Government of Western Australia
Department of Water and Environmental Regulation

Licence

Licence number	L9293/2021/1
Licence holder	Silver Lake (Rothsay) Pty Ltd
ACN (if applicable)	151 137 450
Registered business address	Suite 4, Level 3 South Shore Centre 85 South Perth Esplanade SOUTH PERTH WA 6151
DWER file number	INS-0002160
Duration	08/11/2021 to 08/11/2041
Date of issue	08/11/2021
Date of amendment	25/03/2026
Premises details	Rothsay Gold Project Mining Tenements M59/39, M59/40 and L59/24 PERENJORI WA 6620

Prescribed premises category description (Schedule 1, *Environmental Protection Regulations 1987*)	**Assessed production / design capacity**
Category 6: Mine dewatering	595,000 tonnes per annual period (combined permanent discharge to TSF-GMF, Evaporation / Infiltration Pond and Ephemeral drainage line)
Category 64: Class II or III putrescible landfill site	500 tonnes per annual period
Category 85: Sewage facility	35 m^3 per day

This licence is granted to the licence holder, subject to the attached conditions, on 25 March 2026, by:

Fiona Westcott
Digitally signed by Fiona Westcott
Date: 2026.03.25 14:53:39 +08'00'

MANAGER, RESOURCE INDUSTRIES
Officer delegated under section 20 of the Environmental Protection Act 1986

Licence history

Date	Reference number	Summary of changes
13/08/2020	W6195/2018/1	Works approval granted.
08/11/2021	L9293/2021/1	Licence granted.
13/02/2023	L9293/2021/1	Amendment to: • Increase the category 6 capacity; • Increase the TDS limit at both the Evaporation / Infiltration Pond and Ephemeral drainage line to 25,000 mg/L; • Additional landfill locations; • Increase the category 85 capacity; • Additional WWTP infrastructure; • Changes to WWTP irrigation area infrastructure; and • Administrative corrections.
21/12/2023	L9293/2021/1	Amendment to increase the TDS limit at both the Evaporation/Infiltration Pond and Ephemeral Drainage Line from 25,000 mg/L to 35,000mg/L.
25/03/2026	L9293/2021/1	Amendment to: • Increase the total dissolved solids (TDS) limit in Table 6 of L9293/2021/1 at the Evaporation/Infiltration Pond from 35,000 to 60,000mg/L; and • Require the preparation of a soil monitoring program at the Ephemeral Drainage Line to establish baseline soil salinity data and site-specific guidelines for soil salinity.

Interpretation

In this licence:

(a) the words ‘including’, ‘includes’ and ‘include’ in conditions mean “including but not limited to”, and similar, as appropriate;

(b) where any word or phrase is given a defined meaning, any other part of speech or other grammatical form of that word or phrase has a corresponding meaning;

(c) where tables are used in a condition, each row in a table constitutes a separate condition;

(d) any reference to an Australian or other standard, guideline, or code of practice in this licence:

(i) if dated, refers to that particular version; and

(ii) if not dated, refers to the latest version and therefore may be subject to change over time;

(e) unless specified otherwise, any reference to a section of an Act refers to that section of the EP Act; and

(f) unless specified otherwise, all definitions are in accordance with the EP Act.

NOTE: This licence requires specific conditions to be met but does not provide any implied authorisation for other emissions, discharges, or activities not specified in this licence.

Licence conditions

The licence holder must ensure that the following conditions are complied with:

Infrastructure and equipment

1. The licence holder must ensure that the site infrastructure and equipment listed in Table 1 and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirement set out in Table 1.

Table 1: Infrastructure and equipment requirements

Site infrastructure and equipment	Operational requirement	Infrastructure location
TSF GMF	• Spillway maintained to hold 100 year ARI 72 hour duration; • Maintain 500 mm freeboard; • Settlement areas lined with geofabric matting designed to reduce the volume of sediment mobilisation; • Small dugout pool to assist with reducing sediment deposition in the pond; • Evaporator located on the decant causeway to limit spray drift outside of the GMF footprint; and • Evaporator not used during high wind events.	Schedule 1: Maps, Figure 2 labelled TSF GMF
Evaporation / Infiltration Pond	• Storage capacity 23,780 m^3; • Maintain 500 mm freeboard; • HDPE pipelines contained within an earthen bund; • Maintain diversion bund to direct overland sheet flow from significant storm events away from the Evaporation / Infiltration Pond; and • Maintain spillway for the release of diluted pond water into a nearby drainage channel.	Schedule 1: Maps, Figure 2 labelled Evaporation pond

Ephemeral drainage line	• GMF and Evaporation / Infiltration Pond to be used as the primary discharge point, with discharge to the Ephemeral drainage line only to occur:
	  ○ As needed to maintain freeboard levels in the evaporation pond.
	  ○ To discharge water after a rainfall event, where another rain event is imminent; or
	  ○ Where all other mine dewater storage
		Schedule 1: Maps, Figure 2 labelled Ephemeral Drainage Line Discharge Point

Site infrastructure and equipment	Operational requirement	Infrastructure location
	infrastructure on site is at maximum operating capacity. • Discharge quality monitoring as per condition 13, Table 10; • Discharge limit as per condition 9, Table 6; • Vegetation monitoring as per condition 17, Table 12; • Maintain rock apron dissipater; • Maintain rock lined causeway; and • Maintain HDPE polypipeline.	
Inert trenches within Woodleys Pits	• Construction, operation and decommissioning of landfill trenches can occur within the defined landfill area providing there is no waste within: ➢ 100 m of any surface water body; and ➢ 3 m of the highest level of the water table aquifer. Landfill located more than 100 m away from any marked ephemeral drainage line; and ➢ Separate industrial and putrescible waste trenches are used.	Schedule 1: Maps, Figure 2 labelled Woodleys Pits Class II/III Landfills
Putrescible trenches		Schedule 1: Maps, Figure 2 labelled as Woodleys Pits Class II/III Landfills; LF1 Class II/III Landfill; LF2 Class II/III Landfill; and LF3 Class II/III Landfill
WWTP	• Treated effluent results from condition 13, Table 10 compared to the design wastewater outputs: ➢ Total Nitrogen <36 mg/L; ➢ Total Phosphorus <9 mg/L; ➢ Total Suspended Solids (TSS) <30 mg/L; ➢ Chlorine Residual 0.2-2.0 mg/L; ➢ pH 6.5 – 8.5; and ➢ E.Coli <1,000 cfu/100ml; and • Treated effluent from the SAF to be discharged to land via a surface irrigation spray field.	Schedule 1: Maps, Figure 2
Reverse Osmosis Plant	• Brine disposed of to the Evaporation / Infiltration Pond.	Schedule 1: Maps, Figure 2 (at the Camp)
Irrigation Area for WWTP discharge	• Spray field maintained to consist of multiple sprinkler areas within a designated fenced compound which has a combined minimum surface area of 0.81 ha.	Schedule 1: Maps, Figure 2 labelled WWTP Irrigation Area

2. The licence holder must:

(a) undertake inspections as detailed in Table 2;

(b) where any inspection identifies that an appropriate level of environmental protection is not being maintained, take corrective actions to mitigate adverse environmental consequences as soon as practicable; and

(c) maintain a record of all inspections undertaken.

Table 2: Inspection of Infrastructure

Scope of inspection	Type of inspection	Frequency of inspection
TSF GMF	Visual integrity. Visual to confirm no unusual changes, integrity of pond walls, and required freeboard capacity is available. Visual to confirm able to accommodate stormwater flows from a 1 in 100 year, 72 hour ARI rainfall event. Visual to check water enters the pond without causing erosion, jetting or overtopping.	Daily
Evaporation / Infiltration Pond	Visual integrity. Visual to confirm no unusual changes and required freeboard capacity is available. Visual to confirm able to accommodate stormwater flows from a 1 in 100 year, 72 hour ARI rainfall event.	Daily
Ephemeral drainage line	Visual to check erosion.	Daily when in use
Inert trenches within Woodleys Pits	Visual to check windblown waste.	Weekly
Putrescible trenches within Woodleys Pits, LF1, LF2 and LF3	Visual to check windblown waste.	Weekly
WWTP	Visual to check there are no blockages to sprinkler heads and that all mechanisms are functioning to specifications. Irrigation system valves, pumps, pipelines, and other fitting must be maintained and inspected weekly for ruptures or leaks when irrigating.	Weekly

3. The licence holder must ensure that the waste types produced on site, specified in Table 3 are only subjected to the corresponding process(es), subject to the corresponding process limits and/or specifications

Table 3: Waste processing

Waste type	Process(es)	Process limits and/or specifications
Sewage	Biological, physical and chemical treatment	• No more than 35 m^3 per day. • Sludge drying beds on a bunded hardstand and disposal of dry sludge to the premises landfill.
Clean Fill	Receipt, handling and disposal of waste by landfilling	All landfills and waste types • No more than 500 tonnes per year of all waste types cumulatively shall be disposed of by landfilling. • Disposal of waste by landfilling shall only take place within the landfilling areas shown in Schedule 1, Figure 2.

Waste type	Process(es)	Process limits and/or specifications
		• Waste shall be placed in a defined trench or within an area enclosed by earthen bunds. • The active tipping face shall be restricted to a maximum vertical height of 3 m. • Cell locations where waste is to be buried will be surveyed and the latitude and longitude recorded.
Inert Waste Type 1 and 2[1]		Disposed of to the inert waste trenches within Woodleys Pits.
Putrescible Waste		Disposed of to the putrescible waste trenches within Woodleys Pits, LF1, LF2 and LF3.
Other waste that meets the acceptance criteria for Class II landfills		Disposed of to the putrescible waste trenches within Woodleys Pits.

Note 1: Requirements for landfilling tyres are set out in Part 6 of the *Environmental Protection Regulations 1987*.

4. The licence holder must take all reasonable and practicable measures to prevent stormwater run-off becoming contaminated by the activities and operations undertaken at the premises.

5. The licence holder must manage the landfilling activities to ensure:

(a) the size of the tipping face is kept to a minimum and not larger than 30 m in width and 2 m in height; and

(b) the active tipping area is wet down as required to minimise dust.

6. The licence holder must ensure that:

(a) all reasonable and practicable measures are taken to ensure that no windblown waste escapes from the landfill facility; and

(b) any windblown waste is collected on at least a weekly basis and returned to the active trenches or otherwise appropriately contained.

7. The licence holder must ensure that cover is applied and maintained on landfilled waste types in accordance with the corresponding cover requirements in Table 4 and that sufficient stockpiles or cover are maintained at the landfill facility at all times.

Table 4: Cover requirements

Waste type	Material	Depth	Timescales
Inert waste	Inert and incombustible material	300 mm	At least monthly
Putrescible waste		300 mm	At least weekly
All waste		1,000 mm	Within 3 months of achieving final waste contours
Inert Waste Type 2 (Tyres)[1]	Soil	500 mm	As soon as practicable following the achievement of final waste levels in the area(s) where tyres are disposed of

Note 1: Additional requirements for the covering of tyres are set out in Part 6 of the *Environmental Protection Regulations 1987*.

Emissions and discharges

8. The licence holder must ensure that the emissions specified in Table 5, are discharged only from the corresponding discharge point and only at the corresponding discharge point location.

Table 5: Authorised discharge points

Emission	Discharge point	Discharge point location
Mine dewatering water from underground Discharge of mine dewatering groundwater to the GMF	Pipeline into GMF	Schedule 1, Figure 2 labelled TSF GMF Discharge Point
Mine dewatering water from underground that has then flowed through the GMF (for temporary water storage, settling and evaporation) and Reverse Osmosis brine Discharge of mine dewatering groundwater and Reverse Osmosis brine to the Evaporation / Infiltration Pond	Pipeline into Evaporation / Infiltration Pond	Schedule 1, Figure 2 labelled Evaporation Infiltration Pond Discharge Point
Mine dewatering water from underground that has then flowed through the GMF (for temporary water storage, settling and evaporation) Discharge of mine dewatering groundwater to the Ephemeral drainage line	Pipeline into Ephemeral drainage line	Schedule 1, Figure 2 labelled Ephemeral Drainage Line Discharge Point
Treated wastewater from the WWTP Discharge of wastewater to the 0.81 ha spray field area	WWTP irrigation area	Schedule 1, Figure 2 labelled WWTP Irrigation Area

9. The licence holder must ensure that emissions from the discharge point listed in Table 6 for the corresponding parameter do not exceed the corresponding limit when monitored in accordance with condition 13.

Table 6: Emission and discharge limits

Discharge point	Parameter	Limit
Ephemeral drainage line discharge point	TDS	35,000 mg/L
	Maximum discharge rate	20 L/ s
	Maximum continuous discharge period	7 days
	Minimum period between discharge events	7 days
Evaporation / Infiltration Pond discharge point	TDS	60,000 mg/ L

Monitoring

10. The licence holder must ensure that all non-continuous sampling and analysis undertaken pursuant to condition 13 and 14 is undertaken by a holder of a current accreditation from the National Association of Testing Authorities (NATA) for the methods of sampling and analysis relevant to the corresponding relevant parameter.

11. The licence holder must ensure that:

(a) monitoring is undertaken in each weekly period such that there are at least 4 days in between the days on which samples are taken in successive weeks;

(b) monitoring is undertaken in each monthly period such that there are at least 15 days in between the days on which samples are taken in successive months;

(c) monitoring is undertaken in each quarterly period such that there are at least 45 days in between the days on which samples are taken in successive quarters;

(d) monitoring is undertaken in each six-monthly period such that there are at least 5 months in between the days on which samples are taken in successive periods of six months; and

(e) monitoring is undertaken in each annual period such that there are at least 9 months in between the days on which samples are taken in successive years.

12. The licence holder must ensure that all monitoring equipment used to comply with condition 13, Table 1212, condition 14, Table 1313, and condition 18, Table 7 is operated and calibrated in accordance with the manufacturer's specifications.

Discharges to land

13. The licence holder must monitor emissions in accordance with the requirements specified in Schedule 2, Table 12 and record the results of all such monitoring.

Ambient environmental quality monitoring

14. The licence holder must conduct a groundwater monitoring program in accordance with the requirements specified in Schedule 2, Table 13 and record the results of all monitoring activity conducted under that program.

15. The licence holder must adhere to the field quality assurance and quality control procedures specified in Schedule 2, Table 13 for the monitoring required by condition 14.

16. The licence holder must record the results of all monitoring activity required by condition 13, Table 1212 and condition 14, Table 1313.

Vegetation monitoring

17. The licence holder must monitor vegetation health:

(a) at the corresponding monitoring location;

(b) at no less than the corresponding frequency;

(c) for the corresponding averaging period

as set out in Schedule 2, Table 1414.

Soil Monitoring

18. The licence holder must undertake monitoring specified in Table 7.

Table 7: Monitoring of soil salinity

Discharge point	Monitoring location	Parameters	Averaging period	Frequency
Ephemeral drainage line discharge point	Vegetation monitoring quadrats (as per Figure 3): Q1 Q3 Q5 Q7 Q9 (upstream control site) Q11 Q13	Soil pore water salinity measured within the root-zone of vegetation at a depth of 1 m or to refusal at cap rock. Porous-cup lysimeters (also known as “soil-water extractors”) must be used at each of the vegetation monitoring quadrats and installed in the immediate vicinity of the ephemeral waterway to enable the rate of infiltration of salts into the soil profile to be measured.	Spot sample	Commence at the start of discharge. Continue on a fortnightly basis during the discharge. At the completion of discharge, monitoring will continue fortnightly for one-month post-discharge.

19. The licence holder must provide a report to the CEO on each item specified in Table 8 and its corresponding requirements within the timeframe specified in Table 8.

Table 8: Specified action

Item	Specified action	Timeframe
1.	**Soil salinity monitoring program** The licence holder must develop and implement a soil salinity monitoring program with the following objectives: 1) Determine site-specific guideline values for the measurement and management of soil salinity in vegetation root zones. 2) Using the site-specific guideline values, determine appropriate trigger values for soil salinities measured at vegetation root zones. 3) Investigate soil salinities upgradient of the mine and assume that the "trigger" soil salinity is the average upgradient salinity in the root zone plus 2 standard deviations of the background mean. 4) Examine and assess any trends of increasing soil salinity values measured in the root zones over time. 5) Assess and evaluate any increased risk of harm to vegetation health as a result of observed increases in soil salinity. 6) Determine appropriate management responses that would be triggered should soil salinity exceed trigger values. Measure real-time changes in the salt content of the soil to be measured before any impacts on vegetation health would be observed. The soil salinity monitoring must be supported by empirical data	Prior to 31 June 2027

	obtained via the methods and parameters set out in Table 7. A report on the soil salinity monitoring program must be prepared and submitted to the CEO within the corresponding timeframe, specifying how the three objectives described were met.	

Records and reporting

20. The licence holder must record the following information in relation to complaints received by the licence holder (whether received directly from a complainant or forwarded to them by the Department or another party) about any alleged emissions from the premises:

(a) the name and contact details of the complainant, (if provided);

(b) the time and date of the complaint;

(c) the complete details of the complaint and any other concerns or other issues raised; and

(d) the complete details and dates of any action taken by the licence holder to investigate or respond to any complaint.

21. The licence holder must:

(a) undertake an audit of their compliance with the conditions of this licence during the preceding annual period; and

(b) prepare and submit to the CEO by no later than 120 days after the end of that annual period an Annual Audit Compliance Report in the approved form.

22. The licence holder must maintain accurate and auditable books including the following records, information, reports, and data required by this licence:

(a) the calculation of fees payable in respect of this licence;

(b) monitoring programmes undertaken in accordance with condition 13, Table 12, condition 14, Table 1313, condition 17, Table 1414, and condition 18, Table 7 of this licence; and

(c) complaints received under condition 20 of this licence.

23. The books specified under condition 22 must:

(a) be legible;

(b) if amended, be amended in such a way that the original version(s) and any subsequent amendments remain legible and are capable of retrieval;

(c) be retained by the licence holder for the duration of the licence; and

(d) be available to be produced to an inspector or the CEO as required.

24. The licence holder must submit to the CEO by no later than 60 days after the end of each annual period, an Annual Environmental Report for that annual period for the conditions listed in Table 99, and which provides information in accordance with the corresponding requirement set out in Table 99.

Table 9: Annual Environmental Report

Condition	Requirement
1, Table 1	Treated effluent results from condition 1, Table 1 compared to the design wastewater outputs: • Total Nitrogen <36 mg/L • Total Phosphorus <9 mg/L • Total Suspended Solids (TSS) <30 mg/L • Chlorine Residual 0.2-2.0 mg/L • pH 6.5 – 8.5 • E.Coli <1,000 cfu/100ml
14, Table 1313	Provide a report on the actions implemented and assessment of monitoring data where an Action Trigger Level is breached within the Annual Environmental Report
16	Results of all monitoring activity required by condition 13, Table 1212 and condition 14, Table 1313
17, Table 1414	Vegetation monitoring conducted in line with the Vegetation Monitoring Operating Procedure (Egan Street Rothsay Pty Ltd, June 2021)
18, Table 7	Soil salinity monitoring conducted as per the locations, parameters and timeframes set out in Table 7.
N/A	Water balance

25. The licence holder must ensure that the conditions listed in Table ~~8~~10 are notified to the CEO in accordance with the notification requirements of the table.

Table 10: Notification requirements

Condition	Requirement
14, Table 1313	Notify CEO of Action Trigger Level breach within 5 days of recording
9, Table 6	Notify CEO of discharge event to the ephemeral drainage line within 5 days of commencement of discharge.

Definitions

In this licence, the terms in Table 1111 have the meanings defined.

Table 11: Definitions

Term	Definition
ACN	Australian Company Number.
Annual Audit Compliance Report (AACR)	means a report submitted in a format approved by the CEO (relevant guidelines and templates may be available on the Department's website).
Annual period	a 12 month period commencing from 01 January to 31 December in the same year.
AS/NZS 5667.1	means the Australian Standard AS/NZS 5667.1 *Water Quality – Sampling – Guidance of the Design of sampling programs, sampling techniques and the preservation and handling of samples.*
AS/NZS 5667.10	means the Australian Standard AS/NZS 5667.10 *Water Quality – Sampling – Guidance on sampling of waste waters.*
AS/NZS 5667.11	means the Australian Standard AS/NZS 5667.11 *Water Quality – Sampling – Guidance on sampling of groundwaters.*
BOD	Biochemical Oxygen Demand.
books	has the same meaning given to that term under the EP Act.
CEO	means Chief Executive Officer of the Department. "submit to / notify the CEO" (or similar), means either: Director General Department administering the *Environmental Protection Act 1986* Locked Bag 10 Joondalup DC WA 6919 or: info@dwer.wa.gov.au
Department	means the department established under section 35 of the *Public Sector Management Act 1994* (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
discharge	has the same meaning given to that term under the EP Act.
emission	has the same meaning given to that term under the EP Act.
EP Act	*Environmental Protection Act 1986* (WA).
EP Regulations	*Environmental Protection Regulations 1987* (WA).
GMF	Groundwater Management Facility at the TSF Operational Pond.
licence	refers to this document, which evidences the grant of a licence by the CEO under section 57 of the EP Act, subject to the specified conditions contained

Term	Definition
	within.
licence holder	refers to the occupier of the premises, being the person specified on the front of the licence as the person to whom this licence has been granted.
monthly period	means a one-month period commencing from the first calendar day of a month until the final calendar day of the same month.
NATA	National Association of Testing Authorities.
premises	refers to the premises to which this licence applies, as specified at the front of this licence and as shown on the premises map(s) Figure 1 and Figure 2 in Schedule 1 to this licence.
prescribed premises	has the same meaning given to that term under the EP Act.
quarterly period	Means a quarterly (three-month) period commencing from the first calendar day of a quarter until the final calendar day of the same quarter.
SAF	Submerged Aerated Filter.
TN	Total Nitrogen.
TP	Total Phosphorus.
TSF	Tailings Storage Facility.
TSS	Total Suspended Solids.
waste	has the same meaning given to that term under the EP Act.
WWTP	Wastewater Treatment Plant.

END OF CONDITIONS

Schedule 1: Maps

Prescribed premises boundary map

Figure 1: Map of the boundary of the prescribed premises

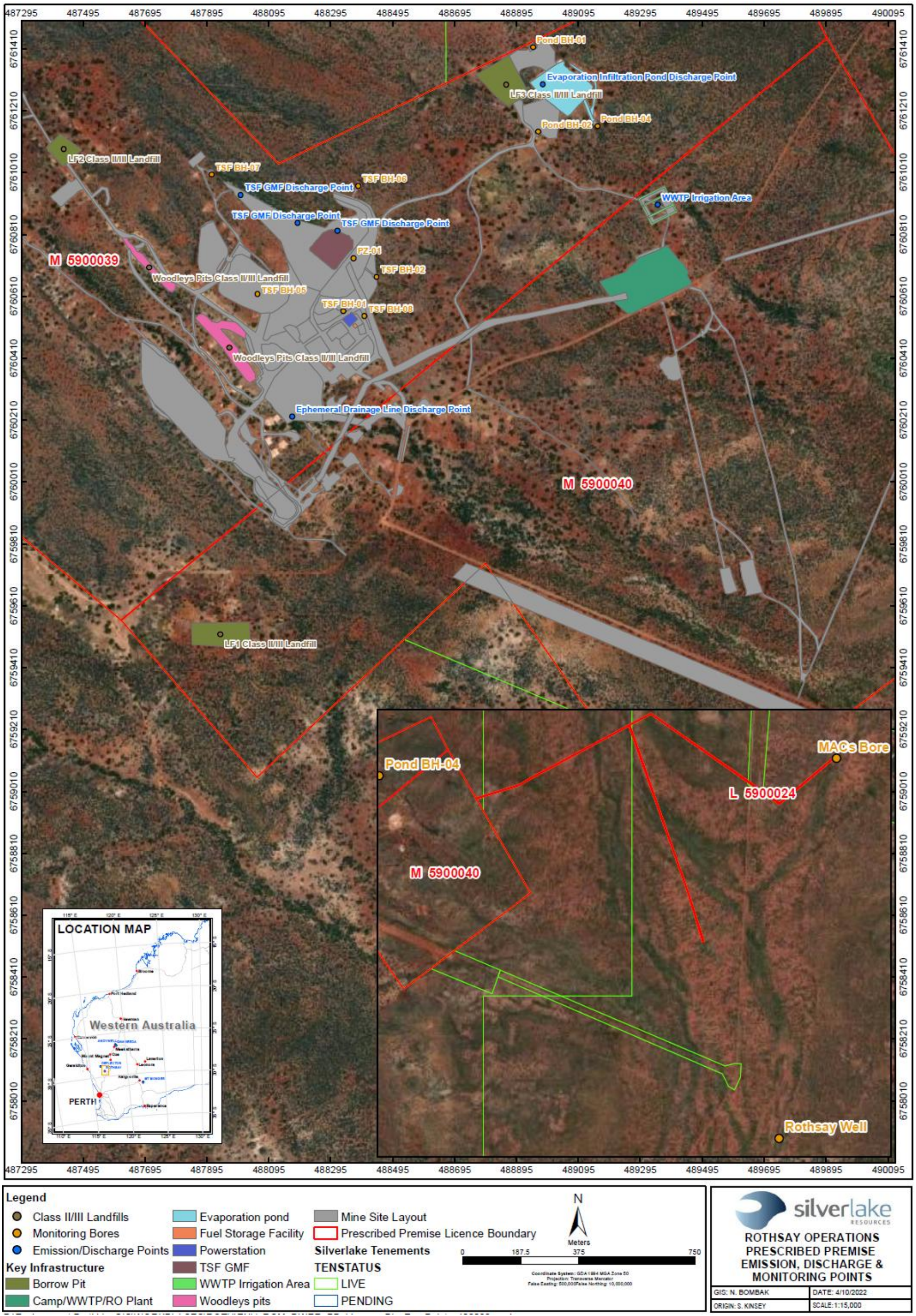

Figure 2: Premises Layout

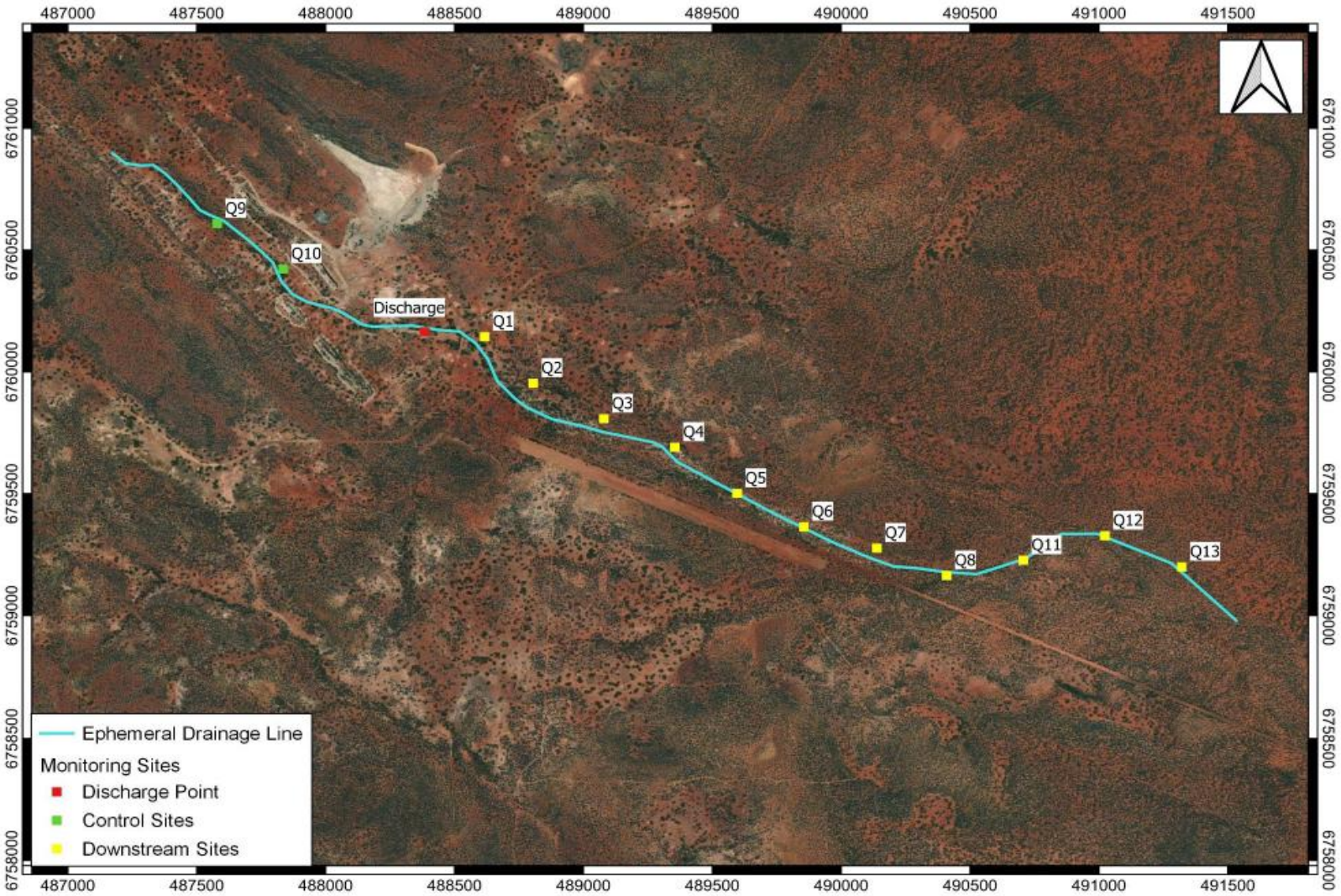

Figure 3: Vegetation health monitoring locations

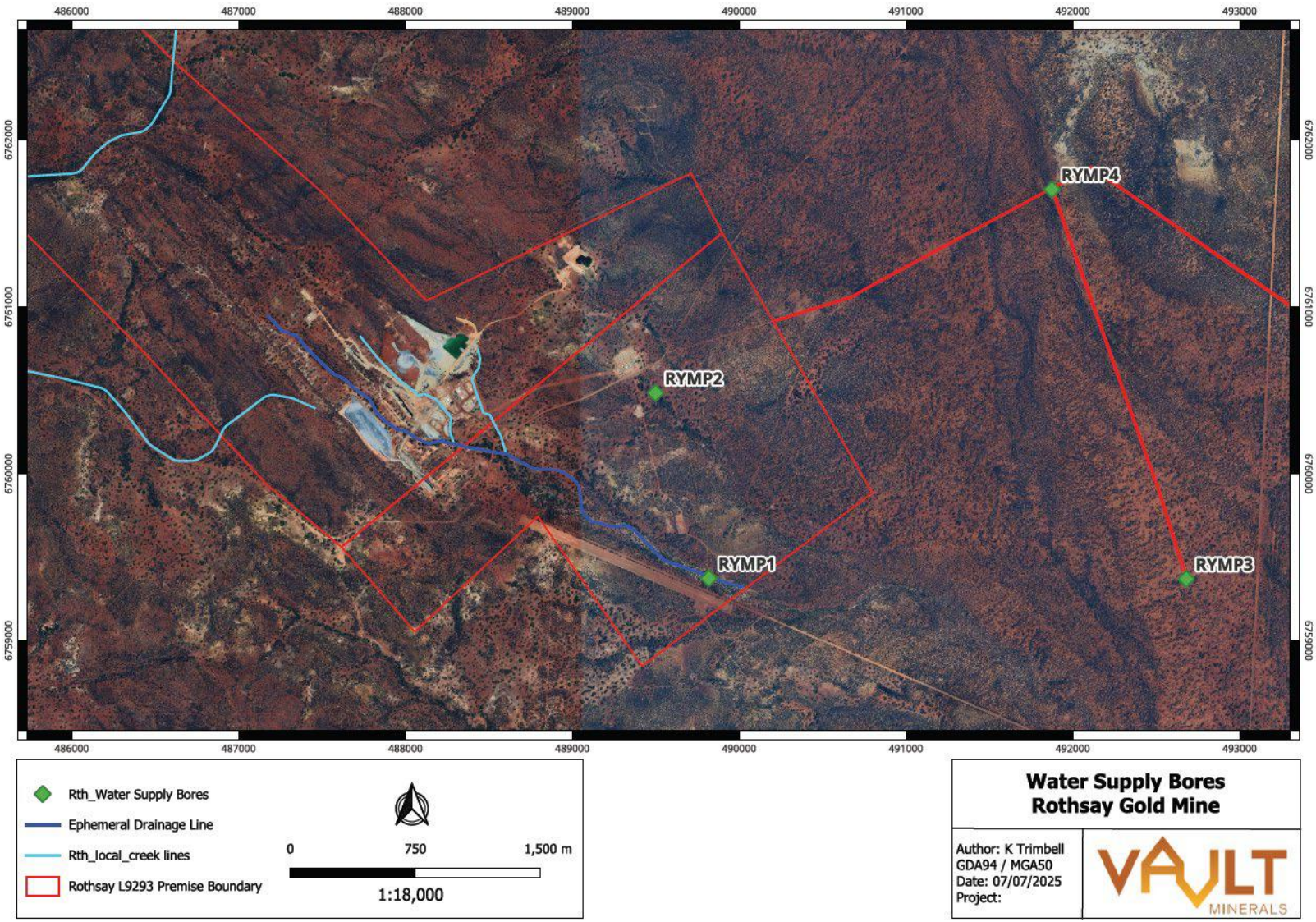

Figure 4: Rothsay water supply bores

Schedule 2: Monitoring

Table 12: Emissions and discharges monitoring

Discharge point	Monitoring location	Parameter	Averaging period	Frequency	Unit	Method
TSF GMF Discharge Point TSF GMF Ephemeral Drainage Line Discharge Point	RYME10 TSF GMF Ephemeral Drainage Line Discharge Point	Volume	Spot sample	Continuous	kL/day	AS/NZS 5667.1 AS/NZS 5667.10
		pH[1]		Quarterly for TSF GMF Discharge Point	pH units	
		Electrical Conductivity, EC[1]			µg/S	
		Total Dissolved Solids, TDS		Quarterly for TSF GMF	mg/L	
		Sulfate, SO_4		Monthly for Ephemeral drainage line when discharging	mg/L	
		Ammonia, NH_3			mg/L	
		Nitrite, NO_2			mg/L	
		Nitrite + Nitrate, NO_3			mg/L	
		Total Kjeldahl Nitrogen, N			mg/L	
		Total Nitrogen, TN			mg/L	
		Total Phosphorus, TP			mg/L	
		Reactive Phosphorus, P			mg/L	
		Total CN			mg/L	
		WAD CN			mg/L	
		Aluminium, Al			mg/L	
		Arsenic, As			mg/L	
		Boron, B			mg/L	
		Barium, Ba			mg/L	
		Beryllium, Be			mg/L	
		Cadmium, Cd			mg/L	
		Calcium, Ca			mg/L	

		Chloride, Cl			mg/L	
		Chromium, Cr			mg/L	
		Cobalt, Co			mg/L	
		Copper, Cu			mg/L	
		Fluoride, F			mg/L	
		Iron, Fe			mg/L	
		Lead, Pb			mg/L	
		Magnesium, Mg			mg/L	
		Manganese, Mn			mg/L	
		Mercury, Hg			mg/L	
		Molybdenum, Mo			mg/L	
		Nickel, Ni			mg/L	
		Selenium, Se			mg/L	
		Strontium, Sr			mg/L	
		Uranium, U			mg/L	
		Vanadium, V			mg/L	
		Zinc, Zn			mg/L	
Treated effluent discharged to the irrigation area	WWTP Final Irrigation Tank	Volume	Spot sample	Quarterly	kL/day	AS/NZS 5667.1 AS/NZS 5667.10
		pH[1]			pH units	
		BOD			mg/L	
		TSS			mg/L	
		TN			mg/L	
		TP			mg/L	
		Chlorine Residual[1]			mg/L	
		E.Coli			mg/L	

Note 1: In-field non-NATA accredited analysis permitted.

Table 13: Monitoring of ambient concentrations

Location	Parameter	Unit	Averaging Period	Frequency	Method	Trigger Levels
Supply bores (refer figure Schedule 1 Figure 4): RYMP1 Camp Bore[2] RYMP2 Camp Bore[2] RYMP3 Mine Bore[2] RYMP4 Mine Bore[2] GMF bores: TSF BH-01a (SWL Trigger Level monitoring bore) (Refer Schedule 1, Figure 2) TSF BH-02 TSF BH-05 TSF BH-06 TSF BH–07 TSF BH-08 PZ-01 Evaporation / Infiltration bores: (Refer Schedule 1, Figure 2) Pond BH-01 Pond BH-02 Pond BH-04 Local bores: (Refer Schedule 1, Figure 2) Macs Bore Rothsay Well	SWL	mbgl	Spot sample	All monitoring bores, aside from Macs Bore and Rothsay Well: Quarterly Macs Bore and Rothsay Well: Six monthly TSF BH-08; Pond BH-01; Pond BH-02; and Pond BH-04: Twice weekly if Warning Trigger Level breached, until monitoring shows a fall in the water level below the Warning Trigger Level Daily if Action Trigger Level breached, until monitoring shows a fall in the water level below the Action Trigger Level	AS/NZS 5667.1 AS/NZS 5667.11	Warning Trigger Level for TSF BH-08; Pond BH-01, Pond BH-02; and Pond BH-04: SWL less than 6 mbgl Action Trigger Level for TSF BH-08; Pond BH-01; Pond BH-02; and Pond BH-04: SWL less than 4 4 mbgl
	pH[1]	pH units				-
	Electrical Conductivity, EC[1]	µg/S				-
	Total Dissolved Solids, TDS	mg/L				-
	Sulfate, SO_4					-
	Ammonia, NH_3					-
	Nitrite, NO_2					-
	Nitrite + Nitrate, NO_3					-
	Total Kjeldahl Nitrogen, N					-
	Total Nitrogen, TN					-
	Total Phosphorus, TP					-
	Reactive Phosphorus, P					-
	Total CN					-
	WAD CN					-

Location	Parameter	Unit	Averaging Period	Frequency	Method	Trigger Levels
	Aluminium, Al					-
	Arsenic, As					-
	Boron, B					-
	Barium, Ba					-
	Beryllium, Be					-
	Cadmium, Cd					-
	Calcium, Ca					-
	Chloride, Cl					-
	Chromium, Cr					-
	Cobalt, Co					-
	Copper, Cu					-
	Fluoride, F					-
	Iron, Fe					-
	Lead, Pb					-
	Magnesium, Mg					-
	Manganese, Mn					-
	Mercury, Hg					-
	Molybdenum, Mo					-
	Nickel, Ni					-
	Selenium, Se					-
	Strontium, Sr					-
	Uranium, U					-
	Vanadium, V					-
	Zinc, Zn					-

Note 1: In-field non-NATA accredited analysis permitted.

Note 2: Monitoring of SWL not required.

Table 14: Vegetation health monitoring

Discharge point	Monitoring location	Parameter	Averaging period	Frequency
Ephemeral drainage line discharge point	10 m x 10 m quadrat Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Q10 Q11 Q12 Q13	Dominant species in each vegetation stratum Canopy Cover: Shrubs/Trees >2m Mid Cover: Shrubs 0.5-2 m Ground Cover: Shrubs/Herbs <0.5 m Plant density (per 100 m²) of all perennial species Plant density (per 100 m²) of all weed species Vegetation condition Photographic record taken from the North-West corner of the quadrat Any evidence of grazing disturbance will be recorded Any evidence of erosion (gullying >0.3 m depth) will be recorded (GPS record, gully measurements and photographic record) Evidence of water ponding will be recorded (depth measured and photographic record)	Spot sample	<u>Annual monitoring</u> Undertake an annual assessment of vegetation at the designated monitoring locations <u>Discharge monitoring</u> Commence prior to the start of discharge to allow a minimum of one pre-discharge baseline monitoring period Continue on a fortnightly basis during the discharge At the completion of discharge, monitoring will continue fortnightly for one-month post-discharge

26. The licence holder must adhere to the following field quality assurance and quality control procedures, as specified in Schedule B2 of the Assessment of Site Contamination NEPM, and must include as a minimum:

(a) decontamination procedures for the cleaning of tools and sampling equipment before sampling and between samples;

(b) field instrument calibration for instruments used on site;

(c) blind replicate samples and rinsate blanks must be collected in the field and sent to the primary laboratory to determine the precision of the field sampling and laboratory analytical program;

(d) completed field monitoring sheets / sampling logs for each sample collected, showing:

(i) time of collection;

(ii) location of collection;

(iii) initials of sampler;

(iv) sampling method;

(v) field analysis results;

(vi) duplicate type / location (if relevant); and

(vii) site observations and weather conditions, and

(e) chain-of-custody documentation must be completed which details the following information:

(i) site identification;

(ii) the sampler;

(iii) nature of the sample;

(iv) collection time and date;

(v) analyses to be performed;

(vi) sample preservation method;

(vii) departure time from site;

(viii) dispatch courier(s); and

(ix) arrival time at the laboratory.