GINGIN MINE CONCENTRATOR PROCESS PLANT DEMOLITION.

Location
Gingin, WA

Client
Iluka Resources

Duration
1 month

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Project overview

The project involved the demolition a mineral sands concentrator and all associated equipment at Iluka Resource's redundant mining and wet separation operations located near the town of Gingin in Western Australia. The demolition works formed part of the rehabilitation process for the Gingin site with mining and operations activities having ceased a number of years ago. The scope of works included, the demolition of a four storey mineral sands concentrator, the demolition of connected tanks and hoppers, removal of office amenities and the removal of associated plant and equipment. The concentrator was demolished using a 38t tonne excavator and inducing it to a controlled collapse, section by section, ensuring that the demolition occurred quickly and safely.

Throughout the project Liberty Industrial engaged with the local community helping to salvage as many items as possible. A local farmer recovered 8km worth of polypipe from the site for use on his farm. Demountable offices were sold to a local salvage yard. Various other items such as water tanks were also recovered from the site such as power poles, water tanks and air-conditioners. Liberty Industrial managed to recycle 96% of all demolition waste onsite.

One major challenge presented by the project was the disposal of material that was contaminated with naturally occurring radioactive material (NORM). NORM accumulated in certain areas throughout the site, due to the production processes of the mineral sands operation. This NORM was in the form of monazite in the heavy mineral concentrate product that Iluka produced at the site. To mitigate the risk of NORM, Liberty engaged a radiation safety officer to conduct a radiation survey of the site prior to demolition works commencing. Liberty put in place dust controls to ensure that personnel were not inhaling the hazardous substance. Additionally any waste leaving site was monitored with a Geiger counter to ensure that the waste would not pose a risk to the public or environment when disposed of. Any material that was found to be above the 0.4 Becquerel's/cm3 site release limit was washed and cleaned until it was below the site release limit.