



TAKING OUT THE GUESSWORK: WHAT BLOCK SURVEYS CAN DO TO IMPROVE YOUR PRODUCTIVITY

BY HANNAH RUSSELL, SRA.

It can happen to any farmer. You've just purchased or leased a new parcel of land to expand your cane farm. You prepare the farm and plant your chosen varieties. You take care of the crop with timely irrigation, good weed management and insect control. And then you stand back and look at your crop. This block isn't performing as well as you had hoped. Why?

Simon Ricciardi, Isis canegrower, had this issue with one of his blocks. Despite new drainage work and changing the irrigation system to a boom spray, Simon continued to face challenges with block productivity.

In September 2019, under the Testing Today's Technology project, Simon had block characterisation survey work conducted on this block. Using electromagnetic (EM) technology, block surveys involve creating maps of soil

variability and elevation. Combined with soil sampling in targeted locations on the maps (ground-truthing), these surveys may uncover any impediments in your block such as compaction and excess chloride.

"I would highly recommend it," said Simon. "This is a bit of a game changer. We're hoping to get bigger gains with that information about your land, soil structure and capabilities and different applications to bring your soil balance to the best growing conditions."

In particular, the Trimble system worked for Simon. The Soil Information System (SiS), conducted in this project by Bryan Granshaw from Vantage NEA, uses a highly mobile all-in-one system to take EM readings, elevation data, soil physical properties such as moisture content, and soil samples during one visit to the farm.

The results from Trimble confirmed what Simon was thinking. High chloride levels on the surface indicated a potential problem with the irrigation water, combined with a subsurface exchangeable aluminium of 21% to 30% meant the cane crop would struggle to perform well.

"This work is great because it takes the guesswork out of it," said Simon. "I thought the Trimble system was really on the high end of the game. The data and the information you get and what you can do with the information from that system is a big tick." ■

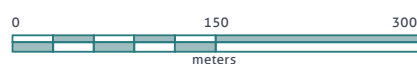
(Above): Testing Today's Technology field day at Simon Ricciardi's block where attendees are watching Bryan Granshaw (Trimble) take a soil core.

AT THE TIME OF PUBLISHING, THE TRIMBLE SOIL INFORMATION SYSTEM:

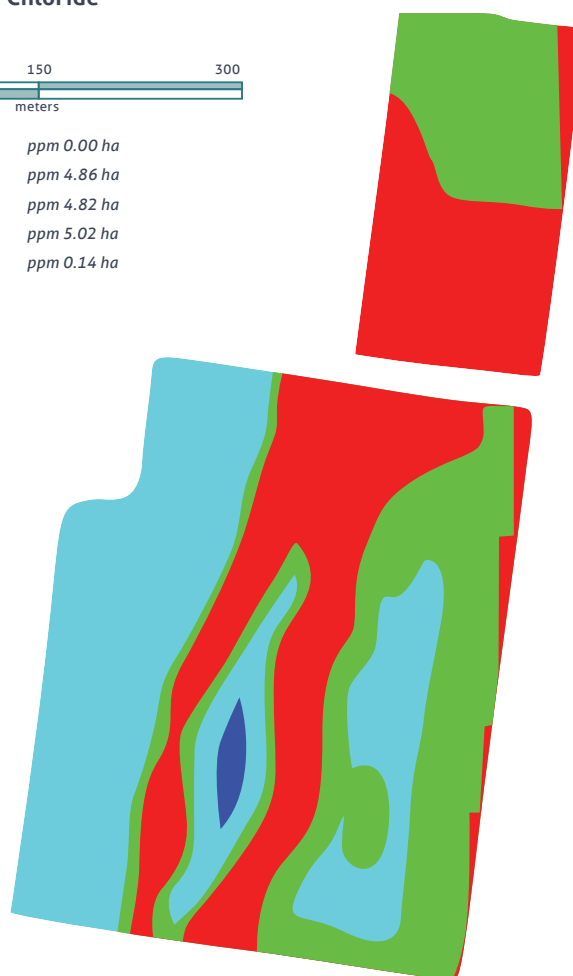
- Cost: \$140 + GST/ha + \$120 + GST/hr for travel to and from nearest SIS provider.
- Fixed price of \$2100 + GST for 15ha or less.
- Uses an 'all-in-one' system to create EM, elevation, and soil physical and chemical maps.
- Takes a set number of soil samples according to soil variation and block size.
- Creates a 3D soil database of block soil for over 60 soil characteristics including compaction maps, clay and sand content, depth to root restriction, plant available water, pH and chloride.
- Access to the online Trimble system where data is stored for personal use.
- Offers a complimentary follow up for drainage solutions, variable rate gypsum etc.
- Further analysis will be an additional cost.
- More information: vantage-wa.com.au/services-post/sis-data-collection/



Trimble Surface Chloride



□ 230.000 - 410.000	ppm 0.00 ha
■ 106.287 - 229.999	ppm 4.86 ha
■ 74.550 - 106.286	ppm 4.82 ha
■ 34.000 - 74.549	ppm 5.02 ha
■ 30.000 - 33.999	ppm 0.14 ha



The Testing Today's Technology project was funded by the Queensland Government Water Quality Program via Burnett Mary Regional Group.

(Top): Soil cores taken from Simon's block by the Trimble system. (Above): Surface chloride map generated by Trimble.