TECHNICAL REPORT
FOR THE BLUEY’S SILVER PROJECT, EL10228
ARLTUNGA
(July 02 – July 03)

WHITE RANGE MINERAL FIELD
NORTHERN TERRITORY

ALICE SPRINGS
Fergusson Range
Riddoch
SF 53-14
5850 - NW
5851 - SE

S. Carthew
Rocks Prospecting

June 2003

BSAR2003.doc

BSAR 2003  Technical report for the Bluey's Silver Project, EL 10228 Arltunga
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUMMARY</td>
<td>4</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>4</td>
</tr>
<tr>
<td>PROPERTY, LOCATION, AND ACCESS</td>
<td>5</td>
</tr>
<tr>
<td>TOPOGRAPHY AND VEGETATION</td>
<td>5</td>
</tr>
<tr>
<td>ABORIGINAL SACRED SITES</td>
<td>6</td>
</tr>
<tr>
<td>EXPLORATION ACTIVITIES</td>
<td>6</td>
</tr>
<tr>
<td>EM GEOPHYSICAL SURVEY</td>
<td>6</td>
</tr>
<tr>
<td>GEOCHEMISTRY</td>
<td>6</td>
</tr>
<tr>
<td>REGIONAL GEOLOGY</td>
<td>7</td>
</tr>
<tr>
<td>PROSPECT GEOLOGY</td>
<td>8</td>
</tr>
<tr>
<td>RESULTS</td>
<td>11</td>
</tr>
<tr>
<td>GEOPHYSICAL SURVEY</td>
<td>11</td>
</tr>
<tr>
<td>ROCK CHIP SAMPLING</td>
<td>11</td>
</tr>
<tr>
<td>CONCLUSIONS AND RECOMMENDATIONS</td>
<td>12</td>
</tr>
<tr>
<td>EXPENDITURE</td>
<td>13</td>
</tr>
</tbody>
</table>
FIGURE

Figure 1  Property Location Map  1:50,000

TABLES

Table 1  Tenement Details
Table 2  Analytical Ranges and Assay Data
Table 3  Rock chip assay results
Table 4  Expenditure by Silver Standard Australia Pty Ltd

APPENDIX

Appendix 1  Bluey’s Silver Prospect: Moving Loop EM Survey
L. Wynn

MAPS

Map 1  Bluey’s Silver Prospect, Factual Geology, sampling
       & drilling locations
       Scale 1:1,000

Map 2  Bluey’s Silver Prospect, Interpreted Geology
       Scale 1:1,000
SUMMARY

Thrust controlled precious metal and base-metal mineralisation
Eastern Arunta Province Alice Springs Orogeny Adelaidean
Sediments Geophysical EM Survey & Rock/drift chip Sampling
Sillstone and dolarenite West-northwest

A Moving Loop EM survey was undertaken to test for sulphide conductors about the Bluey’s Silver Prospect, Slate Bore Prospect and the Dragon on the Ground Prospect. A late time conductor was recognised immediately northeast of Bluey’s Silver Prospect at AMG coordinates 474400E, 7400500N. The response is interpreted to be a steeply plunging cigar shaped body, but probably needs additional geophysical survey to better define drilling targets. Negative EM responses detected at 475800E, 7402100N relate to a regional fault structure at the base of the quartzite range. Geophysical data may relate to clays or disseminated sulphides in the fault zone. In this setting the Slate Bore Prospect silts and malachite mineralisation assaying up to 15.2% Cu is found at AMG 474808E 7401394N.

Drill hole percussion chip samples were collected from bore sites previously drilled by White Range Gold NL and Slate-hole Bore. Disseminated sulphides (mainly pyrite) in carbon rich siltstones were recognised at two drill site locations. Anomalous basemetal geochemistry was returned but silver response was poor.

INTRODUCTION

Imperial Granite and Minerals Pty. Limited was granted the current project area as Exploration Licence (EL) 10228, from the 20th July 2001 for six years. Various mining companies have worked this property intermittently since the early 1980’s and more recently by Silver Standard Australia in joint venture with Imperial Granite.

The area is considered prospective for precious metal and base metal mineralisation. Such mineralisation is hosted either along dilatant steeply dipping structures and / or thrusts and also in receptive carbonate rich sediments of the Proterozoic aged Adelaidean Billy Springs Formation. This style of mineralisation which occurs at the Bluey’s Silver Prospect, is found at AMG reference 474430E, 7400308N.

This report provides the results of ongoing work at and about the Bluey’s Silver Prospect, being a moving loop SIROTEM (EM) geophysical survey and rock and drill chip sampling away from this prospect.
PROPERTY, LOCATION, AND ACCESS

Exploration Licence (EL) 10228, is located in the Arltunga district of the 1:250,000 ALICE SPRINGS (SF53 - 14) and straddles the 1:100,000 Fergusson Range (5850) and Riddoch (5851) sheets.

The property consists of 17 blocks, totalling 53.5 square kilometres, is located within the White Range Mineral Province, in the eastern MacDonnell Ranges of the Northern Territory, approximately 120 kilometres east of Alice Springs (Figure 1, Table 1). This tenement adjoins and is immediately south of the Arltunga Historical Reserve.

Table 1: Tenement Details

<table>
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<th>Tenement Number</th>
<th>Area (Sq Km)</th>
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<th>Expires</th>
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<td>20/7/2001</td>
<td>19/7/2007</td>
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The joint venture between the title holder Imperial Granite and Minerals Pty Ltd and Silver Standard Australia Pty Ltd was terminated in late July, 2002 and this report details the results of field work undertaken in EL10228 prior to the withdrawal of Silver Standard Australia Pty Ltd but which was not included in the first Annual report on the tenement.

Vehicle access to Atnarpa Station by bitumen and graded tourist roads is excellent with accommodation and meals available at the nearby Arltunga Bush Hotel or Ross River Tourist Resort. The Atnarpa Pastoral Lease is owned and operated by the Aboriginal controlled Central Lands Council.

TOPOGRAPHY AND VEGETATION

The topography of the property is comprised of a Tertiary aged laterite plateau being actively dissected and eroded. The Palaeoproterozoic aged schist and gneiss give rise to mulga scrub on undulating country whilst the Heavitree Quartzite is spinifex covered on the steep slopes and ridges. The eucalypt lined Paddys Hole Creek flows southward after intermittent rain, draining the centre of the licence.

Exposure of the weathered Archean lithology's and the Bitter Springs Formation is good with thin soil development, whilst skeletal soil development has occurred on the quartzite ridges. The area is semi-arid with unreliable sporadic summer rains.
ABORIGINAL SACRED SITES

An inspection of the registered sacred sites at the Aboriginal Areas Protection Authority, Alice Springs, and reveals that site 5851 – 013 is Airtunga Bore (4706007404900) on the Airtunga Historical Reserve, whilst none are recorded or are known of on the licence. Lack of permanent surface potable waters restricted past aboriginal activities on the licence.

EXPLORATION ACTIVITIES

During the reporting period, an exploration program consisting of a Moving Loop EM Survey was undertaken to test for conductors that may relate to sulphide conductors about the Bluey’s Silver Prospect (474430E, 7400308N), along the prominent fault breccia zone at the base of the Heavitree Quartzite on which the Slate Bore Prospect sits and about the Dragon on the Ground Prospect. It was thought that these conductors would relate to precious metal and base-metal mineralisation and better target future drilling programs.

EM GEOPHYSICAL SURVEY

The report detailing the activities by contractor McSkimming Geophysics, of the moving loop electromagnetic EM survey is reported by geophysicist, Llew Wynn in Appendix 1. Wynn details the method, the work done, location and the results in his report.

GEOCHEMISTRY

Rock chip samples were submitted to Amdel for assay by the IC2L method with check assays by the more accurate ME11 method (Job 22AD1176). The two-kilogram rock or drill chip sample was dried to a core temperature of 110° C, and milled in a LM5 pulveriser to 90% passing 106um. An analytical pulp of 250 gram was taken from the bulk and the residue retained.

Initially the drill samples were all assayed by the IC2L method using a subsample of up to 0.15gm of the analytical pulp is digested with aqua regia and then bulked to volume with water. The solution is presented to an ICPOES for the quantification of the chosen elements. Range is generally to 1% except Ag (100ppm), and Cu (2%). For samples that assayed outside this range, more high-grade style dissolution with more appropriate measurement and standard by the MET1 method was chosen.

The MET1 analytical method by ICP employs a modified aqua regia digest to dissolve the elements being assayed. Silver assays by this method are appropriate to 2000ppm Ag. Elements with detection ranges are shown in Table 2 and assay results are listed in Appendix 2.
Table 2. Analytical Ranges and Assay Data

<table>
<thead>
<tr>
<th>Element</th>
<th>Ag ppm</th>
<th>Cu ppm</th>
<th>Pb ppm</th>
<th>Zn ppm</th>
<th>As ppm</th>
<th>Co ppm</th>
<th>Sb ppm</th>
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<td>IC2L</td>
<td>2-250</td>
<td>5-33%</td>
<td>20-1%</td>
<td>5-1.5%</td>
<td>5-1.5%</td>
<td>10-5000</td>
<td>20-2000</td>
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<td>MET1</td>
<td>2-2000</td>
<td>50-max</td>
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<td>50-max</td>
<td>50-10%</td>
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<td>Sample</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>A1</td>
<td>2</td>
<td>15.2%</td>
<td>450</td>
<td>84</td>
<td>80</td>
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<td>A2</td>
<td>&lt;0.5</td>
<td>120</td>
<td>28</td>
<td>14</td>
<td>3</td>
<td>6</td>
<td>&lt;5</td>
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<tr>
<td>A3</td>
<td>&lt;0.5</td>
<td>49</td>
<td>20</td>
<td>15</td>
<td>3</td>
<td>7</td>
<td>&lt;5</td>
</tr>
<tr>
<td>A4</td>
<td>&lt;0.5</td>
<td>1350</td>
<td>14</td>
<td>12</td>
<td>14</td>
<td>7</td>
<td>&lt;5</td>
</tr>
<tr>
<td>A5</td>
<td>&lt;0.5</td>
<td>77</td>
<td>42</td>
<td>70</td>
<td>28</td>
<td>29</td>
<td>&lt;5</td>
</tr>
<tr>
<td>A6</td>
<td>&lt;0.5</td>
<td>36</td>
<td>4</td>
<td>7</td>
<td>3</td>
<td>5</td>
<td>&lt;5</td>
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<tr>
<td>A7</td>
<td>&lt;0.5</td>
<td>74</td>
<td>16</td>
<td>17</td>
<td>&lt;1</td>
<td>27</td>
<td>&lt;5</td>
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<tr>
<td>A8</td>
<td>&lt;0.5</td>
<td>36</td>
<td>22</td>
<td>16</td>
<td>1</td>
<td>5</td>
<td>&lt;5</td>
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<tr>
<td>A9</td>
<td>&lt;0.5</td>
<td>44</td>
<td>10</td>
<td>31</td>
<td>&lt;1</td>
<td>2</td>
<td>&lt;5</td>
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<tr>
<td>A10</td>
<td>&lt;0.5</td>
<td>47</td>
<td>30</td>
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<td>4</td>
<td>16</td>
<td>&lt;5</td>
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<tr>
<td>A11</td>
<td>&lt;0.5</td>
<td>32</td>
<td>26</td>
<td>70</td>
<td>15</td>
<td>19</td>
<td>&lt;5</td>
</tr>
<tr>
<td>A12</td>
<td>&lt;0.5</td>
<td>37</td>
<td>28</td>
<td>11</td>
<td>9</td>
<td>2</td>
<td>&lt;5</td>
</tr>
</tbody>
</table>

REGIONAL GEOLOGY

The project is located within the Airlunga Nappe Complex, a group of basement-cored nappes formed during the Early Carboniferous Alice Springs Orogeny (300 – 400 Ma). Basement rocks are the Arunta Block that consists of cratonised igneous, sedimentary and metamorphic rocks of Archean to Lower Proterozoic age intruded by Early Carpentarian granites. The Heavitree Quartzite and its equivalents deposited unconformably over Arunta Block basement in intracratonic basins in which sedimentation continued with minor disconformity from the Adelaidean into the Upper Paleozoic. The Alice Springs Orogeny developed over a 100 my period between 400 to 300 Ma late in Paleozoic time. Formation of the Airlunga Nappe Complex involved regional scale piggy – back imbrication, or crustal duplexing of a significant structural thickness and shortening. The White Range Nappe (part of the Airlunga Nappe Complex) contains three distinct tectonic units, bounded by regional shear and fault zones that have undergone contrasting deformational and thermal alteration. The two basal Adelaidean units of the Amadeus Basin, the Heavitree Quartzite and the Bitter Springs Formation are found in the complex as the upper part of the basin is transported south along a regional decollement. About White Range, mylonite fabrics and strongly deformed conglomerates in the Heavitree Quartzite are associated with north and south plunging lineation and all rock units have been strongly metamorphosed under retrogressive greenschist conditions.

Widespread thrust faulting, isoclinal folding and nappe complexes were produced around the northern margins of the basins. Southward thrusting of basement blocks over the Adelaidean cover sequence developed and mineralisation was deposited after the main thrusting events late in the
Orogeny. Within this evolving ductile to ductile – brittle shear regime, zones of dilation, brecciation and increased porosity became favourable sites for metal deposition. Such environs include regional shear zones eg Slate Dore and more brittle fault zones in the quartzite eg White Range and the incompetent carbonate rich units eg Bluey’s Silver.

In the Licence, are exposures of the basement complex (amphibolite, gneiss, metadolerite), the Heavitree Quartzite (the basal unit of the Adelaidean sediments of the Amadeus Basin), and on-lapping, sandy carbonates, evaporates and limestone of the conformably overlying Bitter Springs Formation.

At Bluey’s Prospect silver mineralisation is confined to dolomitic sediments of the Bitter Springs Formation. These sediments are complexly folded, predominantly along east-west oriented axis with less conspicuous north-south axis – four generations of folds have been described. A number of regional scale geologically mappable structures and lineaments are present; these proximal to the mineralisation are steep dipping northeast trending faults and a southeast trending fault. The style of mineralisation is considered to be Carboniferous epigenetic vein type precious metal mineralisation that is thrust controlled and in part found in dilatational shear zones associated with a large ductile shear zone; the Cattle Highway Lineament. Retrogressive fluid movement and associated green schist metamorphism continued after the main ductile thrusting event had ceased and caused the replacement of biotite and plagioclase by un-orientated clusters of chlorite, sericite and epidote, and albite. Minor occurrences of undeformed syenite with allanite are probably associated.

The prospect area comprises an ellipsoidal window of Bitter Springs Formation some 800 meters in diameter bound to the east, south and west by over thrust basement complex rocks, and to the north by an escarpment of Heavitree Quartzite.

An extensive Tertiary silcrete-ferricrete peneplain is present throughout the region but is being actively eroded by an emergent landscape.

**PROSPECT GEOLOGY**

At Bluey’s Prospect, silver mineralisation occurs in dolomite outcrops, which stand 2 to 3 meters above alluvial/colluvium flats in the south, and are bound to the west by a sharply incised, 2 to 4 meter deep northwest trending, gully. At the south end, where the gully enters onto the southern flats, dip and elevation to the east side of the gully confine the dolomite – moving north the combination of shallow dips, fold axis and elevation carry outcrop across the head of the gully to the west bank. This gives rise to the characteristic “S” shape of the mineralised unit in plan view (Maps 1 & 2). Behind the dolomite, to the north and east, the ground rises gently for a further +5 meters across outcrops of basement complex rocks to form a northeast trending ridge parallel to major regional structures. Very thin lenses of unaltered granite
syenite intrude the altered and sheared basement rocks of amphibolite, dolerite and basalt.

In outcrop un-mineralised dolomite is dominantly pale brownish to grey, massive to thick bedded, with some units containing numerous intraclasts. A black, fine grained to aphanitic, finely fractured and quartz-calcite veined, siliceous dolomite occurs throughout the outcrop range, apparently as an interbedded facies. The dolomite is underlain by a sequence of thin-bedded shale and ferruginous and dolomitc shale, and is overlain by thin-bedded dolomite shale (very poor exposure, predominanly a kunkar zone). There is a marked rock competency contrast between the dolomite (massive and brittle) and it's enclosing sediments (fissile and ductile).

The dolomite host strikes predominantly to the northwest and dips are to the east ranging up to 30 degrees.

In the local area of the prospect the stratigraphic section is:

<table>
<thead>
<tr>
<th>Unit</th>
<th>thickness</th>
<th>description</th>
<th>extent</th>
</tr>
</thead>
<tbody>
<tr>
<td>dolomite shale</td>
<td>&gt;5 m, top sheared out</td>
<td>pale grey, fine grained, thins bedded (1-5 mm) and poorly exposed. Shallow dips, open fold pattern.</td>
<td>Confined between the dolomite host and the trace of the over thrust.</td>
</tr>
<tr>
<td>dolomite host</td>
<td>&gt;6 m,</td>
<td>pale brownish to grey, massive to thick bedded, with some units containing numerous intraclasts. Minor black, fine grained to aphanitic, finely fractured and quartz-calcite veined siliceous dolomite. Shallow dips, open fold pattern.</td>
<td>200m of strike in discovery outcrop area; Peko mapped extensive outcrop to the west and southwest.</td>
</tr>
<tr>
<td>shale sequence</td>
<td>unknown</td>
<td>thin bedded shale and ferruginous and dolomitic shale. Either tightly folded along east-west axis or open folded and shallow dipping.</td>
<td>extensive area mapped, west of discovery outcrop tightly folded, elsewhere appears shallow dipping.</td>
</tr>
</tbody>
</table>

Antiformal folds and sheared folds in the underlying shale sequence are expressed in the dolomite host by localised steep dip and an increasing intensity of sub-vertical shear joints which grade through to brecciation and quartz veining. The overlying dolomite shale does not appear to be tightly folded and apparently conforms to the dolomite.

The simplest example of the variation of fold/shear intensity with rock competency is through the area of samples 99/1 to 99/6. Narrow quartz veined shear in the underlying shale sequence, which is exposed in the bed of the gully (99/1), is expressed as a shear jointed offset in the overlying dolomite host. A larger more complex sheared and quartz veined antiformal fold in the shale sequence (99/2, 3) is expressed as shear jointing and alteration in the body of the overlying dolomite host with silification and quartz veining extending laterally for a short distance across the upper contact (99/4, 5, 6).
A larger scale, more intensely mineralised, example is the mappable antiformal fold running east west approximately through air-track holes BSA-7 and 9 towards the north end of the gully. In this area the base of the dolomite host unit crops out on the east side of the gully about a meter above the bottom, and above the collar of BSA-9. This basal contact traces west across the face of the gully before running straight up slope to the west as dips become sub-vertical, past the collar of BSA-7 (on the north side) before tracing south then east (with less certainty as outcrop is poor) on the south side of BSA-7 and crops out in the slopes above the gully with shallow westerly (?) dips. Within this setting high-grade silver mineralisation is localised in sparsely quartz veined altered dolomites which extend along the basal contact of the unit (99/32) – drill holes BSA-7 and 9 which were collared along the antiformal axis but below the basal contact did not intersect significant silver mineralisation.

Bluey’s Prospect was discovered during a regional exploration-mapping program being carried out by Peko and their prospect mapping was done within this context. Petrocarb reviewed the Peko data, developed a supergene model for the mineralisation and mapped the area to the immediate north in the context of this model. These data sets have been merged to provide an overview of the geological setting of the prospect – four structural domains have been recognised (Maps 1 & 2):

A southeast domain comprising a broad anticlinal fold with northwest striking, shallow east dipping dolomite along the eastern margin which gets progressively steeper to the south. The core of the anticlinal fold is occupied by tightly east-west folded siltstone. The basement overthrust adjacent to the discovery outcrops forms the northeast edge of the domain. The boundary between the southeast and adjacent western domain is formed by a northeast trending structure, which is marked outcrops of massive jasper with coarse boxworks after carbonate and sulphate (?).

A western domain consisting of northeast trending, shallow west dipping dolomite conformably underlain by siltstone. A silcrete/jasper surface is developed over the dolomite adjacent to the overthrust, which form its northwestern edge.

A northwest domain consisting of a series of overthrust slices of dolomite, siltstone and basement complex. A silcrete/jasper surface is developed over much of the dolomite. The domain is inferred from Peko mapping and was not walked out on the ground.

A northeast domain consisting of massive silcrete/jasper with prominent east west oriented zones of breccia and quartz-limonite veining. Strike of the underlying sequence is inferred to be to the northeast with shallow dips to both east and west.

At present silver mineralisation is known from the northeastern margin of the southeast domain. Traces of secondary copper have been found along the
line of the structure, which separates the southeast and western domains, and on a parallel structure at the southern edge of the northeast domain. Workings which some maps show located within or immediately adjacent to the northwest domain are considered to be the Bluey's Silver Prospect, but misplaced.

RESULTS

GEOPHYSICAL SURVEY

The results of the geophysical survey form part of Llew Wynn's report presented in Appendix 1. He concludes that no strong conductive sulphides attributed to sulphides were detected from this MLEM survey. A late time response (channel 19) was covered with fixed loop EM survey. Results suggest that the absence of a fixed loop EM anomaly does not eliminate the MLEM response that is interpreted to be from a steeply dipping, cylindrical (cigar) shaped body with limited strike extent. This may have a ferruginous response found on the local grid at 9925E, 10200N. A traverse line across the Dragon on the ground Prospect did not produce a geophysical response.

ROCK CHIP SAMPLING

The results of the rock/drill chip sampling are shown in Table 2. Sulphides after pyrite are recognised at two drill-hole locations, the Slate Hole Bore and water bore located at 470417E 7402063N. White Range Gold NL drilled a number of drill holes for water in the early 1990's. These holes intersected lithologies from the Heavitree Quartzite and the Bitter Springs Formation and a quartz filled fault zone (Water bore NTG 15274). Results were below detection for silver and antimony, maximum values of 28 ppm As, 29 ppm Co, and 42 ppm Pb in Slate Hole Bore, and of 1350 ppm Cu in water bore NTG 15193. A sub-crop sample of ferruginous fault breccia in silty quartzites and quartzites returned 2ppm Ag, 80 ppm As, 75 ppm Co, 15.2% Cu, 450 ppm Pb, 35 ppm Sb and 84 ppm Zn (sample A1). By comparison malachite with minor chalcocite in silty quartzites at the Dragon on the ground workings returned 14.2% Cu and similar values for the other elements.
CONCLUSIONS AND RECOMMENDATIONS

The Bluey's Silver soil geochemical anomaly and the discovery outcrop of silver -copper -lead - antimony is found in a complex nappe structure. This Carboniferous epigenetic mineralisation appears to be at least two phase where silver, copper, lead and antimony were deposited in brecciated carbonate rich rocks associated with thrust planes or along dilatant zones and tensional gashes associated with folds axis and faulting. This mineralisation was deposited late in the development of the White Range Nappe Complex during the wanning stages of the Alice Springs Orogeny. The effects of retrogressive green schist metamorphism accompanied metal deposition. Metal associations vary in the area from Au-Ag-As+/-Cu at White Range, to Ag-Cu-Pb-Sb at Bluey's Silver Prospect to Cu+/-As at the Dragon on the Ground Prospect.

The Bluey's Silver Prospect has been tested with a Moving Loop EM survey that recognised a late channel response centred at 474400E 7400500N. This response is interpreted to be a steeply dipping, cylindrical (cigar) shaped body with limited strike extent. A narrow weak anomaly is detected at the base of the quartzite hill (7401100N) that coincided with an ET MLEM anomaly.

Therefore it is recommended that additional geological mapping soil sampling along the Cattle Highway Lineament and compilation be undertaken to target additional drilling. The better opportunities to find economic mineralisation is along thrust planes that that have interacted with carbonate rich lithology's or along near vertical dilatational feeder zones eg shears or axial fold planes were ground preparation for incoming mineralised fluids is enhanced.
EXPENDITURE

The annual statutory expenditure for the licence is $36,000. Expenses incurred by Silver Standard Australia Pty Ltd totalled $30,128.03 and are summarised in Table 3.

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SILVER STANDARD AUSTRALIA PTY LTD

TECHNICAL REPORT
FOR THE BLUEY’S SILVER PROJECT, EL10228
ARLTUNGA
(July 02 – July 03)

APPENDIX 1

MOVING LOOP EM SURVEY,
LLEW WYNN
BLUEY’S SILVER PROSPECT

ARLTUNGA AREA

NORTHERN TERRITORY

MOVING LOOP EM SURVEY.

For

SILVER STANDARD AUSTRALIA P/L

Llew Wynn  May 2002
Introduction.

An Electromagnetic EM survey has been completed over the Bluey's Silver Project, in the Arltunga area, Northern Territory.

The most prospective areas within the Project are:
(a) Bluey's Silver Prospect
(b) Slate Hole Bore Prospect and the
(c) Dragon on the Ground Prospect.

Bluey's Silver Prospect.
The target comprises Ag, Cu, Pb and Antimony mineralisation hosted in the Bitter Springs formation. The mineralisation is interpreted to be localised in areas where feeder zones interact with the Bitter Springs Formation, S. Carthew pers.com.

Slate Hole Bore Prospect.
Slate Hole Bore is approximately 600 m north of Bluey's Silver Prospect. Mineralisation, Cu, Co (± precious metals) is structurally related, and is hosted in an iron rich fault breccia, S. Carthew pers.com.

Dragon on the Ground Prospect.
Early mining activity by prospectors is evident with the occurrence of old workings located along creek banks. Numerous malachite samples (presumably from waste dumps associated with the workings) are evident in nearby streams. The target comprises Cu hosted in silty quartzite at the contact between Heavy Tree Quartzite and the Bitter Springs Formation, S. Carthew pers.com.

Aim.
The aim of the EM survey was to test for zones of conductive sulphides which may host economic zones of Ag.

Survey Specifications.
The EM survey was conducted by McSkimming Geophysics from April 19th to April 26th 2002. A Sirotem Mark II receiver and SAT-X (150 volts) transmitter were used to complete the survey. The receiving coil was a RVR 2E.
The moving loop (MLEM) method was used. The ground was energised by a 200 m loop (12.5 Amps). Measurements of the vertical component of the secondary field were made from the centre of each loop. The 200 m loop was moved down the survey line in 100 m intervals on lines spaced 200 m apart.
Significant MLEM anomalies were detailed with Fixed Loop EM.
Production.

Anticipated production during budget proposal was 25 – 30 readings per day. Terrain and relative thick vegetation reduced actual production to about 17 readings per day. Subsequently the initial survey proposal was reduced to limited coverage over high priority targets.

Work Done.

Loop positions were located with GPS using datum AGD 66. Lines surveyed are listed below.

**TABLE 1.**

<table>
<thead>
<tr>
<th>Mode</th>
<th>Easting</th>
<th>Northing</th>
<th>km</th>
<th>comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLEM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>473600</td>
<td>7401300</td>
<td>7401800</td>
<td>0.5</td>
<td></td>
</tr>
<tr>
<td>474200</td>
<td>7400100</td>
<td>7400900</td>
<td>0.8</td>
<td></td>
</tr>
<tr>
<td>474400</td>
<td>7400100</td>
<td>7400900</td>
<td>0.8</td>
<td>Weak anomaly (inflection) at 7400500 N. Late time (channel 19) anomaly at 7400600 N</td>
</tr>
<tr>
<td>474600</td>
<td>7400100</td>
<td>7401200</td>
<td>1.1</td>
<td>Broad response to channel 14, coincides with large metal water pipe at 7400850 N</td>
</tr>
<tr>
<td>474800</td>
<td>7400600</td>
<td>7401300</td>
<td>0.7</td>
<td></td>
</tr>
<tr>
<td>475400</td>
<td>7471300</td>
<td>7472100</td>
<td>0.8</td>
<td></td>
</tr>
<tr>
<td>475600</td>
<td>7471100</td>
<td>7472100</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>475800</td>
<td>7401100</td>
<td>7402100</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>476000</td>
<td>7401600</td>
<td>7402100</td>
<td>0.5</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td>7.2</td>
<td></td>
</tr>
<tr>
<td>Fixed Loop EM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loop size</td>
<td>474400</td>
<td>7400400 - 7401250</td>
<td>0.85</td>
<td>Weak, broad response extending north from base of ridge. Evident on both lines surveyed.</td>
</tr>
<tr>
<td>600 m x 300 m</td>
<td>474600</td>
<td>7400700 - 7401350</td>
<td>0.65</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td>1.50</td>
<td></td>
</tr>
</tbody>
</table>

A total of 7.2 line km of MLEM and 1.50 km of fixed loop EM was completed in six production days.
Two lines of fixed loop EM were completed to detail the broad MLEM responses on lines 474400 E and 474600 E. Budget constraints limited detail follow up to one day of fixed loop EM. A 600 m x 300 m fixed loop was offset 10 degrees to the grid. The offset provided the most effective excitation of the target horizon. Loop corners were positioned at: 474100 E / 7400750 N, 474700 E / 7400900 N, 474775 E / 7400600 N, 474175 E / 7400450 N.

Measurements of the x (horizontal) and z (vertical) components were made at 50 m intervals along grid lines. The x component was measured with the RVR facing the loop edge to measure the horizontal component perpendicular to the loop edge.

**Data Presentation.**

Results are presented as:
1. Profiles of micro\Volts per Amp in Appendix 1.
2. Images / contours of channels 2, 12, 16, 19 at 1:25000 (Figures 2-5)
3. Digital data in AMIRA / Geosoft format.

**Interpretation.**

**Discussion.**

EM surveys involve the generation of electric currents in subsurface conductors (conductive ore bodies). These induced electric currents are detected by monitoring the secondary magnetic field associated with these current systems. The induced currents decrease with time. In poor conductors the currents decrease rapidly, whereas in conductive bodies the induced currents persist for longer periods than in poor conductors. The decaying secondary magnetic field is monitored at selected intervals (channels) via a receiver coil at the surface. Twenty channels were used to monitor the secondary magnetic field. A table indicating the relationship between channel number and the time interval when that particular channel measures the secondary magnetic field is shown in Table 1. As induced currents in conductive bodies exist for longer periods than weak (poor) conductors, conductive targets are evident in the late channels.

**Moving Loop EM**

Moving Loop EM (MLEM) lines surveyed and prospect locations are shown in Figure 1. The original proposal was to survey most of the area outlined in Figure 1. Slow production from relatively thick vegetation and steep terrain reduced the EM survey to selected lines over main prospects, Slate Hole Bore, Bluey’s Silver and Dragon on the Ground.

The area surveyed north-east of Slate Hole Bore (SHB) was designed to test prospective units along strike from SHB.

No strong responses from conductive sulphides were detected in the MLEM survey.
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Bluey's Silver Prospect, ARLTUNGA, N. T.

Moving Loop EM Survey

Figure 1.

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Figures 2, 3, 4 and 5 indicate EM responses at early times (channel 2), mid-times (channel 12) and late-times (channels 16 and 19) respectively. All four figures show a wide anomalous response trending north-east from Bluey’s Silver Prospect. This broad conductive anomaly is interpreted to be reflecting geology and not responses from a discreet subsurface conductor. Peak responses for each channel drift southwards with time indicating the induced currents migrate to the south.

The area north-east of SHB show elevated EM responses at early times (Figure 2, channel 2) and low, (negative) responses at later times (Figures 3 and 4). The EM profiles (Appendix 1) clearly show this change from elevated responses at early times (ET) to negative values at the later times (LT). These negative EM responses may be related to clays in a fault zone (structure), or responses from disseminated sulphides at the base of the hill. The strongest negative responses were detected at 475800 E – 7402100 N.

Reduced values were also detected at the base of a hill at the SHB Prospect (line 474600 E at 7401200 N). The reduced/negative EM responses appear to parallel the base of a prominent ridge.

A broad EM anomaly at 474600 E – 7400800 N, coincides with a large metal water pipe. This anomaly was later detailed with fixed loop EM.

An image of channel 19 (26.48 ms), Figure 5, shows a discreet, late time anomaly at 474400 E – 7400600 N, between SHB and Bluey’s Prospect. The anomaly is a weak response and is only evident on four channels, (17,18,19, and 20). The anomaly does not extend along strike. The source of the anomaly is interpreted to be dipping to the north.

The Dragon on the Ground Prospect was tested with one line, 473600 E, which covered old workings. This area is inadequately tested and requires additional EM to test for chalcopyrite/chalcocite mineralisation.

**Fixed Loop EM.**

Fixed Loop EM was conducted on lines 474400 E and 474600 E to test:

1. If the anomaly coincident with a metal water pipe on line 474600 E is related to the pipe.
2. The weak anomaly at detected at 474400 E – 7400500 N

No anomalous responses were detected in the vicinity of the metal pipe, indicating the weak, broad MLEM anomaly may be reflecting an increase in conductive cover. A narrow, weak anomaly was detected at the base of the hill (7401100 N). This coincides with an ET MLEM anomaly. The fixed loop profiles on both lines show the crossovers migrate northwards with time, indicating the secondary (induced) current system migrates to the north with time. These results suggest a broad conductive zone (fault zone/corridor) extends northwards from the base of the hill at a moderate to shallow angle.
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Bluey's Silver Prospect, ARLTUNGA, N. T.
Moving Loop EM Survey - Channel 2 (0.88 ms)

Figure 2.

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Bluey's Silver Prospect, ARLTUNGA, N. T.
Moving Loop EM Survey - Channel 12 (8.67 milliseconds)

Figure 3.
No responses from conductive sulphides were detected in the fixed loop survey.

**Summary.**

7.2 km of MLEM and 1.5 km of detailed Fixed Loop EM were completed over the Bluey's Silver Prospect.

No strong responses from conductive sulphides were detected.

A weak, isolated late time response was detected between SHB and Bluey's Prospect at 474400 E – 7400600 N. The anomaly is only evident on channels 17, 18, 19, and 20. The source of the anomaly is interpreted to be dipping to the north.

Negative EM responses detected at 475800 E – 7402100 N may be related to clays in a fault zone (structure), or responses from disseminated sulphides at the base of the prominent ridge.

The fixed loop results detected a weak, broad conductive response extending northwards at a shallow/moderate angle from the base of the ridge. The source of this extensive anomaly is interpreted to be a weakly conductive fault zone / corridor.

**Recommendations.**

1. Confirm and detail the weak, isolated late channel MLEM anomaly at 474400 E – 7400600 N with fixed loop EM.

2. Extend the MLEM coverage over the Dragon on the Ground Prospect and Bluey’s Prospect.

3. Ground check (soil sample) zones coincident with negative EM responses.
APPENDIX 1.
SILVER STANDARD

AFLTUNGA N.T.
BLUEY'S SILVER
SIROTEM PROFILE
LINE 76000E

SCALE - 1:5000
SURVEY SPECIFICATIONS

DATA ACQUIS’N: McSKIMMING GEOPHYSICS

SURVEY DATE: APRIL 2002
CONFIGURATION: 200M SQUARE TX. LOOP, IN LOOP RECEIVER
READING INT.: 100 METRES
NO. OF STACKS: 512
TRANSMITTER: MEDIUM POWER
RECEIVER: SIROTEM II S/N 1224
CURRENT: 12.7 AMPS
OPERATOR: P McSKIMMING

PLOT SPECIFICATIONS
HORIZONTAL SCALE: 1:5000
VERTICAL SCALE: LOGARITHMIC
4CM PER DECADE
LINEAR BETWEEN -1 AND +1
TIME DELAYS IN MILLISECONDS
E = EARLY TIME WINDOW
S = STANDARD TIME WINDOW

SILVER STANDARD
ARLTUNGA N.T.
BLUEY’S SILVER
SIROTEM PROFILE
LINE 75300E

SCALE: 1:5000
SURVEY SPECIFICATIONS

DATA ACQUISITION: McSkimming Geophysics

SURVEY DATE: APRIL 2003

CONFIGURATION: 20m Square IX. Loop

IN LOOP RECEIVER

READING INT.: 100 METRES

NO. OF STACKS: 512

TRANSMITTER: MEDIUM POWER

RECEIVER: SIROMEN II S/N 1224

CURRENT: 12.6 MPA

OPERATOR: P. McSkimming

PLOT SPECIFICATIONS

HORIZONTAL SCALE: 1:5000

VERTICAL SCALE: LOGARITHMIC

4CM. PER DECADE

LINEAR BETWEEN -1 AND +1

TIME DELAYS IN MILLISECONDS

E = EARLY TIME WINDOW

S = STANDARD TIME WINDOW

SILVER STANDARD

ARLTUNGA N.T.
BLUEY'S SILVER
SIROMEN PROFILE
LINE 75400E

SCALE: 1:5000
SURVEY SPECIFICATIONS

DATA ACQUISITION: McSKIMMING GEOPHYSICS

SURVEY DATE: APRIL 2002

CONFIGURATION: 200M SQUARE TX. LOOP, IN LOOP RECEIVER

READING INT.: 100 METRES

NO. OF STACKS: 512

TRANSMITTER: MEDIUM POWER

RECEIVER: SIROTEN II S/N 1224

CURRENT: 12.5 AMPS

OPERATOR: P McSKIMMING

PLOT SPECIFICATIONS

HORIZONTAL SCALE: 1:5000

VERTICAL SCALE: LOGARITHMIC

TIME DELAYS IN MILLISECONDS

E = EARLY TIME WINDOW
S = STANDARD TIME WINDOW

SILVER STANDARD

ARLTUNGA N.T.
BLUEY'S SILVER
SIROTEN PROFILE
LINE 74600E

SCALE: 1:5000
SURVEY SPECIFICATIONS

DATA ACQUISITION: NSKINNING GEOPHYSICS

SURVEY DATE: APRIL 2002
CONFIGURATION: 200m SQUARE TX. LOOP, 14 LOOP RECEIVER
READING INT.: 100 METRES
NO. OF STACKS: 512
TRANSMITTER: MEDIUM POWER
RECEIVER: SIROTEM II S/N 1224
CURRENT: 12.5 AMPS
OPERATOR: P M SKINNING

PLOT SPECIFICATIONS
HORIZONTAL SCALE: 1:5000
VERTICAL SCALE: LOGARITHMIC
40x PER DECADE
LINEAR BETWEEN -1 AND +1

TIME DELAYS IN MILLISECONDS
E - EARLY TIME WINDOW
S - STANDARD TIME WINDOW

SILVER STANDARD

APLTUNGA N.T.
BLUEY'S SILVER
SIROTEM PROFILE
LINE 74200E

SCALE: 1:5000
SURVEY SPECIFICATIONS

DATA ACQUISITION: McSKIMMING GEOPHYSICS

SURVEY DATE: APRIL 2002

CONFIGURATION: 200m SQUARE TX. LOOP, IN LOOP RECEIVER

RECEIVING INT.: 100 METRES

NO. OF STACKS: 512

TRANSMITTER: MEDIUMPOWER

RECEIVER: SIROTEM II S/N 1224

CURRENT: 12.5 AMPS

OPERATOR: P McSKIMMING

PLOT SPECIFICATIONS

HORIZONTAL SCALE: 1:5000

VERTICAL SCALE: LOGARITHMIC

4CM. PER DECADE

LINEAR BETWEEN -1 AND +1

TIME DELAYS IN MILLISECONDS

E - EARLY TIME WINDOW

S - STANDARD TIME WINDOW

SILVER STANDARD

ARLTUNGA N.T.
BLUEY'S SILVER

SIROTEM PROFILE

LINE 73600E

SCALE: 1:5000
SURVEY SPECIFICATIONS

DATA ACQUS'N: M CSKIMING GEOPHYSICS

SURVEY DATE: APRIL 2002
CONFIGURATION: 500M SQUARE TX. LOOP
TRANSMITTER: MEDIUM POWER
RECEIVER: SIROTEM II S/N 1224
CURRENT: 12.4 AMPS
OPERATOR: P CSKIMING

PLOT SPECIFICATIONS
HORIZONTAL SCALE: 1: 5000
VERTICAL SCALE: LOGARITHMIC
4CM. PER DECADE
LINEAR BETWEEN -1 AND +1
TIME DELAYS IN MILLISECONDS
E = EARLY TIME WINDOW
S = STANDARD TIME WINDOW

SILVER STANDARD
ARLTUNGA N.T.
SLATE HOLE BORE
SIROTEM PROFILE
LINE 474400E X
SCALE: 1: 5000
SURVEY SPECIFICATIONS

DATA ACQUI"N: MCKINNING GEOPHYSICS

SURVEY DATE: APRIL 2002
CONFIGURATION: 60CM SQUARE TX, LOOP, TORAM NODE RVR SURVEY
READING INT.: 50 METRES
NO. OF STACKS: 256
TRANSMITTER: MEDIUM POWER
RECEIVER: SIROMEM II S/N 1224
CURRENT: 12.4 AMPS
OPERATOR: F MCKINNING

PLOT SPECIFICATIONS

HORIZONTAL SCALE: 1:5000
VERTICAL SCALE: LOGARITHMIC
40M PER DECADE
LINEAR BETWEEN -1 AND +1

TIME DELAYS IN KILOSECONDS
E = EARLY TIME WINDOW
S = STANDARD TIME WINDOW

SILVER STANDARD

ARLTUNGA N.T.
SLATE HOLE BORE
SIROMEM PROFILE
LINE 474600E Z
SCALE: 1:5000
SURVEY SPECIFICATIONS

DATA ACQUISITION: MCSKIMING GEOPHYSICS

SURVEY DATE: APRIL 2302

CONFIGURATION: 6000 SQUARE TX LOOP,

TRANSMITTER: MEDIUM POWER

RECEIVER: SIROTEM II S/N 1224

CURRENT: 12.4 AMPS

OPERATOR: P. MCSKIMING

PLOT SPECIFICATIONS

HORIZONTAL SCALE: 1:5000

VERTICAL SCALE: LINEAR, VARIABLE

TIME DELAYS IN MILLISECONDS

E = EARLY TIME WINDOW

S = STANDARD TIME WINDOW

SILVER STANDARD

ARLTUNGA N.T.

SLATE HOLE BORE

SIROTEM PROFILE

LINE 474600E Z

SCALE: 1:5000
SURVEY SPECIFICATIONS

DATA ACQIS'N: McSKIMINS GEOPHYSICS

SURVEY DATE: APRIL 2002
CONFIGURATION: 600M SQUARE DL. LOOP
             TURAN R/W DRR SURVEY
RECORDING INTERVAL: 50 METRES
NO. OF STACKS: 512
TRANSMITTER: MEDIUM POWER
RECEIVER: SIROTEM II S/N 1224
CURRENT: 12.0 amps
OPERATOR: P McSKIMINS

PLCT SPECIFICATIONS
HORIZONTAL SCALE: 1:5000
VERTICAL SCALE: LOGARITHMIC
               4CM PER DECADE
               LINEAR BETWEEN -1 AND +1

TIME DELAYS IN MILLISCONDS
E - EARLY TIME WINDOW
S - STANDARD TIME WINDOW

SILVER STANDARD
ARLTUNGA N.T.
SLATE HOLE BORE
SIROTEM PROFILE
LINE 474600E X

SCALE: 1:5000
Geological Interpretation

Northern Domain:
Jaspers and silcrete developed on shallow dipping carbonates.
Extensive area of quartz-filimonte veining and brecciation, similar structural fabric to overthrust and southeastern domains.

Northwest Domain:
Consisting of a series of overthrust slices of dolomite, limestone and basement complex. A silcrete/jasper surface is developed over much of the dolomite.

Western Domain:
Northeast trends, shallow east dip, jasper and silcrete ridges after carbonate with intervening palaeo-silicic subsurface.

Southeast Domain:
A broad anticline fold with northwest striking, shallow east dipping defined along the eastern margin which swings southwest and steepens in dip towards the south.
East-west striking, open folds and steeply dipping in north becoming tighter to the south. In the shallow dipping dolomites in the north mineralisation is the same as in the overthrust domain.

Discovery Outcrop Area:
High-grade mineralisation as irregular masses (<1m) and disseminations in brecciated and skilcosed dolomites within shears trending 256 and 036 mag.