MinPET Diamond Detection Technology

Industries for this invention

- Diamond mining industry

Innovation Status

TRL 6
Prototype demonstration

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TECHNOLOGY TRANSFER OFFICE

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Invention

A new technology that provides the first ever high-throughput 3D imaging of locked diamonds within kimberlite rocks. Locked diamonds of up to 10cm in diameter can now be located within rocks before the crushing process begins.

Problem Solved

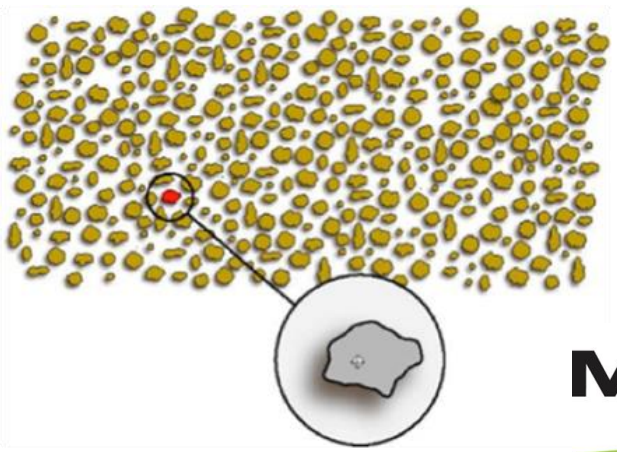
Conventional sorting as well as other more recent sorting technologies require diamonds to be liberated, exposed at the surface, or at most be enclosed in a shallow layer of rock only, with a smaller total diameter. All incoming rock is therefore crushed to a significant extent. Usually the full rock stream is processed, leading to wastage of resources on processing of barren rocks. In addition, a significant fraction of large diamonds are broken in the crushing process. To solve this problem, the technology reduces both sorting expenses and increase revenue by reducing diamond breakage losses.

Application

For use in diamond mining to identify large diamonds in kimberlite, once mined, before crushing commences.

Advantages/Value proposition

- Significantly reduce diamond breakage
- Safe to operate
- A modular system that allows for smaller units as well as upgrades as necessary
- Reduce usage of environmental and other resources to crush rocks



MINPET DIAMONDS | SORTED