Redbank Copper Project

The Redbank Copper Project is located in the Northern Territory McArthur River Basin, some 30km from the Queensland border and 70km south of the Gulf of Carpentaria. The tenements comprise Exploration Retention License (ERL) 94 which includes Mineral Leases (Northern) MLN 631 to 636 inclusive and Mineral Lease (Northern) MLN 1108 as well as EL24654. Seven exploration licenses have been granted in the McArthur South region. The seven tenements comprise EL26758, EL26778, EL26779, EL26780, EL26781, EL26965, EL26999 which total 2,000km². Redbank holds a substantial ground position (with more than 4,000km² granted or under application) including the centre of the Redbank Mineral Field which hosts significant economic copper mineralisation and is highly prospective for copper, cobalt, phosphate, manganese and uranium.

Redbank Copper is pleased to announce a significant upgrade in Resources at its expanding Northern Territory project. It takes the total Indicated and Inferred JORC Resources to 6.24Mt @ 1.5% Cu for 95,900 tonnes of contained metal. This includes an Indicated Resource of 2.76Mt tonnes at 1.6% Cu, and Inferred Resources of 3.48Mt tonnes at 1.5% Cu.

In September 2009, a comprehensive Mine Study for the development of the Redbank project was released. The Mine Study reinforces the strong economic viability for a copper cathode and concentrate project and includes a base case model for an open cut copper mine with a life of ten years, including production from both oxide and sulphide ores.

In early 2010, a Development Study was released outlining increased copper production targets, with capacity for copper cathode output lifted from 2,100 tonnes to 2,500 tonnes per year. Redbank has also accelerated the proposed ramp-up of its copper sulphide production stream. The initial rate is 20,000tpa of copper concentrate for the first year (2013) from 300,000tpa of sulphide ore, increasing to 30,000tpa from 500,000tpa sulphide ore in the second year (2014).

Redbank has engaged Calder Project Services to design and construct the Solvent Extraction-Electro Winning (SX-EW) plant for cathode production, with construction set to commence on site in the first half of 2011.
Exploration in 2009 discovered additional resources together with four new breccia pipes. A significant exploration and drilling program is planned in 2010 in order to deliver further expansion of its resource base. The total drill program includes 12,500m RC and 2,500m of diamond drilling to test the depths of mineralisation which currently remains open.

HISTORY
Copper mineralisation at Redbank was discovered in 1916. Small scale-production between 1916 and 1957 yielded 1,200 imperial tons of copper ore at a grade higher of some 30% Cu. Numerous companies investigated the area between the 1940s and early 1990s. A small open pit at the Sandy Flat deposit operated during the 1990s and processed 170,000t grading 5.4% copper, as well as leaving 54,000t grading 6.0% copper together with mining and processing infrastructure.

1900 Copper mines were first discovered in the district in 1900 at a town called China Girl, 25km to the north east of the Project area.
1912 Further discoveries were made in 1912 at Packsaddle and Bauhinia prospects, 17km to the east of Redbank.
1916 Copper was initially detected in the Redbank Copper Project Area by William Masterton.
1916-1957 Masterton achieved small scale production from shallow open pits and shallow underground workings in the supergene copper carbonate zone at the Azurite, Redbank and Prince deposits. This total production was more than 1,200 tonnes of copper ore.
1966 Gransville Development mined 2,000 imperial tons at a grade of 15% copper in 1966 which was sent to Mt Isa for treatment.
1969 A joint venture between Harbourside Oil NL and Westmoreland Minerals commenced.
1971 Harbourside was then joined by Newaim a consortium consisting of Newmont Australia, AMP and ANZCI. Newaim considered the discoveries which they made did not meet their corporate requirements and withdrew at the end of 1971.
1972 Triako Mines NL entered into an agreement with Harbourside to explore at Redbank. Harbourside
Triako continued with various partners until 1983.

The project was ultimately acquired by Alameda Pty Ltd.

1995         Alameda joined by CRA Exploration Ltd in a farm in and joint venture.
1996         CRAE withdrew.
1993         Alameda Pty Ltd commenced mining a small open pit operation 50 metres deep at the Sandy Flat deposit between 1993 and 1996

processing 170,000 tonnes at 4.6% as well as leaving 54,000 tonnes at 6.0% in stockpiles.

2005         Burdekin Pacific acquired the Redbank Project and changed its name to Redbank Mines Limited.

GEOLOGY

Regional Geology

The Redbank Copper Project is hosted by rocks of the Macarthur River Basin (MCB), a mid Proterozoic epicratonic basin that is exposed over an area of 200,000km² in the Northern Territory and Queensland that hosts the world class Macarthur River lead zinc silver deposit (Plumb et al., 1990).

The MCB has two major sub divisions exposed: the Bauhinia Shelf and the Wearyan Shelf, the latter of which hosts the Redbank Copper Project. Deposition in the MCB occurred between 1725Ma and 1429Ma unconformably over the early Proterozoic Pine Creek Orogen, Arnhem Block and Murphy inlier. The MCB is itself overlain unconformably by Palaeozoic and Mesozoic basins.

Local Geology

The majority of MCB rocks in the Redbank area are part of the Tawallah Group, a northwest dipping package of sedimentary, volcanic and carbonate rocks that is the lowermost unit in the MCB sequence. The Tawallah Group has a maximum thickness of 4,800m and contains all of the volcanic rocks in the MCB sequence (Cooke et al., 2001).

The lowermost unit is the Settlement Creek Volcanics (SCV), a series of alkaline trachyandesite flows and sills with
interbedded volcanoclastics (Table 2). Overlying is the SCV is the Wollongorang Formation (WGF), a mixed clastic/carbonate sequence. The WGF has four lithological subdivisions: basal red shale, crystalline dolostone, an ovoid-concretion bearing dolostone and an arenaceous unit.

The Gold Creek Volcanics (GCV) overlie the WGF, and comprise trachybasalt lavas with interbedded volcanoclastics. The Hobblechain Rhyolite, a distinctive marker unit of felsic lavas within the GVC, is exposed throughout the project area.

Overlying the Tawallah Group, and forming a prominent escarpment in the north-western part of the project area, are the arenaceous sediments of the Masterton Sandstone, the lowest subdivision of the Parsons Range Group.

A NNW trending intrusion, the Packsaddle Microgranite, has been interpreted to be co-magmatic with the Hobblechain Rhyolite.

Possibly Cretaceous sediments derived from the Masterton Sandstone are patchily distributed throughout the region. Quaternary and Cainozoic alluvium and soils are also widely distributed, with thicknesses of about 10m over the Sandy Flat open pit.

Primary copper mineralisation in the Redbank area is in the form of steeply dipping to vertical, cylindrical to oval breccia pipes (Knutson et al., 1979). Some fifty possible breccia pipes have been identified in the area, although detailed drilling and resource estimates have only been completed for quartz, chlorite, celadonite, hematite, potassium feldspar and apatite, with minor barite, rutile, galena and pyrobitumen. The majority of the breccia fragments are derived from the surrounding MCB sediments and volcanic.

The breccia pipes were formed by the release of fluids from a carbonated trachytic magma 2-3km below the surface. Mineralogical and textural evidence reported by Knutson et al (1979) suggests that the fluids were enriched in K, Cl, P, Mg, Ce, La, CO2 and H2O.

The mineralogy of the Sandy Flat deposit has been studied in detailed by McLaughlin et al (2000). In the upper oxidised zone, copper minerals include azurite, malachite, native copper, chalcotrichite, libethenite, pseudomalachite and chrysocolla. Chalcocite is common at the base of the oxidised zone. The primary mineralisation is predominantly chalcopyrite and pyrite, with minor pyrrhotite and arsenopyrite. Pyrobitumen is
also found at the base of the oxidised zone, and is thought to represent pyrolysed petroleum or highly reduced carbonate rocks.

### Table 2: Proterozoic Stratigraphy of the Redbank area

<table>
<thead>
<tr>
<th>Formation</th>
<th>Sub Units</th>
<th>Thickness</th>
<th>Lithology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Masterton Sandstone</td>
<td></td>
<td>&gt;150m</td>
<td>Medium to coarse grained orthoquartzite, locally feldspathic or kaolinitic</td>
</tr>
<tr>
<td>Gold Creek Volcanics</td>
<td>Upper</td>
<td>60m</td>
<td>Poorly sorted rippled lithic sandstone with abundant volcanic fragments</td>
</tr>
<tr>
<td></td>
<td>Lower</td>
<td>~165m</td>
<td>Massive quartz-rich sandstone, locally conglomeratic with abundant volcanic fragments</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Sub-angular to rounded cobble conglomerate</td>
</tr>
<tr>
<td>Wollongorang Formation</td>
<td></td>
<td>&gt;150m</td>
<td>Interbedded grey siltstones, dolomites, dolomitic quartz sandstones and feldspathic sandstones.</td>
</tr>
<tr>
<td>Settlement Creek Volcanics</td>
<td></td>
<td></td>
<td>Trachytes, rhyolites and dolomites with derived agglomeratic breccias.</td>
</tr>
</tbody>
</table>

### CURRENT SITE INFRASTRUCTURE

**Airstrip**

An 1150m long airfield is located on the Exploration Retention Licence and is within 2km by road of both the mine office and the camp. The airfield needs improvements made to the storm water - drainage system, the
compaction of the gravel surface and a wider flyover zone to meet the requirements of a medical evacuation.

**Roads**

All roads in the area are gravel with occasional engineered creek crossings and consequently are not trafficable during the wet season. The closest sealed road is at Borroloola on the Carpentaria Highway. Logistically it is difficult to maintain consumable and inventory stock for any continuous production scenario and in the longer term all season truck access would be required with bridged road crossings the priority.

**Camp**

This was established in the early 1990s. There is accommodation for 14 persons and it is equipped with en-suite and ablution block accommodation. The camp will be upgraded with the onset of construction and production.

**Communications**

Telstra have a microwave tower on the site offering internet and telephone and fax.

**Water**

Camp water is taken from a bore. Site water is sourced from the Sandy Flat open pit but as this is depleted another source of water will be sought.

**Power**

Electric power is generated on site by diesel powered generators one located at the Plant site and one at the camp.

**Sanitation**

Septic systems are in place.

**Plant**

A crushing section exists together with a conveyor systems, flotation cells, mixing tanks, a thickener, a precipitation column, a ROM Pad, a Tailings Storage Facility and a workshop and office. The mill grinding circuit has been removed. It is anticipated that rather than restoring this equipment to operational it will be prudent to design and build the required plants.
Mineralisation at Redbank occurs in breccia pipes which are capped with a shallow (~35m deep) oxide zone and is underlain by sulphide mineralisation. The focus of mining and exploration has so far been on these oxide orebodies.

It is believed that only about 15% of the tenement area has been explored using modern techniques.

When creating mineralized domains for the Bluff deposit a core shell of 2% total copper was selected using Leapfrog software. This mineralized domain was shown to contain grades higher than 2% copper and extended throughout the vertical extent of the mineralized zone. Other similarly endowed pipes could exist containing similar or even higher grades of copper.

Processing the oxide ore is expected to be by crushing, leaching with sulphuric acid to produce copper cement (85-90% Cu) or maybe copper cathode (99.9%) if the provision of a solvent extraction electrowinning plant can be justified. The copper sulfides could be crushed and milled ready for flotation to create a concentrate of approximately 25% copper which would then be despatched for smelting and refining.

Although copper is presently the metal of main interest to Redbank, the general RCP Operations tenement holdings are in areas also prospective for gold, silver, lead, zinc, cobalt, uranium, manganese and phosphates.