MAPTEK™ Vulcan™

CASE STUDY

Xstrata Nickel streamlines operations

Xstrata Nickel rolled out Maptek Vulcan™ at its Cosmos Nickel Project early in 2008. This follows implementation at Xstrata Nickel Australasia's head office in Western Australia. The process was managed jointly by Xstrata Nickel and Maptek personnel.

Face mapping sections superimposed on modelled ore zones (red)

HIGHLIGHTS

- Convert and migrate existing data
- Integrated software training and rollout
- All stakeholders can review and monitor current and future developments
- Share technical information without duplication or conversion between systems
- Enable access to data by personnel at head office and mine site

The initial focus has been primarily on the conversion of existing site data, integrating Vulcan on site without detriment to existing systems, and training personnel in the use of the software.

The Cosmos Nickel project is in the Kathleen Valley area, about 40 km north of Leinster in the northeastern goldfields of Western Australia - the heart of one of Australia's most prospective and historically productive nickel sulphide regions.

Planning for the rollout

The implementation process had to be managed so that the Mining Department could continue to function and provide required information to site.

Prior to implementation, key site personnel from Engineering, Geology and Surveying, some of whom were previous Vulcan users, were interviewed to determine their individual system requirements.

Data collected from the site was converted to Vulcan format to ensure the system structure was appropriate for everyone's needs.

Testing

A testing group was established to ensure that the system structure was appropriate for each division's needs. A full system check was undertaken by the test group to identify required changes prior to the site implementation.

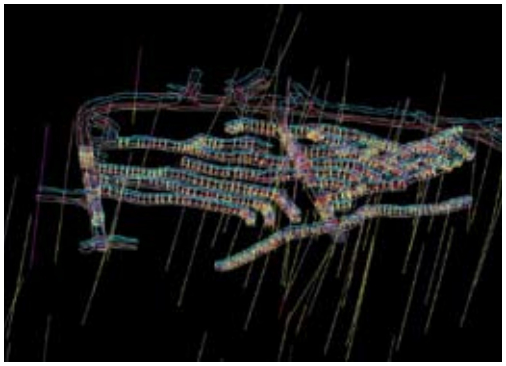
Maptek and Xstrata Nickel personnel flew to the site to implement the approved system over 5 days, installing Vulcan, the converted data and licensing information onto the site server.

Permissions were set up enabling all personnel write access to their own division's folders and read-only access to the data from other divisions. Data collected after the initial dataset conversion was converted and appended to the system.

Personnel were instructed on the new system design and 1-on-1 training was provided to the Surveyors who were preparing for month-end calculations.

Following the implementation, site personnel were contacted regularly to ensure that the system was operating as required.

Box cut and decline mapping



Face mapping survey pickups and drillholes

TESTIMONIAL

The implementation at Cosmos was a great success, with Vulcan being fully integrated into the Mining Department within the first month. The key reasons behind the success were identified as:

- Close management of the process by Xstrata Nickel and Maptek personnel.
- The majority of the Cosmos Mining Department personnel attended introductory Vulcan training prior to the site implementation, and department specific training within 10 days. This enabled a relatively easy transition from the existing system to Vulcan, as personnel were familiar with the package and felt comfortable with the change.
- Conversion of the majority of the data, and development of a system that met the different divisions' work requirements, which was tested and approved in Xstrata Nickel Australasia's head office in Perth prior to implementation.
- Careful attention to the timing of the implementation to avoid month-end calculations, thereby not putting people under pressure and forcing them to use the 'old' systems just to get the job done.

Site visits

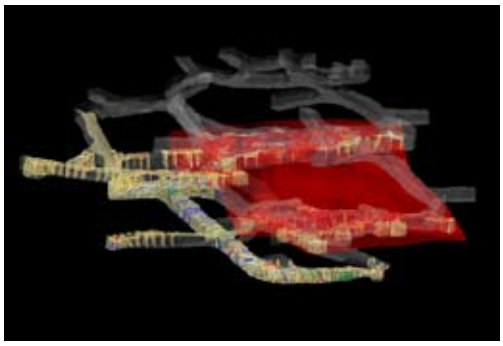
A month after implementation, a Maptek staff member spent 2 days on site to ensure that site personnel were comfortable with the system and to provide specific training.

The implementation of Vulcan at Cosmos and at head office has enabled the different divisions of the Mining Department to share technical information without duplication or the need for conversion from one system to another. This is considered to be 'best practice' by the management team at Xstrata Nickel Australasia.

Data sharing

Using Vulcan, all Mining Department personnel can view the drillhole data, development pickups, stope triangulations and designed drives and stopes. This allows an integrated approach to mining, where all stakeholders can review and monitor current and future development.

Vulcan has also enabled 3D viewing of the extensive underground face, wall and backs mapping completed by Xstrata Nickel Geological personnel, previously not possible. This powerful tool is used regularly by Engineers and Geologists for planning.



Modelled ore (red) with face, wall and backs mapping

All Cosmos Vulcan data is copied nightly to Xstrata Nickel Australasia's head office in Perth where Resource Geologists and Project Engineers can work with 'live' data, enabling them to make informed decisions.

All resource block models are now estimated in Vulcan using Ordinary Kriging. These models can then be converted to reserves. Because the Engineers are using the same package there is no need for model conversion or manipulation from one mining package to another.

Successful implementation of Vulcan has enabled seamless transfer of data between site and head office, putting all personnel 'on the same page'.

Summary

Using Vulcan at Xstrata Nickel provides:

- Integrated information across divisions - this is seen as 'best practice' and is the primary reason for implementation of Vulcan in the Mining Department.
- Reduction of the risk of using superseded instead of current data, and reduction of data duplication.
- Reporting of resources and reserves in the same terms, in the same mining package.
- Transfer of data from site to head office in a form that all project personnel can use.

It is envisaged that a similar system will be implemented at Xstrata Nickel's Sinclair Nickel Project near Leonora.