

Case Study

Advanced Monitoring System Design

Uranium Mine, Northern Territory, Australia

> Background

Okane were engaged to assist with closure planning of a recently backfilled open pit. The cover system material comprised of a waste rock growth medium that lacked structure and contained coarse rock fragments with macro-pores, leading to poor soil water availability for re-establishing vegetation. Returning the site to the intended post-mining land use would require a vegetated surface in-line with the surrounding area. Further understanding of the expected water migration and thermal flux patterns within the backfilled waste rock material, and their anticipated impacts on vegetation establishment and maturation was required.

> Approach

Surrounded by a World Heritage Listed national park characterized by delicate ecosystems and areas of indigenous and cultural heritage called for a fully informed, holistic approach that took the 'bigger picture' into consideration. Okane ensured the greater mine closure project was central to the project and worked closely with a variety of mine personnel to ensure the soil moisture monitoring system would integrate with the final landform design, as well as align closely with the closure objectives and requirements. This continued focus on all aspects of mine closure is what we find sets us apart from others in the field.

> Client Benefit

The monitoring system was installed prior to the onset of the wet season, allowing for measurement of valuable data through a full wet season. The installation process took just over a week, with soil data captured instantaneously. Data acquisition systems were fitted with modems to allow wireless transfer of data, alleviating the need for a site personnel to download data. With data transferred remotely, Okane continues to rapidly identify any arising issues and maintain data integrity.

Okane's proven Roadmap to Closure and experience enabled the design of a monitoring system that supports the achievement of the site's closure and rehabilitation objectives.

