

CAPEL DRY PLANT AND SOUTH CAPEL CLEAN-UP



KEY POINTS

The clean-up project will remove material in old storage dams and move it to a new storage facility at South Capel.

The material is affecting the local shallow groundwater, and must be removed to allow the groundwater to recover.

Removal of the material will take about six months, weather permitting. After that, Iluka will rehabilitate and revegetate the old storage dams, which will take about 12 months.

BACKGROUND

Iluka is removing mineral sands residue material in old storage dams at our Capel dry plant and South Capel sites, and moving it to a new purpose-built facility at South Capel.

The old dams were used historically to store materials left over from mineral sands processing. Iluka refers to these materials as 'residue' or 'by-products', as opposed to 'waste', because we store them for potential future use rather than permanent disposal.

The dams met regulatory and industry standards of the day, but over time they leaked and contaminated local shallow groundwater. Removing the residue will allow the shallow groundwater to recover naturally over time. The deeper groundwater appears unaffected.

The contaminants in the groundwater are manganese and sulphates. These are common in mineral sands, and are generally not a problem in their natural state.

However, mineral sands processing concentrates the manganese and sulphates in the mine residue at higher than natural concentrations and in a form that makes them easily dispersed in water.

In our case, our groundwater monitoring found manganese and sulphates in the shallow groundwater at levels above environmental limits which may make the water smell and taste unpleasant.

There is no sign of other contaminants or issues with the groundwater. As a precaution, Iluka monitors for acidity, conductivity, radionuclides, sodium carbonate and hydrocarbons.

Iluka will store the residue material in a new, purpose built, capped facility at South Capel that meets modern standards for clean-ups.

CLEAN-UP

Iluka estimate there is about 70,000 cubic metres of residue in the old storage dam at the Capel dry plant. Iluka will dig this up and move it by truck to the new storage facility at South Capel using public roads.

There is about 410,000 cubic metres of residue stored at our South Capel site. All of this will be moved to the new storage facility on the same site, so there will be no trucks on public roads for this part of the clean-up.



Western Ringtail Possum in artificial drey in South Capel.

PREPARATION WORKS

The first step in the clean-up is fauna relocation and vegetation clearing to create access to the contaminated areas. Over the years, vegetation grew over the old storage dams – some trees planted by Iluka and some natural regrowth – and the fauna moved in.

Iluka hired experts in fauna relocation to catch marsupials and reptiles at the sites and move them to suitable nearby and adjacent natural areas.

Marsupials to be moved include the Western Ringtail Possum, or 'Gnuraren' in the local Noongar language, which are endangered. Relocating the Gnuraren can stress the animals and must be done with great care. This relocation work is regulated by the Department of Biodiversity, Conservation and Attractions Environment and Energy.

COMMUNITY IMPACTS

Once the animals and vegetation have been moved, the excavators will start digging up the residue material. Residue at the Capel dry plant will be trucked to the new South Capel storage facility.

Community members may notice some heavy machine noise during the day at the Capel dry plant, and truck movements to and from the site. Iluka has management plans to minimise these impacts. Iluka also has a dust management plan, which aims for no dust leaving the site.

The clean-up at South Capel will be entirely self-contained on site, and the site is some distance from community areas. Therefore, Iluka does not expect significant impacts on the community from this part of the project.

The clean-up works can only be done during the relatively dry months. Iluka expects it to take about six months, weather permitting.

REHABILITATION

Following completion of the clean-up, Iluka will start rehabilitation of the old storage dam sites. This will involve landform and revegetation work, which should take about a year.

Iluka will monitor the rehabilitated areas for about 10 years to detect whether any further work is needed to ensure the rehabilitation is successful.

GROUNDWATER RECOVERY

Removal of the residue material in the old storage dams will allow the affected local shallow groundwater to recover naturally over time.

Iluka will continue to monitor the groundwater for improvements such as reductions in the levels of contaminants detected, and in the overall size of affected areas. Iluka expects monitoring will continue for the next 10 to 20 years.



Fig 1: Proposed Haulage route between CDP and SC



Site rehabilitation

INDICATIVE TIMELINE

September 2019

April 2021



REGULATORY CONTROLS

The clean-up was approved by the Western Australian Department of Water and Environmental Regulation, with other government agencies assessing and approving various parts of the project. These include the Department of Biodiversity, Conservation and Attractions, the Department of Mines, Industry Regulation and Safety, Main Roads WA and the Commonwealth Department of the Environment and Energy.

The Department of Water and Environmental Regulation, which administers the Contaminated Sites Act 2003 and the Environmental Protection Act 1986, is the one most closely involved in the clean-up work.

The Contaminated Sites Act requires accredited auditors to provide independent oversight of the project to ensure Iluka meets its legal obligations. These cover the design and execution of the clean-up activities and the ongoing monitoring of groundwater.

Iluka received confirmation from both the Department of Water and Environmental Regulation and the contaminated sites auditors that:

- the manganese and sulphate in groundwater does not pose a risk to human health
- the removal of the material is an appropriate clean-up method
- ongoing groundwater monitoring is an appropriate environmental management approach, and
- the proposed management approach for potential community impacts is appropriate.

In addition to regulatory compliance, Iluka aims to meet community expectations throughout the clean-up. Iluka consulted the community about how to manage impacts such as transport, dust and noise prior to seeking regulatory approvals. Iluka will continue to liaise with the community about these and any other issues throughout the clean-up.

IN ADDITION TO REGULATORY COMPLIANCE, ILUKA AIMS TO MEET COMMUNITY EXPECTATIONS THROUGHOUT THE CLEAN-UP.

FREQUENTLY ASKED QUESTIONS

WHAT ARE MINERAL SANDS AND WHAT ARE THEY USED FOR?

Mineral sands are concentrations of heavy minerals such as rutile, ilmenite, zircon and monazite found in ancient beach, dune or river systems.

They have a wide range of consumer, lifestyle, and industrial uses including pigment production for paints, plastics, papers, titanium metal production, welding electrodes, floor and wall tiles, sanitary ware, chemicals, surgical instruments, and hardening other metals.

WHY DOES ILUKA CALL THE MATERIAL IN THE OLD STORAGE DAMS 'RESIDUE' AND NOT 'WASTE'?

All mines generate residue or by-products by separating the high value and low value materials. Iluka use those terms instead of waste because it stores it for potential future use, rather than permanent disposal.

The residue in the old storage dams has little economic value today, but changes in market conditions and the emergence of new technologies may make it a viable resource in the future.

WHAT ARE THE CONTAMINANTS IN GROUNDWATER UNDER AND NEAR THE CAPEL DRY PLANT AND SOUTH CAPEL SITES?

Manganese and sulphates. These are natural parts of the mineral sands Iluka mine, and are generally not a problem in their natural state.

However, mineral sands processing concentrates the manganese and sulphates in residues at higher than natural concentrations and in a form that makes it easy to disperse in water.

There is no sign of any other contaminants or issues with the groundwater. As a precaution, Iluka also monitors for acidity, conductivity, radionuclides, sodium carbonate and hydrocarbons.

The contamination is in the shallow groundwater. The deeper groundwater appears unaffected.

FOR MORE INFORMATION:

Iluka will continue to communicate with people in the community, regulators, other stakeholders and throughout the clean-up through local media and other measures.

Progress updates will be emailed and mailed directly to people on our stakeholder database around project milestones.

If you would like to be added to our stakeholder database, or if you have any other feedback or questions, please email us at southcapel@iluka.com or call us on **1800 339 997**.

Further information about the clean-up is available online at www.iluka.com – search for 'Public consultation'.

WHAT CAUSED THE CONTAMINATION AROUND THE CAPEL DRY PLANT AND SOUTH CAPEL SITES?

The old storage dams leaked, which led to manganese and sulphates getting into the shallow aquifer under and near the sites. Iluka also monitors the deeper aquifer, which appears to be unaffected.

WHY DOES ILUKA MONITOR GROUNDWATER?

Iluka monitors groundwater at former and current operating sites to get information about the water quality.

Iluka collects water samples from bores and send them to a laboratory for analysis. The laboratory is external to Iluka, and accredited by the National Association of Testing Authorities.

IS THE CONTAMINATION A RISK TO HUMAN HEALTH OR THE ENVIRONMENT?

No. This was confirmed by the Department of Water and Environmental Regulation and the accredited contaminated sites auditors.

However, some of the shallow groundwater quality doesn't meet stringent national environmental standards, and it may have an unpleasant smell and taste.

HOW WILL YOU COMMUNICATE WITH US ABOUT THE CLEAN-UP?

Iluka will hold community 'drop-in' forums and issue written updates around project milestones.

The Shire of Capel has kindly offered to help us to get information out via its website and Facebook page.

Iluka will email and mail project updates directly to people who are on our stakeholder database. If you would like to be added to the database, or if you have any other feedback or questions, email us at southcapel@iluka.com or call us on 1800 339 997.