

I-Site meets survey requirements

Rix's Creek coal operation has embraced the versatility of the Maptek™ I-Site™ laser scanning survey solution.

Rix's Creek is an open cut mining operation northwest of Singleton in New South Wales. The Bloomfield Group mine produces both thermal coal and high quality, semi-soft coking coal for overseas and domestic customers. A multi-seam bench mining technique mines up to 9 seams and splits.

Survey pressure

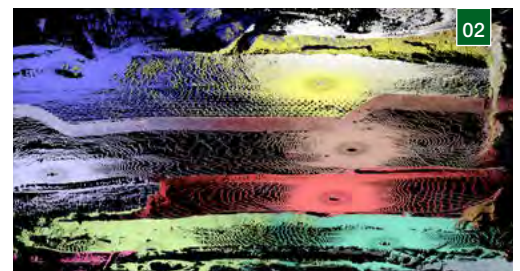
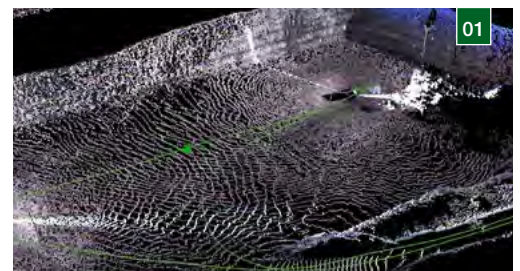
With the recent acquisition of the Integra Camberwell coal mine and expansion into Rix's Creek North, the company had more survey work to handle. A crucial issue with existing methods of recording survey information was avoiding proximity to hazardous areas. Ensuring safe capture of accurate data is a top priority for the mine.

Rix's Creek analysed several solutions for speeding up survey data acquisition. UAVs would allow capture of large areas from overhead, but incur issues around accuracy. Moreover the UAV data is time-intensive to process.

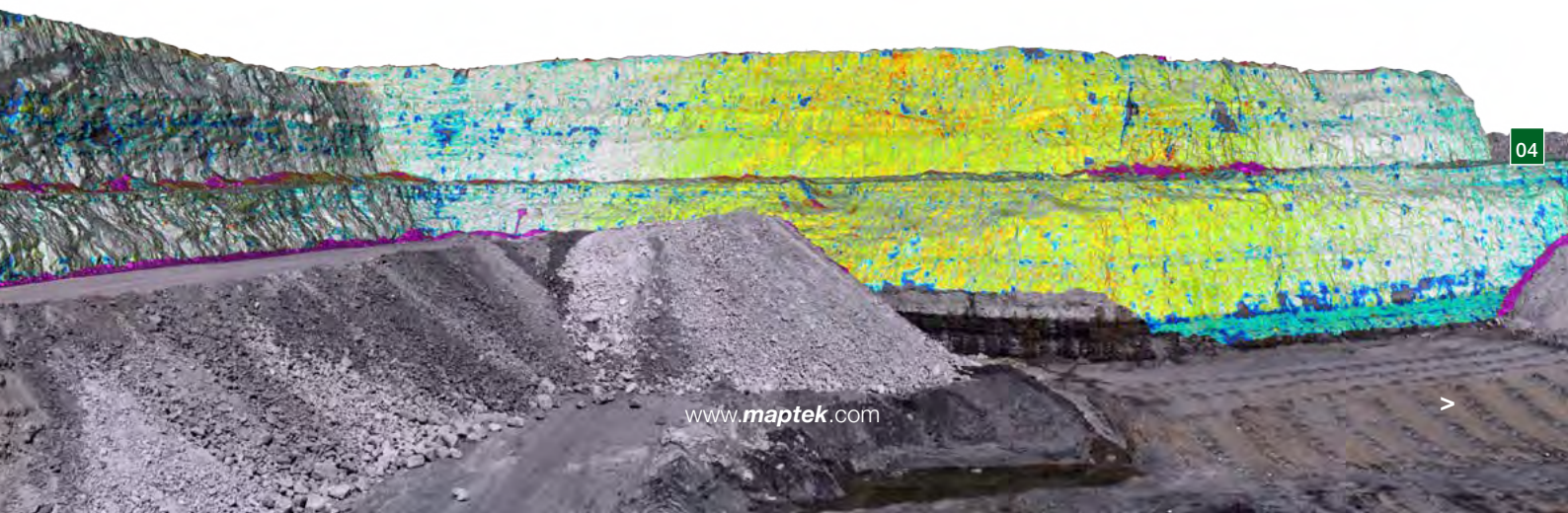
The company wanted to try Maptek™ I-Site™ laser scanning. I-Site was used by surrounding mines and carried a reputation of being robust and easy to use.

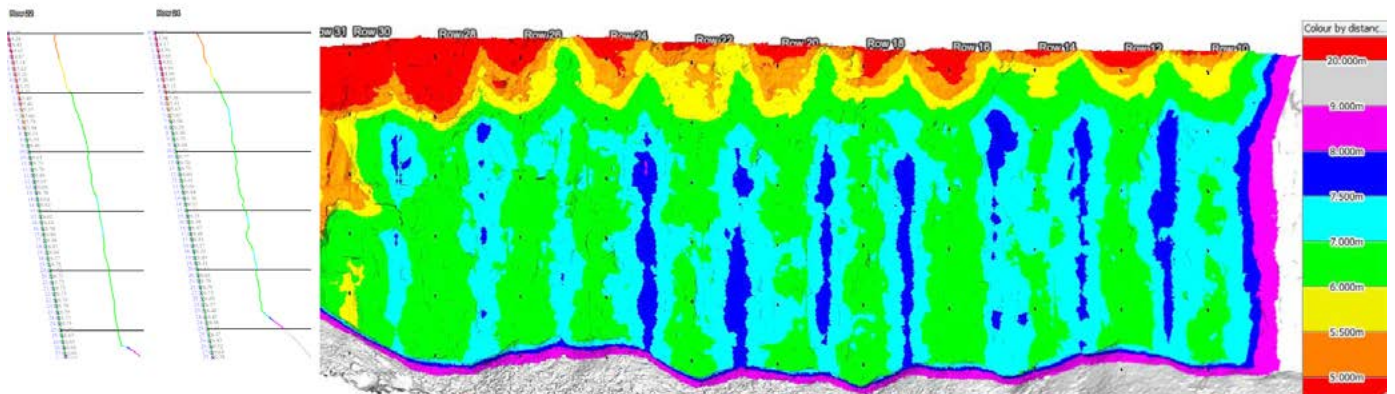
Maptek consultant Jordan Herrmann performed end of month survey with a vehicle mounted I-Site laser scanner, using the stop-go method. Surveyors were impressed and the operation implemented I-Site without delay.

'Ease of use and speed were stand out features. A key differentiator was the distance we could scan from, eliminating safety risks involved with traditional survey methods.'



01 Scans are previewed in real time on the tablet
 02 Live feedback of scan coverage for efficient survey
 03 Design surfaces overlaid on laser scanner images
 04 Deformation scan with photograph overlay showing movement and rockfall history





I-Site Studio section tools allow items to be selectively sectioned in the same view, showing offsets between drillhole design and highwall scanning

Benefits

The I-Site 8820 laser scanner with vehicle mount kit is now used to its full potential. Significant improvements have been noticed across daily survey:

- > Up-to-date accurate as-built and void models
- > Fast and accurate end of month surveys
- > Highwall scans for geological markup
- > Drill & blast hole clearance and optimisation
- > Deformation monitoring

I-Site field operation directly ties into the onsite RTK GPS rovers. It is easy to see what has been scanned and to identify areas where more information is needed. This live feedback removes the need for surveyors to return to the field to capture more data.

Versatility

Rix's Creek personnel also use the I-Site system for calculating offsets between drillhole design and highwall scanning. Their innovative approach prevents overcharging the material close to the highwall face which would lead to flyrock.

Section tools in I-Site Studio 6 make this task easier, allowing certain items in the view to be sectioned and others to remain unsectioned.

Using the system with tripod setup as well as vehicle mounted allows greater versatility on scanning viewpoints. The static setup provides the high levels of accuracy required for collecting data for monitoring. Surveyors have been using the I-Site laser scanner on a weekly basis to monitor areas of movement.

The integrated camera in the I-Site 8820CT laser scanner has proved very useful for geological mapping, and also assists in visualisation and sharing of data.

Overlaying design surfaces or monitoring information on the images is a powerful communication tool for data handover.

Rix's Creek has found the I-Site laser scanning solution easy to use, and processing in I-Site Studio software very intuitive. Feedback from the operation is positive, and surveyors look forward to further automation of workflows.

*Thanks to
Chris Moy, Technical Services Superintendent
Tim Gentle, Surveyor
Rix's Creek*

Coordinate System tools

I-Site Studio 6.1 will include new Coordinate System tools allowing users to transform data between different coordinate systems.

Setting a coordinate system allows the user to import data directly into I-Site Studio using the specific mine grid coordinates.

I-Site Studio 6.1 is due for release in July.

More information on I-Site Studio can be found at www.maptek.com/studio