Phoenix Copper floated on the Australian Stock Exchange in March 2008, intent on copper and gold exploration in the midnorth of South Australia. The company then had seven staff, five exploration licences and two exploration licence applications around Burra, Spalding and the Yorke Peninsula.

Over the last three years this tenement package has grown to 18 exploration licences and three granted mining leases, and the company has moved from junior explorer to copper producer with 22 staff.

Phoenix Copper has set out to employ state of the art exploration tools including MapInfo-Discover, Maptek Vulcan™ and field portable X-ray fluorescence (XRF) analysers to quickly evaluate its holdings.

Using the portable XRF has allowed Phoenix Copper to identify the most prospective geochemical targets within each tenement.

Linking the Nomad GPS and Palm size data recorder running MapInfo-Discover to the XRFs has allowed real time data collection and viewing for the exploration geologist. Geophysical surveys and drilling follow the initial evaluation phase.

Maptek’s Vulcan Explorer software has been used to map, manipulate and display the data, graphically showing the potential of the mineralised systems from both historic and recent drilling.

Phoenix Copper’s projects are centred on three of the most significant mining areas in South Australia:

• The historic and relatively unexplored mining district around Burra - in the 1950s the Monster Mine produced 2.7 Mt of copper ore and was as important to South Australia as Olympic Dam is today.

• The Leigh Creek mineral fields which are rich in coal, copper, uranium and zinc.

• The Yorke Peninsula, host to copper and gold deposits in the southern extension of the Olympic Domain.

In all of these areas Phoenix Copper has been able to build a comprehensive geological, geophysical and geochemical database at a regional level.

‘ONCE WE SEE ALL THE DATA IN THE ONE BLOCK MODEL WE HAVE A CLEAR 3D PICTURE OF OUR OVERALL POSITION. THIS ALLOWS US TO PLAN OUR NEXT MOVE.’

Mark Manly, Phoenix Copper
The Leigh Creek Copper Mining acquisition consisted of three mining leases hosting four copper deposits containing about 20,000 tonnes of copper in an indicated resource.

**Vulcan was rapidly redeployed from exploration projects to a primary role in mine planning and daily production.**

Copper ore is won using a leaching process, and copper cement comprising 75% copper is delivered to the Adchem plant in Burra.

Vulcan Explorer was used to validate historic drill data from different eras with recent data and Maptek I-Site™ survey data. The Vulcan GeoModeller with Pit Optimiser has been added to handle mine planning requirements.

With these tools Phoenix Copper can efficiently and effectively complete in-house resource estimations, optimisations and pit designs for each of the copper deposits.

Phoenix Copper uses Vulcan on site and in the Adelaide head office on a daily basis for everything from site layouts, grade control, drainage planning, drill planning, interpreting, section plotting, to block modelling and pit optimisation/design.

‘We’re a company with four JORC-compliant resources and up to four other pods with significant mineralisation. Vulcan gives us the flexibility to be running these eight projects at once’, said Mark Manly, Chief Geologist.

‘We can easily swap from the pit optimisation for one project to the drilling plans for another’, he added.

In July 2010 Phoenix Copper engaged Maptek to survey the Leigh Creek mining leases with the I-Site 3D laser scanner.

This provided up-to-date data for the heap leach pads and a detailed topography of the existing and future mining areas.

Triangulations were imported into Vulcan to ensure an accurate surface is used as the basis for future mine designs. Stockpile volumes were calculated, providing an accurate record of the company’s holdings.

Using Vulcan has allowed Phoenix Copper to move to a position where mineralisation can be defined with confidence.

Thanks to

Mark Manly, Chief Geologist
Phoenix Copper

‘BEING ABLE TO VALIDATE HISTORIC GEOLOGICAL DATA WITH I-SITE SURVEY AND CURRENT DRILLING HAS GIVEN US A STRONGER SENSE OF WHAT WE HAVE UNDER THE GROUND.’

Mark Manly, Phoenix Copper