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EL46/2003 HEEMSKIRK, ALPINE PROJECT
REPORT ON DRILL HOLES AP013-AP018

Volume 1 of 2

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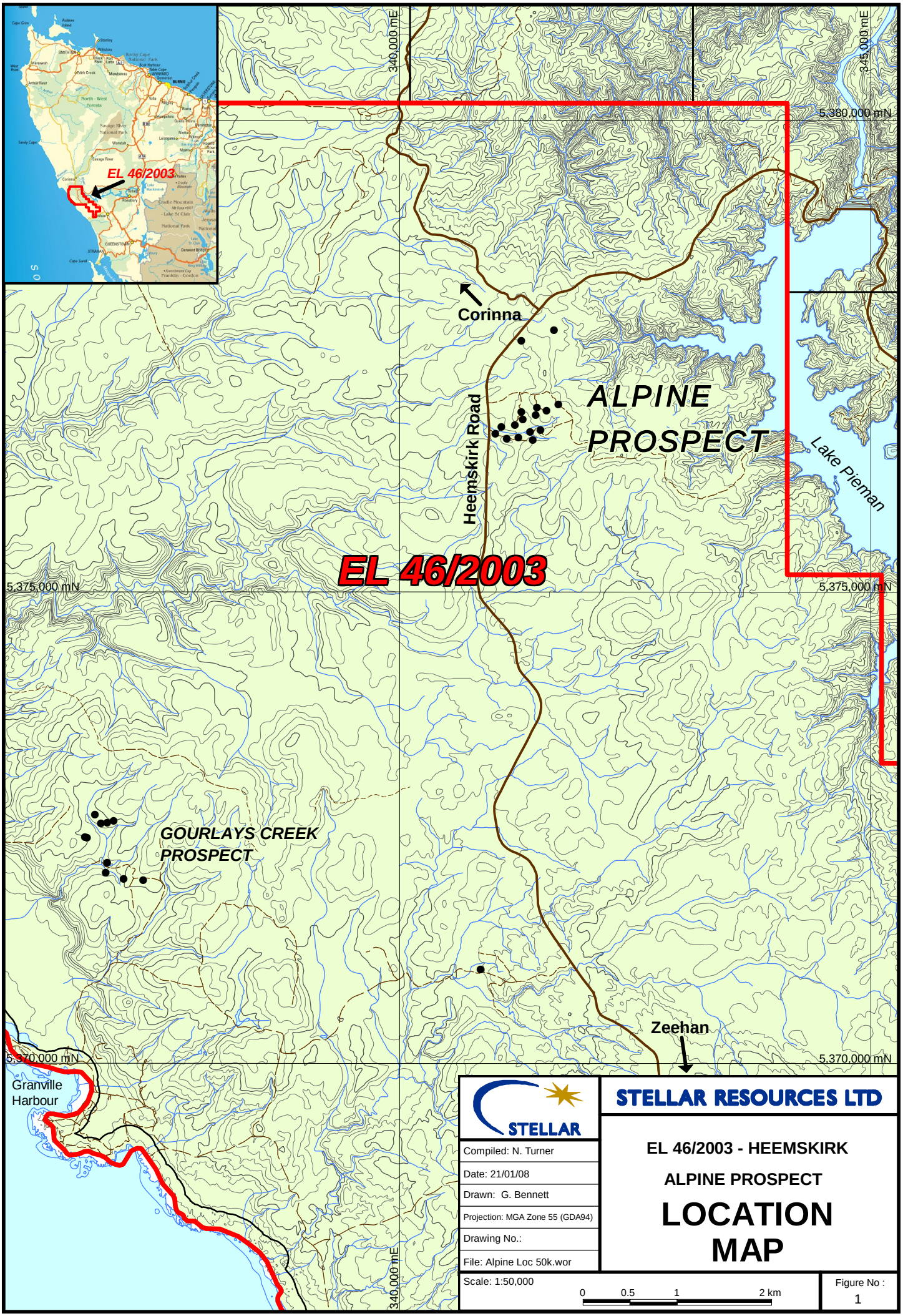

STELLAR RESOURCES LTD

EL 46/2003 - HEEMSKIRK

ALPINE PROSPECT

LOCATION MAP

Compiled: N. Turner	
Date: 21/01/08	
Drawn: G. Bennett	
Projection: MGA Zone 55 (GDA94)	
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Scale: 1:50,000	0 0.5 1 2 km
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1. Summary

- Copper intersections have been returned from four of the six holes drilled in the Alpine area in the round of work that is reported here. These intersections include 17 m at 0.51% Cu in AP013, 24 m at 0.6% Cu in AP014, 11m at 0.76% Cu in AP016, and 24 m at 0.54% Cu in AP017.
- The highest grade intersection in the Alpine area remains 22.25 m at 1.23% Cu returned from AP004. Future drilling should test for extensions of this interval and search for similar intervals, concentrating on the ground between drill sections 322 m NE and 728 m NE.
- Copper mineralization in the Alpine area is associated with late-formed carbonate and silica in schists and in cross cutting veinlets, and with late-formed massive sulphide.
- There is an approximate correspondence between elevated copper values and intervals of chloritic schist (mafic metaigneous protolith) and banded magnetite-pyrite-silicate(-carbonate) schist. It may be that the chemistry of these rocks influenced precipitation of the copper.
- The Alpine system includes late zinc-lead bearing massive sulphide as well as late copper bearing massive sulphide and is regarded as a Devonian mineralising system.

2. Introduction

Stellar Resources Ltd's Alpine Project is located in western Tasmania (Figure 1), some 26 km northwest of the town of Zeehan and 4 km southwest of the Reece Dam on the lower Pieman River. Access is by bitumen roads from either Zeehan (35 km) or from the Murchison Highway near Tullah (61 km). An electricity transmission line passes through the project area.

CRA Exploration Pty Ltd carried out early exploration work in the project area that culminated in the drilling of holes AP001 and AP002 (Caithness, 1985). Drill hole AP002 returned an intersection of 27.4 m at 0.53% copper while AP001 returned 12.3 m at 0.24% copper. The copper enrichment substantially coincided with intervals of felsic-mafic schist interlayered with bands rich in pyrite and magnetite, but also extended into adjacent psammitic and pelitic rocks. In each drill hole there was a zinc-anomalous interval up-hole from the copper intersection. Outokumpu Australia Pty Ltd selectively sampled the drill holes to test for gold, but obtained only low values (Herrman, 1991).

In recent times Stellar Resources Ltd has drilled a further 19 holes at Alpine (AP003-AP021). Holes AP003-AP012A were reported in Stellar Resources Ltd (2007). Holes AP013-AP018, which were drilled in the period February-May, 2007, are reported in this document.

3. Geological setting

Regional geological coverage of the Alpine Project area is provided by the Geological Survey of Tasmania's Corinna 1:50,000 map sheet. This map shows that the project area is located within a belt of mylonitic metamorphics known as the Arthur Metamorphic Complex, which consists mostly of metasedimentary rocks but includes several units in which there is a substantial proportion of mafic metaigneous material derived from intrusive and subordinate extrusive rocks. The Alpine area is underlain by one of these more mafic units, called the Bowry Formation. The age of the metamorphism and mylonitic deformation within the Arthur Metamorphic Complex is Cambrian while the protolith age is probably Neoproterozoic.

To the east and southeast of the Alpine area the metamorphic complex consists of metamorphosed quartzwacke-sandstone, siltstone and carbonaceous mudstone that pass transitionally out of the metamorphic complex into equivalent, relatively unmetamorphosed lithologies. These metamorphosed and relatively unmetamorphosed rocks are parts of the turbiditic Oonah Formation.

Early folding within the Arthur Metamorphic Complex was isoclinal and the corresponding strong main foliation (S1/S2) is generally parallel to local compositional banding, to formation boundaries, and to the overall strike of the complex. For much of its length the Arthur Metamorphic Complex strikes NNE, but around Reece Dam and the Alpine area it sweeps southwest, then west in a broad fold. The axial surface of this fold strikes northwest, parallel to late, non-penetrative crenulation cleavage that is correlated with Devonian structures elsewhere in the district.

North of Reece Dam the Bowry Formation consists mainly of mafic metaigneous rocks, but south of the dam there appears to be less mafic material and more metasedimentary material. Magnetite-pyrite-silicate rocks are associated with the mafic metaigneous rocks in much of the Bowry Formation, reaching a maximum at the Savage River iron ore mine, which is about 30 km NNE of the Alpine area. Higher grade magnetite-bearing rocks in the Bowry Formation tend to be massive with disseminated pyrite and silicate whereas lower grade rocks mostly consist of thinly banded, schistose magnetite-pyrite-silicate. Trace copper is present in the mafic and magnetite-bearing parts of the Bowry Formation, but the amounts are overwhelmingly measured in parts per million rather than percent. Substantial lenticular bodies consisting of magnesite, dolomite and silicate rocks are present in parts of the Bowry Formation, and there are minor granitic rocks in a few places.

In the Alpine Project area the Bowry Formation is largely obscured by basalt and relatively unconsolidated gravel, sand and carbonaceous silt of Tertiary age. The Tertiary basalt is commonly strongly weathered and there is deep residual clay

soil. Despite the widespread cover there is outcrop of mineralized rocks beside the Heemskirk Road near GDA94 340942E 5376764N (Plan 1).

4. Diamond drilling results

a. Operational aspects

Diamond drilling in the Alpine area is commonly difficult with slow drilling rates and poor core recovery (Appendix 1). Access to drill sites is satisfactory over tracks that are on Tertiary gravel, but where tracks and drill sites are on deep clay soils operations become difficult in winter. Conversely, water supply may become a problem during summer.

b. Principal lithologies

The lithological subdivisions for drill holes AP013 to AP018 are shown in Plans 2-7. Also, petrological descriptions and assessments of 14 samples from AP013 are given in Appendix 2. The depths of the petrological samples are shown in the log of AP013 in Appendix 1 and are listed in Appendix 2.

There are differences in the way in which the lithologies in drill holes AP013-AP018 and the earlier holes AP001-012A have been subdivided, but correlations can be made between the two sets of holes using the assay data. Full reconciliation of the two sets of lithological data would require some relogging and recompilation, particularly of the chloritic and sulphide-bearing rocks.

The principal lithologies in AP013-AP018 are thought to reflect fairly straightforward metamorphism of their respective protoliths. These principal lithologies comprise medium grey, schistose muscovitic quartzite after quartzwacke-sandstone and siltstone; dark grey to black, graphitic phyllite/fine grained schist after carbonaceous mudstone and siltstone; and dark green to grey chloritic schist after mafic igneous rocks. Some of the metasedimentary rocks display green tints that are thought to be due to the presence of minor metamorphic chlorite, but the colours are very pale compared with the metaigneous rocks.

Bedding is a commonly recognisable primary feature in the metasedimentary rocks while grading may be locally preserved in the metasandstone. No sedimentary structures were recognized in the graphitic phyllite/fine grained schist where there is commonly strong foliation with parallel thin banding due to metamorphic differentiation of quartz and mica. Primary features in the dark green to grey chloritic schist intervals are restricted to uncommon, medium and fine grained, relict igneous textures. The intervals of thinly banded, schistose magnetite-pyrite-carbonate-silicate that are associated with these chloritic

intervals represent iron-rich materials that apparently experienced metamorphic differentiation during the mylonitic deformation though there was probably also pre-existing (coarser) banding. The carbonate probably formed later.

In general, the grade of metamorphism in the Arthur Metamorphic Complex is greenschist facies, but there is widespread evidence of relict, prograde, amphibolite facies assemblages and blueschist facies assemblages in the Bowry Formation. At Alpine these relict assemblages include garnet-amphibole-plagioclase of mafic meta-igneous derivation and meta-sedimentary assemblages of garnet-biotite-quartz (Stolz, 1991).

c. Alteration

There appear to have been episodes of alteration before and after the main mylonitic deformation. Identification of the earlier alteration is tentative as the petrological work has not been definitive (Appendix 2). Of particular interest are some of the banded, strongly siliceous rocks such as those in the interval 230.8 m to 277.8 m of AP013 (Plan 7) . These siliceous rocks are unlike the principal metasedimentary lithologies in that they are poor in mica. In AP013 they are bounded above and below by chloritic schist and include an interval of chloritic schist. They display transitional boundaries with the chloritic schist, include some bands of magnetite, and may be strongly silicified equivalents of the chloritic schist that have undergone mylonitic deformation. Analyses of stable trace elements might provide a test of this interpretation.

Alteration that followed the mylonitic deformation commonly has boundaries that are transgressive across the main foliation and/or is massive. Included is the common alteration of grey, carbonaceous metapelite to pale olive muscovite/sericite metapelite. This type of alteration is widespread and appears to be unrelated to the copper mineralization whereas late, massive silica/carbonate alteration is a feature of the sections of drill core that exhibit elevated copper values. These sections of elevated copper partly coincide with the intervals of chloritic schist and banded magnetite-pyrite-carbonate-silicate, but may extend into the adjacent metasandstone and metapelite for substantial distances.

d. Veining and mineralization

Cross cutting carbonate-quartz veinlets are common throughout the sections of drill core that show elevated copper values and much of the copper occurs as blebs of chalcopyrite in these veinlets. Chalcopyrite also occurs as films on foliation surfaces, especially in the chloritic schist, and as strings of fine grains parallel to the main foliation. Some copper is present as bornite and chalcocite (Appendix 2). Chalcocite was tentatively identified as a black, powdery mineral in fractures at around 200 m depth in AP016.

Chalcopyrite is also present as blebs in intervals of late, massive pyrite such as forms the matrix of brecciated, banded magnetite-pyrite-carbonate-silicate at around 180 m depth in AP014 (Plan 3). Outside the main copper-bearing sections in some drill holes there is late, massive pyrite in concordant and cross cutting veins that may be elevated in zinc and lead, for example, at 96-110 m and 134-145 m depth in AP014 (Plan 3, Appendix 1).

5. Conclusions

The modes of occurrence of most copper in the Alpine area are clearly later than the Cambrian structural fabric. They include chalcopyrite in late-formed carbonate-quartz veinlets and in late-formed massive sulphide. The age of the foliation-parallel mode of chalcopyrite occurrence is somewhat equivocal, but in that situation the chalcopyrite is again associated with late formed carbonate.

Coincidence of elevated copper with the intervals of chloritic schist and banded magnetite-pyrite-carbonate-silicate may indicate that the deposition of copper was influenced by host rock chemistry (Appendix 2). Deposition was apparently accompanied by fracturing and by the formation of copper-bearing carbonate veinlets throughout a volume of rock that included adjacent metasandstone and metapelite as well as the chloritic schist.

The presence in the Alpine area of distinct massive sulphide phases enriched in copper and zinc/lead is comparable with Devonian systems elsewhere in western Tasmania (e.g. Arthur Dam). The Alpine mineralizing system was probably also of Devonian age and its location in the hinge zone of a regional fold of Devonian age implies a structural control. Fractures in the hinge zone of the fold probably provided the path by which the mineralizing fluids reached the Bowry Formation. Some of these fractures may be represented in Plan 8, which is an interpretation of the general distribution of mineralized rock in the Alpine area beneath the cover of the Tertiary deposits and Recent soils.

The highest grade drill intersection from the Alpine prospect remains the 22.25 m at 1.23% Cu that was returned from AP004. This higher grade intersection is part of a long mineralized interval that was only partly tested by AP004 (95m at 0.46% Cu, Plan 5). Future drilling should test for extensions of the higher grade interval in AP004 and search for similar intervals, concentrating on the ground between drill sections 322 m NE and 728 m NE. If one (or more) of the inferred faults was a conduit for the mineralizing fluids, there may be a relationship between grade and proximity to the fault.

6. Environmental matters

The sites and access tracks for diamond drill holes AP013 to AP018 remain open pending a decision on further work.

7. References

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PLANS