Government of Western Australia
Department of Water and Environmental Regulation

Licence

Licence number	L9306/2021/1
Licence holder	Mincor Resources NL
ACN	072 745 692
Registered business address	9 Havelock Street, WEST PERTH WA 6005
DWER file number	DER2021/000464
Duration	08/02/2022 to 07/02/2032
Date of issue	8 February 2022
Premises details	Cassini-Redross Project Coolgardie-Esperance Highway COOLGARDIE WA 6429 Part of Mining Tenements: M15/90, M15/1457 and L15/235 As defined by the coordinates in Schedule 2

Prescribed premises category description (Schedule 1, *Environmental Protection Regulations 1987*)	**Assessed production capacity**
Category 6: Mine dewatering	473,040 tonnes per annum
Category 89: Putrescible landfill site	200 tonnes per annum

This licence is granted to the licence holder, subject to the attached conditions, on 8 February 2022, by:

Michael Greenslade

Digitally signed by Michael Greenslade
Date: 2022.02.08 16:19:08 +08'00'

MANAGER, RESOURCE INDUSTRIES
REGULATORY SERVICES

an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

Licence history

Date	Reference number	Summary of changes
8/02/2022	L9306/202021/1	Licence granted

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
Category 6 activities – Dewatering activities		
Dewatering pumps	Visual inspections every 12 hours to check the integrity of the dewatering pumps when in operation.	–
Dewatering pipeline	• The pipeline will be contained within a trench/bund to prevent the dispersion of saline water to the environment in the event of a spill • Cumulative flowmeters installed at upstream and downstream ends of the pipeline. • A leak detection telemetry system • Flow sensors to measure a difference in flow rate from the upstream point to the downstream point and remotely shut off the pump if a 10% difference in flow over 2 minutes is detected. • A pre-recorded voice over message will be communicated over the underground leaky feeder radio to alert operators of a potential leak in the discharge line. • Visual inspections every 12 hours when dewatering in operation to check the integrity of the dewatering pipeline. The inspections are to be no more than 12 hours apart.	Dewatering Pipeline as shown in Figure of Schedule 1.
Dewatering pipeline outfall	• Extends approximately 20 m beyond the shore zone of Lake Eaton South; • Rock mattress of at least 5 m by 5 m in dimension and 0.7 m in height, with 1.0 m high walls along two sides; • Earthen bund along upgradient wall; • Geofabric matting underlying rock mattress to prevent erosion of the base; • A T-piece manifold with a series of ports connected to the end of the pipeline to distribute discharge water and reduce	–

Site infrastructure and equipment	Operational requirement	Infrastructure location
Category 6 activities – Dewatering activities		
	flow velocity within the rock mattress prior to release on the lake surface; and • Visual inspections every 12 hours and prior to and following significant rainfall events to check the integrity of the dewatering pipeline anchors when dewatering in operation.	
Flow meters	Weekly inspections to check the integrity of flow meters when dewatering in operation.	–
Leak detection telemetry and pressure sensors system	Weekly inspections to check the integrity of the leak detection telemetry and pressure sensors system when dewatering in operation.	–
Two settlement dams at the Cassini operation: • North Dam (8,400 kL) • South Dam (5,800 kL)	• A minimum vertical freeboard of 1 m must be maintained; • Lined with a 1.5 mm thick HDPE geomembrane; • Weekly inspections to check freeboard capacity and any visible seepage through embankments when dewatering in operation; • Weekly inspections to check the integrity of water level sensors when dewatering in operation; and • Monitoring of volume and quality at the discharge point. Should TSS concentration in discharge water routinely exceed 100 mg/L an in-line, self-flushing filter must be installed.	Settlement Dams, as shown in Figure 1 and Figure 2 of Schedule 1.
Category 89 activities – Landfill		
Putrescible landfill	In accordance with the *Environmental Protection (Rural Landfill) Regulations 2002*.	Putrescible landfill as shown in Figure of Schedule 1.

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: Infrastructure and equipment requirements

Scope of inspection	Type of inspection	Frequency of inspection
Settlement dams	Visual inspections every 12 hours when dewatering in operation to ensure mine dewater is being stored in the settlement dams for sufficient time for the visible settling of particulates prior to discharge to Lake Eaton South or use in dust suppression.	Daily
Energy dissipation infrastructure	Visual inspections every 12 hours and prior to and following significant rainfall events to check the integrity of the energy dissipation infrastructure when dewatering in operation. Weekly inspections to identify any erosion and scouring impacts, ponding or damage to riparian vegetation when dewatering in operation.	Daily
Dewatering pipeline outfall	Visual inspections every 12 hours and prior to and following significant rainfall events to check the integrity of the dewatering pipeline anchors when dewatering in operation.	Daily
Putrescible landfill	Visual to check windblown waste	Weekly

Emissions and discharges

Mine dewater (discharge to Lake Eaton South)

3. The licence holder must ensure that the emissions specified in Table 3, are discharged only from the corresponding discharge point and only at the corresponding discharge point location.

Table 3: Authorised discharge points

Emission	Discharge point	Discharge point location
Mine dewater	Lake Eaton South	Discharge point as shown in Figure 1 of Schedule 1

4. The licence holder must ensure that mine dewater is stored in settlement dams and must have sufficient time for the visible settling of particulates prior to being discharged to Lake Eaton South.

5. The licence holder must ensure that discharge of mine dewater onto Lake Eaton South occurs via the installed energy dissipation infrastructure to minimise erosion and scouring impacts, reduce the likelihood of ponding in Lake Eaton South and minimise damage to riparian vegetation.

Waste

6. The licence holder must only allow waste generated at the premises to be disposed of on the premises in accordance with the waste type, quantity limit and disposal location in Table 4.

Table 4: Management of waste

Waste type	Quantity limit	Disposal location
• Clean fill; • Inert waste type 1; • Putrescible wastes; and • Other wastes that comply with Class II criteria in accordance with the Landfill Waste Classification and Waste Definitions 1996	Combined limit of 200 tonnes per annum	Putrescible landfill as shown in Figure 1 of Schedule 1

7. 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.

Monitoring

8. The licence holder must ensure that all monitoring equipment used on the premises to comply with the conditions of this works approval is calibrated in accordance with the manufacturer's specifications.

9. The licence holder must ensure that:

(a) all non-continuous sampling undertaken pursuant to conditions 10, 11 and 12 is undertaken as per the methods of sampling relevant to the corresponding parameter (unless indicated otherwise in Table 5, Table 6 and Table 7); and

(b) all analysis undertaken pursuant to conditions 10, 11 and 12 is undertaken by a holder of a current accreditation from the National Association of Testing Authorities (NATA) (unless indicated otherwise in Table 5, Table 6 and Table 7).

Emissions and discharge (mine dewater discharge to Lake Eaton South – post storage in settlement dams)

10. The licence holder must monitor emissions and discharge points in accordance with the requirements specified in Table 5 and record the results of all such monitoring.

Table 5: Emissions and discharge monitoring

Monitoring Location	Parameters[1]	Units	Frequency	Sampling Method
At the mine dewatering 'Discharge point' to Lake Eaton South as shown in Figure 1 of Schedule 1	Volumetric flow rate	L/s	Continuous	AS/NZS 5667.1; AS/NZS 5667.4; and AS/NZS 5667.9
	Electrical conductivity[2] at 25°C	µS/cm	Monthly[3]	
	pH[2]	pH units	Monthly[3]	

Monitoring Location	Parameters[1]	Units	Frequency	Sampling Method
	Cumulative volume of mine dewater abstracted	kL/month	Quarterly[4]	
	Cumulative volume of mine dewater discharged to Lake Eaton South	kL/month		
	Total alkalinity as $CaCO_3$	mg $CaCO_3$/L		
	Aluminium (Al)	mg/L		
	Ammonia (NH_3)			
	Antimony (Sb)			
	Arsenic (As III)			
	Arsenic (As V)			
	Beryllium (Be)			
	Boron (B)			
	Cadmium (Cd)			
	Chromium (Cr III)			
	Chromium (Cr VI)			
	Chlorine (Cl)			
	Cobalt (Co)			
	Copper (Cu)			
	Iron (Fe)			
	Lead (Pb)			
	Manganese (Mn)			
	Mercury (Hg)			
	Molybdenum (Mo)			
	Nickel (Ni)			
	Nitrate (NO_3)			
	Selenium (Se)			

Monitoring Location	Parameters[1]	Units	Frequency	Sampling Method
	Silver (Ag)			
	Thallium (TI)			
	Total Dissolved Solids (TDS)			
	Total Suspended Solids (TSS)			
	Uranium (U)			
	Vanadium (V)			
	Zinc (Zn)			

Note 1: Level of detection is required to be sufficient to enable a comparison with the Australian and New Zealand Guidelines for Fresh & Marine Water Quality (ANZ 2018).
Note 2: In-field non-NATA accredited analysis permitted.
Note 3: Monthly monitoring is undertaken at least 15 days apart.
Note 4: Quarterly monitoring is undertaken at least 70 days apart.

Ambient surface water (Lake Eaton South)

11. The licence holder must undertake ambient surface water monitoring as per the requirements specified in Table 6 and record the results of all such monitoring.

Table 6: Monitoring of ambient surface water in Lake Eaton South

Monitoring Location	Parameters[1]	Units	Frequency	Sampling Method
At the 'Water Sample' (204) location in Lake Eaton South as shown in Figure 3 of Schedule 1	Electrical conductivity[2] at 25°C	µS/cm	Annual[3]	AS/NZS 5667.1; AS/NZS 5667.4; and AS/NZS 5667.9
	pH[2]	pH units		
	Total alkalinity as $CaCO_3$	mg $CaCO_3$/L		
	Aluminium (Al)	mg/L		
	Ammonia (NH_3)			
	Antimony (Sb)			
	Arsenic (As III)			
	Arsenic (As V)			
	Beryllium (Be)			
	Boron (B)			
	Cadmium (Cd)			

Monitoring Location	Parameters[1]	Units	Frequency	Sampling Method
	Chromium (Cr III)			
	Chromium (Cr VI)			
	Chlorine (Cl)			
	Cobalt (Co)			
	Copper (Cu)			
	Iron (Fe)			
	Lead (Pb)			
	Manganese (Mn)			
	Mercury (Hg)			
	Molybdenum (Mo)			
	Nickel (Ni)			
	Nitrate (NO_3)			
	Selenium (Se)			
	Silver (Ag)			
	Thallium (TI)			
	Total Dissolved Solids (TDS)			
	Total Suspended Solids (TSS)			
	Uranium (U)			
	Vanadium (V)			
	Zinc (Zn)			

Note 1: Level of detection is required to be sufficient to enable a comparison with the Australian and New Zealand Guidelines for Fresh & Marine Water Quality (ANZ 2018).
Note 2: In-field non-NATA accredited analysis permitted.
Note 3: Annual monitoring is undertaken at least 300 days apart.

Sediment (Lake Eaton South)

12. The licence holder must undertake sediment monitoring as per the requirements specified in Table 7 and record the results of all such monitoring.

Table 7: Monitoring of sediment in Lake Eaton South

Monitoring Location	Parameters[1]	Units	Frequency	Sampling Method
Four sediment sampling locations[2] as shown in Figure 3 of Schedule 1: • 224-1 • 225-1 • 226-1 • 227-1	pH	pH unit	Annual[3]	AS/NZS 5667.12
	Electrical conductivity (EC)	µS/cm		
	Antimony (Sb)	mg/kg		
	Arsenic (As)			
	Cadmium (Cd)			
	Chromium (Cr)			
	Copper (Cu)			
	Lead (Pb)			
	Mercury (Hg)			
	Nickel (Ni)			
	Silver (Ag)			
	Zinc (Zn)			

Note 1: Level of detection is required to be sufficient to enable a comparison with the Australian and New Zealand Guidelines for Fresh & Marine Water Quality (ANZ 2018) – Recommended default guideline values for toxicants in sediment.
Note 2: A minimum of one sample taken from each sediment sampling location each annual monitoring period.
Note 3: Annual monitoring is undertaken at least 300 days apart.

Vegetation

13. The licence holder must undertake vegetation monitoring as per the requirements specified in Table 8 and record the results of all such monitoring.

Table 8: Vegetation monitoring table

No.	Monitoring Location	Parameters		Frequency	Sampling Method
1	Lake Eaton South shoreline nearest the mine dewater discharge point[1]	Riparian vegetation	Photograph and record the presence and condition of key vegetation features within the zone of influence.	Annual[2]	Undertaken by a botanist
2	Areas where saline to hypersaline water is used for dust suppression	Native vegetation			

Note 1: Riparian vegetation is to be monitored at the shoreline nearest to the discharge point.
Note 2: Annual monitoring is undertaken at least 300 days apart.

Lake level

14. The licence holder must undertake lake level monitoring as per the requirements stated in Table 9 and record the results of all such monitoring.

Table 9: Lake Level monitoring table

Monitoring Location	Parameters		Units	Frequency
Lake level gauge located adjacent to the mine dewatering 'Discharge point' to Lake Eaton South as shown in Figure 1 of Schedule 1	South Eaton Lake water level	Photograph lake level with gauge and record water level.	metres (m) above lake bed	Monthly[1, 2]

Note 1: Monthly monitoring is undertaken at least 15 days apart.
Note 2: Lake level monitoring to be undertaken concurrently with mine dewater quality monitoring.

Records and reporting

15. 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.

16. 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 30 days after the end of that annual period an Annual Audit Compliance Report in the approved form.

17. 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 10, and which provides information in accordance with the corresponding requirement set out in Table 10.

Table 10: Annual Environmental Report

Condition	Requirement
2	Summary of inspection results.
10, 11, 12, 13 and 14	Tabulated emissions and monitoring data results
15	Complaints summary

18. 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) the works conducted in accordance with condition 1 of this licence;

(c) any maintenance of infrastructure that is performed in the course of complying with condition 1 of this licence;

(d) any inspections undertaken in accordance with condition 2 of licence;

(e) monitoring programmes undertaken in accordance with conditions 10 to 14 of this licence; and

(f) complaints received under condition 15 of this licence.

19. The books specified under condition 18 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.

Definitions

In this licence, the terms in Table 11 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 1 July until 30 June of the immediately following year.
ANZ 2018	means the *Australian and New Zealand guidelines for fresh and marine water quality.*
AS/NZS 5667.1	means the Australian Standard AS/NZS 5667.1 *Water Quality – Sampling – Guidance on the design of sampling programs, sampling techniques and the preservation and handling of samples.*
AS/NZS 5667.4	means the Australian Standard AS/NZS 5667.4 *Water Quality – Sampling – Guidance on sampling from lakes, natural and man-made.*
AS/NZS 5667.9	means the Australian Standard AS/NZS 5667.9 *Water quality - Sampling - Guidance on sampling from marine waters.*
AS/NZS 5667.12	means the Australian Standard AS/NZS 5667.12 *Water quality - Sampling - Guidance on sampling of bottom sediments.*
books	has the same meaning given to that term under the EP Act.
botanist	means a person who holds a tertiary qualification specialising in environmental science or equivalent, and has a minimum of two (2) years work experience in Western Australian flora identification and undertaking flora surveys native to the bioregion being inspected or surveyed, or who is approved by the CEO as a suitable environmental specialist for the bioregion, and who holds a valid flora licence issued under the *Biodiversity Conservation Act 2016.*
Category / categories	categories of prescribed premises as set out in Schedule 1 of the *Environmental Protection Regulations 1987* (WA) (EP Regulations).

Term	Definition
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
Class II	as defined in the Landfill Definitions.
clean fill	as defined in the Landfill Definitions.
condition	a condition to which this licence is subject under section 62 of the EP Act.
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.
energy dissipation infrastructure	rock mattress located at the Lake Eaton South discharge point that allows mine dewater to flow at a maximum rate of 15L/s down the rock mattress and into the lake.
EP Act	*Environmental Protection Act 1986* (WA)
EP Regulations	*Environmental Protection Regulations 1987* (WA)
freeboard	means the distance between the maximum water surface elevations and the top of retaining banks or structures at their lowest point.
HDPE	high-density polyethylene
inert waste type 1	as defined in the Landfill Definitions.
kL	kilolitres
kL/month	kilolitres per month
Landfill Definitions	*Landfill Waste Classification and Waste Definitions 1996* (as amended from time to time).
L/s	Litres per second
licence	refers to this document, which evidences the grant of a licence by the

Term	Definition
	CEO under section 57 of the EP Act, subject to the specified conditions contained 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.
m	metres
µS/cm	microsiemens per centimetre
mbgl	mbgl means metres below ground level
NATA	National Association of Testing Authorities
NATA accredited	means in relation to the analysis of a sample that the laboratory is NATA accredited for the specified analysis at the time of the analysis.
No.	typographic abbreviation of the word number(s).
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 (Figure 1) in Schedule 1 to this licence.
prescribed premises	has the same meaning given to that term under the EP Act.
putrescible	as defined in the Landfill Definitions.
settlement dams	The two settlement dams that are available for the storage of mine dewater at the premises: • North Dam • South Dam
TDS	total dissolved solids
waste	has the same meaning given to that term under the EP Act.

END OF CONDITIONS

Schedule 1: Maps

Premises map

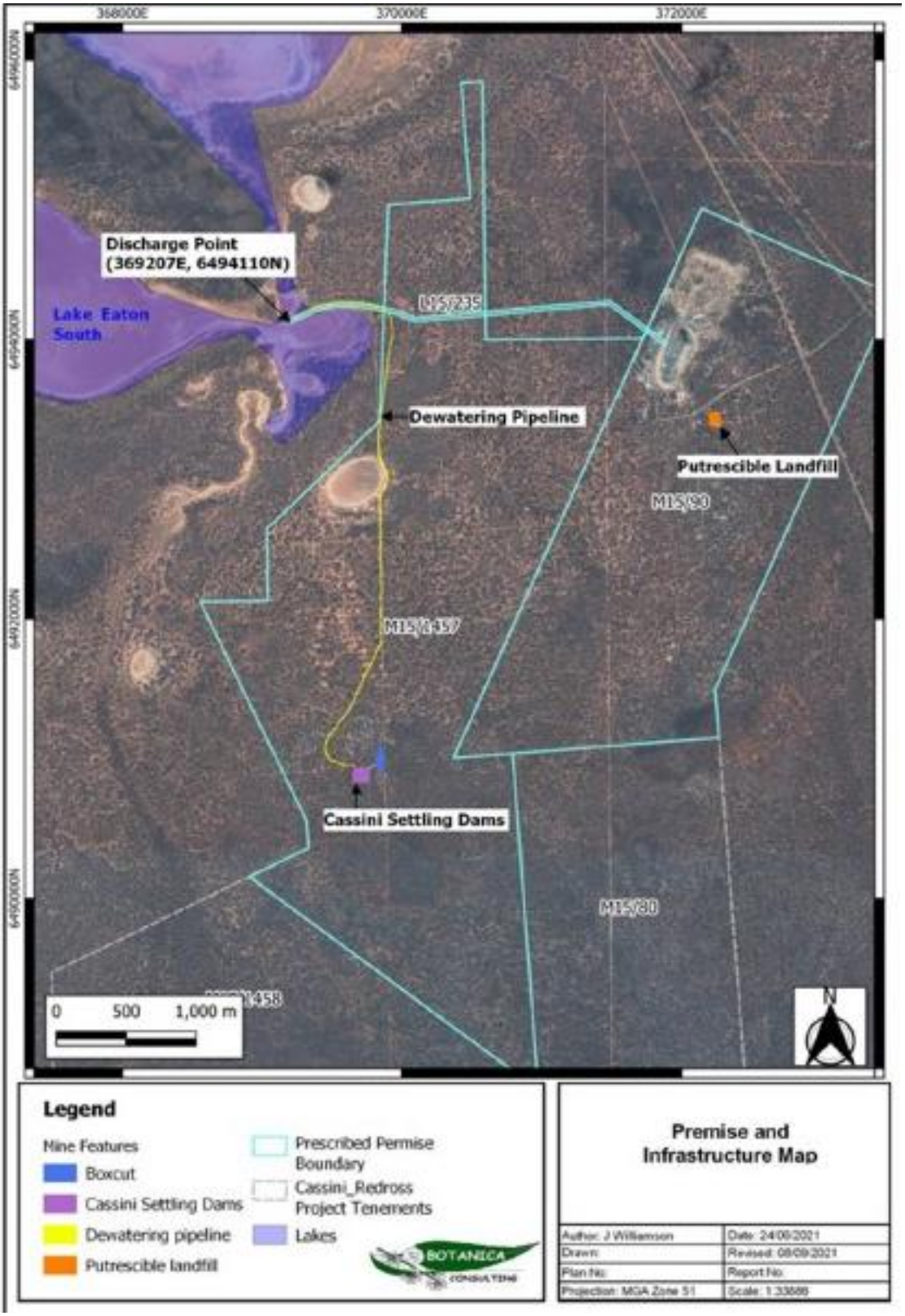

Figure 1: Map of the boundary of the prescribed premises

Figure 2: Map of the settling dams. Purple lines indicate the embankment Crest.

Surface water and sediment sampling locations map

The surface water and sediment sampling locations are shown in the map below (Figure 3).

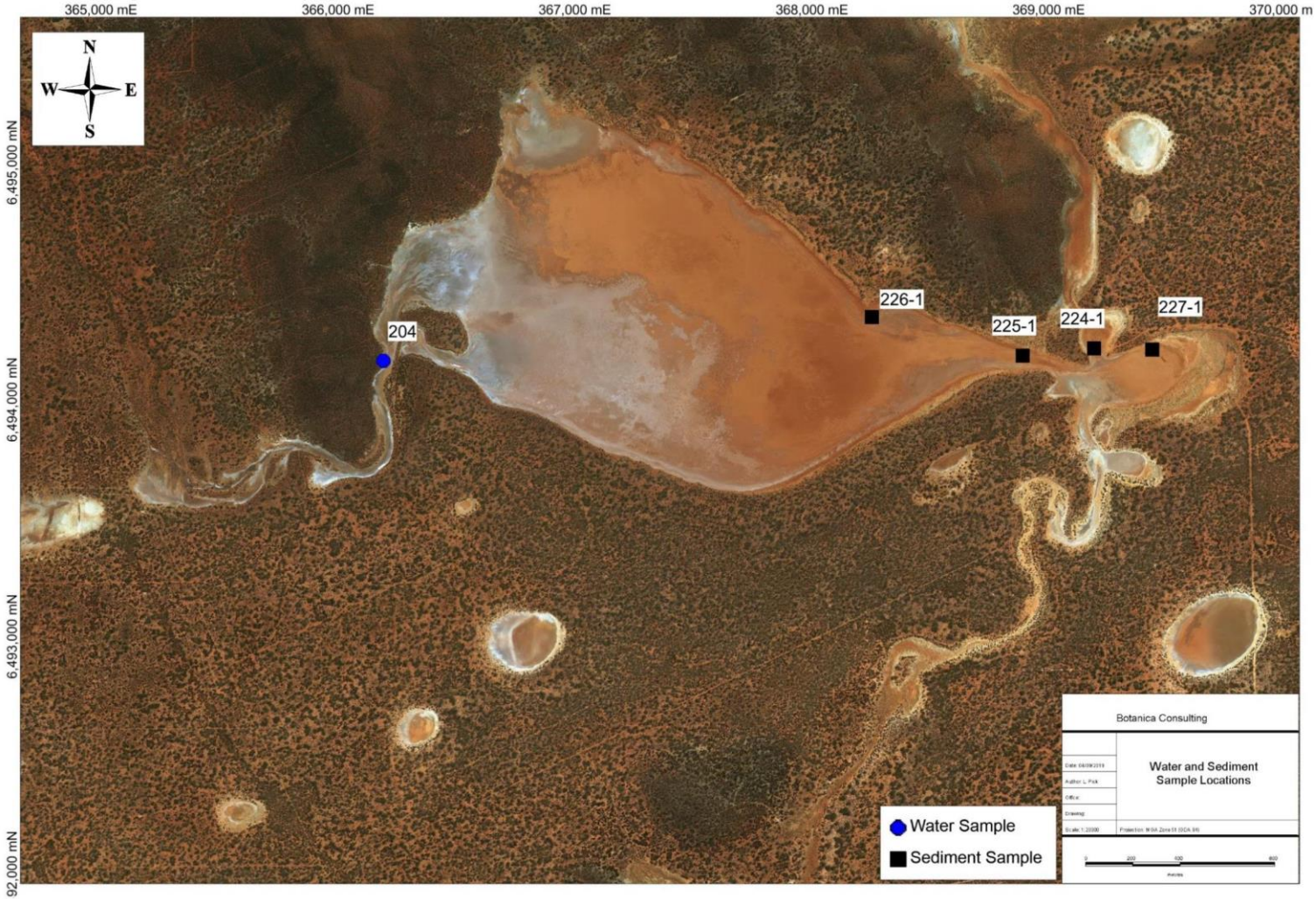

Figure 3: Map of surface water and sediment sampling locations

Schedule 2: Premises boundary

The premises boundary is defined by the coordinates in Table 12.

Table 12: Premises boundary coordinates (GDA94)

Easting	Northing	Mining Tenement
370793	6491035	M15/1457
370855	6490233	M15/1457
373294	6494419	M15/90
373515	6494319	M15/90
373193	6493604	M15/90
373184	6493586	M15/90
372853	6492853	M15/90
370425	6495837	M15/1457
370577	6495846	M15/1457
370600	6493997	M15/1457
371813	6494204	M15/90
371860	6494308	M15/90
372002	6494623	M15/90
372144	6494937	M15/90
372853	6492853	M15/90
372830	6492800	M15/90
372522	6492119	M15/90
372455	6491970	M15/90
372242	6491497	M15/90
372269	6491149	M15/90
370793	6491035	M15/90
369527	6494256	L15/235

Easting	Northing	Mining Tenement
369705	6494262	L15/235
371487	6494276	L15/235
369702	6494237	L15/235
369530	6494231	L15/235
369403	6494210	L15/235
369205	6494116	L15/235
369198	6494140	L15/235
369395	6494234	L15/235
369037	6492646	M15/1457
369841	6493415	M15/1457
369903	6494963	M15/1457
370489	6495008	M15/1457
370427	6495812	M15/1457
370425	6495837	M15/1457
371479	6494250	L15/235
370916	6489431	M15/1457
370977	6488630	M15/1457
368909	6490153	M15/1457
369333	6490360	M15/1457
369318	6490557	M15/1457
368974	6491265	M15/1457
368558	6492123	M15/1457
369043	6492129	M15/1457
371726	6494011	M15/1457