Annual Environmental Protection and Management Program Report Olympic Dam

1 July 2024 – 30 June 2025

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INTRODUCTION

Purpose and scope

This annual Environmental Protection and Management Program report (annual EPMP report) presents data relating to the environmental management of the BHP Olympic Dam (OD) operations for the period 1 July 2024 to 30 June 2025 (FY25).

The objectives are to:

- Meet the requirements of clause 11 of the Olympic Dam and Stuart Shelf Indenture (the Indenture).
- Report performance against environmental outcomes, compliance criteria and leading indicators presented in the 2023 Environmental Protection and Management Program (2023 EPMP, BHP 2023a).
- Report performance against targets and continuous improvement actions contained in the 2023 EPMP.
- Document the results of the deliverables presented in the Monitoring Programs (MPs) of the 2023 EPMP.

The 2023 EPMP was submitted to the Indenture Minister in May 2023 and subsequently approved (BHP 2023a).

Report Structure

A description of the EPMP structure against which reporting is based is given below.

The reporting against outcomes is achieved through a hierarchy of data reporting (deliverables) and statements of compliance leading to an assessment of whether the environmental outcome has been met based on the methodology described in the associated MPs. The main chapters in the report are aligned to the five key environmental aspect IDs contained within the EPMP. Each ID is related to an area of the operation for which specific environmental management measures are required.

The reporting hierarchy then takes the following form:

- Deliverables from the various MPs are included in the most relevant chapter, and a presentation of data and discussion of results is provided.
- The results of the deliverables contribute to the compliance statement for the compliance criteria under which they are reported (and in some cases to other compliance criteria, in which case appropriate cross-referencing is provided).
- These compliance criteria then provide a statement of achievement of the environmental outcome.

Performance against targets and continuous improvement actions is reported separately but still within the relevant ID chapter.

Table 2 contains a summary of each Environmental Management Program (EM Program) ID. This provides an overview of the outcomes and has the following elements:

- The environmental outcome to be achieved.
- A ‘traffic light’ style indicator to indicate whether the outcome (and the associated compliance criteria and leading indicators) has been achieved (based on the findings of the assessment); and
- A statement that summarises whether the environmental outcome was achieved (based on the findings of the assessment), and why.

EPMP STRUCTURE

Background

The structure of the EPMP report is closely aligned with the structure of the BHP Olympic Dam Corporation Pty Ltd (ODC) 2023 EPMP (BHP 2023a), and in particular the EM Program contained within that document. The EPMP consists of a number of documents which form a portion of the Environmental Management System (EMS) requirements. A brief summary of each document within the EPMP is shown in Table 1.

Table 1: EPMP Structure

Document	Content Summary
Environmental Management Manual (EM Manual)	General overview of the EPMP. Purpose and scope. Regulatory framework. Background information about OD. Overview of the structure and requirements of the EMS. Glossary of defined terms. Cross-referencing of EPMP content to approval conditions and the requirements of the Mining Code.
EM Program (BHP Olympic Dam 2023b)	Addresses potentially significant environmental aspects and impacts identified through analysis and prioritisation of environmental risks, legal obligations and community concerns. Documents the processes, systems and actions used to manage those aspects and impacts including (as appropriate): • The environmental values, and the key risks to those values; • The environmental outcomes that BHP aims to achieve relating to potential environmental impacts; • Clear, specific and measurable compliance criteria that demonstrate achievement of the outcome(s); • Leading indicator(s) criteria, providing early warning of trends that indicate a compliance criteria may not be met; • The management and operational controls in place to deal with the environmental risk (of the impacts), including any regulatory conditions; and • Contingency options to be used in the event that identified risks are realised.
MPs	Addresses assessment and performance of the EM Program's outcomes, compliance criteria and targets, control mechanisms and legal and other requirements.
Actions, Targets and Major Changes	Captures continuous improvement opportunities and development opportunities that can assist in achieving future environmental outcomes and improving ODC's environmental performance, environmental improvement targets and the action plan to achieve such targets.
Closure Management and Rehabilitation Plan (CMRP)	A plan for closure and rehabilitation of the mine, including the environmental outcomes expected to be achieved indefinitely, and options for progressive rehabilitation.

EXECUTIVE SUMMARY

Overview

The FY25 annual Environmental Protection and Management Program (EPMP) report's purpose is to demonstrate compliance against the 2023 EPMP.

Data from Monitoring Programs (MPs) is presented as evidence against compliance criteria under the Environmental Management Program (EM Program) IDs.

Considerable progress against environmental outcomes and compliance criteria in the 2023 EPMP and actions and targets was made during the reporting period.

Major Achievements

Major achievements for the reporting period include:

- OD is making strides in contributing to biodiversity positive outcomes, both inside and outside of the tenure that OD stewards. OD, with subject matter experts Barron Environmental and GBS Consulting commenced baseline biodiversity surveys of Jackboot, OD's voluntary conservation area. The team have confirmed the presence of the Federally listed Thick-billed Grasswren and will continue baseline surveys in FY26. During FY25 OD continued its meaningful biodiversity partnerships with:
    - South Australian Arid Lands Landscape Board (SAALLB) to protect and enhance Great Artesian Basin (GAB) springs, a Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC) threatened ecological community;
    - Coorong District Council to revegetate critical habitat for threatened migratory bird species, known to migrate through the OD region;
    - Arid Recovery to research genetic connectivity of feral cats (declared under the *Landscape South Australia Act 2019)* to understand the extent to which OD (through permanent allocation of resources) contributes to seeding the feral population;
    - Environmental DNA (eDNA) Frontiers/Curtin University to develop eDNA monitoring tools for South Australian GAB springs to detect cryptic species; and
    - A new project with Andamooka and Roxby Downs community groups to control buffel grass on community lands.
- OD continued to deliver the Context Based Water Targets (CBWTs) that aim to address the water challenges shared by BHP and other stakeholders in the region where we operate. These targets are based on what we heard from others and BHP's assessment of water-related risks and opportunities and include:
- Contribute to conversation of the ecosystem function of the GAB springs; and
- Contribute to conservation of the ecosystem of the GAB springs through direct conservation and research programs in the Arid Lands region.
- BHP's public disclosure under the Global Industry Standard on Tailings (GISTM) including OD's Tailings Storage Facilities (TSF) 1-6.
- Uplift of OD's pest plant data management system including real-time Power BI reports & mapping, supported by infield ArcGIS Field Maps application.

COMPLIANCE SUMMARY

Table 2 lists the environmental outcomes for each EM Program ID. Next to each outcome 'traffic light' style indicators have been used to allow for overview assessment of achievement of the outcome, as follows:

●	Environmental outcome achieved
▲	Significant progress towards achieving the environmental outcome
●	Environmental outcome not achieved

The approved 2023 EM Program (BHP 2023b) contained 21 environmental outcomes, 23 compliance criteria and 13 leading indicators. Additional to these, the EPMP also contained 9 targets, and 23 actions, which are aspirational and support the environmental outcomes and compliance criteria against which ODC is assessed.

Twenty of the 21 environmental outcomes and 23 of the 23 compliance criteria were achieved or were within prescribed limits, while 12 of the 13 leading indicators were met. All targets and actions were achieved or significantly progressed.

The Community Perception Survey (CPS) is undertaken biennially and was completed in FY24. These survey results indicated that OD is viewed favourably (trusted) by 42 % of respondents in its local communities, an increase of 12% from the last CPS in FY22. Due to the recent CPS results the environmental outcome for ID5.1 for FY25 has been classified as 'significant progress towards achieving the environmental outcome'.

At the end of FY25, the area contained within the Wellfield B 10 m drawdown contour line was 4,440 km^2, within the 4,450 km^2 compliance criteria but above the 4,000 km^2 leading indicator.

Table 2: FY25 Compliance Summary

ID 1 USE OF NATURAL RESOURCES		
ID 1.1 Land Use and Rehabilitation		
Environmental Outcome		**Outcome Statement**
●	No **significant adverse impacts to populations of listed species** (South Australian, Commonwealth) as a result of the construction, operation and closure of Olympic Dam.	No significant adverse impacts to populations of listed species as a result of the construction and operation of Olympic Dam (OD) occurred in FY25. No closure activities impacted populations of listed species. No significant clearing of listed species or listed species potential habitat occurred in FY25. No significant adverse impact was detected for *Eriocaulon carsonii* subsp. *carsonii* (salt pipewort) as a result of aquifer level drawdown. No significant adverse impacts to listed species as a result of interactions with the OD Tailings Retention System (TRS) occurred in FY25. The Banded Stilt (*Cladorhynchus leucocephalus*), which is listed as Vulnerable under the NPW Act, was observed interacting with the TRS during FY25 (n=14 alive and n=4 dead recorded).

ID 1.2 Aquifer Level Drawdown		
Environmental Outcome		**Outcome Statement**
●	No significant adverse impacts to existing third-party users' right to access water from within the GAB wellfield **Designated Areas** for the proper development or management of the existing use of the lands as a result of ODC activities.	No significant adverse impacts to existing third-party users' right to access water from within the GAB wellfield Designated Areas for the proper development or management of the existing use of the lands as a result of ODC activities occurred in FY25. Generally, drawdown and percentage wellhead pressure loss at pastoral bores remains less than the predicted long-term impact as presented in the EIS (Kinhill Engineers 1997, updated Golder Associates 2016). The area contained within the Wellfield B 10 m drawdown contour line was 4,440 km^2, within the 4,450 km^2 compliance criteria but above the 4,000 km^2 leading indicator.
●	No significant adverse impacts to the availability and quality of groundwater to existing Stuart Shelf third-party users as a result of groundwater drawdown associated with ODC activities.	No significant adverse impacts to the availability and quality of groundwater to existing Stuart Shelf third-party users as a result of groundwater drawdown associated with ODC activities occurred in FY25. Regional groundwater levels and quality are stable.
●	No significant adverse impact on groundwater-dependent **listed species** or **ecological communi**ties as a result of groundwater drawdown associated with ODC activities.	Drawdown remains less than the predicted long-term impact and was within compliance criteria limits for FY25. The area contained within the Wellfield B 10 m drawdown contour line was 4,440 km^2, within the 4,450 km^2 compliance criteria but above the 4,000 km^2 leading indicator. Environmental flow rates at GAB springs remained above predicted long-term impacts as presented in the EIS (Kinhill Engineers 1997, updated Golder Associates 2016). Monitoring showed no indication of a significant adverse impact on groundwater-dependent listed species or ecological communities as a result of groundwater drawdown associated with ODC activities (see Section 1.2.4).

ID 2 STORAGE, TRANSPORT AND HANDLING OF HAZARDOUS WASTES		
ID 2.1 Chemical / Hydrocarbon Spills		
Environmental Outcome		**Outcome Statement**
●	No significant site contamination of soils, surface water or groundwater, as a result of the transport, storage or handling of chemical or hydrocarbon substances associated with ODC's operational activities.	No significant contamination of soils, surface water or groundwater leading to actual or potential environmental harm due to the transport, storage or use of hazardous substances associated with ODC operational activities occurred during FY25. Two spills within the SML required additional reporting due to their potential environmental impact. Both spill events were investigated and corrective actions implemented.
ID 2.2 Radioactive Process Material Spills		
Environmental Outcome		**Outcome Statement**
●	No adverse impacts to public health as a result of radioactive process	Olympic Dam Corporation has consistently operated in a manner that limits radiation dose to members of the public, from

	material spills from ODC's activities.	operational activities and radioactive emissions, to less than a small fraction of the International Commission on Radiological Protection (ICRP) 1 mSv/y limit. One spill required additional reporting requirements on the SML. There were no adverse impacts to public health as a result of radioactive process material spills from ODC's activities.
●	No **significant adverse impacts to populations** of **listed species** or **ecological communities** as a result of radioactive process material spills from ODC's activities.	No significant impacts to populations of listed species or ecological communities were recorded as a result of operational activities, including the effects from any radioactive process material spills. Impacts to listed species and ecological communities are avoided by ensuring that there is no uncontrolled loss of radioactive material to the natural environment. As there was no loss of radioactive material to the undisturbed (natural) environment in FY25, no impact to populations of listed species or ecological communities occurred.

ID 3 OPERATION OF INDUSTRIAL SYSTEMS

ID 3.1 Particulate Emissions

Environmental Outcome		Outcome Statement
●	No adverse impacts to public health as a result of particulate emissions from ODC activities.	In FY25, there were no ground level PM_{10} dust concentrations exceeding the PM_{10} 24-hour average of 50 micrograms per cubic metres (µg/m^3) at either Roxby Downs or Olympic Village stations. As such the environmental outcome for particulate emissions for FY25 has been classified achieved.

ID 3.2 Sulphur Dioxide Emissions

Environmental Outcome		Outcome Statement
●	No adverse impacts to public health as a result of sulphur dioxide (SO_2) emissions from ODC's operations.	The GLC levels for ambient air quality are based on the protection of human health (SA Environment Protection (Air Quality) Policy 2016). The Roxby Downs Township and Olympic Village ambient sulphur dioxide (SO_2) analyser results for the reporting period showed no exceedance of the SA Environment Protection (Air Quality) Policy 2016 for ambient air quality SO_2 at either Olympic Village or the Roxby Downs Township. An annual review of monitoring data collected at sensitive receptors (ambient ground level concentrations) has shown there were no adverse impacts to public health as a result of SO_2 emissions from ODC's activities during FY25.

ID 3.3 Radioactive Emissions

Environmental Outcome		Outcome Statement
●	No adverse impacts to public health as a result of radioactive emissions from ODC's activities.	Olympic Dam Corporation has consistently operated in a manner that limits radiation dose to members of the public, from operational activities, to less than a small fraction of the 1 mSv/yr public dose limit prescribed by the ICRP. As a result,

		there are no adverse radiation exposure impacts to the public from activities undertaken at ODC.
●	No **significant adverse impacts to populations** of **listed species** or **ecological communities** as a result of radioactive emissions from ODC's activities.	There were no significant adverse impacts to populations of listed species or ecological communities as a result of ODC's activities. Monitoring of radiation doses to the public and the deposition of ^{238}U at non-human biota (NHB) assessment sites is used as an indicator of the potential exposure of listed species to radioactive emissions. Deposition of ^{238}U at non-human biota assessment sites was at a level which poses no significant adverse impacts to non-human biota.
ID 3.4 Greenhouse Gas Emissions		
Environmental Outcome		**Outcome Statement**
●	Contribute to stabilising global atmospheric greenhouse gas concentrations to minimise **environmental impacts** associated with climate change.	BHP's climate change strategy focuses on reducing its operational greenhouse gas (GHG) emissions through structural GHG emissions abatement, procuring renewable electricity where feasible and incentivising new renewable generation projects, investing in low emissions technologies, seeking to support our suppliers and customers to pursue net zero for their operational GHG emissions to address Scope 3 emissions in its value chain, managing climate-related risk and opportunity, and working with others to enhance the global policy and market response. As a BHP group asset, ODC operates under the BHP group climate change strategy as detailed in the BHP Climate Transition Action Plan, 2024.
ID 4 GENERATION OF INDUSTRIAL WASTES		
ID 4.1 Embankment Stability of TSF		
Environmental Outcome		**Outcome Statement**
●	No significant TSF embankment failure.	During FY25 the TSFs were managed in accordance with the TRS Operation, Maintenance and Surveillance Manual (BHP Olympic Dam 2025e) and the Tailings Retention System Management Plan (BHP Olympic Dam 2022a) and no embankment failures occurred.
ID 4.2 Tailings Seepage		
Environmental Outcome		**Outcome Statement**
●	No significant adverse impact on vegetation as a result of seepage from the TSF.	No significant adverse impact to vegetation as a result of seepage from the TSFs has occurred. Eighty metres AHD (20 m below ground level) is considered as the level below which groundwater cannot interact with the root zone of plants in the OD region. Groundwater levels in the vicinity of the TSFs remain below 80 mAHD.
●	No compromise of current and future land uses on the SML or adjoining areas as a result of seepage from the TSF.	No compromise of current and future land uses on the SML or adjoining areas has occurred as a result of seepage from the TSFs. Groundwater levels in the vicinity of the TSFs remain below 80 mAHD and sampling indicates that seepage is being attenuated.

●	No compromise of the **environmental values** of groundwater outside the SML as a result of seepage from the TSF.	No compromise of the environmental values of groundwater outside the SML has occurred as a result of seepage from the TSFs. Sampling indicates that seepage is being attenuated within the SML, and groundwater levels of bores along the SML boundary are consistent with other regional bores. Seepage modelling confirms that there are no expected future offsite impacts.

ID 4.3 Fauna Interaction with Tailings Retention System		
Environmental Outcome		**Outcome Statement**
●	No significant adverse impacts to **listed species** (South Australian, Commonwealth) as a result of interactions with the Olympic Dam TRS.	No significant adverse impacts to listed species as a result of interactions with the OD Tailings Retention System (TRS) occurred in FY25. The Banded Stilt (*Cladorhynchus leucocephalus*), which is listed as Vulnerable under the NPW Act, was observed interacting with the TRS during FY25 (n=14 alive and n=4 dead recorded).

ID 4.4 Solid Waste Disposal		
Environmental Outcome		**Outcome Statement**
●	No significant adverse environmental impacts as a result of management of solid waste.	The Resource Recovery Centre (RRC) effectively managed solid waste as per the EPA approved Landfill Environmental Management Plan 2022 (LEMP) (BHP Olympic Dam 2022b). No evidence of material environmental harm was identified through routine auditing or reporting of materials disposed of to the landfill. Therefore, it can be concluded that no significant adverse impacts resulted from the management of solid waste at OD during FY25.

ID 4.5 Radioactive Waste		
Environmental Outcome		**Outcome Statement**
●	No adverse impacts to public health as a result of radioactive waste from ODC's activities.	Olympic Dam has consistently operated in a manner that limits radiation dose to members of the public from radioactive waste, to less than a small fraction of the ICRP 1 mSv/y limit. As a result, there were no adverse radiation exposure impacts to the public from activities undertaken at OD in FY25.
●	No **significant adverse impacts to populations** of **listed species** or **ecological communities** as a result of radioactive waste from ODC's activities.	During the reporting period there were no significant adverse impacts to populations of listed species or ecological communities as a result of radioactive waste from ODC's activities. Monitoring of radiation doses to the public and the deposition of ^{238}U at NHB assessment sites is used as an indicator of the potential exposure of listed species to radioactive waste. Deposition of ^{238}U at NHB assessment sites during FY25 was at a level which poses no significant adverse impacts to NHB.

ID 5 INTERACTION WITH COMMUNITIES

ID 5.1 Community Interaction

Environment Outcome		Outcome Statement
▲	Residents in Roxby Downs, Andamooka and Woomera have a favourable view of ODC.	The Community Perception Survey (CPS) is undertaken biennially and was last completed in FY24. The survey results indicated that OD was viewed favourably (trusted) by 42 % of respondents in its local communities, an increase of 12 % from the last CPS in FY22. The next CPS will be completed in FY26. Based on the CPS results the Environmental Outcome for FY25 has been classified as 'significant progress towards achieving the Environmental Outcome'.

Note: Individual monitoring programs are referred to in this document with a two-letter abbreviation as follows: Fauna – FA; Flora – FL; Great Artesian Basin – GA; Groundwater – GW; Environmental Radiation – ER; Airborne Emissions – AE; Energy Use and Greenhouse Gas - EG; Waste – WA; Surface Water – SW; Social Effects – SE.

1. USE OF NATURAL RESOURCES

1.1 Land Use and Rehabilitation

1.1.1. Environmental Outcome

No significant adverse impacts to populations of listed species (South Australian, Commonwealth) as a result of the construction, operation and closure of Olympic Dam.

No significant adverse impacts to populations of listed species as a result of the construction and operation of Olympic Dam (OD) occurred in FY25. No closure activities impacted populations of listed species.

No significant clearing of listed species or listed species potential habitat occurred in FY25.

No significant adverse impact was detected for *Eriocaulon carsonii* subsp. *carsonii* (salt pipewort) as a result of aquifer level drawdown.

No significant adverse impacts to listed fauna species as a result of interactions with the OD Tailings Tailings Retention System (TRS) occurred in FY25.

No significant adverse impacts to listed species as a result of interactions with the OD TRS occurred in FY25. The Banded Stilt (*Cladorhynchus leucocephalus*), which is listed as Vulnerable under the NPW Act, was observed interacting with the TRS during FY25 (n=14 alive and n=4 dead recorded). Wetlands International's most recent (2012) population estimate of the Banded Stilt is between 300,000 and 450,000 birds (Wetlands International 2023, as cited in Lees et al., 2023) and Lees et al. adopt a 1 % threshold of the population to be 3,700 birds. Banded Stilt observations in FY25 are 0.49 % of 1 % (3,700 birds) of the population estimate and concluded not significant adverse impact to the population. Two dead Great Crested Grebes *(Podiceps cristatus)*, one alive Peregrine Falcon *(Falco peregrinus)*, and one Australasian Darter *(Anhinga novahollandiae)* were observed in FY25 at the TRS, all listed as Rare under the NPW Act.

1.1.2. Compliance Criteria

No significant impact to the size of an important population of a community of native species dependent on natural discharge of groundwater from the Great Artesian Basin, including *Eriocaulon carsonii* subsp. *carsonii*.

Note: Significant impact is as defined in the Significant Impact Guidelines and greater than predicted in the Environmental Impact Statement (EIS).

Populations of *Eriocaulon carsonii* subsp. *carsonii* were found at 22 springs in the Hermit Hill, North-East and Lake Eyre spring complexes in FY25 and occurred on both spring vents and tails. This is the same number of springs that the species was detected at in the last three sampling periods, but fewer than in FY22 where it was recorded at 24 springs, which is the largest number of springs at which it has been recorded since FY17. The lowest number of sites where it has been recorded was 18 in FY18.

The individual springs where *E. carsonii* subsp. *carsonii* was detected over the years has varied somewhat. However, the species continues to be present in all the same hydrogeological zones where it has previously been detected. *E.* carsonii subsp. *carsonii* is cryptic in nature and easily obscured by thick growth of other species, particularly *Phragmites australis*. In the three zones where *E. carsonii* subsp. *carsonii* has been detected, there is no significant difference in the mean frequency of occurrence within each zone over time ($p>0.5$). Further results are presented and discussed in Section 1.2 Aquifer Level Drawdown.

No loss of an important population of Plains Rat (*Pseudomys australis*).

No loss of an important population of Plains Mouse occurred as a result of land disturbed by OD activities. No known critical habitat (as defined in the National Recovery Plan for the species) was cleared during FY25. Plains Mouse infield habitat verification surveys have been ongoing and have covered over 3,000 ha of the Special Mining

Lease (SML). In FY25, 688 ha of the SML was ground-truthed. It was concluded that the area did not contain critical habitat/refugia for the Plains Mouse nor was there evidence of Plains Mouse detected during the surveys (e.g., runways, scats, burrows or tracks).

In a broader regional context, Arid Recovery completed annual pitfall trapping in FY25 targeting swale habitats. A total of 53 plains mouse individuals were caught inside the Arid Recovery Reserve (ARR) and one was caught outside the fence. Trapping was undertaken within the ARR in May of 2025 to assess condition and population of reintroduced mammals, with 11 plains mice captured as by-catch. Trap success numbers inside the ARR compared to the outside of the ARR indicate that the Plains Mouse continue to benefit from the invasive predator free ARR, which sustains a substantial population of vulnerable species that otherwise has markedly lower persistence and occupancy of the surrounding landscape.

1.1.3. Leading Indicators

None applicable.

1.1.4. Deliverables (FA 3.1)

An annual report of monitoring and control actions undertaken within the SML and surrounding areas.

During FY25, a total of 353 cat traps were set with an average of 29 trap nights per month. A total of 35 cats were captured, producing an overall trap success rate of 9.9 %. Areas of focus included Roxby Downs Village, Olympic Dam Village and office buildings on the SML. The Felixer device was removed from the SML in FY25 based on the past efficacy and instead targeted cage trapping effort was increased. OD continued to contribute carcasses to the Arid Recovery long-term dissection database and funded a genetic study into the connectedness of feral cat populations. The findings from this study are expected to be published in FY26.

Throughout FY25, no wild dogs were observed opportunistically on the SML. Arid Recovery also did not record any wild dog sightings south of the dog fence in FY25. OD remains committed to work in conjunction with the South Australian Arid Lands Landscape Board (SAALLB) to opportunistically control wild dog numbers (South Australia Arid Lands Natural Resource Management Board 2015). The BHP Indigenous Engagement team works with Kokatha Pastoral (subsidiary of Kokatha Aboriginal Corporation) to meet the obligations under the Landscape Act and Pastoral Act for the properties south of the wild dog fence (Andamooka, Purple Downs, Roxby Downs), where Kokatha Aboriginal Corporation has a sub-lease agreement.

In FY17, OD together with Arid Recovery re-established a historical spotlight transect program that monitors the density of rabbits, cats, foxes and kangaroos in the OD region. OD worked with the Department of Primary Industries and Resources South Australia (PIRSA) to facilitate the release of a Korean strain of rabbit haemorrhagic disease virus (RHDV K5) known as K5 in the Roxby Downs region in March 2017. A subsequent release of the RHDV K5 virus occurred within the ARR in December 2021 (Figure 1). There were no releases of RHDV K5 by OD or Arid Recovery in FY25. This long-term data was analysed to detect change in rabbit density over time using linear regression (ANOVA); and a generalized additive model (GAM) was used to investigate non-linear trends over time (Figure 1).

At the Andamooka transect (Hiltaba village), the GAM reveals a strong, statistically significant non-linear trend in rabbit density over time. The model explains approximately 72 % of the observed variation and highlights several inflection points, likely linked to the timing of virus releases and seasonal variability. A steep and significant decline follows the first virus release in March 2017, and overall densities remain markedly lower than pre-release levels (linear regression $p < 0.001$, $R^2 = 0.351$). However, rabbit density around the Andamooka transect exhibits notable fluctuations (Figure 1), evidence of recovery beginning around 2023. The second virus release in December 2021 appears to have had a much smaller impact. At the Roxby transect (around the township), the GAM also identifies a statistically significant but less complex non-linear trend, explaining around 63 % of the variation. The dominant change again coincides with the first virus release in 2017, after which densities remain substantially lower (linear regression $p < 0.001$, $R^2 = 0.400$). Unlike the pronounced early decline, the second virus release had little discernible effect, and rabbit numbers have been gradually increasing in recent years, mirroring the trend at Andamooka.

Rabbit haemorrhagic disease virus (RHDV) is a highly contagious calicivirus used as a biocontrol agent to manage invasive European rabbit populations. The virus causes rapid, often fatal disease in rabbits, leading to significant population declines as observed following the release in 2017 (Pedler et al. 2016). However, the long-term effectiveness of repeat RHDV releases is limited by several factors. Benign caliciviruses exist naturally in rabbit

populations and may afford some immunity against deliberately released strains (Ramsey et al. 2020). Similarly, the release of RHDV during rabbit breeding season can inadvertently immunise young rabbits who can obtain lifelong immunity if they survive initial infection (Taggart et al. 2022). This makes population control via future releases difficult.

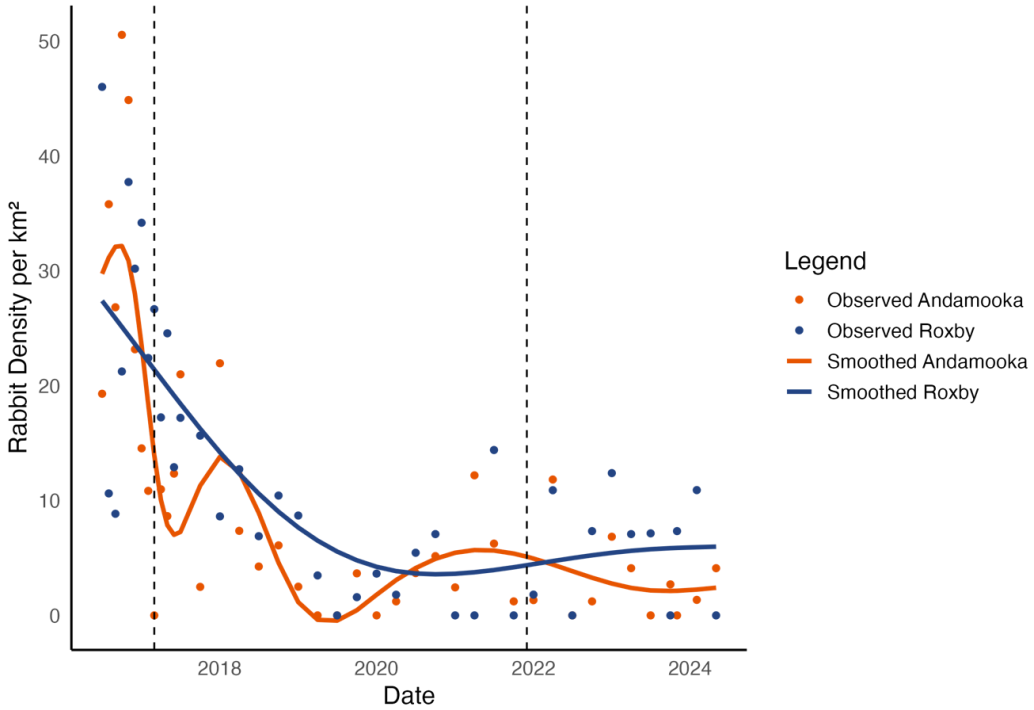


Figure 1: Rabbit population density trends FY17-FY25 (GAM) with virus release points

As assessment of the abundance of specific feral and abundant species within the region.

Quarterly spotlight counts of two transects within the OD region showed that kangaroos and rabbits continued to be recorded in higher densities compared with other introduced or abundant species (i.e. foxes, cats, and wild dogs) during FY25 (Figure 2). While kangaroo numbers remain relatively high, rabbit numbers have overall continued to remain below numbers observed pre-RHDV K5 release in March 2017 (see above). Due to the cautious nature of wild dogs, it is recognised that the spotlight transect method may not be the most effective method for capturing wild dog abundance data.

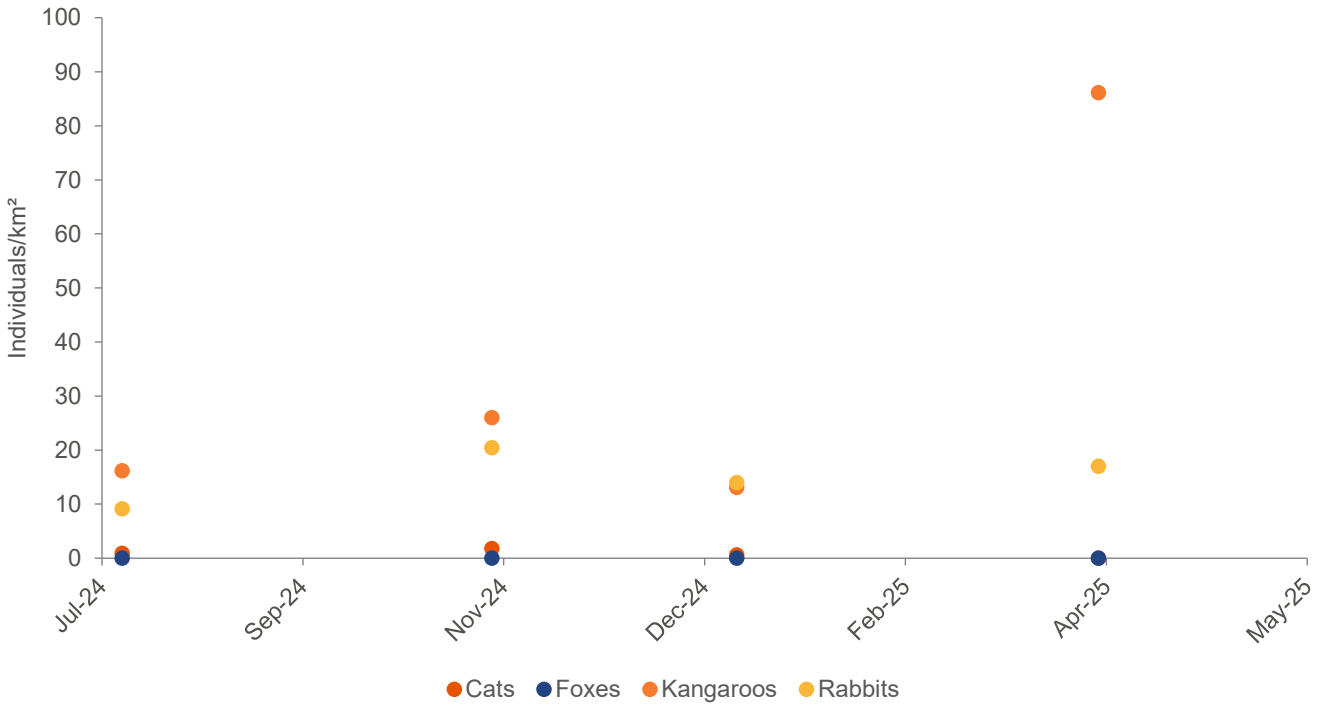


Figure 2: Density of rabbits, cats and kangaroos observed in the Olympic Dam region in FY25

Long-term data collected since 1989 (noting a break in monitoring between 2011 and 2016) shows overall declines in feral species density, while kangaroo density fluctuates (Figure 3). There is a notable relationship between rabbit density and that of their primary predators cats and foxes. This relationship has been studied with earlier releases of RHDV in 1996 and 2010 and linked to increases in density and distribution of small native mammals because of reductions in predation pressure (Pedler et al. 2016).

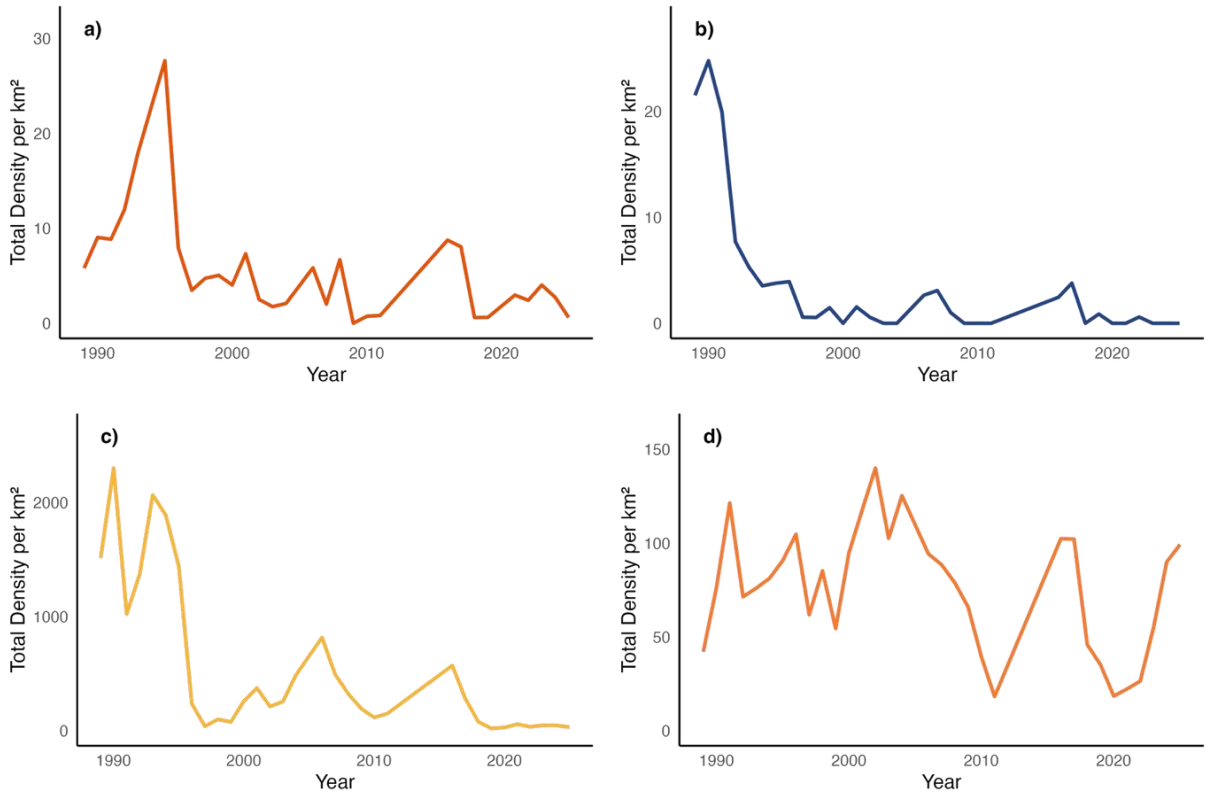


Figure 3: Long-term density of a) cats, b) foxes, c) rabbits and d) kangaroos

1.1.5. Deliverables (FL 3.3)

Define and map the current distribution of extreme and high risk weed species within the Olympic Dam region, Roxby Downs Municipality, the SML and Gosse Springs and Emerald Springs SEB areas.

Identification of whether measures are required to control declared weeds and plant pathogens in the operations area.

Olympic Dam's Environment Department completed 1,240 pest plant monitoring and control inspections at 815 unique sites during FY25. 235 of these were registered as new sites bringing the total sites monitored and controlled to 2,660 within the OD Area of Influence (AoI) since 2006. Approximately 31 % of all sites were visited in FY25 and chemically controlled if pest species were actively growing.

A total of 12 pest plant species were recorded as active during FY25. Of these, seven are declared under the *Landscape South Australia Act 2019*, two species are listed as a Weed of National Significance (WoNS) and four species are identified as Priority Weeds in the South Australian Arid Lands (and Kingoonya District Weed Strategy Priority Weeds) (Table 3).

Control efforts during FY25 were targeted towards buffel grass active sites, with 521 active sites treated with a combination of chemical and pine oil mixture via a knapsack or vehicle mounted spray unit. Control measures will continue to be required for the ongoing management of pest plants and in particular buffel grass. Buffel grass infestations along the Oodnadatta Track within drainage depressions within the Emerald Springs Significant Environmental Benefit (SEB) continued to be controlled in FY25 to prevent spread into the SEB areas. No new infestations were detected within the Gosse Springs SEB in FY25.

The FY25 distribution of declared and other high risk pest plant species that were visited and recorded as active are shown in Figure 4, Figure 5, Figure 6 and Figure 7. In many cases a single GPS location may reference a large infestation area, and as such distribution of weeds may be more extensive than what is depicted in the maps. All pest plant data collected by OD since 2000 is also available via SA Nature Maps and lodged annually via the Biological Database of South Australia (BDBSA) under SU1235 OLYMPIC DAM PEST PLANTS.

Table 3: Declared and other high risks weed species active within the OD Area of Influence in FY25

Species	Landscape Act	Priority in SAAL	WoNS	Other High Risk
Athel Pine	X	X	X	
Blackberry Nightshade				X
Buffel Grass	X	X		
Caltrop	X			
Couch Grass				X
Fountain Grass	X			
Innocent Weed	X	X		
Paddy Melon				X
Prickly Pear	X	X	X	
Ruby Dock				X
Saffron Thistle				X
Salvation Jane	X			

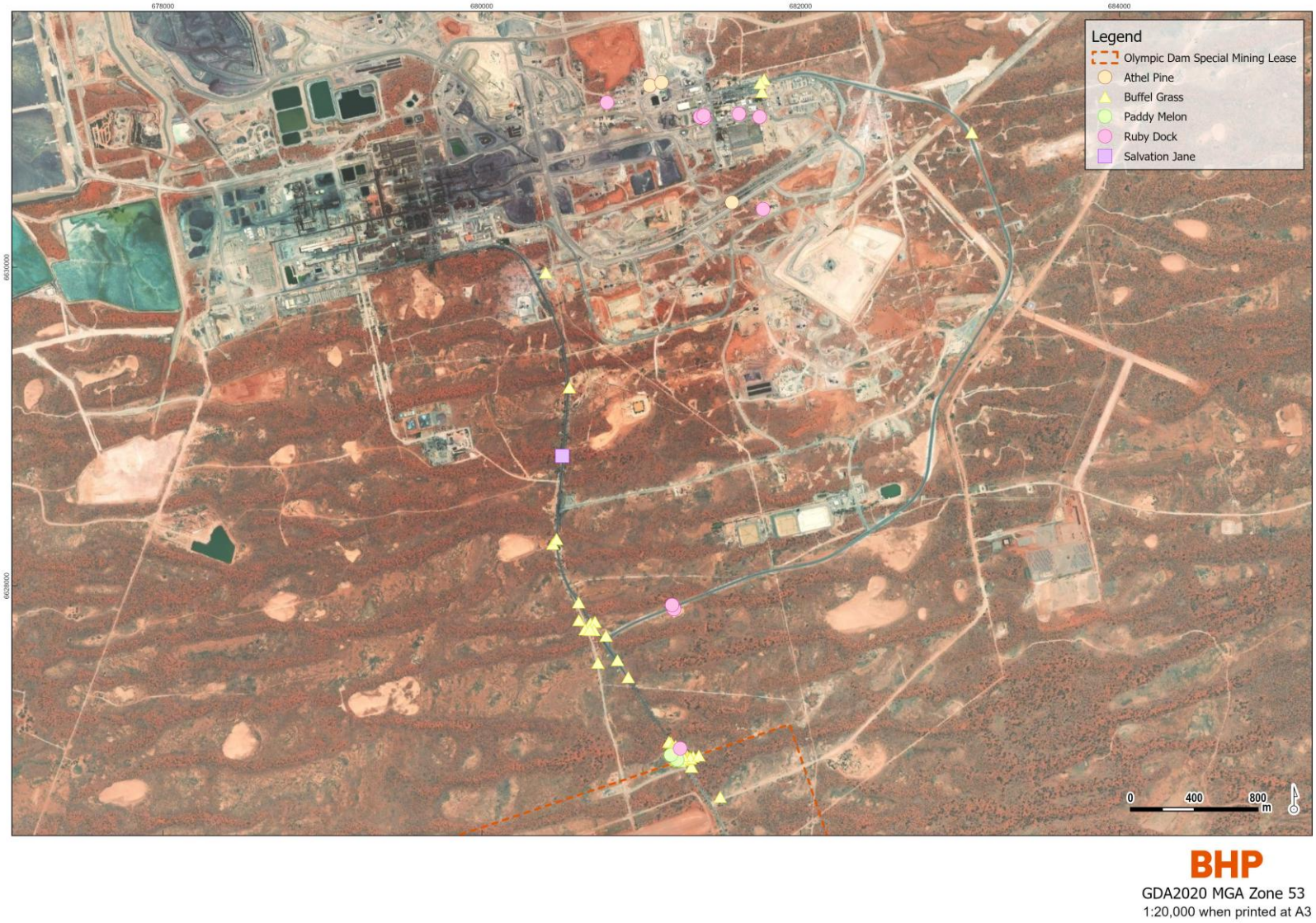


Figure 4: Locations of declared and high risk weed species active in FY25 on the Special Mining Lease

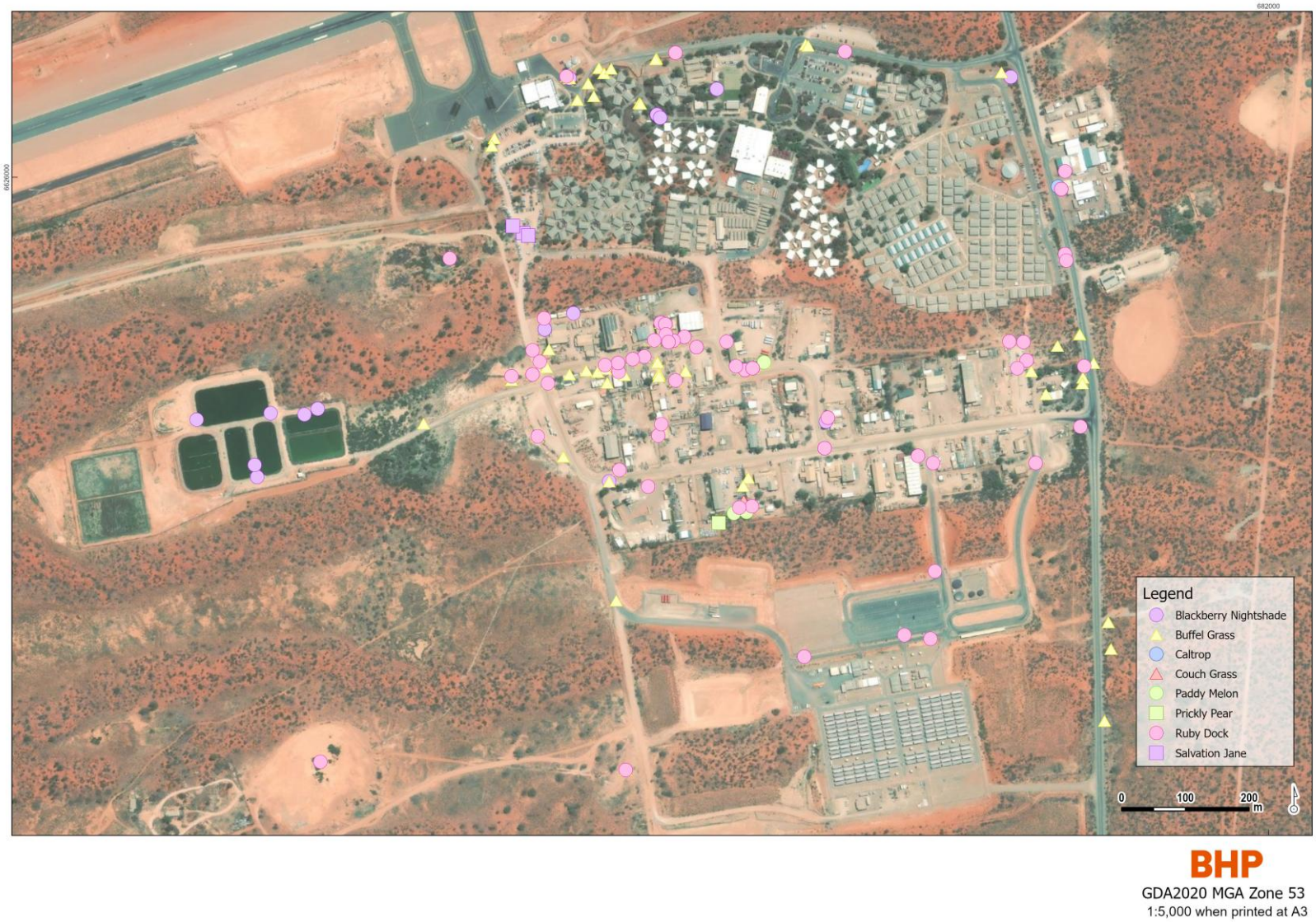


Figure 5: Locations of declared and high risk weed species active in FY25 at Olympic Dam Village and Light Industrial Area

Figure 6: Locations of declared and high risk weed species active in FY25 in the Roxby Downs urban area

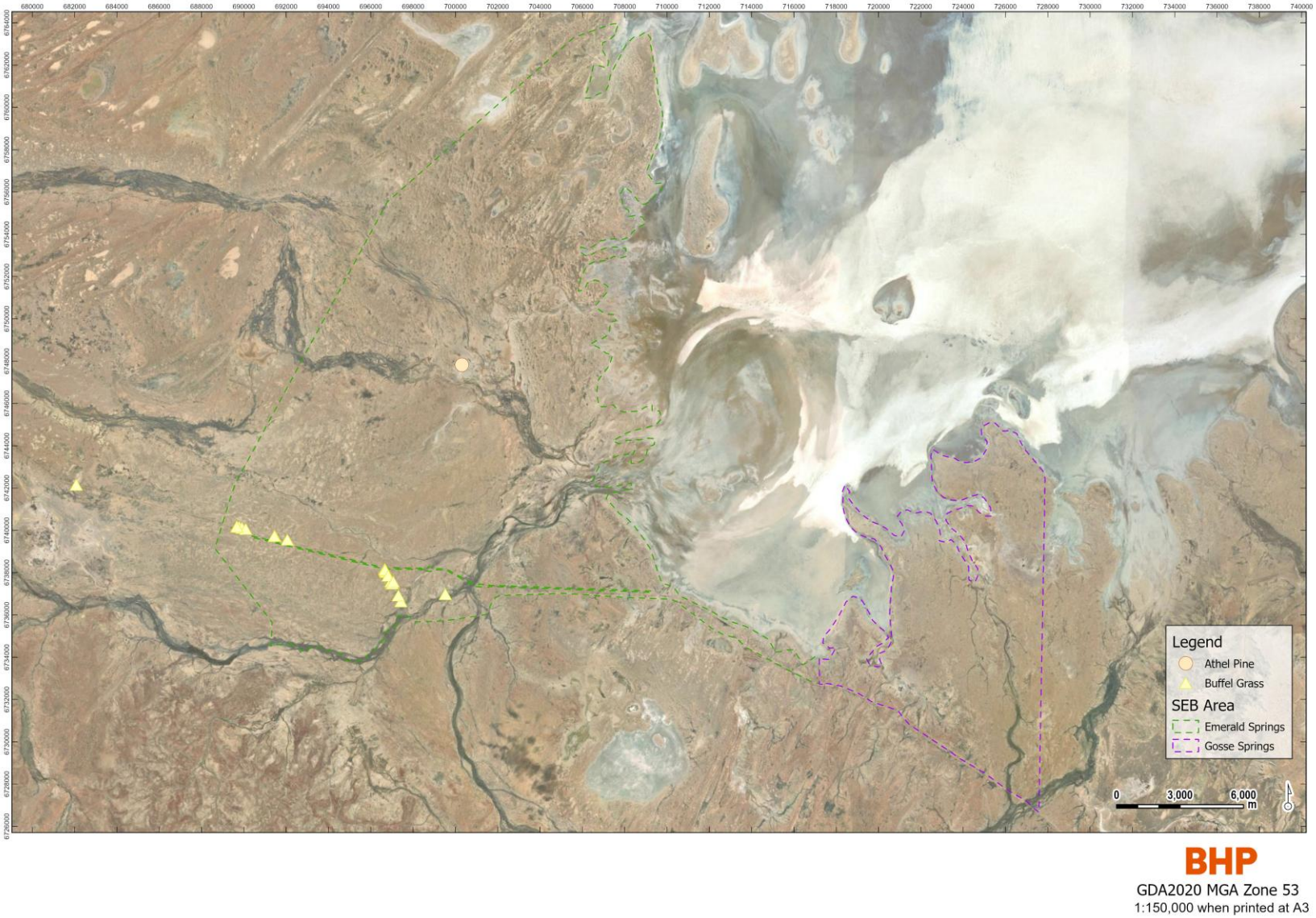


Figure 7: Locations of declared and high risk weed species in FY25 in Significant Environmental Benefit Areas

1.1.6. Deliverables (FL 3.4)

A map of the known locations of listed species within the impact area of the Olympic Dam operation.

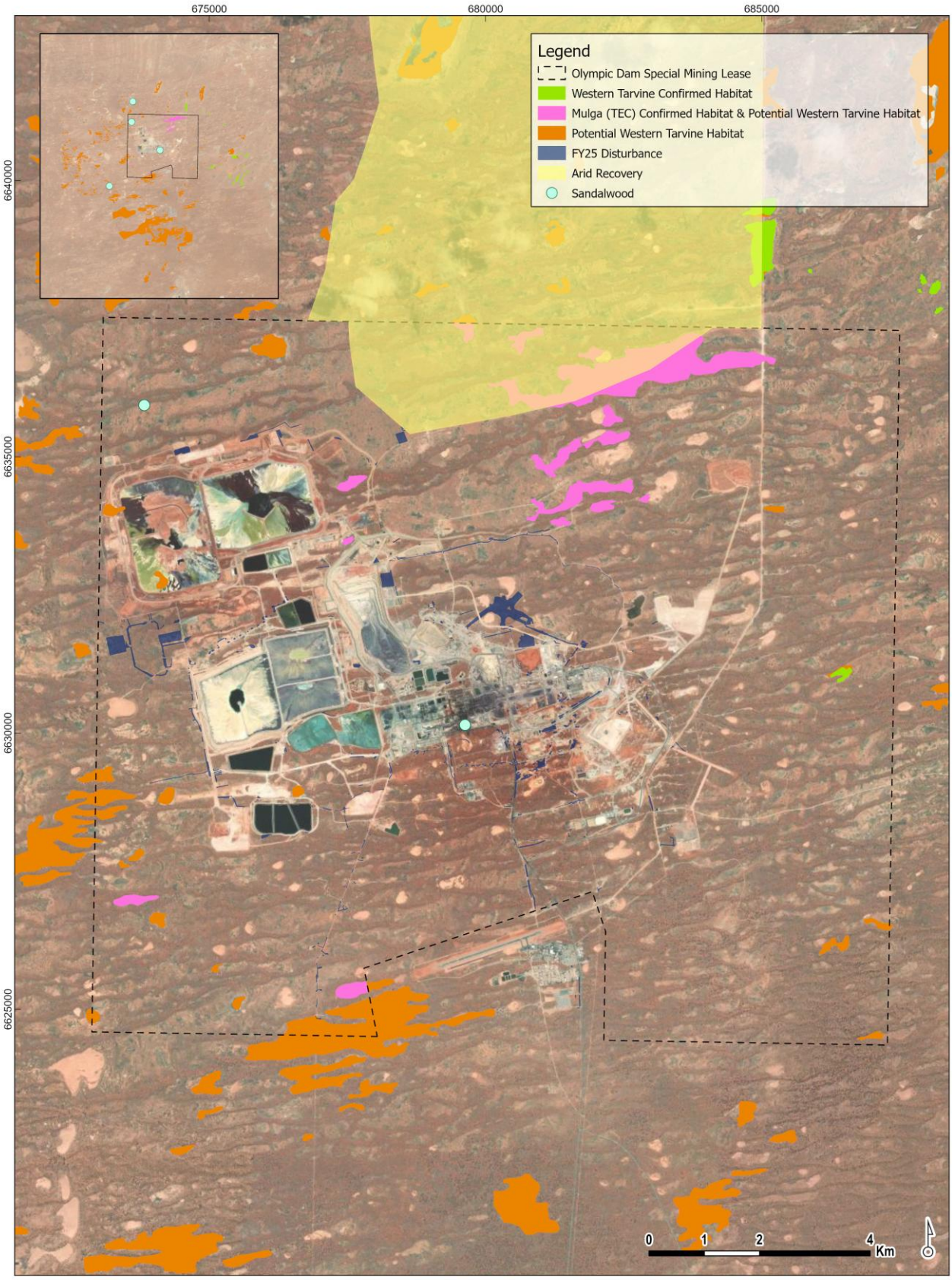
A statement of impacts to, and measures undertaken to avoid listed species.

Listed species include species known to occur in the region that are either listed as threatened or greater under state, national and/or international legislation and have the potential to be adversely impacted by operations. This includes species that have a wider distribution within the state, interstate or overseas and are therefore not considered to be critically dependent on existing populations within the potential impact area.

A bi-annual desktop assessment is completed to search the ODC operational area for International Union for Conservation of Nature (IUCN) Red List, *Environment Protection and Biodiversity Conservation Act 1999* (EPBC)), and species of state significance (NPW Act). Western Tarvine *(Gilesia biniflora*), listed as Rare, and the threatened ecological community (TEC) Mulga (*Acacia aneura*) low woodland on sand plains, provisionally listed as Vulnerable under the NPW Act are known to exist on the SML (Figure 8). Mapping of Sandalwood *(Sandalwood spicatum)* has commenced during infield surveys (Figure 8). No known listed flora species were impacted by disturbance activities during FY25 (Figure 8). Efforts are made wherever possible to avoid these species during the internal Global Land Use Permit (GLUP) process.

An important population of Plains Mouse is known to inhabit the ARR and during favourable conditions, it is known to expand its population into the SML. Vegetation types that are considered potential habitat for the Plains Mouse include chenopod shrublands (*Atriplex vesicaria* / *Maireana astrotricha*), cotton bush (*Maireana aphylla*) gilgais, canegrass (*Eragrostis australasica*) swamps and ephemeral dominated plains (Figure 9). These vegetation types are often associated with large swale areas greater than 1 km^2 that have drainage lines and cracking clays, which constitutes critical habitat for the Plains Mouse. Efforts are made wherever possible to avoid potential Plains Mouse habitat using the internal GLUP process and implementation of infield verification habitat surveys.

The Southern Whiteface *(Aphelocephala leucopsis)* EPBC listed as Vulnerable in March 2023 is known to occur on the SML. All sand dunes are considered habitat for the Southern Whiteface. Records are submitted to BDBSA annually by BHP or BHP consultants.



BHP

GDA2020 MGA Zone 53
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Figure 8: Potential and confirmed habitats of listed flora species

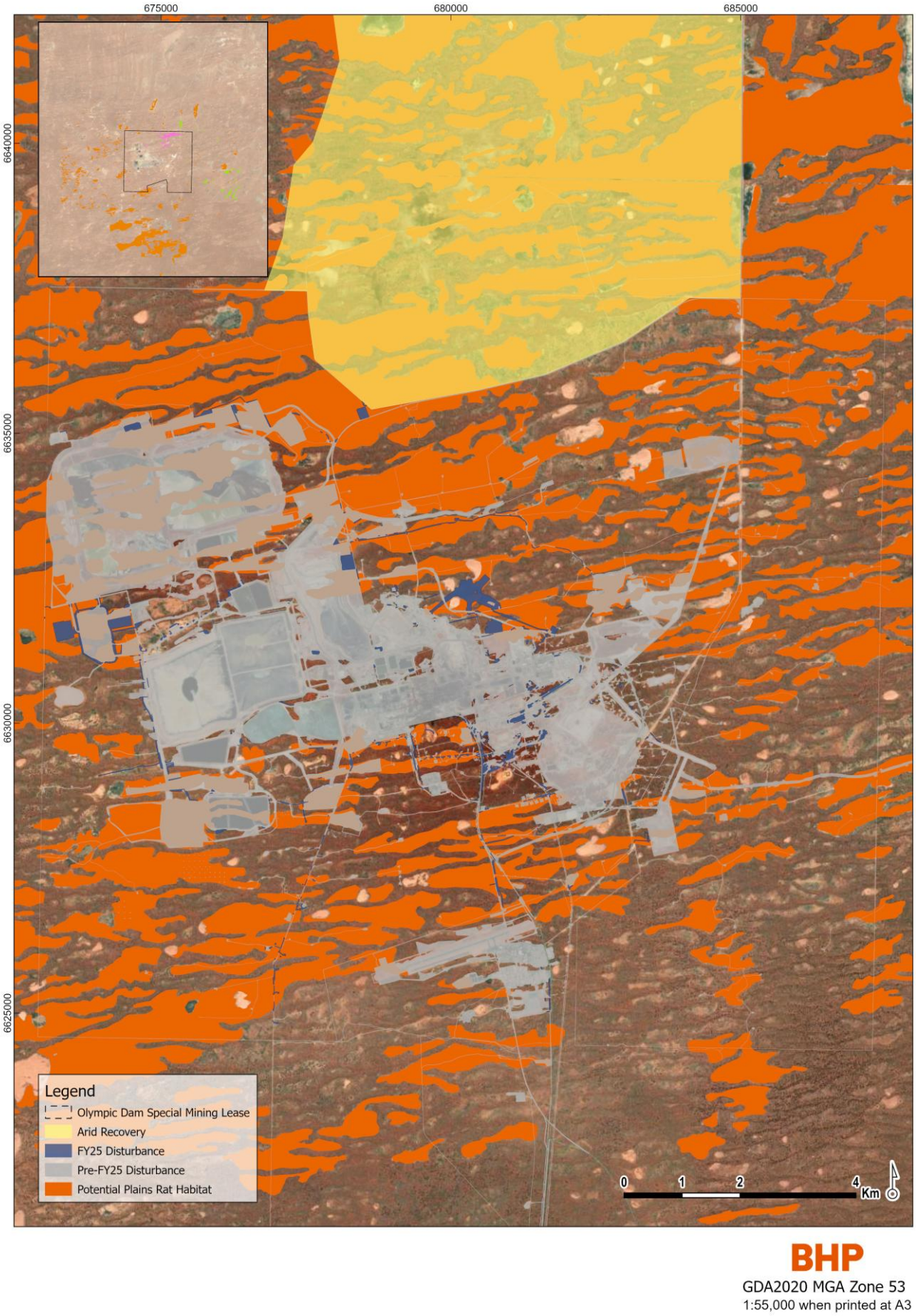


Figure 9: Listed fauna species potential habitat

A map of the direct disturbance impact footprint of ODC's activities.

A statement of comparison between the impact footprint of ODC's activities (i.e. within and outside the SML) and the offset areas under SEB processes, to account for 58.36 SEB points per hectare of native vegetation disturbed within the SML or as per the approved native vegetation management plan for disturbances outside of the SML.

At the end of FY19 the remaining Gosse Springs SEB credit was converted to SEB points to align with the *Native Vegetation Regulations 2017.* The Gosse SEB balance remaining in reserve at the end of FY19 (4,424.3 ha) was converted to 31,339 SEB points. Therefore, tracking the progress of disturbance and offset areas no longer involves the life of mine ratio of 8 ha.

In 2019, the Emerald Springs SEB Native Vegetation Management Plan (NVMP) (Barron 2018a) was approved to establish a SEB offset area of 38,022 ha that is equivalent to 267,143 SEB points. The Native Vegetation Clearance Proposal for the SML accompanied the submission, which determined that 58.36 SEB points are required to be deducted from the Emerald Springs SEB credit for each hectare of native vegetation clearance (Barron 2018b).

Spatial analysis techniques were utilised on geo-referenced ortho-imagery for FY25. During this reporting period, satellite imagery of the SML was captured on a quarterly basis, offering an accurate account of the timing of land disturbance. Disturbances identified as occurring between these dates were digitised in ArcGIS. The total area of disturbance that occurred during FY25 was 109.53 ha (Table 4 and Figure 10). The majority of disturbance for FY25 was attributed to the clearance associated with construction of Evaporation Pond (EP) 7, Southern Mining Area Decline (SMAD) and road maintenance. Other minor clearance was associated with business as usual activities to support resource exploration programs, backfill and quarry operations. The total cumulative disturbance for OD is 6,068.61 ha.

All SEB points in FY25 were deducted from Emerald Springs SEB and no points were deducted from Gosse Springs SEB (Table 4).

SML Accounting

Applying the SEB rate of 58.36 SEB points per hectare to the SML clearance:

107.793 ha disturbance on SML multiplied by 58.36 points per hectare

Equals Total 6,290.8 points attributed to SML disturbance

Off SML Accounting

Optic Fibre 2024/3067/692v2 July approval for 2.59 ha of disturbance.

Actual disturbance was only 1.74 ha.

BHP elects to offset the total SEB Points applied for and approved, which was 178.29 points for off SML works.

Total Accounting

SML (6,290.8 points) + Off-SML Fibre Optic (178.29 points)

Equals 6,469.18 SEB points

Therefore a deduction of 6,469.18 SEB points was deducted from Emerald Springs during FY25. The balance of Emerald Springs SEB at the end of FY25 is 200,605.81 points. No deduction of points from Gosse Springs was made during FY25. All areas that have been disturbed by OD and subject to an SEB offset are depicted in Figure 11, while disturbance not subject to an SEB is depicted in Figure 12.

Table 4: Areas of Disturbance and SEB Offset Areas as at 30 June 2025

Land Metric	Quantity
Total cumulative land cleared by OD up to the end of FY25	6,068.61 ha
Total land cleared by OD in FY25	109.53 ha
Points remaining in Gosse Springs SEB at the end of FY25	25,706.74 points
Points remaining in Emerald Springs SEB at the start of FY25	207,075 points
Points consumed in Emerald Springs SEB during FY25	6,469.19 points
Points remaining in Emerald Springs SEB at the end of FY25	200,605.81 points

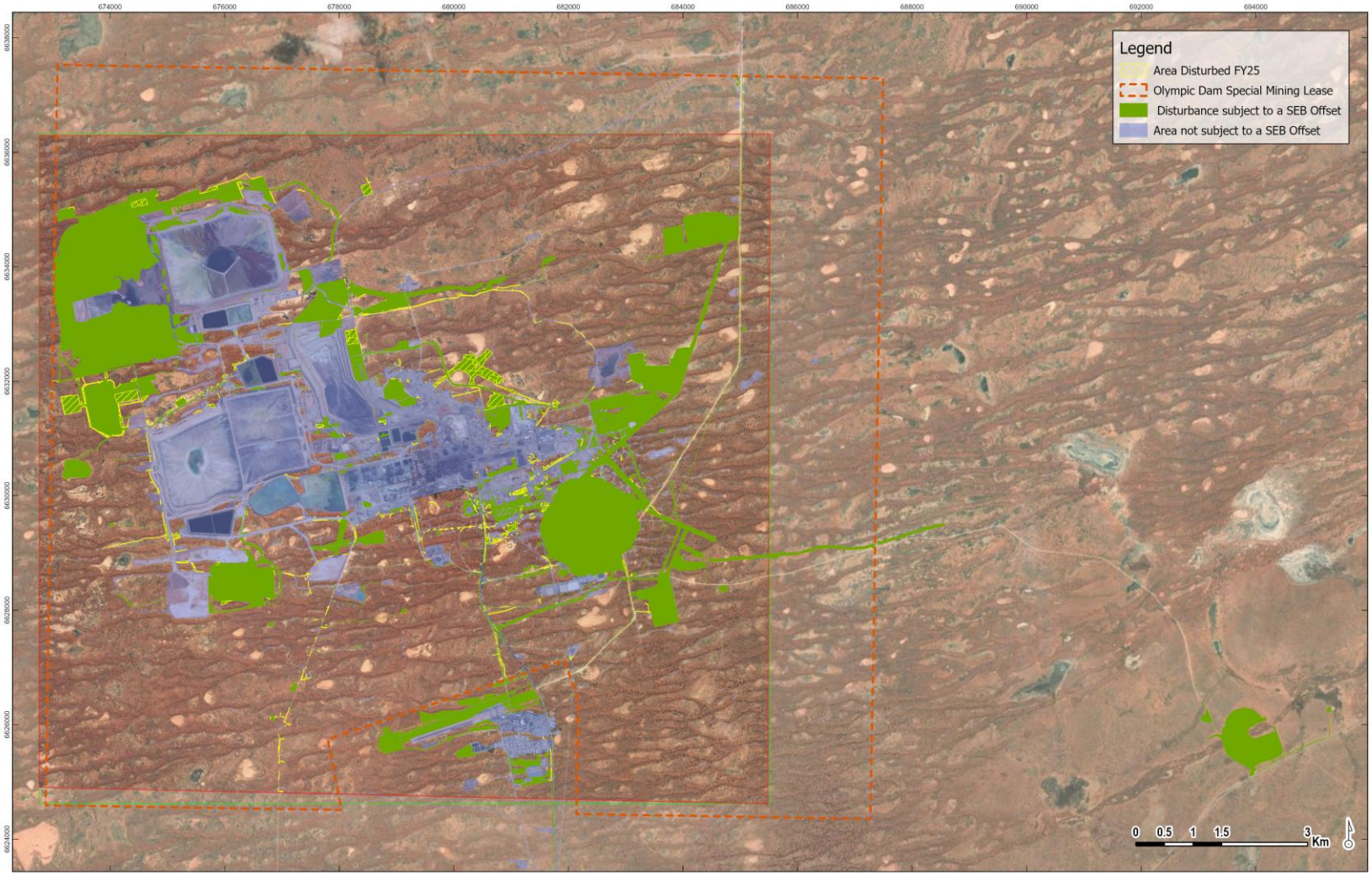


Figure 10: Areas of disturbance as at 30 June 2025

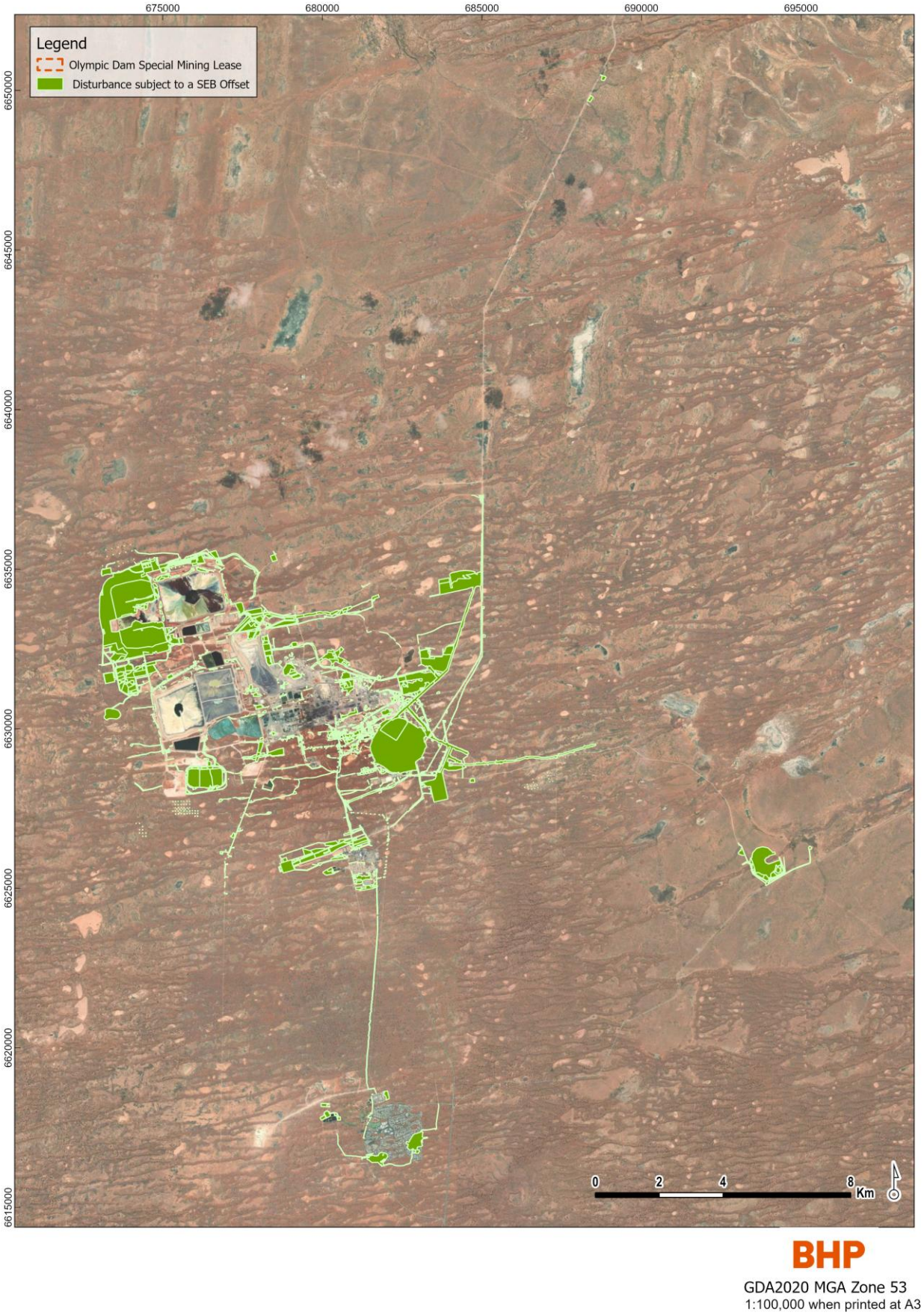


Figure 11: Areas of disturbance subject to an SEB offset as at 30 June 2025

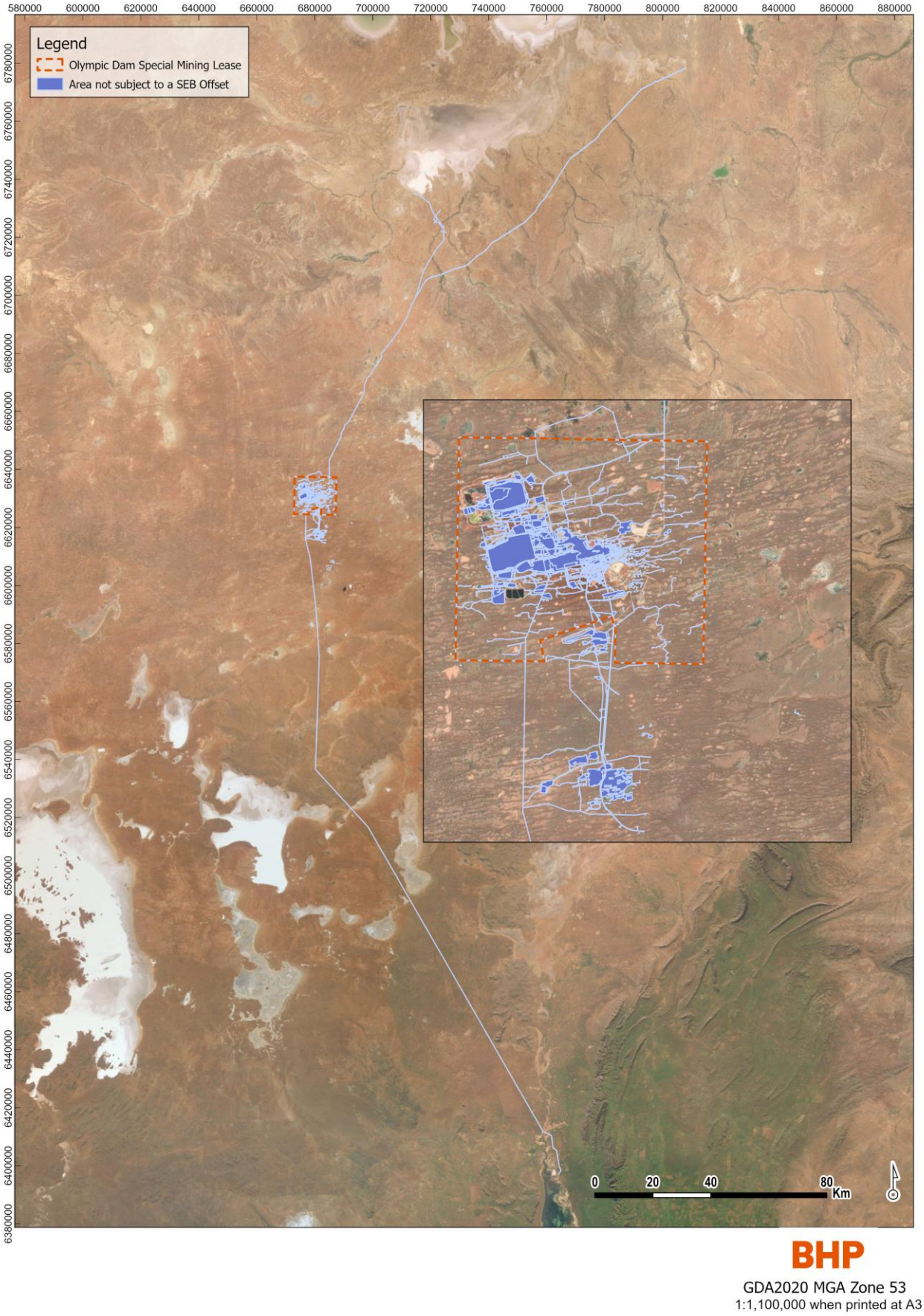


Figure 12: OD areas of disturbance not subject to an SEB offset

1.1.7. Deliverables (FL 3.5)

A summary of actions achieved from the SEB implementation plans within the fiscal year through the Annual EPMP Report.

An annual report to the government on SEB management outcomes through the Annual EPMP Report.

Shapefiles of the SEB areas for inclusion in relevant departmental databases.

To meet the requirements of the Native Vegetation Council (NVC) annual standard monitoring and progress report for the SEB areas, the following data is presented for both the Emerald Springs SEB (Table 5, Table 6, Table 7) and Gosse Springs SEB (Table 8, Table 9).

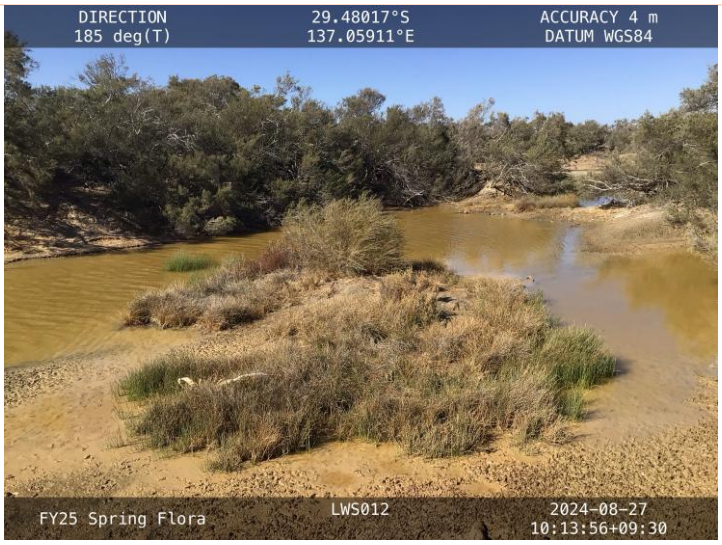
Due to the size of Emerald Springs SEB, annual photo points at the Rangelands Assessment sites was not recommended and instead photo points of the springs occurs annually as part of the Flora Monitoring Program. As part of the Native Vegetation Heritage Agreement, shapefiles for Emerald Springs and Gosse Springs SEB were sent to PIRSA and DEM in FY22.

Emerald Springs SEB

In FY19, ODC obtained approval for the Emerald Springs SEB in accordance with Schedule 1, Part 5 (Mining and petroleum activities), Division 1 – Mining Operations, 28 - Operations of the *Native Vegetation Regulations 2017* under the *Native Vegetation Act 1991*. The Native Vegetation Heritage Agreement has not yet been secured and is with the State government for assessment.

Table 5: Photographic Monitoring Record Sheet of Emerald SEB

Site Reference	Photopoint
LES001; Emerald Spring vent	

Site Reference	Photopoint
LWS007; Part of the Walkarinna spring group within the Emerald Springs SEB	
LWS012; Part of the Walkarinna spring group within the Emerald Springs SEB	
LWS014; Part of the Walkarinna spring group within the Emerald Springs SEB	

Site Reference	Photopoint
LWS016; Part of the Walkarinna spring group within the Emerald Springs SEB	

The Emerald Springs SEB NVMP (Barron 2018a) outlines the management actions and timing of the agreed actions. Once-off actions are outlined in Table 6.

Table 6: Once-off management actions required for the Emerald Springs SEB up to and including FY25

Action		Timing
1.	Cattle are to be mustered and removed.	Completed in FY20.
2.	Fence along the northern side of the Oodnadatta Track (~50 km), including a gate at the main access points for springs and monitoring bores.	ODC sought an amendment to the NVMP to reflect the reincorporation of this action following its removal in FY21. The Oodnadatta fence was constructed in November 2023. Stock has been reinstated to the Curdimurka paddock.
3.	Improved signage, including at the Lake Eyre Lookout, Curdimurka Siding and at regular intervals along the Oodnadatta Track to encourage tourists to remain in controlled areas.	New signage was installed in April 2024 along the newly constructed Oodnadatta fence and at each spring group. Signage was maintained in FY25.
4.	NVC approved OD's commitment to the Arabana people to not remove the athel pine within the Emerald Spring 1 km^2 fence line. This decision was for Heritage reasons.	The Athel Pine remains at the Emerald Spring and no recruitment has occurred.
5.	In late FY21 the NVC agreed to review both the Gosse and Emerald Springs NVMP updates in the same cycle as other EPMP documentation.	Ongoing (as above).

Ongoing management is captured through BHP's work management system (1SAP). This entails quarterly inspections of the SEB areas, with a focus on fence maintenance and pest plant and animal control. In FY25 existing pest plant infestations along the Oodnadatta Track were visited to conduct routine herbicide control. Several camels were observed in the areas neighbouring Emerald Springs and evidence of camel tracks were detected inside Emerald Springs SEB boundary with One Box paddock. No damage to Emerald or Walkarinna springs was observed.

Based on the continued quarterly inspections conducted by the OD Environment Department and ongoing monitoring completed by the Stuart Creek Station sub-lessee the management actions for Emerald Springs SEB are deemed to be effective and no negative changes to native vegetation have occurred.

Table 7: Progress works record for the Emerald Springs SEB

Action as listed in the NVMP	Action undertaken in FY25	Effectiveness of action
Domestic Livestock	During monitoring by the Environment team and Stuart Creek Station sub-lessee, no observations of cattle or their tracks and scats.	Effective
Public Access	Unauthorised access of Emerald SEB occurred during FY25. Reconyx cameras were installed on entry tracks to understand unauthorised activity. The Oodnadatta fence is also expected to reduce unauthorized access.	Effective
Feral herbivores	Camel tracks detected in Emerald. No evidence of camels at springs. No camels sighted, tracks only.	Effective
Invasive and declared weeds	Ongoing control of weed infestations detected in Emerald Springs SEB along the Oodnadatta Track.	Effective
Health of GAB springs	Continued monitoring cover and abundance of vegetation within GAB springs within Emerald Springs SEB including Walkarinna as part of the GAB Springs monitoring program.	Effective

Gosse Springs SEB

During FY25 the Gosse Springs NVMP (Environmental & Biodiversity Services 2010) was adhered to and management actions undertaken. Quarterly inspections for feral animals and pest plants continued during FY25. In late FY21 'poo-plot' photo points were introduced to the Gosse Springs SEB. All large herbivore manure was removed from a key location between LGS001, LGS002, and LGS003 and has been monitored quarterly for feral tracks and scats (Table 8). Public access controls were improved in FY25 via the installation of Rexonyx cameras on gates entering Gosse SEB. Unauthorised access of Gosse SEB occurred in FY25.

Photopoints are established for all spring vents within the Gosse Springs SEB, with selected images displayed in Table 8. The progress works record for the Gosse Springs SEB is recorded in Table 9.

Table 8: Photographic Monitoring Record Sheet of Gosse SEB

Site Reference	Photopoint
PP1; 'Poo plots' established to monitor for large herbivore incursion. All camel, cattle and horse dung was removed in January 2021 from a designated section between springs and is monitored quarterly for the presence of new dung. No new dung has been recorded.	
PP2; 'Poo plots' established to monitor for large herbivore incursion. All camel, cattle and horse dung was removed in January 2021 from a designated section between springs and is monitored quarterly for the presence of new dung. No new dung has been recorded.	

Site Reference	Photopoint
PP3; 'Poo plots' established to monitor for large herbivore incursion. All camel, cattle and horse dung was removed in January 2021 from a designated section between springs and is monitored quarterly for the presence of new dung. No new dung has been recorded.	
PP4; 'Poo plots' established to monitor for large herbivore incursion. All camel, cattle and horse dung was removed in January 2021 from a designated section between springs and is monitored quarterly for the presence of new dung. No new dung has been recorded.	

Site Reference	Photopoint
LGS004; Gosse Spring with largest population of *Eriocaulon carsonii* subsp. *carsonii.*	
LFE006; Within the Fred Spring group within the Gosse Springs SEB.	

Table 9: Progress works record for the Gosse Springs SEB

Action as listed in the NVMP	Action undertaken in FY25	Effectiveness of action
Domestic Livestock	During monitoring by the Environment team and Stuart Creek Station sub-lessee, no observations of cattle or their tracks and scats	Effective
Public Access	Increase in off-road driving after rainfall particularly in Gosse. Reconyx cameras installed on access points to monitor unauthorised activity. The installation of the Oodnadatta fence is also expected to reduce unauthorized access.	Effective

Action as listed in the NVMP	Action undertaken in FY25	Effectiveness of action
Road Maintenance	No road maintenance occurred in FY25.	Effective
Exploration Activities	BHP did not conduct exploration activities in Gosse Spring SEB.	Effective
Feral Herbivores	No horses or camels detected within Gosse SEB. Rabbit activity is to be mapped in the future.	Effective
Invasive and Declared Weeds	No new weed infestations detected within Gosse Springs SEB.	Effective
Health of GAB springs	Continued monitoring cover and abundance of vegetation within GAB springs within Gosse Springs SEB including Gosse, Fred and McLachlan as part of the GAB Springs monitoring program. A new spring has appeared within McLachlan spring group. Flow has visibly reduced at LMS004 and the new spring is growing.	Effective

1.1.8. Targets FY25

None applicable.

1.1.9. Actions FY25

Continue to implement actions and identify progressive rehabilitation opportunities in the Mine Closure Plan.

Several actions associated with the cessation of the 2011 OD expansion pre-commitment works continued throughout FY25. The Rehabilitation Strategy actions associated with these works are described in Table 10. Regular photo point monitoring has shown that in some areas where specific stabilisation measures were adopted, an increase in vegetation coverage has occurred (Table 11). Areas where compaction and saline water were used to minimise passive dust generation have showed signs of natural re-vegetation. The open pit area is now surrounded by works associated with the underground expansion of the southern mine area. Therefore, no further rehabilitation plans are in place for areas associated with pre-commitment works. The decommissioning of the Roxby Downs Town Dam site was completed during FY24 and six-monthly rehabilitation photo points were established in FY25 to track the rehabilitation in this area.

Due to the underground mining method used at OD, large scale rehabilitation works were not required during FY25. The internal LUP process requires temporary disturbances (i.e. excavation for pipe maintenance and cable installations) to be remediated through topsoil replacement and scarification to promote natural re-vegetation. In FY25 progressive rehabilitation continued where possible but was limited due to the relatively low annual clearance undertaken.

Table 10: Rehabilitation Strategy actions undertaken in FY25

Rehabilitation Strategy Action	Comment
Set-up photo monitoring points for the area cleared for the proposed contractor's village on Andamooka Station to visually monitor soil stability.	Six monitoring sites were established in May 2012 and continue to be monitored on a biannual basis through photo points. The area continues to show progressive re-establishment of local plant species.
Regular inspection of proposed contractor's village area for erosion.	The site of the proposed contractor's village is inspected during biannual photo point monitoring and other time-in-field excursions. Minor erosion from high rainfall events is visible within the Hiltaba area but does not warrant corrective action.

Table 11: Hiltaba photopoint comparison between May 2013 and March 2025

	May 2013	March 2025
EV490		
EV492		

Review closure risks and assumptions through annual workshop.

BHP's closure strategy is to set objectives and deliver optimised closure outcomes for the assets in consultation with relevant stakeholders. The closure management process is designed to integrate decision-making and implementation activities at appropriate stages during the life cycle of OD. This process is set out in BHP's mandatory minimum performance requirements for closure (as per BHP's Closure and Legacy Management Global Standard) and considers social and environmental values, obligations, safety, costs and risks (both threats and opportunities) to inform each asset's closure strategy.

Stakeholder engagement is integral to the development of OD's closure strategy and management plan. Various closure planning workshops are held with the relevant internal stakeholders to ensure integration into planning, decision-making, and implementation activities.

Minor improvements have been identified during FY25 and will be communicated via an updated Closure Management and Rehabilitation Plan (CMRP) in FY26.

Align pest plant and animal control with South Australia Arid Lands Landscape Board (SAALLB) objectives outlined in the SAAL Regional Landscape Plan (2021-2026)

OD has worked with the SAALLB on regional priorities. OD is working towards expanding its influence with pastoral leaseholders with pest plant and animal management education. ODC initiatives carried out in FY25 that align with SAALLB regional priorities are set out below in Table 12.

Table 12: Alignment of OD initiatives with SAALLB Regional Landscape Plan FY25

SAAL Regional Landscape Plan Priority	ODC Aligned Initiatives
Protecting and Enhancing Biodiversity	• Monitoring of water dependent species at GAB springs. • Publishing historic GAB Spring invertebrate data (1995, 2005, 2008, 2011, 2014) to the BDBSA under 'GAB Spring Invert Monitoring'. • Publishing annual GAB spring photopoints 2018 - 2024 to BDBSA and embedding the process into annual data returns. • Publishing DNA sequencing barcodes for threatened and endemic invertebrate species to GenBank. • Ongoing control of pest plant and animal species, including control efforts on pastoral leasehold land. • Embedding process for regional cat DNA samples to Arid Recovery to study the connectedness of feral populations. • Ongoing assessment of impacts to threatened species and ecosystems within the OD operational area. • Baseline biodiversity surveys including Rangelands Assessments and threatened bird species monitoring within Jackboot. Jackboot is a 158,416 ha area north of Emerald Springs SEB that BHP intends to manage for conservation.

1.1.10 Continuous Improvement Opportunities FY25

Limited management of short-term surface rehabilitation has occurred on site due to the small areas involved, planned areas for expansion of the operations, and the low level of risk associated with these areas. Rehabilitation requirements of short-term surface disturbance, permitted under the Olympic Dam LUP System, including backfill areas, sand acquisition facilities, exploration areas, temporary storage facilities, temporary access routes and maintenance facilities. All other rehabilitation requirements are addressed through the Olympic Dam Rehabilitation Strategy.

Opportunity: Implement actions as identified in the Olympic Dam Rehabilitation Strategy.

Ongoing photo point monitoring continued during FY25 at the OD Airport, Hiltaba and Town Dam rehabilitation sites.

Opportunity: Clarify closure risks and assumptions identified in the Olympic Dam Closure Management and Rehabilitation Plan.

The annual review of the OD CMRP did not identify any significant changes to the closure strategy or underlying assumptions. Closure risks are reviewed annually using BHP's risk management methodology for all operational areas, and the accounting provision for closure is recalculated each year. Tailings Storage Facility (TSF) 1-3 closure cover trial continued into execution in FY25, as demonstrated to Regulators during the June 2025 inspection. The cover trial is testing the effectiveness of varying depths of cover materials and seven satellite trial areas testing vegetetation treatments under diffiering conditions.

In addition, the EP closure trial progressed through study activities, primarily characterising the EP material to inform options assessment. Updates will continue to be provided to regulators through engagement forums and CMRP updates.

Considerable work has been undertaken to formalise weed monitoring and management at Olympic Dam.

Opportunity: Continue to undertake a regional approach to weed management through the coordination of annual workshops with Arid Recovery, Roxby Downs Council, Kingoonya Landscape Group and relevant pastoralists and contractors.

Ongoing collaboration throughout the OD operational area has continued in FY25. The OD Environment Department secured social investment funding to engage a contractor sprayer to control buffel grass on community land. Community stakeholders including Roxby Dirt Circuit, Roxby MotoX, Roxby Dirt Karts, Andamooka Progress and Opal Miners Association, Andamooka Sporting Shooting Association, and Arid Recovery benefited from the collaboration.

Opportunity: Contribute to a regional database, in collaboration with the wider SAAL Landscape Group to record areas of known weed infestations and management actions.

OD has continued its contribution of pest plant data to the public domain through the BDBSA annual data returns under SU1235 OLYMPIC DAM PEST PLANTS.

Declared plant species under the *Landscape South Australia Act 2019* are present on ODC owned land within the Roxby Downs township (e.g. Buffel Grass).

Opportunity: Implement highest standard of vehicle hygiene in collaboration with the SAAL Landscape Board where development is planned in known weed infestation locations.

Vehicle hygiene requirements and conditions for vehicle and plant access continued to be implemented via the OD internal LUP procedure.

Opportunity: Continue to progress control of Buffel Grass within the SML and Roxby Downs Municipality through ongoing control in the weeks following rain.

Continued on-ground weed control activities implemented during FY25 as discussed in Section 1.1.5.

Opportunity: Actively engage with SAAL Landscape and implement actions from the State Buffel Grass Strategic Plan: 2019 to 2024 where appropriate.

None applicable.

Opportunity: Continue to improve community and BHP employee knowledge about the impacts of pest plants and animals in the Roxby Downs region.

Annual pest plant toolbox materials were distributed to BHP staff and contractors in FY25. Information covered identification of common weeds in the OD region, why they are a threat and how to manage these weeds.

1.2 Aquifer Level Drawdown

1.2.1 Environmental Outcome

No significant adverse impacts to existing third-party users' right to access water from within the GAB wellfield Designated Areas for the proper development or management of the existing use of the lands as a result of ODC activities.

No significant adverse impacts to existing third-party users' right to access water from within the GAB wellfield Designated Areas for the proper development or management of the exisitng use of the lands as a result of ODC activities occurred in FY25.

Generally drawdown and percentage wellhead pressure loss at pastoral bores remains less than the predicted long-term impact as presented in the EIS (Kinhill Engineers 1997, updated Golder Associates 2016).

No significant adverse impacts to the availability and quality of groundwater to existing Stuart Shelf third-party users as a result of groundwater drawdown associated with ODC activities.

No significant adverse impacts to the availability and quality of groundwater to existing Stuart Shelf third-party users as a result of groundwater drawdown associated with ODC activities occurred in FY25. Regional groundwater levels and quality are stable.

No significant adverse impact on groundwater-dependent listed species or ecological communities as a result of groundwater drawdown associated with ODC activities.

Drawdown remains less than the predicted long-term impact and was within compliance criteria limits for FY25. Environmental flow rates at GAB springs remained above predicted long-term impacts as presented in the EIS (Kinhill Engineers 1997, updated Golder Associates 2016). Monitoring showed no indication of a significant adverse impact on groundwater-dependent listed species or ecological communities as a result of groundwater drawdown associated with ODC activities (see Section 1.2.4).

1.2.2 Compliance Criteria

A 4 m drawdown limit at the point on the designated area for Wellfield A that is mid-way between GAB8 and HH2 based on the 12-month moving average.

At the end of FY25 average drawdown between GAB8 and HH2 was 1.3 m (BHP Olympic Dam 2025a).

A 4 m drawdown limit for Wellfield B at the point between monitoring bores S1 and S2 (measured as the average drawdown of the two bores) and based on the 12-month moving average.

At the end of FY25, the average drawdown between S1_New and S2 was 0.1 m (BHP Olympic Dam 2025a). The pressure monitored in S1_New, a replacement of the failed S1 bore, is considered representative of the aquifer and analogous to S1.

A drawdown footprint for Wellfield B, measured as the area contained within the 10 m drawdown contour, that is less than or equal to 4,450 km^2.

At the end of FY25, the area contained within the 10 m drawdown contour line was 4,010 km^2 (BHP Olympic Dam 2025a).

No material change in the availability and quality of groundwater at existing bores in the Stuart Shelf area operated by third-party users.

Monitored water levels and quality in the Stuart Shelf area are consistent with historical levels, and do not indicate any change in the availability of groundwater at existing third party users (see sections 1.2.7 and 1.2.8).

1.2.3 Leading Indicators

A drawdown trend at monitoring bore S1 that may exceed 4.5 m in the next 12 months.

The drawdown monitored at S1_New, a replacement of the failed S1 bore, is 0.8m in FY25 therefore is not showing a trend of exceedance of 4.5 m in the next 12 months (BHP Olympic Dam 2025a).

A drawdown footprint for Wellfield B, measured as the area contained within the 10 m drawdown contour that is greater than 4,000 km^2.

At the end of FY25, the area contained within the 10 m drawdown contour line was 4,010 km^2 (BHP Olympic Dam 2025a), higher than the leading indicator.

A hydraulic gradient between wells in the NESB and HH2 exceeding 0.0009 m/m calculated as the six-monthly moving mean hydraulic gradient between HH2 and NESB wells GAB7, GAB8, GAB10, GAB11 and GAB19.

The FY25 hydraulic gradient between wells in the North-East Sub-Basin (NESB) (GAB7, GAB8, GAB10, GAB11, and GAB19) and HH2 remained above or equal to the leading indicator of 0.0009 m/m (6 month moving average) by the end of the reporting period, with a local repressurisation of the aquifer occurring between September and March (BHP Olympic Dam 2025a).

A combination of the following factors that can be attributed to water extraction from Wellfields A and B:

- **Evidence that flow reductions at GAB springs in the vicinity of the wellfields may exceed the predictions made in the Olympic Dam Environmental Impact Statements of 1982 and 1997.**

  GAB spring flow reductions did not exceed the predictions made in the OD EIS' of 1982 and 1997.

- **Evidence of water quality change (measured as pH or conductivity) at GAB springs.**

  The increasing trend observed at Bopeechee HBO007 did not continue in FY25, rather salinity has moved back to expected levels.

  The decreasing salinity trend observed since the mid 2000's continued at a reduced rate at Old Finniss HOF033 in FY25.

- **A continuing drawdown trend at GAB pastoral bores that may exceed the predictions of the Olympic Dam Environmental Impact Statement of 1997.**

  In general, drawdown at pastoral bores remains less than the predicted long-term impact as presented in the EIS (Kinhill Engineers, 1997, updated Golder 2016). Maximum drawdown (20.7 m) was at Muloorina in FY25 (BHP Olympic Dam 2025a). In FY25 Wellfield B abstraction was 4.8 % more than during FY24 and a 14.9 % decrease for Wellfield A, consistent with processing demand requirements and offsets a reduction of abstraction from Wellfield A.

- **A drawdown trend or changes in groundwater quality in the Stuart Shelf area that may impact on existing third-party users.**

  No drawdown trend or changes in water quality were detected in FY25 that could impact on existing third-party users. There are no third-party groundwater users within 45 km of the OD mining lease. Data presented in Sections 1.2.7 and 1.2.8 of this report demonstrates no drawdown trend or changes to groundwater quality within the Stuart Shelf area.

1.2.4 Deliverables (FL 3.2)

An evaluation of the composition of vegetated wetlands within the GAB springs.

In FY25 GAB spring flora monitoring was completed in August 2024. During FY25, flora monitoring of 111 GAB springs was undertaken. In total, 32 flora species were observed. The greatest number of species observed on one spring was 10 at LGS006, while the least number of flora species observed on one spring was one at HDB005 *(Cyperus laevigatus)*; HHS101 *(Phragmites australis)* and HHS170 *(Phragmites australis).* No species were recorded on WWS013 and this spring was removed from analyses.

BHP engaged 2Rog Consulting to complete a comprehensive review of the GAB spring flora monitoring program design and analysis. The field methodology is unchanged, while a new statistical design has been adopted to better suit the long-term community dataset (FY17 – current (FY25)). Frequency of occurrence data for all species identified across all springs was collated for multiyear analysis. Springs where no data has been collected in a particular year were removed from analyses. Individual springs were assigned to hydrogeological zones per the Monitoring Program – Great Artesian Basin and patterns analysed at the zone level using mean values. Using a Bray-Curtis dissimilarity matrix, data was analysed using permutational analysis of variance (PERMANOVA) to identify any statistically significant differences in community composition over time, within each zone individually ($\alpha>0.05$; Bonferroni correction for repeated comparisons applied). Where significant differences were found among years within zones, a similarity percentage (SIMPER) analysis was conducted to identify the species contributing to at least 70 % of the observed variation between years.

PERMANOVA conducted within zones among years shows that there has been no statistically significant change in community composition over time except in the South West zone where community composition in FY17 differed from community composition in FY18; FY19; FY20; FY21; FY22; FY23 and FY25. All other years do not differ from each other. SIMPER analysis indicates that this difference is driven by five taxa: *C. laevigatus; Fimbristylis dichotomoa; Machaerina juncea; P. australis* and *Sporobolus virginicus.* In all instances, a decrease in the average frequency of *C. laevigatus* is the strongest driver of difference between years, explaining between 17 and 20 % of the observed variation. Only *C. laevigatus* and *P. australis* consistently contribute to observed differences in community composition in all years where difference is observed. In terms of frequency of occurrence, *M. juncea* is always higher in subsequent years than in FY17 (when it was not recorded at any site, likely mis-identified prior to FY17), although it does not appear as a significant species in every instance (i.e. in the list of species contributing at least 70 % to the observed variation). The other species vary in their occurrence, being sometimes more frequent and sometimes less frequent in later years than in FY17 (Figure 13). Other than the consistently lower frequency of *C. laevigatus* in FY18; FY19; FY20; FY21; FY22; FY23 and FY25 compared to FY17, there is no discernible pattern driving this difference (Figure 17).

Analysis of community composition and species occurrence over nine years of monitoring (FY17 – FY25) indicate that there have been few statistically significant changes in vegetation community composition over time. The differences in community composition noted between FY17 and other years in the South West hydrogeological zone do not appear to indicate environmental degradation. Changes in frequency of occurrence of these species are variable over time (except for *M. juncea*) and do not appear to represent either consistent increases or declines in population. The observed statistical difference may reflect natural variation or may be an artefact of differing sampling processes or data collection in FY17.

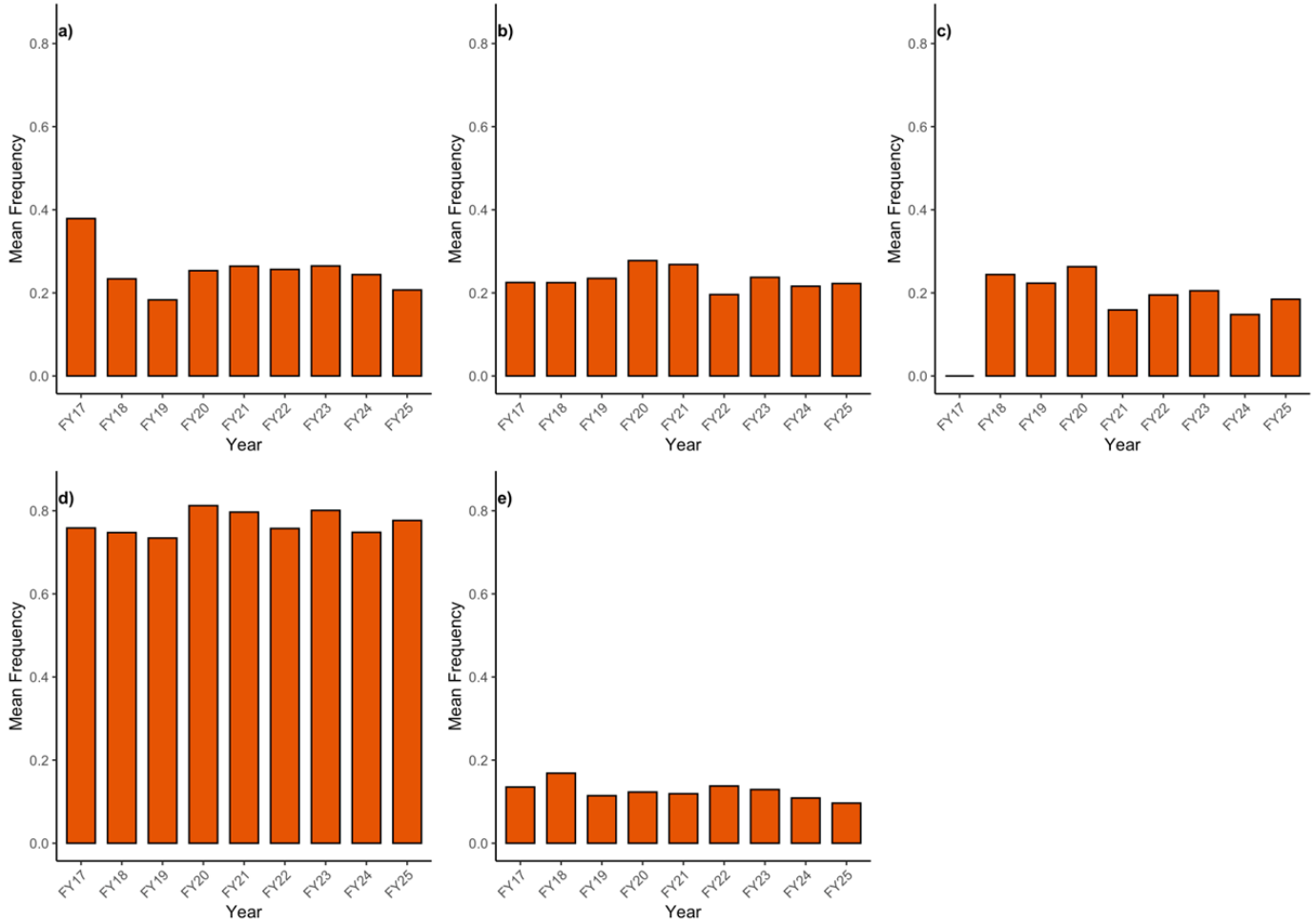


Figure 13: Mean frequency over time of a) *Cyperus laevigatus* b) *Fimbristylis dichotomoa* c) *Machaerina juncea d*) *Phragmites australis* e) *Sporobolus virginicus*

A comparison of the abundance and distribution of *Eriocaulon carsonii* subsp*. carsonii*, per impact zone, with previously reported values, to determine any impacts to GAB springs.

Eriocaulon carsonii subsp. *carsonii* was found at 22 springs in the Hermit Hill, North-East and Western Lake Eyre South spring complexes in FY25 and occurred on both spring vents and tails. This is the same number of springs that the species has been detected at in the last three years. In FY22 it was recorded at 24 springs (greatest) and in FY18 at 18 springs (lowest) since FY17 (Table 13). The individual springs where *E. carsonii* subsp. *carsonii* was detected over the years has varied somewhat. However, the species continues to be present in the same hydrogeological zones. *E. carsonii* subsp. *carsonii* is cryptic in nature and easily obscured by thick growth of other species, particularly *P. australis.* Data for *E. carsonii* subsp. *carsonii* was subset from the main dataset and analysed to detect differences over time in frequency of occurrence of *E. carsonii* subsp. *carsonii* at springs where it has occurred at least once since FY17. In the three zones where *E. carsonii* subsp. *carsonii* has been detected, there is no significant difference in the mean frequency of occurrence within each zone over time ($p>0.5$) (Figure 14). The data indicate that frequency of occurrence of *E. carsonii* subsp. *carsonii* is unchanged over time. Overall, analyses indicate that BHP ODC operations have not significantly impacted the size of an important population of a community of native species dependent on natural discharge of groundwater from the GAB, including *Eriocaulon carsonii* subsp. *carsonii.*

Table 13: *E. carsonii* subsp. *carsonii* detection over time

Zone	Spring	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25
South West	HHS028	X	X	X	X	X	X	X	X	X
	HHS033	X	X	X	X	X	X	X	X	X
	HHS035	X	X	X	X	X	X	X	X	X
	HHS072						X			
	HHS074	X				X	X	X	X	X
	HHS075						X			X
	HHS077	X	X	X	X	X	X	X	X	X
	HHS78	X	X	X	X	X	X	X	X	X
	HHS116	X	X	X	X	X	X	X	X	X
	HHS119	X	X	X	X	X	X	X	X	X
	HHS121	X	X	X	X	X	X	X	X	X
	HHS122	X		X	X	X	X	X	X	X
	HHS123	X	X	X	X	X	X	X	X	X
	HHS131	X	X	X	X	X	X	X	X	X
	HHS150A	X	X	X	X	X	X	X	X	X
	HHS154					X	X	X		
	HHS155	X	X	X	X	X	X	X	X	X
	HHS172							X	X	X
	HHS173						X			
	HHS182								X	
	HHSfenl	X	X	X	X	X	X	X	X	X
	HNWlawn		X	X	X	X	X	X	X	X
North East	HSS012	X	X	X	X	X	X	X	X	X
	HWF043	X	X	X	X	X	X	X	X	X
Western Lake Eyre South	LGS002	X	X	X	X	X	X	X	X	X
	LGS004	X	X	X	X	X	X	X	X	X

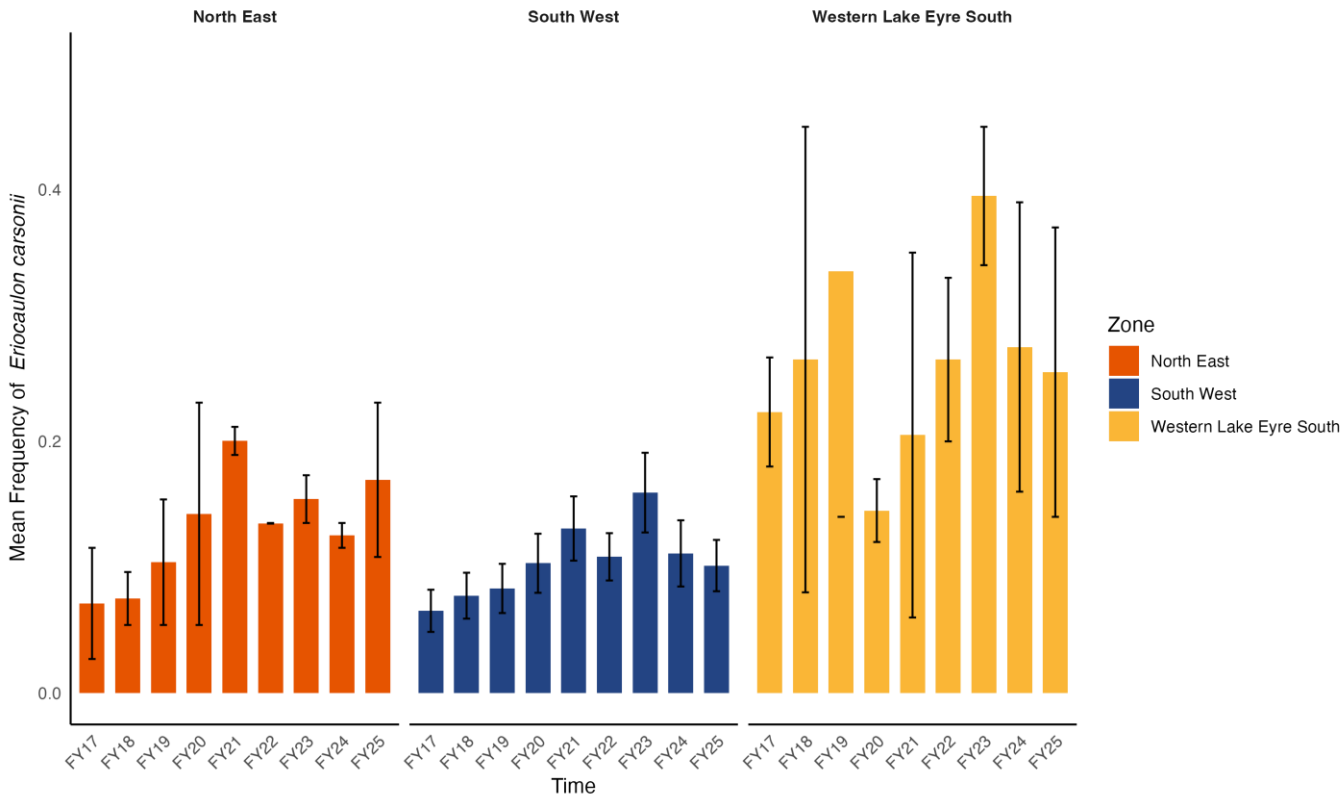


Figure 14: Mean frequency of occurrence of *E. carsonii* subsp. *carsonii* per hydrogeological zone

Comparison of the abundance of Hydrobiid species against baseline data to quantify population change.

Completed in FY24 and next scheduled for FY27.

Triennial qualitative comparison of GAB springs monitoring data incorporating GAB spring flow and GAB springs endemic invertebrate data.

Completed in FY24 and next scheduled for FY27.

1.2.5 Deliverables (GA 3.5)

Collated domestic and industrial water use efficiency data, to assess performance against improvement targets.

In FY25 the GAB Industrial Water Efficiency of the operation was 1.01 kL/t compared to the target of 1.16 kL/t and actual of 1.00 kL/t for FY24.

It is worth noting that the water efficiency for FY25 remains amongst the best recorded over the history of Olympic Dam's operations. This is largely due to the high milled tonnes, however previous years with similar production did not achieve the same efficiency. The efforts of ODC to control water use have therefore contributed to the 1.00 kL/t and 1.01 kL/t figures. This has been achieved by incorporating monitoring of water use into daily production review meetings, to improve understanding of the drivers of water consumption, and to respond quickly to variations.

Historical GAB industrial water efficiency is provided in Figure 15. Domestic water use during FY25 averaged 2.32 ML/d compared to 2.35 ML/d in FY24, below the target of 3.2 ML/d. Historical domestic water use is given in Figure 16.

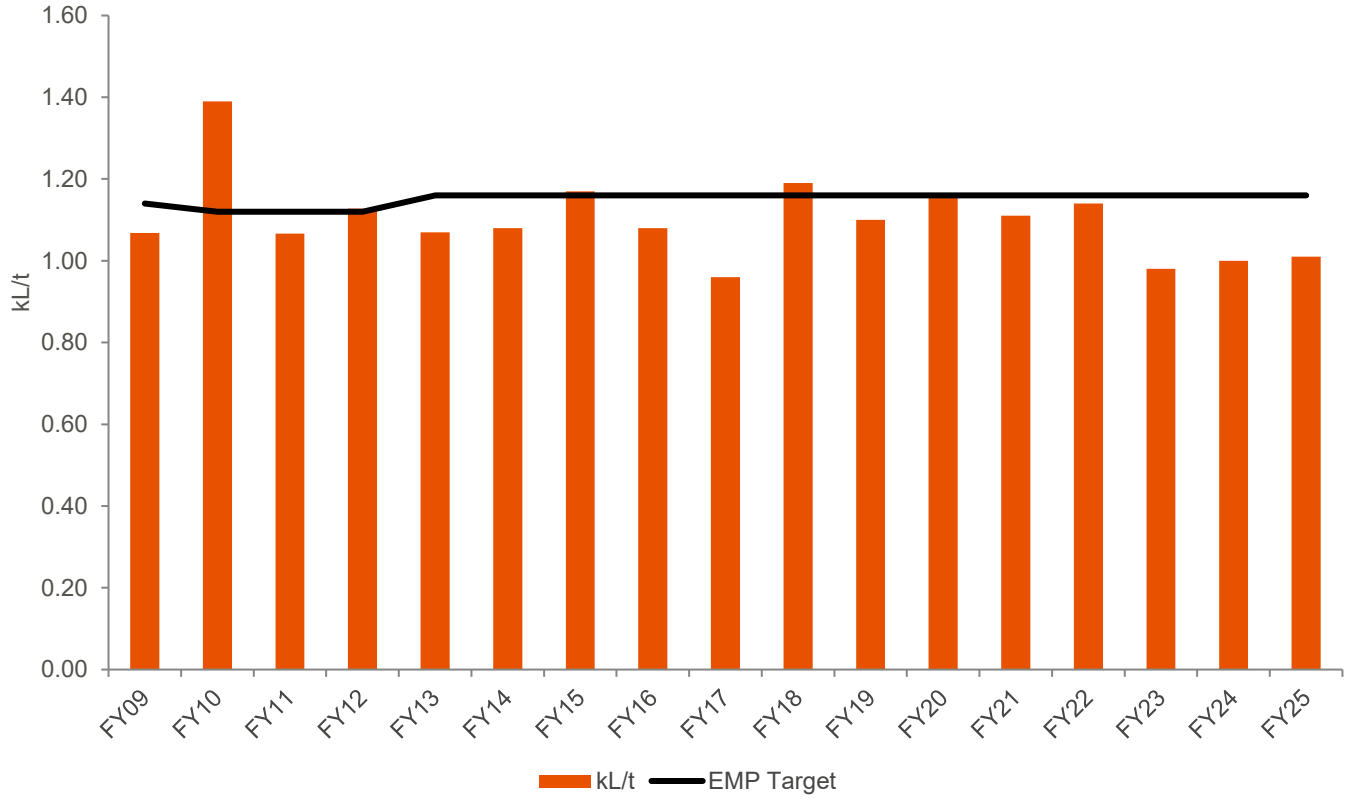


Figure 15: Historical industrial GAB water efficiency

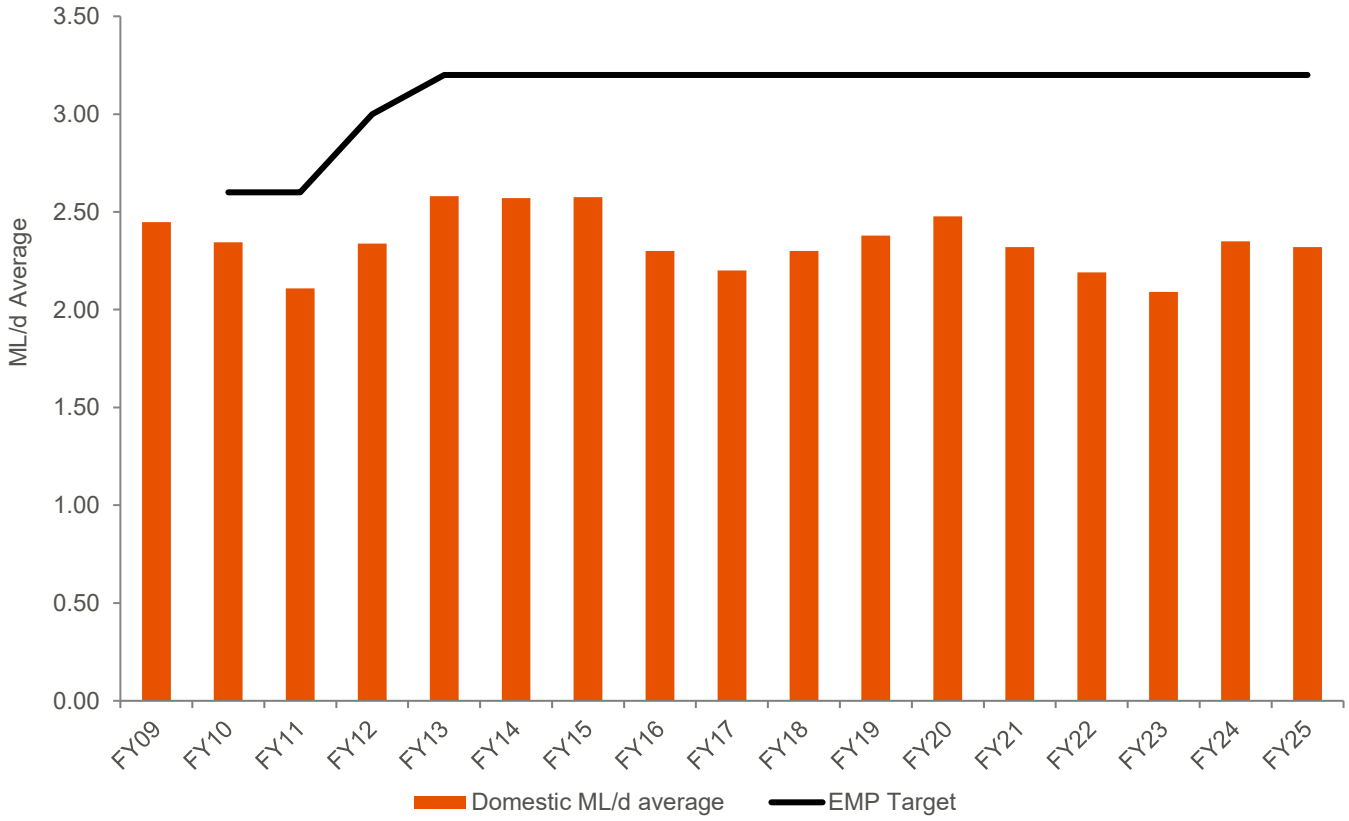


Figure 16: Historical domestic water use

Note: There was no target in FY09

Ten-year water use schedule to be submitted to the Indenture Minister by 1 January annually.

The current 10-year water use schedule, as submitted to the Minister for Energy and Mining in December 2024, is presented in Appendix 6 of the FY25 Annual Wellfields Report (BHP Olympic Dam 2025a). An updated schedule will be provided by the 1st of January 2026.

Since the 5 ML/d limitation was implemented (November 2020) for Wellfield A, the annual abstraction has averaged 3.7 to 4.4 ML/d. This highlights that, under normal production conditions, the 5 ML/d limit for Wellfield A will not be reached over a year, due to both planned and unplanned downtime.

The 10-year water forecast is prepared with a static view of water demand and supply. BHP actively manage abstraction from the GAB borefields by monitoring aquifer performance and balancing operational water requirements across the borefields and local saline sources.

The sources required for operational water demand from 2031 and beyond have not yet been scoped. BHP are actively working with the South Australian Government considering potential water sources for Copper SA operational water demand from 2031.

1.2.6 Deliverables (GW 3.1)

A review of abstraction rates and trends, and an assessment with respect to groundwater levels.

Saline water was abstracted from the Arcoona Quartzite throughout FY25 from the Saline Wellfield located south of the Mine offices. Additional saline water was sourced from the Andamooka Limestone aquifer within the vicinity of the TRS facility to manage underground seepage rates.

Some of this saline water was used in construction projects throughout the operations. A portion of the water from the saline borefield was treated with a reverse osmosis hire plant such that the permeate was at process water quality and added to process water storages to reduce the volume of GAB water required. Where the water was of lower salinity, it could be added directly to process water storages; this collectively reduces GAB requirements. The remainder was discharged to the mine water disposal pond for evaporation. An average of 4.1 ML/d was abstracted over the period, compared to 3 ML/d during the previous financial year (Figure 17).

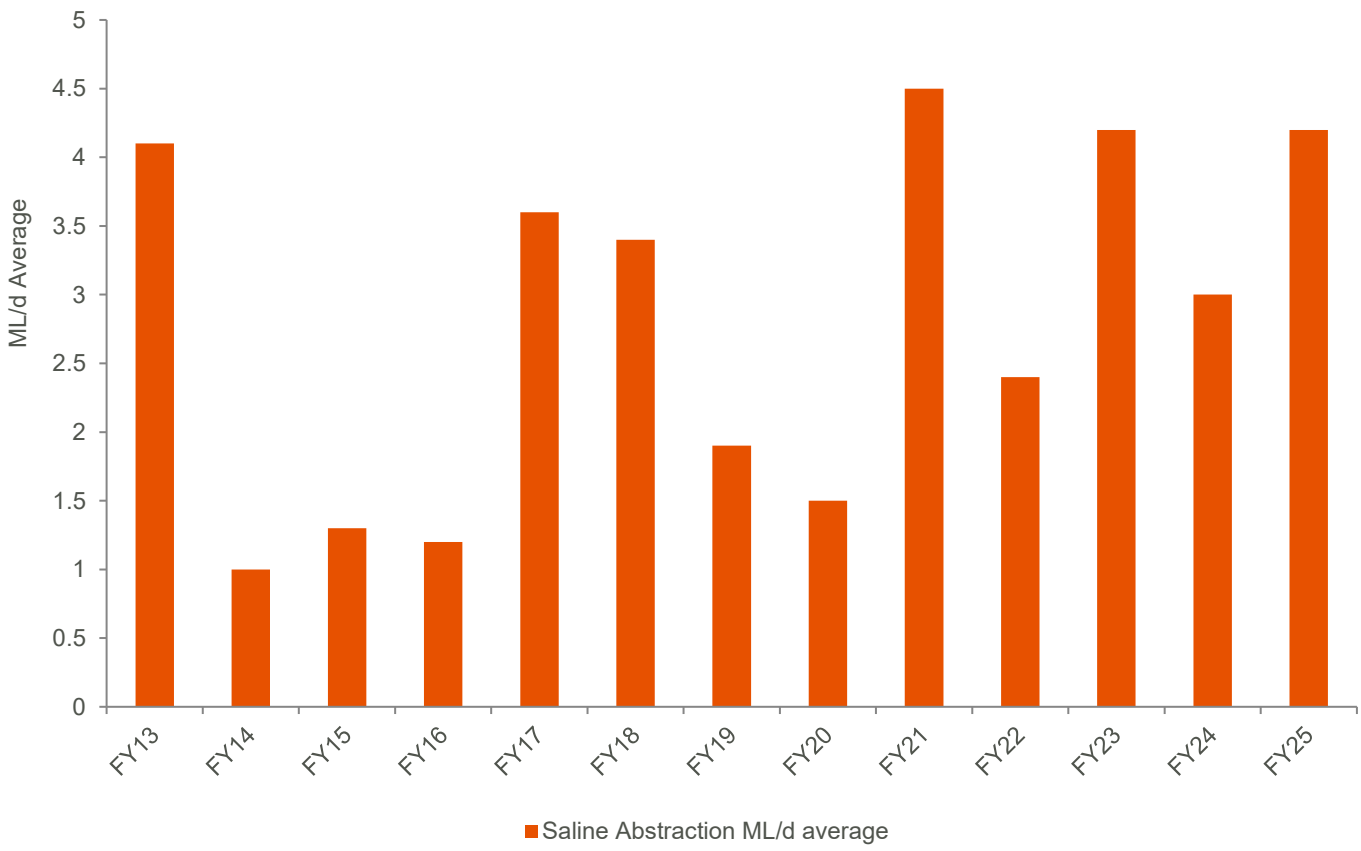


Figure 17: Historical saline abstraction rates (ML/d)

A definition and map of the underground mine water balance.

The mine water balance is a summary of the volume of water going into and out of the underground mine. It includes saline water abstracted from local bores that is added to surface storages and used around site. The balance (Figure 18) is generated from a combination of measured, derived, and estimated data.

An estimate of the volume of groundwater discharge to underground.

Groundwater inflow to the mine occurs at several intersections with the underground operations. Total natural inflow is estimated to be approximately 6.5 ML/d, the majority entering via upcast raise bores. Additional natural inflow comes into the mine via other entry points, including downcast raise bores, exploration drill holes and shafts. Much of the total inflow to the mine is transported to the surface as ore content or exhausted to the atmosphere as aerosols or moisture-laden air via upcast raise bores, estimated at around 4.6 ML/d.

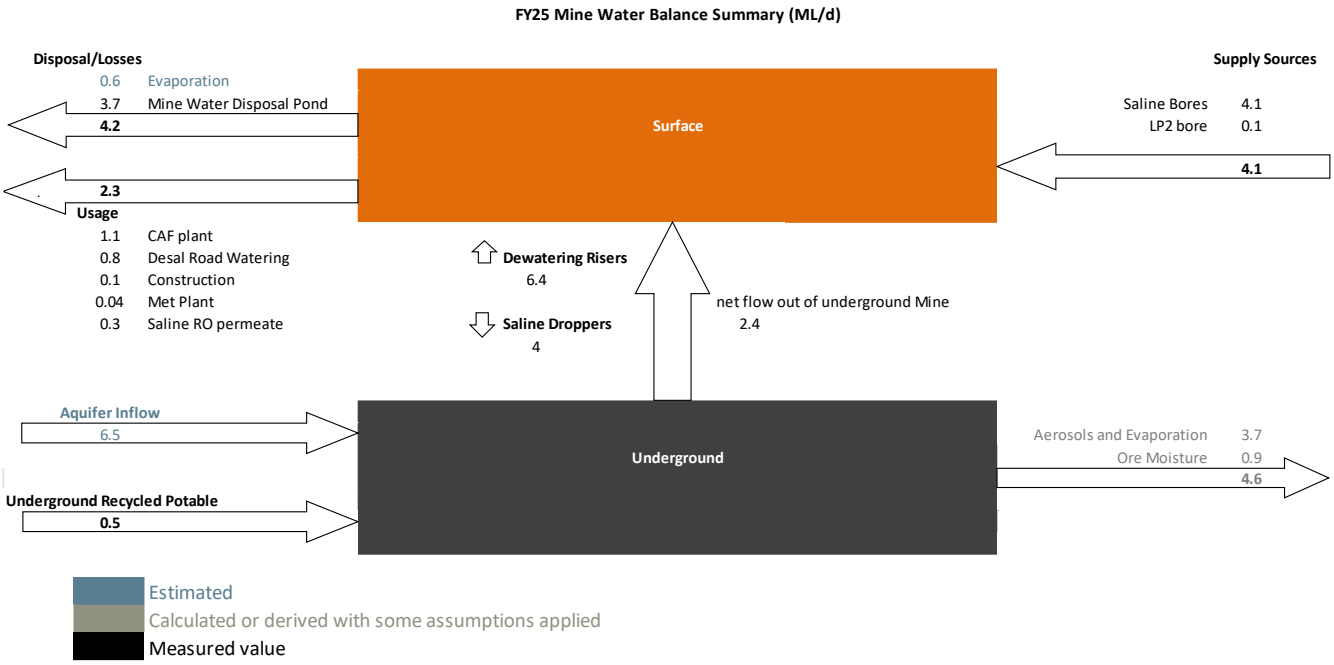


Figure 18: FY25 Saline (Mine) water balance summary (ML/d)

Note: Totals may differ from individual values due to rounding.

1.2.7 Deliverables (GW 3.2)

A review of the trends in local and regional groundwater levels and a comparison with historical groundwater levels.

The Olympic Dam groundwater monitoring network is shown in Figure 19 and Figure 20. The groundwater cross section (Figure 21) and hydrograph (Figure 22 and Figure 23) show limited changes in groundwater levels beneath the TSF between June 2024 and June 2025. All groundwater levels remain below the leading indicator of 70 mAHD and compliance criteria of 80 mAHD.

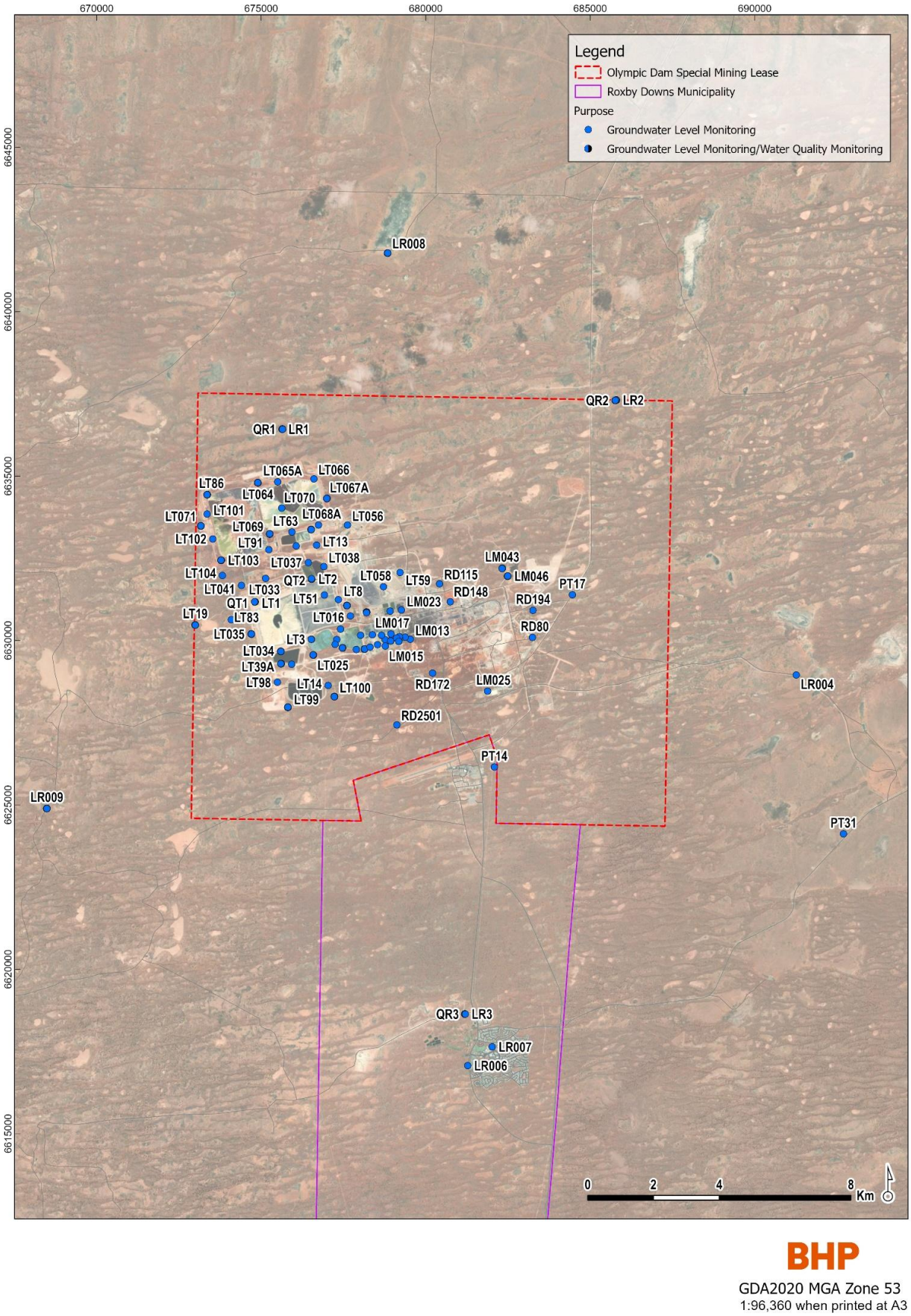
The maximum groundwater level recorded below the TSFs for the current reporting period was 69.88 mAHD at LT67A (Figure 23) adjacent to TSF5. Should the rising trend at LT67/LT67A be expected to exceed the compliance criterion then a dewatering project will be implemented. Currently, groundwater levels are rising slowly and not expected to exceed the compliance criteria of 20 m below the ground surface (80 mAHD).

Groundwater level contours in the Andamooka Limestone aquifer beneath the perimeter of the TSFs (Figure 24) have remained relatively consistent. There is an overall continued rise in groundwater levels beneath TSF5 (Figure 23) which can be attributed to the ongoing use of this facility; however, all groundwater levels outside of the TSF5 perimeter are below the compliance limit of 80 mAHD. Both wells LT65A and LT67A are rising slowly; this slow rise, and drop from FY22, is likely due to the vuggy nature of the limestone aquifer beneath the TSF. As noted

above, a project to manage the groundwater level rise has been developed and the water level in this area will continue to be monitored and managed to maintain compliance with agreed compliance levels.

Groundwater levels for bores in the vicinity of the underground mine (Figure 25) continue to show overall depressurisation of the geological units, consistent with ongoing mine depressurisation activities. Limestone aquifer bores in the vicinity of Roxby Downs (Figure 26) demonstrate generally stable groundwater levels during FY25. LM43 and LM46 observed groundwater levels remain relatively steady due to continued minimal discharge of water to the mine water disposal pond.

Historical monitoring indicates steady groundwater levels over time with no overarching trends that would indicate material change in the availability at existing bores in the Stuart Shelf area operated by third-party users (Section 1.2.2).



BHP

GDA2020 MGA Zone 53
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Figure 19: Olympic Dam's local and regional groundwater monitoring network

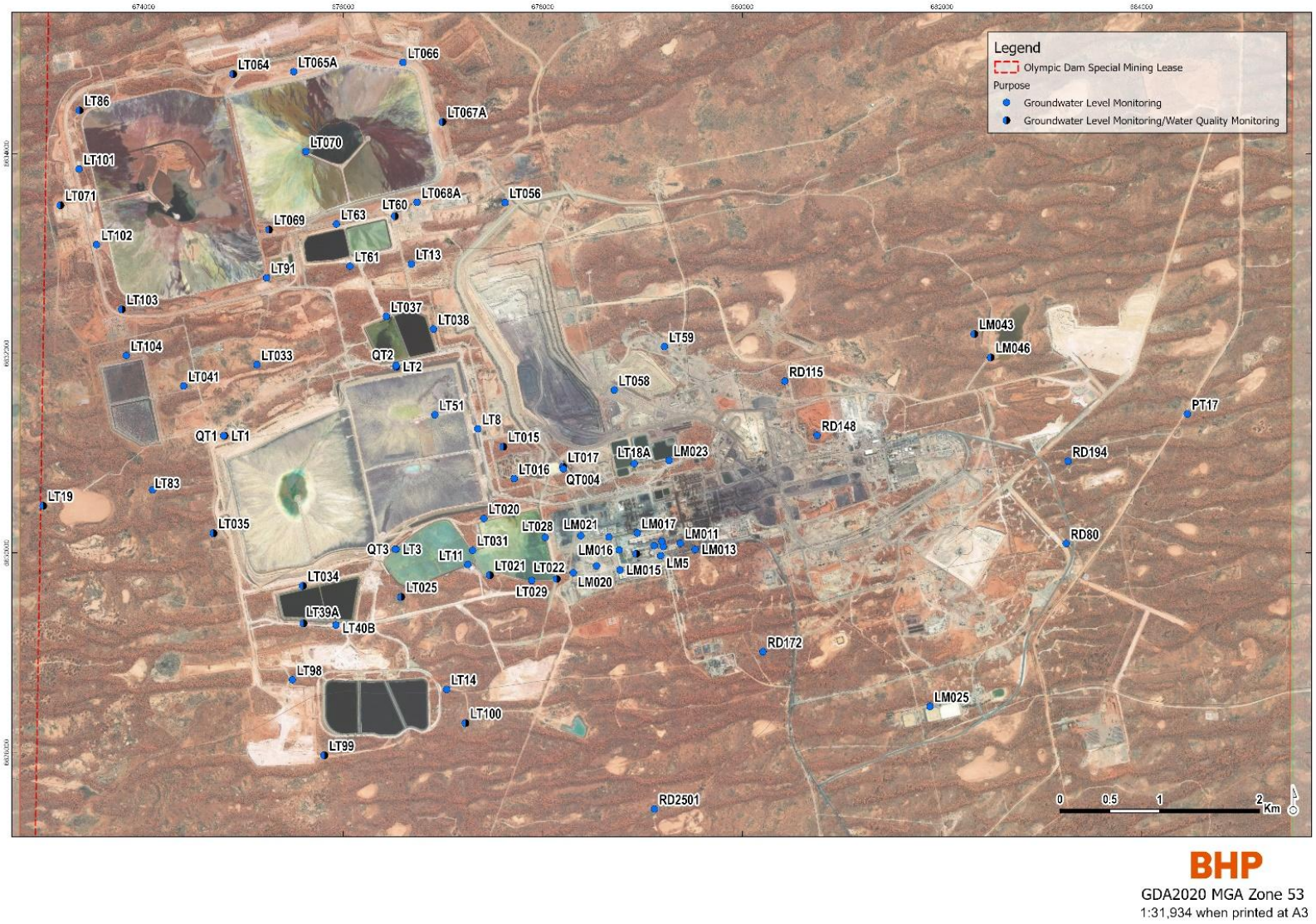


Figure 20: Groundwater monitoring sites within the Special Mining Lease

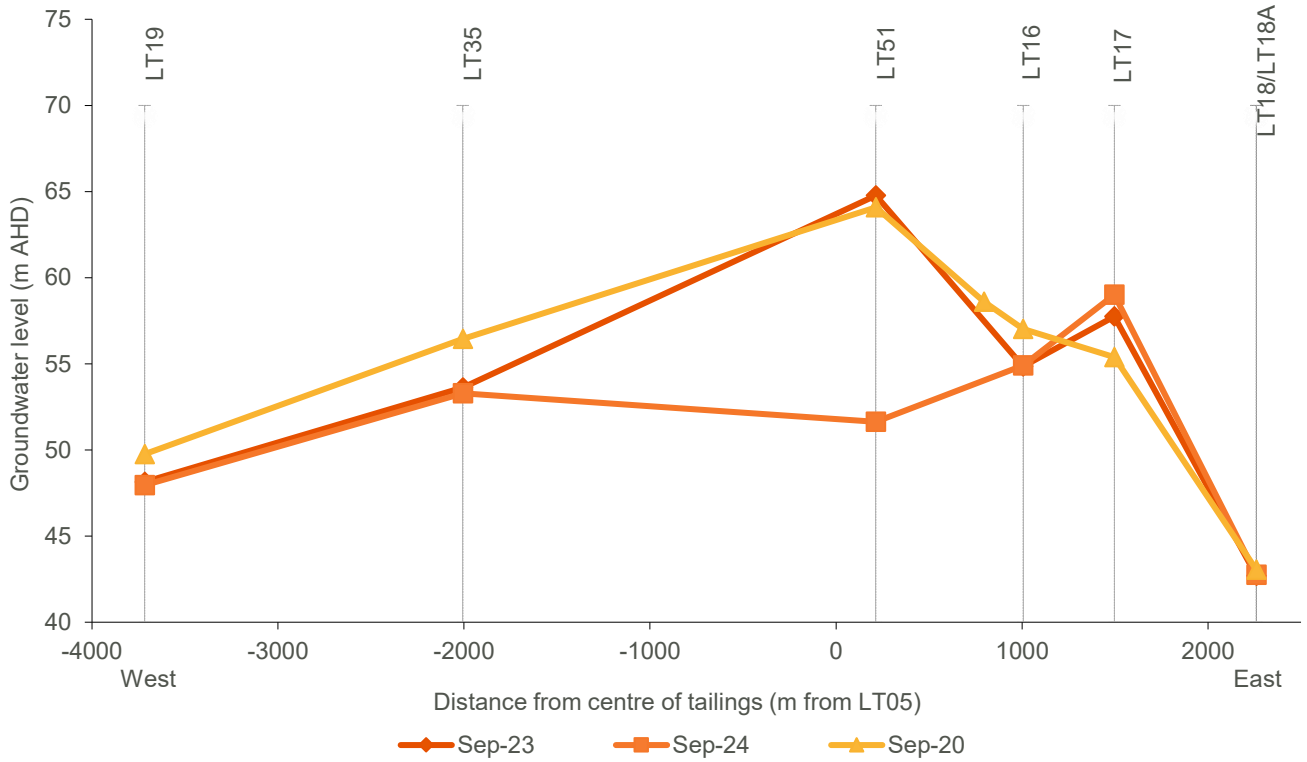


Figure 21: Change in groundwater elevation along an east-west cross-section from LT19 to LT18A, through the centre of the TSF

Note: September 2020 used for comparative purposes.

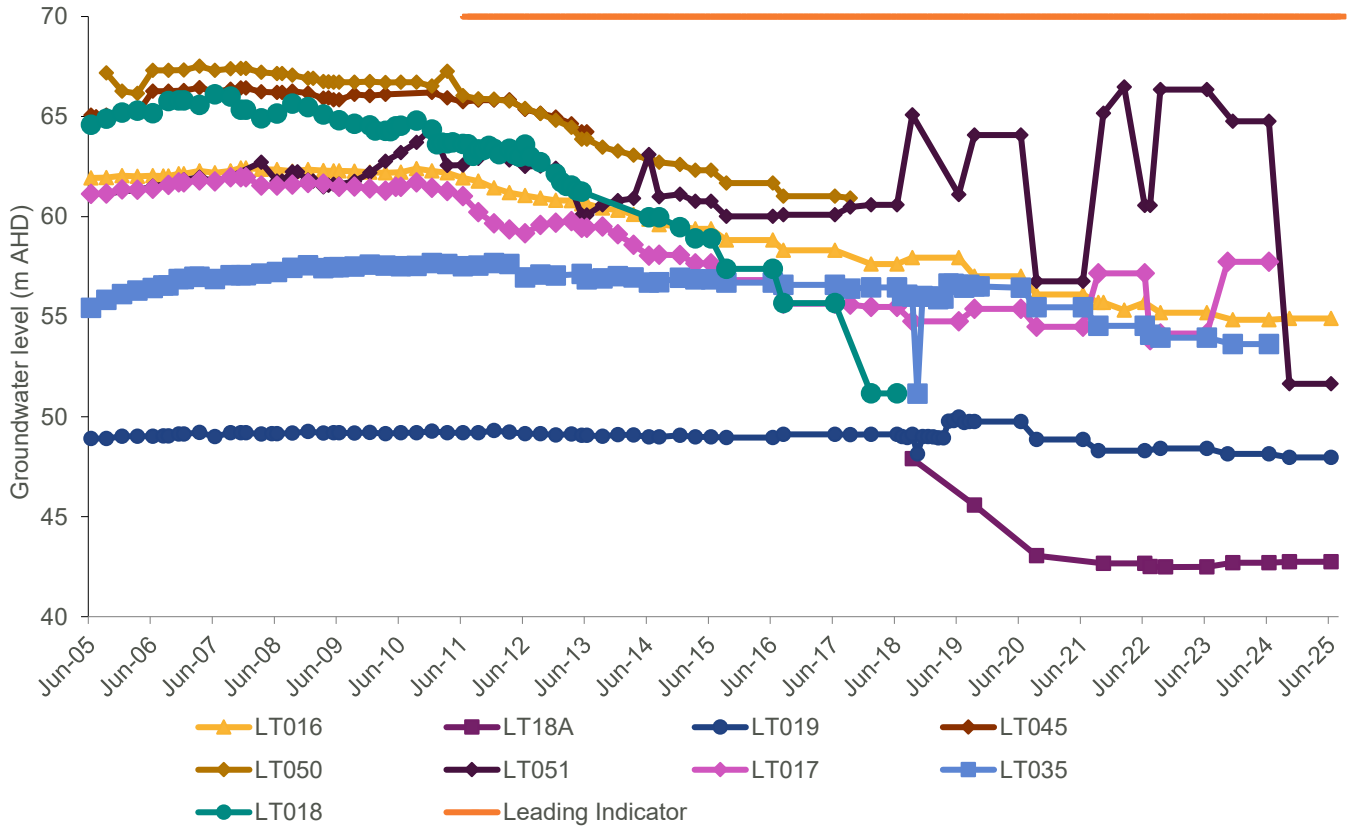


Figure 22: Groundwater levels for Andamooka Limestone bores in the vicinity of the TSF

Note: Leading Indicator commenced FY11

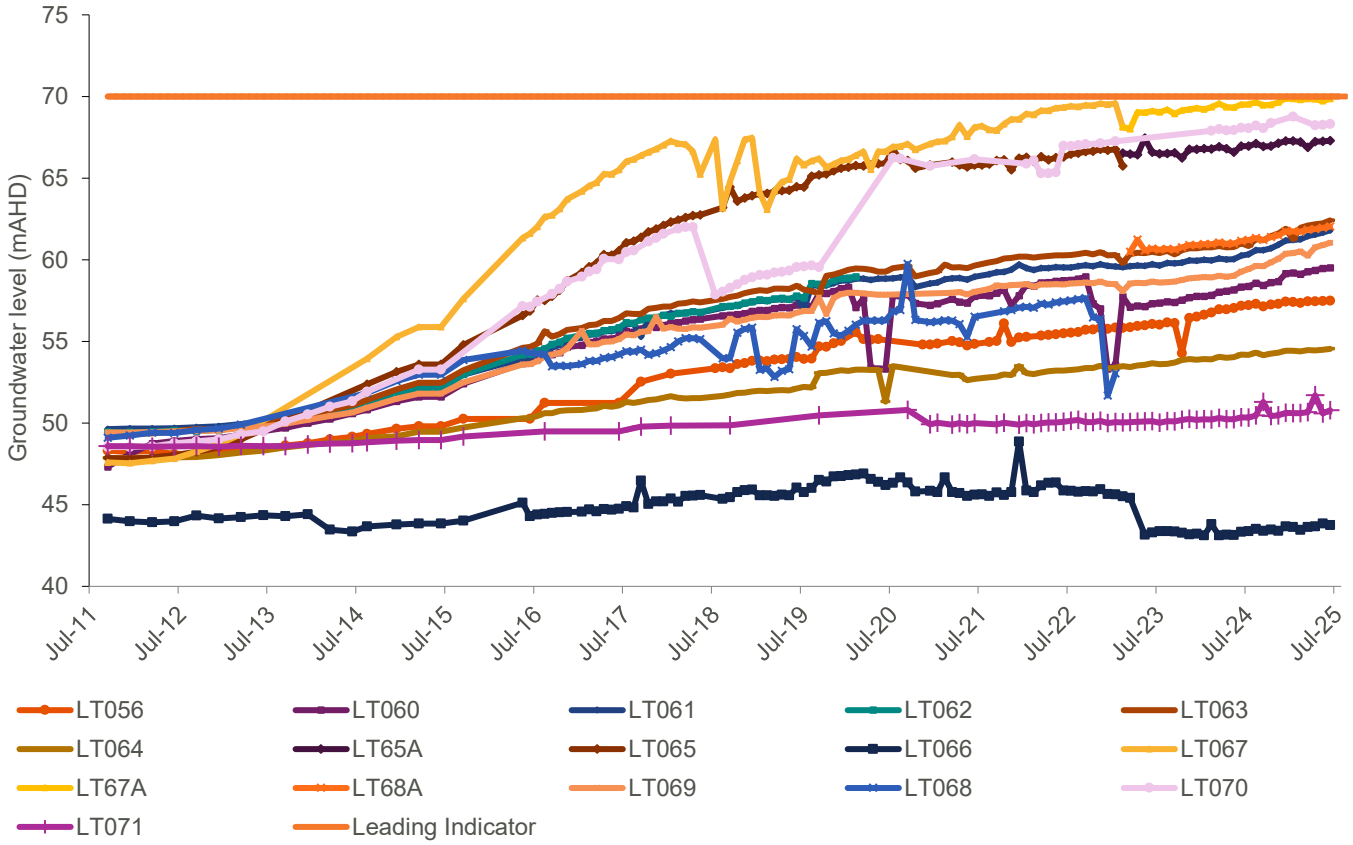
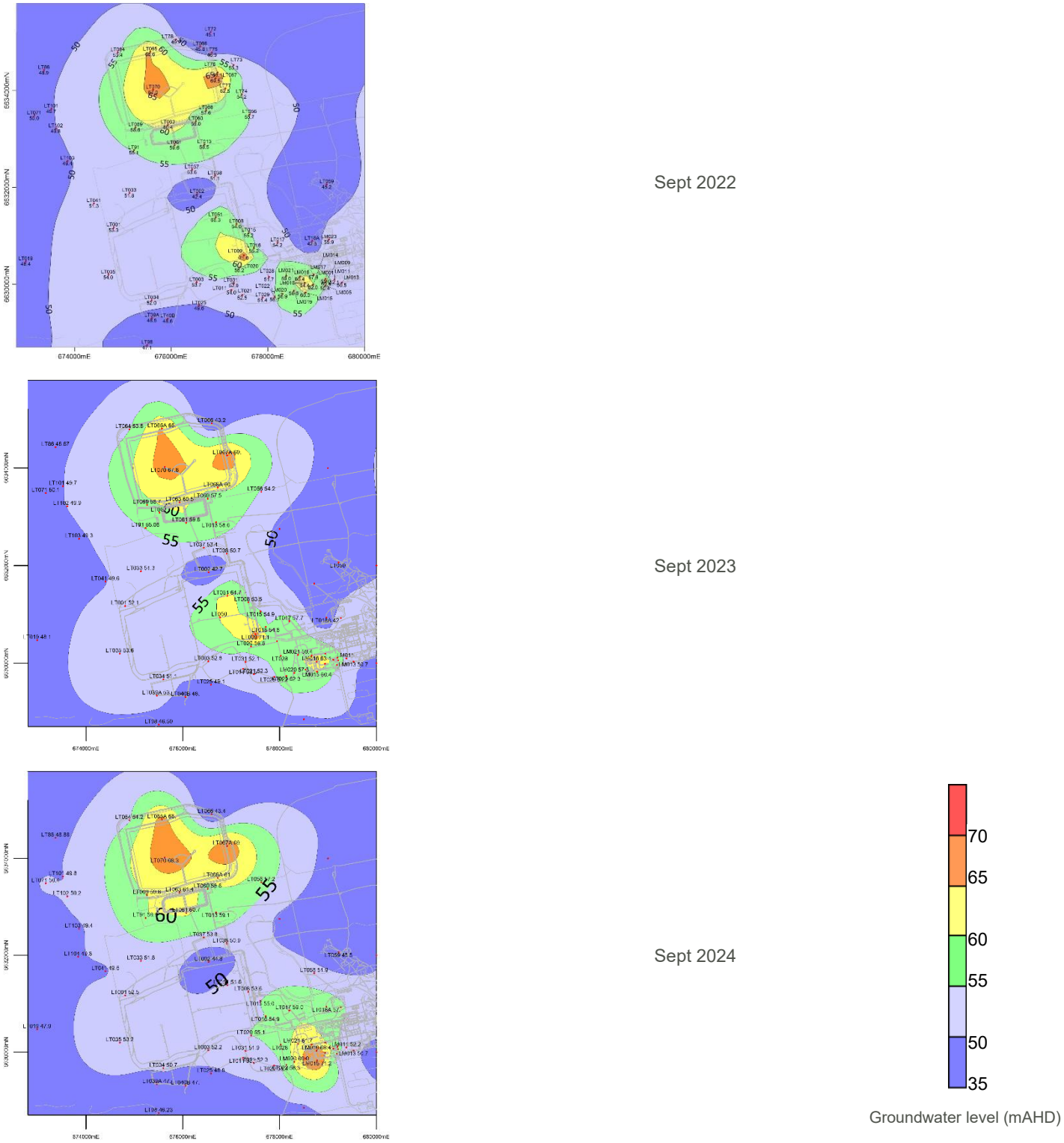


Figure 23: Groundwater levels for bores in the vicinity of TSF5



Datum: GDA94 Projection: MGA94 Zone: 53

Figure 24: TRS area groundwater levels (mAHD) Andamooka Limestone Aquifer (compliance criteria 80 mAHD)

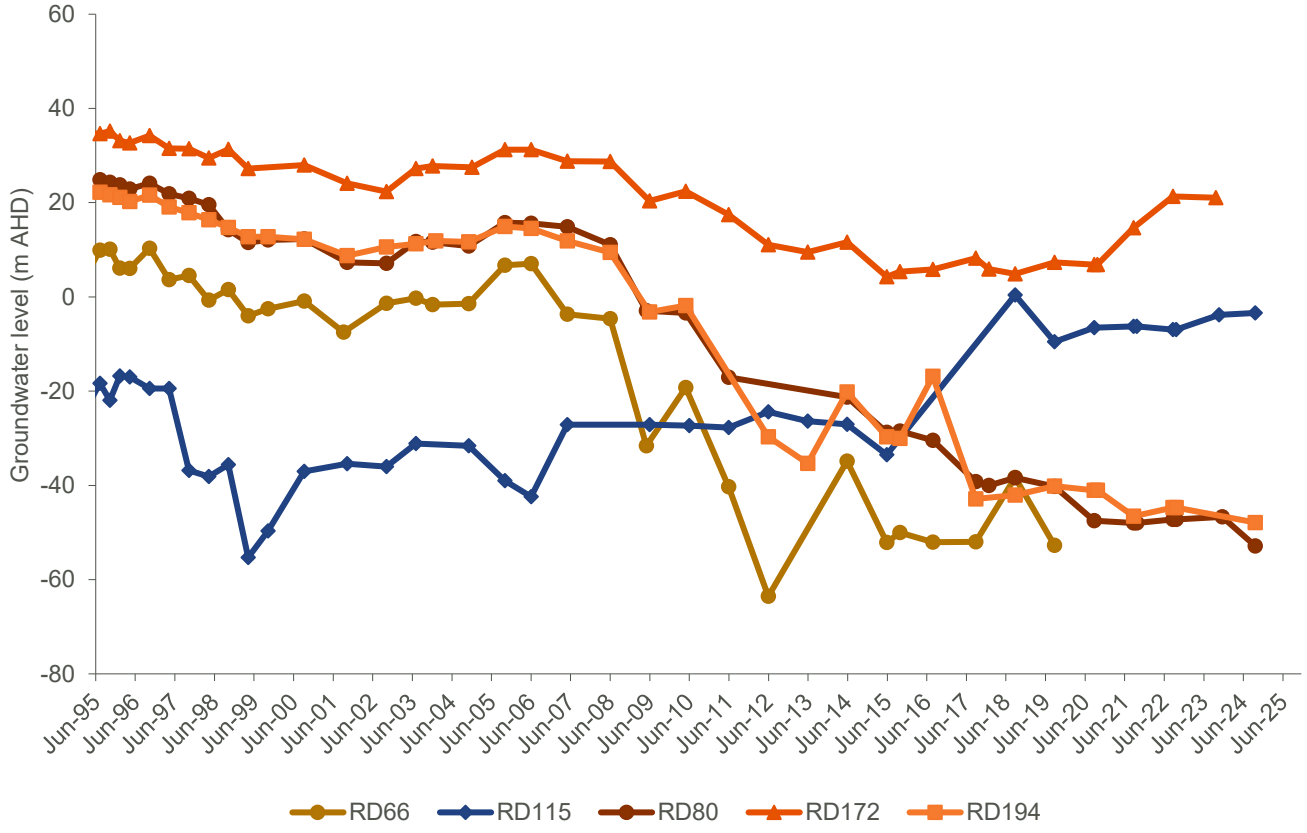


Figure 25: Groundwater levels for exploration drill holes in the vicinity of the underground mine

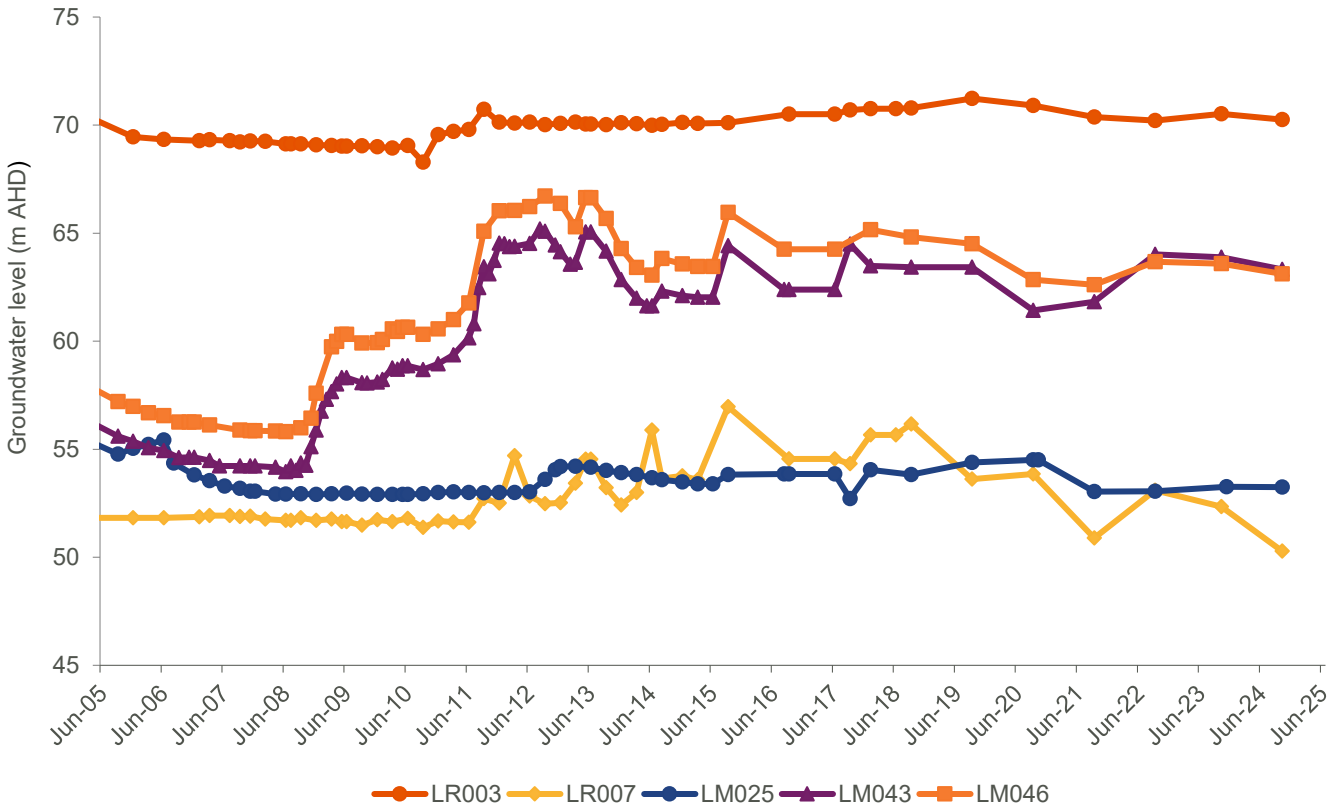


Figure 26: Groundwater levels for Andamooka Limestone bores in the vicinity of Roxby Downs (LR) and proximal to the Mine Water Pond (LM)

Data showing the tracking of trends towards leading indicators for groundwater impacts, and an alert to management when levels approach the leading indicators.

Data for groundwater level was collected, with a discussion of results in Section 1.2.7 showing that leading indicator trigger levels were not reached.

1.2.8 Deliverables (GW 3.3)

A review of trends in groundwater quality and a comparison to ANZG criteria.

Groundwater in the vicinity of the Olympic Dam operation occurs at depth and is highly saline making it unsuitable for human or livestock consumption and largely inaccessible. The local groundwater does not meet any of the beneficial use categories listed under ANZG guidelines. Groundwater salinity has generally remained stable and within the range that could be reasonably expected for natural variation within the aquifer.

Total dissolved Solids (TDS) from monitoring bores around the base of the TRS facility ranged from 12,300 mg/L at LT22 to 67,000 mg/L at LM43. The TDS from regional monitoring bores ranged from 8,020 mg/L to 25,400 mg/L at LR3 and LR9 respectively. LR3 is located next to the Roxby Downs potable water dam, which was decommissioned in 2023. This dam has previously influenced TDS locally due to historical leakage from the dam of high-quality water. LR9, to the southwest of the SML, is hydraulically up gradient of the mine and representative of aquifer background.

Groundwater pH from monitoring wells around the base of the TRS facility ranged from 7.38 at LT34, to 7.94 at LT22. The pH of regional monitoring bores ranged from 7.04 at LR9 (up-gradient background of the SML) 7.57 at LR8 (down-gradient of the SML) and 7.6 at LR3.

Concentrations of copper in all groundwater monitoring bores sampled during the FY25 monitoring program were detected and reported below ANZG (2018) guidelines for livestock consumption of 0.4 mg/L (Figure 27).

Elevated concentrations of dissolved uranium that exceeds the ANZG livestock guidelines were detected in 5 bores on the SML (LT1 (0.3 mg/L), LT21 (0.2 mg/L), LT25 (0.42 mg/L), LT64 (0.42 mg/L) and LM46 (0.54 mg/L) (Figure 28). Four of the elevated concentration are in the vicinity of the base of the tailings facility (Figure 20 for map of locations). The dataset of LM46 observes large variation of dissolved uranium, thus FY25 analysis is within the expected trend (Figure 28).

Other monitoring bores in the area do not display elevated uranium concentrations and are lower than the adopted ANZG (2018) guidelines for livestock consumption of 0.2 mg/L. Regional monitoring bores also did not display elevated levels of dissolved uranium with LR9 (0.027 mg/L) hydraulically up-gradient of the mine and representative of aquifer background and LR8 (0.022mg/L) and LR2 (0.021mg/L) being hydraulically down-gradient of the SML (Figure 19 for the map of regional groundwater monitoring locations). This demonstrates the elevated dissolved uranium is localised at the base of the tailings facility and is retained within the SML.

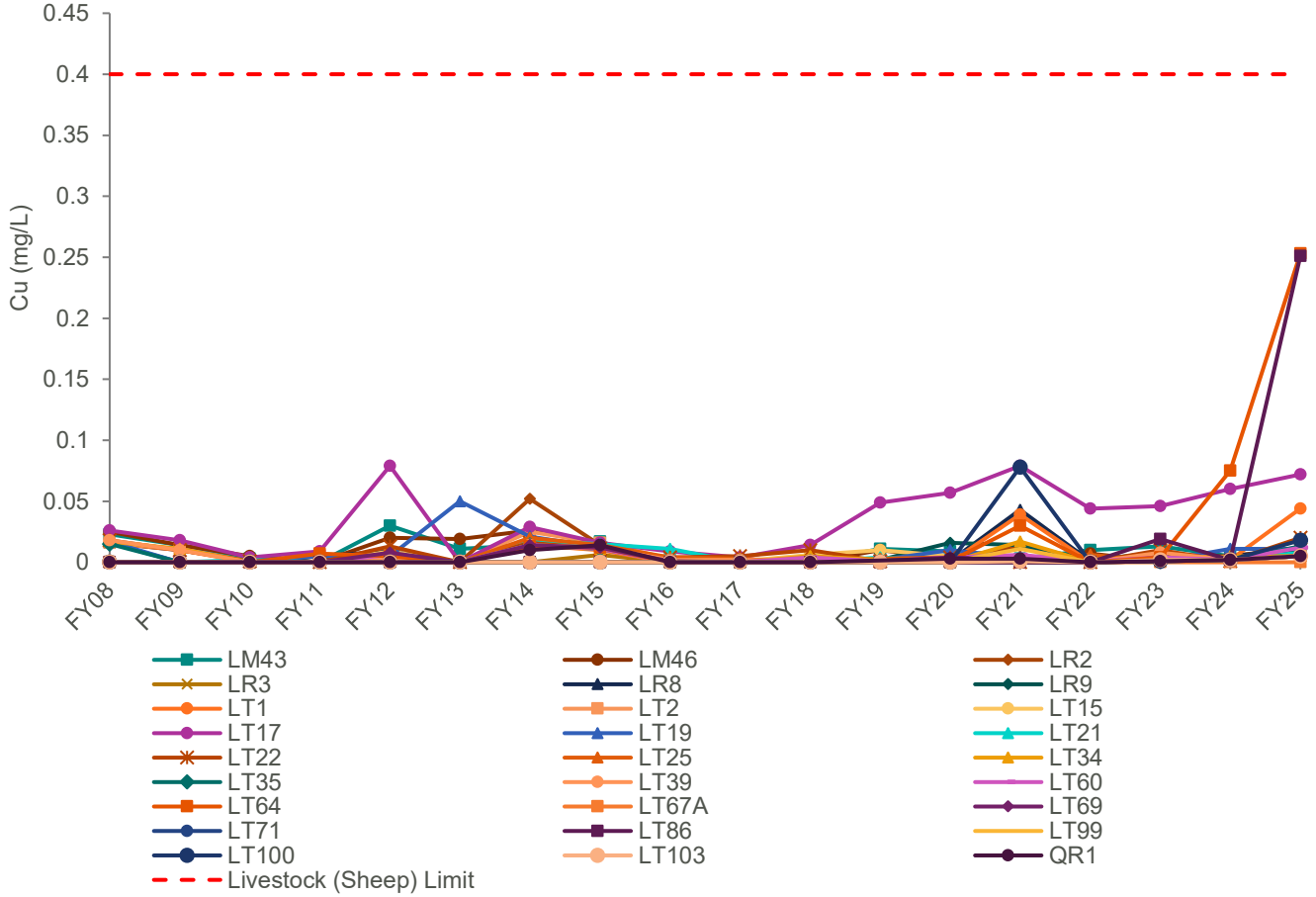


Figure 27: Copper concentration of OD on-site and regional groundwater monitoring bores

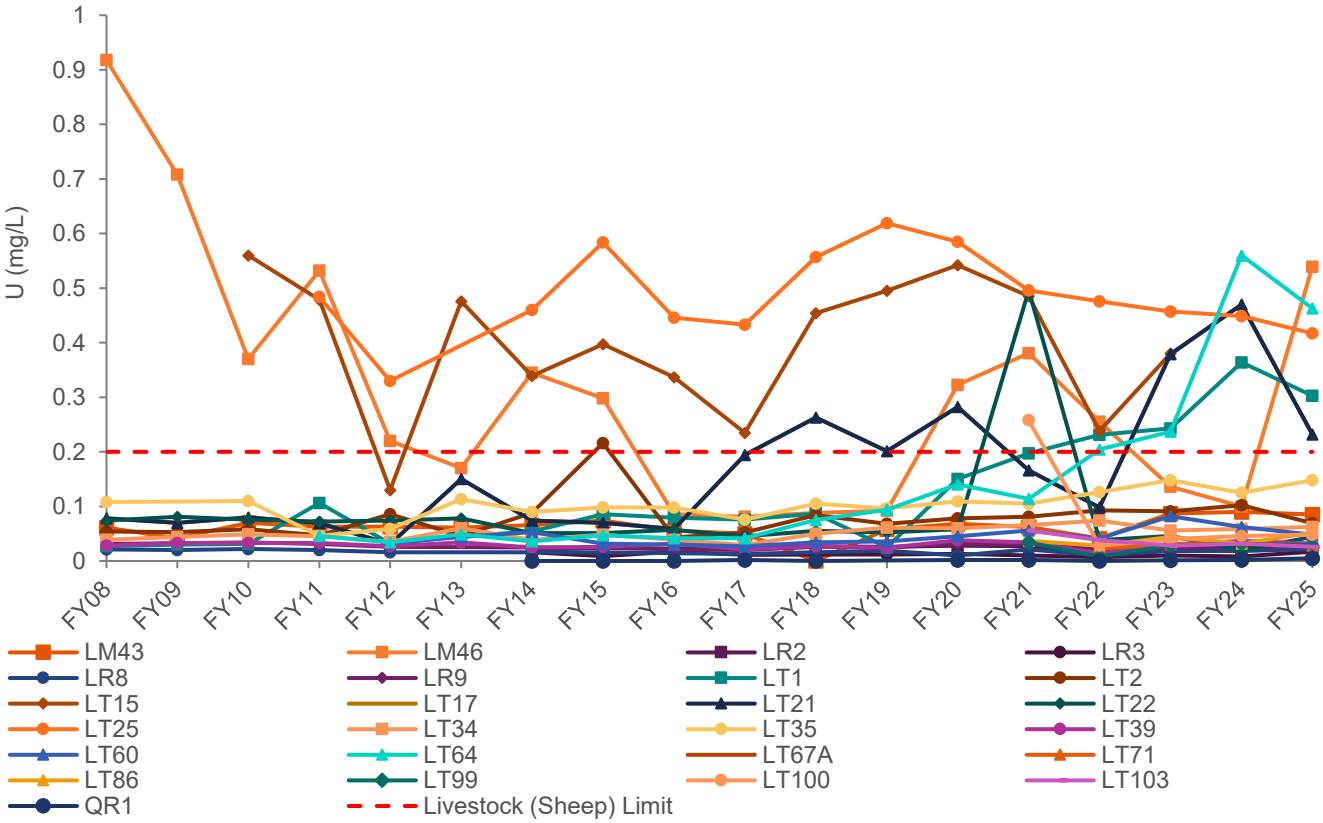


Figure 28: Uranium concentration of OD on-site and regional groundwater monitoring bores

1.2.9 Deliverables (WA 3.3)

Records of ground water levels in the vicinity of the MWDP.

To determine any potential environmental impacts of the Mine Water Disposal Pond (MWDP), water levels were monitored via local groundwater bores. Relatively stable groundwater levels at LM43 and LM46 were observed, likely not yet reflecting the increase in water discharge rates into the pond during FY25 (Figure 26).

Records of quantities of water disposed of into the MWDP.

Quantities of water disposed of into the MWDP were measured and recorded each day and reconciled monthly as part of the Saline Water balance (Figure 18). An average of 3.7 ML per day was disposed into the MWDP during FY25.

During FY25, the MWDP continued to be used as a supply source for construction water for the TSF5 Buttress project and EP7A and EP7B construction, which has resulted in a recovery and reuse of 58 ML of saline water discharged to this location. The EP7 commissioning will continue into FY26.

1.2.10 Deliverables (WA 3.4)

Records of pond levels and pond wall condition.

Sewage waste generated by Olympic Village (ODV) is gravity fed to three on-site chambers and pumped to the ODV treatment facility west of the camp. The treatment facility consists of primary and secondary storage ponds and a permanent evaporation pan. The secondary ponds are mechanically aerated. Testing and monitoring of water quality continued throughout FY25 under 1SAP programmed maintenance, with results remaining within guideline thresholds. The ODV treatment facility is inspected daily for security, inflow, wall integrity and available freeboard in storage ponds. Freeboard is reported daily and recorded. Inflow was recorded daily and averaged at 315 kL/day for FY25.

Connection of the transfer pipeline between ODV WWTP and Roxby Downs WWTP (as per DoH approval WWI-10723) to allow partially treated effluent to be utilised by the Council Recycled Water System was approved by SA Health for ongoing use. A total of 26.042 ML was transferred to the RD WWTP across this financial year.

Sewage waste generated by the Mine and Process plant is treated onsite. The onsite facility consists of a lined primary lagoon and two lined evaporation ponds. Inflow for FY25 averaged at 216 kL/day. Mechanical evaporation has continued across FY25, no freeboard exceedances were recorded in FY25.

1.2.11 Deliverables (GW 3.4)

Data demonstrating that radionuclide concentrations are below upper limits.

Surface ponds which hold groundwater used for road watering were monitored and analysed during FY25 for specific radionuclides. Results from samples collected in November 2024 were below the upper limit for radionuclide ^{238}U and ^{226}Ra of 50 Bq/L and 5 Bq/L respectively (Table 14, Figure 29, Figure 30).

A review of results and provision for increased monitoring frequency where concentrations are trending towards upper limits.

No samples collected during FY25 showed levels above upper limits.

Table 14: Radionuclide analysis for dust suppression water FY25

		Analyte (Bq/L)				
Sample Site	**Date**	**^{238}U**	**^{230}Th**	**^{226}Ra**	**^{210}Pb**	**^{210}Po**
A Block	Nov 2024	0.33	0.022	0.04	0.074	0.035
D Block	Nov 2024	15.4	0.02	0.49	0.008	-0.004
F Block	Nov 2024	16.6	0.014	0.81	0.026	-0.005
SMA Saline Dam 1	Nov 2024	23.6	0.020	0.85	0.15	0.030
SMA Saline Dam 2	Nov 2024	22.3	0.047	0.72	0.052	0.058
Mine Water Disposal Dam	Nov 2024	0.55	0.01	0.40	0.038	0.021
Olympic Falls Dam	Nov 2024	0.04	-0.003	0.67	-0.134	0.15
TRS Construction Pond	Nov 2024	1.63	0.01	0.72	-0.009	0.033
Upper Limits		**50**		**5**		

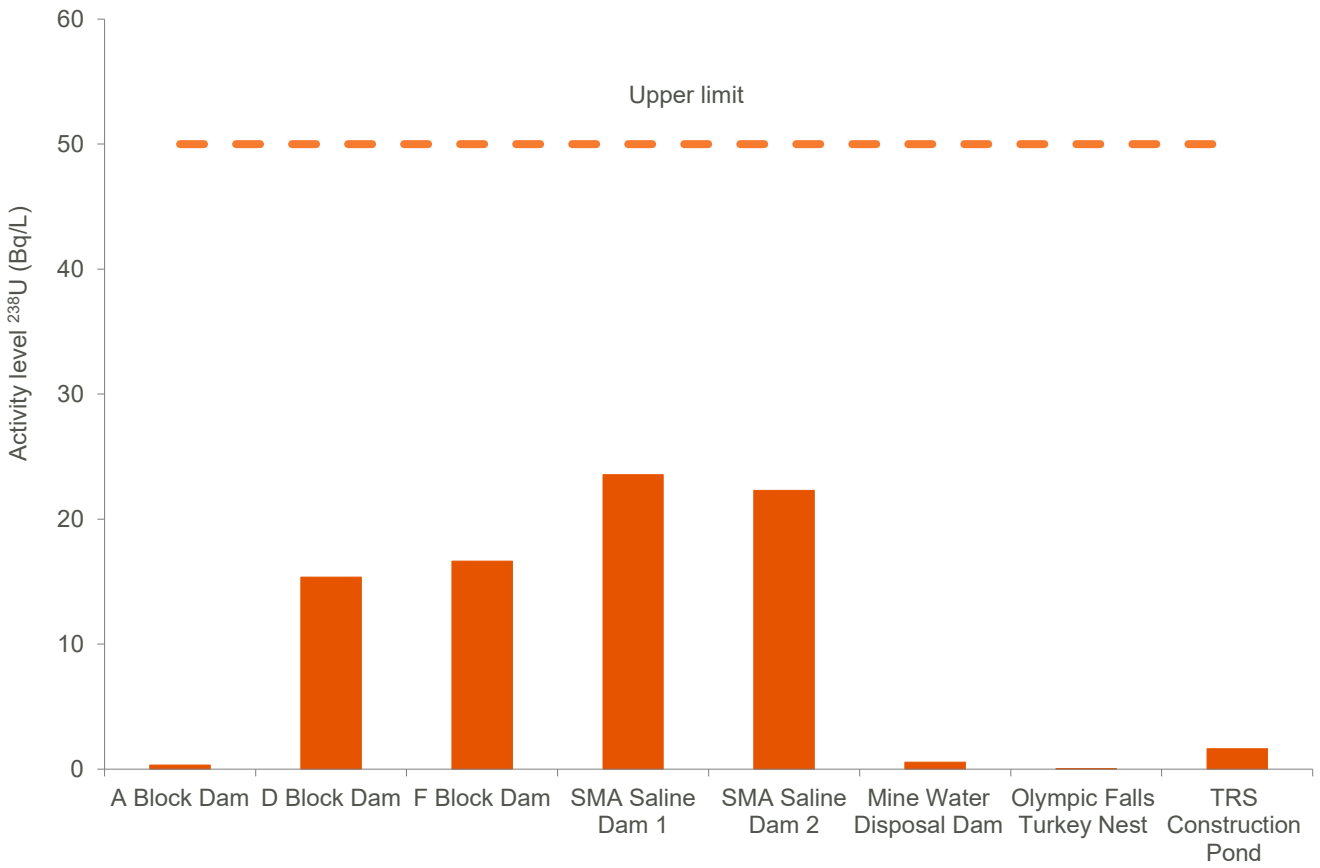


Figure 29: Mine water sample 238U levels and upper limit FY25

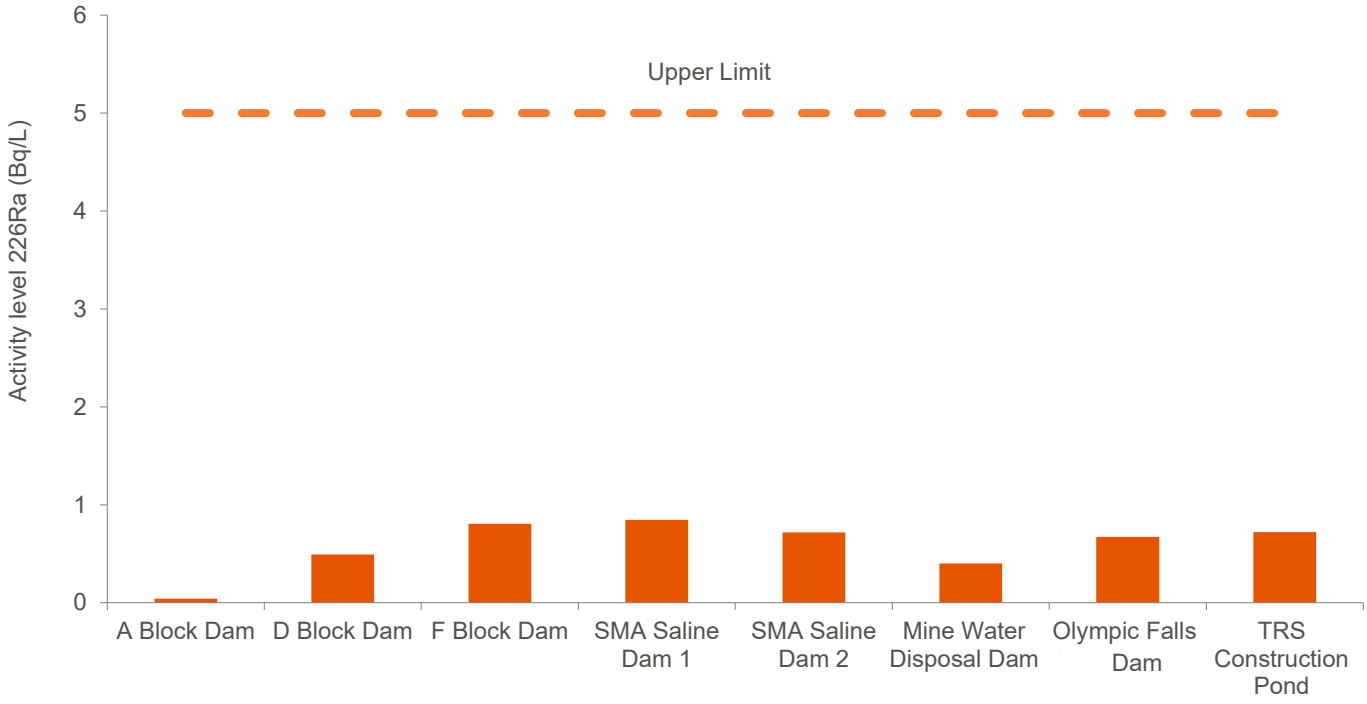


Figure 30: Mine water sample 226Ra levels and upper limit FY25

1.2.12 Targets FY25

Maintain an annual industrial water efficiency of 1.16kL/t at the budgeted production rate.

In FY25 the GAB Industrial Water Efficiency of the operation was 1.01 kL/t compared to the target of 1.16 kL/t and actual of 1.00 kL/t for FY24.

Maintain a domestic water use target of 3.2 ML/day average.

Domestic water use during FY25 averaged 2.32 ML/d, below the target of 3.2 ML/d.

1.2.13 Actions FY25

Continue implementation of water use conservation and recycling initiatives.

During FY25, the focus continued to be on maintaining the efficiency, conservation and recycling of high-quality GAB water. Routine water consumption monitoring continued and is imbedded in production areas. The routines of the Water Management Group were set at a minimum of weekly and increases as storage levels reduce to ensure production impacts were minimised through water efficiency monitoring across site.

Continue substitution of saline water for high quality water where possible.

Saline water continues to be used in lieu of high-quality water where feasible, including use in processing, Cement Aggregate Fill (CAF), road watering, construction and underground drilling activities. A limited volume of saline water containing lower concentrations of chlorides (compared to SML saline wellfields) has been sourced from the groundwater mound beneath the TRS (LP2) and is being utilised to augment the process water stream. Total saline volume use is restricted as the metallurgical process is highly susceptible to increased chloride concentrations which degrades infrastructure and affects plant performance. On average 0.53 ML/d was added to the process water stream with chloride concentration being managed to protect infrastructure and production.

1.2.14 Continuous Improvement Opportunities FY25

Within the GAB, pastoral abstraction has influence on aquifer pressure and reported drawdown. The elimination of pastoral flow at Jackboot Bore has resulted in drastically reduced drawdown, previously incorrectly attributed to Wellfield B operations. Some of the declining trends observed in current reported

drawdown are likely to be influenced by antecedent pastoral flow, ageing infrastructure failure, and temperature effects.

Opportunity: Eliminate or minimise the influence of pastoral flow on reported drawdown.

A broader plan for this was initiated in FY25 and will continue into FY26 as described in the Annual Wellfield Report (BHP 2025a). During the FY25 period, the following issues and improvements were addressed:

- A main shut-in valve was installed at Dulkaninna bore, which enabled a complete shut-in of the bore. The complete shut-in provided more representative pressure data to be collected as part of the GAB monitoring program (BHP 2023c) as well as preserve the individual offtake pastoral valves.
- Decommissioning of Peachawarinna bore, which was confirmed as failed downhole. This monitoring and pastoral offtake bore was replaced by Peachawarinna #3. Pressure data improved thereafter which reduced reported drawdown.
- The pressure reduction trend at Georgia 2 bore continues to be monitored and remains part of a broader Infrastructure Remediation Plan (IRP) that identifies bores that are at risk of infrastructure failure as well as identifying opportunities for improved monitoring.
- A monitoring procedure and database audit was conducted and identified areas for improvement and correction. The updated monitoring procedure aims to improve data collection that is more representative of the aquifer, better estimates pastoral influence and supports the remote nature of this data collection.

2. STORAGE, TRANSPORT AND HANDLING OF HAZARDOUS MATERIALS

2.1 Chemical/Hydrocarbon Spills

2.1.1 Environmental Outcome

No significant site contamination of soils, surface water or groundwater, as a result of the transport, storage or handling of chemical or hydrocarbon substances associated with ODC's operational activities.

No significant contamination of soils, surface water or groundwater leading to actual or potential environmental harm due to the transport, storage or use of chemical or hydrocarbon substances associated with ODC operational activities occurred during FY25.

2.1.2 Compliance Criteria

No site contamination leading to material environmental harm (as defined in the Environmental Management Manual) arising from a loss of containment of a chemical substance or hydrocarbon material within the SML and/or Wellfields Designated Areas.

Note: Measurement and monitoring is carried out in response to a specific event, and in accordance with the National Environment Protection (Assessment of Site Contamination) Measure 1999 or SA Environment Protection (Water Quality) Policy 2015. Remediation and monitoring programs are in place for historical contaminated sites.

During FY25, 133 chemical/hydrocarbon spills were reported within the (global) Event Management Solution (GEMS) as having occurred within the SML, the Wellfield designated areas and in the accommodation villages. All spills were contained and cleaned up as soon as practicable. As a result, no chemical/hydrocarbon spills within the SML and Wellfield designated areas, or in the accommodation villages led to actual environmental harm occurring as part of ODC activities.

Chemical and hydrocarbon substance spills which occurred within the operational areas of the SML were appropriately contained and cleaned up as soon as practicable with each event captured in the GEMS. Of the chemical and hydrocarbon spills recorded within the operational area in FY25, two triggered additional reporting under the SA *Environment Protection Act 1993 (EP Act 1993)* for actual or potential environmental material harm:

- On August 13th, 2024, a dust leach valve hole out occurred from the pipe rack between the smelter and the concentrator. Preventative maintenance plans for valve replacement were implemented to reduce the likelihood of a similar event occurring in the future.
- On October 5th, 2024, hydrocarbon was released from a components wash pad and subsequently reported to surface water ponds. Corrective actions implemented include work instructions for hydrocarbon wash down at a purpose-built facility and installation of signage prohibiting hydrocarbon wash down at the wash pad.

Three legacy hydrocarbon spill sites exist (the 3 ML tank on the SML and PS1 and PS6A in the Wellfields area), which are being actively monitored and managed. These are described further below.

The hydrocarbon plume at the 3 ML tank has been the subject of a Remediation Management Plan and subsequent Groundwater Management Plan (GMP), which requires three-yearly monitoring between 2016 and 2025 to confirm plume stability. A monitoring event was conducted in October 2022 and no contingency or trigger values were exceeded, with the conclusion that no further action above the GMP is required at this time. Total Recoverable Hydrocarbons (TRH) decreased or remained the same in two monitoring points in the main portion of the plume and increased within an order of magnitude at the front of the plume. These results are inconclusive to establish the stability of the plume and another monitoring event is planned for 2025 under the current GMP.

PS1 remediation has successfully treated a groundwater volume in excess of 4 ML since commencing operation in late 2014. The PS1 Remediation Management Plan was updated in FY21 after a review of previous remediation effort, and an options assessment concluded that the current active remediation option has reached end of life. A change from active to passive remediation was implemented and the GMP for PS1 updated with relevant triggers and targets to support the remediation technique change. Monitoring was carried out by JBS&G in June 2025. During the FY25 monitoring event light non-aqueous phase liquids (LNAPL) were detected at two monitoring wells, which was consistent with FY24. The 2025 monitoring event included all wells for a comparison to the 2021 baseline monitoring event. The comparison between the baseline in 2021 and the current GMP results demonstrate a general reduction in LNAPL (some baseline LNAPL wells now have dissolved phase TRH) and decreases in TRH concentrations across the monitoring network more generally. The data indicates that the risk remains low.

PS6A remediation has treated groundwater in excess of 12.5 ML since commencing operation in mid-2014 and recovered approximately 51,500 L of LNAPL. The PS6A system was inactive during FY20/21 and the rebound response monitored. An assessment of remediation effectiveness was prepared in FY21, which updated the estimate of plume volume and recommended an expansion of the existing active remediation system. The upgraded infrastructure was installed in September 2020 and approximately doubles the extractive capacity. Since the restart of the treatment plant in 2020, the estimated volume of product (LNAPL) removed is 13,525 L. The plant was inactive for an extended period in FY24 due to equipment maintenance. The resulting groundwater extraction rate was approximately 30 % lower than FY24 with proportionately lowered recovery rate of LNAPL. Measures are being taken to increase the efficiency of re-injection during each site visit through cleaning wells to remove salt scaling.

Groundwater quality was assessed at eight locations across the site in June 2025 to provide data at the boundaries of and outside the known historical hydrocarbon plume. The measured LNAPL thickness in the June 2025 monitoring event were consistent with the previous monitoring event (June 2024). The thickness over time since the remediation re-commenced have shown generally decreasing trends over time. Therefore, it is concluded that no site contamination leading to new material environmental harm (as defined in the EM Manual) has arisen from chemical/hydrocarbon spills within the SML and Wellfields designated areas.

2.1.3 Leading Indicators

None applicable.

2.1.4 Targets FY25

Finalise updated spills register to align with the Global Event Management System roll out.

The spills register was finalised and aligned with the GEMS in FY20 and continues to operate to plan.

Corrective actions for all reportable spills of chemicals and hydrocarbons are implemented in a timely manner and do not result in material environmental harm (as defined in the EMM).

Note: Spills are reportable if they result in potential or actual material environmental harm in accordance with the EP Act 1993.

Two spills occurred during FY25 that triggered external reporting requirements as outlined under the *EP Act 1993*. Both spills occurred on the SML and corrective actions implemented.

2.1.5 Actions FY25

Maintain a register of recordable chemical and hydrocarbon spills and corrective actions.

Note: In FY22 OD aligned with BHP Minerals Australia to define an internally recordable spill of chemicals and/or hydrocarbons is defined as any amount (previously 10 L threshold) outside of a bund, in a single event.

During FY25 a register of recordable chemical and hydrocarbon spills and corrective actions was maintained through GEMS. In FY25 there were a total of 133 spill events, two of which were externally reported. This is a 56 % increase from FY24 recordable spills (Figure 31). The increase in spills outside of bunds can likely be attributed to an increase in operational activity including improvement projects. The Acid Plant recorded 24 spills outside of a

bund, while the Concentrator Mills recorded 11 spills, while other physical locations reported far fewer spills outside of a bund.

The Acid Plant expended substantial funding to repair bunds in FY25, particularly the Smelter Effluent bund. The Acid Plant has secured capital to upgrade the Acid Effluent pipeline, to a larger diameter, which is expected to reduce the number of spill events.

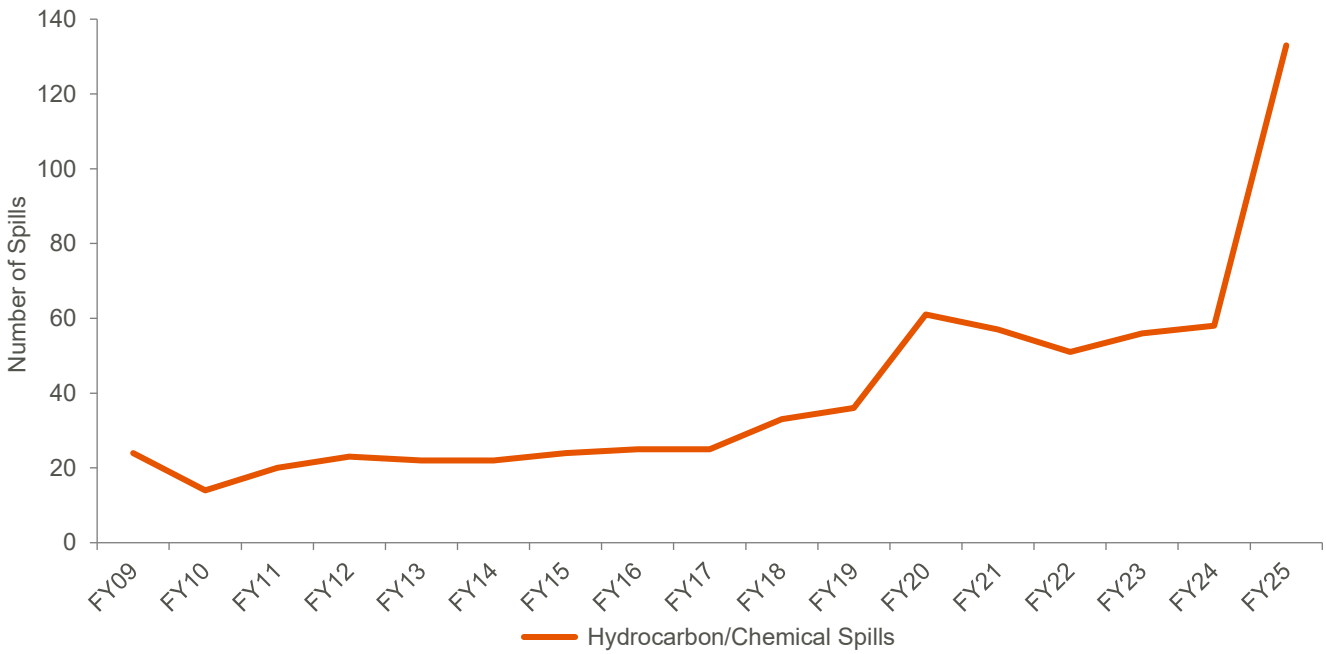


Figure 31: Historical hydrocarbon/chemical spills to FY25

Continue to implement environment improvement plans for areas of concern, as identified through the annual Aspects and Impacts risk register review.

OD is continuing to implement inspections and maintenance on bunded areas to ensure a consistent spill management methodology is maintained.

Implement the PFAS Environment Improvement Program as required by EPA Exemption 51301.

The conditions of EPA Exemption 51301 were met and the Environment Improvement Program (EIP) completed. Detailed Site Investigation (DSI) process commenced in FY25 and will progress throughout FY26.

Implement the Foam Management Plan as required by EPA Exemption 51301 to ensure all PFAS firefighting foam is appropriately managed during the phase out program.

The conditions of EPA Exemption 51301 were met and the Environment Improvement Program (EIP) completed. The requirement for an ongoing foam management plan will be assessed during the DSI process.

2.1.6 Continuous Improvement Opportunities FY25

An audit of all existing bunds was undertaken in FY13 to determine compliance against the EPA Liquid Storage (Bunding and Spill Management) Guideline (EPA 2016). Based on the audit a risk-based approach and review is being applied to bund management. Process controls are implemented when bund capacity is inadequate or there is a risk that bunds will be insufficient to contain a spill if it is found that a spill is likely to occur.

Opportunity: Ensure bunds are continuously maintained and process controls are implemented such as safe fill levels and Citect alarms when a risk has been identified. The controls must be captured in the site Aspect and Impact register against the functional location of the bund.

None applicable in FY25.

2.2 Radioactive Process Material Spills

2.2.1 Environmental Outcome

No adverse impacts to public health as a result of radioactive process material spills from ODC's activities.

Olympic Dam has consistently operated in a manner that limits radiation dose to members of the public, from operational activities and radioactive emissions, to less than a small fraction of the International Commission on Radiological Protection (ICRP) 1 mSv/y limit.

During FY25, one reportable radioactive process material spill occurred as a result of ODC's activities. The Tailings Disposal Unit (TDU) pump failure occurred on Feburary 6th, 2025. The spill did not breach tertiary containment. There were no adverse impacts to public health as a result of the radioactive process material spill.

No significant adverse impacts to populations of listed species or ecological communities as a result of radioactive process material spills from ODC's activities.

No significant impacts to populations of listed species or ecological communities were recorded as a result of operational activities, including the effects from any radioactive process material spills. Impacts to listed species and ecological communities are avoided by ensuring that there is no uncontrolled loss of radioactive material to the natural environment. As there was no loss of radioactive material to the undisturbed (natural) environment in FY25, no impact to populations of listed species or ecological communities occurred.

2.2.2 Compliance Criteria

A dose limit for radiation doses to members of the public of 1 mSv/y above natural background (ER 3.2).

The total estimated dose (FY25) to members of the public at Roxby Downs Air Quality Monitoring System (AQMS) and Olympic Village AQMS contributed by OD operations was 0.035 mSv and 0.013 mSv respectively. For more detail refer to Section 3.3.

No significant radioactive contamination arising from uncontrolled list of radioactive material to the natural environment (ER 3.4).

Note: Significant is defined as requiring assessment and remedial action in accordance with the National Environment Protection (Assessment of Site Contamination) Measure 1999 or Environment Protection (Water Quality) Policy 2015 and the Mining Code. Measurement and monitoring is carried out in response to a specific event.

In FY25 there were 30 radioactive process material spills, one of which was reportable (TDU pump failure). The majority of these spills were in the concentrator and hydromet areas and were a result of leaking or failed pipes or instrument reading failure. Of the spills in FY25 none required assessment and remedial action in accordance with the NEPM (Assessment of Site Contamination) 1999, Environment Protection (Water Quality) Policy 2015 or the Mining Code. As stated in Section 2.2.1 above, there was no uncontrolled loss of radioactive material to the natural environment in FY25.

2.2.3 Leading Indicators

None applicable.

2.2.4 Targets FY25

No spill of radioactive process material into an undisturbed environment. Corrective actions resulting from a reportable spill of radioactive process material are executed in a timely manner to ensure no adverse impacts to human health.

There was no uncontrolled loss of radioactive process material to the undisturbed (natural) environment in FY25. One reportable radioactive process material spill occurred in FY25 within the SML, which did not impact on undisturbed areas or result in adverse impacts to human health. Maintenance plans have been created to replace drain valves and sump pumps.

2.2.5 Actions FY25

Maintain a register of recordable spills of radioactive process material resulting from operations at Olympic Dam.

Note: Reportable and recordable spills of radioactive process material as defined by the Criteria and Procedures for Recording and Reporting Incidents as SA Uranium Mines (DEM), known as 'Bachmann Criteria'

A register of recordable spills was maintained during FY25. Throughout the reporting period, there were 30 recordable radioactive process material spills (one immediately reportable). The spills occurred at the tails disposals, hydromet SX, concentrator, feed prep/smelter and TRS (Figure 32), with the dominant causes being leaking/failed pipes or instrument failures.

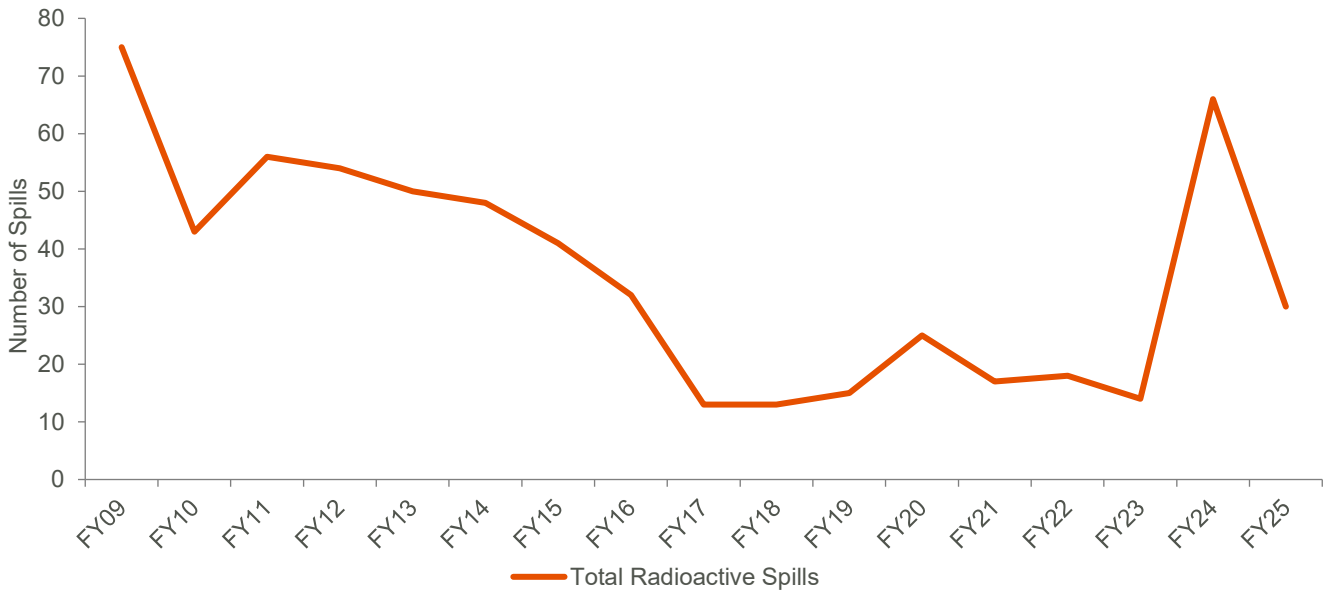


Figure 32: Historical radioactive process material spills to FY25

Continue to implement environment improvement plans for areas of concern as identified in the annual Aspects and Impacts risk register review.

All areas continued with planned maintenance tasks for tanks, pipes and bunds. These plans are captured and monitored through BHP's internal 1SAP.

2.2.6 Continuous Improvement Opportunities FY25

The majority of spill events occur in areas within secondary and tertiary containment systems and have minimal potential to cause significant environmental impact. The data from these incidents are reviewed to identify root causes and reduce the potential for further spill events.

Opportunity: Review data to identify actions to be included in the area Environment Improvement Plans.

None applicable in FY25.

An audit of all existing bunds has been undertaken to determine compliance against the EPA Liquid Storage (Bunding and Spill Management) Guideline (EPA 2016). Based on the audit, a risk based approach and review is being applied to bund management. Process controls are implemented when bund capacity is inadequate or there is a risk that bunds will be insufficient to contain a spill if it is found that a spill is likely to occur.

Opportunity: Ensure bunds are continuously maintained and process controls are implemented such as safe fill levels and Citect alarms when a risk has been identified.

No new areas identified in FY25 to have safe fill levels.

3. OPERATION OF INDUSTRIAL SYSTEMS

3.1 Particulate Emissions

3.1.1 Environmental Outcome

No adverse impacts to public health as a result of particulate emissions from ODC's activities.

In FY25, there were no ground level PM_{10} dust concentrations that exceeded the PM_{10} 24-hour average of 50 micrograms per cubic metres (µg/m^3). As such the environmental outcome for particulate emissions for FY25 has been classified as achieved.

3.1.2 Compliance Criteria

Ground level PM_{10} dust concentrations at Roxby Downs and Olympic Village derived from construction and/or operational sources at Olympic Dam must not exceed the PM_{10} 24-hour average of 50 µg/m^3 (AE 3.7).

In FY25, there were no ground level PM_{10} dust concentrations that exceeded the PM_{10} 24-hour average of 50 micrograms per cubic metres (µg/m^3). In FY25 two events were externally reported and required further investigation. The first event on July 19th was reported on July 20th and later investigation determined there was an error in the validation process. A second event that occurred on September 5th 2024 was reported on April 14th 2025. This event was not reported in the subsequent automated daily reports and identified for further investigation during data review processes. The investigation concluded that the event was due to data drop-out and was not a true exceedance.

3.1.3 Leading Indicators

None applicable.

3.1.4 Deliverables (AE 3.1)

Records of particulate emissions from Smelter 2 to assess compliance with the emission limits of EPA Licence 1301 and to compare against Schedule 4 of the Environment Protection (Air Quality) Policy 2016 (EP (Air Quality Policy)) as shown in Table 3-1.

Smelter stack emissions and analysis for particulate concentrations are undertaken periodically to assess the performance of gas cleaning systems. Particulate emissions from the Acid Plant Tails Stack (APTS), Concentrate Dryer Stack and Main Smelter Stack (MSS) were tested during FY25 (Table 15).

Emissions tested by isokinetic testing from the APTS, MSS, and Concentrate Dryer Stack met requirements of the Environment Protection (Air Quality) Policy 2016 and EPA Licence 1301 (Condition U-1068) during the reporting period (Table 15). All stack bypass events were recorded and reported in the quarterly smelter emissions report as per EPA Licence 1301 (Condition U-1066). Analysis of particulates from the APTS, MSS and Concentrate Dryer Stack remained below respective compliance limits during FY25.

Table 15: Particulate concentrations at the MSS, APTS, and Concentrate Dryer Stack (mg/Nm³)

	Main Smelter Stack (mg/Nm³)	Acid Plant Tails Stack (mg/Nm³)	Concentrate Dryer Stack (mg/Nm³)
January 2025	22	ND	40
July 2024	36	1	69
Compliance Limit	100	100	250

3.1.5 Deliverables (AE 3.2)

Records of particulate emissions from Calciners A and B to assess against the relevant particulate pollutant level specified in Table 3-1.

Particulate emission testing is managed through scheduled maintenance (in BHP's internal 1SAP), with Calciner A and B tested on a quarterly basis by isokinetic sampling. The isokinetic stack-sampling filters are used to capture particulates and are analysed for ^{238}U activity. Results from the uranium analysis, together with data obtained from the process control system, are used to estimate total uranium discharged from the stacks and are subsequently reported in the Licence to Mine (LM1) Radiation Annual Report.

Scheduled sampling of the Calciner gas cleaning systems occurred in July 2024, October 2024, January 2025, April 2025 (Table 16). Point source emission results are assessed against Table 3-1 of the EPMP Monitoring Program – Airborne Emissions. During January 2025 testing, Calciner B recorded a concentration of 251 mg/Nm^3. The EPA and DEM were notified and an investigation commenced. One immediate action was implemented to clean the scrubber and re-test. Follow up actions relating to cleaning schedules were also completed. Calciner A was not operating during the January 18th sampling. Both Calciner A and Calciner B were able to be tested on January 29th/30th and returned results below the compliance limit.

Table 16: Measured particulate concentrations in calciner emissions (mg/Nm³)

	Calciner A (mg/Nm³)	Calciner B (mg/Nm³)
April 2025	34	157
End-January 2025	<1	180
Mid-January 2025	ND	**251**
October 2024	79	201
July 2024	78	62
Compliance Limit	250	250

Note: ND - Data not determined due to Calciner A not operating at the time of sampling.

3.1.6 Deliverables (AE 3.3)

Records of particulate and hydrogen sulphide emissions from the Slimes Treatment Plant to assess against the pollutant levels specified in Table 3-1.

Particulate and hydrogen sulphide emissions from the Slimes Treatment Plant are measured bi-annually. Any measurement above 100 mg/Nm^3 for particulates from the Saunders Furnace roaster scrubber or above 5 mg/Nm^3 of hydrogen sulphide from the NOx Scrubber are to be reported to EPA and investigated. These values were not exceeded during FY25 (Table 17).

Table 17: Saunders Furnace particulates and Hydrogen Sulphide concentrations (mg/Nm³)

	Saunders Furnace Particulates (mg/Nm³)	NOx Scrubber Hydrogen Sulphide (mg/Nm³)
April 2025	53	<0.05
October 2024	55	<0.05
Compliance Limit	100	5

3.1.7 Deliverables (AE 3.5)

Records of real-time monitoring of particulates to ensure that concentrations at Roxby Downs remain within the compliance criteria and to inform the management of dust-producing activities at the operation.

The real-time AQMS records operational ground level PM_{10} dust concentrations at Roxby Downs and Olympic Village at 10-minute intervals. The real time operational PM_{10} dust concentration results for Roxby Downs and Olympic Village are shown in Figure 33 and Figure 34, respectively. The Northern Background station is a control site located to the north of the operations and used with wind direction vectors to calculate the operational contribution. The Northen Background real time dust concentrations are presented within Figure 35. The configuration of the AQMS is depicted in Figure 36.

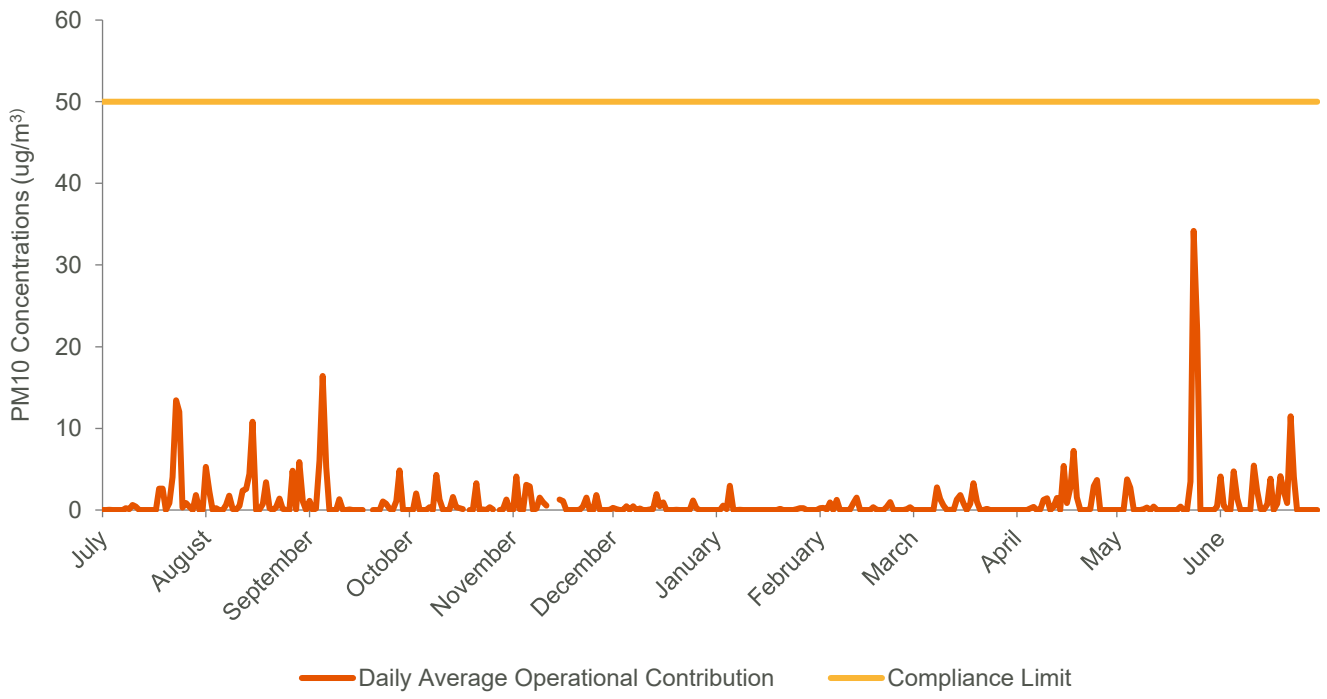


Figure 33: Real time PM10 24-hour 'operational contribution' dust concentrations at Roxby Downs (FY25)

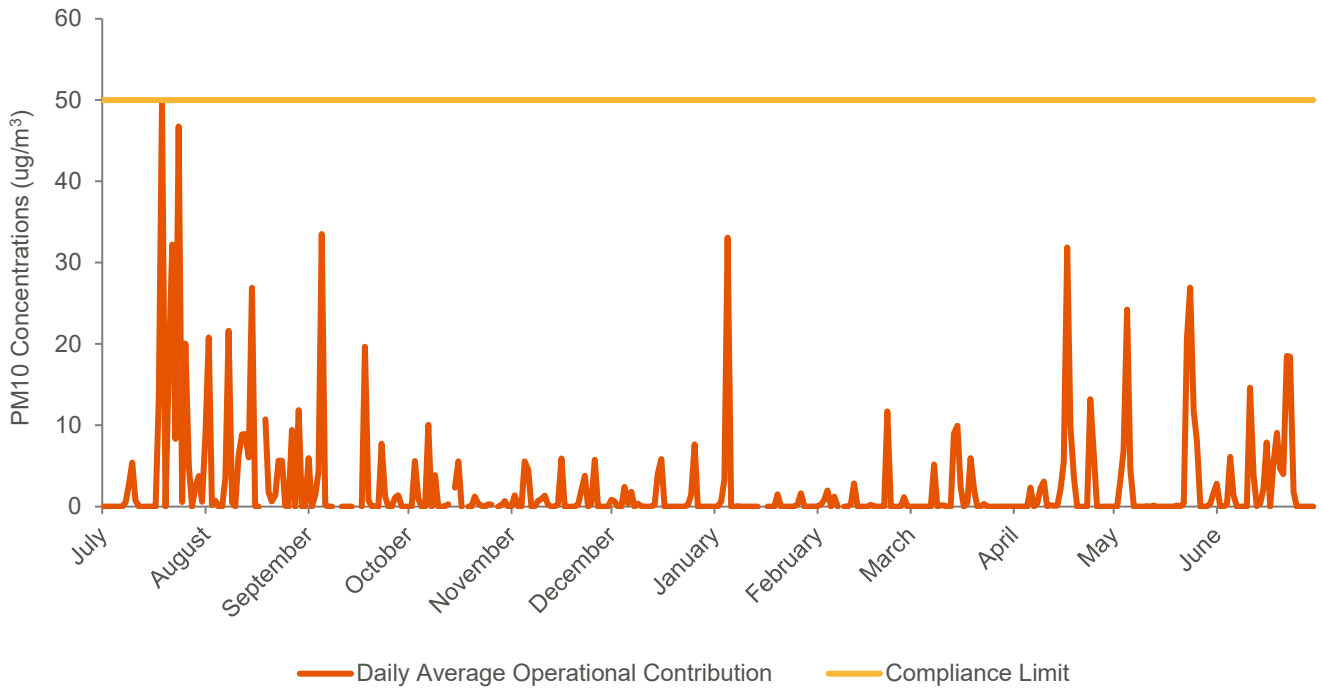


Figure 34: Real time PM10 24-hour 'operational contribution' dust concentrations at Olympic Village (FY25)

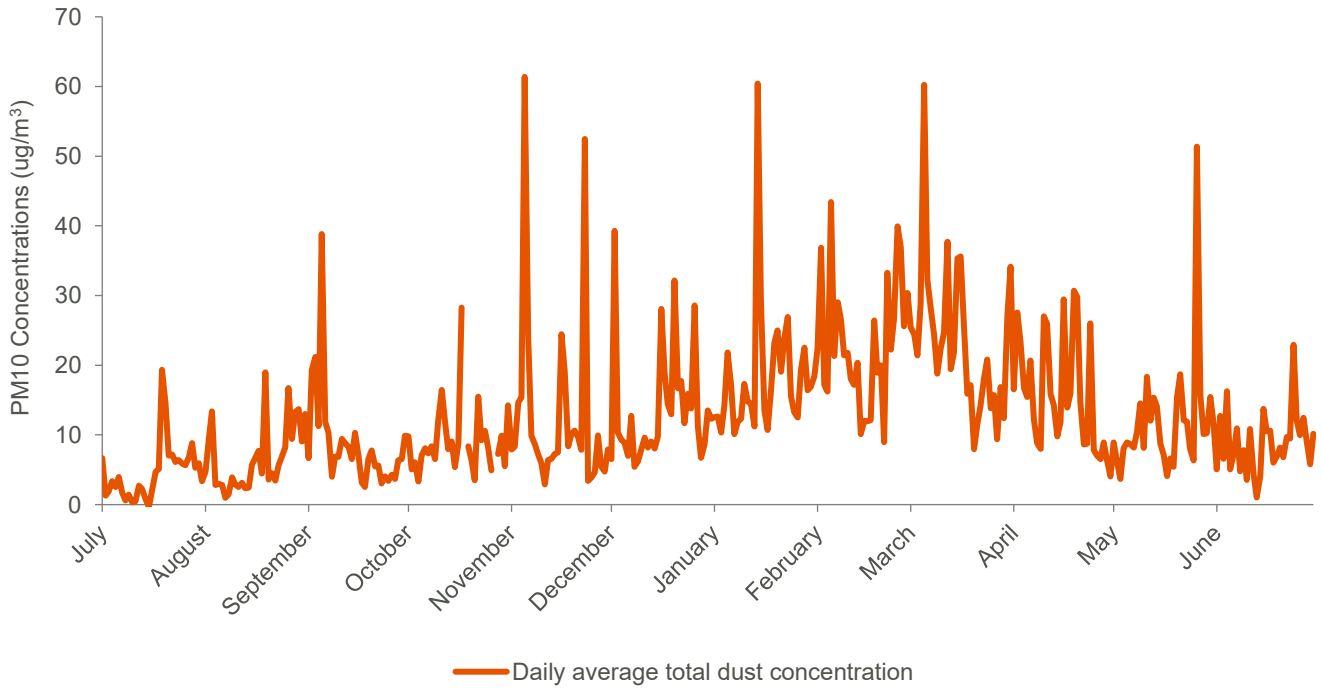


Figure 35: Real time total dust concentrations at Northern Background Station (FY25)

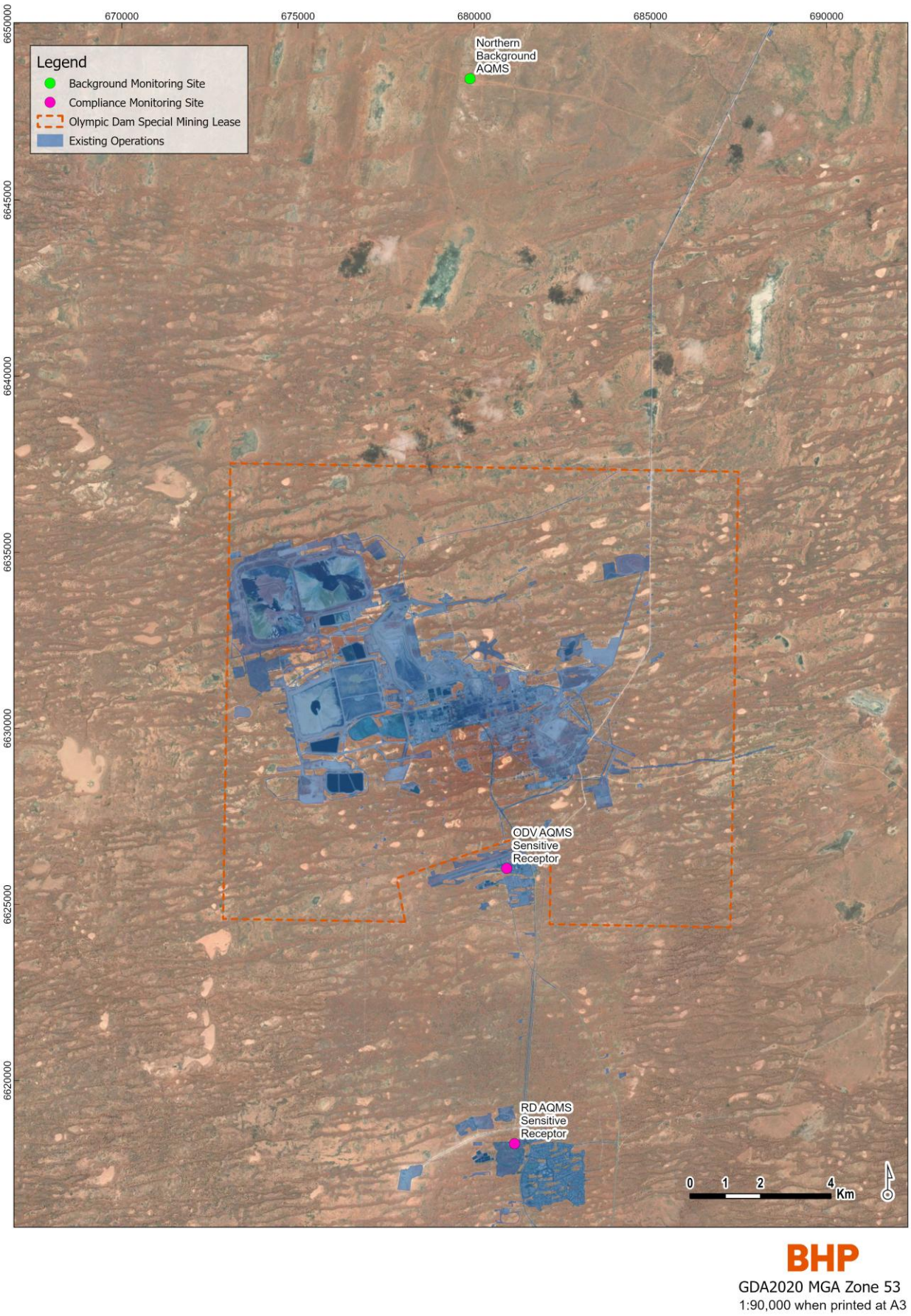


Figure 36: The AQMS' three monitoring sites

In FY25, there were no ground level PM_{10} dust concentrations that exceeded the PM_{10} 24-hour average of 50 micrograms per cubic metres (µg/m^3). In FY25 two events were externally reported and required further investigation. The first event on July 19th was reported on July 20th and later investigation determined there was an error in the validation process. A second event that occurred on September 5th 2024 was reported on April 14th, 2025. This event was not reported in the subsequent automated daily reports and identified for further investigation during data review processes. The investigation concluded that the event was due to data drop-out and was not a true exceedance.

The real time AQMS' record PM_{10} data at 10-minute intervals, with all information stored and managed on the Airodis air management database. A daily report is distributed to internal stakeholders, which shows both background and operationally contributed PM_{10} dust concentrations for the previous 24-hours. Weather warnings issued by the Bureau of Meteorology (BOM) are distributed to all OD staff in response to extreme weather events to assist operational areas in managing dust producing activities. Dust suppression is undertaken as per the site Dust and Emission Management Plan which describes fugitive source emission controls and measurement. An automatic alert system has been implemented to automatically alert high dust generating activity area owners to cease operations or increase dust controls, when weather conditions are unfavourable.

3.1.8 Deliverables (FL 3.1)

A report on the annual changes in perennial communities within and surrounding the Special Mining Lease (SML).

In FY25, 62 permanent perennial vegetation sites categorised as either Control or Treatment and Acacia dominated or Callitris dominated were monitored by BHP Environment and the trends analysed by distance (bands) and direction (radial) by 2Rog Consulting (Table 18, Figure 37). To investigate potential changes in vegetation community over time at varying distances from the Main Smelter Stack (MSS), sites were grouped into distance bands (Table 18). Sites were also grouped based on radial direction (N, NE, E, SE, S, SW, W, NW) to investigate the possible influence of particulates in the direction of prevailing winds (SW).

Table 18: Approximate range of distance bands applied to sites for long-term analysis (km from MSS)

Distance Band	Approximate range (km)	
	Minimum	Maximum
Band 1	0.5	2
Band 2	2	7
Band 3	7	13
Band 4	13	18
Band 5	18	27.5

In all tests, vegetation types (Acacia vs Callitris dominated, Figure 37) were tested independently. To investigate changes in community composition, trimmed, square-root transformed data was analysed using PERMANOVA. Models investigating community composition over time within each distance band were used to test whether communities closer to the MSS experienced greater change over time than those further from the MSS. Models testing for changes in community composition over time within different radial bands were employed to determine whether communities in the direction of the prevailing wind were experiencing greater change than those elsewhere. Differences in community composition over time between Control and Treatment sites was also investigated. PERMANOVA results indicate no significant changes over time in the Callitris dominated sites based on either distance or direction. Significant changes in community composition over time in the Acacia dominated sites were identified in Band 1 and Band 2, and in sites to the S, SE, NE, N and W of the MSS.

Where significant difference in community composition (Acacia dominated) was found, pairwise comparisons were conducted to identify which year pairs differed along with SIMPER (similarity percentage) analyses to determine which taxa contributed most to the observed change. Pairwise comparisons reveal that these differences were only statistically significant between certain year pairs in Band 2, and to the N and NE. SIMPER analyses suggest that

the observed shifts in Band 2 and to the N and NE are all primarily driven by notable increases in *Acacia ligulata* and, in some cases, *Dodonaea viscosa* (Figure 38, Figure 39, Figure 40, Figure 41).

These increases, occurring around 2009–2010, likely reflect a recruitment event triggered by favourable rainfall conditions. The magnitude of this shift is sufficient to be detected in year-on-year comparisons, suggesting a distinct, event-driven change in community structure. In contrast, Band 1 and the other direction groups where significant changes in community composition were detected show more subtle and gradual changes over time, which are sufficient to be detected in the overall PERMANOVA but not at the level of individual year pairs implying broader, less abrupt shifts in community composition. Note that the shift in community composition observed in Band 2 occurs at around the time the monitoring program was expanded to include additional sites. However, all of the sites established post-2009 fall in Bands 3 – 5 and furthermore, increases in *A. ligulata* and *D. viscosa* numbers are most strongly observed in sites monitored since 2006. This indicates that the results observed likely represent a genuine increase in abundance for these taxa in Band 2 resulting in a significant shift in community composition.

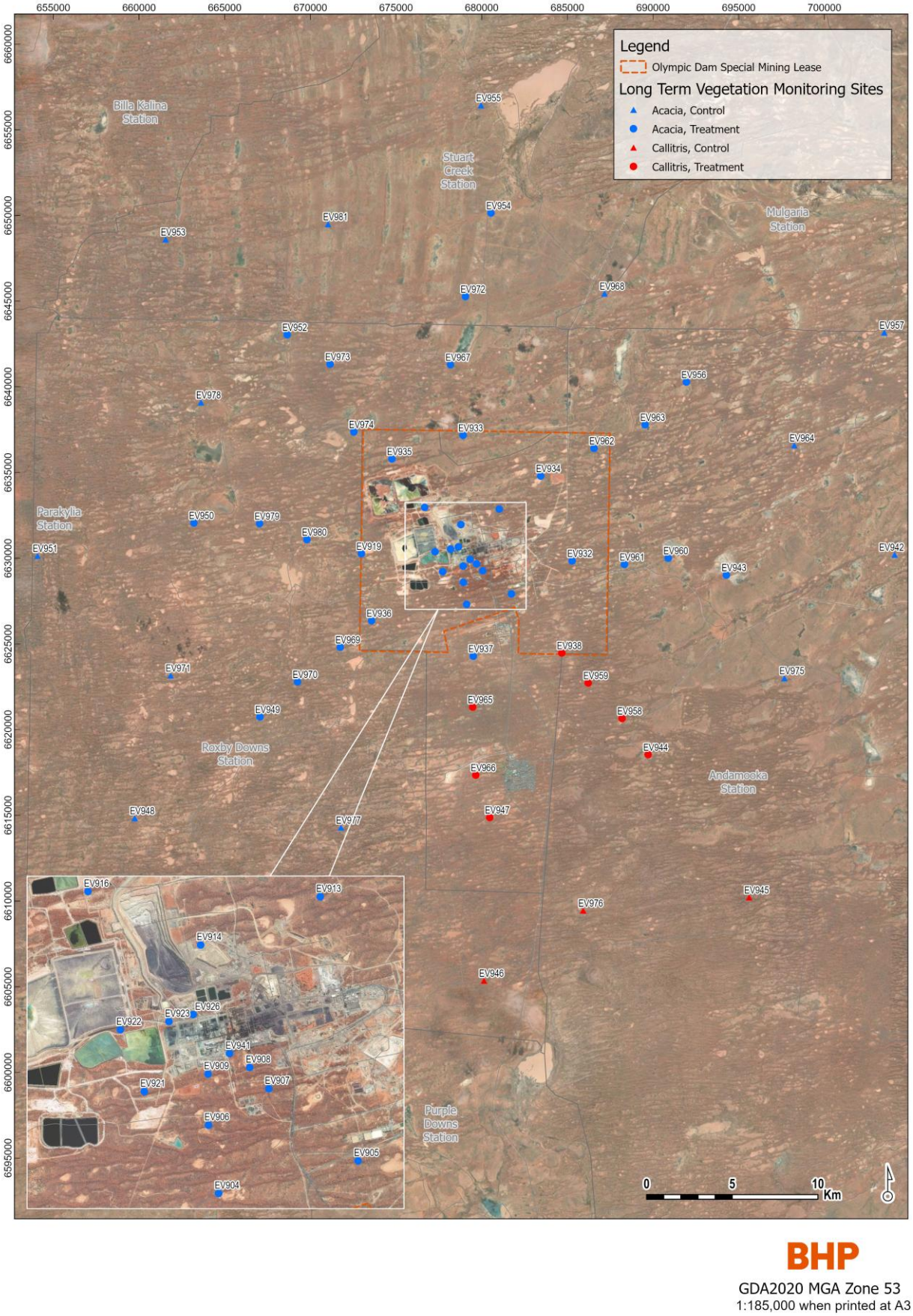


Figure 37: Location of radial sample sites monitored in FY25

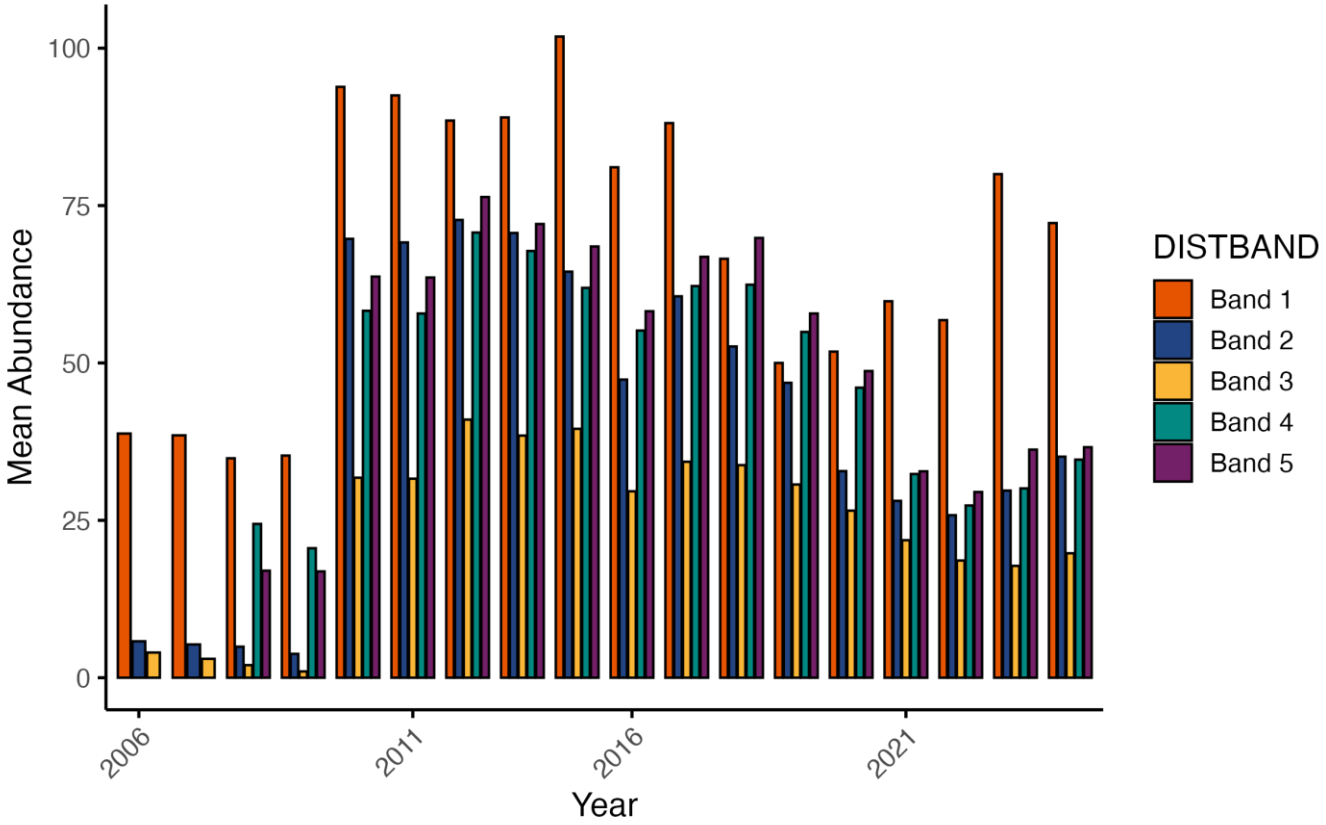


Figure 38: Mean *A. ligulata* abundance by Distance Band over time

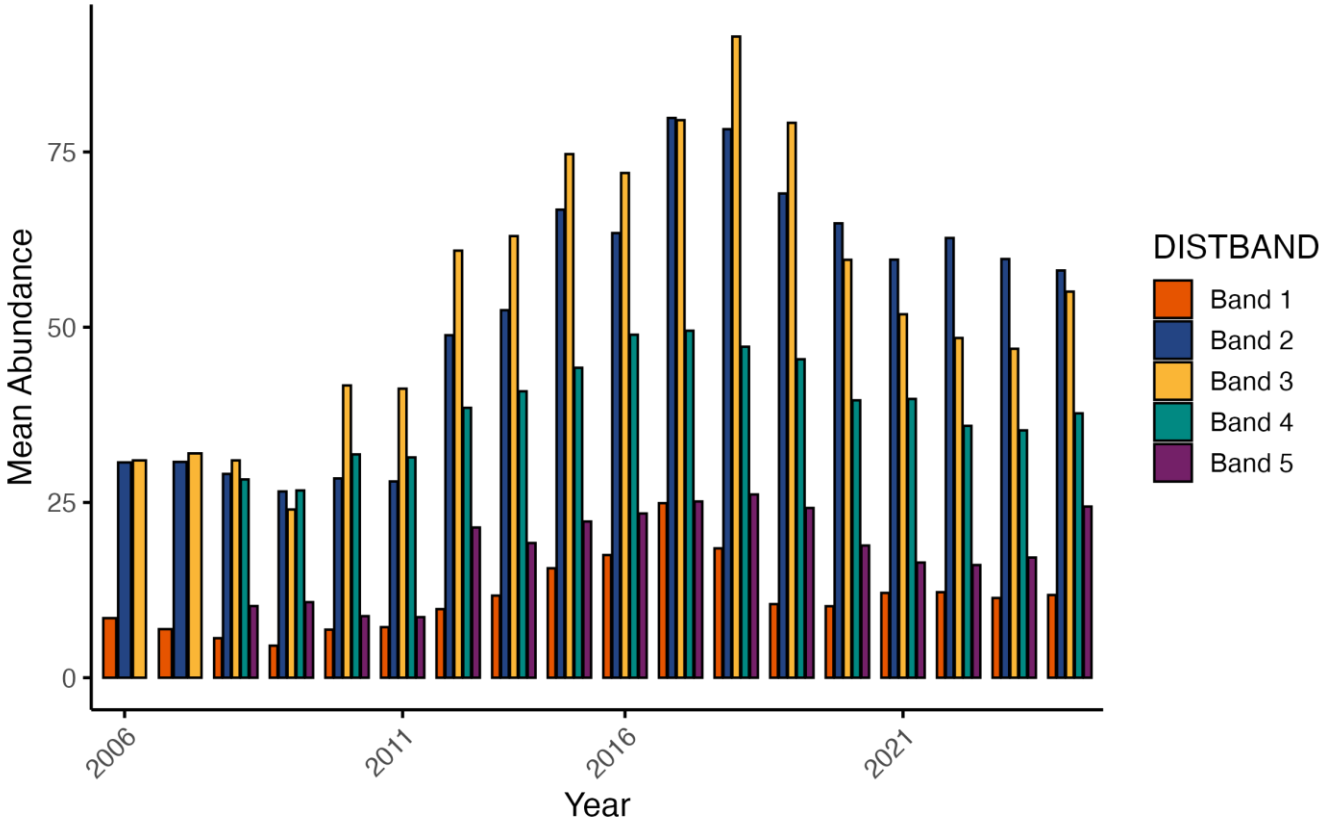


Figure 39: Mean *D. viscosa* abundance by Distance Band over time

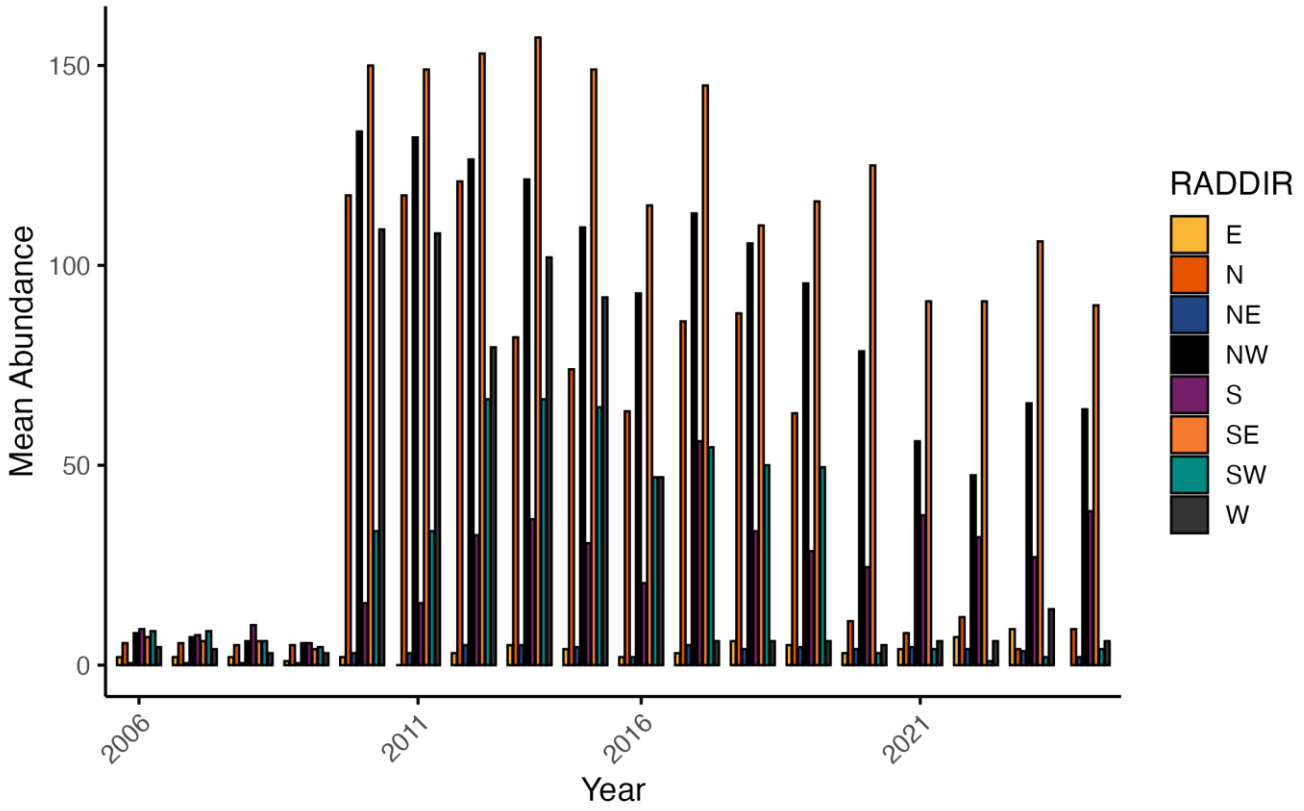


Figure 40: Mean *A. ligulata* abundance by radial direction over time

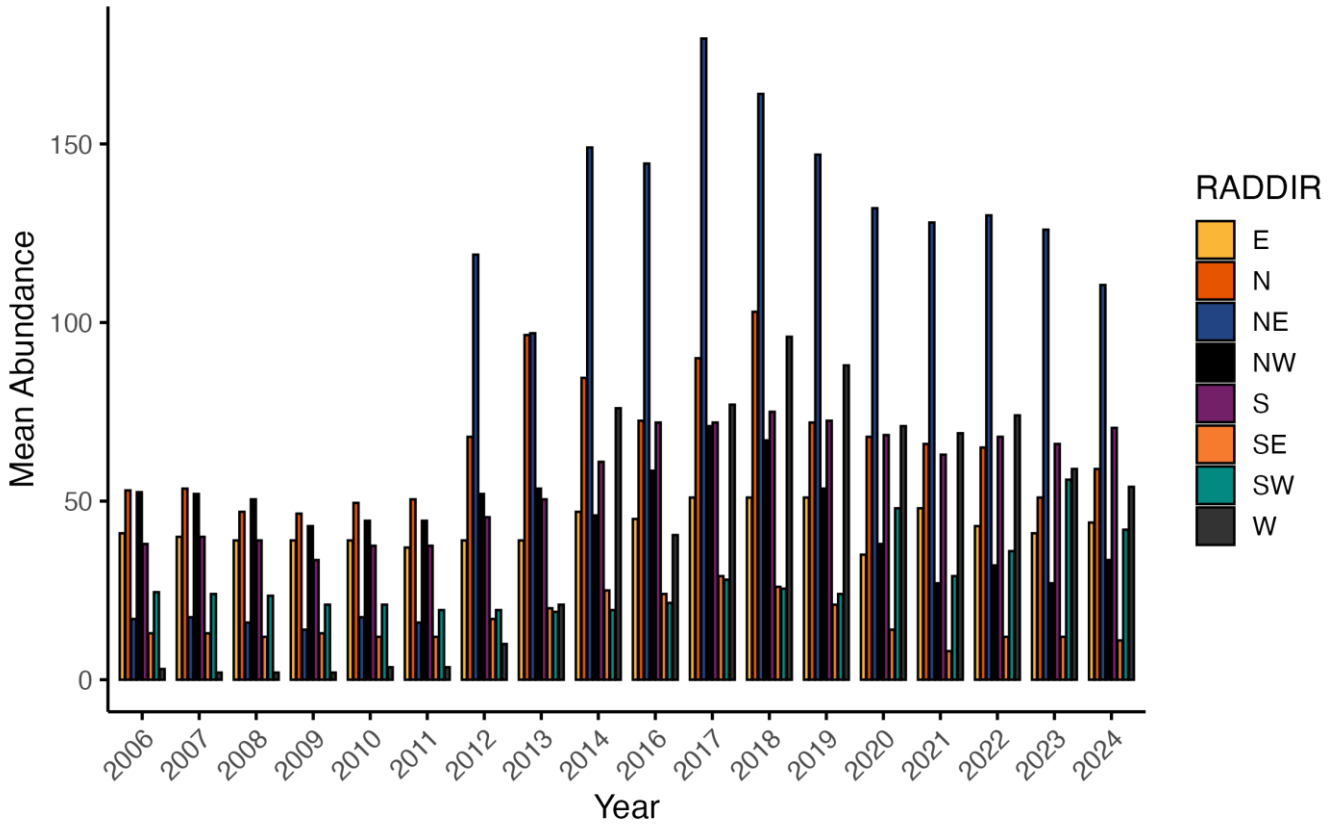


Figure 41: Mean *D. viscosa* abundance by radial direction over time

Provide a comparative assessment on perennial species existing at different distances from the Main Smelter Stack (MSS).

Simpson's diversity index was calculated for each site each year. As determined by Griffin and Dunlop (2015), a Simpson's value of 0.687 (upper bound for the 95 % confidence interval) was selected as the cut-off. Sites with a Simpson's index value approaching zero had greater plant diversity than the mean and sites with a Simpson's index value > 0.687 showed greater dominance than the mean. High Simpson's index values can indicate a shift in community composition related to the loss of sensitive taxa or increase in dominance of tolerant taxa and may be used to identify adverse impacts on plant communities. Potential change in Simpson's index over time was investigated as for PERMANOVA (within distance and direction bands, over time) using a Kruskal-Wallis test and sites with scores >0.687 identified.

PERMANOVA analysis of differences in community composition between Treatment and Control sites shows that these site types differ in both vegetation community types (Acacia dominated and Callitris dominated). Differences are again almost entirely attributable to differences in abundance of *A. ligulata* and *D. viscosa*. Investigation of Simpson's diversity index shows that there are no significant changes in this index over time either within distance bands or radial directions. There are several sites where the threshold of 0.687 is exceeded, however as there is no significant change in this index over time. It is likely that either change had already occurred prior to monitoring commencing, or change in this index is not sufficient to be statistically significant. To conclude, there is no distinct temporal change in diversity scores indicating a shift towards monoculture (of the dominant species). Multivariate analyses such as PERMANOVA are more sensitive to lower magnitude changes in community composition and are preferred over indices such as Simpson's diversity for detecting community change. Previous analysis of individual species abundance showed significant decreases in density but when analysed as a community, by distance from the MSS and radial direction there are no statistically significant differences.

3.1.9 Targets FY25

None applicable.

3.1.10 Actions FY25

Update the dust monitoring system with new equipment.

BHP continued engagement with a third-party contractor to carry out monthly service and repair works as required to ensure effective operation of the AQMS.

3.1.11 Continuous Improvement Opportunities FY25

Continue a watching brief on particulate monitoring technology and fugitive dust suppression technology.

None applicable.

3.2 Sulphur Dioxide Emissions

3.2.1 Environmental Outcome

No adverse impacts to public health as a result of sulphur dioxide (SO_2) emissions from ODC's operations.

The GLC levels for ambient air quality are based on the protection of human health (SA Environment Protection (Air Quality) Policy 2016). The Roxby Downs Township and Olympic Village ambient sulphur dioxide (SO_2) analyser results for the reporting period showed no exceedance of the SA Environment Protection (Air Quality) Policy 2016 for ambient air quality SO_2 at either Olympic Village or the Roxby Downs Township.

An annual review of monitoring data collected at sensitive receptors (ambient ground level concentrations) has shown there were no adverse impacts to public health as a result of SO_2 emissions from ODC's activities during FY25.

3.2.2 Compliance Criteria

Annual average SO_2 concentration of less than 0.02 ppm at sensitive receivers, Olympic Village and Roxby Downs (AE 3.1, AE 3.4).

The measured annual average SO_2 concentrations for FY25 were 0.00057 parts per million (ppm) and 0.00056 ppm at Roxby Downs and Olympic Village respectively, which is less than the 0.02 ppm SA Environment Protection (Air Quality) Policy 2016 GLC limit.

24 hour average SO_2 concentration of less than 0.08 ppm at sensitive receivers, Olympic Village and Roxby Downs (AE 3.1, AE 3.4).

The measured maximum 24-hour average SO_2 concentrations for FY25 were 0.0029 ppm and 0.0013 ppm for Roxby Downs and Olympic Village respectively. This is below the 0.02 ppm Environment Protection (Air Quality) Policy 2016 GLC limit.

One hour average SO_2 concentration of less than 0.2 ppm at sensitive receivers, Olympic Village and Roxby Downs (AE 3.1, AE 3.4).

The measured maximum hourly average SO_2 concentration for FY25 were 0.0029 ppm and 0.0017 ppm for Roxby Downs and Olympic Village respectively, which is less than the 0.1 ppm SA Environment Protection (Air Quality) Policy 2016 GLC limit.

3.2.3 Leading Indicators

None applicable.

3.2.4 Deliverables (AE 3.1)

Calibration records for SO_2 analysers on the MSS and APTS.

The Acid Plant Tails Stack (APTS) and MSS SO_2 analysers were maintained in accordance with site procedures and manufacturer recommendations throughout the reporting period. Calibration Maintenance Plans (CMPs) are scheduled through BHP's internal 1SAP and are automatically generated. These CMPs are part of OD's pollution control register and are monitored for completion. Currently, the in-stack real time SO_2 and particulate analysers on the MSS and the APTS are calibrated on a weekly and quarterly basis. All CMPs were completed for FY25, and the calibration records are kept electronically.

Records of particulate and SO_2 emissions from Smelter 2 to assess compliance with the emission limits of EPA Licence 1301 and to compare against Schedule 4 of the Environment Protection (Air Quality) Policy 2016 (EP (Air Quality) Policy), as shown in Table 3-1.

Isokinetic sampling of the MSS and APTS was undertaken in July 2024 and January 2025 for sulphur trioxide and sulphur dioxide. The results indicate continued compliance with the requirements of EPA Licence 1301 and the Environment Protection (Air Quality) Policy 2016 (Table 19, Table 20).

Table 19: Smelter 2 MSS emission sampling results FY25

	Sulphur Trioxide and Acid Mist* (mg/Nm^3)	Sulphur Dioxide** (mg/Nm^3)	Total Acid Gas (mg/Nm^3)
January 2025	ND	330	330
July 2024	4	211	215
Compliance Level	100	2400	3000

*Note: * Expressed as sulphur trioxide equivalent. ** EPA Licence 1301 requirement level without sulphur trioxide. "ND" = Not determined, which means no testing for this parameter was undertaken during the period.*

Table 20: Smelter 2 APTS emission sampling results FY25

	Sulphur Trioxide and Acid Mist* (mg/Nm^3)	Sulphur Dioxide** (mg/Nm^3)	Total Acid Gas (mg/Nm^3)
January 2025	8	480	488
July 2024	1	773	774
Compliance Level	100	2400	3000

*Note: * Expressed as sulphur trioxide equivalent. ** EPA Licence 1301 requirement level without sulphur trioxide.*

Records to assess compliance with the monitoring and reporting requirements of EPA Licence 1301 and the EP (Air Quality) Policy (see Table 4-1).

Olympic Dam Corporation compiles a report for the EPA every quarter outlining the operation of the Acid Plant Bypass Stack, the Flash Furnace Bypass Stack, the Electric Furnace Bypass Stack, and both of the Anode Furnace Bypass Stacks. With each operation, the date and time is recorded, along with the duration, reason for the event, and the actions to remedy the situation. Daily reports are sent to the Environment team outlining each event and Metallurgists provide the information on causes and actions. The quarterly report to the EPA also includes a summary of events resulting from the start-up or abnormal/emergency operation of the Acid Plant, which results in the total acid gas content of the APTS exceeding 3000 mg/m^3. Event details include the date and time, duration, cause and action(s) taken to remedy the situation. Similarly, events where the emission level exceeds 3000 mg/m^3 of residual gases from the MSS are also recorded in the quarterly report.

The monitored ground level concentration of SO_2 concentration is continuously recorded at Olympic Village and Roxby Downs AQMS and is maintained in the Airodis database. The GLC of SO_2 is reviewed each day via a daily report, along with the daily stack events. This process is managed via procedures and work management held within the 1SAP system.

Continuous monitoring occurs of SO_2 emissions from the APTS and MSS using an in-stack instrument. In stack analysers are calibrated and maintained to manufacturer standard, and this process is controlled by the 1SAP system. The total acid gas emissions from the APTS and the total sulphur trioxide emissions from the MSS are tested annually, managed by the 1SAP system.

Data to confirm that approximately 99 per cent of all SO_2 generated during the smelting process is captured.

The percentage of SO_2 recovery for FY25 was 99.35 %. This recovery is slightly lower than FY24 (99.44 %), but an increase from FY23 (99.31 %), FY22 (99.22 %), FY21 (99.11 %) and FY20 (98.97 %). The capture rate is compliant with the required approximate of approximately 99 % SO_2 capture deliverable.

3.2.5 Deliverables (AE 3.4)

Records of ground level SO_2 concentrations at the Olympic Village and Roxby Downs monitoring stations to assess compliance with the GLC requirements for SO_2 contained in Schedule 2 of the EP (Air Quality) Policy (see Table 3-2).

Ambient SO_2 1-hour, 24-hour, and 1-year average concentrations for FY25 at Olympic Dam Village and Roxby Downs were measured by real time continuous ambient SO_2 monitors in accordance with the EPA Licence 1301 Condition (Ambient Sulphur Dioxide Assessment: U-1072).

The measured maximum average 1-hour, 24-hour, and 1-year concentrations for Roxby Downs and Olympic Village results along with the applicable EPA (Air Quality) Policy 2016 GLC values, are presented in Table 21. The results of the measured concentration for the FY25 reporting period show that no exceedance of the GLC for ambient air quality limits of SO_2 occurred at Olympic Village or Roxby Downs Township (Figure 42, Figure 43, Figure 44, Figure 45, Figure 46, Figure 47) sensitive receiver monitoring locations.

Table 21: Average ambient SO_2 concentrations at Roxby Downs and Olympic Village for FY25

	Annual average concentration (ppm)	Maximum 24-hour average concentration (ppm)	Maximum Hourly average concentration (ppm)
Roxby Downs	0.00057	0.0029	0.0029
Olympic Village	0.00056	0.0013	0.0017
EPA (Air Quality) Policy 2016	0.02	0.08	0.2

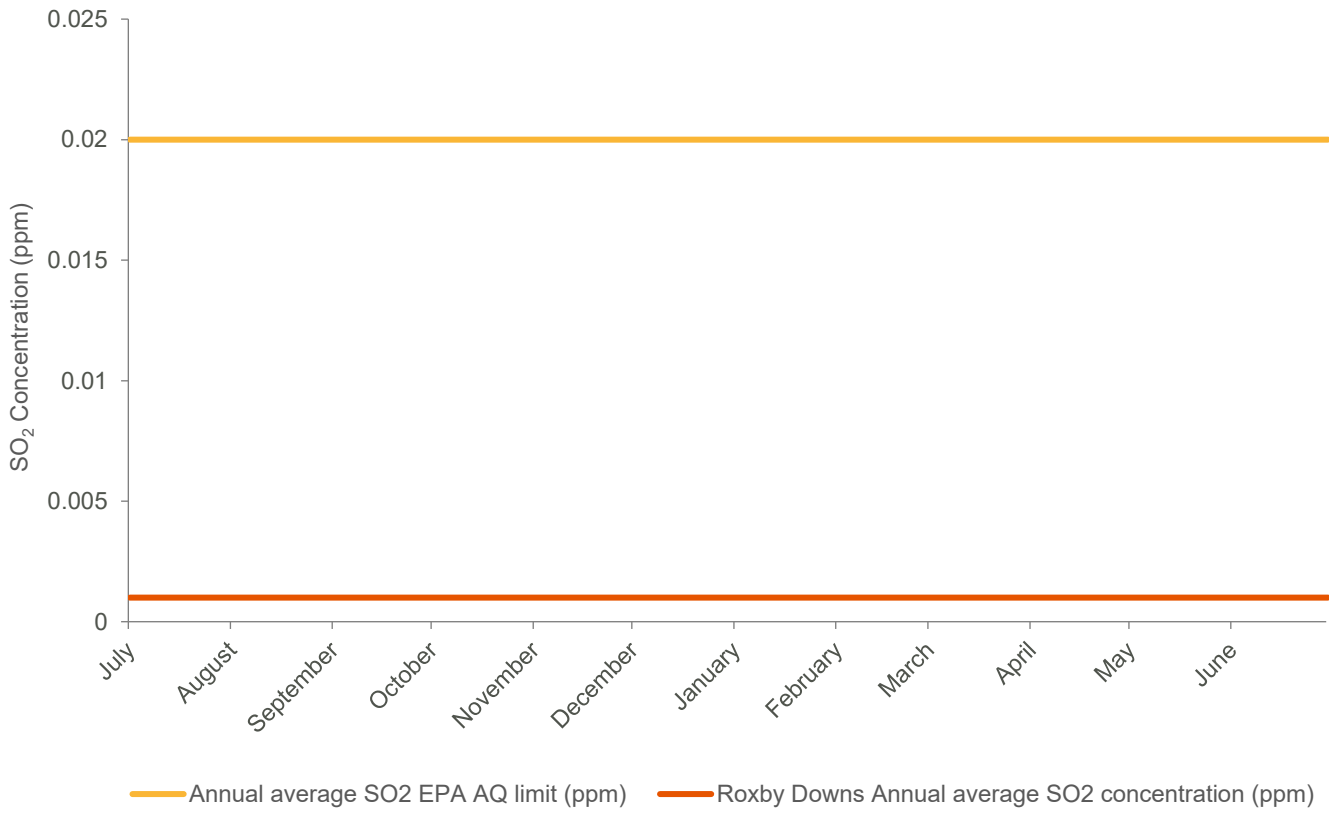


Figure 42: Measured annual average SO_2 concentration at sensitive receptor, Roxby Downs

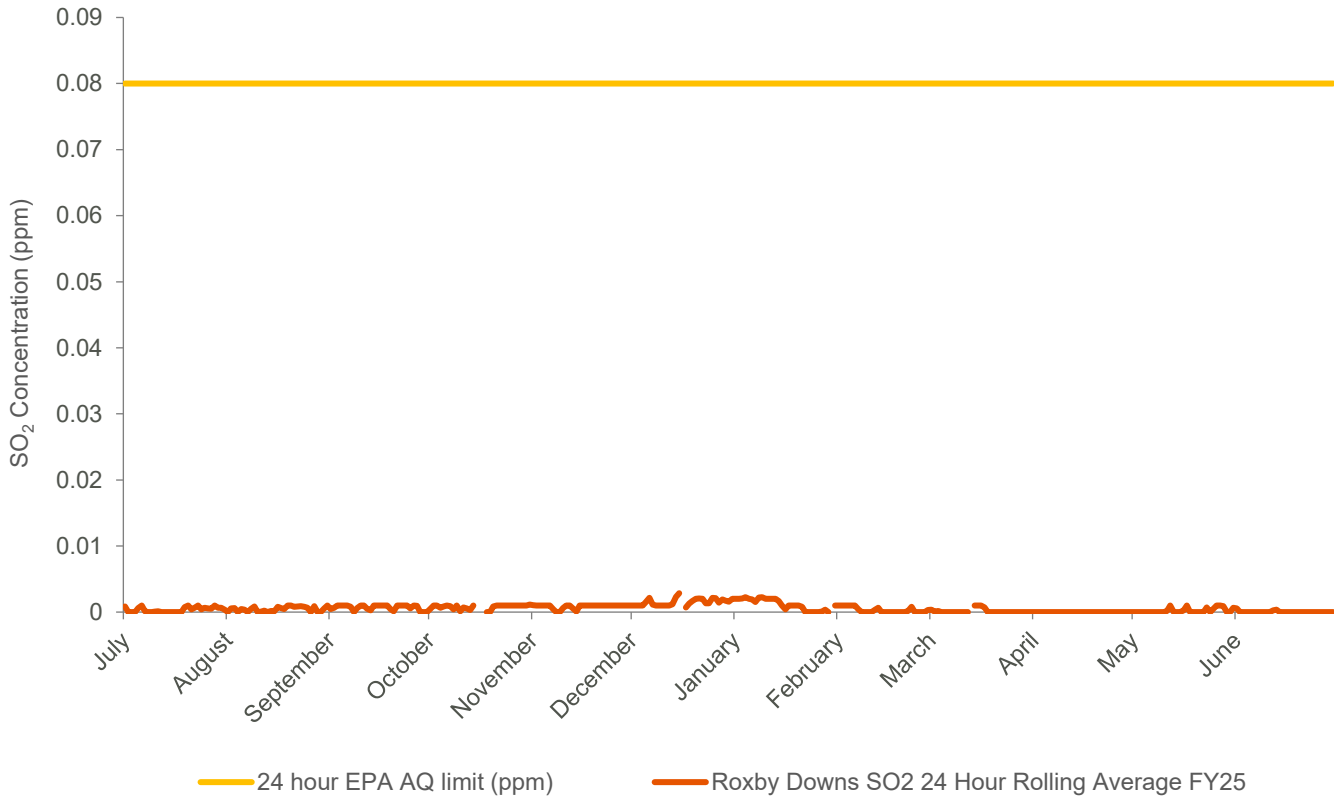


Figure 43: Measured 24-hr average SO_2 concentration at sensitive receptor, Roxby Downs

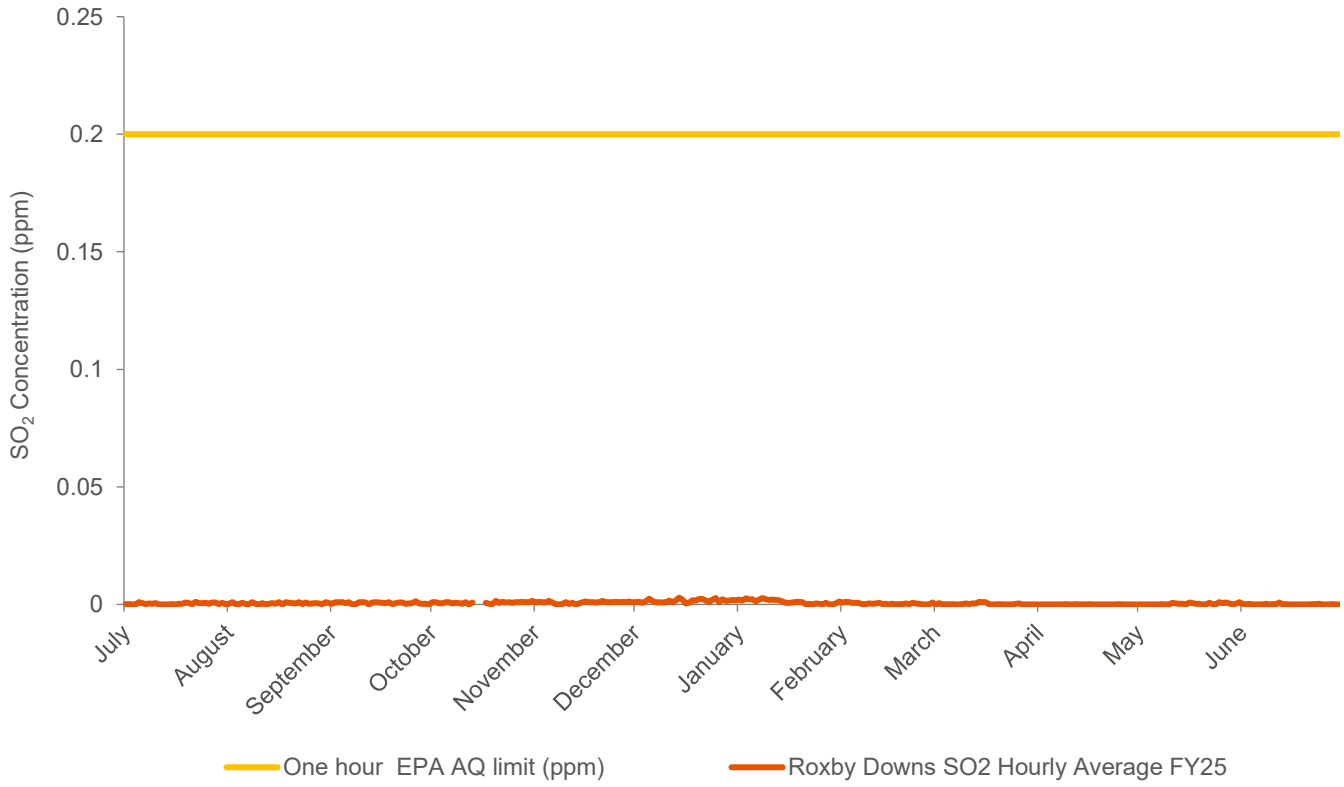


Figure 44: Measured average hourly SO_2 concentration at sensitive receptor, Roxby Downs

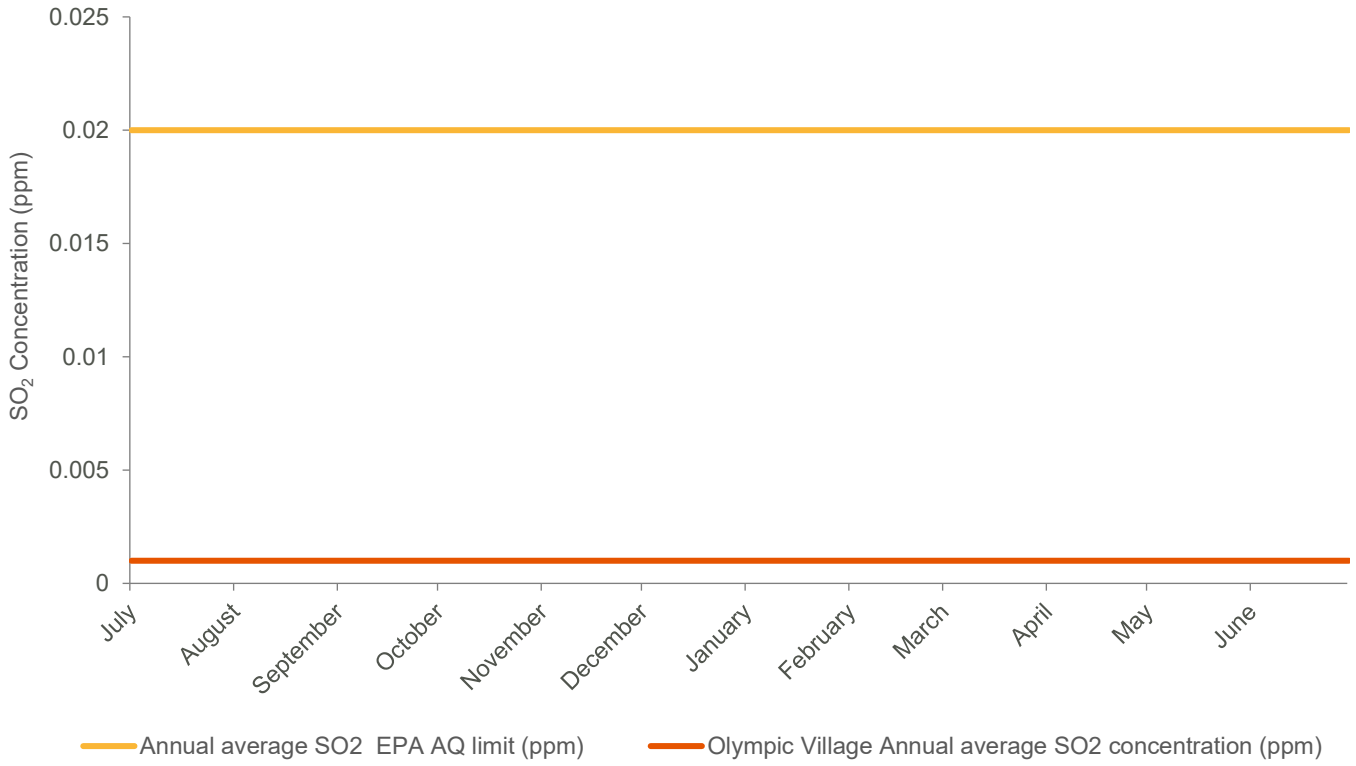


Figure 45: Measured annual average SO_2 concentration at sensitive receptor, Olympic Village

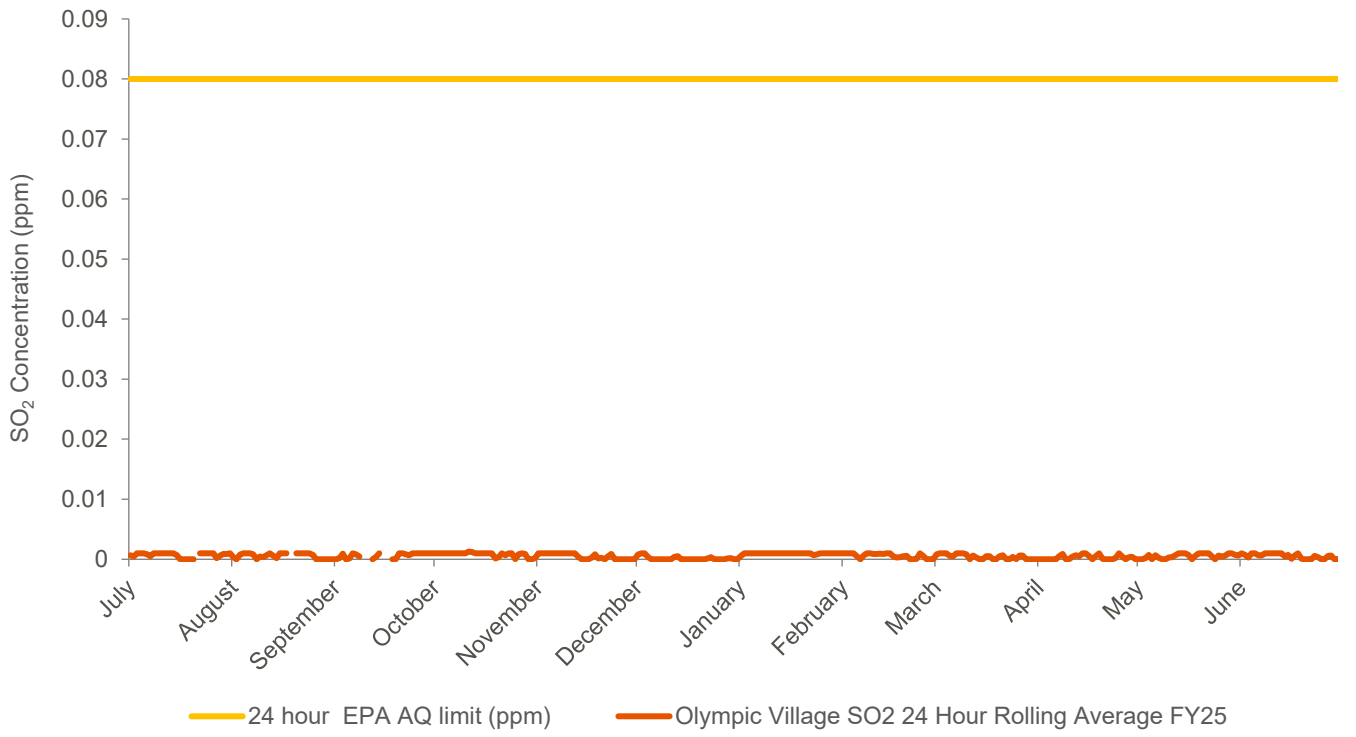


Figure 46: Measured 24-hr average SO_2 concentration at sensitive receptor, Olympic Village

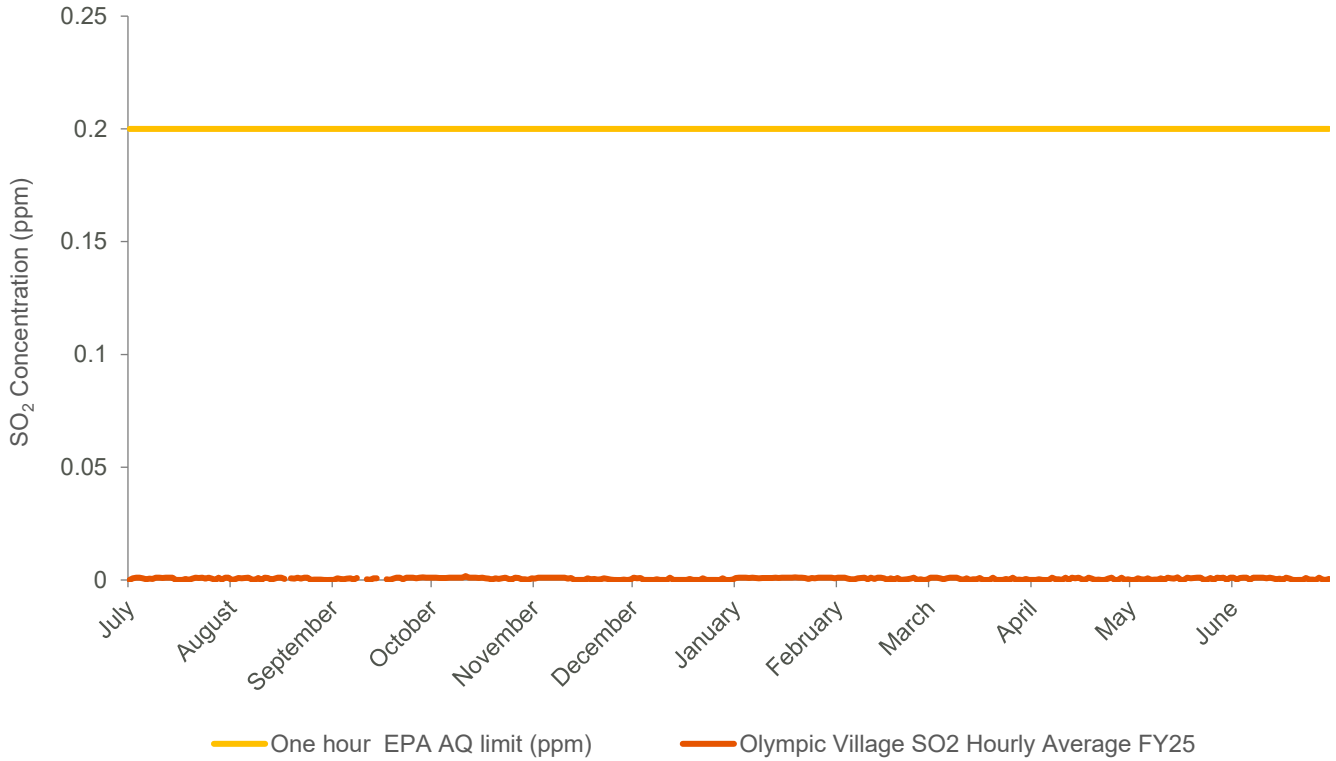


Figure 47: Measured average hourly average SO_2 concentration at sensitive receptor, Olympic Village

3.2.6 Targets FY25

Capture approximately 99 percent of all SO_2 generated during the smelting process.

This target has been achieved for FY25, refer to Sections 3.2.4 and 3.2.5 above.

3.2.7 Actions FY25

None applicable.

3.2.8 Continuous Improvement Opportunities FY25

Continue a watching brief on sulphur dioxide emission reduction technology.

None applicable.

3.3 Radioactive Emissions

3.3.1 Environmental Outcome

No adverse impacts to public health as a result of radioactive emissions from ODC's activities.

Olympic Dam Corporation has consistently operated in a manner that limits radiation dose to members of the public, from operational activities, to less than a small fraction of the 1 mSv/yr public dose limit prescribed by the ICRP. As a result, there are no adverse radiation exposure impacts to the public from activities undertaken at ODC.

No significant adverse impacts to populations of listed species or ecological communities as a result of radioactive emissions from ODC's activities.

There were no significant adverse impacts to populations of listed species or ecological communities as a result of ODC's activities. Monitoring of radiation doses to the public and the deposition of ^{238}U at non-human biota (NHB) assessment sites is used as an indicator of the potential exposure of listed species to radioactive emissions. Deposition of ^{238}U at non-human biota assessment sites was at a level which poses no significant adverse impacts to non-human biota.

3.3.2 Compliance Criteria

Radiation doses to members of the public less than 1 mSv/y above natural background (Aus 5d, 6, 13; State 34) (ER 3.2).

The total estimated dose in FY25 to members of the public at the Roxby Downs Monitoring Site and the Olympic Village Monitoring Site contributed by ODC operations was 0.035 mSv and 0.013 mSv respectively.

Deposition of project originated ^{238}U less than 25 Bq/m^2/y at the non-human biota assessment sites (ER 3.3).

The average deposition of ^{238}U, calculated as an average of results at the four monitoring sites was determined to be 2.38 Bq/m^2/y, well below the 25 Bq/m^2/y compliance criteria.

3.3.3 Leading Indicators

Indications that a dose constraint of 0.3 mSv/y to members of the public above natural background will be exceeded (Aus 5f, 6, 14; State 34) (ER 2.2.).

Indications that a reference level of 10 µGy/h for impacts on non-human biota above natural background will be exceeded (Aus 5f, 6, 14; State 34) (ER 2.3).

Note: The reference level for non-human biota is set as an interim criteria until such time as an agreed national approach is determined.

No leading indicators were triggered. Doses to members of the public are below OD's internal dose constraint of 0.3 mSv/yr. Similarly, the reference level of 10 micrograys per hour (uGy/h) for impacts on non-human biota has not been triggered.

3.3.4 Deliverables (ER 3.2)

Data leading to calculated estimates of annual radiation doses to members of the public in the critical groups identified in section 2.3 of this MP (Environmental Radiation).

The annual dose attributable to radon decay products (RDP) and radionuclides in dust is calculated and added to calculate the total annual effective dose for members of the public. The underlying calculation for each radionuclide is: Dose = Net Concentration × Dose Conversion Factor × Hours Per year

Where the concentration is in nano joules per cubic meter (nJ/m^3) (for RDPs) or Micro becquerel per cubic meter (µBq/m^3) (for radionuclides in dust) and there are 8,784 hours in a leap year. The dose conversion factor is different for each radionuclide.

Radon Decay Products

Monthly RDP averages and the five-year rolling average for the Roxby Downs and Olympic Village Monitoring Sites during FY25 are depicted in Figure 48. The estimated dose (FY25) from RDP to members of the public at Roxby Downs and Olympic Village contributed by ODC operations was 0.034 mSv and 0.011 mSv respectively. The dose results demonstrate that the dose to members of the public (as measured at both monitoring stations) due to RDP resulting from ODC operations is a small fraction of the applicable dose limit.

The FY25 data aligns with previous years and suggests that there is little operation related RDP concentration at these monitoring sites. The main source of RDP exposure at both stations is from natural radiation background, which shows significant seasonal variations throughout the year (Figure 48).

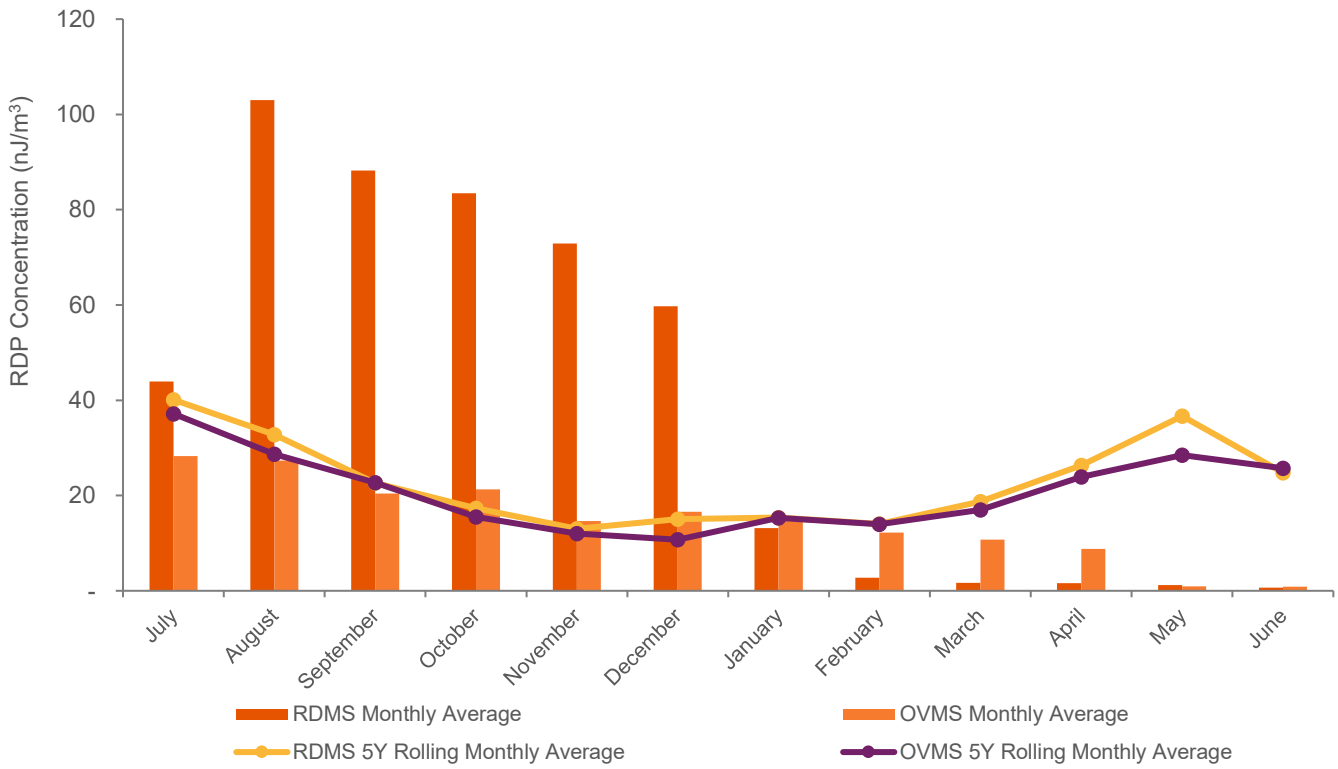


Figure 48: FY25 RDP monthly trends

Radionuclides in Dust Dose Assessment

Monthly concentrations of the long-lived radionuclides, ^{238}U, ^{230}Th, ^{226}Ra, ^{210}Pb and ^{210}Po for the 4-year period FY22-FY25 are shown in Figure 49, Figure 50, Figure 51, Figure 52 and Figure 53 (includes environmental background taken at the Roxby Downs Homestead in 2006 and 2007).

The estimated FY25 radiation doses to members of the public at the Roxby Downs Monitoring Site (RDMS) and the Olympic Village Monitoring Site (OVMS) due to long lived radionuclides in dust was 0.0009 mSv and 0.0019 mSv (adjusted for background) respectively. These correspond to 0.09 % and 0.19 % of the public dose limit of 1 mSv respectively. It is to be noted that the dust sampling and the radionuclide analysis processes have inherent uncertainties which contribute to the fluctuations seen in the radionuclide trends.

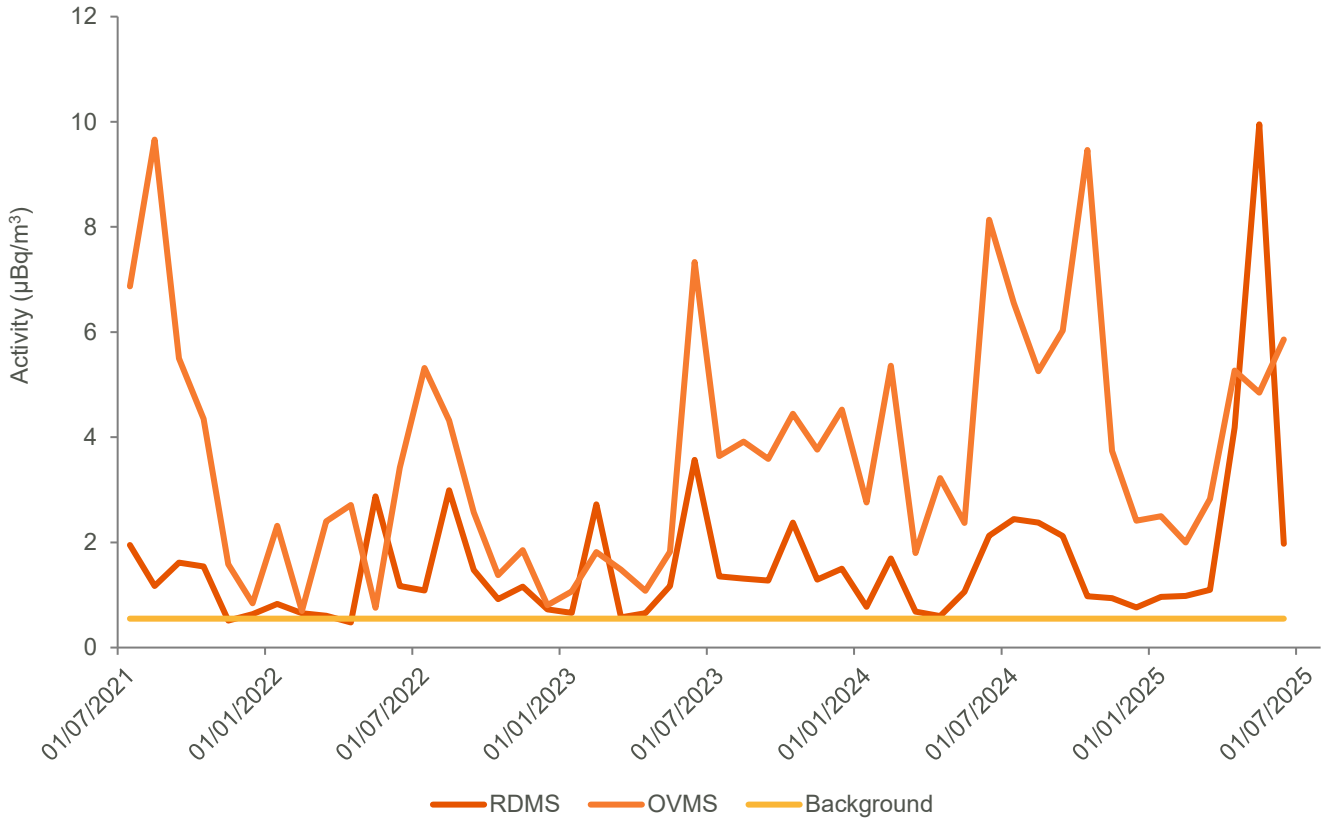


Figure 49: ^{238}U concentration for the 4-year period FY22 - FY25 (PM10)

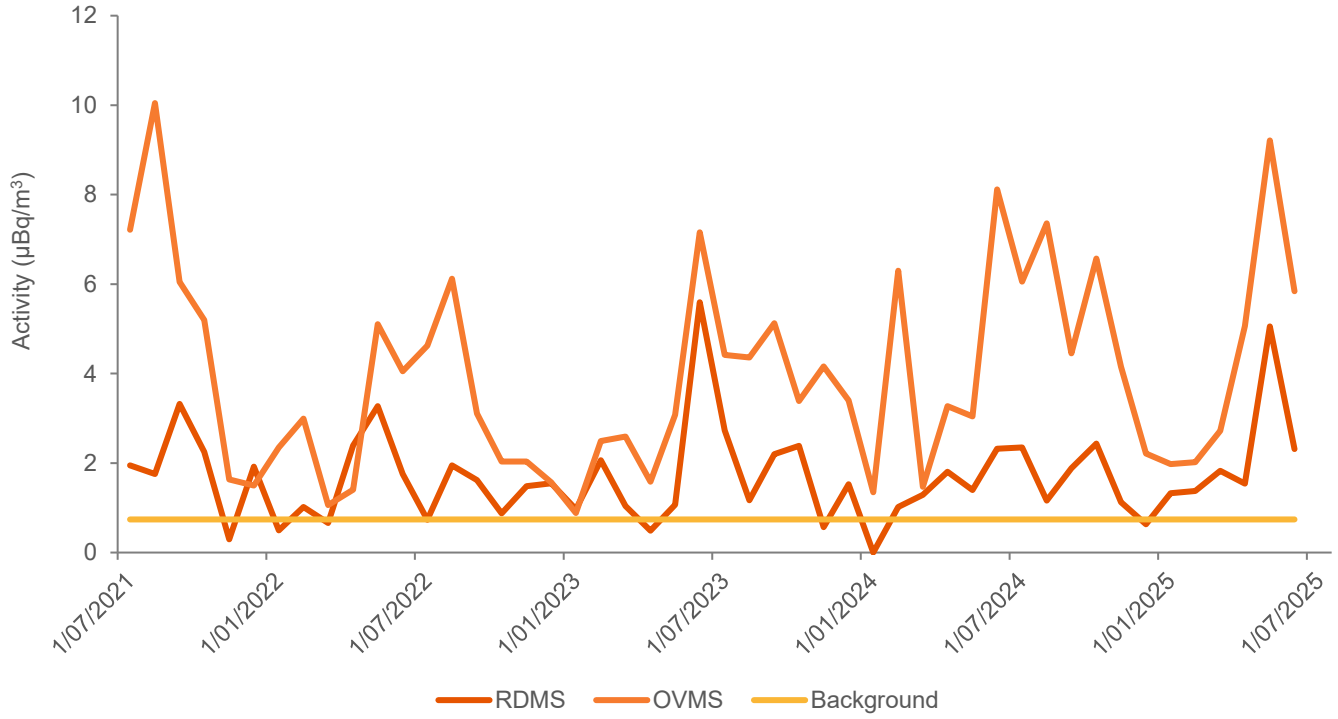


Figure 50: ^{230}Th concentration for the 4-year period FY22 - FY25 (PM_{10})

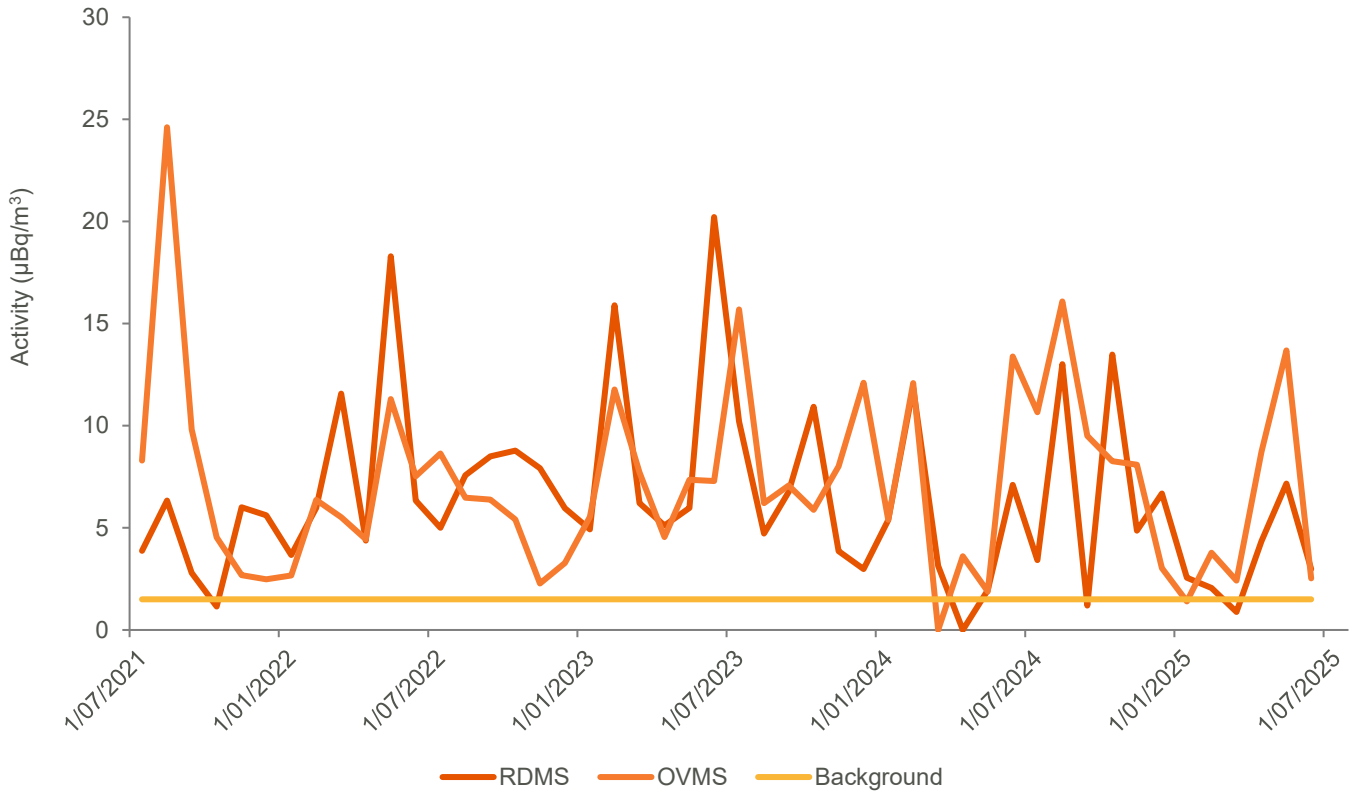


Figure 51: ^{226}Ra concentration for the 4-year period FY22 - FY25 (PM_{10})

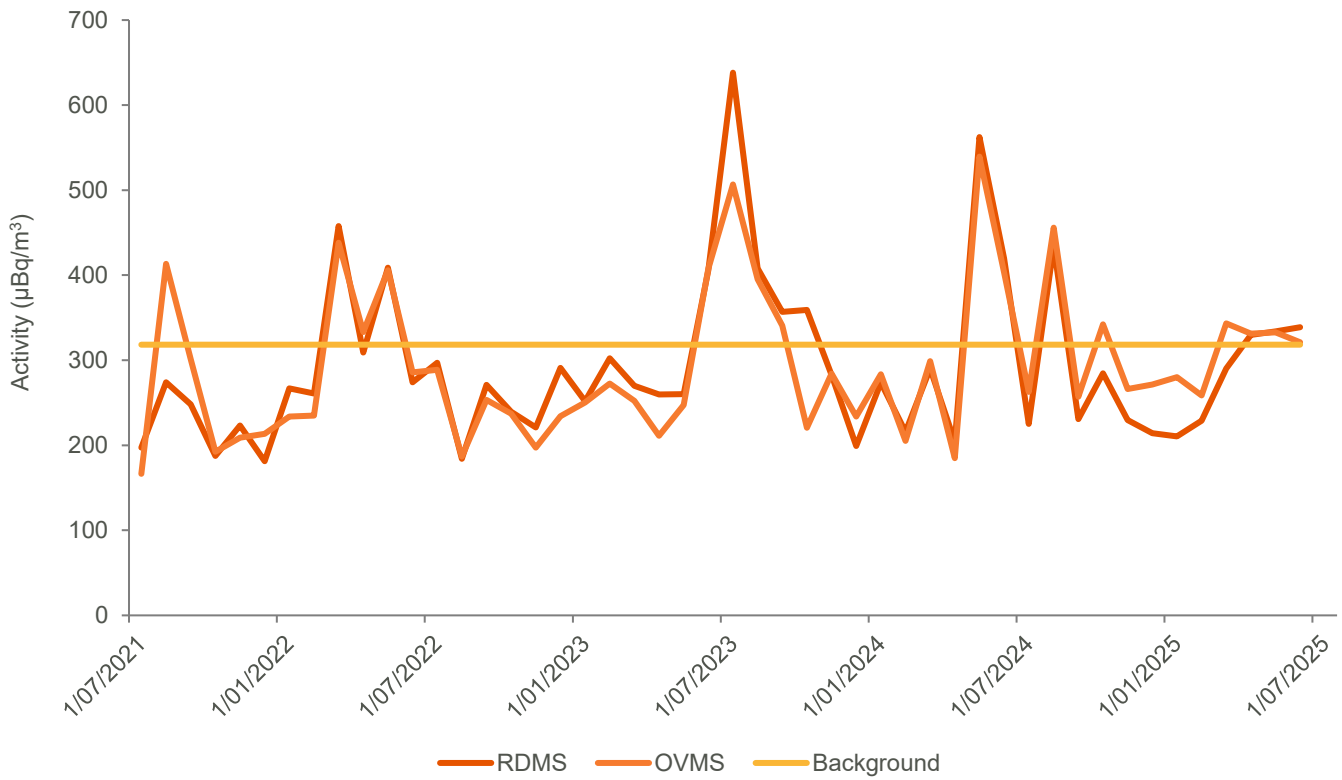


Figure 52: ^{210}Pb concentration for the 4-year period FY22 - FY25 (PM_{10})

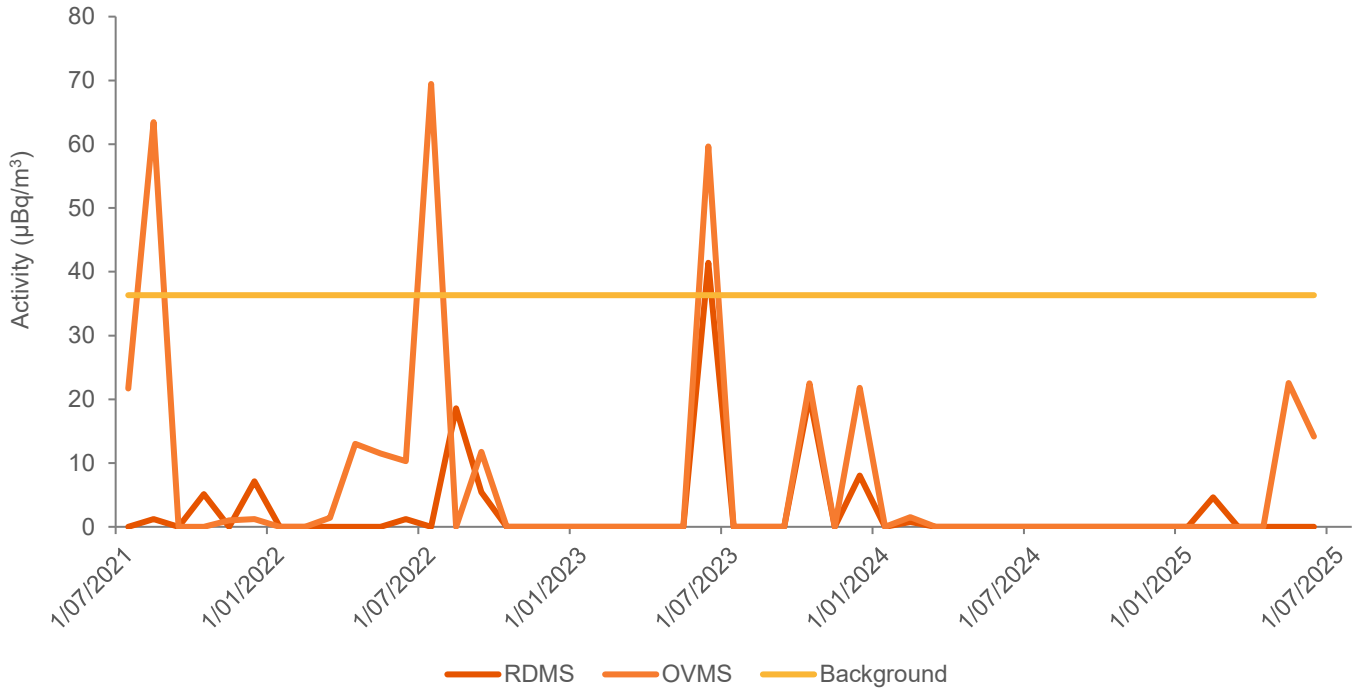


Figure 53: ^{210}Po concentration for the 4-year period FY22 - FY25 (PM_{10})

Total Dose to Members of the Public

In FY25, the total estimated dose contributed by ODC operations to members of the public at the RDMS and OVMS was 0.035 mSv and 0.013 mSv respectively. This is well below the 1 mSv/year public dose limit and OD's internal dose constraint of 0.3 mSv/yr. Figure 54 shows the annual trend of public doses at RDMS and OVMS.

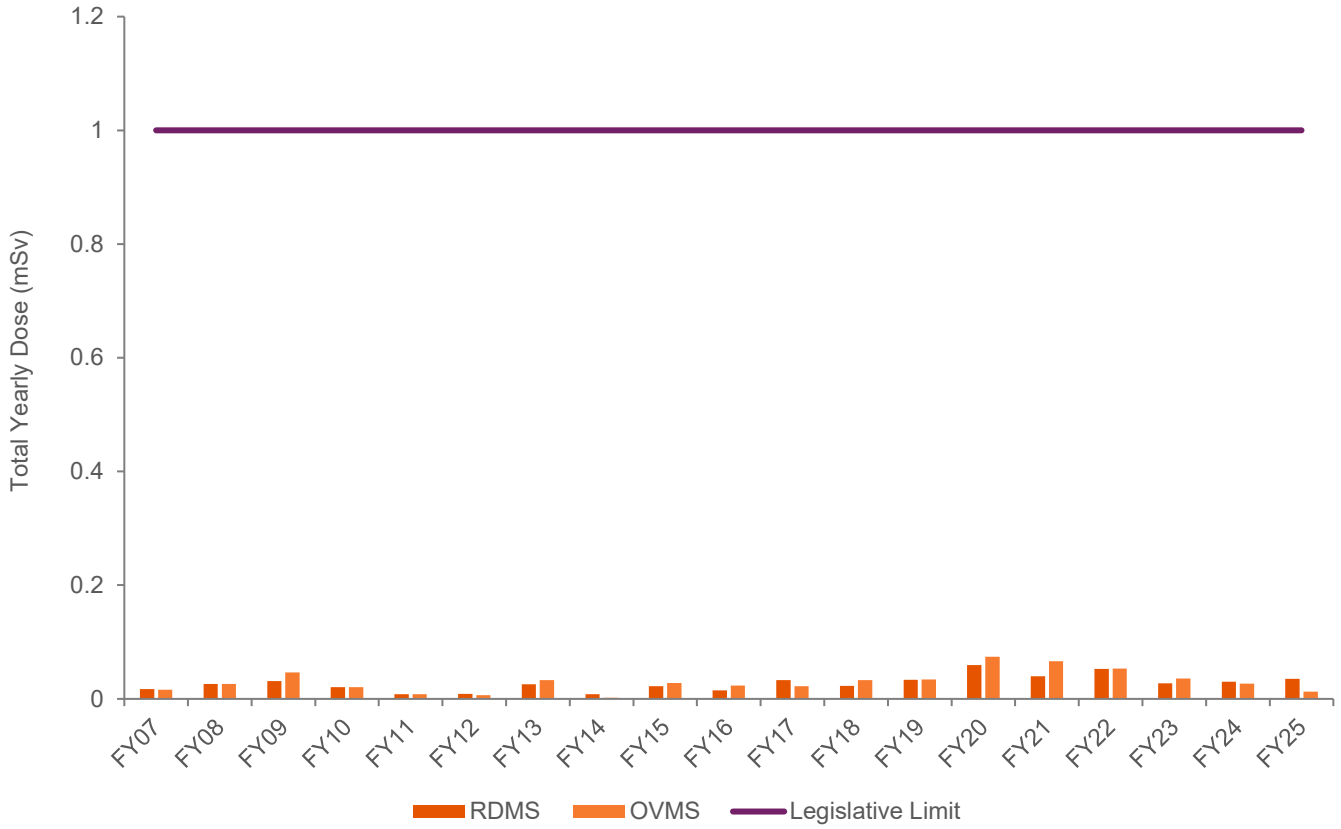


Figure 54: Annual total effective dose trends for RDMS and OVMS

3.3.5 Deliverables (ER 3.3)

Records from passive dust deposition monitoring sites and comparison with the annual compliance rate of 25 Bq/m^2/y of project originated ^{238}U at the NHB monitoring sites.

Assessment of the impacts to reference plants and animals (ARPANSA 2010) for the appropriate ERICA Tier level, including as necessary comparison of the results with the reference level of 10 µGy/h.

Dust Deposition

Passive dust monitoring data for FY25 indicated an average project-originated (after background subtraction) ^{238}U deposition rate of 2.38 becquerels per square meter per year (Bq/m^2/yr). Passive dust (PD) monitoring sites PD1, PD4, PD8 and PD13 were used for this assessment (Figure 55), with site PD14 used as the background site. The results, shown in Table 22, are well below the criterion of 25 Bq/m^2/yr.

Table 22: FY25 Project originated dust and ^{238}U deposition

Location	Project Originated Total Dust Deposition (g/m^2/y)	Project Originated ^{238}U Deposition (Bq/m^2/y)	Compliance Criteria (Bq/m^2/y)
PD1	12.54	5.93	25
PD4	1.85	2.59	25
PD8	-	0.44	25
PD13	-	0.56	25

*Note: *Cells left blank indicate that the result was less than background measurement.*

Dose Rate Reference Level

The ERICA software tool (v2.0.230) was used to assess the significance of measured radionuclide dust deposition data, with a Tier 2 analysis conducted for all default terrestrial organisms. The results of the ERICA analysis show that dose rates for all organisms are less than 10% of the reference dose level of 10 microGrays per hour (µGy/h) (Table 23). The risk quotient is a unit-less measure that compares the calculated NHB dose rate with the reference dose level.

Table 23: FY25 ERICA screening dose level and risk quotients

Organism	Total Dose Rate (µGy/h)	Reference Level (µGy/h)	Risk Quotient
Bird	0.0020	10	0.00020
Grasses and herbs	0.0145	10	0.00145
Mammal - small-burrowing	0.0048	10	0.00048
Mammal - large	0.0047	10	0.00047
Reptile	0.0075	10	0.00075
Shrub	0.0229	10	0.00229
Tree	0.0027	10	0.00027
Lichen and bryophytes	0.1321	10	0.01321

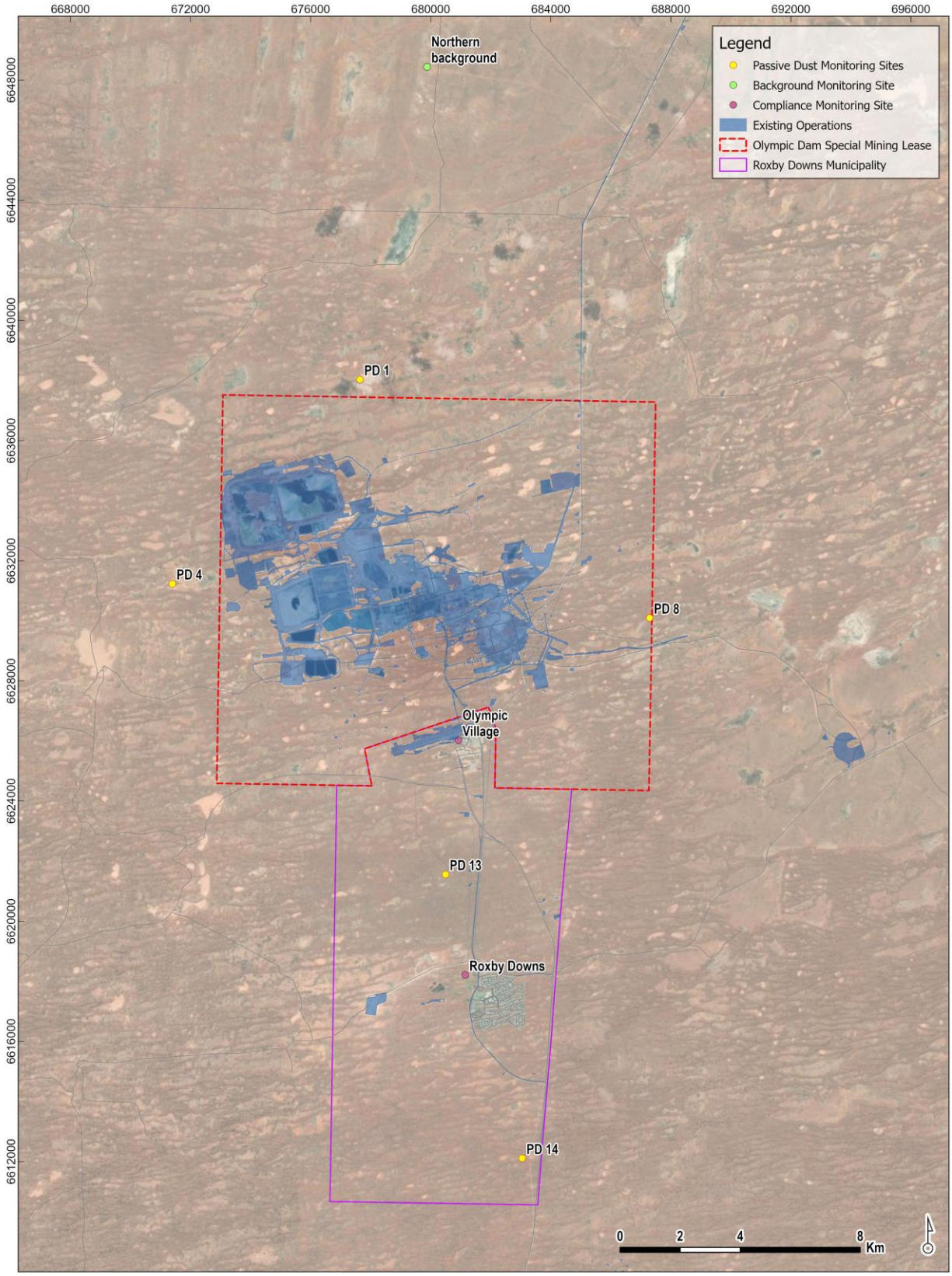


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Figure 55: Location of dust deposition monitoring sites

3.3.6 Deliverables (ER 3.4)

A database of radionuclide concentrations in the environment over the long-term.

A database of radionuclide concentrations has been maintained since 2005. Figure 49, Figure 50, Figure 51, Figure 52 and Figure 53 show the monthly trends of radionuclide concentration at the RDMS and OVMS.

3.3.7 Targets FY25

Maintain radiation doses as low as reasonably achievable, as assessed through the annual Radiation Management Plan Review.

The results of the monitoring program have shown operational contributions to radiation dose for members of public to be extremely low, being less than 10 % of the public dose limit of 1 mSv/yr.

3.3.8 Actions FY25

None applicable.

3.3.9 Continuous Improvement Opportunities FY25

International and national standards, guidance and codes are subject to change from time to time, to ensure effective protection of humans and the environment from the harmful effects of radiation. Any new recommendations or revisions should be reviewed and implemented as necessary.

Opportunity: Maintain a watching brief on ICRP and IAEA recommendations and any new or revised national Codes and implement as necessary.

Opportunity: Consider impacts of potential changes to ICRP recommended dose conversion factors for radon decay products and implement as required.

Opportunity: Consider impacts of potential changes to ICRP recommended internal dose coefficients and implement as required.

Opportunity: Develop an updated method of calculation of operationally sourced radionuclides in the environment now that sufficient historic data has been collected.

None applicable.

3.4 Greenhouse Gas Emissions

3.4.1 Environmental Outcome

Contribute to stabilising global atmospheric greenhouse gas concentrations to minimise environmental impacts associated with climate change.

BHP's climate change strategy focuses on reducing its operational greenhouse gas (GHG) emissions, procuring renewable electricity where feasible and incentivising new renewable generation projects, supporting low emissions technologies including electric mining equipment, vehicles, and steel producing technologies seeking to reach near zero emissions, minimising fugitive methane emissions at relevant assets, encouraging direct suppliers to pursue net-zero operational GHG emissions, and incentivising the shipping industry to develop and adopt low to zero GHG emission fuels. As a BHP group asset, ODC operates under the BHP group climate change strategy.

3.4.2 Compliance Criteria

Progress on GHG and energy reduction and abatement opportunities that contribute to BHP strategy and response to climate change, and OD's contribution to that strategy, reported annually (EG 3.2).

In 2020, BHP set a medium-term target to reduce operational GHG emissions (Scopes 1 and 2 emissions from its operated assets) by at least 30 % from FY2020 levels by FY2030. This FY2030 target was informed by the Pathways to Net Zero (P2NZ) project, which was established to understand opportunities to achieve and maintain net zero operational emissions by 2050. The P2NZ project identified a range of options for decarbonisation of BHP's operated assets. The key areas of focus are renewable electricity, low to zero GHG emissions material movement (e.g., reducing and, where possible, displacing diesel use in mining vehicles and equipment) and reducing hard-to-abate operational GHG emissions. ODC is focusing on decarbonising its electricity supply by FY2030 to help enable BHP to meet this target and prepare for future electrification and decarbonisation of our mining vehicles and equipment. See Section 3.4.4 for a discussion of GHG emissions reduction opportunities and achievements at OD.

3.4.3 Leading Indicators

None applicable.

3.4.4 Deliverables (EG 3.1)

Calculation of the site-wide Scope 1 and Scope 2 GHG emissions, expressed as kilotonnes of carbon (dioxide) equivalent (kt CO_2-e).

Calculation of the site-wide GHG emission intensities, expressed as carbon (dioxide) equivalent intensity (kg CO_2-e/t ore milled).

Scopes 1 and 2 GHG emissions were calculated using the National Greenhouse and Energy Reporting (NGER) guidelines, and emissions intensity was calculated and reported internally within BHP, in line with monthly corporate reporting requirements. For Scope 2, two reporting methods have been used based on the GHG Protocol Scope 2 Guidance (Scope 2 Guidance) (BHP 2025b):

- Market-based reporting: Scope 2 emissions based on the generator(s) supplying the electricity and therefore the generation fuel mix from which the reporter contractually purchases electricity and/or is directly provided electricity via a direct line transfer.
- Location-based reporting: Scope 2 emissions based on average energy generation emission factors for defined geographic locations, including local, subnational, or national boundaries (i.e. grid factors). In the case of a direct line transfer, the location-based GHG emissions are equivalent to the market-based GHG emissions.

For market-based reporting, electricity emission factors are sourced directly from the supplier where available, as evidenced by Renewable Energy Certificates (RECs) and/or supplier-provided documentation in line with the Scope 2 Guidance, unless otherwise specified. Where supplier-specific factors are not available, a default location-based emission factor for electricity is used instead, as published in local regulations or industry frameworks.

The calculated GHG market-based emission intensity in FY25 was 38.5 kg CO_{2-e}/t ore milled, compared to 46.1 kg CO_{2-e}/t ore milled in FY24 (Table 24). The lower intensity is the result of the surrender of large-scale generation certificates (LGCs) associated with a renewable energy Power Purchase Agreement (PPA) reflecting arrangements with Iberdrola that commenced from FY23 and was in effect during FY24 and FY25.

Decreased Scope 1 emissions Table 24 are due to a reduction in copper production at OD and decreased mill throughput in FY25 and the processing of 1,950 t of copper concentrate imported from Carrapateena and 22,800 t of copper concentrate imported from Prominent Hill.

Table 24: GHG emissions and intensity

	Total emissions (kt CO_2-e)	Scope 1 (kt CO_2-e)	Scope 2 (kt CO_2-e)	GHG intensity (kg CO_2-e/t ore milled)
FY25 (location-based)	495	230	265	47.9
FY25 (market- based)	398	230	168	38.5
FY24 (location-based)	533	244	288	50.6*
FY24 (market- based)	490	244	246	46.1*

*Note: Numbers have been rounded to the nearest kt. *Numbers have been updated to reflect adjustment to total ore milled for FY24 (previously reported value was calculated using total material milled in error).*

An annual report on BHP initiatives and progress on GHG and energy reduction and abatement opportunities that contribute to BHP strategy and response to climate change, and OD's contribution to that strategy.

The BHP Annual Report 2025 (BHP 2025c) and BHP Environmental, Social and Governance (ESG) Standards and Databook 2025 (BHP 2025d) report on BHP's progress against its long-term goal to achieve net zero operational GHG emissions by 2050, its medium-term target to reduce operational GHG emissions by at least 30 % by FY2030 against a FY2020 baseline, and provide additional GHG emissions and energy consumption data.

Due to the significant contribution of grid electricity to the OD operational GHG emissions profile, the focus of the operational decarbonisation plan in the near to medium-term for OD is on the transition to renewable energy. Diesel displacement and options to further reduce, and ideally eliminate, remaining GHG emissions will be regularly reviewed to leverage technological maturity and market readiness.

In FY23, BHP signed a large-scale renewable PPA with Neoen for the supply of 70 megawatts (MW) of electricity from FY2026. The PPA is supporting the construction of the 203 MW Goyder 1b Wind Farm, which will form part of the larger Goyder Renewables Zone in South Australia. In addition, a large-scale battery energy storage system in Blyth, South Australia will support the PPA and assist in improving the stability of the South Australian electricity grid. This PPA builds on the arrangements put in place in FY22 with Iberdrola that commenced in FY23 and include supply from the Port August Renewable Energy Park in South Australia.

ODC will continue to explore commercial opportunities to accelerate the move toward 100 % renewable energy. The Epiroc fully electric jumbo continues to operate underground at Olympic Dam, following the completion of the trial period, and 2 x R2900XE diesel-electric loaders commenced operation underground at Olympic Dam in July 2025, the size of the loaders enable them to move more material per trip than the loaders that they have replaced, additionally they burn approximately 30 % less fuel than their predecessors.

3.4.5 Targets FY25

None applicable.

3.4.6 Actions FY25

None applicable.

3.4.7 Continuous Improvement Opportunities FY25

Continue to identify and implement energy efficiency projects for the existing operation to support Asset-level GHG reductions.

ODC has continued to operate an energy use improvement capture process to identify energy reduction or efficiency improvements across OD. These are captured as Retailer Energy Productivity Scheme (REPS) activities, which are tracked through the project delivery lifecycle and provide evidence of the energy savings. ODC also aims to establish a system and pipeline of ideas that will lead to future REPS projects and improvement initiatives.

In FY25, ODC investigated GHG reduction opportunities as an overlay to a number of future growth project scopes, some of which will enter the project pipeline and be submitted to government via the retailer at the appropriate time.

4. GENERATION OF INDUSTRIAL WASTE

4.1 Embankment Stability of TSF

4.1.1 Environmental Outcome

No significant TSF embankment failure.

During FY25 the TSFs were managed in accordance with the TRS Operation, Maintenance and Surveillance Manual (BHP Olympic Dam 2025e) and the Tailings Retention System Management Plan (BHP Olympic Dam 2022a) and no embankment failures occurred.

4.1.2 Compliance Criteria

No significant radioactive contamination arising from uncontrolled loss of radioactive material as a result of an embankment failure to the natural environment (ER 3.4, WA 3.1).

Note: Any embankment failure that leads to a reportable spill under the Bachmann Criteria will be considered significant. Significant is defined as requiring assessment and remedial action in accordance with NEPM (Assessment of Site Contamination) 1999 or SA Environment Protection (Water Quality) Policy 2015 and the Mining Code. Measurement and monitoring is carried out in response to a specific event.

No uncontrolled loss of radioactive material to the natural environment because of an embankment failure occurred during FY25. To manage the risk of embankment failure, the rate of rise of tailings was maintained below 2 m per annum and the supernatant pond area was maintained below the target set for this purpose.

4.1.3 Leading Indicators

Indications that the rate of rise of tailings will exceed an average of 2 m per annum.

The rate of rise of tailings has been limited to 2 m per annum or less for all cells to ensure consolidation of tailings material. During the reporting period, tailings were distributed to TSF5 and TSF6.

TSF5 had average rates of rise of the perimeter tailings beach of 1.23 m. TSF6 continued to undergo early operation during FY25 with an average rate of rise of the perimeter beach of 0.85 m.

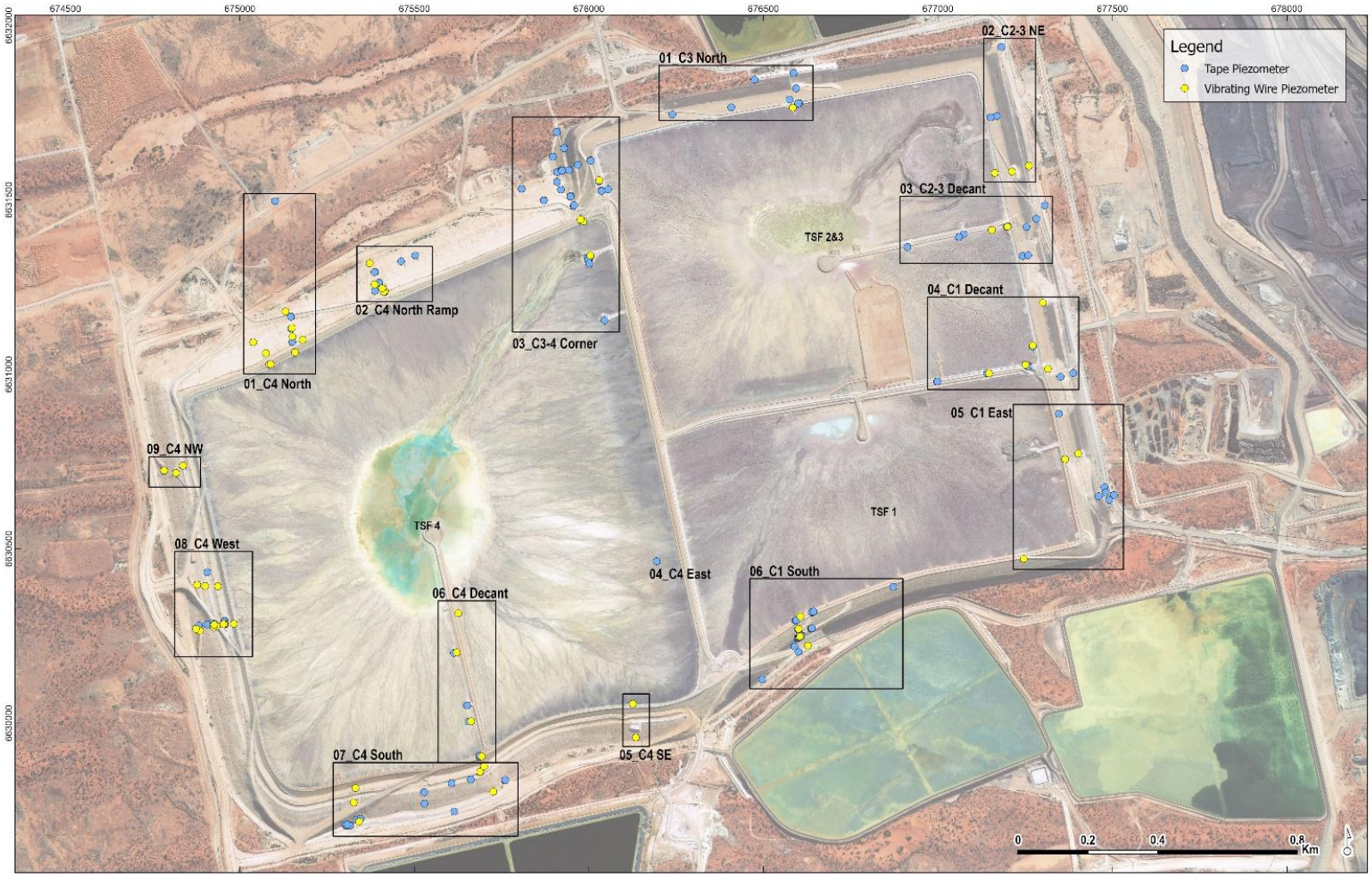
Indications that the rate of rise of pore pressures within or adjacent to the TSF embankment will exceed the rate of rise of tailings.

Assessing pore pressure against the rate of rise provides an indication of whether excess pore pressures are developing in the embankment. The rise in phreatic levels at Vibrating Wire Piezometer (VWP) locations (Figure 56, Figure 57) in FY25 is less than or equal to the average rate of rise in tailings.

Indications that the maximum supernatant pond area of individual TSF cells will exceed 15 ha for TSF1, 23 ha for TSF2/3, 90 ha for TSF4, 135 ha for TSF5 and 135 ha for TSF6.

Note: Each TSF has been assigned a maximum supernatant pond size which is calculated using critical operating parameters, surface contours and an allowance for significant rainfall events. Operating beyond these ponds sizes may not result in embankment failure but are considered an appropriate leading indicator in which operational processes should be reviewed. The maximum supernatant pond area for TSF6 is based on TSF5 parameters and the determination of the final maximum supernatant pond area for TSF6 will be based on the actual beach slope and distance to embankment which is not expected to be known until several years post commissioning.

The supernatant ponds are visually checked daily, surveyed monthly and assessed quarterly using satellite imagery. During FY25 the recorded pond sizes were below the leading indicator specified sizes.



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GDA2020 MGA Zone 53
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Figure 56: TSF 1-4 piezometer locations

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GDA2020 MGA Zone 53
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Figure 57: TSF5-6 piezometer locations

4.1.4 Deliverables (WA 3.1)

The tailings stored at the TSFs are defined as radioactive material as they contain uranium radioactive decay chain products with an activity level exceeding the 1 Becquerel per gram (Bq/g) limit that is referenced in the regulations under the *Radiation Protection and Control Act 2021*.

Monitoring of the TSFs, including rate of rise of tailings, supernatant pond areas and pore pressure all contribute to management of the TSFs to ensure no uncontrolled loss of radioactive material to the natural environment or significant embankment failure.

Monitoring data showing the size and location of the supernatant liquor ponds in each TSF cell on a monthly basis (EPA 1301.U-535).

Large supernatant liquor ponds have the potential to impact upon embankment stability by increasing the phreatic surface within the tailings and embankments, which in turn can lower the strength of the tailings and embankment materials. The combined TSF pond areas during FY25 are shown in Figure 58. The combined pond size was within the normal operating zone throughout the financial year.

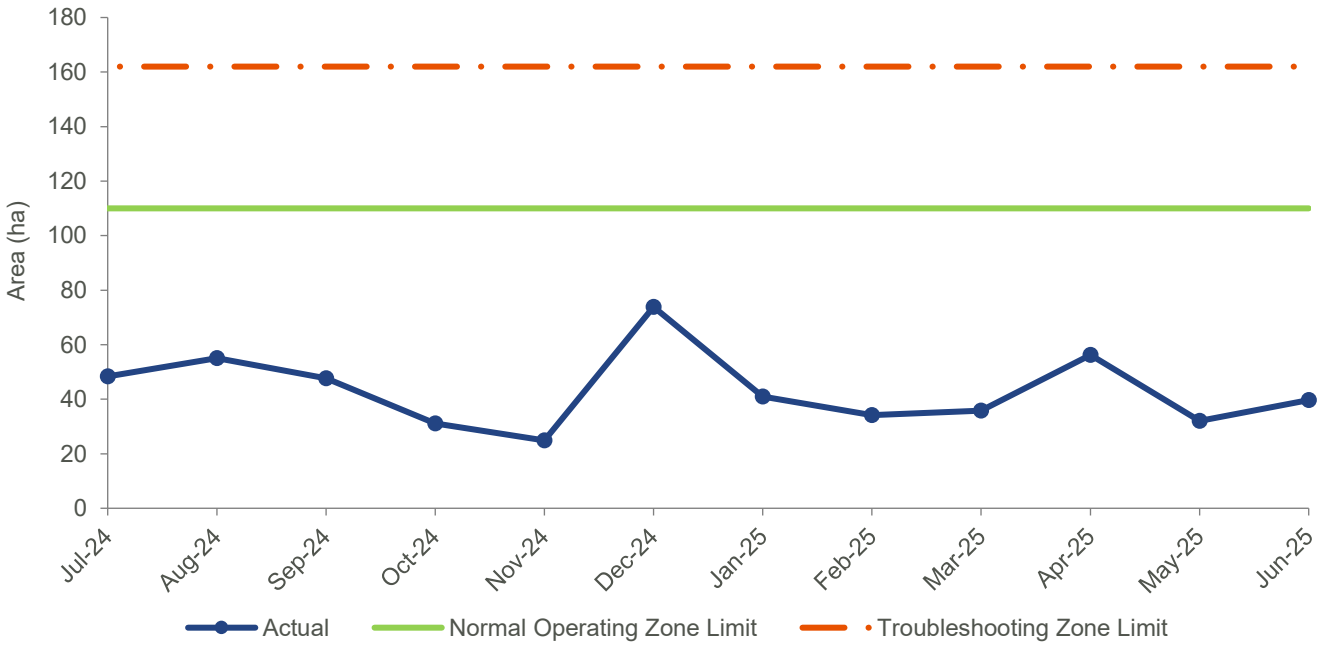

Figure 58: FY25 combined TSF pond size (ha)

In October 2023 BHP received approval from the EPA and DEM to temporarily increase the Normal Operating Zone pond size targets for TSF5 and TSF6 to 135 ha each, as a contingency for possible delays in the commissioning of EP7, which is due to be completed in September 2025. The Normal Operating Zone target will be returned to its normal level three months after EP7 is commissioned in approximately December 2025.

Monitoring data showing the rate of rise of tailings in each TSF cell.

At current processing rates approximately 9 to 10 million tonnes per annum (Mtpa) of tailings containing low levels of radioactivity are disposed of in the TSFs annually. The rate of rise of tailings has been limited to 2 m per annum or less for all TSF cells to ensure consolidation of tailings material. Tailings were distributed to TSF cells 5 and 6 with an average rate of rise of the perimeter tailings beach of 1.23 m and 0.85 m per annum, respectively. The elevation of tailings in the cells illustrated in Figure 59 gives an indication of the rate of rise of the perimeter tailings beaches.

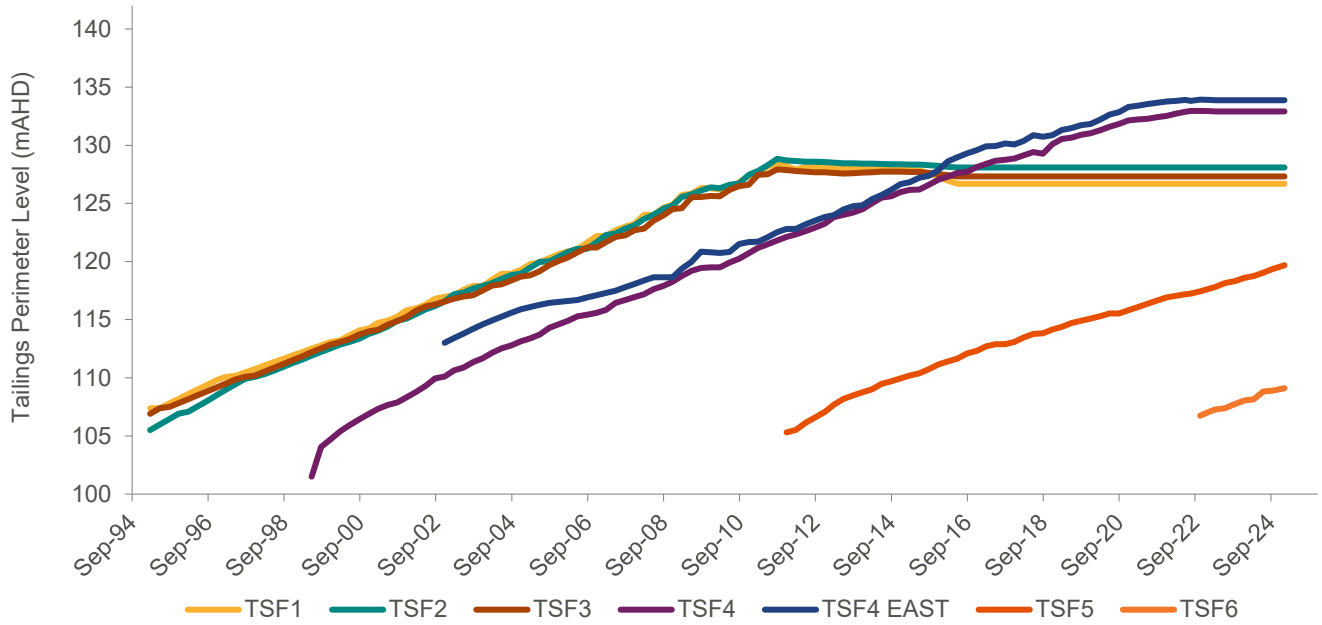

Figure 59: TSF rate of tailings rise

Monitoring data showing the pore pressures within tailings adjacent to the external walls of the TSF.

Piezometers are monitored on a 4-weekly basis to assess the pore pressures within the tailings adjacent to the embankments of the TSFs (Figure 56, Figure 57). Two types of piezometers are used, standpipe (Tape) and VWPs (Figure 56, Figure 57). Most of the network is now fully automated, including trigger alarms for Critical Operating Parameters (COPs) for embankment stability.

The Australian National Committee on Large Dams (ANCOLD 2019) provides minimum Factors of Safety (FoS) for different loading conditions. Results of the biennial stability assessment undertaken in FY25 are presented in Table 25. All results are for the current height of the embankments, with each Section (Section's in Table 25 and locations of Wall Section in Figure 56, Figure 57) being a conservative representation of a portion of the TSF. During FY25 the Engineer of Record (EoR) updated the trigger levels for the phreatic pore pressures COPs (WSP 2025a, WSP 2025b). This included a review of the current conditions' stability with results summarized in Table 25.

Table 25: FY25 stability analysis results (WSP 2025a, WSP2025b)

TSF Status	Wall Section	Peak FoS (min – 1.5)	Post peak FoS (min – 1.0)	Section
Active	TSF5 North	1.53	>1	6
	TSF5 East	1.79	>1	7
	TSF5 Southeast	1.52	>1	8
	TSF5 Southwest	1.53	>1	15
	TSF5 Shared south	2.07	>1	16
	TSF5 West	2.34	>1	17
	TSF5 Northeast	***1.46***	>1	18
	TSF6 West Wall	2.75	>1	19

TSF Status	Wall Section	Peak FoS (min – 1.5)	Post peak FoS (min – 1.0)	Section
	TSF6 South Wall	2.29	>1	20
Inactive	TSF1 East South	***1.39***	***<1***	9
	TSF1 Southeast	1.50	1.13	14
	TSF2/3 East North	***1.40***	***<1***	1
	TSF2/3 North	***1.39***	***<1***	2
	TSF2/3 East South	***1.43***	***<1***	10
	TSF4 Northwest	***1.37***	***<1***	3
	TSF4 West North	***1.49***	***<1***	4
	TSF4 Southwest	***1.39***	***<1***	5
	TSF4 North	1.63	***<1***	11
	TSF4 West Southwest	1.67	***<1***	12
	TSF4 Southeast	***1.39***	***<1***	13

Note: Values below the ANCOLD threshold values are in bolded italics.

ANCOLD (2019) and the Global Industry Standard on Tailings Management (GISTM 2020) provide renewed guidance on the method for assessment of post peak (post-seismic or liquefied) tailings strengths. The design should apply a conservative approach to stability assessment involving materials susceptible to static liquefaction by assuming that triggering (liquefaction) does occur (ANCOLD 2019). ANCOLD (2019) provides updated guidance to ANCOLD (2012) Section 6.1.6 – Acceptable Factors of Safety and Deformation. This outlines an advanced numerical method approach to determine if deformations under various loading conditions are within acceptable limits to confirm that release of tailings is unlikely.

As a part of its commitment to TSF integrity, actions have been identified, planned and progressed by BHP as follows:

TSF5 has generally lower peak FoS compared to the result from the 2022 stability assessment. This is due to lower tailings Undrained Shear Strength Ratios (USRs) being adopted following the latest Cone penetrometer test (CPT) campaign. Due to the Peak FoS of Section 18 (TSF Northeast in Table 25 and position 03_NE in Figure 57) being below 1.5, a project for construction of a t buttress to restore the FoS at Section 18 has been initiated.

TSFs 1-3 have not been in operation since 2011. Hence, they are not being actively loaded, nor the phreatic levels recharged, and they continue to be monitored in accordance with the ANCOLD guidelines. A closure cover trial commenced in FY25. The performance of this cover trial will demonstrate the options for full closure that provide for long-term stability. These options will then progress to a detailed design stage. Following a suitable monitoring period, the full closure of TSFs 1-3 will be implemented.

TSF4 underwent an advanced numerical modelling assessment to confirm that release of tailings is unlikely. TSF4 was determined to not require additional buttressing efforts for the post peak case and was approved by the EoR, Independent Technical Review Board and Accountable Executive in accordance with BHP's tailings governance requirements.

VWP Readings

TSF1-3:

As shown in (Figure 56, Figure 60, Figure 61, Figure 62, Figure 63, Figure 64, Figure 65), the majority of the piezometers located in the saturated layer along the east, north and south walls and decants of TSFs 1-3 show a continued gradual pressure drop consistent with the cessation of tailings deposition in October 2011. It is noted that a few VWPs, such as VWP224, have been experiencing a slight pressure increase. This is potentially due to the internal seepage water recharge from TSF4 and is not considered critical as the water level in this piezometer is below the inferred phreatic surface.

TSF4:

Piezometers installed in the tailings and upper embankment of TSF4 show levels have been largely constant over the reporting period. A gradual decreasing trend can be seen in some of the VWP readings in Figure 66 and Figure 67 after December 2022. Tailings deposition ceased in TSF4 in October 2022.

TSF5:

Piezometers installed in the tailings and upper embankment of TSF5 show levels have been relatively constant over the reporting period, with minor fluctuations. A gradual increase can be discerned, which is expected as tailings continue to be added to TSF5. In FY25 the EoR conducted an assessment comparing the rate of rise of tailings with the rate of rise of VWPs. TSF5 has been divided up into Separable Portions to facilitate deposition and wall raise scheduling (Figure 68). Figure 69, Figure 70, Figure 71 and Figure 72 show that the rate of rise of VWPs are lower than that of tailings.

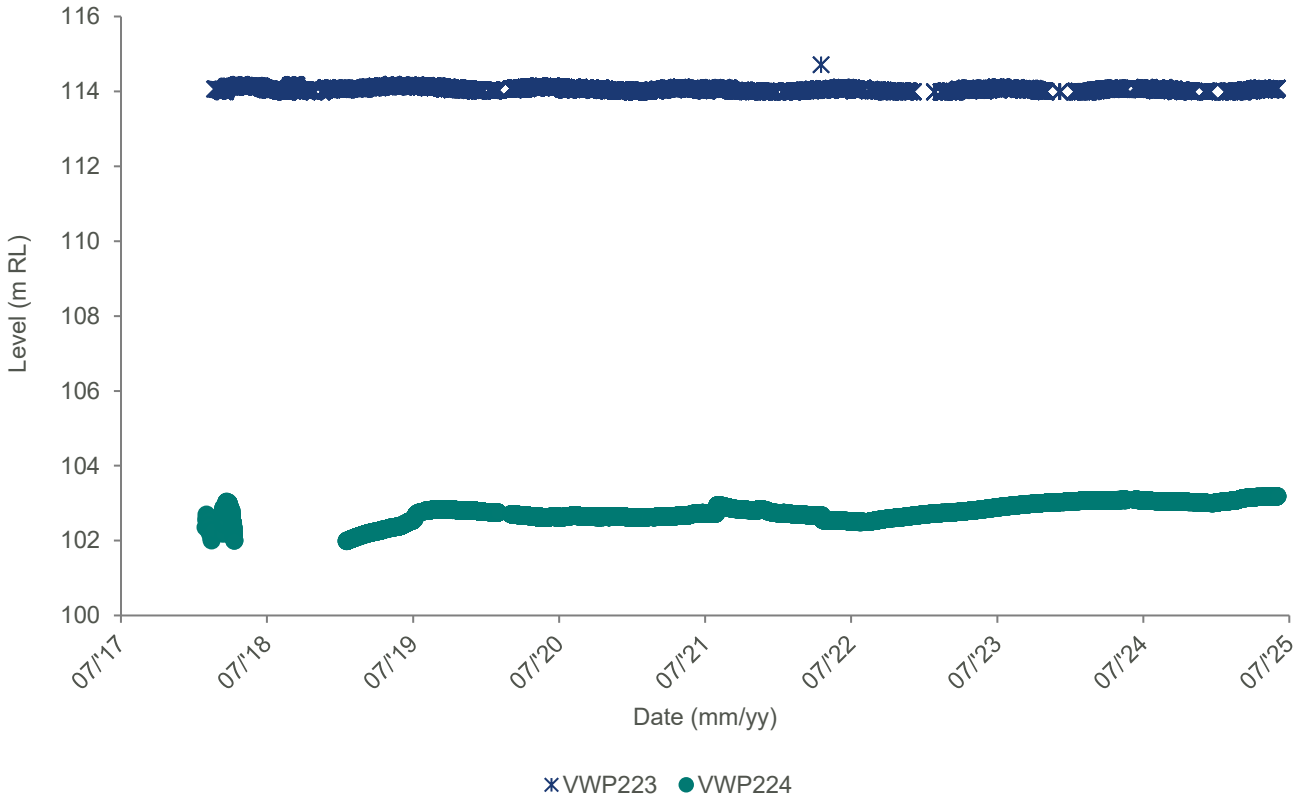

Figure 60: TSF2/3 north wall VWPs (01_C3 North)

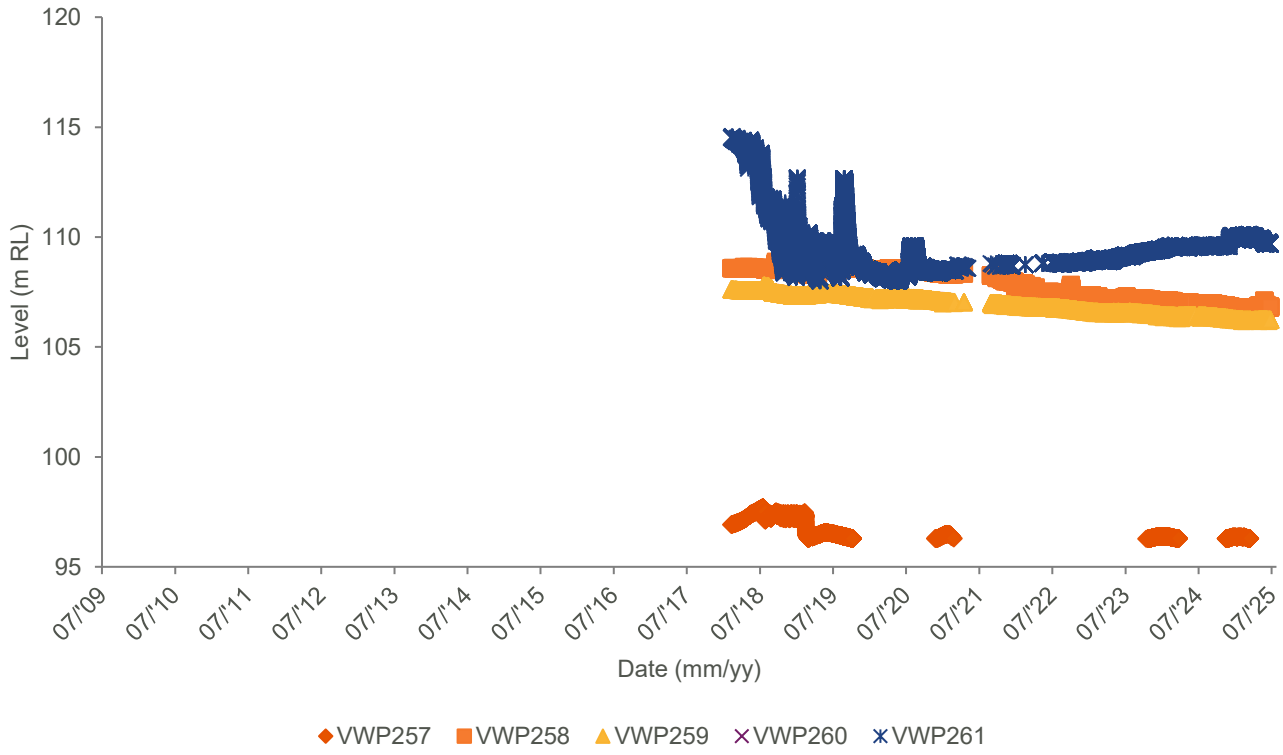

Figure 61: TSF2/3 north-east wall VWPs (02_C2-3 NE)

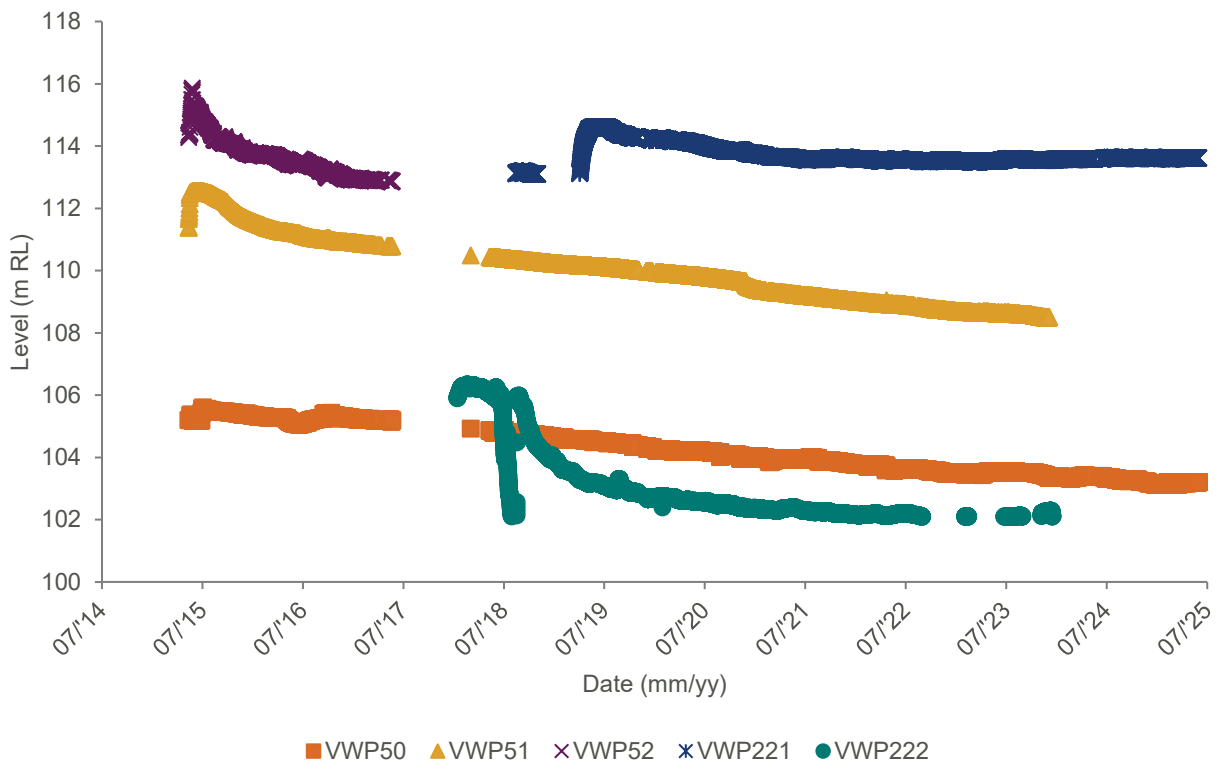

Figure 62: TSF2/3 decant wall VWPs (03_C2-3 Decant)

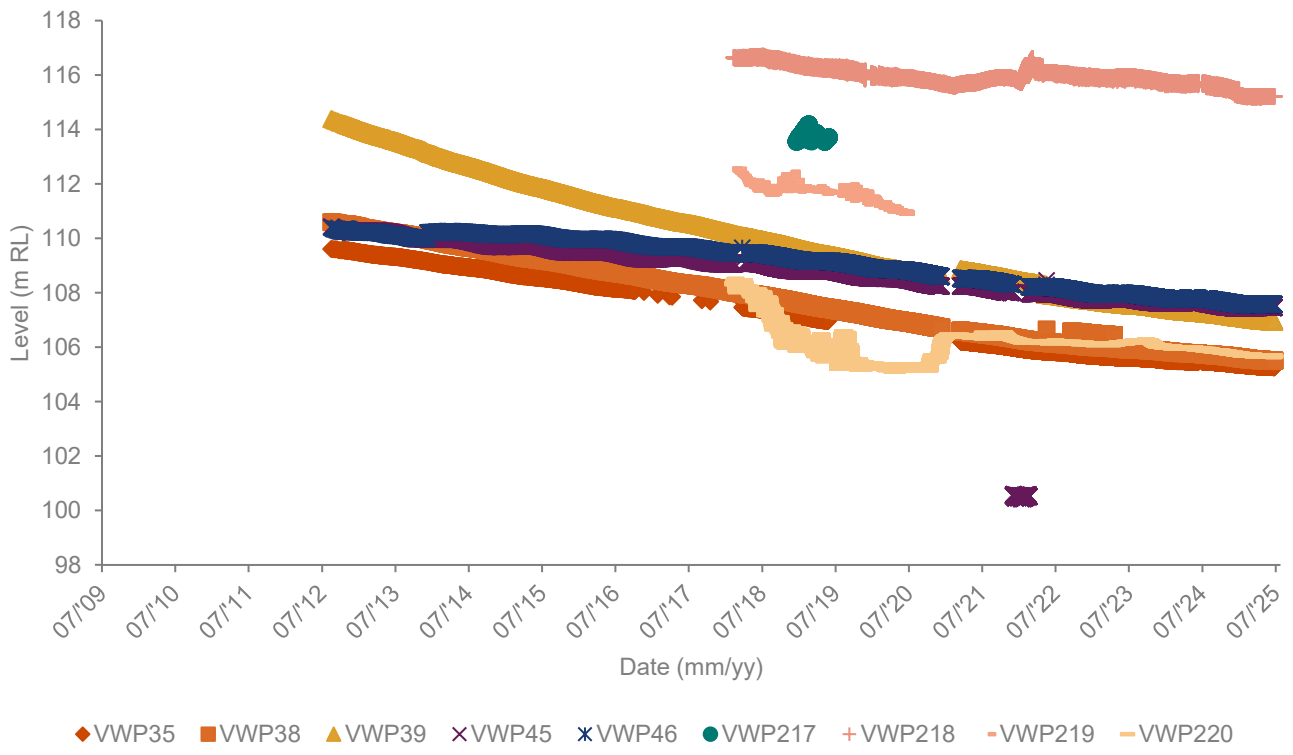

Figure 63: TSF1 decant VWPs (04_C1 Decant)

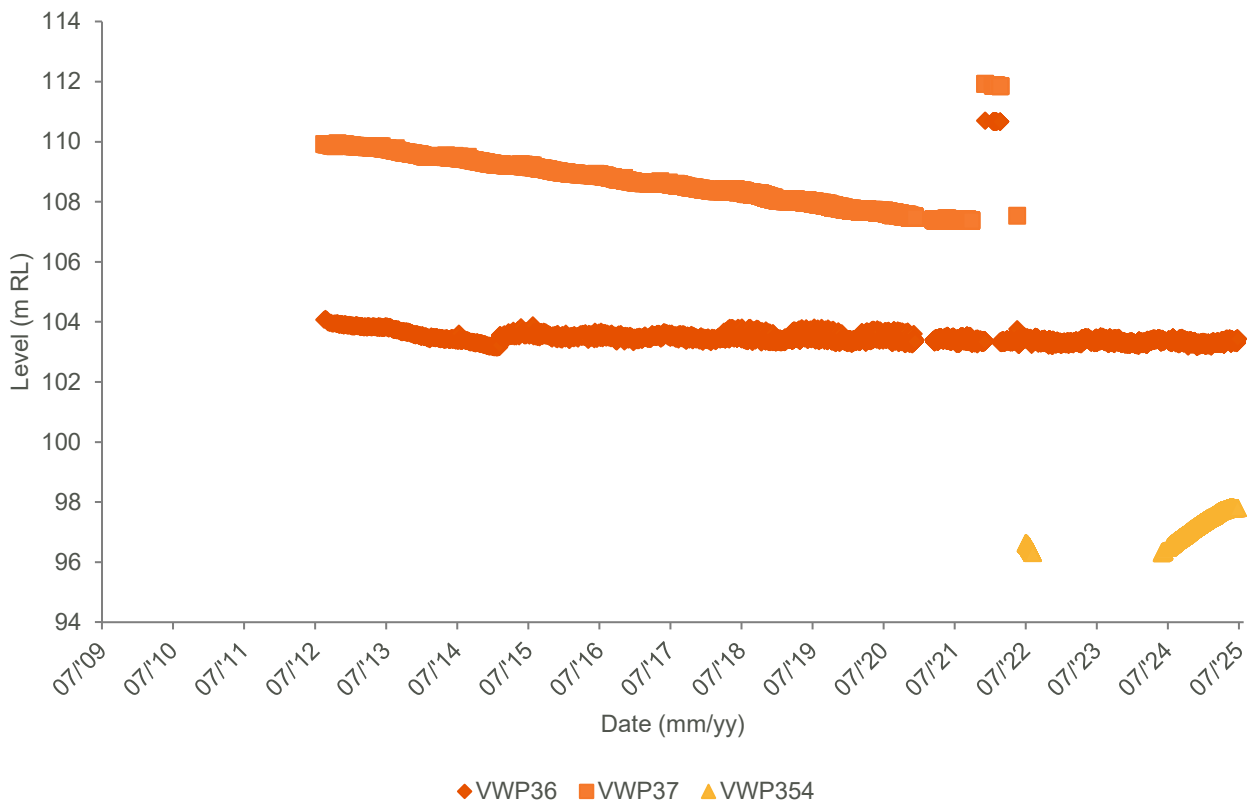

Figure 64: TSF1 east wall VWPs (05_C1 East)

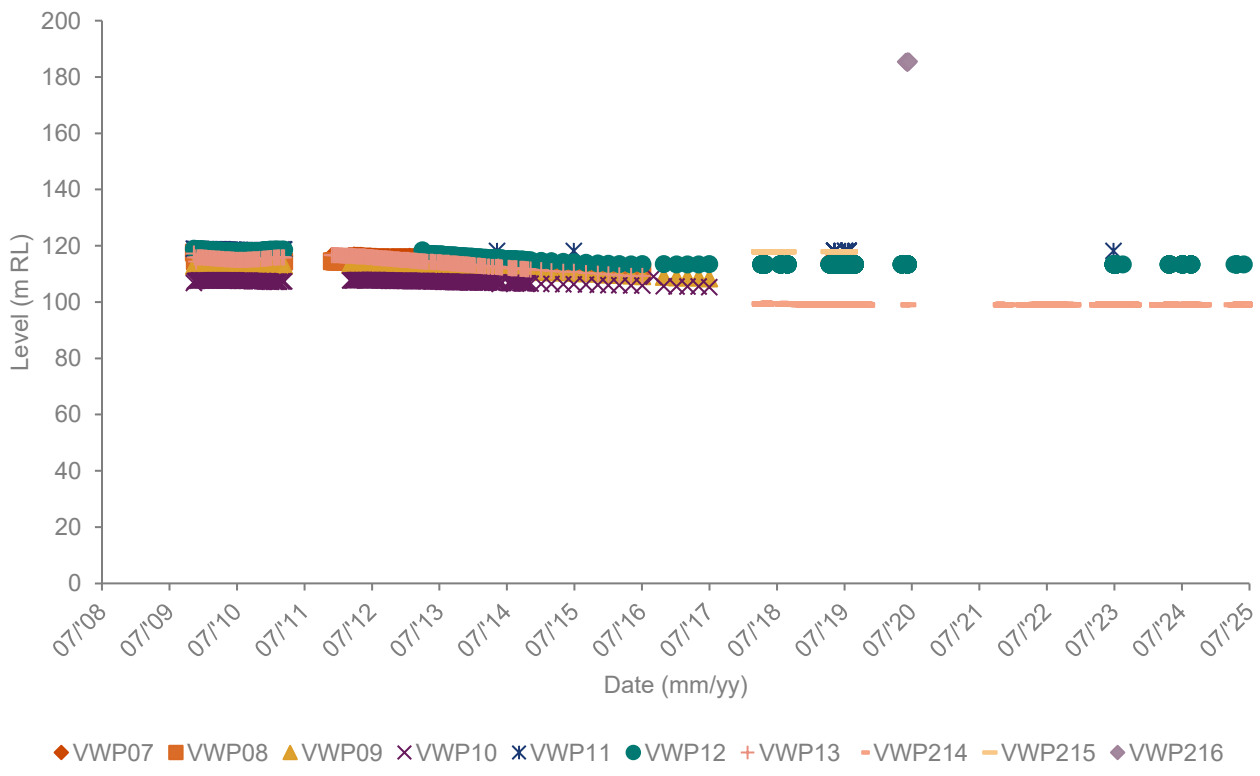

Figure 65: TSF1 south wall VWPs (06_C1 Decant)

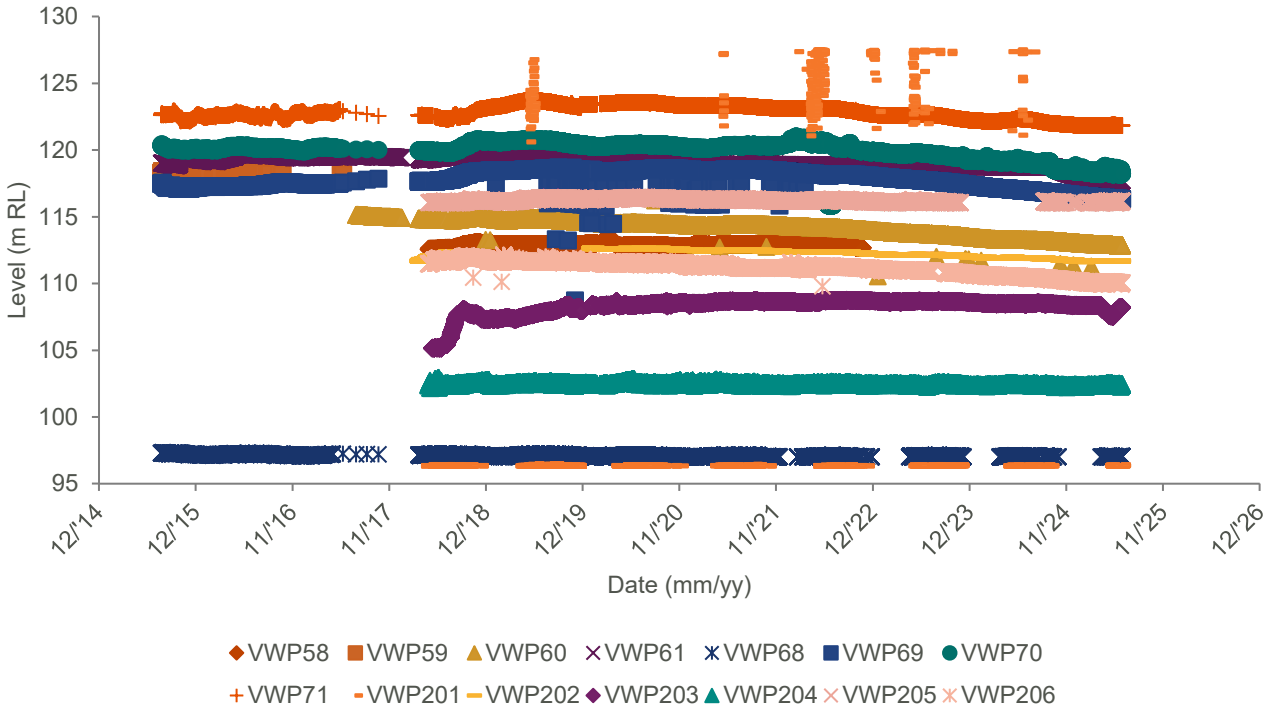

Figure 66: TSF4 south wall VWPs (07_C4 South)

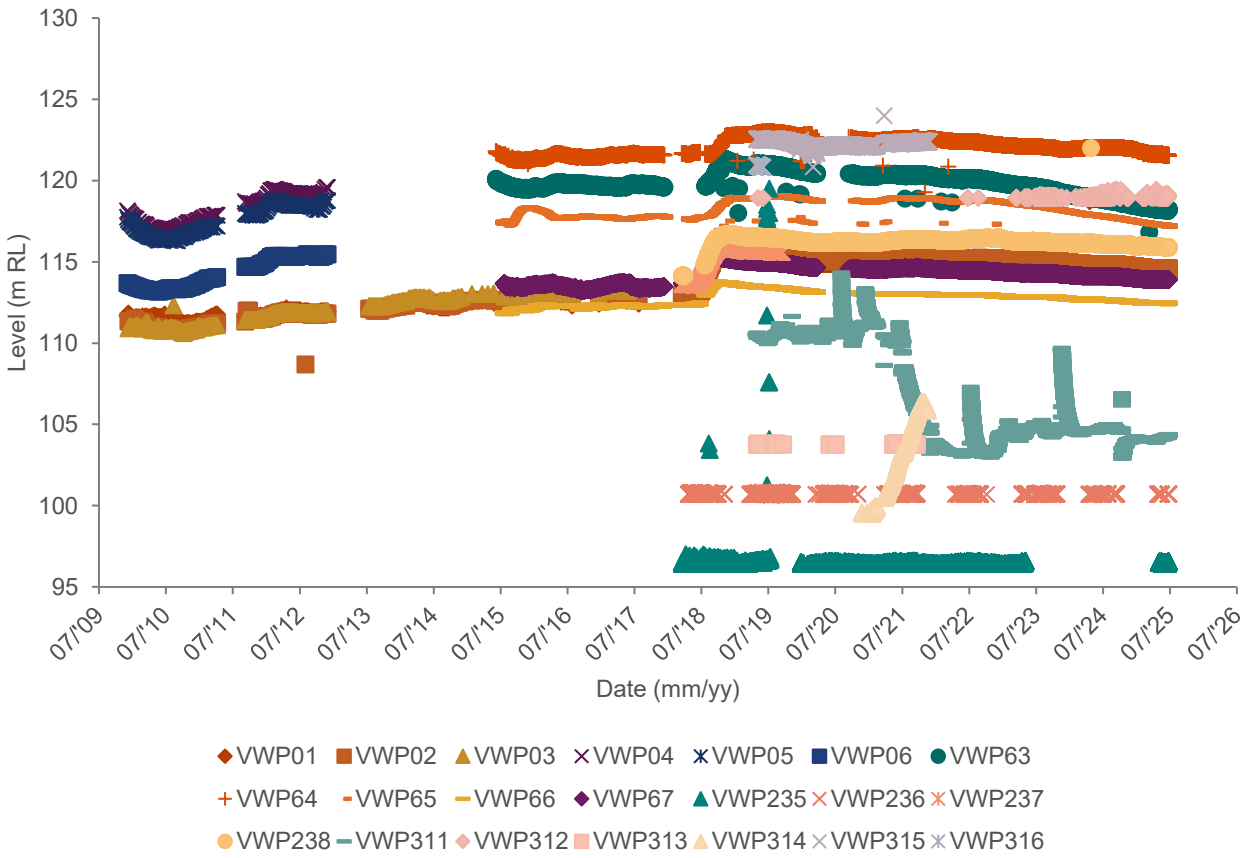

Figure 67: TSF4 west wall VWPs (08_C4 West)

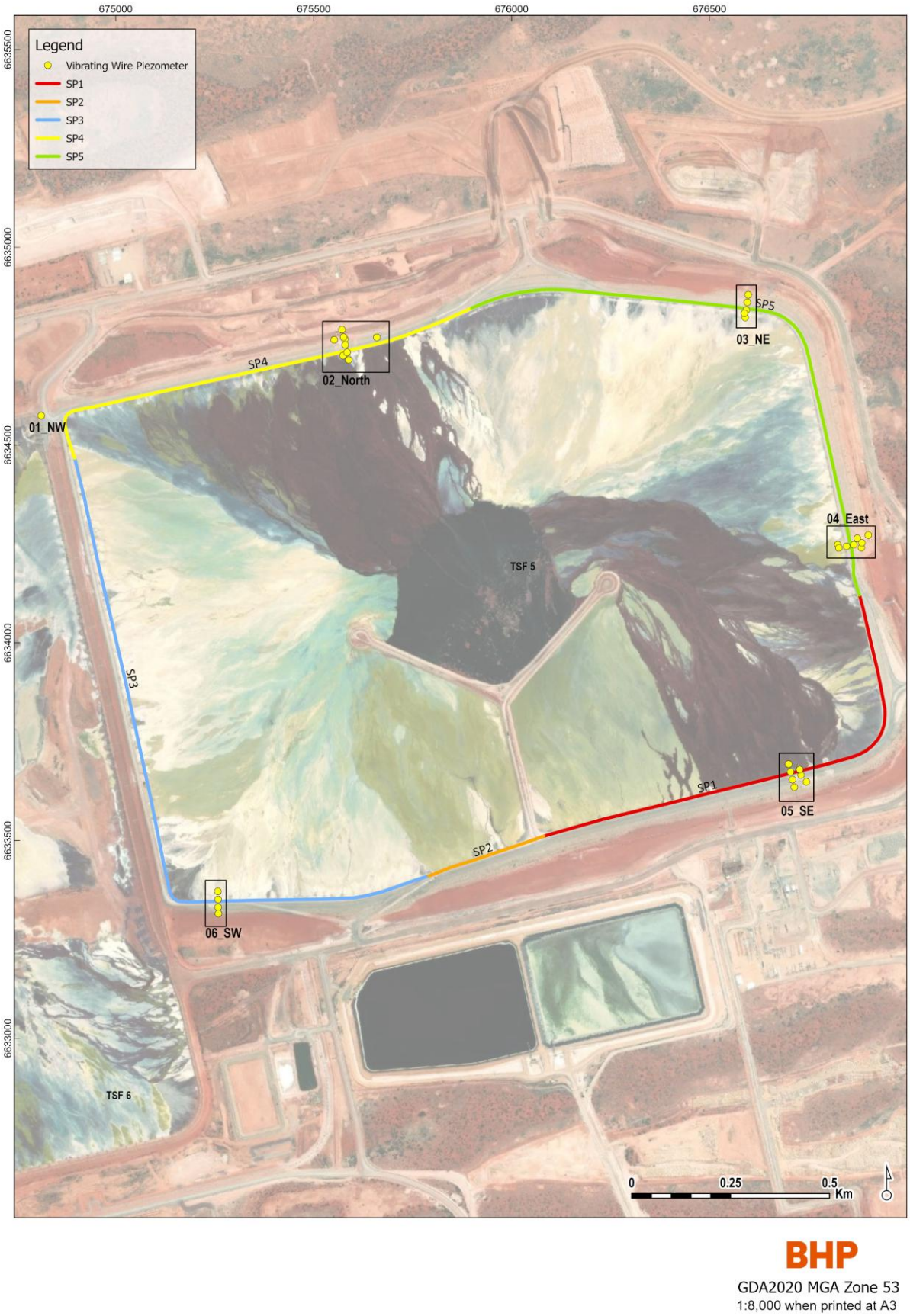

Figure 68: TSF5 Separable Portions (SP)

Note: There are no VWPs in SP2

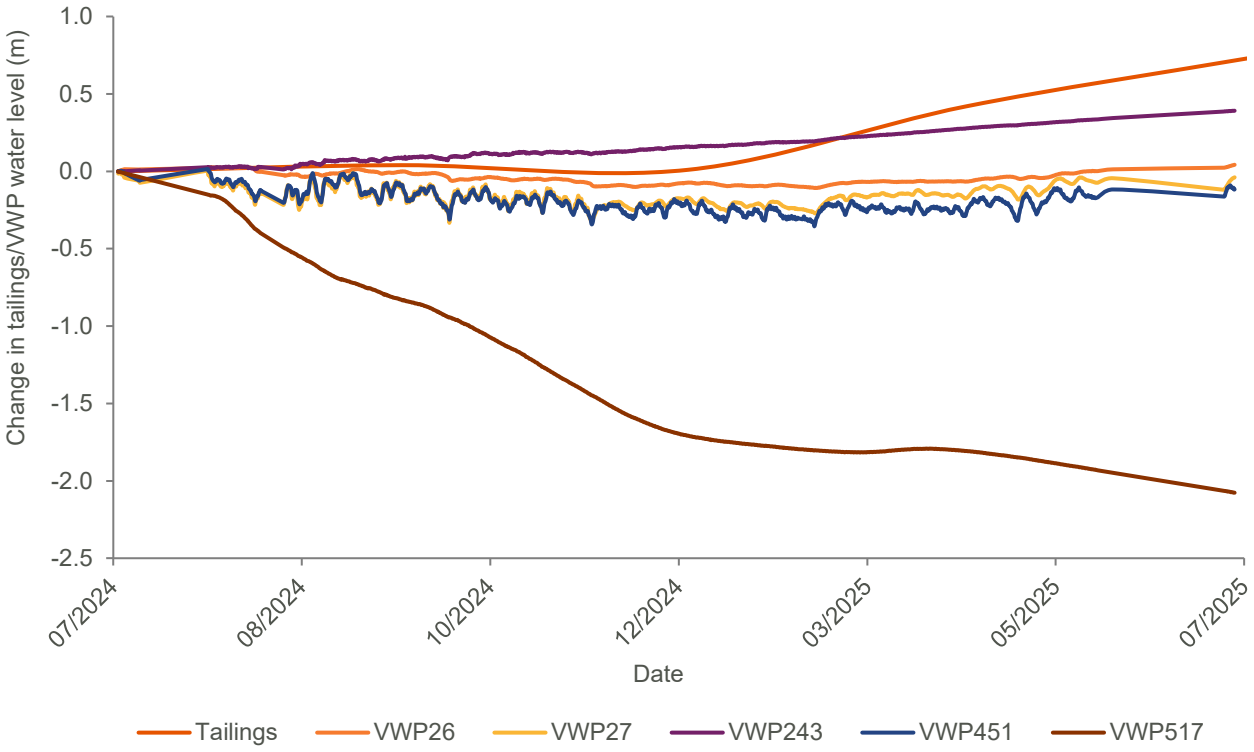

Figure 69: Trend comparison between VWPs and Tailings levels at SP1 TSF5

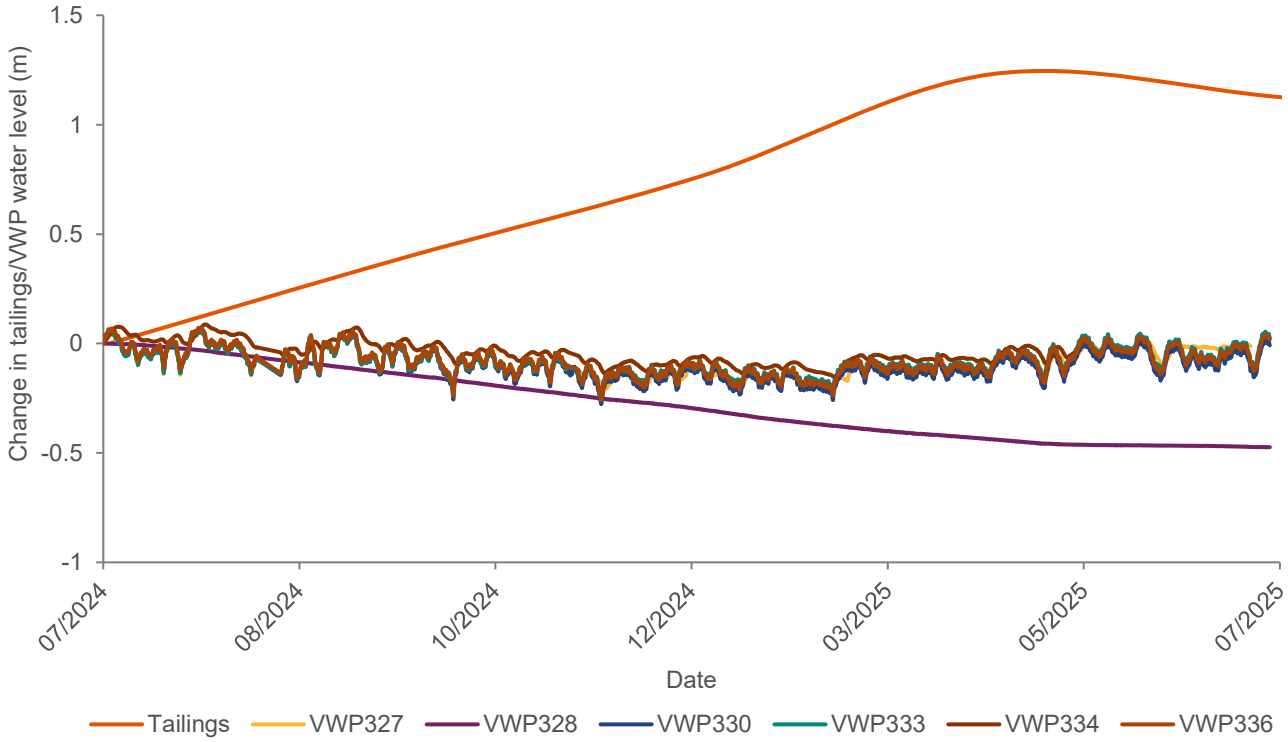

Figure 70: Trend comparison between VWPs and Tailings levels at SP3 TSF5

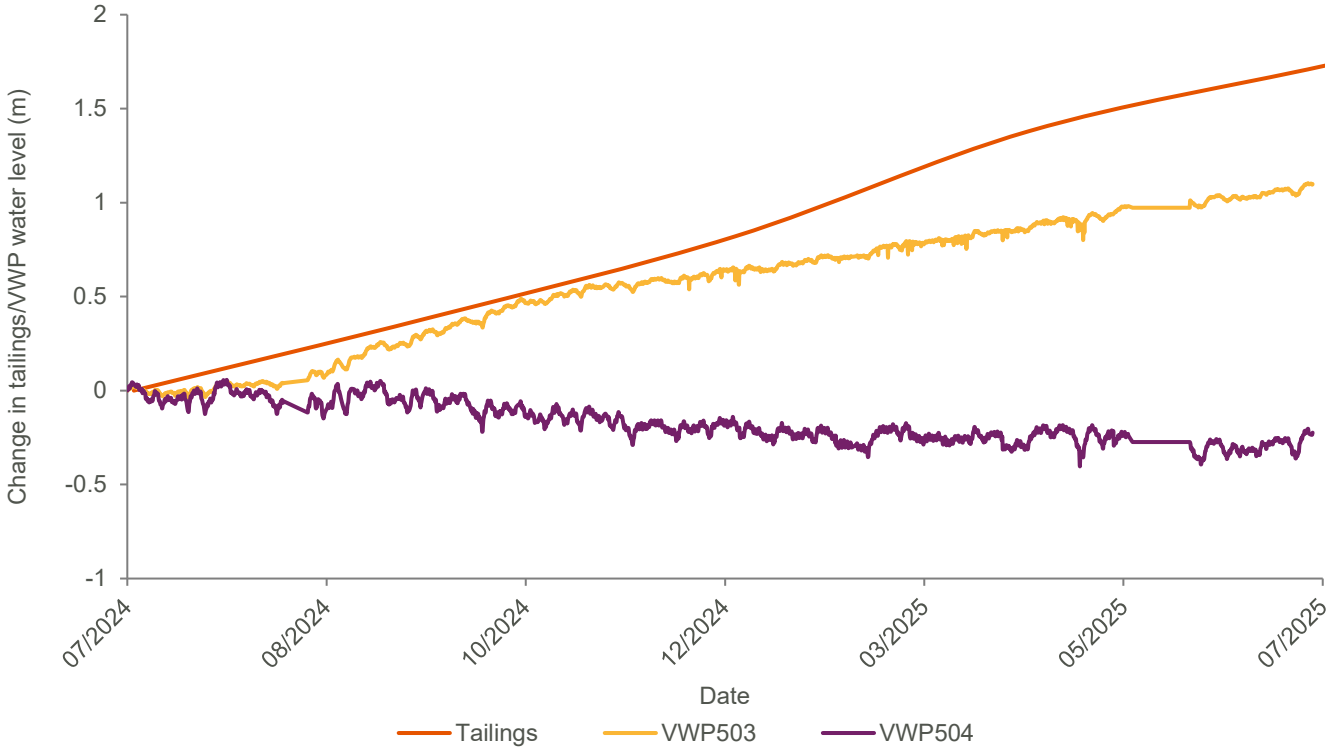

Figure 71: Trend comparison between VWPs and Tailings levels at SP4 TSF5

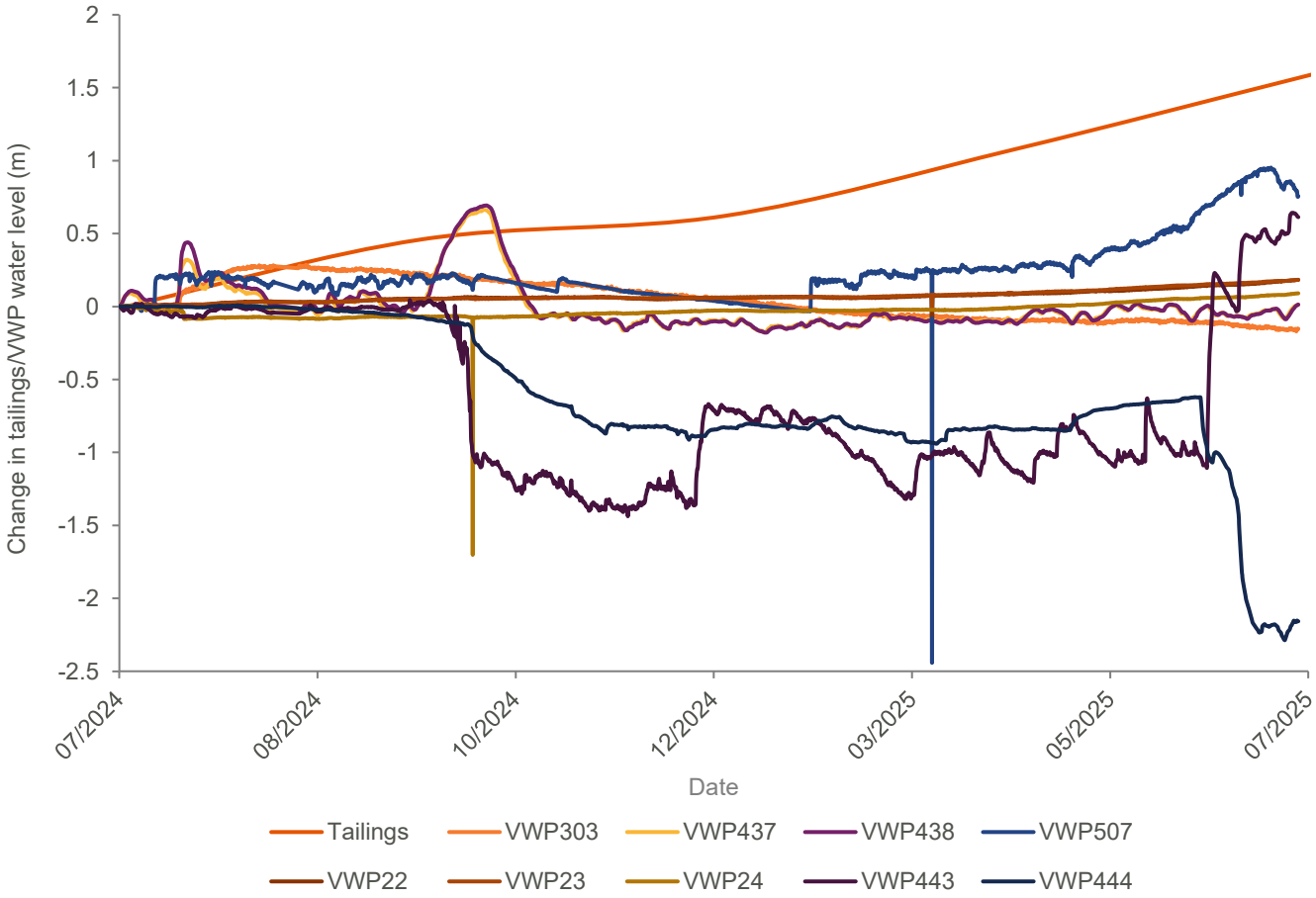

Figure 72: Trend comparison between VWPs and Tailings levels at SP5 TSF5

The annual comprehensive review covering the period July 2024 to June 2025 is currently being finalised with the associated site inspection completed in June 2025. The reviews are carried out in accordance with BHP's Global Standard for Tailings Storage Facilities, the Tailings and Water Storage Facilities and the ANCOLD Guidelines referenced previously. All completed reviews have confirmed that the TRS, including the TSFs and EPs, are in good condition and are well managed.

A review of the water balance on an annual basis (EPA 1301.U-518).

See Section 4.2.

4.1.5 Targets FY25

None applicable.

4.1.6 Actions FY25

Undertake periodic (2-3 year) CPTu testing of tailings to confirm strength parameters used in stability analysis.

Cone penetrometer test (undrained) (CPTu) testing of all the TSFs was completed in FY25 with results incorporated in the FY25 biennial stability assessment (reported above) conducted by the EoR (WSP).

4.1.7 Continuous Improvement Opportunities FY25

Several contingency options exist to maintain slope stability and reduce the risk of potential piping failures.

Opportunity: Identify, design and install contingency options as required.

Regular audits of the TRS operation are undertaken as described in the Waste MP.

Opportunity: Ensure improvement actions and recommendations from audits are documented and where appropriate implemented in a timely manner.

Contingency options, actions and recommendation from audits have been implemented as appropriate.

4.2 Tailings Seepage

4.2.1 Environmental Outcome

No significant adverse impact on vegetation as a result of seepage from the TSF.

No significant adverse impact to vegetation as a result of seepage from the TSFs has occurred. Eighty metres AHD (20 m below ground level) is considered as the level below which groundwater cannot interact with the root zone of plants in the OD region. Groundwater levels in the vicinity of the TSFs remain below 80 mAHD.

No compromise of current and future land uses on the SML or adjoining areas as a result of seepage from the TSF.

No compromise of current and future land uses on the SML or adjoining areas has occurred as a result of seepage from the TSFs. Groundwater levels in the vicinity of the TSFs remain below 80 mAHD and sampling indicates that seepage is being attenuated (see Section 1.2).

No compromise of the environmental values of groundwater outside the SML as a result of seepage from the TSF.

No compromise of the environmental values of groundwater outside the SML has occurred as a result of seepage from the TSFs. Sampling indicates that seepage is being attenuated within the SML, and groundwater levels of bores along the SML boundary are consistent with other regional bores. Seepage modelling confirms that there are no expected future offsite impacts.

4.2.2 Compliance Criteria

Maintain groundwater level (attributable to seepage from the TSF) outside the external perimeter road of TSF Cells 1 to 6 to not higher than 80 mAHD (20 m below ground level) (GW 3.2).

Groundwater monitoring results indicate that the groundwater level has not reached a level higher than 80 mAHD outside of the TSF and external perimeter road footprint for TSF1 to 6 (refer to Figure 20 and Figure 23 in Section 1.2). The maximum groundwater level recorded within the external perimeter road footprint for TSF1 to 6 during the current reporting period was 69.88 mAHD at LT67A.

All TSF seepage attenuated within the SML, as demonstrated by a numerical geochemical model, confirmed by monitoring (GW 3.3).

Geochemical modelling was carried out for the Expansion EIS (BHP Billiton Olympic Dam 2009) and demonstrated that all TSF seepage would be attenuated within the SML. This modelling was updated in 2015 (SRK 2015) and again in 2020 (SRK 2020) to account for the current mine configuration (underground only) and including the recently constructed TSF6. Within the timeframe assessed (10,000 years), the modelling results indicate that no impacts on baseline groundwater quality at the mine lease boundary (SML) would be expected as travel times are predicted to be well beyond this timeframe and there is expected to be significant attenuation of pollutants within the SML.

Laboratory analysis of on-site and regional groundwater monitoring bores confirms the attenuation of TSF seepage within the SML. Samples from regional monitoring bores collected during FY25 contained analytical concentrations either below limits of reporting, or within concentrations previously reported (refer to Section 1.2).

4.2.3 Leading Indicators

A measurement of groundwater level outside the external perimeter road of the TSF that exceeds 70 mAHD (30 m below ground level) as a result of seepage.

The leading indicator value was not reached at any monitoring bore outside the external perimeter road of the TSFs during FY25. The maximum groundwater level recorded outside the external perimeter road of the TSFs for the current reporting period was 69.88 mAHD at LT67A.

The groundwater depth at bore LT67A continued to stabilise during FY25 at a level just below the Leading Indicator (70 mAHD) as shown in Section 1.2, Figure 20 and Figure 23. Although there is still a possibility that the leading

indicator will be breached in FY26, based on current trends it is not expected to breach the compliance criteria. BHP has developed a shovel ready project (being the installation of bores to dewater the area in the vicinity of the elevated groundwater levels) that, if implemented, is expected to reverse the increasing groundwater level trend at this location well before the compliance criteria could be exceeded. Ongoing monthly monitoring of the groundwater level at this location will continue and trends will be analysed to determine if, and if so when, this project should be implemented.

A numerical geochemical model trend that indicates that all TSF seepage may not be attenuated within the SML should the trend continue (GW 2.3).

No geochemical seepage trend was noted during FY25. Laboratory analysis of on-site and regional groundwater monitoring bores, when combined with groundwater level data, confirms the validity of the 2015 and 2020 geochemical modelling findings (SRK 2015, SRK 2020) that all TSF seepage would be attenuated within the SML.

4.2.4 Deliverables (WA 3.1)

A review of the water balance on an annual basis (EPA 1301.U-518).

Unaccounted liquor is the liquor balance inputs (Figure 73 for FY25 inputs) minus the liquor balance outputs (Figure 74 for FY25 outputs). For FY25 the input liquor volume for TSF4, TSF5 and TSF6 was the same as the output liquor volume (10,113 ML), with contribution to inputs and outputs represented in Figure 73 and Figure 74.

The water balance for TSF4, TSF5 and TSF6 indicates that disposal of liquor via evaporation is approximately 53.71 % of the total inputs. This is higher than the FY25 value due to the rainfall input in FY25 being 2.2 times the FY24 value. Flushing liquor is liquor pumped out of the EPs to the TSFs for the purpose of flushing lines. In FY25 there was no significant liquor flush back from EPs to TSFs due to limited line blockages occurring. Seepage from pond areas has been calculated based on the monthly supernatant pond areas for TSF1 to 6 and using an assumed tailings permeability of $2x10^{-8}$ m/s. Liquor retained in tailings is calculated based on the monthly water content test.

A discussion on groundwater levels in the vicinity of the TSFs in FY25 is provided in Section 1.2. Aquifer Level Drawdown.

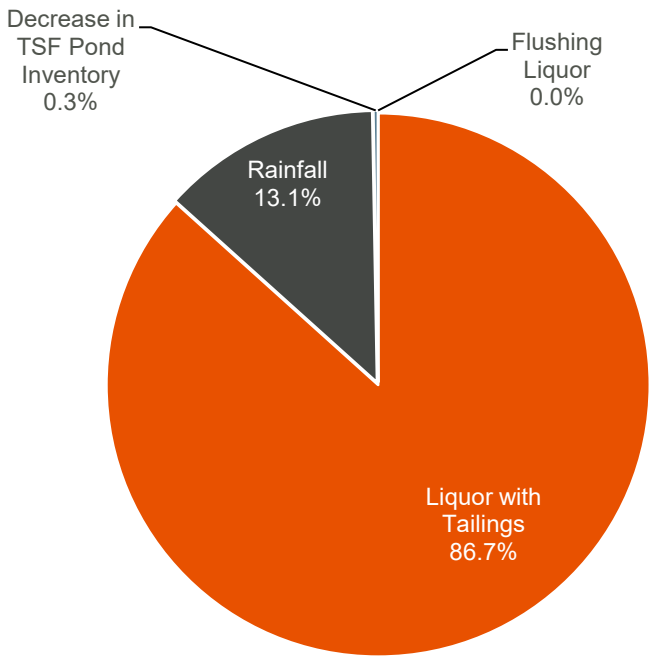

Figure 73: TSF4, 5, 6 Liquor Balance – Inputs FY25

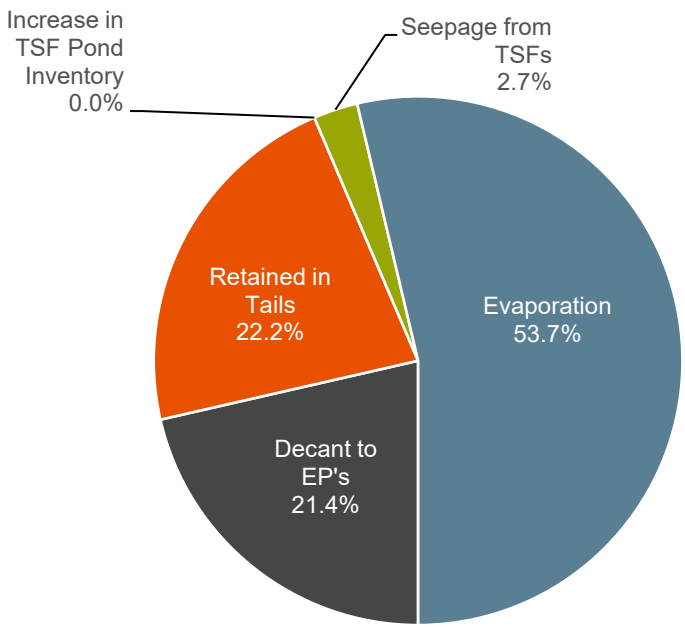

Figure 74: TSF4, 5, 6 Liquor Balance – Outputs FY25

4.2.5 Deliverables (WA 3.2)

Monitoring data showing the liquor level in each cell of the EPs.

Figure 75 shows the liquor levels in the EPs with respect to freeboard limits. Freeboard in the EPs consists of allowances for wind, waves and rainfall runoff. EP1, EP2 and EP4A were inactive during the reporting period due to being full of solids. EP5B remained out of service for the reporting period.

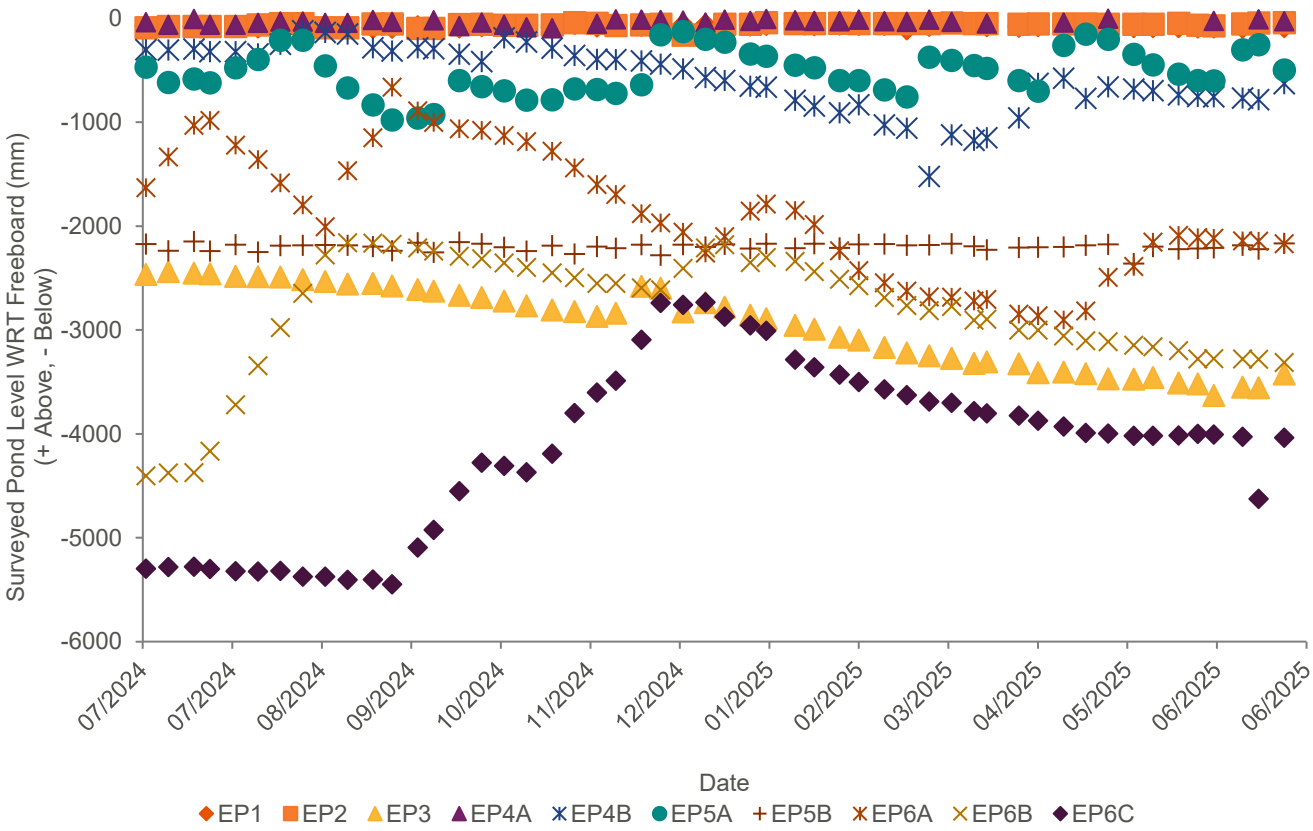

Figure 75: Evaporation pond liquor levels

Note: EP1 trend line sits behind the EP2 trend line

Monitoring data showing the overall (solids and liquor) inventory in the EPs.

Figure 76 shows the EP capacity in relation to the normal maximum operational storage capacity. Additional pond capacity is available as a contingency to allow for large rainfall events.

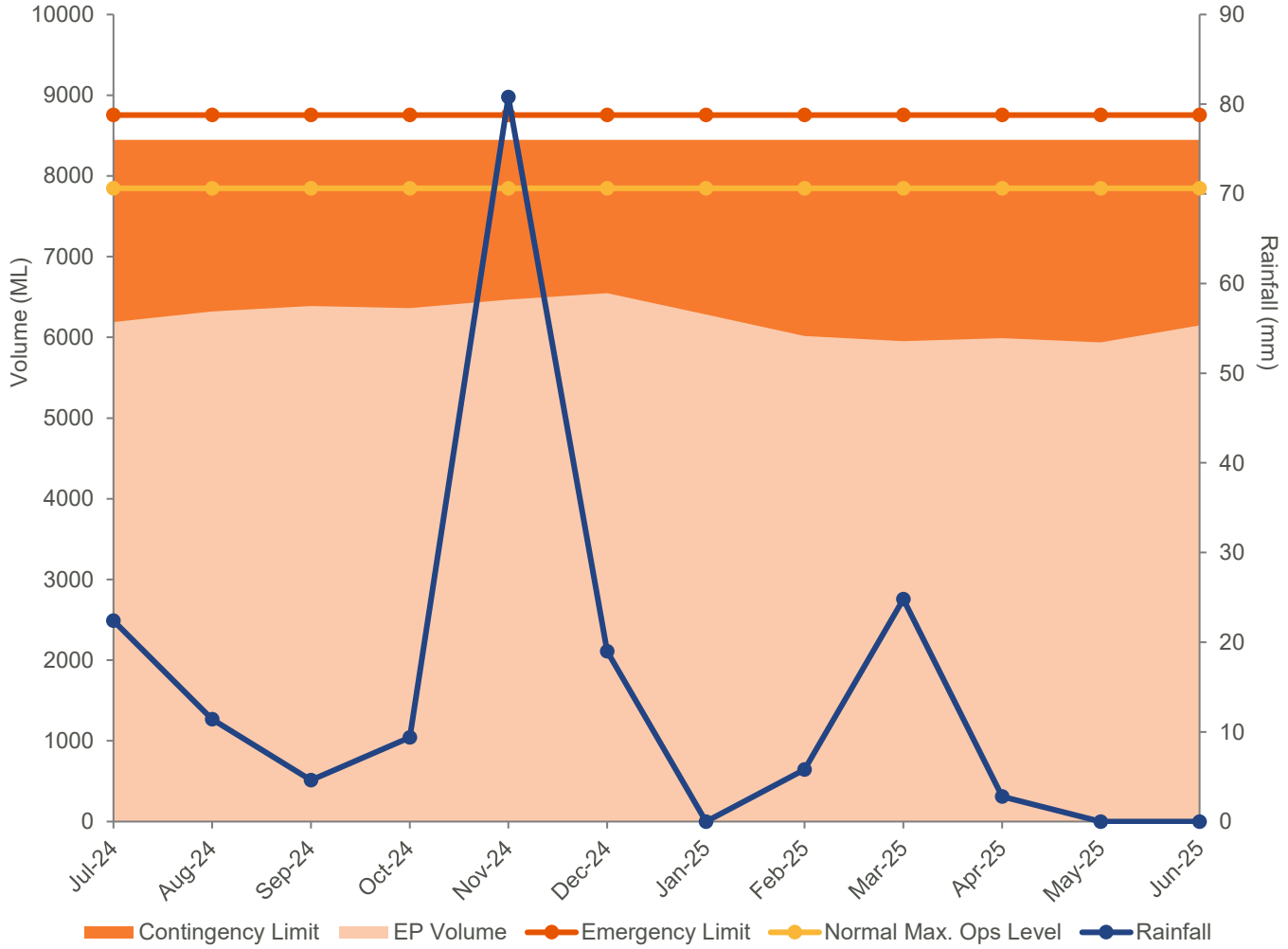

Figure 76: Evaporation pond capacity and rainfall

Results of a liquor balance for each EP cell.

Figure 77 shows the cumulative evaporation trends for the EPs. A liquor balance is performed to highlight cells with potential significant leaks by comparison of the apparent evaporation from each cell of each EP. The comparison is carried out on a monthly basis. The evaporation response for each cell is broadly consistent, demonstrating that significant unexplained losses have not occurred. Variations between each pond can be attributed to usage, and the overall evaporation loss is consistent with previous years.

EP6A showed the highest evaporation rate, which was very similar to other active ponds. During FY25, EP2 was used infrequently for pipeline maintenance. EP1, EP4A and EP5B are out of service due to being full of solids. EP4A is currently undertaking a dredging operation that aims to remove approximately 1 m of solids, leading to an extension of its usable life by 2 to 3 years.

Evaporation cells occasionally dry out when the free liquor is evaporated, exposing the surface of the precipitated solids built up in the cell. During these periods a liquor level is not able to be measured and the cumulative evaporation trends level out. Under these circumstances the water balance method is no longer effective in confirming cell integrity. However, as the cell is inactive there is minimal, if any, free liquor available and therefore very little potential for seepage from these cells.

Groundwater level data collected in and around the ponds is used as an additional control to detect seepage from the EPs (refer to Section 1.2) and to support the liquor balance calculations.

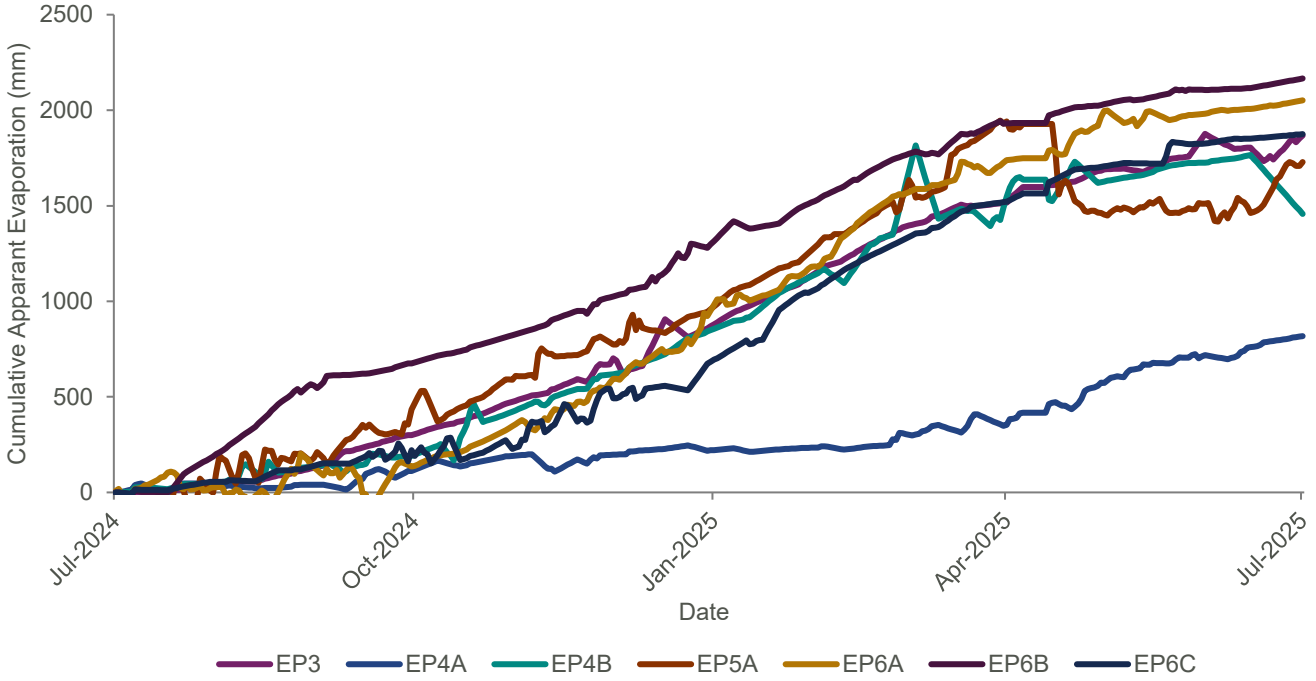

Figure 77: All active evaporation pond liquor balance cumulative apparent evaporation

4.2.6 Targets FY25

None applicable.

4.2.7 Actions FY25

Identify and install additional liquor interception systems as required.

Due to the buttressing works carried out in recent years around TSF1-5, many seepage locations have been covered and are no longer visible. As a result, in FY25 the existing observable locations were re-based lined. A summary of seepage locations is shown in Table 26 (spatial locations shown in Figure 78, Figure 79. One new seepage area was identified during the FY25 reporting period around the west wall of TSF6, depicted in Table 26.

Table 26: List of TSF monitored perimeter features

TSF	Identifier	Location	Discovered	Identifier
TSF2	C2E-01, C2E-02	East wall of TSF2 at the embankment toe	2009	Interception trench, sump and pump in place. Some dampness noted. The flows have been largely constant to FY22 rates with pumps operating continuously.
TSF3	C3N-15	North wall of TSF3 at the embankment toe	August 2016	Area covered by mini buttress. Dampness evident at toe of mini buttress.
TSF3	C3/4CN - 22	Intersection of TSF3 and TSF4 at toe	April 2008	Beneath cell 3-4 buttress. Flows into sump have stayed low over the reporting period, similar to previous years.
TSF4	C4S-28	South wall TSF4 adjacent ramp	2006	Area covered by mini buttress construction with sand blanket installed.
TSF5	C5N-37	North wall of TSF5	June 2025	A new damp area at the toe of the buttress has been observed and has been added to the fortnightly embankment monitoring program.
TSF5	C5N-40	North wall of TSF5	April 2017/June 2025	Located in the area disturbed by the TSF5 buttress and drain project. A damp area at the toe of the buttress has been observed and has been added to the fortnightly embankment monitoring program.
TSF6	C6W	West wall of TSF6	June 2025	New identified damp area on the east side of seepage collection Sump 6. This has been added to the fortnightly embankment monitoring program.

BHP
GDA2020 MGA Zone 53
1:9,500 when printed at A3

Figure 78: Location of perimeter features, TSF1-4

Figure 79: Location of perimeter features, TSF5-6

4.2.8 Continuous Improvement Opportunities FY25

Regular inspections around the perimeter of the TSF identify any new areas of lateral seepage. Existing perimeter features are also monitored to determine if there is any change in size, location and appearance.

Opportunity: Install a liquor interception system where seepage of liquor has potential to impact native vegetation.

Regular inspections around the perimeter of the TSFs have been caried out in accordance with standard operating procedures. Liquor interception systems have been installed as necessary to prevent potential impacts to native vegetation.

4.3 Fauna Interaction with Tailings Retention System

4.3.1 Environmental Outcome

No significant adverse impacts to listed species (South Australian, Commonwealth) as a result of interactions with the Olympic Dam TRS.

No significant adverse impacts to listed fauna species as a result of interactions with the OD Tailings TRS occurred in FY25.

The Banded Stilt (*Cladorhynchus leucocephalus*), which is listed as Vulnerable under the NPW Act, was observed interacting with the TRS during FY25 (n=14 alive and n=4 dead recorded). Wetlands International's most recent (2012) population estimate of the Banded Stilt is between 300,000 and 450,000 birds (Wetlands International 2023, as cited in Lees et al., 2023) and Lees et al. adopt a 1 % threshold of the population to be 3,700 birds. Banded Stilt observations in FY25 are 0.49 % of 1 % (3,700 birds) of the population estimate and concluded no significant adverse impact to the population has occurred as a result of interactions with the TRS.

Two dead Great Crested Grebes *(Podiceps cristatus)*, one alive Peregrine Falcon *(Falco peregrinus)*, and one Australasian Darter *(Anhinga novahollandiae)* were observed in FY25 at the TRS, all listed as Rare under the NPW Act.

4.3.2 Compliance Criteria

No significant adverse impact on the size of an important population of Banded Stilt (*Cladorhynchus leucocephalus)* as a result of interactions with the Olympic Dam TRS (FA 3.7).

Note: Significant impact is as defined in the Significant Impact Guidelines and greater than predicted in the EIS.

Wetlands International's most recent (2012) population estimate of the Banded Stilt is between 300,000 and 450,000 birds (Wetlands International 2023, as cited in Lees et al., 2023) and Lees et al. adopt a 1 % threshold of the population to be 3,700 birds. Since TRS fauna monitoring commenced (FY06) there have been 737 Banded Stilts recorded across 213 observations (an observation is made up of a date and TSF or EP). Of these the majority were alive observations (n=563) compared to dead (n=174). FY25 marks the twentieth year of monitoring data and the number of observations remains below 1 % (3,700 birds) of the population estimate. As a result of interactions with the TRS there has been no significant adverse impact on the size of an important population of Banded Stilts.

4.3.3 Leading Indicators

None applicable.

4.3.4 Deliverables (FA 3.3)

An assessment of fauna activity and losses within the TRS.

An evaluation of the effectiveness of applicable control measures in reducing the number of listed migratory birds lost within the TRS.

During FY25, 49 species were observed during the weekly monitoring of the TRS. The species were majority bird (n=42), reptiles (n=6), and mammal (n=1 (kangaroo)). A total of 251 dead animals were observed and a total of 903 alive animals were observed during FY25 (Figure 80). The most abundant alive bird species was the Zebra Finch *(Taeniopygia castanotis)* n=150 and the most abundant dead species was the Pacific Black Duck *(Anas superciliosa)* n=43.

Overall, there has been an increase in the number of both alive and dead birds observed at the TRS from FY13 to FY25 as shown in Figure 81. The variability in the numbers observed is most likely explained by environmental factors, such as rainfall. Between FY06 and FY25 there is a general decline in both species' observations and the proportion of dead individuals, however it is not statistically significant.

Opportunistic observations recorded by TRS technicians is presented in Figure 82.

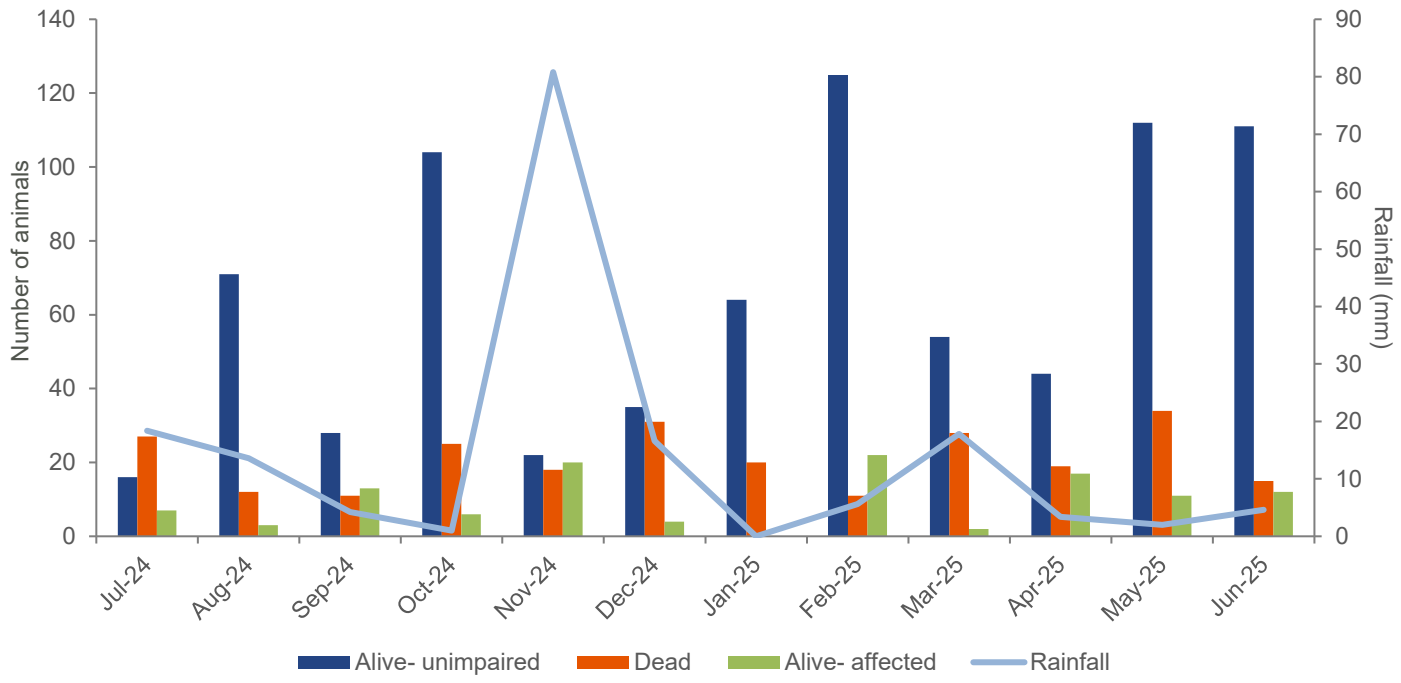

Figure 80: Monthly summary of weekly TRS fauna monitoring for FY25

Note: The number of animals are recorded as either alive-unimpaired, alive-affected, or dead. Rainfall data presented is collected from the Roxby Downs AQMS.

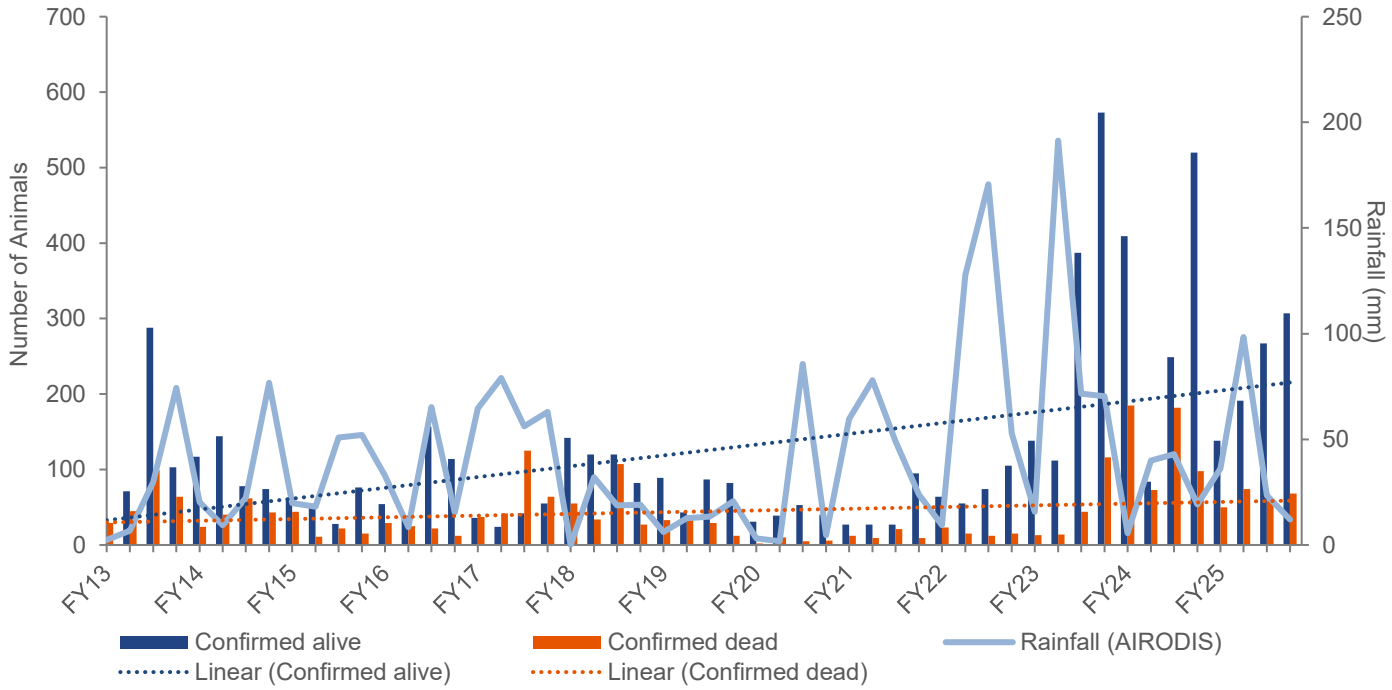

Figure 81: Quarterly summary of weekly monitoring since FY13

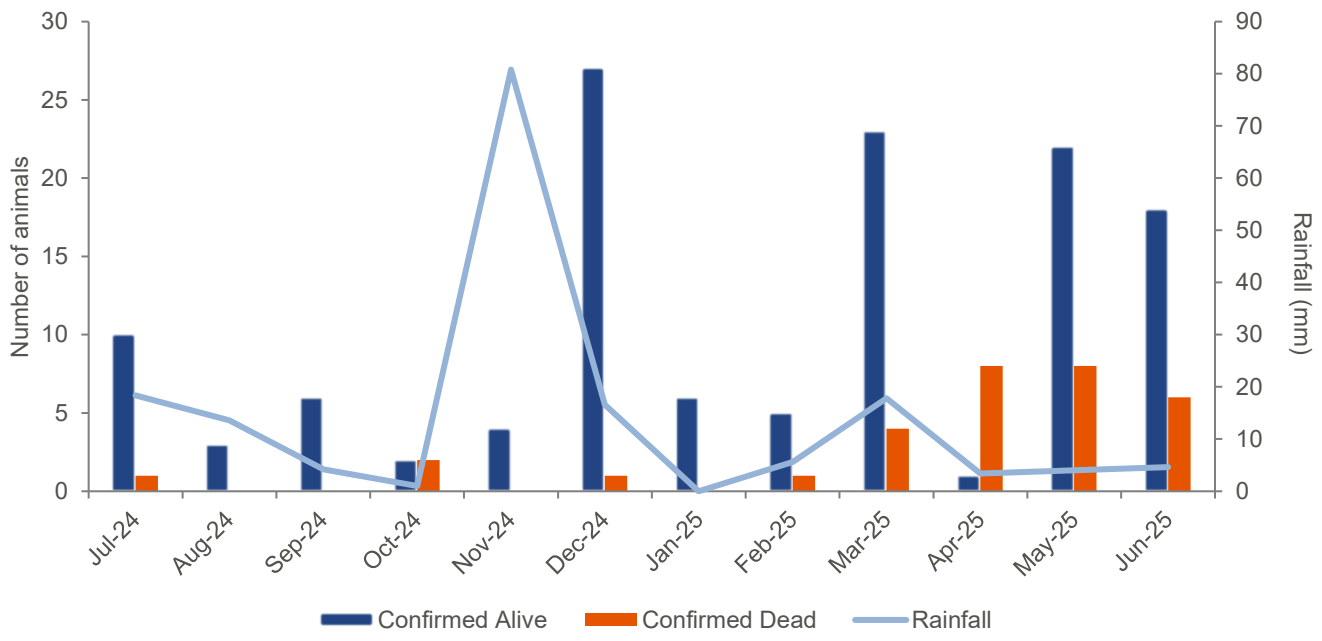

Figure 82: Monthly summary of opportunistic observations in FY25

Note: Rainfall data presented is collected from Roxby Downs AQMS

The data presented indicates the number of fauna counted and does not represent total numbers; they are presented as an index only. Several factors are considered when interpreting and refining the monitoring and data analyses, these include:

- Birds may be seen and recorded as alive on one day and subsequently may be observed as dead on a subsequent day. The total includes both observations, leading to a possible overestimate;
- Scavenging by birds of prey and corvids means that some carcasses may be removed from the system prior to an observation being made;
- Carcasses floating in the liquor may sink and disappear before being recorded; and
- Some fauna species may leave the system and die elsewhere.

The number of birds recorded as dead at the TRS may represent a small proportion of those that visited. Preventing and deterring visitations by large flocks of birds, particularly Banded Stilts, remains a focus of management efforts at the TRS.

A summary of deterrents trialled to-date was compiled in FY21, and the process derived a short-list of potential deterrent and offset options to be further explored based on their high feasibility, low cost and unknown effectiveness (e.g., most deterrent options only had anecdotal evidence available). As a result of this process, ODC identified the wetland wailer, an audio-based deterrent as a feasible option to investigate, and field trials of the wetland wailer commenced in October of FY22 and are ongoing.

The wetland wailer combines natural bird vocalisations of wading bird species in distress, predatory bird calls and electronic sounds to create a 350 m radius that is uncomfortable for birds to remain in. The use of natural and electronic sounds, in combination with multiple speakers, changes in duration and strobe lighting prevents birds from habituating to the patterns of the deterrent.

In October 2021, two deterrents were deployed on the northern and southern cell roadways of EP3. The targeted fauna for the trial is water bird species that find the liquor attractive. Resident bird species such as Zebra Finches, Swallows (Welcome, White-backed, Black-faced) and Willy-wagtails are habituated to the EP3 area (and display behaviour such as perching on pump equipment) and have not been observed interacting with the liquor during the period October 2021 - June 2025 (as they are considered non-target species). Therefore, they have been removed from Figure 83. The remaining bird species in Figure 83 may not have been observed interacting with the liquor in the monitoring period but have been recorded in historic data as having an interaction with the liquor. Two Banded

Stilts (*Cladorhynchus leucocephalus*), one alive and one dead were observed EP3 in FY25. One Australasian Darter (*Anhinga novahollandiae)* was also observed at the EP3 in FY25. The number of both alive (n=87 in FY25) and dead (n=50 in FY25) observations have increased since the wetland wailers were installed (Figure 83). This trend is reflected in the whole TRS (Figure 81). ODC intends to engage a third party in FY26 to analyse the efficacy of the wetland wailers.

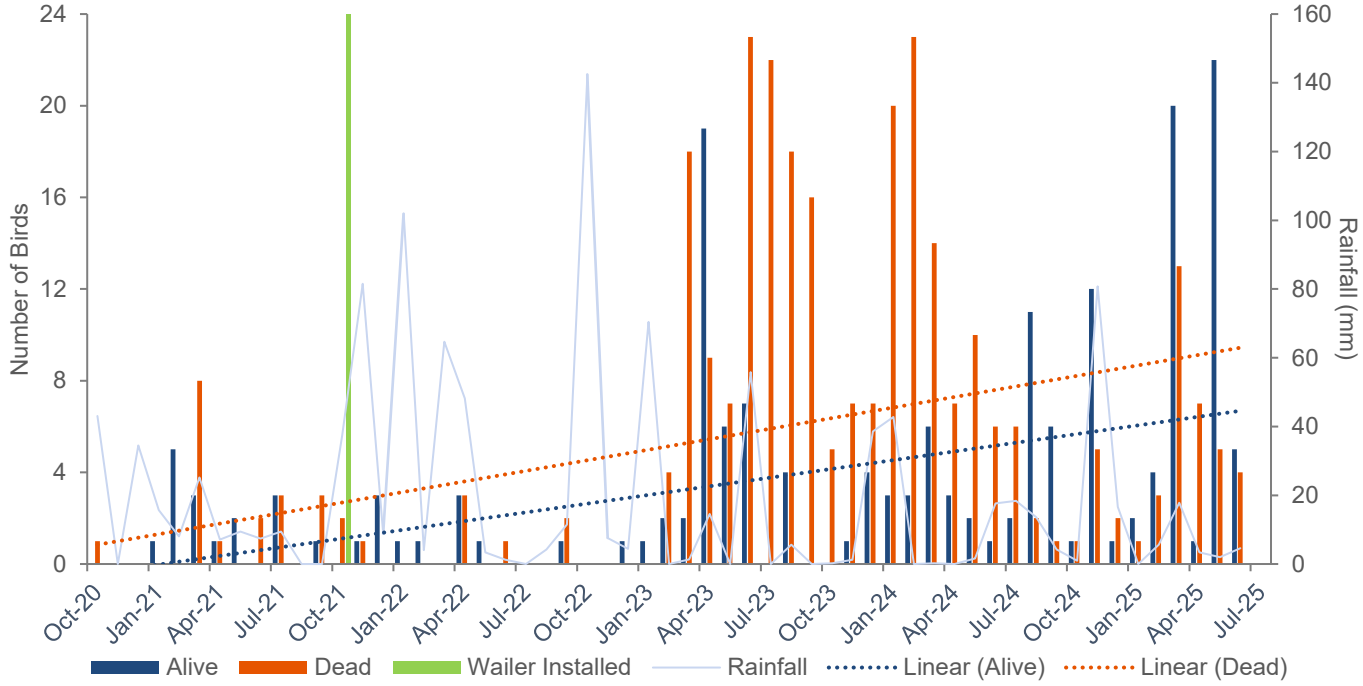

Figure 83: Monthly summary of weekly monitoring at EP3 from October 2020 to June 2025

4.3.5 Targets FY25

None applicable.

4.3.6 Actions FY25

Continue investigating and trial alternative deterrent technologies when they become available.

The wetland wailers are still installed on EP3. BHP continues to scan available technologies for potential trial at the TRS.

4.3.7 Continuous Improvement Opportunities FY25

The TRS fauna project was initiated after an increase in numbers of birds interacting with the TRS became apparent in 2004.

Opportunity: Identify new opportunities to reduce fauna mortalities through ongoing research into management practices relating to fauna interaction with tailings storage systems.

During FY25 ODC again contributed funding to the Coorong District Council to complete a reed planting project on the Lower Lakes (Alexandrina and Albert). The project will continue to be executed throughout FY26 when the lakes are shallower. The project aims to plant reeds on the shoreline to prevent further erosion of key habitat to bird species.

Opportunistic and standardised monitoring of fauna interactions at the TRS has occurred since 2004.

Opportunity: Continue to assess the impact to fauna and the efficacy of various management tools through monitoring.

Weekly fauna monitoring of the TRS by trained Environmental personnel has been undertaken since June 2005.

4.4 Solid Waste Disposal

4.4.1 Environmental Outcome

No significant adverse environmental impacts as a result of management of solid waste.

The Resource Recovery Centre (RRC) effectively managed solid waste as per the EPA approved Landfill Environmental Management Plan 2022 (LEMP) (BHP Olympic Dam 2022b). No evidence of material environmental harm was identified through routine auditing or reporting of materials disposed of to the landfill. Therefore, it can be concluded that no significant adverse impacts resulted from the management of solid waste at OD during FY25.

During FY25 the RRC experienced five fires. A combined investigation into the fires determined the most likely cause was due to the incorrect disposal of Lithium Ion (Li-Ion) batteries. Following the investigation the following actions were taken:

- A site-wide communication was distributed to re-enforce waste management processes within work areas.
- Additional battery disposal bins were distributed across site to improve battery segregation at the source.
- Improved mandatory training for new starters.

Olympic Dam continues to improve waste management across site. Projects have been initiated to investigate further improvements for the recycling of surface contaminated waste.

4.4.2 Compliance Criteria

No site contamination leading to material environmental harm arising from the operation of the Resource Recovery Centre (GW 3.3, WA 3.5).

Solid wastes which cannot be reused or recycled by the RRC and have not been contaminated by processing chemical wastes are disposed of into the general waste landfill facility. The RRC effectively manages solid waste as per the EPA approved LEMP, such that no actual or potential material environmental harm is caused by the storage of non-chemical waste materials.

Waste is minimised, stored, transported and disposed of in a manner that controls the potential risk of adverse impacts to the environment and communities through implementation and maintenance of the LEMP. No evidence of site contamination leading to material environmental harm arising from the operation of the RRC was identified based on routine auditing and reporting conducted during FY25.

4.4.3 Leading Indicators

None applicable.

4.4.4 Deliverables (WA 3.5)

Records of quantities of general and industrial waste disposed of to landfill.

Records of all waste delivered to the RRC were maintained by the waste management contractor during FY25. The total amount of waste and recycling materials delivered to the RRC for further management and disposal in FY25 was 17,889 t (Table 27). Of this, 2,645 t was disposed of directly to the permanent landfill. A total of 15,244 t was sent to recycling stockpiles within the RRC in FY25, prior to recovery or recycling off-site.

Table 27: Quantities of materials delivered to the RRC for either permanent disposal or recovery/recycling

Location	FY24 (t)	FY25 (t)
Disposed to permanent landfill	3,354	2,645
Delivered to recoverable and recycling stockpiles	10,320	15,244
Total entering RRC	13,674	17,889

Historical volumes of waste disposed to the landfill and recyclable/recoverable materials sent offsite to a licenced facility between FY03 and FY25 are shown in Table 28. In FY25, 2,645 t of waste was permanently disposed of to the landfill and 10,727 t of recycling or recoverable materials were sent off-site to a licenced facility. FY25 continued to see the implementation of initiatives to remove waste stockpiled onsite for recycling, steel being the main waste stream recycled. Recycling continued to deliver value across the RRC with a significant volume of waste diverted from landfill. Figure 84 shows the estimated tonnage of waste disposed of to the landfill on an annual basis from FY03 to FY25.

Table 28: Historical total waste received at the RRC (FY03 to FY25)

FY	Landfill Disposal (m^3)	Estimated Landfill Disposal via Conversion (t)	Total Recycled Materials (t)
2003	30,622	4,593	193
2004	27,348	4,102	617
2005	14,578	2,187	510
2006	45,361	6,804	347
2007	47,964	7,195	685
2008	52,171	7,826	673
2009	40,898	6,135	936
2010	32,980	4,947	1,890
2011	37,511	5,627	1,735
2012	36,291	5,444	2,644
2013	17,739	2,661	1,248
2014	31,433	4,715	1,232
2015	34,939	5,241	3,073
2016	27,355	4,103	2,651
2017	30,081	4,512	1,957
2018	55,254	8,288	1,513
2019	59,608	8,941	3,145
2020	60,469	9,304	3,409
2021	64,055	9,519	3,568
2022	28,853	4,328	12,111
2023	26,780	4,017	6,867
2024	22,360	3,354	9,272
2025	17,632	2,645	10,727

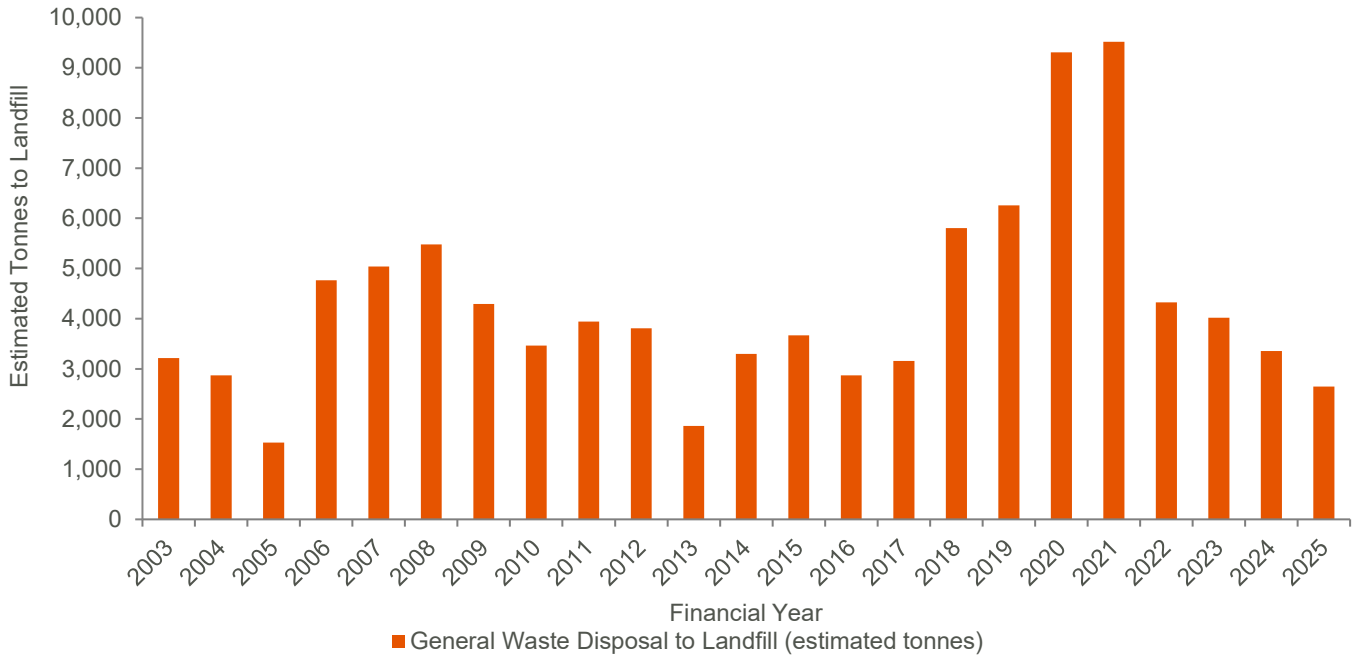

Figure 84: Historical overview of general waste quantities to landfill disposal FY03 - FY25

Note: from 2003 to 2021 estimated tonnes is based on recorded cubic metres and then applying volume to weight conversion factors. These conversion factors are updated in line with the EPA guidelines at the time; therefore, fluctuations in estimated tonnes to landfill may be the result of changing conversion factors as opposed to raw increase in waste entering the landfill. From FY22 waste data is captured through weighbridge data, with tonnes converted to a volume using the mixed waste conversion factor (150 kg/m^3).

Records of quantities of material recovered for reuse and recycling.

Records maintained by the RRC waste management contractor show the total recyclable material transported off-site in FY25 equaled 10,727 t, which is a ~15.7 % increase in recycling since FY24, with ~85 % of recyclables recovered, maintaining ODC's focus on recycling over disposal of waste. Table 29 provides an overview of the recyclable materials captured and the quantity of each material removed from site during FY25 to licenced facilities for recycling. Figure 85 provides an overview of the historical off-site recycling trends to appropriately licenced facilities (FY03-FY25 inclusive).

Table 29: Recyclable material transported off-site for recycling in FY25

Recycling Removed from Site	Quantity (t)
Batteries	38.7
E-waste	60
Copper cable	249.4
Hydrocarbon waste	454.8
Scrap Steel	6,974.3
Polypipe/high density polyethylene (HDPE) / Plastic	412.3
Rubber (shredded)	1,013
Cardboard	170.3
Timber	1,354.2
Total*	10,727

Note: Total may not equal sum of numbers due to rounding.

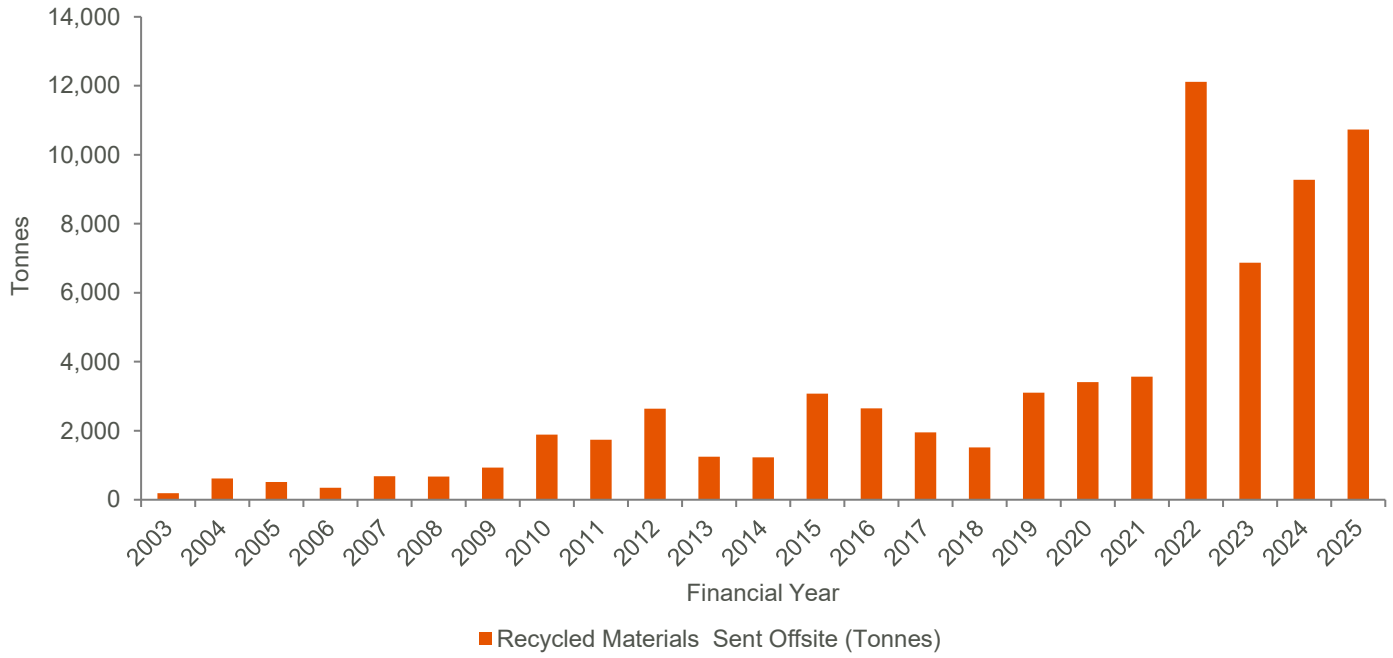

Figure 85: Recyclable materials transported offsite to suitably licenced facilities for re-processing FY03 - FY25

4.4.5 Deliverables (WA 3.6)

Records of categories, quantities and location of hazardous waste materials disposed of within the SML.

Depending on the type of hazardous or contaminated material, quantities are measured in cubic metres or tonnes. Records of hazardous waste disposed of within the SML are shown in Table 30 whilst records of hazardous waste disposed of offsite are shown in Table 31.

Contaminated waste disposed of within the SML is discussed within the radioactive waste section of this report (Section 4.5), whilst disposal of hazardous waste is to the TSF. Risk assessments of materials being disposed of to the TSF ensure that TSF integrity is not compromised.

Where possible, process waste is disposed of via bunded areas and directed to tails disposal. This reduces the amount of waste disposed of at the tailings waste finger.

Records to provide evidence that listed waste is appropriately managed, specifically:

- **That listed waste is stored, contained and treated in a manner that does not cause environmental harm or nuisance or present risks to human health and safety;**
- **That all listed waste storage containers are of a suitable strength and durability, are clearly marked and contain appropriate safety warnings;**
- **That all listed wastes do not contact soils or stormwater, and that measures to prevent and recover spillages are implemented as necessary.**

The waste management contractor is responsible for maintaining all hazardous waste management records at the RRC. The location, type and quantity of hazardous waste is recorded in an electronic register, as per all relevant regulations and site procedures. The transport of hazardous waste off-site is documented through the EPA waste transport and tracking system, providing assurance that waste is managed appropriately so as not to cause environmental harm or present a risk to human health and safety. Table 30 provides an overview of waste management streams which are approved under the TRS Waste Management Plan for disposal to the TRS.

Table 30: Hazardous wastes disposed of within the TRS in FY25

Source of Waste	Quantity of Waste (t)
Process waste	30
Waste fingers	3
Smelter	105
Acid Plant	85
Electro Winning and Gold Room	4
Miscellaneous waste cleared for TRS	68
Onsite laboratory	1
Refinery	321
Concentrator/Hydromet	25
SX Area	2
*Total	644

*Note: *Total may not equal sum of numbers due to rounding.*

Other hazardous waste removed from site for disposal at licenced facilities consists of hydrocarbon waste such as oily rags, oily filters, oil (collectively hydrocarbon waste) and PFAS generated during the decommissioning of PFFF.

ODC complies with the requirements of EPA Licence 1301 pertaining to listed and controlled waste by adhering to the approved LEMP. Spill kits are available at all collection and loading points for listed waste (e.g., Waste Oil Facility and Distribution Centre).

Table 31: Records of hazardous waste collected and removed off-site for further treatment during FY25

Waste Type	Quantity of Waste (t)
Batteries	38.7
Hydrocarbon	454.8
Fluorinated firefighting – contaminated pipes	0.8

Note: Batteries and hydrocarbon also reported within recycling Table 29.

4.4.6 Targets FY25

Increase at source waste segregation to reduce waste to landfill.

Olympic Dam has continuously improved waste management onsite and this has assisted in achieving a recycling rate of 82 % for all waste entering the RRC during FY25. This can be attributed to ongoing improvements in source segregation and site awareness to support effective waste management.

4.4.7 Actions FY25

Implement a site wide paper/cardboard recycling programme with bailing and off-site removal /recycling.

The RRC has continued to build on cardboard/paper recycling, recycling over 170 t of cardboard for FY25 and over 6,900 t of steel. ODC has several projects underway to see continued improvements in this area.

Continue to monitor and store LV/HV tyres in line with accepted guidelines.

Olympic Dam Corporation has continued to manage Tyres onsite through innovations, including a new tyre shredding machine. During FY25 ODC recycled 1,013 t of shredded tyres offsite.

Improve paper and cardboard recycling awareness and on ground participation.

Cardboard recycling has remained a focus and has reached optimal volumes.

4.4.8 Continuous Improvement Opportunities FY25

The opportunity to reuse and recycle materials would be greater if more waste materials were segregated at their source. Segregation reduces contamination and double handling and enable more accurate tracking of waste streams. Waste segregation has been rolled out across the site however still needs improvement and extension to the mine and underground mine.

Opportunity: Improve at source segregation waste segregation system.

Ongoing education and source segregation will be targeted during FY26. Including auditing the Olympic Dam general waste and improving battery disposal locations across site.

4.5 Radioactive Waste

4.5.1 Environmental Outcome

No adverse impacts to public health as a result of radioactive waste from ODC's activities.

Olympic Dam has consistently operated in a manner that limits radiation dose to members of the public from radioactive waste, to less than a small fraction of the ICRP 1 mSv/y limit. As a result, there were no adverse radiation exposure impacts to the public from activities undertaken at OD in FY25.

No significant adverse impacts to populations of listed species or ecological communities as a result of radioactive waste from ODC's activities.

During the reporting period there were no significant adverse impacts to populations of listed species or ecological communities as a result of radioactive waste from ODC's activities. Monitoring of radiation doses to the public and the deposition of ^{238}U at NHB assessment sites is used as an indicator of the potential exposure of listed species to radioactive waste.

Deposition of ^{238}U at NHB assessment sites during FY25 was at a level which poses no significant adverse impacts to NHB.

4.5.2 Compliance Criteria

Radiation doses to members of the public less than 1 mSv/y above natural background (ER 3.2).

The total estimated dose (during FY25) to members of the public at the RDMS and the OVMS that was contributed by OD operations was 0.035 mSv and 0.013 mSv respectively.

Deposition of project originated ^{238}U less than 25 Bq/m^2/y at the non-human biota assessment sites (ER 3.3).

The average deposition of ^{238}U, calculated as an average of results at the four monitoring sites was determined to be 2.38 Bq/m^2/y, well below the 25 Bq/m^2/y compliance criteria.

4.5.3 Leading Indicators

Indications that a dose constraint of 0.3 mSv/y to members of the public above natural background will be exceeded (Aus 5f, 6, 14; State 34) (ER 2.2).

Indications that a reference level of 10 uGy/h for impacts on non-human biota above natural background will be exceeded (Aus 5f, 6, 14; State 34) (ER 2.3).

Note: The reference level for non-human biota is set as an interim criteria until such time as an agreed national approach is determined.

The two leading indicators were not triggered during the reporting period. Doses to members of the public are below OD's internal dose constraint of 0.3 mSv/yr during the reporting period. Similarly, the reference level of 10 uGy/h for impacts on NHB was not triggered during the reporting period.

4.5.4 Deliverables (WA 3.7)

Records of the categories, quantities, radiation levels and location of LLRW stored within the SML.

A waste management register is maintained by site staff and the waste management contractor to track origins of the structural waste, waste categories, quantities, radiation testing results, and final disposal or storage locations.

Contaminated waste is defined as structural waste from within the operational mining and processing areas which after surface cleaning retains a surface area activity of greater than 3,700 Bq/m^2 and an average activity concentration level below 1 Bq/g. Any structural waste which returns a surface area activity reading below 3,700 Bq/m^2 can be safely recycled and any cleaned materials which remain above the surface area activity threshold of 3,700 Bq/m^2 must remain onsite or undergo further cleaning.

Table 32 shows the total tonnage of structural waste (2017-2025 inclusive) which once cleaned has remained above 3,700 Bq/m^2 and below an average activity concentration level of 1 Bq/g and therefore has been placed into a purpose-built Contaminated Waste Disposal Facility (CWDF).

Table 32: Permanent CWDF

CWDF Storage Location	Type of Waste	FY	Quantity of Waste (t)
Cell 1 Stage 1	Contaminated structural equipment	2017	3,304
Cell 1 Stage 1 Cell 1 Stage 2	Contaminated structural equipment	2018	2,088
Cell 1 Stage 2	Contaminated structural equipment	2019	2,042
Cell 1 Stage 2	Contaminated structural equipment	2020	1,566
Cell 1 Stage 2	Contaminated structural equipment	2021	738
Cell 1 Stage 2	Contaminated structural equipment	2022	693
Cell 1 Stage 2	Contaminated structural equipment	2023	1,115.81
Cell 2	Contaminated structural equipment	2024	2,152
Cell 2	Contaminated structural equipment	2025	1,107.11
Total in storage end FY25			14,806

The use and closure of each CWDF Cell stage is implemented through the requirements of the approved Contaminated Waste Management Plan (CWMP). CWDF Cell 1 Stage 1 was approved and constructed adjacent to the RRC during FY17 and was backfilled in FY18 once capacity was achieved. CWDF Cell 1 Stage 2 (Lift 1), directly above Stage 1, was constructed in FY18 and is now at maximum capacity. Construction of Cell 2 was completed during FY23 and has been in operation during FY25.

The regulatory framework for a CWDF is contained within the current licence conditions for the Olympic Dam LM1, which requires ODC to comply with the Mining Code (ARPANSA 2005). ODC is required to seek regulatory authorisation for various stages of the CWDF facility/cells and to have a Radioactive Waste Management Plan (RWMP) developed and maintained. Figure 86 provides an overview of the tonnages sent for disposal to each respective CWDF cell stage.

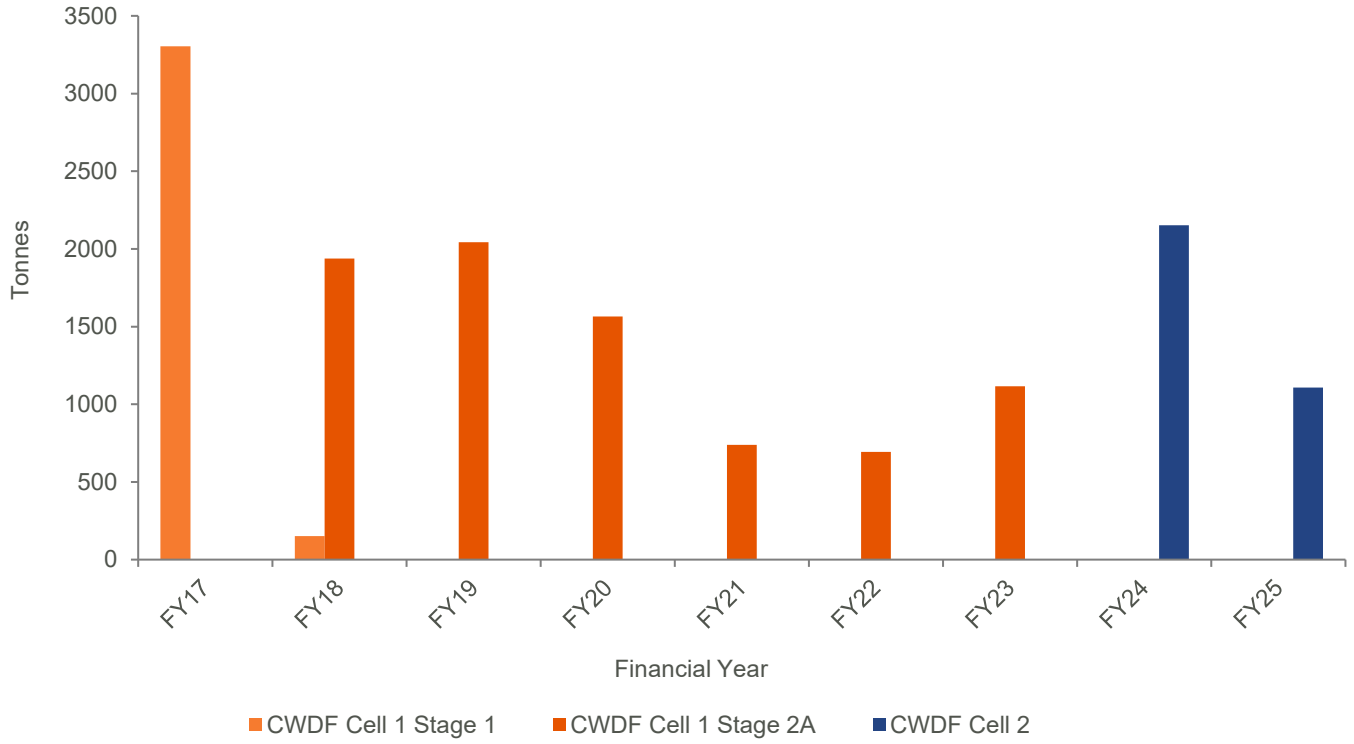

Figure 86: Tonnage of structural waste received at each of the CWDF cells FY17 - FY25

Some structural waste materials return surface area activity readings above 3,700 Bq/m^2 and activity concentration readings above 1 Bq/g after cleaning and decontamination processes have been implemented. These materials are classified as low level radioactive waste (LLRW) and are therefore segregated away from other structural contaminated waste materials. Table 33 summarises the quantity of LLRW stored in accordance with the approved CWMP.

Table 33: LLRW currently in storage

Storage Location	FY	Quantity of Waste Stored (t)
LLRW Area	FY18	115
LLRW Area	FY19	44
LLRW Area	FY20	173
LLRW Area	FY21	545*
LLRW Area	FY22	1.5**
LLRW Area	FY23	28.25
LLRW Area	FY24	7.2
LLRW Area	FY25	95.45
Total in storage end FY25		1,009.81

*Note: * During FY21 an estimated total of 540 t of clarifier overflow bricks had to be sent to the LLRW holding area. All other waste sent to the LLRW came to a total of 5 t. **A small volume of LLRW was disposed of to the LLRW facility during FY22. Due to SCM21, the volume of LLRW waste streams were reduced significantly. This was further supported by improvements for cleaning structural waste.*

The cleaning of structural materials from processing and mining areas of the mine has continued in FY25 and proved to be a successful method for reducing the radiation levels, with the overall volumes of contaminated waste

required to stay on site in a CWDF cell or the LLRW holding area greatly reduced, as shown in Figure 87. The testing program has enabled OD to safely recycle a large quantity of metal waste.

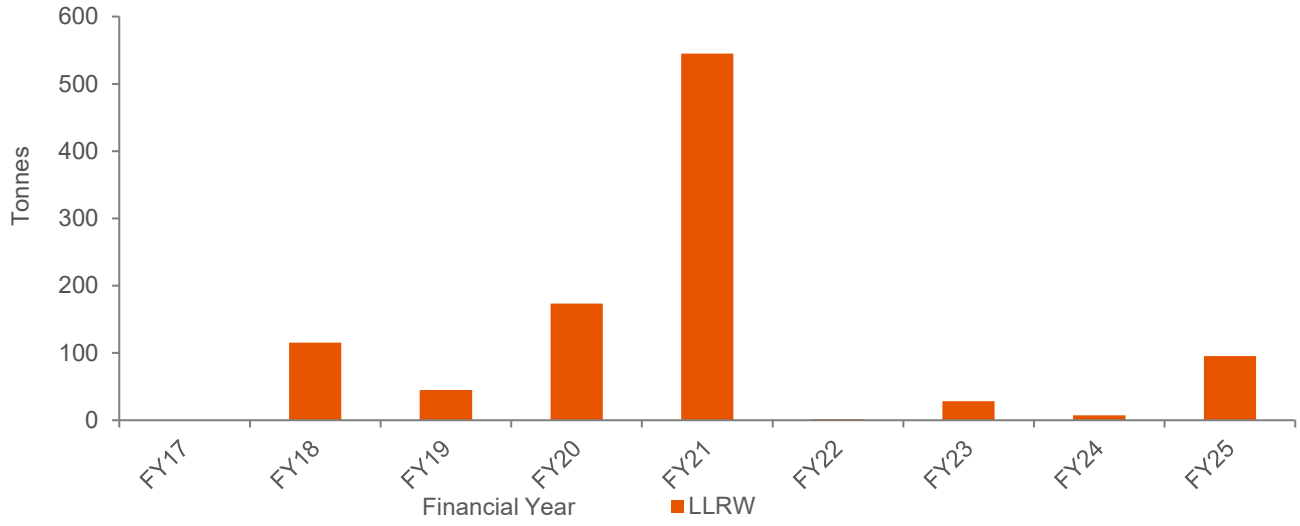

Figure 87: Tonnage of structural waste received at the LLRW pre-disposal holding area FY17 - FY25

4.5.5 Targets FY25

Maintain radiation doses as low as reasonably achievable, as assessed through the annual Radiation Management Plan Review.

Quarterly ODC radiation monitoring results, radiation dose calculations and occupational hygiene results are presented to the regulatory authorities for review. In addition, an annual adequacy and effectiveness review is completed each year confirming that doses are as low as reasonably achievable (ALARA).

4.5.6 Actions FY25

None applicable.

4.5.7 Continuous Improvement Opportunities FY25

International and national standards, guidelines and codes are subject to change from time to time, to ensure effective protection of humans and the environment from the harmful effects of radiation. Any new recommendations or revisions should be reviewed and implemented as necessary.

Opportunity: Maintain a watching brief on ICRP and IAEA recommendations and any new national Codes of Practice and implement as necessary.

During FY25 OD continued to work on recycling strategies to allow increased recycling of surface contaminated waste, rather than disposal onsite. OD will continue this work in FY26, with the aim of recycling legacy metal waste.

ALARA is built into the design of the operation. This means that all reasonable efforts are made to ensure that radiation and radioactive emissions are controlled and managed in the design of new plant. Radiation protection design criteria have been established and are mandatory for all facilities.

Opportunity: Develop and implement optimisation in design process.

Olympic Dam produces waste of various streams as a result of normal operations. A permanent facility specifically designed for disposing contaminated waste has been established. Maximising the capacity whilst minimising the volume of waste deposited at the facility, is a key factor in reducing the environmental impact through land disturbance and improved resource recovery.

ALARA is built into the design of the operation. This means that all reasonable efforts are made to ensure that radiation and radioactive emissions are controlled and managed in the design of new plant. Radiation protection design criteria have been established and are mandatory for all facilities. Optimisation studies will continue in FY26, conducted for all phases of any future expansion with findings incorporated into designs.

5. INTERACTION WITH COMMUNITIES

5.1 Community Interaction

5.1.1 Environmental Outcome

Residents in Roxby Downs, Andamooka and Woomera have a favourable view of ODC.

The Community Perception Survey (CPS) is undertaken biennially and was completed in FY24. These survey results indicated that ODC is viewed favourably (trusted) by 42 % of respondents in its local communities, an increase of 12 % from the last CPS survey in FY22. The next CPS is scheduled for FY26. Actions undertaken in FY25 included initiatives that supported the activation of the Roxby Downs retail precinct and continuation of resources for childcare. The Environmental Outcome for FY25 has been classified as 'significant progress towards achieving the Environmental Outcome'.

5.1.2 Compliance Criteria

Community concerns are tracked and all legitimate complaints are addressed where reasonably practicable (SE 3.1).

ODC has a process to receive and track community enquiries, concerns, complaints and grievances through the company's complaints procedure and stakeholder engagement management plan. In FY25, ODC did not receive any formal community concerns. However, issues related to the lack of accessible childcare in Roxby Downs and empty storefronts within the Roxby Downs community were raised by the community through formal and informal channels (routine cadences, community events).

5.1.3 Leading Indicators

None applicable.

5.1.4 Deliverables (SE 3.1)

A description of the extent to which residents in Roxby Downs, Andamooka and Woomera trust ODC (calculated biennially (Community Perception Survey)).

The CPS is conducted biennially and additional questions have been included to gauge community sentiment and wellbeing. The CPS was conducted in FY24 and is next scheduled for FY26. The FY24 CPS results showed that ODC is viewed favourably (trusted) at 42 % of respondents in the local communities, which was an increase from 30 % in FY22.

A description of residents' perceptions about quality of life, services and facilities, safety and social fabric in Roxby Downs, Andamooka and Woomera (reported biennially).

The CPS conducted in FY24 showed that community respondents' highest concerns were with sustainability of local businesses, impact of non-residential workforce, access to high quality health services and job creation in the community. Measures undertaken to improve these concerns include:

- A Stakeholder Engagement Group (SEG) was established in late FY22 for stakeholders to raise issues and share concerns.
- ODC is updating to a broader Copper SA complaints and grievance process to be shared across internal and external stakeholders to provide an avenue for community members to raise questions. A dedicated 24/7 hotline has been established as part of this process.
- Through the Innovation Hub, a social investment project of ODC, ODC has supported the successful activation of the 'Roxby Collective', the first retail store in Richardson Place, Roxby Downs.
- As ODC now forms a broader Copper SA asset, a dedicated Community Manager role resource has been put in place, with renewed focus on stakeholder engagement and relationship building in host community.

5.1.5 Targets FY25

None applicable.

5.1.6 Actions FY25

Complete and implement Olympic Dam Social Value Plan for the FY21-25 period.

Social Value is the positive contribution BHP makes to the community, environment and society – its workforce, partners, customers, economies and communities. BHP believes we will have successfully contributed to Social Value when those around us feel they are better off from our presence. Social Value is a company-wide, whole of business approach that BHP is hardwiring into its culture, decisions and actions at every level.

Social Value now forms one of the five themes of BHP's strategic framework designed to operationalise the company's new strategy. The BHP Social Value Plan has six pillars covering Planet, People, and Prosperity Is that and they are detailed in Table 34. Additionally, through the annual Community Donations program, ODC supports various initiatives, events and festivals that contribute towards enriching community lifestyle and economic resilience.

Table 34: BHP's Social Value framework

Social Value Pillar	Social Value Themes	Priorities
Transparent and ethical supply chains	Procurement (local and Indigenous)	• Increased commitment to Indigenous spend.
Thriving, empowered communities	Local community and early childhood education and childcare	• Childcare in Roxby Downs supports diverse community needs. • Continue to create vibrant communities to increase value proposition to regions, government and employees.
Inclusive and future ready workforce	Inclusion and diversity	• Continue to prioritise gender and indigenous diversity.
Indigenous partnerships	Indigenous and Traditional Owner engagement	• Strengthen existing and develop new partnerships with Traditional Owners, local communities and industry to develop shared value.
Healthy environment	Nature positive outcomes	• Contribute to nature positive outcomes.
Decarbonisation	Climate change	• Contribute to stabilising global atmospheric greenhouse gas concentrations to minimise impacts associated with climate change.

The first OD Social Value Plan was developed for the FY21-25 period and a full review and realignment was undertaken at the end of FY22. An amended plan was rolled out for the FY23-27 period following analysis of the most recent data assessing the needs and perceptions of primary stakeholders against the operational priorities of both Copper SA and BHP. ODC Social Investment covers a variety of recipients over several Social Value pillars (Table 35).

Table 35: Social Investment Projects contributing to Social Value

Project	Social Value Pillar	Description
Arid Recovery	Healthy Environment	Established in 1997, Arid Recovery is non-profit conservation organisation supported by BHP, SA Department for Environment and Water, the University of Adelaide and Bush Heritage Australia. The 123 km^2 fenced reserve is located on the Olympic Dam Special Mining Lease and adjacent BHP pastoral leases. Six regionally extinct threatened species have been reintroduced to the reserve and a further three are protected. The reserve's innovative design, combining predator free zones with experimental areas where feral cats and rabbits remain, enables world-leading research on species reintroductions, predator management, climate drivers and prey naivety.
Biodiversity Conservation Project	Healthy Environment & Indigenous Partnerships	A 158,000 ha area located on Stuart Creek Station between Kati Thanda- Lake Eyre North and Kati Thanda-Lake Eyre South. The area is being managed for positive conservation actions, with a particular focus on threatened species such as the Thick-billed Grasswren.
Roxby Downs Community and Innovation Hubs (managed in partnership with Healthy Environs)	Thriving, empowered Communities	The Roxby Downs Community Hub and Innovation Hub are a BHP-funded initiative delivered in partnership with Healthy Environs. The Hubs provide a safe, inclusive, and vibrant space that fosters wellbeing, strengthens social cohesion, and supports innovation and community-led development in Roxby Downs. The Community Hub connects residents to local services, supports community programming, and provides space for visiting professionals and after-hours use by local organisations. The Innovation Hub offers a co-working environment that supports future skills development, entrepreneurship, and social connection for adults outside of work.
Royal Flying Doctor Service SA/NT	Thriving, empowered Communities	Annual funding towards the maintenance of aircraft and facilities that are used to transport patients from Copper SA communities to metro regions.
Flipside Youth Mental Health Program (managed in partnership with Country and Outback Health)	Thriving, empowered Communities	Funding towards operations of a youth mental health program in Roxby Downs, delivered in partnership with Country and Outback Health. The program connects young people with a trained mental health clinician and a youth engagement worker in town.
Foodbank SA/NT	Thriving, empowered Communities	Funding to support the Foodbank Key Staples Program and Food Relief program for Whyalla and Regional Communities.
Operation Flinders Foundation	Thriving, empowered Communities	Operation Flinders offers an 8-day program in the Northern Flinders Ranges for 'at risk' youth. The project involves the young people trekking up to 100km, abseiling, experiencing Indigenous culture, bushcraft and building self-confidence. The young people are typically referred from their school or a government agency. Following completion, the students are invited to take advantage of peer group mentoring. The BHP contribution covers the cost of young people from across Roxby Downs and the Upper Spencer Gulf participating in the program.
Uni Hub Spencer Gulf & Child Australia	Thriving, empowered communities	Funding to support community training/upskilling, and for professional development, mentoring and governance in early childhood education and care,
Adelaide Football Club (AFLW Crows)	Safe, Inclusive and Future-ready Workforce	Co-Major Partner of the AFC women's team in line with our commitment to diversity and inclusion. AFC runs community-based engagements across the Upper Spencer Gulf, encouraging young

Project	Social Value Pillar	Description
		girls to participate in sport. BHP is the match sponsor for both the women's and men's Indigenous round games
Tjindu Foundation	Safe, Inclusive and Future-ready Workforce	Funding to support the Foundation to create positive, long-term change for Aboriginal children in communities across South Australia through cultural education and success in schooling that enables them to become future leaders.
Tarnanthi (via the Art Gallery of South Australia)	Indigenous Partnerships	BHP is the Principal Partner of the Tarnanthi Festival of Aboriginal and Torres Strait Islander Contemporary Art, and is recognised as the premier event in Australia and internationally for contemporary Aboriginal and Torres Strait Islander art.
Social and Emotional Wellbeing Project (in partnership with Marnbi Aboriginal Corporation)	Indigenous Partnerships	Supporting the set-up of outreach, ancillary and mental health care services, with the aim to drive positive outcomes relating to the long term social and emotional wellbeing of the Port Augusta Aboriginal community through a holistic support model
Aboriginal Women in Leadership & Aboriginal Languages Project (in partnership with Tauondi Aboriginal College)	Indigenous Partnerships	A program that focuses on building leadership capability for emerging and current female Aboriginal leaders.
Polly Farmer Foundation	Indigenous Partnerships	Asset funding to support the Foundation to deliver academic enrichment programs that empower Aboriginal students to complete school and move into successful post-school pathways, including university, direct employment, apprenticeships, traineeships and technical training.

Undertake the biennial Community Perception Survey to monitor local community perceptions of ODC, and of local services and facilities.

The biennial CPS was last undertaken FY24 and indicated that ODC is viewed favourably (trusted) by 42 % of respondents, an increase of 12 % from the last CPS survey in FY22.

ODC is also working on a long-term sustainable solution to address the childcare shortages in Roxby Downs. These are in direct correlation to the Social Value themes of:

- To create vibrant communities to increase value proposition to regions, government and employees.
- Sustainable Roxby Downs beyond mining.
- Education and childcare in Roxby Downs to support diverse community needs.

Establish a formal community engagement mechanism which will provide regular engagement with community representatives and the provision of measurable shifts in community sentiment.

In FY22, ODC established a SEG, comprised of residents of Roxby Downs and Andamooka. The BHP SEG is an innovative forum for stakeholders to meet and discuss BHP-related issues quarterly. It is also an avenue for stakeholders to have input into aspects of the planning of our operations and to be a part of a unique forum for two-way dialogue and engagement with the company. The SEG provides an opportunity for BHP to request feedback regarding its operating environment, growth programs, sustainable development and environmental and economic impacts to assist with internal decision making.

Members of the SEG were identified through an extensive application and assessment process to ensure that there was representation across all sectors and services from Roxby Downs and Andamooka.

The SEG most recently met in February 2025 at the Olympic Dam Village. In attendance were ODC's Community Manager and Community team. This was a co-designed session to identify ways that ODC could increase engagement with the community. Key themes identified were:

- Communication – improvements in how ODC communicates with the community (of which approximately 60 % are residential workforce) and how the community can communicate with ODC.
- Connectedness – Identify opportunities to connect more with the community.
- Governance and routines – implement key routines to support information and community consultation.

Review and update local procurement plans with targets to maximise the participation of local, regional and State businesses and employment in supplying goods and services to Olympic Dam.

BHP is committed to investing with local, regional and South Australian businesses. In FY25, Copper SA's (which includes ODC) total spend in South Australia was AUD $980.3 M, with AUD $260 M spent with regional suppliers in the Roxby Downs and Upper Spencer Gulf regions. BHP's partnership with C-Res delivers the Local Buying Program in its key communities across Australia, which supports small businesses to secure work packages and develop relationships with BHP. In FY25, AUD $19.5 M was spent through the Local Buying Program in South Australia.

Continue to explore opportunities to build involvement of Aboriginal people and businesses to participate and benefit from Olympic Dam.

Copper SA reached a total spend of AUD $109 M with Indigenous businesses in FY25. The Traditional Owner share of spend also grew significantly, with AUD $65 M spent across ten Traditional Owner suppliers.

5.1.7 Continuous Improvement Opportunities FY25

Olympic Dam provides opportunities for employment and businesses locally, regionally and state-wide with a focus on Aboriginal people and communities. ODC is also committed to increasing Aboriginal employment in the Olympic Dam workforce and to enabling Aboriginal enterprises from the Northern Region of South Australia to secure contracts at site and ongoing economic development for the region.

Opportunity: Maximise opportunities for South Australian and Aboriginal employment and business participation at Olympic Dam:

Develop and implement a local procurement plan with targets to maximise the participation of local, regional and State businesses and employment in supplying goods and services to Olympic Dam;

Continue to explore opportunities to enable Aboriginal people and businesses to participate in Olympic Dam.

ODC has committed to increase Indigenous employment each year by providing roles across Entry Level Underground and Entry Level Processing across Olympic Dam. These include indigenous only campaigns and indigenous only engagement centres on a committed six-monthly basis. These sessions include an invitation to current employees who have been through the process to talk through a day in the life, current employees who have completed the Indigenous Development Program and support networks. This also includes providing workshops in the community with local Traditional Owner (TO) groups around entry level roles and pathways within BHP. Indigenous employment initiatives are providing support for attraction, opportunity, retention and development of Indigenous people and the communities. Support networks onsite play a key role in supporting the indigenous workforce with transition, and retention. ODC also continues to prioritise the development and growth of businesses owned, managed, and controlled by Indigenous and Native Title Holders.

Olympic Dam Corporation is committed to maintaining and enhancing the amenity and lifestyle of Roxby Downs. This requires a good understanding of the social and economic environment and the factors that influence amenity, such as the social cohesion, living costs, housing and social services. It is also recognised that responsibility for some social matters lies outside of the authority of ODC, and as such, will need to be managed collaboratively with the State Government and other key stakeholders.

Opportunity: Maintain and enhance the amenity and lifestyle of Roxby Downs as a desirable place to live and work:

Through OD's Community Donations Program in FY25, OD provided donations towards various community and local council-led initiatives to support the maintenance and enhancement of the Roxby Downs livability and lifestyle. This included donations towards designing and fitting out a dedicated palliative care space at the Roxby Downs Health Service, supporting the purchase and installation of a water drink station at the Andamooka Primary School, upgrading the lighting at the junior kindy room at the Roxby Downs Children's Centre, purchase of equipment for the Roxby Downs Country Fire Service, and supporting the Roxby Downs Scouts group to purchase kitchen equipment, Additionally, a new project with Andamooka and Roxby Downs community groups to control buffel grass on community lands was initiated in FY25.

Other examples of donations included community events such as the annual Roxby Races, Roxby Downs Desert Dash, Happy Healthy Expo, and Christmas Pageant. ODC also continues to support the Roxby Downs Council-led Roxby Downs Town Centre Activation project, which includes the construction of two steel fabricated market stalls in Richardson Place, as well as support for the Makerspace project, which is a project that is being co-designed with the community.

Additionally, the SEG provides another avenue for ODC to understand and assess the social and economic environment of Roxby Downs that can benefit from support from OD.

Undertake a regular (five-yearly) assessment (social baseline study) of Roxby Downs, Andamooka and Woomera and regular surveying to understand key issues.

The next social baseline study is expected to take place in FY27.

Continue to build on best practice and learnings from other remote Australian mine sites to enhance liveability and build sustainable relationships between the residential community and non-resident workforce.

None applicable.

In collaboration with the South Australian Government and key stakeholders, identify indicators to assist in planning, delivering and monitoring social infrastructure provision.

None applicable.

Work collaboratively with the South Australian Government and key stakeholders to investigate and deliver appropriate social services and infrastructure.

Regular engagements between BHP, the South Australian Government and the Roxby Downs Council along with other key stakeholders such as the SEG and the Roxby Downs Community Board ensure that the investigation and delivery of the appropriate social services and infrastructure is done collaboratively.

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7. GLOSSARY

Term	Definition
AE	Monitoring Program – Airborne Emissions
AHD	Australian Height Datum - a measure of elevation referenced from approximate sea level
Airodis	Database for AQMS data managed by contracting partner ACOEM (ECOTECH)
ALARA	As low as reasonably achievable
ANCOLD	Australian National Committee on Large Dams
ANOVA	Analysis of Variance statistical method
ANZG	Australian and New Zealand guidelines for fresh and marine water quality. Australian Water Guidelines (2018)
AoI	Area of Influence
APTS	Acid Plant Tails Stack
AQMS	Air Quality Monitoring System
Aquifer	Porous water bearing formation of permeable rock, sand, or gravel capable of yielding significant quantities of water
ArcGIS	Mapping and analytics software
Arid Recovery	An independent not-for-profit running a 123 km2 wildlife reserve adjacent to the SML. ODC is a founding funding partner and continues to support the organisation via BHP's Social Investment program
ARPANSA	Australian Radiation Protection and Nuclear Safety Agency
ARR	Arid Recovery Reserve
AWR	Annual Wellfield Report
Bachmann Criteria	Also known as the "Criteria and procedures for recording and reporting incidents at SA uranium mines". Standard criteria and procedures for reporting uranium incidents | Energy & Mining (energymining.sa.gov.au)
BaU	Business as Usual
BDBSA	Biological Database of South Australia
BOM	Bureau of Meteorology
Bq	Becquerel, a unit of radioactive decay
Bq/g	Becquerel per gram
Bq/m^2	Becquerels per square metre
$Bq/m^2/y$	Becquerels per square metre per year
CAF	Cemented Aggregate Fill
Closure	Permanent cessation of operations at a mine or mineral processing site after completion of the decommissioning process, signified by tenement relinquishment
CMP	Calibration Maintenance Plan

Term	Definition
CMRP	Closure Management and Rehabilitation Plan
CO_{2-e}	Carbon dioxide equivalent
Context Based Water Targets	Targets that aim to address the shared challenges and opportunities within the catchments where BHP operates
COP	Critical Operating Parameters (for TSF embankment stability)
CPS	Community Perception Survey
CPTu	Cone penetrometer test – undrained
C-Res	Community Resourcing for the Future. The organisation that administers the Local Buyers Program on behalf of BHP.
Cu	Copper
CWDF	Contaminated Waste Disposal Facility
CWMP	Contaminated Waste Management Plan
Decarbonisation	Reducing or eliminating operational GHG emissions generated by ODC
DEM	Department for Energy and Mining
DEW	Department for Environment and Water
DOH	Department of Health
Domestic Water Use	Water used in the town of Roxby Downs or Olympic Dam Village
DSI	Detailed Site Investigation
EC	Electrical Conductivity
eDNA	Environmental DNA. Organismal DNA that can be found in the environment
EG	Monitoring Program – Energy Use and Greenhouse Gas (GHG) Emissions
EIP	Environment Improvement Program (for PFAS).
EIS	Environmental Impact Statement
EMM or EM Manual	Environmental Management Manual
EM Program	Environmental Management Program
EMS	Environment Management System. The part of an organisation's management system used to develop and implement its environmental policy and manage its environmental aspects (Standards Australia / Standards New Zealand 2004). Note: A management system is a set of interrelated elements used to establish policy and objectives and to achieve those objectives. A management system includes organisational structure, planning activities, responsibilities, practices, procedures, processes and resources
Environmental Aspect	An element of the organisation's activities or products or services that can interact with the environment (Standards Australia / Standards New Zealand 2004)
Environmental Impact	Any change to the environment, whether adverse or beneficial wholly or partially resulting from an organisation's environmental aspects (Standards Australia / Standards New Zealand 2004)
EoR	Engineer of Record
EPA	Environment Protection Authority (SA)
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Cth)

Term	Definition
EPMP	Environmental Protection and Management Program. Describes the environmental management and monitoring activities undertaken by BHP Olympic Dam for the purpose of quantifying any change in the extent or significance of its impacts, assessing the performance of control measures employed to limit impacts, and/or to meet legal and other obligations.
EP 2015, WQ Policy	Environment Protection (Water Quality) Policy 2015
EP	Evaporation Pond. A containment pond to hold liquid wastes to assist with disposal of liquor via evaporation
EP Act 1993	*Environment Protection Act 1993* (SA)
ER	Monitoring Program – Environmental Radiation
ERICA	Environmental Risk from Ionising Contaminants: Assessment and Management software tool
ERM	Environmental Resources Management (Consultancy)
ESG	Environmental, Social and Governance
ESO	Emergency Services Officer
FA	Monitoring Program - Fauna
Felixer	Cat grooming trap. The Felixer uses rangefinder sensors to distinguish target cats and foxes from non-target wildlife and humans, and spray targets with a measured dose of toxic 1080 gel. ODC participated in trials in early 2018 and ceased operation at the end of FY24.
FL	Monitoring Program - Flora
FoS	Factors of Safety
FY	Financial Year
GA	Monitoring Program – Great Artesian Basin
GAB	Great Artesian Basin
GAM	Generalised Additive Model is a generalised liner model statistical method
GEMS	Global Event Management Solution, BHP's internal event management system
GHG	Greenhouse Gas
GISTM	Global Industry Standard on Tailings Management
GLC	Ground Level Concentration
Global Standard	BHP's Business Level Document, formerly GLD and Our Requirements
GMP	Groundwater Management Plan
GPS	Global Positioning System
GW	Monitoring Program – Groundwater
ha	Hectare
HDPE	High density polyethylene
Hiltaba Village	Area under rehabilitation after clearance for a proposed village
HV	Heavy vehicle
IAEA	International Atomic Energy Agency
IBE	Important Biodiversity and Ecosystems

Term	Definition
IBC	Intermediate bulk container
ICRP	International Commission on Radiological Protection
ID	EMP chapter identification
Industrial Water use	Water used in mining or mineral processing operations and excluding domestic water use
IQR	Interquartile range, measure of statistical dispersion
IUCN	International Union for Conservation of Nature
kg/m^3	Kilogram per cubic metre
kg CO_{2-e}	Kilograms of carbon dioxide equivalence – a standard measure of greenhouse gas emissions
kg CO_{2-e}/t	Kilograms of carbon dioxide equivalence per tonne of material milled – a measure of greenhouse gas emission intensity of ODC
kL/t	Kilolitres per tonne
Kruskal-Wallis Test	Statistical test used for non-parametric data
kt	Kilotonne
kt CO_{2-e}	Kilotonnes carbon equivalent
Listed Species	Those species or communities that are listed as threatened or migratory under Commonwealth and/or relevant State or Territory legislation
LEMP	Landfill Environmental Management Plan
LGC	Large-scale Generation Certificate
LNAPL	Light Non-Aqueous Phase Liquid
Local Buyers Program	Partnership between BHP and C-Res that connects small local businesses to BHP's operations to supply goods and services.
LLRW	Low level radioactive waste
LM1	Licence to Mine
LM	Andamooka Limestone aquifer monitoring bore in the mine or metallurgical plant area
LNAPL	Light non-aqueous phase liquids
LR	Limestone Regional – Groundwater bore within the limestone aquifer
LT	Andamooka Limestone aquifer monitoring bore in the tailings area
LSA	*Landscape South Australia Act 2019* (SA)
LUP	Land Use Permit, also referred to as Global Land Use Permit (GLUP)
LV	Light vehicle
m^3	Cubic metre
mAHD	Elevation in metres with respect to the Australian Height Datum
mg/Nm^3	Milligrams per normal cubic metre
Mining Code	Code of Practice Radiation Protection and Radioactive Waste Management in Mining and Mineral Processing, Radiation Protection Series Publication No. 9, August 2005.
ML	Megalitre

Term	Definition
ML/d	Megalitres per day
MP	Monitoring Program. A document which describes the environmental monitoring activities undertaken by ODC for the purpose of quantifying any change in the extent or significance of its impacts, assessing the performance of the control measures employed to limit its impacts, and/or to meet its legal and other obligations
m/s	Metres per second
MSS	Main Smelter Stack
mSv	Millisieverts, a measure of equivalent radiation dose
mSv/y	Millisieverts per year, a measure of equivalent radiation dose per year
Mt	Million tonnes
Mtpa	Million tonnes per annum
MW	Megawatt
MWDP	Mine water disposal pond
Nature Positive	Nature-positive has emerged as a concept that describes a future state of nature (e.g. biodiversity, ecosystem services, and natural capital), which is greater than the current state, where thriving ecosystems continue to support future generations.
NEPM 1999	National Environment Protection Measure (NEPM) (Assessment of Site Contamination) 1999
Net-zero	Achieving an overall balance between GHG emissi9ons produced and GHG emissions removed from the atmosphere
NESB	North East Sub-Basin hydrogeological zone
NGER	National Greenhouse and Energy Reporting
NHB	Non-human biota
nJ/m^3	Nano joules per cubic meter
Nm^3	Normal metres cubed, referring to volume at standard temperature and pressure
NOx	Oxides of nitrogen
NPW Act	*National Parks and Wildlife Act 1972* (SA)
NVC	Native Vegetation Council
NVMP	Native Vegetation Management Plan
OD	Olympic Dam
ODC	BHP Olympic Dam Corporation Pty Ltd. On 7 May 2021 BHP Billiton Olympic Dam Corporation Pty Ltd changed its name to BHP Olympic Dam Corporation Pty Ltd. The change was a name change only
ODECC	Olympic Dam Environmental Consultative Committee
ODV	Olympic Dam Village, the accommodation camp located at Olympic Dam township
OVMS	Olympic Village Monitoring Site (air quality station)
p	p-value, statistical significance
Pb	Lead

Term	Definition
210Pb	A naturally occurring isotope of lead, having atomic number 82, atomic mass 210 and half-life 22.3 years
PD	Passive dust
PERMANOVA	Permutational Multivariate Analysis of Variance, statistical test
PFAS	Per- and Polyfluoroalkyl Substances
PFFF	Prohibited fluorinated firefighting foam
pH	A measure of acidity and alkalinity
Photopoint	Photograph monitoring in the same position over time
PIRSA	Department of Primary Industries and Resources South Australia
PM_{10}	Particulate matter with an effective aerodynamic diameter less than or equal to 10 µm
Po	Polonium
210Po	A naturally occurring isotope of polonium, having atomic number 84, atomic mass 210 and half-life 138.38 day
PPA	Power Purchase Agreement
ppm	Parts per million
PRH	Practical Reference Heads
PS1/PS6A	Pump Station 1/6A Pump stations for the GAB water pipeline
P2NZ	Pathways to Net Zero, P2NZ is BHP's project to achieve and maintain net zero operational emissions by 2050.
QR/PT	Arcoona Quartzite aquifer (Tent Hill aquifer) monitoring bore in the region
QT	Arcoona Quartzite aquifer (Tent Hill aquifer) monitoring bore in the tailings area
R^2	Coefficient of determination, measure of fit of a model
Ra	Radium
226Ra	A naturally occurring isotope of radium, having atomic number 88, atomic mass 226 and half-life 1,599 years
RAM	Rangelands Assessment Method
REC	Renewable Energy Certificate
Reconyx	Trail camera / Remote camera trap
REPS	Retailer Energy Productivity Scheme (South Australian Government)
RD	Roxby Downs. RD as a prefix for groundwater bores is an exploration drillhole not specific to an aquifer
RDMS	Roxby Downs Monitoring Site (air quality station)
RDP	Radon decay product
REC	Renewable Energy Certificate
Rehabilitation	The reclamation or repair, as far as practicable, of a facility to an appropriate or agreed state as required by law, or company self-regulation
RHDV K5	Naturally occurring Korean variant of the Rabbit Haemorrhagic Disease virus

Term	Definition
Rn	Radon. Chemically inert radioactive gaseous element formed from the decay of 226Ra as part of the 238U decay chain
222Rn	A naturally occurring isotope of radon, having atomic number of 86, atomic mass of 22 and half-life 3.8235 days
RRC	Resource Recovery Centre
RWMP	Radioactive Waste Management Plan
SAALLB	South Australia Arid Lands Landscape Board
1SAP	BHP's Systems Applications Products, application for scheduling and managing work tasks
Scope 1	Scope 1 emissions are direct emissions produced from sources within the boundary of an organisation as a result of that organisation's activities and are calculated at the point of emission release.
Scope 2	Scope 2 emissions are indirect emissions which occur outside of the boundary of an organisation from the generation of electricity that is consumed by the organisation. They are physically produced by the burning of fuels at the power station to create the electricity.
SE	Monitoring Program – Social Effects
SEB	Significant Environmental Benefit
SEG	Stakeholder Engagement Group
Significant Impact Guidelines	Australian Government, 2013, 'Matters of National Environmental Significance: Significant impact guidelines 1.1, Environment Protection and Biodiversity Conservation Act 1999
SIMPER	Similarity percentage, statistical test to determine which taxa are primarily responsible for an observed difference between groups
SML	Special Mining Lease
SO_2	Sulphur dioxide
SW	Monitoring Program – Surface Water
SX	Solvent Extraction
t	Tonne
TDS	Total dissolved solids
TDU	Tailings Disposal Unit
TEC	Threatened Ecological Community
TRH	Total Recoverable Hydrocarbons
TRS	Tailings Retention System - incorporates all elements of the tailings delivery, deposition and storage system and elements associated with the collection and disposal or return of tailings liquor. The TRS includes the Tailings Storage Facilities (TSFs), Evaporation Ponds (EPs) and pipe corridors including tailings delivery pipelines and liquor pipelines
TSF	Tailings Storage Facility - incorporates the tailings deposition and storage system, which currently comprises of six storage cells
Th	Thorium
230Th	An isotope of thorium, having mass number 90 and half-life 7.54 × 104 years.
U	Uranium

Term	Definition
^{238}U	The most common isotope of uranium, having atomic number 92, atomic mass 238 and half-life 4.46 × 109 years
µBq/m^3	Microbecquerel per cubic meter
µg/m^3	Microgram per cubic meter - a measure of dust concentration in air
µGy/h	Microgray per hour - a measure of absorbed radiation dose
VWP	Vibrating Wire Piezometers. Used to measure pore water pressure
WA	Monitoring Program – Waste
WMC	Western Mining Corporation, previous owner of Olympic Dam – within the AWR
WoNS	Weeds of National Significance
WWTP	Waste Water Treatment Plant