

000

76-1152

aac

PROJECT NAME: COMSTAFF PROPRIETARY LIMITED

TITLE: INTERIM REPORT ON THE MAGNET MINE AREA
EXPLORATION LICENCE 5/63, PART 1

AREA NAME/S, STATE 1:250,000 SHEET NO/S & COORDINATES: Magnet, Burnie Sheet SK 55-3
Origin of Grid 373100m E, 5411900m N

COMMODITY/IES: Lead, Silver and Zinc

TEXT PAGES NO: 16

PLAN NOS: 16

TABLE NOS: 2

APPENDICES: 2

} ALL MISSING & UNAVAILABLE

AUTHOR/S: C.S. Rugless

DATE: 30th May, 1976.

AUSTRALIAN ANGLO AMERICAN LIMITED

INTERIM REPORT ON MAGNET MINE AREAMAGNET GRID (BAB)1. SUMMARY

The Magnet Mine, 6.7km south-west of Mt. Bischoff, was a moderate lead-silver producer in the first half of the century (1891 - 1940). Cottle (1953) estimated a total production of 37,993 tonnes of lead and 248,190kg silver from 629,949 tonnes of ore. Although there is no record of zinc production, he estimated the grade to be 5.7% lead, 7.3% zinc and 394 grammes per tonne of silver.

Strong evidence for a granitoid association for the hydrothermal lead-zinc-silver mineralisation at Magnet and smaller lodes to the north, prompted the construction of a reconnaissance grid to cover a prospective area extending 3.8km north-east from the Magnet Mine. Exploration of the grid by geological mapping, ground magnetometer surveying and geochemical soil sampling indicates that the Magnet Lode has a 900m strike length and is open to the south. The Magnet Lode is encompassed by a north-westerly flanking 1800m by 400m arcuate propylitic alteration zone containing pervasive quartz veining with minor chalcopyrite/pyrite mineralisation. The presence of the alteration zone is also outlined by a zone of low magnetic response within normally magnetic basic rocks.

Detailed mapping of the Magnet Mine area has been helped by exposures in a recent road cutting through surface mine workings. The existence of at least three mineralised pipe-like zones has been revealed at the convergence of intersecting hanging wall and footwall shear sets within a locally thickened ultramafic unit, at the base of a basic volcanic pile.

Previous exploration of the mine area by Electrolytic Zinc Co, Ltd. and Cleveland Tin N.L. proved unsuccessful. Their boreholes were not correctly sited to intersect the discrete steep westerly plunging ore pipes. Encouraging zinc grades within the dump and tailings material (~ 10% zinc) and the footwall zone of the

newly exposed gossan (\pm 5% zinc) has prompted reappraisal of the old mine workings. Since the mine was worked selectively for high grade lead-silver ore, it is considered that the zinc rich footwall may still be present.

It is proposed to probe the main workings at depth by two boreholes sited to intersect the Magnet Lode at 200m below surface.

The grid may be extended 600m to the south to facilitate exploration of the possible southern strike extension of the mineralised Magnet ultramafic unit. Electrical geophysical methods (S.P., I.P. and Crone E.M.) will be considered as exploration techniques over the grid to test possible strike extensions of the Magnet Lode and associated alteration zone.

2. INTRODUCTION

Mineralisation in the Waratah district appears to be genetically and spatially related to the Devonian period of granite intrusion. The granitoid genetic relationship of the Mt. Bischoff tin deposit and satellite tungsten, zinc and antimony deposits is generally accepted (Solomon and Groves). Lead-zinc-silver deposits south-west of Mt. Bischoff (Plan 1) show a spatial relationship with the Devonian granite trend in North-west Tasmania, which extends from the Heemskirk Granite west of Zeehan, through the Meredith Granite under the Mt. Bischoff quartz porphyry dykes to the Hampshire Hill Granite, south of Burnie.

The probable granitoid relationship of lead-zinc-silver mineralisation at the Magnet Mine and lesser deposits to the north prompted construction of a reconnaissance 3800m by 1400m grid to test the possibility of northerly strike extensions of the Magnet ore horizon and/or other favourable ore settings in the area.

Detailed mapping of the Magnet Mine area was possible due to recent exposures of the old mine workings in the new road constructed by Electrolytic Zinc Co. Ltd. for transporting the Magnet Mine tailings to the Waratah/Luina road. Established controls for mineralisation differ from the model presented by Nye (1923) only in the petrography and regional setting of the host rock, and the intensity and regional importance of the shearing which controls the hydrothermally generated mineralisation.

003

3. WORK DONE

Most of the Magnet Grid was cut in 1975. It comprises nineteen lines, each 1400m long (3400W to 400E) and 200m apart, along a baseline bearing 238° (magnetic). It extends from the Magnet Mine to the junction of the Magnet Creek with the Arthur River. Extensions to the grid, cut during the 1975/76 summer season, include an additional two 1400m lines (200E and 400E) to the north-east, and southerly extensions of lines 3400W (0 to 360S), 3200W (0 to 200S), 2400W (0 to 300S) and 2200W (0 to 200S).

The A⁰ soil horizon was sampled and a Proton Magnetometer survey, with readings every 20m, completed. Soil samples have been sieved to -80# and analysed for copper, lead, zinc, barium, molybdenum, tin, silver and nickel. Geological mapping at 1:5000 scale has been completed over lines 3400W to 000W inclusive.

Detailed 1:2000 scale mapping of the Magnet Mine area was controlled by a tape and compass survey of all important features including tracks, creeks and tie lines to pits, shafts, adits and rock outcrops.

4. REGIONAL GEOLOGY (See Plan 1)

The Cambrian succession in the Luina-Waratah-Tullah area comprises rock types identifiable with present day petrotectonic assemblages at colliding plate margins, where subduction of an oceanic plate beneath a cratonic plate gives rise to a volcanic island arc assemblage and oceanic trench sediments. The Bald Hill and Huskisson ophiolites are remnants of an oceanic plate which was subducted beneath the Tyennan craton giving rise to the arcuate acid to intermediate volcanics in the Chester/Upper Que River area (Mt. Read Volcanics). Contemporaneously deposited turbidite sediments occur west of these acid volcanic rocks in the Coldstream/Lower Que River area.

The Magnet Grid overlies rocks at the interpreted oceanic plate-trench margin, where ultramafic/mafic extrusive and intrusive rocks, presumably generated at an oceanic rift centre, are sandwiched between conformable turbidite sediments.

A later phase of granite intrusion associated with the Devonian Tabbarabberan Orogeny gave rise to the observed hydrothermal tin, tungsten, antimony, silver, lead and zinc mineralisation in the Waratah-Luina area.

5. MAGNET MINE

5.1. Geology (see Plans 2 and 3)

The most significant account of the geology of the Magnet Mine was that of Nye (1923) who considered the Magnet Lode occurred within a "websterite porphyrite" dyke which was intrusive into Dundas Series sediments. He argued the presence of sediments within the dyke were further proof of its intrusive nature. The present study has indicated that the "websterite porphyrite" host to mineralisation at Magnet is in fact a basal ultramafic unit comprising serpentinised ultramafic flows (thin sections TD 403, TD 404 and TD 417) and tuffs (thin section TD 487) which conformably overly greywackes and mudstones of the Dundas Series. The presence of sediment bodies within the unit are indicative of hiatus during ultramafic volcanic activity. The sediments appear to be conformable with the ultramafites and comprise greywacke flanked by foliated black shale.

The host ultramafic unit locally thickens to a width of 50m in the mine area and has been identified along 900m strike length. It is overlain conformably by basic extrusive and intrusive rocks which were classified by Nye as "diabase porphyrite". Petrographic studies have shown that the basic extrusives include spherulitic basalt (variolite, thin section TD 458) and comagmatic(?) intrusives including porphyritic melagabbro (thin section TD 483 and TD 491) and porphyritic microgabbro (thin section TD 496).

Nye felt that the "dyke" intrusion was controlled by major faults and the mineralisation was also controlled by the fault pattern. The presence of large scale faults or lineaments in the area can not be substantiated by the present study. It is felt that the serpentinised ultramafic unit acted incompetently during later phases of tectonism in the area, resulting in the development of a foliation parallel to the country rocks (220°) interpreted by Nye as the Hangingwall Shear.

The Footwall Shear set (170°) recognised by Nye, possibly developed just prior to the mineralising episode, and is best developed within the less competent ultramafic unit.

The two "shear" sets formed the channel ways and loci for influxing hydrothermal solutions which preferentially deposited lead-zinc-manganosiderite mineralisation at their convergent zones. A later period of hydrothermal activity introduced base metal poor ankerite which Nye felt replaced the lead-zinc-manganosiderite ore.

At least three mineralised convergent zones or pipes have been recognised during the present study and have been nominated Pipe 1, Pipe 2 and Pipe 3. Pipes 1 and 2 comprise the Magnet Mine and have been worked to 280m and 160m respectively. Pipe 3 has only been explored on the upper levels.

A stereographic analysis of all mineralised veins found along the Magnet road cutting has indicated three main directions:

- (i) Strike 214° , dip 73° NW (hangingwall shear),
- (ii) Strike 170° , dip 66° W (footwall shear),
- (iii) Strike 168° , dip 75° E (footwall shear).

The last direction is confined to Pipe 2. The reversal of dip of the footwall shear is regarded as a localised phenomenon. The two former trends are regarded as the most important. Their intersection gives rise to a 67° plunge towards 258° for the ore pipes (Plan 4). This is confirmed by the indicated direction of the mine workings (Nye, 1923).

By using the above information and the fact that a thrust may have displaced the ore pipes approximately 50m further west as evidenced in Pipe 3 (Electrolytic Zinc Co. borehole information - Plan 2, cross section A-B), it is possible to construct a level plan of the Magnet ore pipes (Plan 5) which has been used as the basis for drill hole planning.

5.2. Gossan Geochemistry

The recently constructed road cutting has exposed spectacular gossans over each of the three recognised vein convergent zones or pipes. The intervening altered ultramafic unit is also ferruginised in places. Reference to Plan 2 and Table 1 indicates the positions and trace element values of grab and channel samples taken over the gossans.

Pipe 1 exhibits the best developed gossan, and values indicate metal zonation from a zinc rich

footwall samples TD411 - TD416) to a lead rich hanging wall lode (samples TD418 - TD419).

Gossans over Pipes 2 and 3 are predominantly zinc rich. Borehole information indicates zinc dominance over lead continues into the primary zone. (Cross sections AB, CD, Plan 2).

5.3. Production History

Total production over the working life of the Magnet Mine (1891 - 1940) was estimated by Cottle at about 37,993 tonnes of lead and 248,190kg of silver from 629,949 tonnes of ore.

Nye indicates that during the early years of the mine (1891 - 1900), "considerable quantities of first class ore (29% lead and 45oz/ton silver) and gossan were sent away from the mine", evidently from the levels above the 90m deep zone of oxidation. Second class ore (4% lead and 6oz/ton silver) was treated later when a concentrating plant was erected in 1904.

Twelvemiles mentions in 1903 the upper four levels were being mined within the oxidised zone. At that time the mine was averaging 8% to 9% lead and 40oz ton silver and was being worked over 575 feet strike length in the upper levels and 300 feet length in the lowest level. The width averaged 3 feet to 8 feet and was often considerably wider." The mine was barely profitable during the years 1908 to 1923 and "just paid for itself" because of low lead and silver prices and the cost of building expanding plant facilities. Records indicate that only higher grade ores were mined from the middle levels (6 to 12) during this period.

Records from the later periods of mining are sketchy. Very little development work was undertaken and mining was concentrated on the levels developed in the period up to 1922 (down to level 16). Cottle calculated from production figures between 1916 and 1933, that the recovery grade of the mine was 5.7% lead and 394gm per tonne silver. Tailings losses are not known but Cottle estimated the dump material to contain 1.3% lead, 7.3% zinc and 185gm per tonne silver. This is supported by grades within the tailings material (being currently mined by Electrolytic Zinc Co. Ltd.) which average 8% to 10% zinc. Throughout Nye's account of the mine, only passing comment is made about the

presence of sphalerite, although he does mention that 'galena and sphalerite are not intimately associated in the ore.' Sphalerite ore was regarded as mullock as evidenced by the zinc rich dump and tailings material. Grab samples taken from the deeper level mine stopes are obviously biased towards galena content in their selection but they still contain interesting values, viz:

Grab samples taken by Nye (1923)

<u>Location</u>	<u>Assay</u>		
	Lead	Zinc	Silver
No. 11 stope (1.5m channel sample)	10.10%	4.46%	12.75oz/ton
No. 13 stope (footwall ore)	29.70%	12.88%	45.73oz/ton

5.4. Previous Exploration

Limited exploration of the Magnet Lode has been carried out by Electrolytic Zinc Co. Ltd. and Cleveland Tin N.L. in the early 1950's and 1968 respectively.

Electrolytic Zinc Co. Ltd. failed to intersect economic mineralisation in their two opposed boreholes (Plan 2, cross section A-B). Their holes indicate that a low angle fault or thrust observed at surface has displaced the mineralised zone 50m to the west. By extrapolating the positions of the ore pipes and drill hole intersections at depth (Plan 5) it is evident that Electrolytic Zinc Co. Ltd. have intersected the southern portion of the footwall lode of Pipe 3 in hole WP 83, and have clipped the northern end of Pipe 2 in hole WP 84.

Cleveland Tin N.L. drilled three boreholes which tested two sections south of ore Pipe 3, with little success (Plan 5). Borehole M3 tested the southern ultramafic unit where no ore pipes (convergent zones) have been recognised, and failed to intersect mineralisation. Boreholes M1 and M2 tested the section closer to Pipe 3 (Cross section C-D, Plan 2). M1 intersected only a trace of lead-zinc mineralisation and is interpreted to have been well south of Pipe 3. M2 intersected stronger mineralisation

008

and is interpreted to have clipped the southern edge of Pipe 3.

Drilling programmes implemented by both companies were designed to explore mineralisation below the strongly gossanous convergent zone of Pipe 3 but failed to compensate for the structural controls on the lode.

6. MAGNET GRID

6.1. Geology (see Plans 6 and 7)

The stratigraphic sequence originally adopted as a regional extension of the stratigraphy at Cleveland Mine to the north-east by Glasson and Cox has been adopted for the present study, with modifications, viz:

<u>Tertiary</u>	<u>Basalts and Gravels</u>
Dundas Series (Cambrian)	a) Crescent Spur Formation (Top) (felspathic greywackes and inter-bedded mudstones)
	b) Hall's Formation (grey, fawn and red cherts and mudstones)
	c) Deep Creek Basic Volcanic Formation (basal ultramafic volcanics, variolites, basalts with comagmatic intrusive gabbros and pyroxenites)
	d) Magnet Creek Formation (lithic micaceous greywackes and mudstones with minor basic volcanics)
Bischoff Series (Precambrian)	Bischoff Slates (Grey quartzites, shales and siltstones with minor black shales and cherts)

The Magnet Lode occurs in a locally thickened portion of a basal ultramafic volcanic unit in the Deep Creek Basic Volcanic Formation which is thought to be conformable with underlying greywackes and mudstones of the Magnet Creek Formation, and over-lying cherts, greywackes and mudstones of the Hall's and Crescent Spur Formations.

The north-westerly dipping succession is thought to young to the north-west, as indicated by rare sediment facings (graded bedding) and compositional ultramafic to basic grading in the basic volcanic pile. The Cambrian succession overlies the Bischoff Series grey quartzites and foliated shales unconformably. The main evidence for this being the change of sedimentary provenance from the quiet shelf deposited sediments of the Bischoff Series to the trench deposited sequence of the Dundas Series. Lack of shearing rules out a fault contact for the two rock series. The Bischoff Series rocks have been exposed within the core of a gently south-easterly plunging anticline. Refolding of the Cambrian rocks to the north of the anticlinal axis is not evident.

Faulting has disturbed the Precambrian-Cambrian succession. Several faults normal to bedding occur in the northern half of the grid and similar faults are postulated to occur in the southern half. Thrust faults oblique to bedding have been recognised in the mine sequence. One fault exhibits a 50m south block north displacement.

A 1800m long by 400m wide arcuate alteration zone encompasses the Magnet Lode and basic rocks to the north-east. Alteration consists of albitisation, chloritisation, silicification, carbonatisation and less commonly epidotisation which is consistent with the propylitic alteration type (thin section TD 483, TD 492, TD 496, TD 404, TD 417 and TD 437). This alteration is commonly found at the outermost alteration zones of porphyry copper deposits. Hydrothermal quartz veining is pervasive and has apparently healed a fracture set within host rocks. Minor chalcopyrite, pyrite mineralisation is associated with the larger quartz veins. (Table 1 - Gossan samples TD 495, TD 497, TD 499, TD 925 and TD 940).

The alteration zone is thought to be the surface expression of a buried acid intrusive body or bodies related to the Devonian granite suite. Flat lying tertiary basalts, dolerites, gabbro and underlying fluvial gravels and lacustrine sandy sediments cap all topographic highs in the area and mask the underlying Cambrian geology.

010

6.2. Magnetics (see Plan 8)

The significant feature of the magnetics of the grid area are the areas of low magnetic response. The host Magnet ultramafic gives rise to a poor but definable magnetic low which extends 500m north of the last known outcrop of the ultramafite.

The contact between the non magnetic Bischoff Series and magnetically responsive Dundas Series is defined by the magnetics.

The arcuate alteration zone defined by mapping gives rise to a coincident area of low magnetic response in normally magnetic basic rocks. This phenomenon can be attributed to the process involved during alteration which has effectively reduced magnetite to non magnetic iron oxides. (Refer to thin section TD 483).

The area of low magnetic response over the northern half of the grid is attributable to a thickening of non magnetic sediments including cherts and mudstones.

Capping Tertiary basics have given rise to a variable magnetic picture. In part they are strongly magnetic.

6.3. Geochemistry

Grid soil geochemical data has been treated statistically. High background and anomalous populations have been outlined by logarithmic cumulative frequency plots (see Table 2). The elemental characteristics or associations of the area are indicated by correlation coefficients and factor analysis (Table 2). The most important association is a lead/zinc/weak mercury relationship.

It is important to note that the floodplane of Magnet Creek carries anomalous amounts of all elements. This has to be considered when studying the geochemical data.

The trends of each element in relation to the interpreted grid geology is discussed below:

6.3.1. Tin

Northerly trending high background values

occur north of the Magnet Mine, within the alteration zone, and may be caused by a leakage anomaly from tin mineralisation at depth. The origin of anomalous tin values at grid 000W, 850N is unknown but may be attributable to alluvial tin in Tertiary gravels.

0.3.1. Copper

No definable pattern exists. The Tertiary basalt cap has low contained copper. The Magnet Lode and the quartz-chalcopyrite mineralisation within the alteration zone give rise to adjacent anomalous copper values, although no major extensions of the mineralised veins are outlined by the soil values. Anomalous copper values outside the alteration zone can not be explained although Cambrian basics are known to have high contained copper values.

0.3.2. Lead-Zinc

The two elements have been dealt with together because of their strong statistical relationship in the Magnet grid. Strong lead-zinc anomalies and an enveloping halo of anomalous lead values coincide with the Magnet Lode, and interpreted northern extensions of the Magnet ultramafic host. Anomalous lead-zinc values occur elsewhere in the alteration zone and are attributable to observed minor mineralised showings. A gossan (gossan sample TD 955) at grid 1400W, 80N has a coincident lead-zinc anomaly. The extension of this gossan may explain the anomalous values at grid 600W, 280N.

Anomalous lead-zinc values on the western sections of lines 3400W, 3200W, 3000W, 2800W and 1200W can not be explained except possibly by high contained values in the Cambrian basalt.

Anomalous zinc values over the Tertiary basalt cap can be explained by a high zinc content in the basalts.

Anomalous lead-zinc values occur at the southern boundary of the Tertiary basalt cap on lines 600W and 400W and may be due to lateral cation migration from an anomaly beneath the basalt.

6.3.4. Barium

No meaningful trends can be gleaned from the data. The distribution of values is unusual and may be suspect; geochemical trends follow the grid lines rather than the geology.

6.3.5. Nickel

No definable pattern exists. The host Magnet ultramafite is not delineated by the nickel values. Nickel values appear to have dispersed downhill from their probable basic/ultrabasic origin in the north-eastern portion of the grid.

6.3.6. Molybdenum

No anomalous values coincide with either the Magnet Lode or alteration zone. High background values appear to follow a strata-bound chert associated with a pyrite gossan within the Bischoff Series rocks. The north-eastern portion of the Tertiary basalt has coincident high background values.

6.3.7. Mercury

Strong mercury trends occur over the Magnet grid and correspond with geological features.

Anomalous mercury values coincide with Magnet Lode and neatly outline the flanking alteration zone. A linear mercury anomaly coincides with Cambrian basic/ultrabasic intrusives in the north-east portion of the grid.

The gossan at grid 1400W, 60N exhibits a corresponding mercury anomaly.

Anomalous mercury values outline the Tertiary

basalt cap. These values overlap onto underlying Cambrian rocks in the north-eastern portion of the grid (lines 400W, 200W and 000W).

6.3.8. Summary

- a. Elements which have effectively outlined mineralisation or rock units over the Magnet grid include copper, lead, zinc, mercury and tin.
- b. Geochemistry has outlined the Magnet Lode and substantiated the possibility of the mineralised ultramafite extending 500m to the north.
- c. The Magnet alteration zone has been effectively outlined by a mercury halo.
- d. A gossan found by mapping at grid 1400W, 60N has coincident lead, zinc and mercury anomalies.
- e. Copper anomalies within the alteration zone correspond with known copper mineralisation. It follows that all copper anomalies within this zone are worth investigation.
- f. Tin anomalies occur within the alteration zone and possibly reflect tin mineralisation at depth.
- g. Strong lead-zinc and coincident mercury trends occur at the Tertiary basalt/Cambrian contact in the north-east portion of the grid and may represent lateral cation migration from an anomaly beneath the basalt. This possibility is supported by the presence of INPUT and Crone E.M. anomalies at grid 000W, 920N to 960N and grid 200W, 940N respectively.

7. DISCUSSION

Metal zonation of mineral deposits in the Magnet/Mt. Bischoff area is similar to that associated with granite/granodiorite intrusive elsewhere. Stanton cites the case of mineral zoning in the Cornish vein system where tin and tungsten have been deposited closest to the mineralising intrusive, and with a progressive lowering in temperature away from the intrusion, copper, tungsten, zinc and lead are deposited. The gangue minerals follow the same trend with quartz and tourmaline occurring closest to the intrusive, with carbonates and barites away from it.

Mt. Bischoff provides an analogous model where zonation away from the Devonian quartz porphyry system includes tin, tungsten, antimony, zinc and lead. The lead-zinc-carbonate mineralisation is interpreted to lie peripherally to a buried acid intrusive body manifested at surface by quartz veins containing minor chalcopyrite mineralisation within the propylitic alteration zone. It follows that the alteration zone could house granitoid associated metals including copper, antimony, bismuth, tungsten and tin at depth.

8. CONCLUSIONS

- 8.1. Lead-zinc mineralisation at the Magnet Mine is structurally controlled and occurs within three vein convergent zones or pipes within a locally thickened basal ultramafic unit. The general trend of the pipes is a plunge of 67° towards 258° (T).
- 8.2. Mining at Magnet concentrated on the northernmost pipe which was worked to the 14 level at 280m depth. Sphalerite rich ore was treated as mullock and was either dumped or used to fill the stopes. There is a distinct possibility that the mine was worked on a selective basis and sphalerite rich zones left.
- 8.3. The mineralised ultramafic host has been mapped over 900m and is open to the south. Magnetic and geochemical information indicate that it may extend 500m to the north.
- 8.4. The alteration zone encompassing the Magnet Lode and the basic rocks to the north-east may relate to a buried acid intrusive. Minor copper mineralisation occurs within this zone which must be also prospective for the other granitoid associated metals at depth.

- 8.5. Rocks similar to those found in the Magnet Mine area occur in the northern half of the grid although ultramafic tuffs and flows have not been recognised.
- 8.6. A lead and zinc anomalous gossan found within Bischoff Series rocks on a grid 400W, 60N appears to be stratabound, and should be investigated further.
- 8.7. The origin for INPUT and Crone E.M. anomalies over Tertiary basalts in the northern portion of the grid could not be found, although lead, zinc and mercury anomalies in the area may represent leakage anomalies from a source beneath the basalt.

9. RECOMMENDATIONS

9.1. Magnet Mine

Two diamond drill holes, MAG 1 and MAG 2, are recommended to test the width and grade of the Magnet lode. If the above holes intersect viable ore additional drilling will be required.

9.2. Magnet Grid

It is proposed that Magnet Grid be widened and extended.

Extension lines should be cut 200m to the south of lines 3000W, 2800W, 2600W, 2000W, 1800W, 1600W and 1400W, to facilitate implementation of electrical geophysical methods over the interpreted extension of the Magnet host ultramafite, and over the gossan found at grid 1400W, 60N.

The grid should be continued at least 600m to the south to cover the extension of the Magnet host ultramafite to the south. The same grid pattern should be adopted including extension of the baseline bearing 238° with 1400m lines extending from 200S to 1200N.

The grid should be continued to the north as previously proposed to include the lead-zinc occurrences at Persic and Silver Cliffs. Magnetometer surveying and geochemical A⁰ soil sampling should be carried out over the grid extensions.

Electrical geophysical methods including Self Potential (S.P) and Crone E.M. should be implemented over the entire grid.

The possibility of disseminated mineralisation within the recognised propylitic alteration zone should be investigated by initially implementing an Induced Polarisation (I.P.) programme to cover the alteration zone between lines 3400W and 1400W.

The gossan at grid 1400W, 60N should be investigated using the above geophysical methods. The gossan could be further exposed by costeaning.

The E.M. anomalies at grid 200W, 940N and grid 000W, 940N may have coincident geochemical anomalies which is shown as leakage below the basalt. Since costeaning of the Tertiary basalt is not a feasible proposition, the E.M. anomaly should be examined by diamond drilling.

C.S. Rugless