Works Approval

Works approval number	W6900/2024/1
Works approval holder	FMR Investments Pty Ltd
ACN	009 411 349
Registered business address	Suite 11, 2 Hardy Street South Perth, WA 6151
DWER file number	DER2024/000062
Duration	05/08/2024 to 04/08/2027
Date of issue	05/08/2024
Premises Details	Greenfields Processing Site – Gunga West In-pit Tailings Storage Facility Legal description – Mining Tenements: M15/1836, L15/356, and M15/1272 and Part of mining tenement M15/26 and Lots 102 and 103 on plan 40395 COOLGARDIE, WA 6429 As defined by the premises map in Schedule 1 and the coordinates in Schedule 2

Prescribed premises category description (Schedule 1, *Environmental Protection Regulations 1987*)	**Assessed design capacity**
Category 5: Processing or beneficiation of metallic or non-metallic ore	1,400,000 tonnes per year

This works approval is granted to the works approval holder, subject to the attached conditions, on 5 August 2024 by:

Christine Pustkuchen
Digitally signed by Christine Pustkuchen
Date: 2024.08.05 12:16:29 +08'00'

Manager, Resource Industries
REGULATORY SERVICES
an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

Works approval history

Date	Reference number	Summary of changes
05/08/2024	W6900/2024/1	Works approval granted.

Interpretation

In this works approval:

(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 works approval:

(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 works approval requires specific conditions to be met but does not provide any implied authorisation for other emissions, discharges, or activities not specified in this works approval.

Works approval conditions

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

Construction phase

Infrastructure and equipment

1. The works approval holder must construct the infrastructure:

(a) in accordance with the corresponding design and construction requirements;

(b) at the corresponding infrastructure location; and

(c) within the corresponding timeframe

as set out in Table 1.

Table 1: Design and construction requirements

Item	Infrastructure	Design and construction requirements	Infrastructure location
1	Gunga West In-Pit Tailings Storage Facility (TSF) and associated pipeline infrastructure	(a) Tailings discharge point to be situated in the northern end of the open pit; (b) Tailings HDPE pipelines to have a nominal diameter of 200mm; (c) Return water HDPE pipelines to have a nominal diameter of 160mm; (d) Tailings and return water pipelines to be fitted with: ▪ a telemetry system and pressure sensors to allow the detection of leaks and failures; or ▪ equipped with automatic cutouts in the event of a pipe failure; and ▪ provided with a secondary containment sufficient to contain any spill that could occur in the time between inspections. (e) Dust suppression applied across active work areas using water carts when visible dust is observed.	As depicted in Schedule 1, Figure 2.
2	Decant infrastructure	(a) Decant pump to be installed in the central area of the pit on a floating pontoon or similar structure; (b) Decant pump to have a working capacity of over 145 tonnes per hour or above 3487 cubic meters per day (m^3/day).	As depicted in Schedule 1, Figure 3.

2. The works approval holder must design, construct, and install groundwater monitoring bores in accordance with the requirements specified in Table 2.

Table 2: Infrastructure requirements – groundwater monitoring bores

Infrastructure	Design, construction, and installation requirements	Monitoring bore location(s)	Timeframe
Five groundwater monitoring bores MB01 – MB05	<u>Bore design and construction:</u> Designed and constructed in accordance with *ASTM D5092/D5092M-16: Standard practice for design and installation of groundwater monitoring bores*. Bore screens must target the part, or parts, of the aquifer most likely to be affected by contamination[1]. Where temporary/seasonal perched features are present, bores must be nested, and the perched features individually screened	As depicted in Schedule 1, Figure 2	Must be constructed, developed (purged), and determined to be operational prior to commencement of discharging of tailings into the Gunga West in-pit TSF
	<u>Logging of borehole:</u> Soil samples must be collected and logged during the installation of the monitoring bores. A record of the geology encountered during drilling must be described and classified in accordance with the Australian Standard Geotechnical Site Investigations AS1726. Any observations of staining / odours or other indications of contamination must be included in the bore log.		
	<u>Bore construction log:</u> Bore construction details must be documented within a bore construction log to demonstrate compliance with *ASTM D5092/D5092M-16*. The construction logs shall include elevations of the top of casing position to be used as the reference point for water-level measurements, and the elevations of the ground surface protective installations.		
	<u>Bore development:</u> All installed monitoring bores must be developed after drilling to remove fine sand, silt, clay and any drilling mud residues from around the bore screen to ensure the hydraulic functioning of the bore. A detailed record should be kept of bore development activities and included in the bore construction log.		
	<u>Installation survey:</u> the vertical (top of casing) and horizontal position of each monitoring bore must be surveyed and subsequently mapped by a suitably qualified surveyor.		

Infrastructure	Design, construction, and installation requirements	Monitoring bore location(s)	Timeframe
	Bore network map: a bore location map (using aerial image overlay) must be prepared and include the location of all monitoring bores in the monitoring network and their respective identification numbers.		

Note 1: refer to Section 7.2.2.1 of Schedule B2 of the *Assessment of Site Contamination NEPM* for guidance on bore screen depth and length.

3. The works approval holder must within 30 calendar days of the monitoring bores being constructed as required by condition 2, submit to the CEO a bore construction report inclusive of bore logs and map showing the exact location of the bores.

Baseline groundwater monitoring

4. The works approval holder must undertake baseline ambient groundwater monitoring in accordance with Table 3 after the infrastructure required by condition 2 has been constructed and a bore construction report as required by condition 3 has been submitted to the CEO.

5. The works approval holder must adhere to the field quality assurance and quality control procedure specified in Schedule 3 of this works approval for the monitoring required by condition 4.

6. All sample analysis referred to in condition 4 must be undertaken by laboratories with current accreditation from the National Association of Testing Authorities (NATA) for the relevant parameters, unless otherwise specified, in Table 3.

Table 3. Baseline ambient groundwater monitoring requirements

Monitoring Bore	Parameter	Unit	Frequency	Method
Gunga West in-pit TSF monitoring bores: • MB01 • MB02 • MB03 • MB04 • MB05	Standing Water Level[1]	Meters below ground level (mbgl)	Weekly for a duration of at least 4 weeks, prior to tailings deposition.	Spot sample, in accordance with AS/NZS 5667.11
	Electrical Conductivity[2]	Micro Siemens per centimetre (µS/cm)		
	pH[2]	-		
	Total Dissolved Solids (TDS)[2]	Milligrams per litre (mg/L)		
	Weak Acid Dissociable (WAD) Cyanide (Cn) & Total Cn			
	Total Metals: • Aluminium (Al) • Arsenic (Ar) • Cadmium (Cd) • Chromium (Cr)			

	• Copper (Cu) • Iron (Fe) • Lead (Pb) • Magnesium (Mg) • Manganese (Mn) • Mercury (Hg) • Nickel (Ni) • Selenium (Se) • Zinc (Zn)			
	Major Ions: • Calcium (Ca) • Chloride (Cl) • Potassium (K) • Sodium (Na)			
	Total Alkalinity			

Note 1: Standing water level shall be determined prior to the collection of other water samples.
Note 2: In-field non-NATA accredited analysis permitted.

Compliance reporting

7. The works approval holder must within 60 calendar days of an item of infrastructure or equipment required by condition 1 being constructed and/or installed:

(a) undertake an audit of their compliance with the requirements of condition 1; and

(b) prepare and submit to the CEO an Environmental Compliance Report on that compliance.

8. The Environmental Compliance Report required by condition 7, must include as a minimum the following:

(a) certification by a suitably qualified, competent geotechnical engineer that the items of infrastructure or component(s) thereof, as specified in condition 1 has been constructed in accordance with the relevant requirements specified in condition 1;

(b) as constructed plans or photographs and a detailed site plan for each item of infrastructure or component of infrastructure specified in conditions 1;

(c) baseline ambient groundwater monitoring data as required by condition 4; and

(d) be signed by a person authorised to represent the works approval holder and contains the printed name and position of that person.

Time limited operations phase

Commencement and duration

9. The works approval holder may only commence time limited operations for an item of infrastructure identified in condition 11 where the Environmental Compliance Report as required by condition 7 has been submitted by the works approval holder for that item of infrastructure.

10. The works approval holder may conduct time limited operations for an item of infrastructure specified in condition 11:

(a) for a period not exceeding 180 calendar days from the day the works approval holder meets the requirements of condition 9 for that item of infrastructure; or

(b) until such time as a licence for that item of infrastructure is granted in accordance with Part V of the *Environmental Protection Act 1986*, if one is granted before the end of the period specified in condition 10(a).

Time limited operations requirements and emission limits

11. During time limited operations, the works approval holder must ensure that the premises infrastructure and equipment listed in Table 4 and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirement set out in Table 4.

Table 4. Infrastructure and equipment requirements during time limited operations

Item	Infrastructure	Operational requirements	Infrastructure location
1.	Gunga West In-Pit Tailings Storage Facility (TSF) and associated decant & pipeline infrastructure	(a) Minimum freeboard of 1 meter below crest level (RL 396.5m AHD) to be maintained within the Gunga West In-Pit TSF (b) Tailings deposition to occur in the northern end of the in-pit TSF from a single discharge point; (c) Tailings to be deposited subaerially or sub aqueously depending on the slurry water level at the time of discharge; (d) Decant pond to be maintained at the smallest practical operational size; (e) Removal of decant effluent to begin as soon as a suitable pond has formed; (f) Decant pump to be in working order at all times and to run continuously unless maintenance is being undertaken and / or during mill shutdowns. (g) Daily visual inspection of the in-pit TSF to occur to ensure sufficient capacity and to view pond location and size; (h) Daily visual inspection of tailings and return water pipelines to occur to monitor integrity; and (i) Tailings and return water pipelines to be maintained as per design and construction/installation requirements in condition 1.	As depicted in Schedule 1, Figures 2 and 3

Monitoring during time limited operations

12. The licence holder must monitor the groundwater for concentration of the parameters listed in Table 5:

(a) at the corresponding monitoring location

(b) for the corresponding averaging period

(c) at no less that the corresponding frequency; and

(d) in the corresponding unit

13. The works approval holder must adhere to the field quality assurance and quality control procedures specified in Schedule 3 for the monitoring required by condition 12.

14. All sample analysis must be undertaken by laboratories with current accreditation from the National Association of Testing Authorities (NATA) for the relevant parameters, unless otherwise specified in Table 5.

Table 5: Monitoring of ambient groundwater quality

Monitoring point reference / location	Parameter	Units	Limit	Averaging Periods	Frequency
Guga West in-pit TSF: • MB01 • MB02 • MB03 • MB04 • MB05	Standing water level (SWL)[1,2]	mbgl	4	Spot Sample	Monthly or Fortnightly - where SWL is less than 5 mbgl
	Electrical conductivity[2]	µS/cm	-		Quarterly
	pH[2]	-	-		
	Total dissolved solids[2]	mg/L	-		
	WAD CN		-		
	Total CN		-		
	Dissolved metals and metalloids: • Al • As • Cd • Cr • Cu • Fe • Pb • Mg • Mn • Hg • Ni • Se • Zn		-		
	Major ions: • Ca		-		

Monitoring point reference / location	Parameter	Units	Limit	Averaging Periods	Frequency
	• Cl • K • Na				
	Total Alkalinity		-		

Note 1: Standing water level shall be determined prior to the collection of other water samples.
Note 2: In-field non-NATA accredited analysis permitted.

Notification

15. The works approval holder must immediately after becoming aware of any breach of any limit specified in the works approval, notify the CEO in writing of that non-compliance, and include in that notification the following information:

(a) which condition was not complied with and a copy of the corresponding data and previous trigger level data (if applicable);

(b) the time and date when the non-compliance occurred;

(c) if any environmental impact has occurred as a result of the non-compliance and if so, what that impact is and where the impact occurred;

(d) the details and result of any investigation undertaken into the cause of the non-compliance;

(e) what action(s) has been taken and the date on which it was taken to prevent the non-compliance occurring again; and

(f) what action(s) will be taken and the date by which it will be taken to prevent the non-compliance occurring again.

Records and reporting (general)

16. The works approval holder must record the following information in relation to complaints received by the works approval 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 works approval holder to investigate or respond to any complaint.

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

(a) the works conducted in accordance with condition 1 and 2;

(b) any maintenance of infrastructure that is performed in the course of complying with condition 11;

(c) monitoring programmes undertaken in accordance with condition(s) 4 and 12; and

(d) complaints received under condition 16.

18. The books specified under condition 17 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 works approval holder for the duration of the works approval; and

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

Definitions

In this works approval, the terms in Table 6 have the meanings defined.

Table 6: Definitions

Term	Definition
ACN	Australian company number.
AS/NZS 5667.11	Means the Australian Standard AS/NZS 5667.1 *Water Quality Sampling – Guidance of the Design of sampling programs, sampling techniques and the preservation of handling of samples*
books	has the same meaning given to that term under the EP Act.
CEO	means Chief Executive Officer. CEO for the purposes of notification means: Director General Department administering the *Environmental Protection Act 1986* Locked Bag 10 Joondalup WA 6919 info@dwer.wa.gov.au
department	means the department established under section 35 of the *Public Sector Management Act 1994* and designated as responsible for the administration of Part V Division 3 of the EP Act.
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.
Environmental Compliance Report	means a report to satisfy the CEO that the conditioned infrastructure and/or equipment has been constructed and/or installed in accordance with the works approval.
EP Act	*Environmental Protection Act 1986* (WA).
EP Regulations	*Environmental Protection Regulations 1987* (WA).
freeboard	means the distance between the maximum effluent surface elevations and the top of retaining banks or structure
HDPE	means high density polyethylene.
NATA	means the National Association of Testing Authorities, Australia.
NATA accredited	(in relation to the analysis of a sample) means that the laboratory is NATA accredited at the time of the analysis, for the specified analysis.
premises	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 works approval.
prescribed premises	has the same meaning given to that term under the EP Act.

Term	Definition
quarterly	means the four inclusive periods from 1 January to 31 March, 1 April to 30 June, 1 July to 30 September, 1 October to 31 December.
spot sample	means a discrete sample representative at the time and place at which the sample is taken.
suitably qualified geotechnical engineer	means a person who: (a) holds a Bachelor of engineering recognised by the Institute of Engineers; and (b) has a minimum of five years of experience working in the area of geotechnical engineering or is otherwise approved by the CEO to act in this capacity.
time limited operations	refers to the operation of the infrastructure and equipment identified under this works approval that is authorised for that purpose, subject to the relevant conditions.
TSF	Tailing storage facility.
works approval	refers to this document, which evidences the grant of the works approval by the CEO under section 54 of the EP Act, subject to the conditions.
works approval holder	refers to the occupier of the premises being the person to whom this works approval has been granted, as specified at the front of this works approval.

END OF CONDITIONS

Schedule 1: Maps

Premises maps

The boundary of the prescribed premises is shown in the map below (

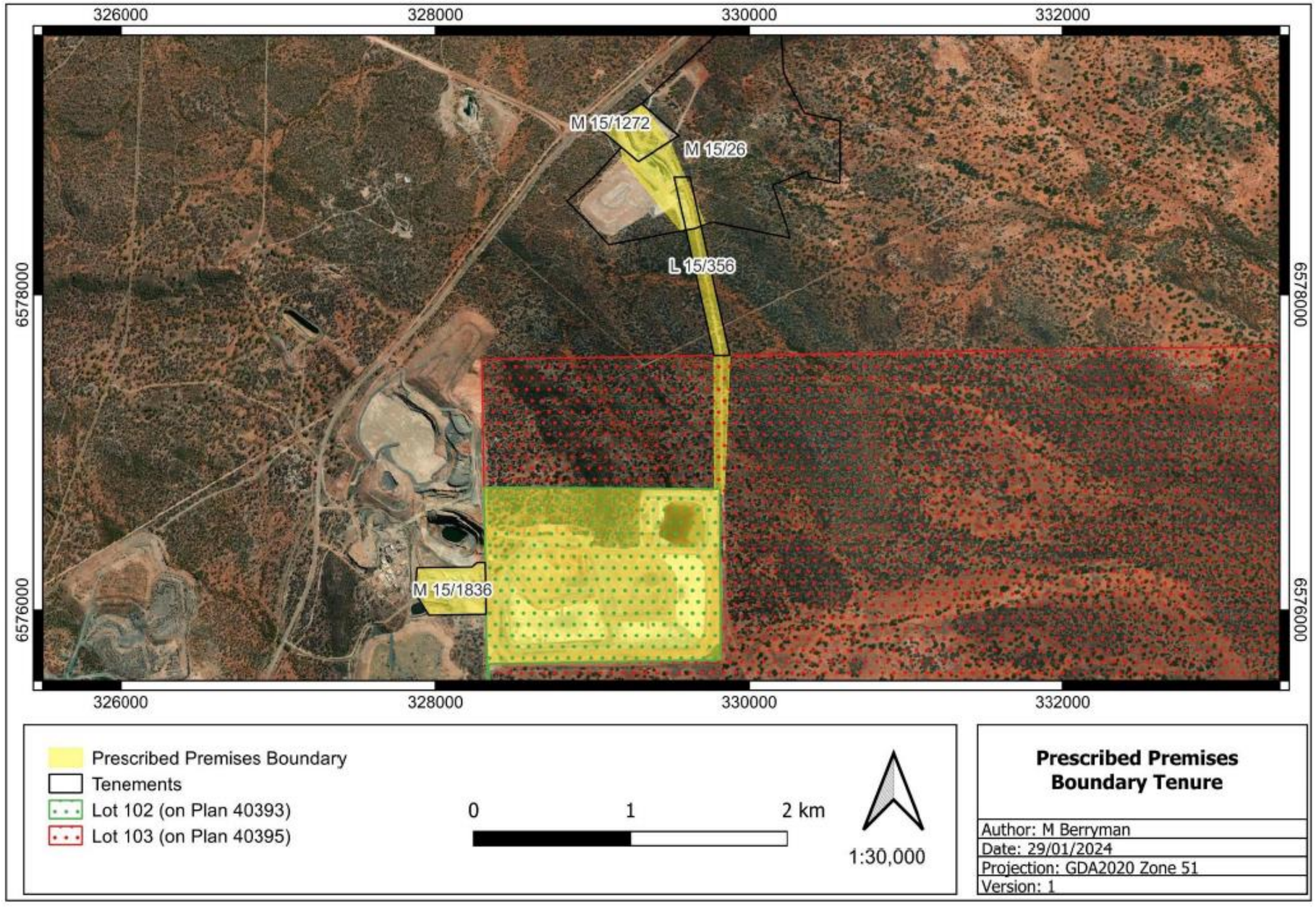

Figure 1) and is indicated by the yellow shading.

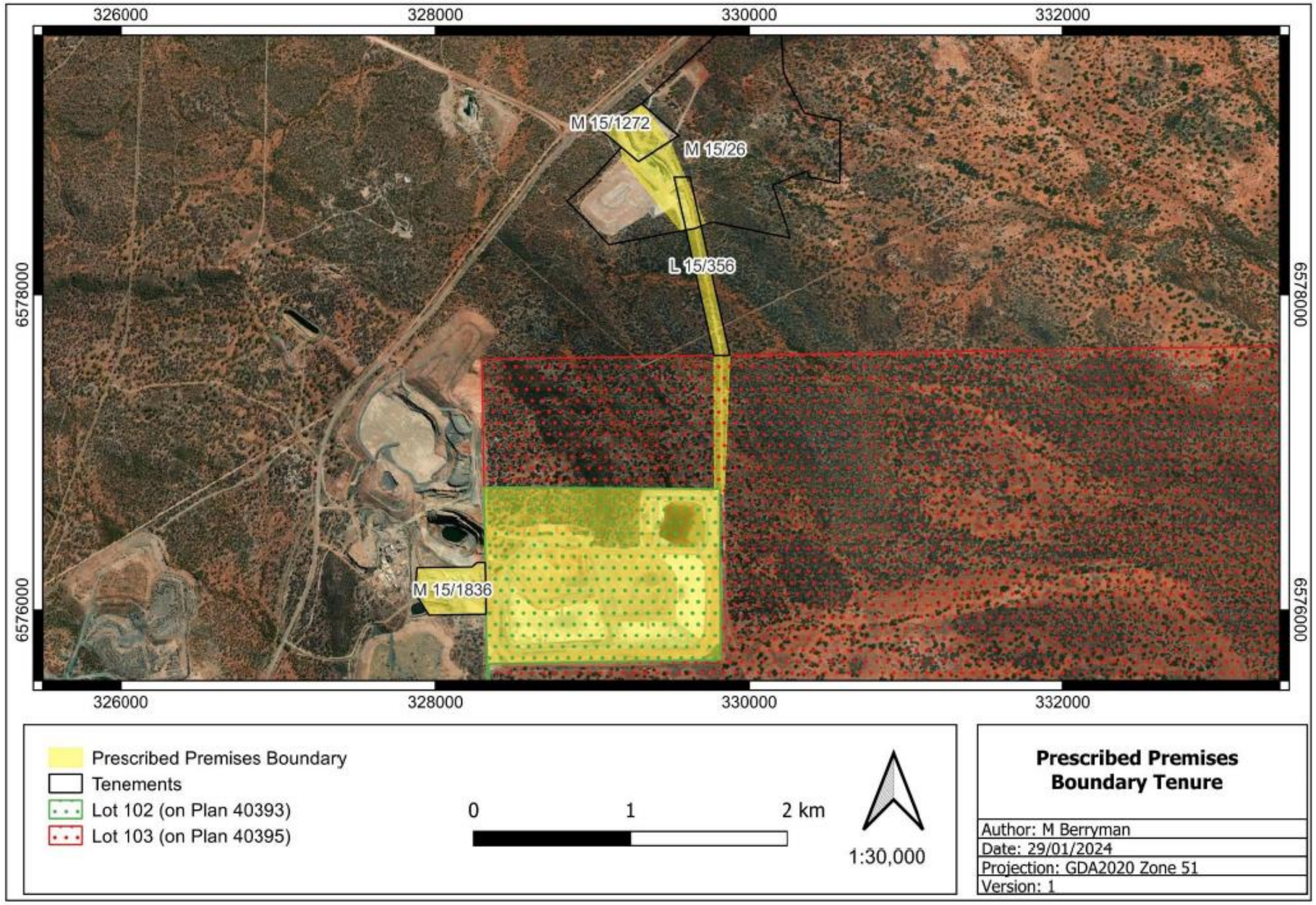

Figure 1: Map of the boundary of the prescribed premises

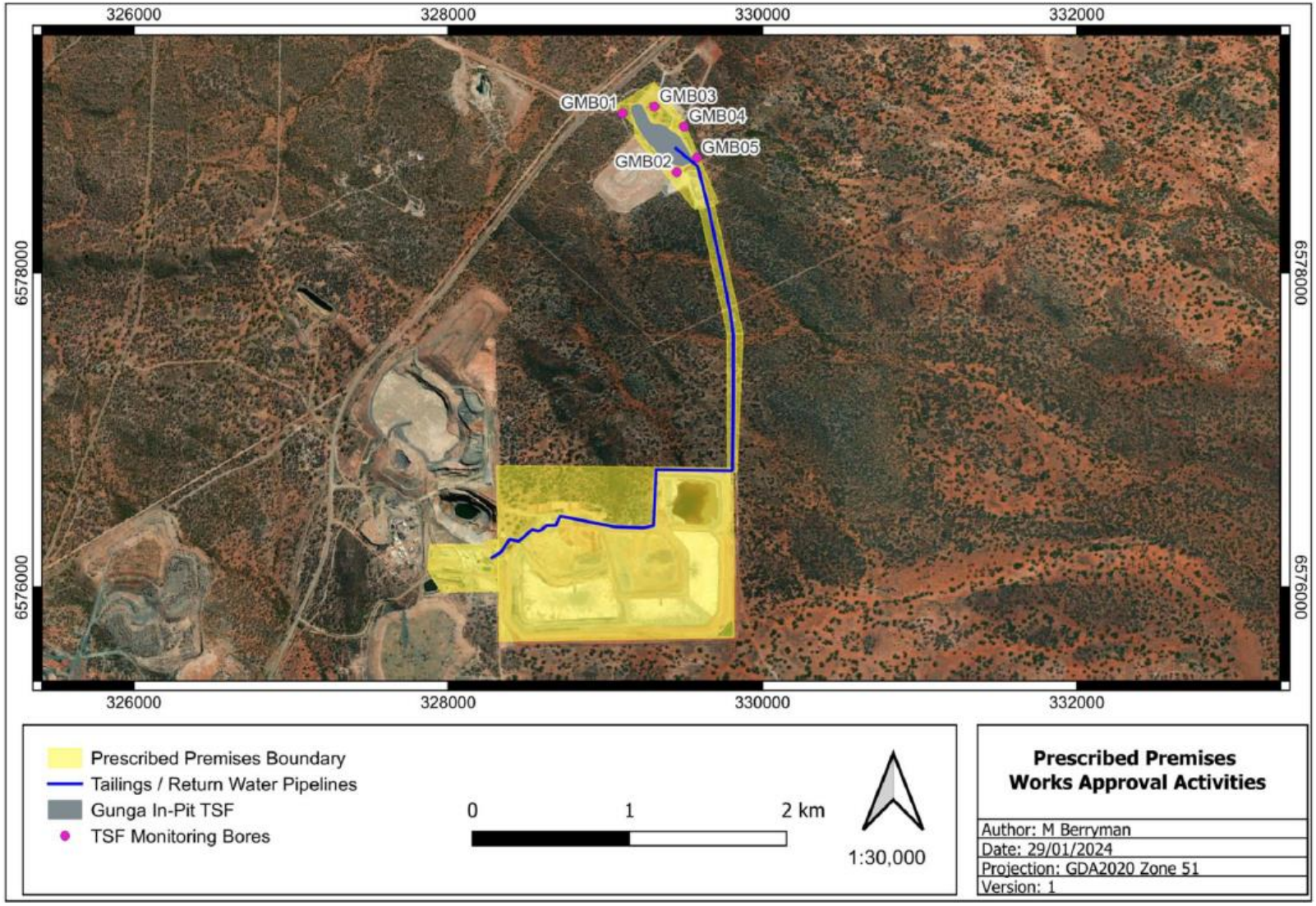

Figure 2: Premises layout showing the location of pipeline route, in-pit TSF and proposed groundwater monitoring bores.

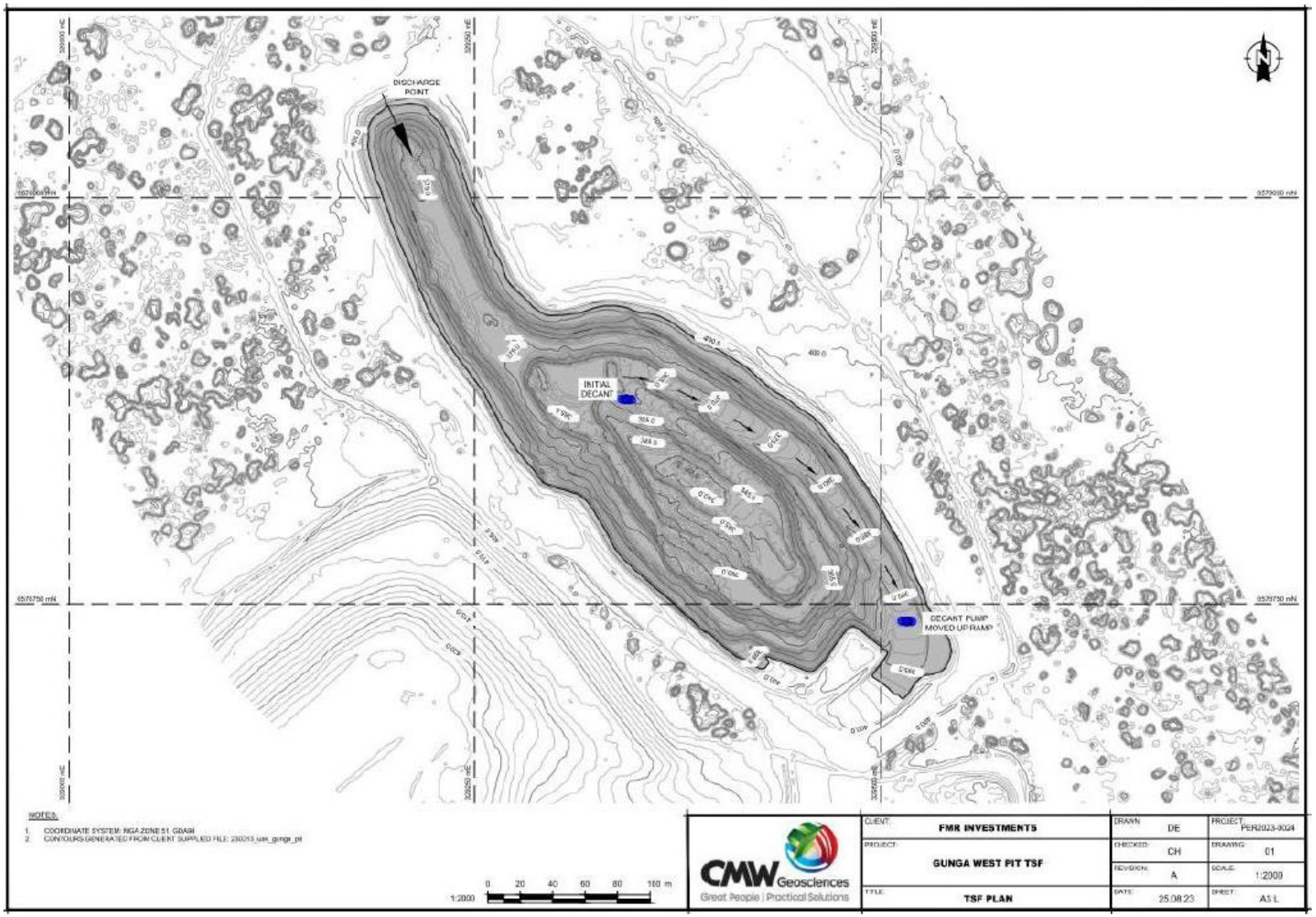

Figure 3: Layout of the Gunga West In-Pit TSF

Schedule 2: Premises boundary

The corners of the premises boundary are the coordinates listed in Table 7.

Table 7: Premises boundary coordinates (GDA2020)

	Tenure	Latitude	Longitude
1.	M15/1836	-30.93422	121.20301
2.	M15/1836	-30.93421	121.20246
3.	M15/1836	-30.93446	121.20212
4.	M15/1836	-30.93445	121.19847
5.	M15/1836	-30.93587	121.19831
6.	M15/1836	-30.93719	121.19920
7.	M15/1836	-30.93719	121.20052
8.	M15/1836	-30.93718	121.20301
9.	Lot 102	-30.93900	121.20301
10.	Lot 102	-30.93968	121.20301
11.	Lot 102	-30.94007	121.20301
12.	Lot 102	-30.94007	121.20314
13.	Lot 102	-30.94007	121.20522
14.	Lot 102	-30.94006	121.20733
15.	Lot 102	-30.94006	121.20940
16.	Lot 102	-30.94006	121.21151
17.	Lot 102	-30.94006	121.21530
18.	Lot 102	-30.94005	121.21633
19.	Lot 102	-30.94005	121.21862
20.	Lot 102	-30.93814	121.21865
21.	Lot 102	-30.93615	121.21868
22.	Lot 102	-30.93472	121.21870

	Tenure	Latitude	Longitude
23.	Lot 102	-30.93251	121.21873
24.	Lot 102	-30.93055	121.21875
25.	Lot 103	-30.93056	121.21904
26.	Lot 103	-30.93031	121.21904
27.	Lot 103	-30.92263	121.21956
28.	L15/356	-30.91519	121.21778
29.	M15/26	-30.91510	121.21807
30.	M15/26	-30.91030	121.21579
31.	M15/1272	-30.90808	121.21392
32.	M15/1272	-30.90952	121.21115
33.	M15/1272	-30.91056	121.21253
34.	M15/26	-30.91127	121.21258
35.	M15/26	-30.91545	121.21645
36.	L15/356	-30.91541	121.21678
37.	L15/356	-30.92261	121.21850
38.	Lot 102	-30.93029	121.21839
39.	Lot 102	-30.93022	121.21482
40.	Lot 102	-30.93014	121.21088
41.	Lot 102	-30.92998	121.20300
42.	Lot 102	-30.93032	121.20300

Schedule 3

Quality assurance and quality control requirements

The Works Approval holder must adhere to the following field quality assurance and quality control procedures, as specified in Schedule B2 of the National Environmental Protection (Assessment of Site Contamination) 2011 by the National Environmental Council. Requirements are summarised below:

(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