

# ENVIRONMENTAL SUMMARY SHEET

## Broken Hill Mineral Separation Plant

### ENVIRONMENTAL MANAGEMENT SYSTEM

Cristal Mining Australia Limited (Cristal) is committed to the supply of titanium and zircon minerals in a manner that protects its workers, the natural and social environments it operates in. Cristal also operates in accordance with the ISO 14001 environmental standards. In 2018 the mines and BH MSP will achieve the internationally recognised ISO 14001:2015 environmental certification. The Cristal SHE policy also outlines the company's commitment to environmental management.

### SETTING

The Broken Hill MSP is located in the Kanandah Industrial zone and is surrounded by pastoral leases, solar farm, municipal landfill, auto wreckers and haulage contractor yards. The site is located on land previously used for light intensity grazing by sheep. The relinquishment criteria is to return the land to this former purpose and ensure the site is safe, stable and non-polluting.

### APPROVALS

The BH MSP was approved by the Minister for Planning on 27 May 2002 under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

- Development Consent DA 345-11-01
- Environment Protection Licence 12314
- Aboriginal Heritage Impact Permit (Permit to move artifacts)
- Effluent Water Supply 30,000KL pa
- 2 x landholder noise agreements
- Approval to receive up to 1.2Mtpa of HMC
- Approval for up to 300,000tpa of reject material can be returned to Ginkgo

### VEGETATION MANAGEMENT

Clearing of native vegetation on site must follow the approved protocols and can only be authorized and conducted by the Environmental team.

Cristal must maintain conservation offset areas to counteract the loss of habitat through clearing. **Cristal manages 9,743ha of offset conservation areas** around its mine sites.

### AIR QUALITY MANAGEMENT

The MSP must be maintained in a condition which minimises or prevents the emission of dust from the premises. The MSP has **three static dust monitors** (monitored monthly) as well as **one high volume air sampler** (monitored every 6 days).

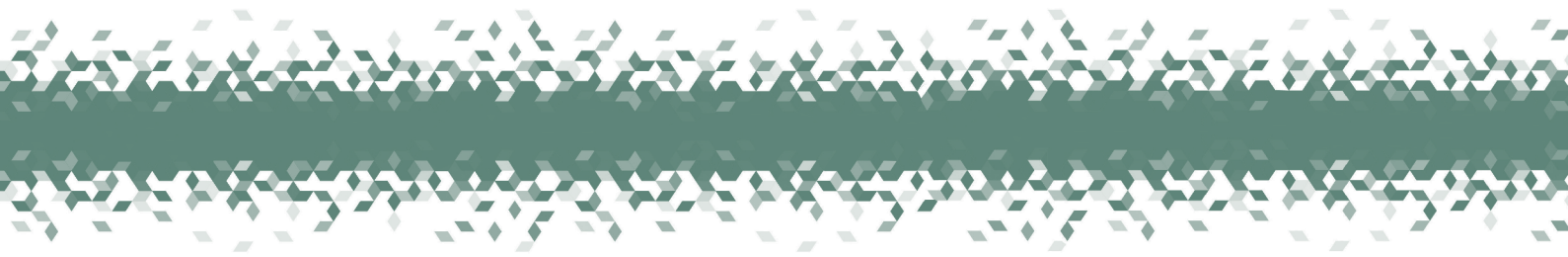
The MSP also has **8 additional monitoring locations** on the **stacks** and **baghouses** which are monitored annually. These monitoring locations test for such things as carbon dioxides, gas density, nitrogen oxides and total solid particles. All locations are alarmed to warn operators of any malfunctions.

Dust and gas mitigation includes; water carts, weather/dust warning program, mineral vacuums, stockpile design management, rail loading management, vegetation plantings, baghouse management and monitoring.

### NOISE MANAGEMENT

Noise from the MSP must not exceed 35 dB(A) during the day, evening or night at our neighbours homes. These two homes to the east of the MSP are over 1.5km from the MSP and after years of noise data collection, an agreement to cease this monitoring has been reached. However, it is important to be mindful that noise can impact our neighbours and must be kept to a minimum.





## EFFLUENT DISCHARGE

The MSP is licensed to discharge up to 100KL per month of treated effluent water to the tree corridors located around the perimeter of the MSP. The soil is then monitored biennially to ensure no ongoing soil health issues occur.

## RADIATION

The activity concentration of radioactive elements which makes a material legally 'radioactive' in NSW is 100 Bq/g. The concentrates and the MSP rejects, are often over 100 Bq/g and thus radioactive. To reduce the radiation limits, the MSP rejects are blended with inert material to reduce the radiation levels well below the 100 Bq/g.

Quarterly radiation monitoring occurs at 22 locations around the MSP. In addition to this, each truckload of return waste to the mine is monitored and recorded. Surface wipe and personal testing are conducted as required.

## CULTURAL MANAGEMENT

The MSP is located on **Barkandji traditional lands**; however, native title does not exist over the site. The MSP has 16 identified aboriginal sites located within its boundaries.

Cristal has a license to move artifacts that were impacted by the development. These artifacts are kept in a 'keeping place'. At the completion of rehabilitation phase these artifacts are put back where they were found.

## WASTE and SPILL MANAGEMENT

The quantity of **MSP reject material generated or stored at the premises must not exceed 300,000 tonnes per year.**

No waste can be accepted at the MSP unless described in the Environmental Protection Licence.

- All recyclable materials are to be recycled.
- All waste must be correctly separated and stored.
- All waste must be disposed of in a proper manner.

All Hydrocarbon spills greater than 10L must be reported to the Environmental team and remediated as per their direction or the Pollution Incident Response Management Plan.

## COMMUNITY

Community engagement is important to maintain our relationships with stakeholders including neighbors and regulators.

If a community complaint is received, it must be documented on the external complaints form and forwarded to the environmental team.

## ENVIRONMENTAL MANAGEMENT PLANS

Located on G: Drive, Smart solve and Cristal Mining website.

- Environmental Management Strategy
- Waste Management Plan
- Air Quality Management Plan
- Noise Management Plan
- Pollution Incident Response Management Plan
- Cultural Heritage Management Plan
- Effluent Management Plan
- Water Management Plan
- Community Consultation Management Plan
- Traffic Management Plan
- Radiation Management Plan

