



## **Rock Phosphate Deposits and Prospectivity**

**A New Product Line for CopperCo**

## Introduction

CopperCo Limited (“CopperCo”) owns 100% interest in rock phosphate deposits adjacent to its Lady Annie Copper Mine and SX-EW operation in Queensland and also has extensive exploration areas in Queensland and the Northern Territory prospective for new discoveries. CopperCo has recently diversified its product portfolio with the acquisition of Mineral Securities Limited, and now plans to develop its phosphate assets by taking advantage of the existing infrastructure at Lady Annie and the recent rock phosphate price increase to US\$350/tonne.

The CopperCo phosphate project comprises 2 tenement packages located in the highly prospective Georgina Basin in the Northern Territory and Queensland.

- Lady Annie Phosphate Deposits (Figures 2 & 3) located on 6 granted exploration licences and 2 exploration licence applications within the Lady Annie tenement package, covering a total area of approximately 300 km<sup>2</sup> on the eastern edge of the Georgina Basin.
- A large tenement package (Figure 1) held by Australis Exploration Pty Ltd (“Australis”), a wholly owned subsidiary of CopperCo, consisting of 56 exploration licences in Queensland and the Northern Territory, covering a total area of approximately 41,600 km<sup>2</sup>. To date 11 tenements have been granted in the Northern Territory.

## Prospectivity

The Georgina Basin is a large sedimentary basin with a total area of about 325 000 km<sup>2</sup> that hosts all the major phosphate deposits in Queensland and the Northern Territory. The basin contains shallow marine sediments, including phosphate horizons of Middle Cambrian age, such as the Beetle Creek Formation, that are exposed along the edges of the basin and over basement highs within the basin (Figure 1).

The Middle Cambrian rocks of the Georgina Basin host several major phosphate deposits, including Duchess- Phosphate Hill, Lady Annie-Lady Jane and D Tree in Queensland, and Wonarah, Alexandria, Alroy and Highland Plains in the Northern Territory. Economic phosphate deposits are being mined at Duchess where the phosphatic horizon is exposed in a restricted embayment bounded by older basement rocks. Most historical exploration was concentrated along the eastern edge of the Georgina Basin, resulting in the discovery of numerous phosphate occurrences, including CopperCo’s Lady Annie phosphate deposit (Figure 2).

Phosphate principally occurs as phosphorite or phosphate rock which typically has 15-35% P<sub>2</sub>O<sub>5</sub> content. Phosphate commonly occurs with secondary uranium and can therefore be used as a pathfinder element from airborne radiometric surveys.

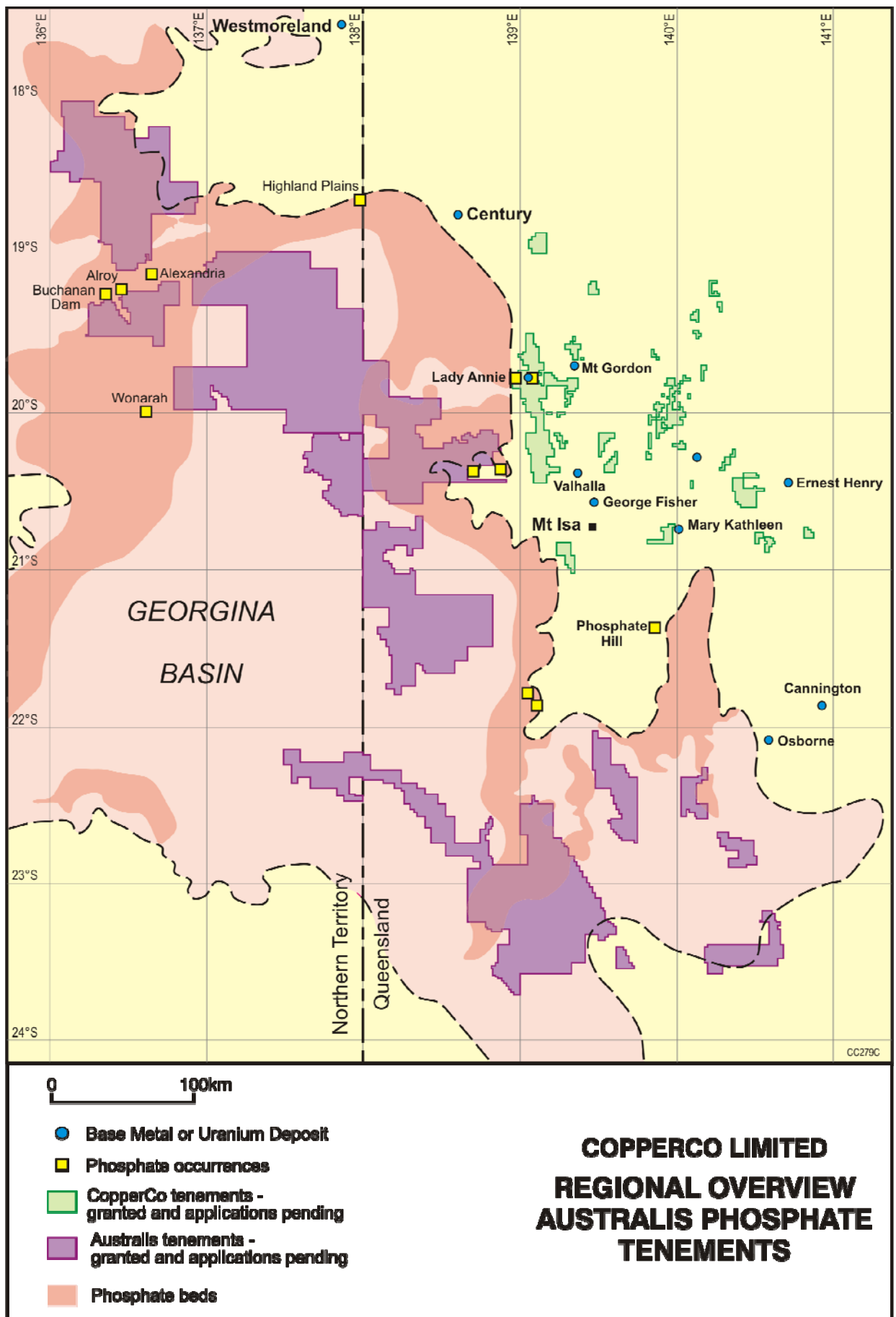


Figure 1: Regional Overview of Australis and CopperCo Tenure

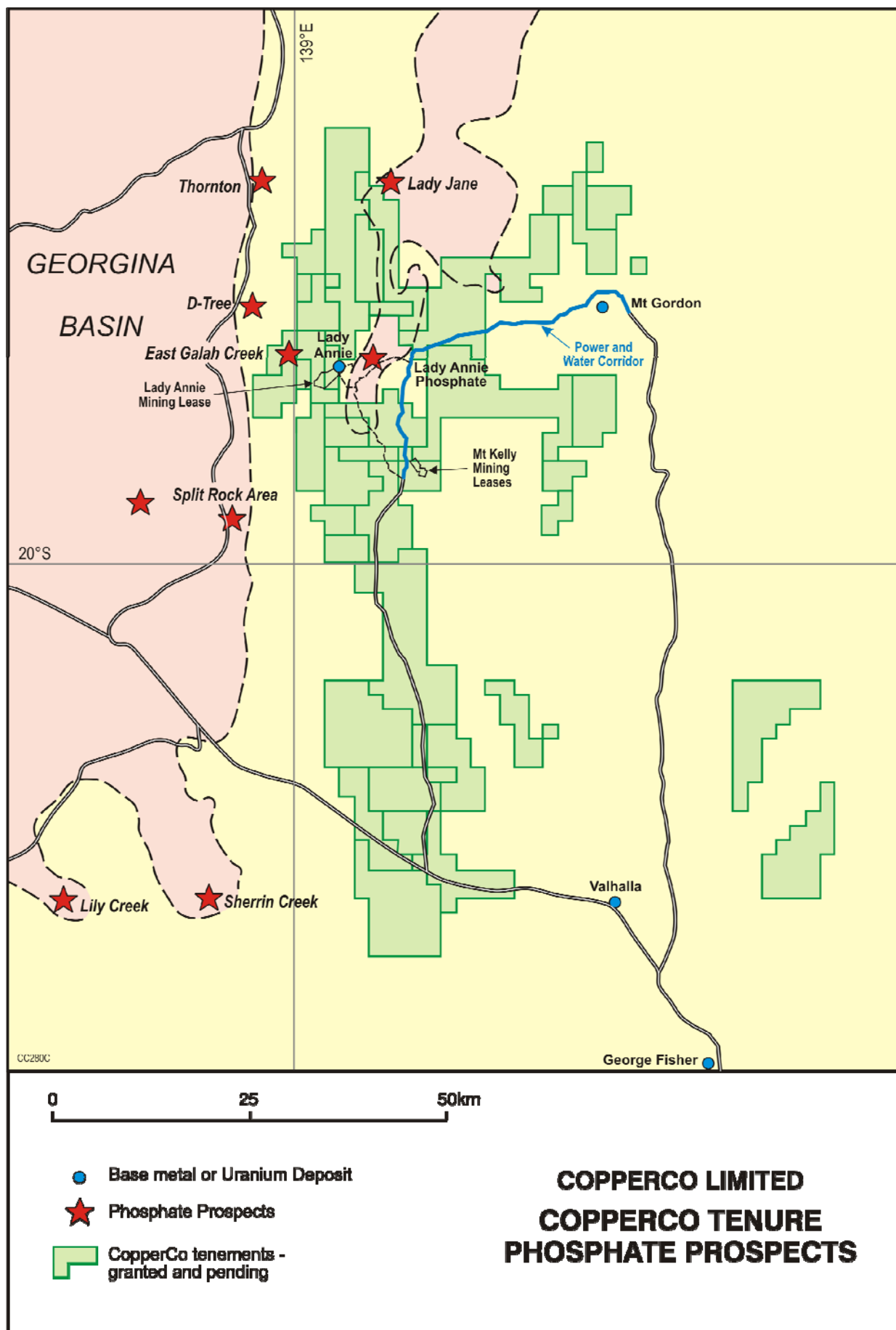


Figure 2: Eastern Georgina Basin - CopperCo Tenure

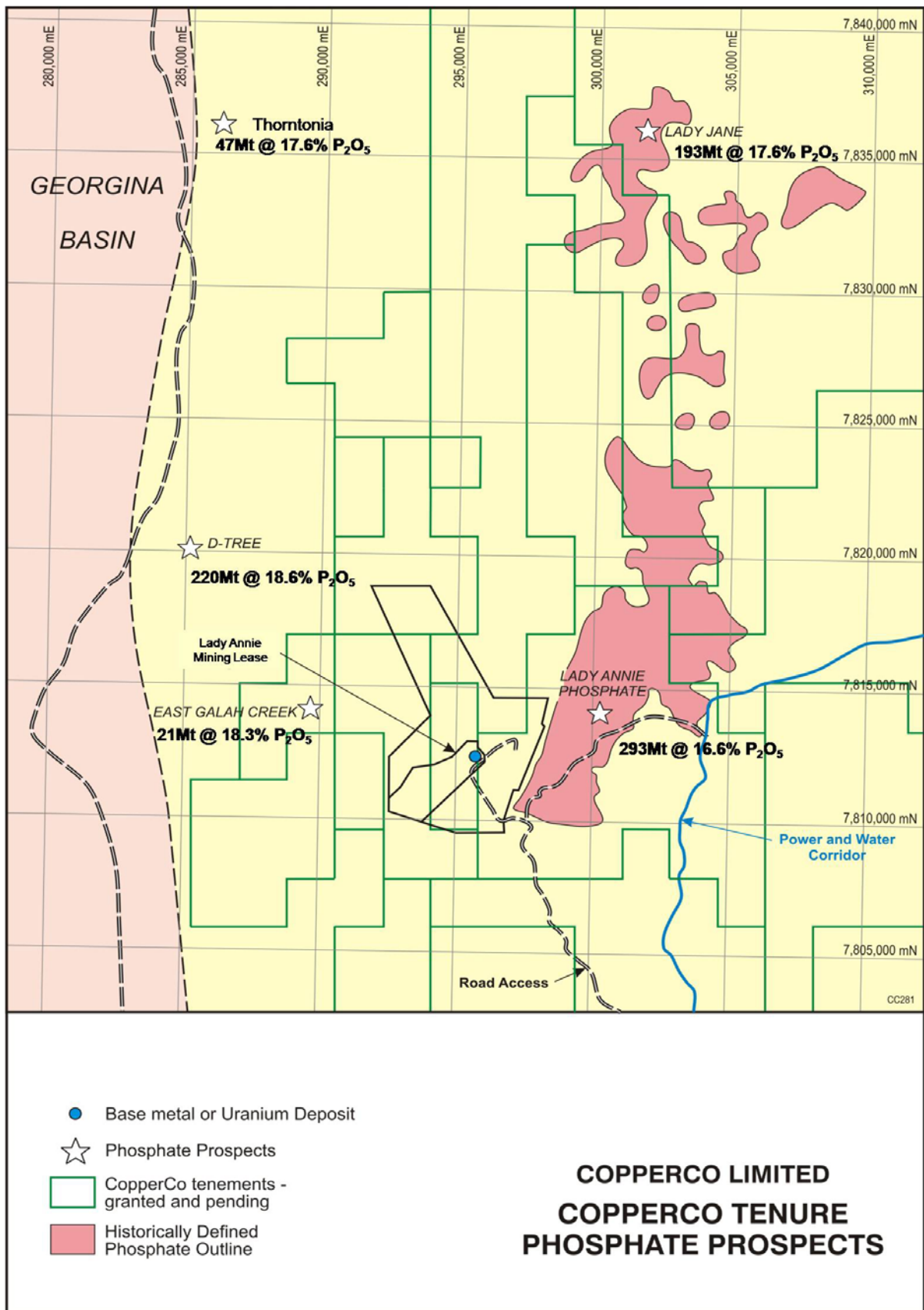


Figure 3: Historic Phosphate Resources & CopperCo Infrastructure

Table 1: Historic Phosphate Resources in the Georgina Basin

| Deposit Name                                                           | Resource                                        |
|------------------------------------------------------------------------|-------------------------------------------------|
| Highland Plains                                                        | 84Mt @ 13.4% P <sub>2</sub> O <sub>5</sub>      |
| Mount O'Connor                                                         | 32Mt @ 17.4% P <sub>2</sub> O <sub>5</sub>      |
| Babbling Brooke Hill                                                   | 38Mt @ 16.8% P <sub>2</sub> O <sub>5</sub>      |
| Mount Jennifer                                                         | 20Mt @ 15.3% P <sub>2</sub> O <sub>5</sub>      |
| Phantom Hills                                                          | 46Mt @ 16.0% P <sub>2</sub> O <sub>5</sub>      |
| D Tree                                                                 | 220Mt @ 18.6% P <sub>2</sub> O <sub>5</sub>     |
| D Tree (lower cutoff)                                                  | 450Mt @ 15.9% P <sub>2</sub> O <sub>5</sub>     |
| <b>Lady Jane*</b>                                                      | <b>193Mt @ 17.6% P<sub>2</sub>O<sub>5</sub></b> |
| <b>Lady Annie*</b>                                                     | <b>293Mt @ 16.6% P<sub>2</sub>O<sub>5</sub></b> |
| Sherrin Creek                                                          | 212Mt @ 16.0% P <sub>2</sub> O <sub>5</sub>     |
| Lily Creek                                                             | 192Mt @ 13.4% P <sub>2</sub> O <sub>5</sub>     |
| Ardmore                                                                | 47Mt @ 15.6% P <sub>2</sub> O <sub>5</sub>      |
| Quita Creek                                                            | 30Mt @ 17.0% P <sub>2</sub> O <sub>5</sub>      |
| Duchess                                                                | 27Mt @ 31.1% P <sub>2</sub> O <sub>5</sub>      |
| Duchess (lower cutoff)                                                 | 1,345Mt @ 17.3% P <sub>2</sub> O <sub>5</sub>   |
| Thorntonia                                                             | 47Mt @ 17.6% P <sub>2</sub> O <sub>5</sub>      |
| <b>East Galah Creek*</b>                                               | <b>21Mt @ 18.3% P<sub>2</sub>O<sub>5</sub></b>  |
| Source: Driessen & Cook 1981                                           |                                                 |
| <b>* Resource contained partially or wholly within CopperCo tenure</b> |                                                 |

### Lady Annie Phosphate Project

Within the Lady Annie tenement package, historical exploration has identified an outcropping to shallow sub-cropping high grade phosphate deposit with an historical resource of 293Mt at 16.6% P<sub>2</sub>O<sub>5</sub> (Figure 3). The East Galah Creek Prospect (21Mt at 18.3% P<sub>2</sub>O<sub>5</sub>), and a portion of the Lady Jane Prospect (193Mt at 17.6% P<sub>2</sub>O<sub>5</sub>) also occur within the Lady Annie tenement package. The phosphate within the Lady Annie deposit has been identified as being of primary origin, occurring as granular pellets of collophane (a common phosphate mineral) dispersed within flat lying to gently dipping, friable siltstones and fine grained sandstones.

The phosphate deposit is situated immediately adjacent to the Lady Annie Copper Mine which is well serviced by electricity, water, haul road and accommodation facilities

(Figure 3). This project therefore represents an opportunity for rapid development. Metallurgical testwork by previous explorers has shown that the deposit can be upgraded to >33% P<sub>2</sub>O<sub>5</sub>.

### **Australis Exploration Project**

The Australis tenement package covers areas along the northern edge of the Georgina Basin in the Northern Territory as well as areas along a basement high referred to as the Alexander Ridge that hosts the Wonarah and Alroy phosphate deposits. Numerous radiometric anomalies are present within the granted tenements and are considered high priority targets to undertake first pass soil geochemistry.

This project area will be targeted for direct shipping rock phosphate.

### **Development and Exploration Programmes, Timetable and Budget**

The exploration and development programmes can be classed as both brownfields (Lady Annie Phosphate Project) and greenfields (Australis Project).

#### *Lady Annie Phosphate Project - Brownfields*

- Development plans for 2008-2009 involve mapping and drilling to define the phosphate resource, metallurgical testwork, and scoping and transport studies, followed by feasibility studies, permitting and construction, with production as early as 2011.

#### *Australis Exploration Project - Greenfields*

- Exploration in 2008-2010 would involve standard geological, geochemical and geophysical techniques and studies to locate a high grade direct shipping phosphate product, followed by drilling to define a resource, feasibility studies and development.

A combined exploration budget summary is given below.

| <b>Phosphate Budget 2008-2011</b> |                  |                  |                  |
|-----------------------------------|------------------|------------------|------------------|
| <b>Year</b>                       | <b>2008-2009</b> | <b>2009-2010</b> | <b>2010-2011</b> |
| <b>A\$</b>                        | 3,500,000        | 4,800,000        | 5,500,000        |