E. 10700 E. 10800 E. 10900 E. 11000 E. 11100 E.

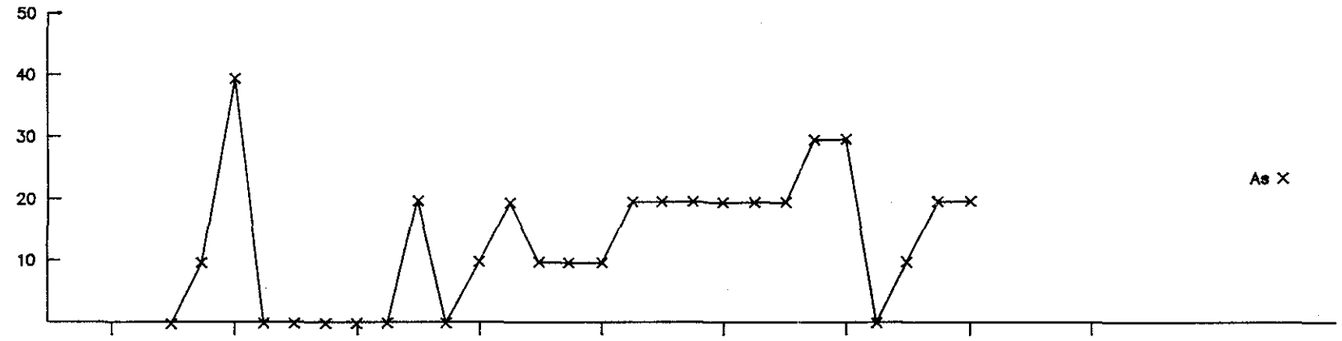
CYPRUS MINERALS AUST. CO. & POSEIDON LTD.	
ELLIOTT BAY – E.L. 40/85 LOW ROCKY POINT LINE PROFILE 11400 N. GEOPEKO LINE 10900 N.	DRAWN BY : R.P. DRAFTSMAN : T.G.D.S. DATE : June '88 REVISIONS : FILE No.
SCALE 1 : 5000 500 0 500 1000 METRES	FIG.

10427

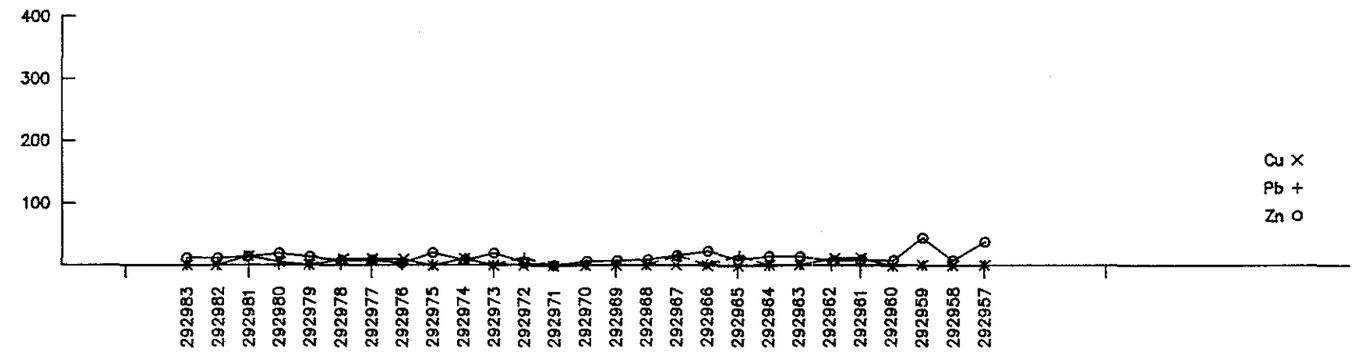
GOLD
ppm



ARSENIC
ppm



COPPER
LEAD
ZINC
ppm



VOLCANICS | GRANITE

BASE LINE
GEOPEKO 10000 E.

10300 E. 10300 E. 10500 E. 10600 E. 10700 E. 10800 E. 10900 E. 11000 E. 11100 E.

119395

91-3320.

5 cm

REPORT 595 ENCLOSURE 32

CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

ELLIOTT BAY – E.L. 40/85

LOW ROCKY POINT

LINE PROFILE 11500 N.

GEOPEKO LINE 11000 N.

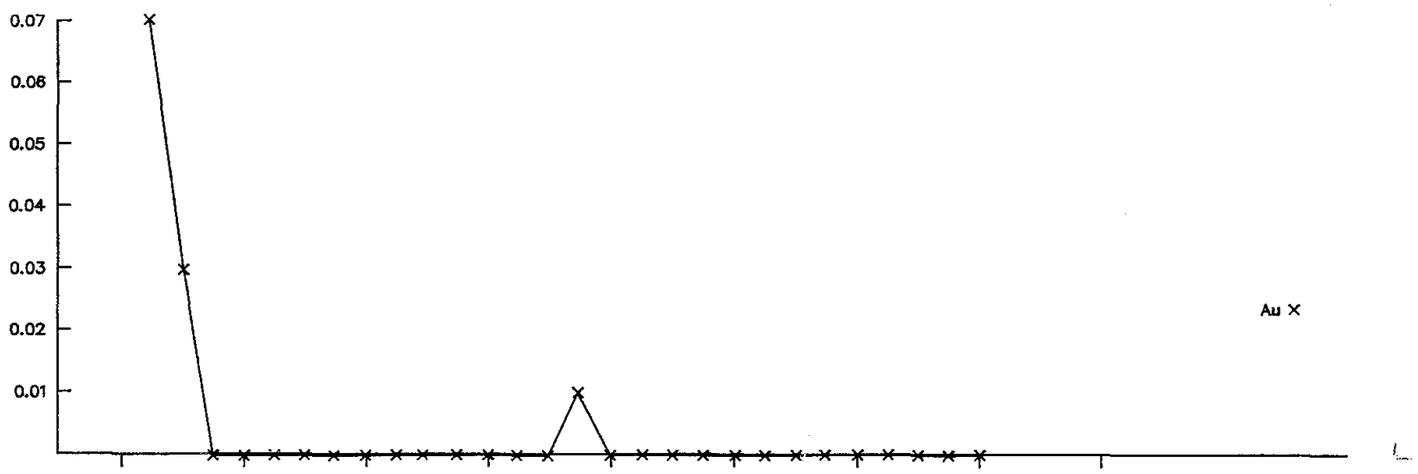
DRAWN BY : R.P.
DRAFTSMAN : T.G.D.S.
DATE : June '88
REVISIONS :
FILE No.
FIG.

SCALE 1 : 5000 600 0 500 1000 METRES

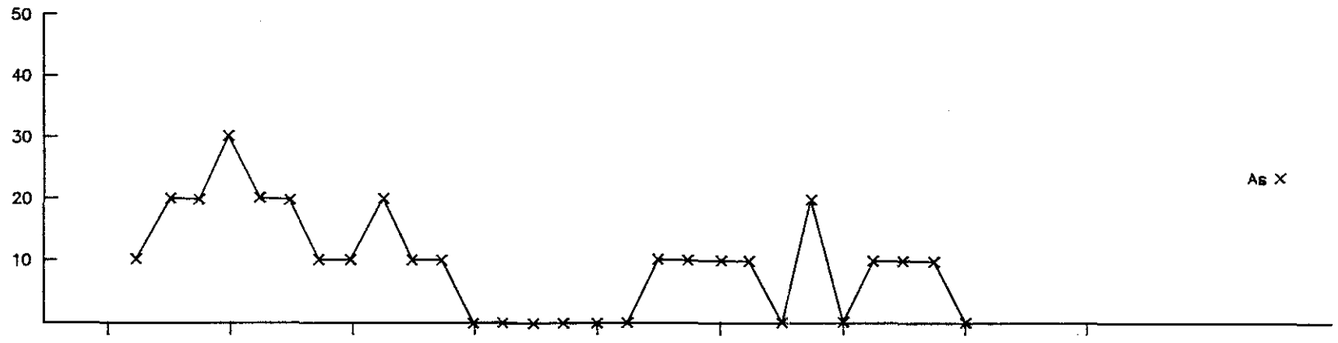
N.W. Coast Computer Aided Drafting Centre. Phone (004 354315)
Fax. (004 354495)

10428

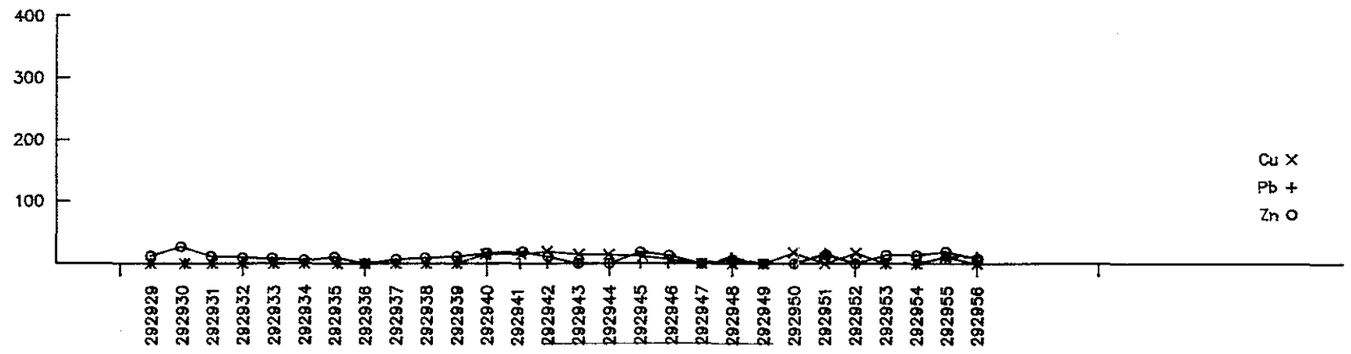
GOLD
ppm



ARSENIC
ppm



COPPER
LEAD
ZINC
ppm



VOLCANICS | GRANITE

BASE LINE
GEOPEKO 10000 E.

10300 E. 10300 E. 10500 E. 10600 E. 10700 E. 10800 E. 10900 E. 11000 E. 11100 E.

119396

91-3320.

5 cm

REPORT 595 ENCLOSURE 33

CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

ELLIOTT BAY – E.L. 40/85

LOW ROCKY POINT

LINE PROFILE 11600 N.
GEOPEKO LINE 11100 N.

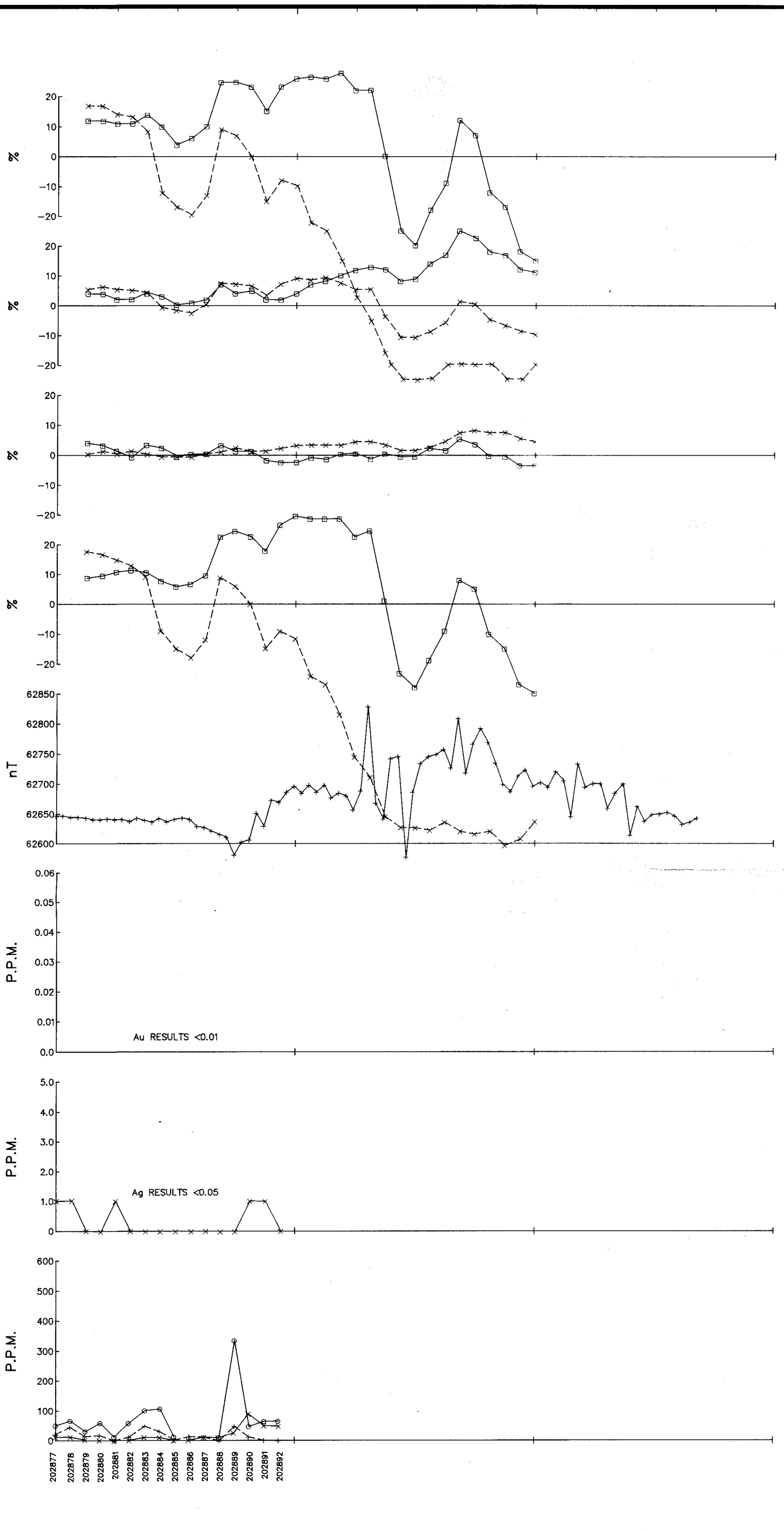
DRAWN BY : R.P.
DRAFTSMAN : T.G.D.S.
DATE : June '88
REVISIONS :

FILE No.

SCALE 1 : 5000 500 0 500 1000 METRES

FIG.

10429



CYPRUS MINERALS AUST. CO. & POSEIDON LTD.

ELLIOTT BAY – E.L. 40/85

PORPHYRY DOLERITE CONTACT

LINE 6450

PROFILES

DRAWN BY : C.T.
DRAFTSMAN : T.G.D.S.
DATE : April '87
REVISIONS :
FILE No.

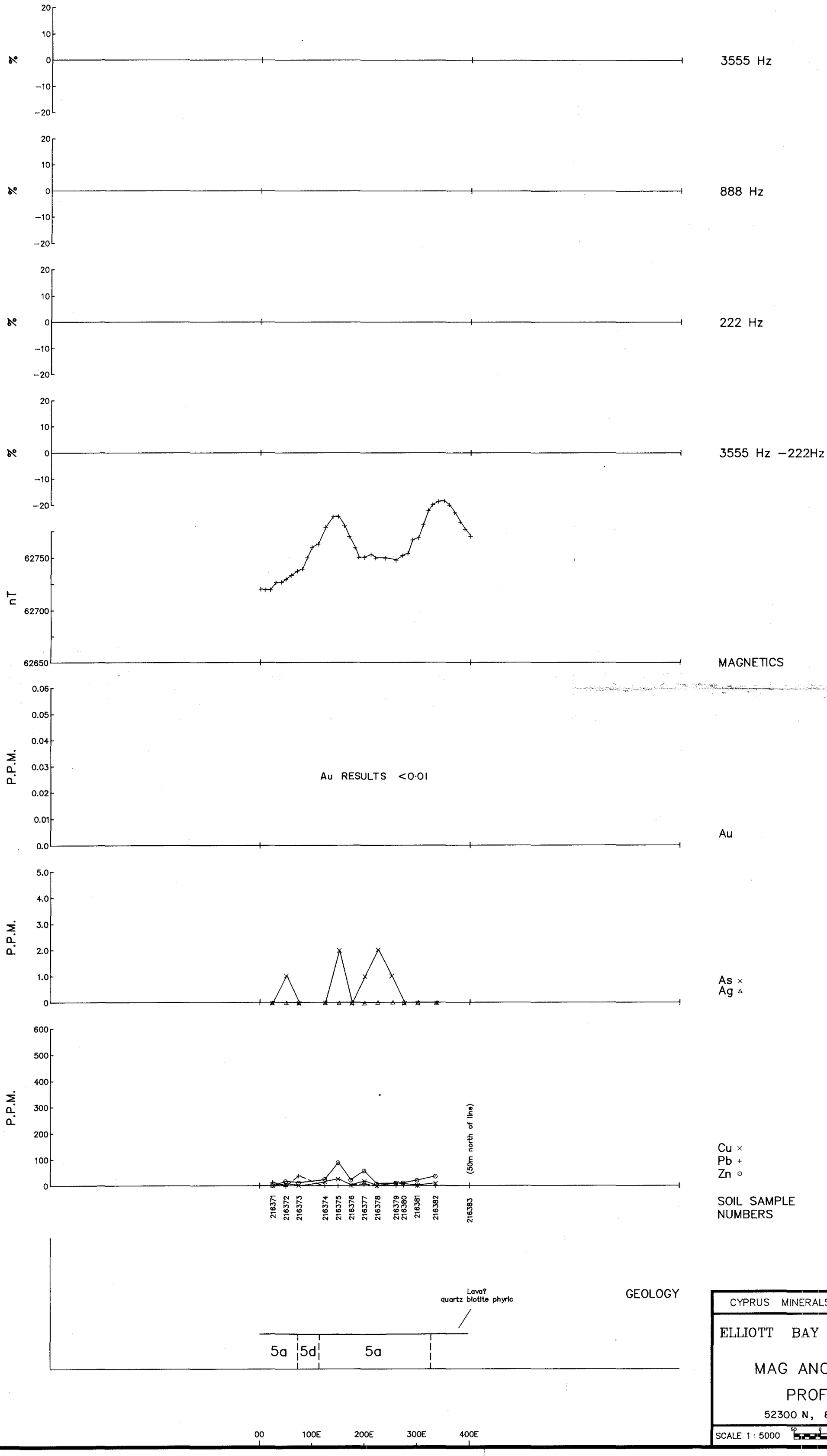
SCALE 1 : 5000 (50 0 100 200 METRES)

FIG.

REPORT 525

ENCLOSURE 63

10430



119398

91-3320.

CYPRUS MINERALS AUST. CO. & POSEIDON LTD.	
ELLIOTT BAY – E.L. 40/85 MAG ANOMALY 5 PROFILES 52300 N, 85300 E	DRAWN BY : C.T. DRAFTSMAN : T.G.D.S. DATE : April '87 REVISIONS : FILE No.
SCALE 1 : 5000 (50 0 100 200 METRES)	FIG.

REPORT 525

ENCLOSURE 64

10431

145°30'

145°32'30"

145°35'

145°37'30"

42°47'30"

42°50'

42°52'30"

5260000

5257500

5255000

5252500

5250000

5247500

5245000

5242500

5240000

377500

380000

382500

385000

387500

5 cm

119399

or shallow dipping source)

Center of source

Location of peak

EBS

Job : 1241 04 SEP 1991

Area ELLIOTTBAY

Scale 1 : 25000 91-3320

Sheet 1

PRELIMINARY ONLY

PLATE No. EB 9