FACT SHEET

Uranium mining waste

Who is Cauldron Energy?

Cauldron Energy Ltd (Cauldron) is an Australian mineral exploration and resource development company listed on the Australian Securities Exchange (ASX:CXU). The company focuses on exploring uranium, a resource that is critical to the nuclear power renaissance occurring globally.

Cauldron's flagship project is the world-class Yanrey Uranium Project located in northern Western Australia (WA), which encompasses three separate uranium deposits – Bennet Well, Manyingee South and Manyingee North. In addition, Cauldron holds several sand tenements in the Onslow region of WA.

Subject to policy change in WA, Cauldron proposes to mine uranium via the in-situ recovery (ISR) mining method at Yanrey.

For further information, see our factsheet: 'In-situ recovery mining of uranium'.

What waste is produced from in-situ uranium mining?

In-situ recovery uranium mining produces significantly less waste than conventional mining because there is no need to excavate large quantities of rock or ore.

Unlike open-pit or underground mining, ISR extracts uranium by circulating a mining solution through naturally permeable underground rock formations. Uranium is recovered at the surface, while the host rock remains underground.

As a result, ISR operations do not generate the large waste rock stockpiles or tailings storage facilities typically associated with conventional mining methods.

Key waste streams may include:

- Small quantities of industrial waste from site operations
- Process residues produced during uranium recovery
- Used equipment, filters, maintenance materials, protective clothing and personal protective equipment
- Non-hazardous waste from offices and site facilities.[1]

A small proportion of process residues, filters and treatment materials may contain **low levels of naturally occurring radioactive material** associated with uranium recovery.

Naturally occurring radioactive material

Naturally occurring radioactive material refers to radioactive substances that occur naturally in the environment, including in soil, rock, water and vegetation. Uranium is one of several naturally occurring radioactive elements found in nature.[2, 3]

Small quantities of process residues, filters and treatment materials associated with uranium recovery may contain low levels of naturally occurring radioactive material. This is different from the spent nuclear fuel and high-level radioactive waste produced by nuclear power plants.

Any naturally occurring radioactive material-containing waste would be managed under strict regulatory requirements designed to protect workers, the community, and the environment.

In-situ recovery uranium mining does not produce the spent nuclear fuel or high-level radioactive waste associated with nuclear power generation. Spent nuclear fuel is safely managed by the reactor operator.

Small quantities of materials containing naturally occurring radioactive material may be generated and are managed under strict regulatory requirements.

1. Australian Government 2010. 'Australia's In Situ Recovery Uranium Mining Best Practice Guide: Groundwaters, Residues and Radiation Protection'. Accessed October 2026. **2.** South Australia Environment Protection Authority 2017. 'Naturally occurring radioactive material (NORM)'. Accessed October 2026. **3.** Australian Radiation Protection and Nuclear Safety Agency 2026. 'Radiation Protection Series No. 15'. Accessed October 2026.

Key waste streams from uranium mining

Small quantities of industrial waste from site operations



Small quantities of waste are generated from day-to-day site operations, similar to other industrial sites.

Examples include:

- Timber pallets and packaging
- Cardboard and plastic packaging
- Scrap metal and offcuts
- General workshop waste

Process residues produced during uranium recovery



Process residues are produced as part of the uranium recovery process.

Examples include:

- Filtered and dewatered process residues (e.g. filter cake)
- Sludges and precipitates from treatment processes
- Spent reagents and process materials
- Residues from water treatment and purification systems

Used equipment, filters and maintenance materials



Equipment, filters and maintenance materials are replaced over time as part of routine operations.

Examples include:

- Used air, water and process filters
- Worn pumps, hoses and fittings
- Spare parts and components
- Protective clothing and personal protective equipment (PPE)
- Maintenance consumables (e.g. oils, greases, rags)

Non-hazardous waste from offices and site facilities



Non-hazardous waste is generated from offices, amenities and site facilities, similar to any workplace or commercial facility.

Examples include:

- Paper and cardboard
- Food waste
- Plastic containers and drink cans
- General office waste
- Printer cartridges and e-waste (in small quantities)

How is waste managed?

Waste generated during ISR operations is managed under strict environmental regulations, approval conditions and monitoring programs.

Where possible, waste is reduced, reused or recycled. Materials that cannot be recycled are either managed onsite or transported offsite to appropriately licensed waste management facilities, such as the Tellus Sandy Ridge Facility in WA, and in accordance with strict regulatory requirements.



> In Western Australia, mining and environmental performance is regulated by agencies including the Department of Water and Environmental Regulation (DWER) and the Department of Mines, Petroleum and Exploration (DMPE).
>
> Radiation safety oversight is provided by the Radiological Council of Western Australia and WorkSafe WA, with national radiation protection standards developed by the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA).

Management of process residues (naturally occurring radioactive material)

Solutions used during ISR mining are contained within the targeted uranium-bearing aquifer and controlled through a network of injection and recovery wells.

Continuous monitoring and natural barrier containment ensure groundwater remains protected and that mining solutions remain within the mining zone.

As outlined above, a small proportion of process residues, filters and treatment materials may contain low levels of naturally occurring radioactive material associated with uranium recovery. These materials are carefully managed, monitored and disposed of in accordance with strict regulatory requirements.[4, 5]

Any process residues generated during uranium recovery are collected, handled and disposed of in accordance with approved environmental management plans.

Approved waste streams may be transported to licensed facilities for treatment or disposal.

> In Western Australia, the Tellus Sandy Ridge Facility is licensed to accept low-level radioactive waste and other approved hazardous waste streams, subject to waste acceptance criteria and regulatory approvals.[6]

Returning groundwater to agreed post-mining conditions

Once mining is complete, groundwater restoration programs are implemented to return the aquifer towards agreed post-mining conditions.

This process typically includes:

- Flushing and treatment of the mining zone
- Ongoing groundwater monitoring
- Independent regulatory oversight
- Verification that restoration objectives have been achieved.

Monitoring may continue for a certain period after mining ceases to demonstrate environmental protection and regulatory compliance.

Rehabilitation and closure

ISR mine sites generally require a smaller rehabilitation footprint because there are no open pits, tailings dams or extensive waste rock stockpiles.

At closure:

- Surface infrastructure is removed where appropriate
- Wells are sealed in accordance with regulatory standards
- Disturbed land is rehabilitated
- Monitoring may continue, as required.

The goal is to leave the site safe, stable and suitable for its approved future use.



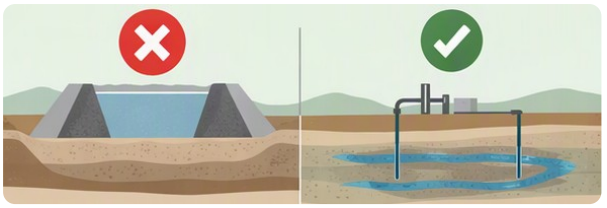
Tellus Sandy Ridge Facility in Western Australia

4. Australian Government 2010. 'Australia's In Situ Recovery Uranium Mining Best Practice Guide: Groundwaters, Residues and Radiation Protection'. Accessed October 2026. **5.** South Australia Environment Protection Authority 2010. 'Radiation protection guidelines on mining in South Australia: Mineral exploration'. Accessed October 2026. **6.** Western Australia Department of Water and Environmental Regulation 2023. 'Tellus Holdings Ltd, Application for Licence Amendment'. Accessed October 2026.

Radiation and waste: key facts

1 ISR mining does not generate large tailings dams

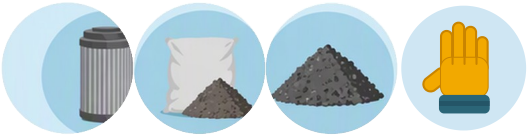
In-situ recovery (ISR) mining does not generate the large tailings dams typically associated with conventional uranium mining.



Conventional mining | ISR mining

2 Some operational wastes may contain low levels of naturally occurring radioactive material

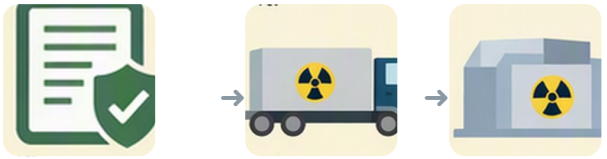
Operational wastes, such as filters, treatment materials, process residues and personal protective equipment, may contain low levels of naturally occurring radioactive material.



Filters | Treatment materials | Process residues | Personal protective equipment

3 These materials are managed under strict regulatory controls

Materials containing low levels of radioactive material are managed, transported and disposed of under strict regulatory controls designed to protect people and the environment.



Regulated management | Controlled transport | Safe disposal

4 Australia has licensed facilities for low-level radioactive waste

Australia has licensed facilities capable of safely receiving approved low-level radioactive waste streams.



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Visit the Tellus website

Contact us

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