

Interior Stockpile Management Adelaide Brighton Cement



Adelaide Brighton Cement calls on I-SiTE to accurately record the volume of cement in both exterior stockpiles and interior held clinker stockpiles.

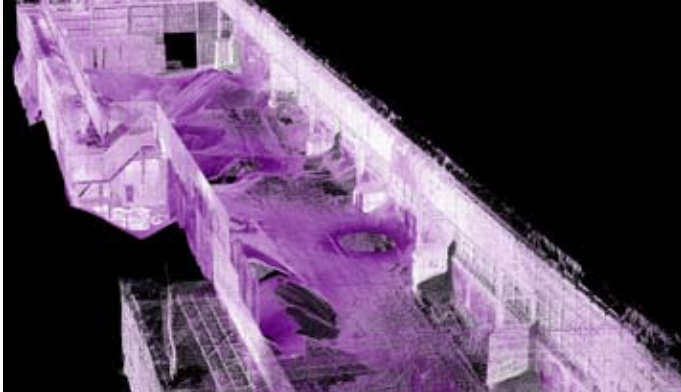


Figure 1: Unfiltered clinker stockpile

While scanning exterior stockpiles is an easy task for I-SiTE, the challenge comes in scanning inside a dusty shed, from locations not easily accessible by foot and without setting up on a tripod. These 'clinker' stockpiles are approximately 190m long by 35m wide and 18m high.

To handle this type of work, the I-SiTE team made two brackets to allow the scanner to be secured from either a stair railing or through hatches cut into an overhead gantry. There is no need to set up on a conventional tripod. As a safety bonus, operators are not required to climb over the stockpiles.

The scanner is positioned from above, giving the operator maximum penetration of the stockpiles (see Figure 1). This ensures 100% coverage with no shadow zones created by conventional tripod set up. An accurate and detailed model can therefore be created.

Using I-SiTE studio software, unwanted data is easily removed by 'rubberband' selecting points or using filtering tools to mask data. Registering multiple scans without survey control is easy in such circumstances. Using manual multi-point registration coupled with smart surface registration, multiple scans can be located in minutes.

Once the gantry and shed have been removed from the data, a filtering option is run to remove dense point clustering (Figure 2). Modelling can then proceed in a timely manner without sacrificing data integrity (Figure 3).

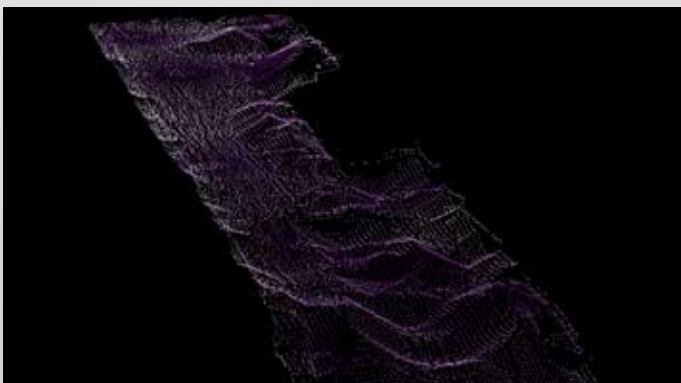


Figure 2: Filtered clinker stockpile

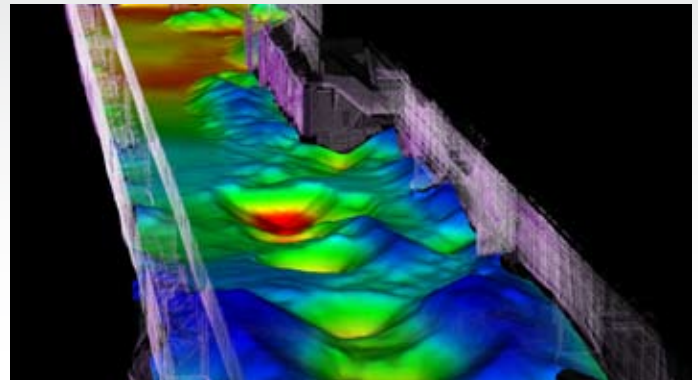


Figure 3: I-SiTE point data and model

This model or triangulation is then used with a pre-existing base, or a base created from the I-SiTE data, to accurately calculate a stockpile volume (Figure 4).

The I-SiTE scanner can be used under conditions that do not suit conventional surveying. The versatility and portability of I-SiTE allows users to easily position and locate scans from any angle, removing the need to be restricted to conventional tripod setup.

Adelaide Brighton Cement has been using I-SiTE for many years as an inexpensive way to get fast accurate volumes of scenes not normally accessible by any other method.

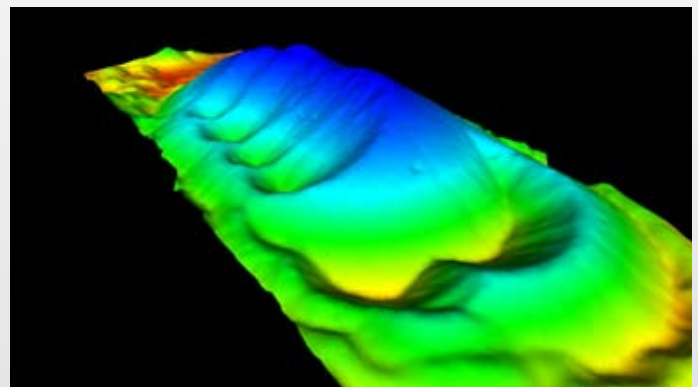


Figure 4: Final triangulation for volume calculations



Figure 5: Horizontal hatch bracket