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E.L. 21/99 - Wanderer River

Northeastern Tasmania.

Annual Report 27/01/01 – 26/01/02

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SUMMARY

- All existing data from EL 21/99 was reviewed by R. Stagg of Project Geoscience Pty Ltd, as part of an overall review of all TasEx Resources properties. This Annual Report is an extract of all information pertaining to EL 21/99 from that report.
- Core from 2 drillholes from the Condor prospect were examined.

TABLE OF CONTENTS

2

| | |
|--|-----------|
| INTRODUCTION | 3 |
| Access & Weather | 3 |
| Land Status | 3 |
| GEOLOGY | 4 |
| General Description of Regional Geology | 4 |
| Mineralisation | 6 |
| Exploration Model(s) | 6 |
| PREVIOUS EXPLORATION | 7 |
| Exploration and Mining History | 7 |
| Recent Exploration | 8 |
| PROSPECT DESCRIPTIONS | 9 |
| Elliott Bay | 9 |
| Thirkell Hill | 13 |
| PROSPECTIVITY | 15 |
| Low Rocky Point Granite and Hudson River Zones | 15 |
| Exploration Techniques | 15 |
| EXPLORATION PROGRAM | 16 |

INTRODUCTION

The SMRV Project covers all of the MRV south of Macquarie Harbour in south – western Tasmania a strike length of approximately 45 kilometres. The area is held under two granted tenements, EL 20/96 Elliott Bay and EL 21/99 Wanderer as well as ELA 24/2001 High Rocky Point. There is a small gap in the centre of the area (one sub – block) approximately in the area of the Stoney Creek granitic porphyry.

The two granted tenements cover an area of approximately 177 square kilometres. TasEx has acquired a 90% interest in the two granted tenements from Exploration & Management Consultants Pty Ltd and McNeil Associates Pty Ltd in consideration of the issue of shares and options. The vendors retain a 10% free carried interest in the tenements to completion of a bankable feasibility study (refer to Independent Solicitors' Report).

This southern end of the MRV, a belt of Cambrian calc – alkaline felsic to mafic volcanics has been significantly underexplored in comparison with the much better known northern section of the volcanic belt. This northern section covering approximately eighty kilometres of strike of similar volcanics from Hellyer to Mount Darwin host the substantial mineralised deposits listed in the table below.

The MRV hosts three of Tasmania's six 'world – class' deposits. The potential discovery size of this style of mineralisation can be seen in the following table:

Pre-Mining Resources – Examples of some Cambrian MRV hosted deposits

| Deposit | Tonne (million) | Cu % | Zn % | Pb % | Ag g/t | Au g/t | World Class |
|------------------|----------------------------|-------------|-------------|-------------|---------------|---------------|------------------------|
| Mt Lyell (field) | 311.0 | 0.97 | | | | 0.31 | * |
| Rosebery | 31.7 | 0.58 | 14.3 | 4.4 | 146.0 | 2.30 | * |
| Hellyer | 16.5 | 0.38 | 13.9 | 7.2 | 169.0 | 2.55 | * |
| Hercules | 3.33 | 0.40 | 17.3 | 5.5 | 171.0 | 2.80 | |
| Que River | 3.3 | 0.70 | 13.3 | 7.4 | 195.0 | 3.30 | |
| Henty – Mt Julia | 1.82 | | | | | 13.44 | |

* *Criterion is 100t of gold (3.2 million ounce) or equivalent*

TasEx owns none of the deposits listed in the table.

Access & Weather

Access to the area is by a rough, unformed track only suitable for 'Bombardier' style transport or four-wheel drive motorbikes, the Low Rocky Point track, from Macquarie Harbour. Larger vehicles (such as drill rigs and support vehicles) need to be ferried across Macquarie Harbour by barge or boat. The alternative and best access is by helicopter or light aircraft but this is subject to the weather.

The area is very exposed to the south westerly weather that dominates the western side of Tasmania. Even in summer this can mean continuous days of persistent drizzle or driving rain.

Both of these factors make exploration difficult and any expeditions need to be well funded, planned and supplied, as this is an expensive and technically challenging exploration environment. Fieldwork is seasonal with ground access only feasible between December and May.

Land Status

This is intended as a brief and informal general summary.

Certain sectors of central and south – west Tasmania are World Heritage listed. The MRV (and some volcanics of the Sorell Peninsula) have been specifically excluded from this listing on the basis of their mineral prospectivity.

Prior to the World Heritage listing all areas were classified as part of the South West Conservation Area. In 1992, the Tasmanian Government proclaimed the prospective rocks south of Macquarie Harbour to be within the Sorell Peninsula Prospectivity Zone in recognition of the mineral potential of the area. Any change in the status of the land within the Zone requires approval of both houses of the Tasmanian parliament with any affected party entitled to compensation.

GEOLOGY

General Description of Regional Geology

A major period of volcanic eruption in the Cambrian period resulted in the development of the MRV. A chain of volcanoes developed along the eastern edge of a water filled rift, which developed in the Tasmanian Continental Crust forming an arcuate ocean basin.

The initial volcanism was predominantly rhyolitic – dacitic in composition. The main unit, the feldspar phyric Central Volcanic Complex, is host to the Rosebery and Hercules VHMS deposits and the ‘footwall style’ Mt Lyell copper deposit. The predominantly quartz – feldspar phyric Eastern Quartz Phyric Sequence (EQPS) erupted to the east. The volcanics of the Elliott Bay area are lithologically similar to the EQPS.

This was followed by a phase of andesitic – basaltic volcanism with further rifting focussed to some extent on the Henty fault system. Major units are host to the Que River and Hellyer VHMS deposits and may also mark the time at which the Mount Lyell deposit formed.

Further rifting occurred on the Henty fault system followed by the mainly felsic final phase of volcanism. Coeval with the deposition of these dominantly volcanic sequences was the deposition of the Western Volcano-Sedimentary Sequences containing sediments of mixed volcanic or metamorphic provenance and minor felsic and andesitic volcanics.

The extensional tectonism that characterised the eruption and deposition of the MRV was focussed on the Henty fault system and the Great Lyell fault. Both Henty and Mt Lyell are major mineralised deposits hosted or controlled by faults like these. These faults were reactivated as reverse faults and produced upright north – south striking folds. The Owen conglomerate was deposited in the Dundas Trough.

Later intrusion of granitoids led to brittle wrench fault deformation and major tin deposits of various styles and minor base metal and gold vein deposits.

General Geology

Within EL21/99, the MRV can be divided into two main areas the D’Aguilar Range – Thirkell Hill area and the Elliott Bay area. The tenement is separated from the main belt of MRV north of the Gordon River and the two main areas are separated by a Tertiary graben (Moores Valley).

The geological understanding is hindered by relative lack of drilling and the nature of the surface outcrops, which are generally leached and bleached. The general geology is shown on Figure 2.

Elliott Bay area

Late Cambrian – Ordovician siliciclastics interpreted as Owen Conglomerate correlates are folded into a gently north plunging syncline with a shallowly dipping eastern limb and a steeply dipping to slightly overturned western limb. This is known as the Mt Osmond syncline. The Owen Conglomerate unconformably overlies MRV.

The sequence on the eastern limb of the Mt Osmond syncline from east to west is:

- a Precambrian sequence of multi - deformed metasediments;

- a westerly dipping unit of volcanoclastic and siliciclastic sediments correlated with the Sticht Range beds of the northern MRV sequence. This unit overlies the Precambrian partly in faulted contact and partly unconformably;
- a 2 to 3 kilometre thick quartz – feldspar – biotite porphyry, the Elliott Point Porphyry, occurs to the east;
- west of the Elliott Point Porphyry, the eastern limb of the Lewis River Volcanics occurs. This has been subdivided into the Hudson River and Wart Hill Pyroclastics. These consist of quartz – feldspar – phyric volcanoclastics including sediments and possible pyroclastics, quartz – feldspar phyric lavas (intrusives?), quartz – feldspar – biotite phyric lavas and intrusives and minor intermediate lavas or intrusives;
- the Waterloo Creek Group unconformably overlies the volcanics. These occur as a unit of felsic derived volcanoclastics, overlain by a unit of black pyritic shale with minor horizons of micaceous siltstone; and
- the Owen Conglomerate siliciclastics conformably overlie the Waterloo Creek Group.

The sequence on the western limb of the Mt Osmond syncline is as follows:

- west of the Waterloo Creek Group, the rocks consist of quartz – feldspar phyric volcanoclastics including sediments, quartz – feldspar – biotite phyric lavas (intrusives?), quartz – feldspar phyric lavas (intrusives?) and sediments ranging from black to grey shales, sandstones, vitric tuffaceous siltstones and siliciclastic sandstone, conglomerate and breccia. These rocks form part of the Wart Hill Pyroclastics;
- the Wart Hill Pyroclastics are followed to the west by a unit of interbedded conglomerate and sandstone with minor shale and siltstone. This varies compositionally from predominantly volcanoclastic to predominantly siliciclastic. A unit of shales and siltstones with minor volcanoclastics in turn follows this. These two units are called the Western Epiclastics;
- the Copper Creek fault is a major fault that extends from south to south – south – west through the Western Epiclastics. To the west of this fault the Western Epiclastics contain mafic volcanics possibly akin to the Mainwaring River Group further to the west;
- the western margin of the Western Epiclastics is faulted (Copper Creek fault?) and rocks to the west of this consist predominantly of sedimentary and volcanoclastic rocks of quartz – feldspar – phyric and feldspar – phyric composition. There are also units of plagioclase – pyroxene – phyric lavas, black to grey shales, siltstones and sandstones with an intercalated felsic to intermediate volcanoclastic; and
- the western boundary of this package is also in faulted contact with Mainwaring River group tholeiitic mafic lavas (intrusives) and mafic derived volcanoclastics.

Three granitoid bodies intrude the MRV, the Low Rocky Point granite, the Little Rocky River granite and the Stoney Creek granitic porphyry. The Low Rocky Point granite is a composite intrusion consisting of pink granite, cream adamellite and coarse porphyritic granite. The Stoney Creek body comprises granite porphyry with feldspar, quartz and biotite phenocrysts in an intensely sericitised and cleaved matrix. The Little Rocky River granite is also a composite intrusion consisting of massive granite porphyry and a strongly foliated medium – grained quartz feldspar porphyry.

The relative timing of these intrusions and folding events is not known. There is, however, fairly good consensus that the granitoids are more or less synvolcanic i.e. Cambrian and predate deformation. Anomalous tin in geochemical samples is associated with the granitoid bodies.

General correlations have been made with the major units of the Elliott Bay area with those in the main part of the MRV to the north. Although specific correlations with the better known lithostratigraphy of the northern section of the MRV (north of Macquarie Harbour) are unavailable, there is consensus that the Elliott Bay area does represent the southern continuation of the MRV.

Thirkell Hill area (northern section EL 21/99)

The MRV lie on the eastern limb of a north striking, shallowly north plunging syncline. Ordovician siliciclastics lie in the core of the fold. The western limb of the fold has been downfaulted during the formation of a Tertiary graben. The sequence dips at 60° – 70° and faces west.

A sequence of coarse to fine grained sediments with mixed Precambrian and volcanic provenance unconformably overlies Precambrian metasediments. To the north this sequence is in faulted contact with Ordovician siliciclastics. The unit fines from east to west and changes compositionally from Precambrian provenance to volcanic provenance. The sequence has been correlated with the Sticht Range Beds further north in the MRV.

A large, elongate body of coarse quartz – feldspar – biotite phyric porphyry occurs to the west of the sediments. It has been interpreted to be a Cambrian intrusive. Similar intrusives occur in the MRV package to the north and south.

A package of mixed felsic (quartz – feldspar \pm biotite phyric) lavas or intrusives and felsic volcanoclastics occur further west. This unit is the main exploration target for VHMS deposits and possibly gold deposits near the intrusive porphyry contact. Within this unit in the northern part of the area east of Mt Lee, a unit of “siliciclastic breccia – conglomerate with quartzite clasts” cuts across the regional strike. Petrologic examination indicates that the silica may originate as hydrothermal filling along a fault. The volcanics underlying this body are strongly silica – sericite \pm hematite altered.

A unit of felsic volcanoclastics, conformably overlies this package and is in turn overlain by fine shales / siltstones. These rocks are commonly schistose and sericitic and are correlates of the Waterloo Creek Group.

Siliciclastics interpreted as correlates of the Ordovician Owen Conglomerate to the north overlie the Waterloo Creek Group correlates. The contact may or may not be conformable.

A number of north – east and north – west trending wrench faults have been interpreted from aerial photography.

Mineralisation

Various exploration programs in the Elliott Bay and Thirkell Hill areas have identified a number of distinct types of mineralisation.

Base metal sulphide mineralisation as:

- VHMS massive sulphide style, eg Wart Hill (V19);
- Vein style galena, sphalerite and arsenopyrite mineralisation along the Copper Creek fault eg. V31;
- Disseminated Pb – Zn – Ag mineralisation in volcanoclastics eg. Lewis River
- Postulated Besshi style, eg Mainwaring Group prospects

The latter styles of mineralisation are widespread. Lead isotope work has recognised an early Cambrian as well as a Devonian age base metal signature.

Gold mineralisation has been found associated with:

- VHMS deposits, eg at Wart Hill (V19);
- quartz – pyrite – tourmaline alteration zones related to shears, eg at North Lewis (V12);
- quartz – gossanous zones associated with magnetite – chlorite alteration at granite margins, eg the Low Rocky Point granite;
- stratabound vein style mineralisation in coarse pyroclastics, eg Sassy Creek (V24);
- quartz veins, eg Hudson River Zone; and
- Tertiary gravels.

Exploration Model(s)

VHMS base metal style

“Palaeozoic Australian VHMS deposits occur within the submarine portion of calc – alkaline volcanic belts that are composed of a series of complex volcanic centres with related epiclastic facies” (Large, 1992).

The volcanic hosted massive sulphide (VHMS) deposit style of mineralisation in Tasmania is typified by the deposits already known in the northern section of the MRV. Some examples of these have already been summarised in *Table 1.1*. In the northern section of the MRV two types of VHMS deposits are known, viz high grade polymetallic stratiform massive zinc – lead – copper sulphides and low grade copper rich disseminated to massive stratabound deposits. The precious metal contents of the MRV deposits are particularly high in comparison with other massive sulphide deposits worldwide.

Large (1992) reported on 30 Australian VHMS deposits. The average size of sixteen Cu deposits was estimated to be 12.6 million tonnes at 1.3% Cu and 1.6 g/t Au and of ten Zn – Pb – Cu deposits was 7.6 million tonnes at 11.8 % Zn, 4.7 % Pb, 1.0 % Cu, 117 g/t Ag and 2.0 g/t Au. The four Zn – Pb – Cu deposits in the northern MRV are larger and higher grade than most other Australian VHMS deposits. Rosebery, Hercules, Hellyer and Que River average 10.3 million tonnes at 14.8% Zn, 6.0% Pb, 0.6% Cu, 161 g/t Ag and 2.7 g/t Au.

Besshi base metal style

Besshi style deposits are generally thin but laterally extensive deposits of Cu – Zn (– Ag – Au ± Co) that occur in Palaeozoic and Proterozoic sequences in various parts of the World.

Characteristically they are found in submarine tholeiitic rocks, associated with carbonate. Oxide – silicate iron formation, manganiferous exhalite and chlorite rich envelopes may be present

Fox (1992) reported on 21 deposits in various countries around the World. The average size of these deposits was estimated to be 14.0 million tonnes at 1.9% Cu, 1.9 % Zn, 0.1 % Co, 19 g/t Ag and 0.7 g/t Au. Not all the deposits have Co, Ag and Au.

Gold deposits

The most interesting target for gold mineralisation in the SMRV is a deposit similar to the currently operating Henty – Mt Julia gold mine in the northern MRV. This deposit hosts gold associated with sulphides in an alteration zone adjacent to the Henty fault that is a major syndepositional structure transgressing the MRV.

Stratabound gold mineralisation similar to the volcanic hosted Temora gold deposit in the Silurian volcanics of the Tasman Geosyncline in New South Wales could also occur. Here gold occurs in an alteration system with anomalous base metal (Pb) analyses associated with major zones of silicification.

Gold could also occur in a variety of other styles including quartz veins in alteration zones and stockworks or sheeted vein systems in granite. The latter models are discussed in section 3.1.3.

TasEx do not own any of the above named deposits.

PREVIOUS EXPLORATION

Exploration and Mining History

Elliott Bay Area

The Elliott Bay area saw some minor historical prospecting probably in the period between 1890 and 1910 and old workings are visible at Voyager 1 (V1) also known as Penders Prospect, Lewis River (V2), and V3. The extensive alluvial gold at Sassy Creek was apparently overlooked during this early prospecting phase.

In 1957 the L. E. E. joint venture held the first modern EL in Tasmania the “Gordon Concession” which covered a large area of south – west Tasmania. They undertook an airborne EM, magnetics and scintillometer survey and undertook inspection and some mapping and sampling of the old workings.

BHP explored the south – west of Tasmania from 1965 to 1975. They also undertook airborne surveys (magnetics and scintillometer) as well as stream sediment geochemical sampling of the MRV and some soil geochemical sampling. They also undertook an airborne EM survey (McPhar H-400)

Geopeko (a division of Peko – Wallsend Operations) undertook an extensive exploration program in the area between 1976 and 1985 recognising the potential of this southern extension of the MRV. The work started collecting stream sediment geochemical samples, geological mapping and followup of regional EM and aeromagnetic anomalies. This work identified 35 prospects called Voyager, numbered V1 to V12 and V14 to V36. The prospects were identified by various methods as historical prospects and outcrops (V1, V2, V3, V12, V18 and V23), aeromagnetic anomalies (V5, V6, V7, V14, V15 and V17), airborne EM anomalies

(V11, V21, V26 and V46), stream sediment geochemical anomalies (V8, V10, V24, V25, V27, V30, V31, and V35), soil geochemical anomalies (V28 and V29), favourable geology (V32, V33 and V35) and multi – disciplinary anomalies (V4, V9, V14, V19, V20 and V29). A number of these prospects are outside the area of the current granted tenement viz. V2, V3, V12, V17, V14, V18, V23, V24, V26, V28, V29, V30, V31, V33 and V36.

Further work included variously covering prospects with systematic gridding, soil geochemical sampling including C – horizon sampling, ground magnetics, VLF – EM and drilling. Between 1978 and 1981, drilling focussed on the prospectivity of the V9 prospect. This work led to the identification of the V22, and V34 anomalies.

Geopeko withdrew from the area in 1984 for a number of reasons, they had concluded that potential to locate an economic high-grade VHMS deposit within 100m of surface was low, exploration projects were being rationalised Australia wide and they were unable to attract a joint venture partner on favourable terms.

Cyprus Gold Australia Corporation (Cyprus) acquired the exploration rights in 1985 and undertook exploration between 1985 and 1990 targeting VHMS style massive sulphide deposits and gold. After a complete review of the Geopeko work, Cyprus undertook a helicopter borne Dighem – EM and magnetic geophysical survey as well as additional C – horizon soil and rock chip geochemical sampling and geological mapping. Anomalous areas were followed up with priority on V12 (North Lewis), V24 (Sassy Creek), V29 (East Camp) and V19 (Wart Hill).

At North Lewis (V12) Cyprus drilled 5 diamond core holes (349.6 m). Follow up geochemical soil sampling at Sassy Creek (V24) led to a recommendation to drill, but this was not undertaken. Cyprus drilled 3 diamond core holes (409 m) at East Camp (V29). Cyprus also drilled 12 diamond core holes (1,962.3 m) at Wart Hill (V19). Down the hole EM was completed on the majority of the drill holes.

In 1989 – 1990 Cyprus joint ventured the area with Aberfoyle Resources Limited (Aberfoyle). They undertook an airborne QUESTEM geophysical survey covering a large part of the area. This survey identified several anomalies that warranted ground follow up. Ground EM and soil geochemical sampling was undertaken over some of the anomalies. Aberfoyle also supported lead and sulphur isotopes work at the CSIRO and CODES (University of Tasmania).

Thirkell Hill Area

Australian Minerals completed a Turair survey and reconnaissance geochemical sampling in 1973.

Union Oil Development Corporation (Union Oil) undertook the first systematic modern exploration in the area in 1975. They constructed an access track from Birch Inlet and undertook grid based (31,000m) soil geochemical sampling and IP geophysical surveys over the southern two thirds of the area. They also completed an airborne EM geophysical survey over the southern third of the area and reconnaissance sampling elsewhere. This work identified several Pb, Zn, and Cu geochemical anomalies within the MRV. These appeared to be semi-continuous over strike lengths of 1 to 5 kilometres. Numerous more isolated IP, EM and geochemical anomalies were also identified.

Geopeko Ltd (Geopeko) undertook further field work in 1977 and subsequently briefly in 1981. Geopeko confirmed the Union Oil soil geochemical anomalies by analysing C – horizon soil auger geochemical samples. They reviewed several of the prospects and undertook extensive geological traversing. In 1981, Geopeko flew a Dighem EM geophysical survey and completed semi – detailed ground exploration over 2 prospects including extensive auger drilling on one prospect in the MRV.

CSR sampled 13 stream sites for gold in 1985 and collected 4 pan concentrates. The pan concentrates all showed anomalous gold up to 10 g/t Au. However, bulk leach and stream silt analytical results from the 13 sites were all low.

Recent Exploration

Elliott Bay Area

Macmin applied for an exploration license surrounding the Cyprus / Aberfoyle license in 1994. This was targeted on 3 geochemically anomalous areas; the margins of the Low Rocky Point granite, the Three Creeks and Upper Hudson River areas. Macmin undertook field reconnaissance and soil (auger samples) and pan concentrate geochemical sampling.

Exploration & Management Consultants Pty Ltd (EMC) successfully tendered for the exploration rights to the SMRV area after Plutonic relinquished it and undertook a review of all the past work. In 1998 they joint ventured the area with Fimiston Mining NL (Fimiston).

Fimiston conducted a review and reprocessing of geophysical data then drilled two diamond core drillholes (752 m). One hole was drilled at Wart Hill (V19) and the other was drilled 500m to the south towards the East Camp prospect targeted on anomalous geochemical analyses and geophysics. Fimiston withdrew from the area in 1999. EMC has since focussed on digitising the large body of technical data.

Thirkell Hill Area

Macmin in joint venture with Anglo Australian Resources NL (AAR) undertook an extensive geochemical sampling program in 1993 and 1994. This included pan concentrate sampling, soil and rock chip sampling as well as a Huminex soil sampling program using MRT technology. This work led to diamond drilling and in 1995 six short drill holes (292.5m) were drilled on the Southern Porphyry Contact grid (south zone) targeted on “the best of the defined gold soil anomalies ”to test stratigraphic and structural associations. In 1996 further geochemical sampling was undertaken.

After AAR withdrew from the joint venture in 1997, Macmin undertook further drilling in 1998. Two diamond core drillholes (371m) were completed at the Condor prospect to test a base metal soil geochemical anomaly in MRV. Macmin’s targets were both VHMS style base metal sulphides and gold.

PROSPECT DESCRIPTIONS

Elliott Bay

The work done by EMC since Fimiston withdrew from the joint venture has focussed exploration interest into a number of Prospective Zones, all of which comprise a number of the historical prospects. The locations of these prospects are shown on Figure 2.

Mt Osmond Massive Sulphide Zone (within EL21.99)

This zone comprises the Wart Hill and Hudson River pyroclastics folded around the Mt Osmond syncline. This includes the Geopeko prospects V22, and V34 as well as the Cyprus prospects North Waterloo Creek, Mt Osmond East and Woolloomooloo Creek.

Detailed C – horizon soil geochemical sampling around the Mt. Osmond syncline by Geopeko located a number of base metal anomalies within the volcanoclastic rocks including around the syncline the V22 and V34 prospects.

V22

The V22 prospect is located in an area of hydrothermally altered Wart Hill pyroclastic rocks on the south eastern flank of the Mt. Osmond syncline. Soil geochemical sampling outlined three Zn – Pb anomalies. C – horizon soil geochemical sampling confirmed the linearity of the anomalies delineating the best Pb – Zn anomaly as a zone 400m long and 50m wide. Spot values up to 585 ppm Pb and 1,400 ppm Zn were obtained from sample analyses. A rock chip sample has assayed 0.44 g/t Au, but overall very limited gold evaluation work was undertaken before 1983 and no work has been undertaken since then.

Magnetic and dipole – dipole IP geophysical surveys were undertaken over the prospect. A subtle resistivity response may coincide with an interpreted fault.

Lithologically the rocks appear as strongly silicified breccias, agglomerates, lithic tuffs and tuffaceous sediments interpreted to represent a volcanic vent area.

V34

The V34 prospect is located to the north along strike from V22. It lies on the eastern limb of the Mt. Osmond syncline opposite Wart Hill (V19) on the western limb.

C – horizon soil geochemical sampling delineated a north – south trending linear anomaly greater than 1,200m long with a higher-grade zone about 400m long with analyses up to 0.42% Pb, 0.54% Zn and 7 g/t Ag. Visible galena was observed in rock chips from C – horizon samples coinciding with values up to 0.4% Pb and 0.19% Zn.

The anomaly is underlain by fine to medium grained pyritic, chloritic quartz – feldspar crystal tuff.

Magnetic and dipole – dipole IP geophysical surveys were the last exploration work undertaken over the prospect in 1983. A broad resistivity low response coincides with the chloritic tuff.

Mt Osmond East

This prospect lies to the east of the Mt. Osmond syncline. It was initially located as follow up of airborne geophysical Dighem anomalies. Three traverses of soil geochemical sampling gave values of up to 0.6% Pb, 0.17 % Zn on analysis. One sample of surface gravels gave a geochemical analysis of 1.85 g/t Au but this was unable to be repeated.

The anomalous soils correspond to pervasive chlorite and vein controlled quartz – chlorite alteration of fine to medium grained rhyolitic volcanoclastics.

North Waterloo Creek

This prospect lies to the south east of V34. It was initially located as follow up of an airborne geophysical Dighem anomaly with anomalous stream sediment geochemical Pb, Zn and Au analyses. Ground follow up produced weak EM anomalies and the geochemistry could not be repeated.

Wooloomooloo Creek

This prospect was also located on airborne geophysical Dighem anomalies, which were shown to be very weak. There were no significant anomalous geochemical analytical results.

V9

The V9 prospect is located in Wart Hill pyroclastics south of the Mt. Osmond syncline on the northern flank of the Stoney Creek granitic porphyry. The area was initially selected as part of a magnetic anomaly from an airborne magnetic survey. Extensive hydrothermal alteration has been geologically mapped in the volcanoclastics.

C – horizon soil and rock chip geochemical sampling was undertaken. The samples were not analysed for gold.

A number of geophysical surveys were undertaken including magnetics, VLF – EM, dipole – dipole and gradient array IP and gravity.

Three diamond core drill holes were drilled (450m). V9/1 was targeted on the magnetic anomaly. V9/2 was targeted on a linear soil geochemical Cu anomaly with a gradient array IP anomaly. V9/3 was targeted on a dipole - dipole IP anomaly. The results are summarised in the table below.

V9 Prospect – Geopeko drilling results

| Hole No | Depth (m) | From (m) | To (m) | Width (m) | Cu% | Pb% | Zn% | Ag g/t | Au g/t |
|----------------|------------------|-----------------|---------------|------------------|------------|------------|------------|---------------|---------------|
| V9/1 | 60.0 | NSI | | | | | | | NA |
| V9/2 | 232.15 | 186.0 | 187.0 | 1.0 | 0.16 | 0.02 | 0.01 | 1.0 | NA |
| V9/3 | 158.55 | 94.0 | 95.0 | 1.0 | 0.01 | 0.01 | 0.16 | 1.0 | NA |

**NA – not analysed NSI – No Significant Intersections*

The V9 area has not been evaluated for its gold potential. Drainages are consistently anomalous, with assays up to 18 g/t Au in pan concentrate geochemical samples. The drill holes have not been assayed for gold. This will form part of TasEx's Year 1 exploration program.

Pan Concentrate and Other Geochemical Samples

Gold anomalies have been reported from a large number of creeks in the Sassy Creek Gold Zone other than those directly draining the Sassy Creek (V24) and V30 prospects. These include the following:

- an unnamed creek draining south of the V9 prospect has a number of anomalous gold analyses including 1.1, 2.0, 2.1, 2.4, 3.6, 7.4, 10.6, 11.3, 12, 13, and 18 g/t Au. The creek drains felsic epiclastics and lavas along an interpreted fault;
- a creek branching from this unnamed creek has a number of anomalous gold analyses including 1.09, 2.3 and 10.9 g/t Au. The creek drains the contact between the Stoney Creek granitic porphyry and chlorite altered epiclastics. There is also an IP chargeability geophysical anomaly in the granitic porphyry;
- a creek draining the western contact of the Stoney Creek granitic porphyry and felsic lavas has a number of anomalous gold analyses including 1.4, 4.8, 6.8 and 18.1 g/t Au. The V30 prospect covers part of this drainage basin;
- *Upper Boyd's Creek* has a number of anomalous gold analyses including 2.59, 3.17, 3.7, 3.72, 3.75, 6.9, 8.7, 10, 17.5 and 28 g/t Au;
- *Gerard Creek* has a number of anomalous gold analyses ranging up to 500.8 g/t Au. This sample included 50 visible grains of gold in the pan. This creek drains the V24 prospect and these were among the samples that led to its discovery; and
- *Watters Creek*, north – west of Wart Hill (V19), has a number of anomalous gold analyses in stream sediments geochemical – 80# samples ranging up to 1.0 g/t Au. The source is likely to be the Wart Hill (V19) prospect.

V10

The V10 prospect was originally delineated by anomalous base metal analyses in stream sediment geochemical samples. C – horizon soil geochemical sampling delineated a zone about 800m long and 50m to 200m wide with values up to 640 ppm Cu, 3,900 ppm Pb and 1,900 ppm Zn. No Au analyses were undertaken. Visible gold (up to 23 grain counts) has been observed in pan concentrate geochemical sampling from creeks draining this area.

Magnetic, VLF-EM and IP geophysical surveys did not locate any anomalies.

Low Rocky Point Gold Zone

Creeks draining the contact between the Low Rocky Point granite and the MRV often have anomalous gold in pan concentrate geochemical samples. The eastern contact is faulted along 2 kilometres in a north, north – west direction. At the contact, the lithologies are silicified and contain abundant quartz stockworks with minor hematite – pyrite – quartz veins and local carbonate alteration. The granite is sheared, foliated and brecciated. Samples were taken along the northern and eastern side of the granite and up to 50 grain counts of gold were observed.

Rock chip geochemical samples with analyses up to 7.25 g/t Au have been taken from the V6 prospect. Soil geochemical sampling was undertaken on the drainage basin of the creek with the highest gold anomalism with results up to 0.06 g/t Au in analyses of these samples.

Mainwaring River Zone

This zone comprises the prospects Penders (V1), V18, V23 and V21. In the northern part of the Mainwaring River Group of rocks and the Pleasant Creek formation other prospects include V35 and V36, Mt Osmond West, Mainwaring River, Python Pit and Mainwaring South. V23 and all the northern prospects except V35 are outside the current boundaries of the granted tenements but are within ELA 24/2001.

Penders (V1)

This prospect is located on old workings on two parallel zones of pyrite – magnetite mineralisation. Geological mapping and results of diamond core drilling has suggested that these lenses may be chemical sediments. Rock chip geochemical sampling gave values of up to 0.75% Cu, 0.31% Zn, 7.0 g/t Ag and 0.03 g/t Au. Scheelite has also been observed.

Geophysical surveying has included magnetic, dipole – dipole IP, VLF and TURAM EM surveys. The results showed no significant anomalies. C – horizon geochemical soil sampling also showed relatively low values.

Two shallow diamond core (Jacro) drill holes (53.5m) were drilled with no significant results.

V18

This prospect occurs as outcropping disseminated copper mineralisation. No geochemical or geophysical work has been done. This prospect is located in the High Rocky Point ELA 24/2001.

V21

The V21 prospect was defined by an airborne geophysical magnetic anomaly. The prospect is located north of and along strike from the Penders (V1) prospect. C – horizon geochemical soil sampling did not show any anomalous analyses. Gold was not analysed for. However, pan concentrate geochemical sampling did show moderate gold anomalies up to 8.6 g/t Au.

V35

This prospect near the northern boundary of the tenement was originally identified as an airborne geophysical EM anomaly. Geological mapping and –80# soil geochemical sampling was undertaken. Anomalous Cu (up to 185 ppm), Zn (up to 180 ppm) and Au (up to 740 ppb) analyses were obtained.

Hudson River Zone

Pan concentrate geochemical sampling along the Hudson River and tributaries to the north has delineated a zone of gold anomalies about 18 kilometres long and 1 to 4 kilometres wide. Within this zone are more discrete areas with coherent gold anomalous creeks. An example of this is the Lewis River Zone that broadly falls within this Hudson River Zone. The location of these anomalies is shown on Figures 4 and 8.

The Zone broadly conforms with the contact between the volcanics (Hudson River pyroclastics) to the east and the Elliott Point porphyry to the west. Some streams wholly draining the porphyry and some wholly draining the volcanics are also anomalous.

A number of the anomalous creeks drain aeromagnetic anomalies and prospects. Some of these, North Waterloo Creek, Mt. Osmond East and Woolloomooloo Creek have already been described in the Mt Osmond Massive Sulphide Zone section of this report.

V20

The V20 prospect is located on the Wanderer River in the northern part of the Elliott Bay section of the MRV. A ‘sub – gossanous’ zone was discovered outcropping in the Wanderer River during reconnaissance geological mapping. The general area also coincides with two low priority airborne EM anomalies from a very early geophysical survey. Stream sediment geochemical sampling had also indicated Pb and Zn anomalous analyses in streams draining the areas.

C – horizon soil geochemical sampling and geophysical surveys including magnetics and VLF – EM have been undertaken. The prospect is underlain by a sequence of quartz porphyry lava, quartz – biotite porphyritic lava, rhyolitic crystal tuff and hematitic quartz crystal tuff.

Pb and Zn soil geochemical anomalies have been located within the quartz – biotite porphyritic lava with peak values of 2.25% Pb, 0.24% Zn and 20.5 g/t Ag near the tuff contacts.

North Porphyry contact

This prospect was located by stream sediment geochemical samples with analyses of 16.9, 30.5 and 36.3 g/t Au in pan concentrates as well as 0.18 and 0.075 g/t Au in - 80# samples. Partial coverage by C – horizon soil geochemical sampling had uniformly low analyses.

Northern Contact

About 1 kilometre south of the North Porphyry Contact prospect, stream sediment pan concentrate samples from two creeks analysed 31.7 and 163.3 g/t Au. The latter creek drains an interpreted north – west structure whilst the former has been mapped as draining the porphyry.

Soil geochemical samples taken over a Dighem anomaly to the west produced low analyses except for one sample (1.0 g/t Au).

Northern Central Prospect

This prospect covers four creeks with pan concentrate stream geochemical anomalies, which drain from both sides of the Hudson River. The prospect is also believed to be sited near aeromagnetic geophysical anomaly 5. The pan concentrate samples analysed 37.7 and 89.3 g/t Au (in creeks draining from the west) and 465.1 and 4.24 g/t Au (in creeks draining from the east).

A soil geochemical sample traverse over the aeromagnetic anomaly produced uniformly low values. However, this anomaly is not co-incident with the area highlighted by the stream samples.

Southern Prospect (V14 and V15)

Creeks draining the relatively unexplored aeromagnetic geophysical anomaly (V14), within the Elliott Point Porphyry had anomalous stream pan concentrate geochemical sample analyses of 51.7, 39.3 34.8 and 30.3 g/t Au. A single pan concentrate sample analysis of 51.5 g/t comes from a stream draining the porphyry in the vicinity of V14.

Ground geophysical follow up of the V14 aeromagnetic anomaly found disseminated magnetite in chlorite altered Elliott Point Porphyry. This also found that the aeromagnetic anomaly could be defined as two discrete anomalies. A stream draining aeromagnetic anomaly 1 analysed 1.16 and 0.48 g/t Au in –80# stream sediment geochemical samples. A soil geochemical sample traverse was not anomalous. The 0.48 g/t Au sample may also drain aeromagnetic anomaly 2 and a second stream from this anomaly analysed 0.29 g/t Au in similar samples. One soil geochemical sample from a traverse on this anomaly analysed 0.06 g/t Au, the remainder were below the limit of detection.

None of the pan concentrate samples taken from streams draining aeromagnetic anomaly V15 were anomalous. Two samples from a soil geochemical sample traverse taken over the aeromagnetic anomaly analysed 0.03 g/t Au, the remainder were below the limit of detection.

Thirkell Hill

The early exploration work done prior to Macmin's acquisition of the exploration rights located a number of prospects including the Condor River, Condor River East and Condor River West prospects, the Hales River West and Hales River East prospects, as well as less well defined but numerous anomalies at D'Aguilar North and South, Thirkell Hill North and South, Hales River NW and geophysical anomalies labelled Viking 14, 15, 3, and Mount Lee.

A focus on gold exploration by Macmin / AAR delineated two prospects, the South Porphyry Contact and D'Aguilar South.

A total of 8 diamond core drill holes (663.1 m) were undertaken at the South Porphyry Contact and Condor prospects

Condor River

The Condor River prospect covers approximately 3 kilometres by 1 kilometre. It is wholly within the western part of the MRV. Geopeko's geological mapping showed a sequence of north – south striking, steeply dipping rhyolitic quartz – feldspar – biotite porphyries, porphyritic lavas and quartz – feldspar lithic tuff. Sericitic, chloritic and silicic alteration was noted at various places over the grid but a coherent alteration zone was not recognised. The prospect is delineated by:

- anomalous stream sediment geochemical sample analyses with peak values of 40 ppm Cu, 100ppm Pb and 90 ppm Zn;
- anomalous soil geochemical sample analyses of 182 ppm Pb and 100 ppm Zn;
- a possible AEM geophysical anomaly and a non – coincident IP geophysical anomaly;
- a pan concentrate gold anomaly occurs downstream in the Condor River; and

- anomalous C – horizon soil geochemical sampling results outlining several northerly trending zones with maximum values of 870 ppm Zn and 560 ppm Pb.

Two diamond core drill holes (370.6 m) were drilled on a C – horizon soil geochemical anomaly. Both holes intersected MRV as massive crystal, lithic and pumice – rich volcanoclastic sandstone. The pervasive greenschist type alteration has been overprinted by fracture and cleavage controlled silica – feldspar – chlorite – carbonate alteration with attendant base metal sulphide mineralisation. Both holes intersected a weakly mineralised (galena, pyrite) fracture zone striking roughly north – south and infilled with quartz – feldspar – chlorite and carbonate. Sampling of these zones analysed values up to 1,543 ppm Zn and 1,546 ppm Pb not from the same sample. The weakly anomalous base metal values are thought to adequately explain the soil anomaly at Condor.

Southern Porphyry Contact

A – horizon peat geochemical sampling was undertaken on the contact between the quartz – feldspar – biotite porphyry and the volcanics. The samples were analysed using a ‘Huminex’ method developed at MRT. This technique involves measuring the amount of gold in organic humic acid compounds and is designed to overcome possible lack of dispersion in C – horizon soils and can be undertaken without the use of power augers.

This work delineated a number of anomalies and the southern anomaly was drilled with six diamond core holes (292.5 m). The holes were drilled as a heel to toe fence, each hole overlapping the other. These holes intersected a sequence of rocks from felsic tuffaceous siltstones and tuffs into the quartz – feldspar – biotite porphyry. There is a pyritic veinlet zone in part of the porphyry. Selected samples were analysed for gold but the results were uniformly low with a maximum value of 82 ppb Au over 20 cm from a pyrite – chalcopyrite – quartz vein.

Condor River West

The Condor River West prospect is situated near the western margin of the MRV on a zone of sericite alteration and veining approximately 300 m wide extending north for about 3,500 m. It has been delineated by:

- three airborne EM geophysical anomalies. One of these is situated within a broad zone of quartz – feldspar porphyry of rhyolitic composition with evidence of sericite alteration and veining. Immediately to the west is a major unit of Waterloo Creek Group;
- ground IP geophysical low resistivity anomalies over 3,000 m of strike;
- anomalous soil geochemical samples of 50 ppm Pb and 100 ppm Zn;
- anomalous C – horizon soil geochemical samples of up to 600 ppm Pb and 400 ppm Zn. On Geopeko’s Viking 10 grid C – horizon soil geochemical sample analyses of up to 1,190 ppm Pb and 870 ppm Zn were reported; and
- a pan concentrate gold geochemical anomaly occurring downstream in the Condor River.

Condor River East

This is small prospect to the east of Condor River. It occurs near the boundary between the quartz – feldspar – biotite porphyry and the main MRV comprising cream to pink felsic lavas and intercalated epiclastic rocks. It has been delineated by:

- soil sampling geochemical anomalies up to 260 ppm Pb and 200 ppm Zn. C – horizon soil geochemical sampling failed to replicate these value; and
- an airborne EM geophysical anomaly and a semi – coincident Dighem EM geophysical anomaly.

Hales River West

The Hales River West prospect is located in the southern part of the MRV within a broad area of stream silt geochemical anomalies including the Hales River east area. These geochemical anomalies occur in massive fine grained quartz – feldspar porphyritic lavas of rhyolitic composition, containing locally extensive sericitisation, minor sulphides and magnetite as well as crystal lithic tuffs. It has been delineated by:

- stream silt drainage geochemical samples with maximum values of 20 ppm Cu, 240 ppm Pb and 90 ppm Zn;
- soil geochemical sample analyses of up to 400 ppm Zn, 20 ppm Cu and 90 ppm Pb;
- C- horizon soil geochemical sample analyses of up to 860 ppm Pb and 880 ppm Zn. These values are coincident with earlier soil analytical results of 25 ppm Pb and 90 ppm Zn; and

- Two airborne EM geophysical anomalies.

Hales River East

This prospect occurs near the eastern margin of cream to pink felsic lavas and is adjacent to or perhaps partly within the quartz – feldspar – biotite phyric lava and / or intrusive and quartz – feldspar – biotite porphyry. The prospect is a north trending linear anomalous zone located immediately to the east of the Hales River west prospect. It has been delineated by:

- anomalous Cu, Pb and Zn stream silt geochemical sample analyses;
- soil geochemical sample analyses up to 45 ppm Pb and 150 ppm Zn;
- C – horizon soil geochemical sample analyses of up to 50 ppm Cu. These samples are not anomalous for Pb and Zn; and
- Pyritic volcanics with rock chip geochemical sample analyses up to 167 ppb Au.

D’Aguilar South

D’Aguilar South prospect occurs as a north, north – east zone of intense foliation containing discontinuous zones of massive silica underlain by intensely quartz – sericite – hematite altered volcanics. Some workers have noted similarities to the “Blow” at Mt Lyell. Intense chlorite ± pyrite alteration overprints the sericite altered volcanics in two places. Intensely quartz – sericite – minor hematite ± carbonate altered and strongly quartz veined felsic lava overlies the massive silica.

A – horizon peat geochemical sampling was undertaken over the catchment area of creeks with anomalous gold in pan concentrate samples and the geological contact between porphyry and volcanics and a zone of intense silica – sericite alteration. The samples were analysed using the ‘Huminex’ method (described under the Southern Porphyry Contact prospect). The results defined a contourable zone of anomalous gold draining the ridge of massive silica that is the possible source of visible gold in pan concentrate geochemical samples. It is also near an area of intense chloritic alteration overprinting earlier quartz – sericite alteration. Pyrite is also visible in some of the chloritic rocks.

Rock chip geochemical sampling was undertaken in the vicinity of a massive silica body with peak values of 125 ppb Au. A – horizon Huminex sampling analytical results showed no coherent gold anomalies. The method is questionable.

Other Prospects

The work to date has also outlined several other geochemical and geophysical anomalies similar to the ones described which are not as advanced in exploration and / or have lower order geochemical sample analyses.

At Sprent River West, D’Aguilar North and Thirkell Hill North and South prospects, combined soil geochemical and airborne EM geophysical anomalies have been surveyed. Soil geochemical anomalies exist at Hales River NW and Sprent River East and South. Various airborne EM geophysical anomalies, some VLF – EM anomalies and some ground IP anomalies have been surveyed at Viking 14, 15, 19, 3, 4, Line 184N, Mount Lee and D’Aguilar East prospects. Limited reconnaissance style follow up sampling and mapping has been undertaken at some of the prospects.

PROSPECTIVITY

In the Low Rocky Point Granite and Hudson River Zones there are a large number of streams with anomalous gold in various geochemical stream samples that have seen little or ineffectual follow up. The source of the gold is unknown and there is potential to discover gold mineralisation in a variety of conceptual geological environments.

Exploration Techniques

Soil geochemical sampling has generally not been an effective exploration tool in the licence area. There is an incompatibility of results from different soil sampling surveys over different areas especially when using different sampling techniques. This is caused by lack of true soil development in the wet acidic conditions typical of the area and / or peat, quartz lag or Tertiary

gravels. C – horizon ‘soil’ geochemical samples are really spot rock samples and as such do not reflect the geochemical dispersal in more ‘normal’ soil development. For this reason it is imperative to rely on C – horizon samples that truly reflect the C – horizon.

The study undertaken on lead isotopes indicated that there were at least three ages of mineralisation in the Elliott Bay area, early Cambrian, middle Cambrian and Devonian. The economic significance of the middle Cambrian mineralisation is demonstrated by the known deposits, some ‘World – class’ in the northern MRV. The economic significance of the earlier and later mineralisation is less well known and studied although Devonian age mineralisation was economically significant in other host lithologies in other parts of Tasmania prior to the 1980s. The significance of many of the base metal anomalies within the SMRV needs careful assessment and priority rating from this perspective.

The logical geophysical techniques of the day have been applied. The airborne EM surveys (QUESTEM and Dighem) by today’s standards are of relatively low resolution and quality. Untested magnetic anomalies have significant potential in other VHMS environments, such features have characteristics of weakly to moderately magnetic massive sulphide mineralisation. VHMS targets in the northern MRV are generally non-magnetic.. A close line spacing, very high quality aeromagnetic / radiometric survey has not been flown. The area was covered in early 2001 on 200m line spacings by a joint MRT/AGSO survey . Alteration associated with mineralisation could be manifested in subtle magnetic and radiometric anomalies not able to be discerned from currently available data. Such a survey may also enhance regional geological interpretation especially faulting that is important in a number of conceptual models for VHMS and Henty – style gold mineralisation.

The quantity of past exploration data is considerable and the ability to evaluate the past work and priority rate some of the areas for future exploration will be considerably enhanced when the complete database has been computerised and multiple layers of different data can be thoughtfully examined.

EXPLORATION COMPLETED DURING THE LAST 12 MONTHS

- Existing data was acquired and reviewed
- Core from the Condor prospect was examined, and some similarities (style of quartz veining) to Wart Hill were noted.

PROPOSED EXPLORATION PROGRAM

- Interpretation of AGSO/MRT data
- There are approximately 4,100m of core stored in the MRT core shed (out of about 6,410m available) from the SMRV area that have never been analysed for gold. This includes all the V9 series holes. TasEx propose to sample and analyse these for their gold content;
- Digital data compilation will be continued.