Government of Western Australia
Department of Water and Environmental Regulation

Licence

Licence number	L9383/2023/1
Licence holder **ACN**	Abra Mining Pty Limited 110 233 577
Registered business address	Level 11, 216 St Georges Terrace PERTH WA 6000
DWER file number	DER2023/000048
Duration	6/07/2023 to 5/07/2043
Date of issue	6/07/2023
Premises details	Abra Base Metals Project MEEKATHARRA WA 6642 Part of mining tenements L52/194, M52/776, G52/292 and L52/210 As defined by the premises maps in Schedule 1

Prescribed premises category description (Schedule 1, ***Environmental Protection Regulations 1987***)	**Assessed production capacity**
Category 5: Processing or beneficiation of metallic or non-metallic ore	1,350,000 tonnes per annual period

This licence is granted to the licence holder, subject to the attached conditions, on 6/07/2023, by:

Alana Kidd

Digitally signed by Alana Kidd
Date: 2023.07.06 10:44:03 +08'00'

Alana Kidd
MANAGER, RESOURCE INDUSTRIES
an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

Licence history

Date	Reference number	Summary of changes
6/07/2023	L9383/2023/1	New Licence issued

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:

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

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

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

(h) 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

Operation requirements

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
1	Processing plant	• Design capacity of 1,350,000 tpa; • Operate and maintain all dust control systems to minimise dust emissions generated within the processing plant and from stockpiles; • Maintain concrete hard stands, bunding and sump pumps within the processing plant area to collect and pump stormwater, spillage and clean up back to the cyclone feed hopper and/or to the tailings stream; • Maintain stormwater diversion and flood protection around operational areas; • Operate and maintain automated control systems so a minimum operating freeboard of 300 mm plus allowance to store a 1 in 100 annual exceedance probability (AEP) storm event over 72 hours is maintained at the Process Water Dam.	Schedule 1: Figures 2 and 3
2	Stormwater pond (event pond)	• Maintain a minimum operating freeboard of 300 mm plus allowance to store a 1 in 100 annual exceedance probability (AEP) storm event over 72 hours; • Ensure visible freeboard markers are in place; • Only receive stormwater runoff from the Processing Plant area, ROM Pad and stockpiles; and • Maintain and operate a pump designed to transfer any excess water to the HDPE lined TSF Mini Cell until 30 September 2023. The pump shall only be operated if the event pond reaches capacity.	Schedule 1: Figure 3

	Site infrastructure and equipment	Operational requirement	Infrastructure location
3	TSF Mini Cell	• Minimum of 500 mm total freeboard comprising minimum operational freeboard (vertical height between the tailings beach and embankment crest) of 300 mm and a minimum beach freeboard of 200 mm plus allowance to store a 1 in 100 annual exceedance probability (AEP) storm event over 72 hour. • Tailings discharged sub-aerially and cyclically in thin discrete layers not exceeding 300 mm thickness to allow optimum density and strength gain by subjecting each layer to a drying cycle; • Deposition to occur through multiple spigots; • Spigotting of tailings carried out such that a beach is developed so the supernatant pond is maintained within and around the rock ring decant; • Supernatant pond always maintained away from the perimeter embankments; • Maintain and operate the submersible decant pump as per manufacturer's specifications; • Decant pond water must be reclaimed and reused in the processing plant; and • Average water recovery should not be less than 50% of slurry water inflow or 36 t/hr.	Schedule 1: Figures 2 and 4
4	Tailings delivery and decant return water pipelines	• Provided with secondary containment adequate to contain any spill for a period equal to the time between routine inspections; and • Maintain pipeline flow sensors and telemetry systems	Schedule 1: Figure 2
5	Workshop / washdown areas	• Collected wash water from the mine workshop and washdown bay to be discharged to an infiltration/evaporation basin via a triple interceptor; and • Collected wash water from truck and tyre washdown points at the lead concentrate shed returned to the process plant for reuse.	Schedule 1: Figures 3
6	Lead concentrate storage shed	• Maintain dust extraction units so the concentrate storage shed always remains under light vacuum conditions. • The concentrate shed to remain fully enclosed, except when concentrate road trains enter or exit the loading area. • Each container to be sealed with a lid once filled with lead concentrate. • The loaded road train to move through a truck and container wash before transporting the product off site. • Ensure all lead concentrate containers remain closed at all times when outside of the lead concentrate storage shed.	Schedule 1: Figures 3

2. The Licence Holder shall:

(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 action 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
Processing plant	Visual assessment to ensure controls for managing dust emissions are being maintained and remain effective. Visual assessment to confirm the integrity of the process water and chemical storage tanks, and the process solution and process water lines. Visual assessment to confirm the concrete hard stands, bunds and sump pumps are being maintained.	At least once every 12 hours
Stormwater event pond	Visual assessment to confirm required freeboard capacity is available.	
Tailings Storage Facility – Mini Cell	Visual assessment to confirm the tailings discharge points, return water decant pump, tailings beach and supernatant pond is in accordance with design and operational expectations. Visual assessment to confirm the minimum freeboard is being maintained. Visual assessment to confirm the general integrity of the TSF Mini Cell embankments and HDPE liner are being maintained. Visual assessment for any downstream seepage.	
Tailings discharge and return water pipelines	Tailings delivery and water return pipelines to be visually inspected for any visible leakage or damage, and the containment corridor capacity is being maintained.	

Emissions

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	Authorised discharged volume
Discharge of tailings	Tailings Storage Facility – Mini Cell	Schedule 1: Figures 2 and 4	Maximum of 1,350,000 tonnes per annum
Event Pond excess water until 30 September 2023			

Monitoring

Ambient groundwater monitoring

4. The licence holder must monitor the groundwater for concentrations of the parameter listed in Table 4:

(a) at the corresponding monitoring location;

(b) in the corresponding unit;

(c) at no less that the corresponding frequency;

(d) for the corresponding averaging period; and

(e) using the corresponding method,

as set out in Table 4.

Table 4: Ambient groundwater monitoring

Parameter	Monitoring Location	Unit	Frequency	Averaging period	Method
Standing Water Level	MB1, MB2, MB3 and MB4 as shown in Schedule 1: Figure 5	mbgl	Monthly	Spot sample	-
pH		pH units	Quarterly		AS/NZS 5667.1 AS/NZS 5667.11
Electrical Conductivity		µS/cm			
Total Dissolved Solids		mg/L			
Total Suspended Solids					
Calcium					
Magnesium					
Potassium					
Silicon					
Sodium					
Hardness as $CaCO_3$					
Aluminum					
Arsenic					
Barium					
Beryllium					
Boron					
Cadmium					
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Manganese					
Mercury					
Molybdenum					
Nickel					
Selenium					
Strontium					

Parameter	Monitoring Location	Unit	Frequency	Averaging period	Method
Titanium					
Thallium					
Uranium					
Vanadium					
Zinc					
Bicarbonate Alkalinity as $CaCO_3$					
Carbonate Alkalinity as $CaCO_3$					
Chloride					
Hydroxide OH^- as $CaCO_3$					
Nitrate as NO_3 by calculation					
Nitrate as N					
Sulfate					
Total Alkalinity as $CaCO_3$					

5. The licence holder must record the results of all monitoring activity required by condition 4.

6. 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.

7. The licence holder must undertake monitoring of the water balance for the TSF each monthly period, and (as a minimum) record the following information:

(a) site rainfall;

(b) evaporation rate;

(c) decant water recovery volumes;

(d) volume of tailings deposited; and

(e) estimate of seepage losses.

Records and reporting

8. 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) any maintenance of infrastructure that is performed in the course of complying with conditions 1 and 2 of this licence;

(c) monitoring programmes undertaken in accordance with conditions 4 and 7 of this licence; and

(d) complaints received under condition of this licence.

9. The books specified under condition 8 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.

10. 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.

11. 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.

12. 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 5 , and which provides information in accordance with the corresponding requirement set out in Table 5.

Table 5: Annual Environmental Report requirements

Condition (if relevant)	Requirement
-	Summary of any failure or malfunction of any pollution control equipment and any environmental incidents that have occurred during the annual period and any action taken.
-	Any relevant information relating to the calibration of monitoring equipment, or reports comprising details of any modified calibration methods.
2	Inspections of infrastructure of any failure or malfunction.
4	Ambient groundwater monitoring results during operations. Tabulated monitoring data results for each monitoring bore showing concentrations of all parameters. Time-series graphs in Microsoft excel format or similar for each monitoring location for standing water levels in mbgl. An assessment of the monitoring data including comparison to ANZECC 2000

Condition (if relevant)	Requirement
	water quality values and previous monitoring results (where applicable). Copies of original monitoring, laboratory and analysis reports submitted to the licence holder by third parties.
7	Water balance monitoring results during operations. Tabulated monitoring data and / or time-series graphs in Microsoft excel format or similar results of all information recorded. An interpretation of the monitoring data including comparison to historical trends and limits (where applicable). Copies of original monitoring submitted to the licence holder by third parties.

Definitions

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

Table 6: 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.
AS/NZS 5667.1	means the Australian Standard AS/NZS 5667.1: 1998. Water quality - Sampling - guidance on the design of sampling programs, sampling techniques and the preservation and handling of samples
AS/NZS 5667.11	means the Australian Standard AS/NZS 5667.11:1998. Water quality – Sampling – Part 11: Guidance on sampling of groundwaters
Averaging Period	means the time over which a limit is measured or a monitoring result is obtained
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

Term	Definition
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)
HDPE	means High Density Polyethylene
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 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.
mbgl	metres below ground level
monthly period	means a monthly monitoring period where monitoring is undertaken at least 15 days apart.
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.
quarterly	means the 4 inclusive periods from 1 July to 30 September, 1 October to 31 December, and 1 January to 31 March and 1 April to 30 June in the following year.
TSF Mini Cell	means Tailings Storage Facility Stage 1 Mini Cell
waste	has the same meaning given to that term under the EP Act.

END OF CONDITIONS

Schedule 1: Maps

Premises map

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

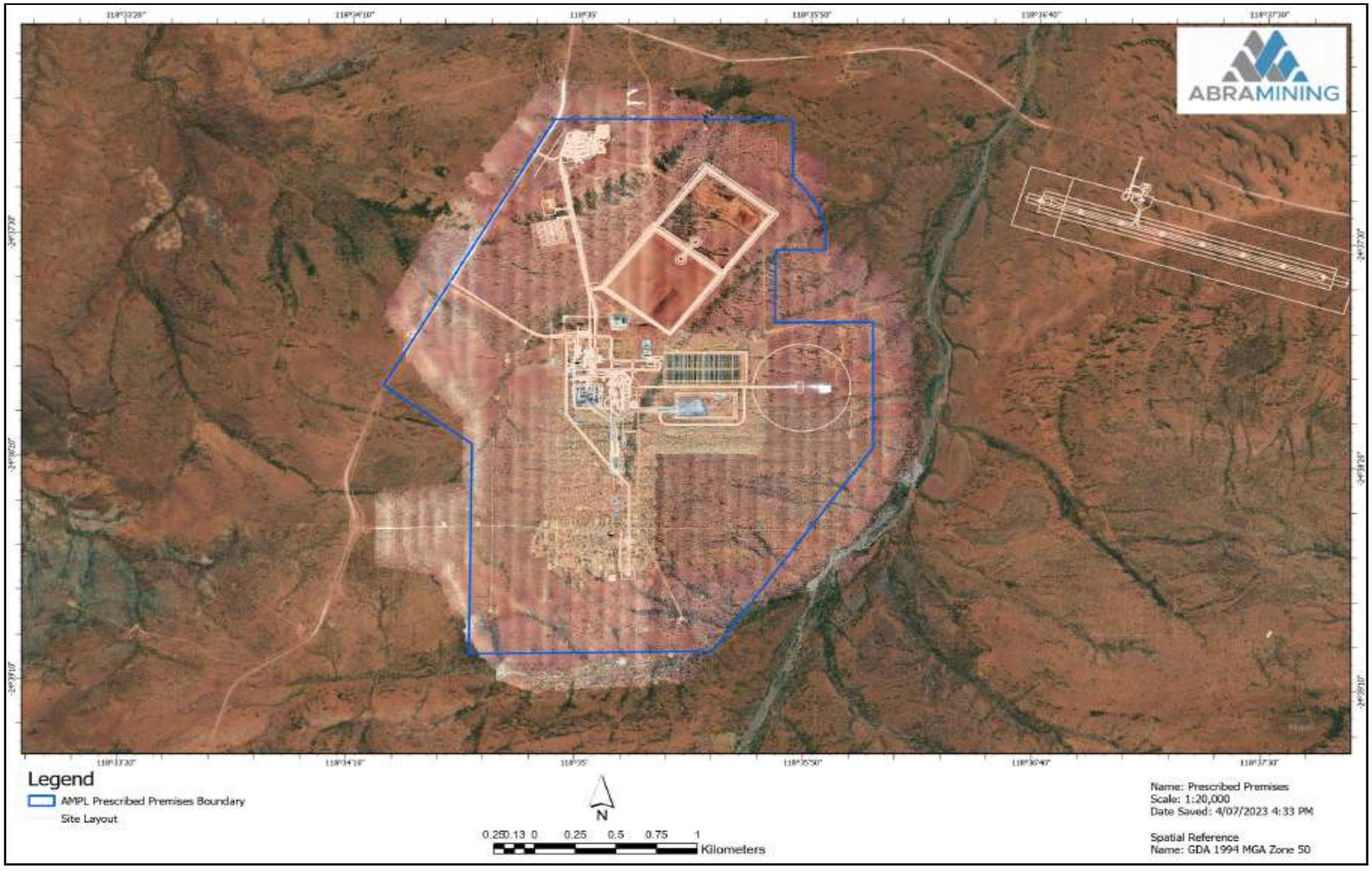

Figure 1: Map of the boundary of the prescribed premises

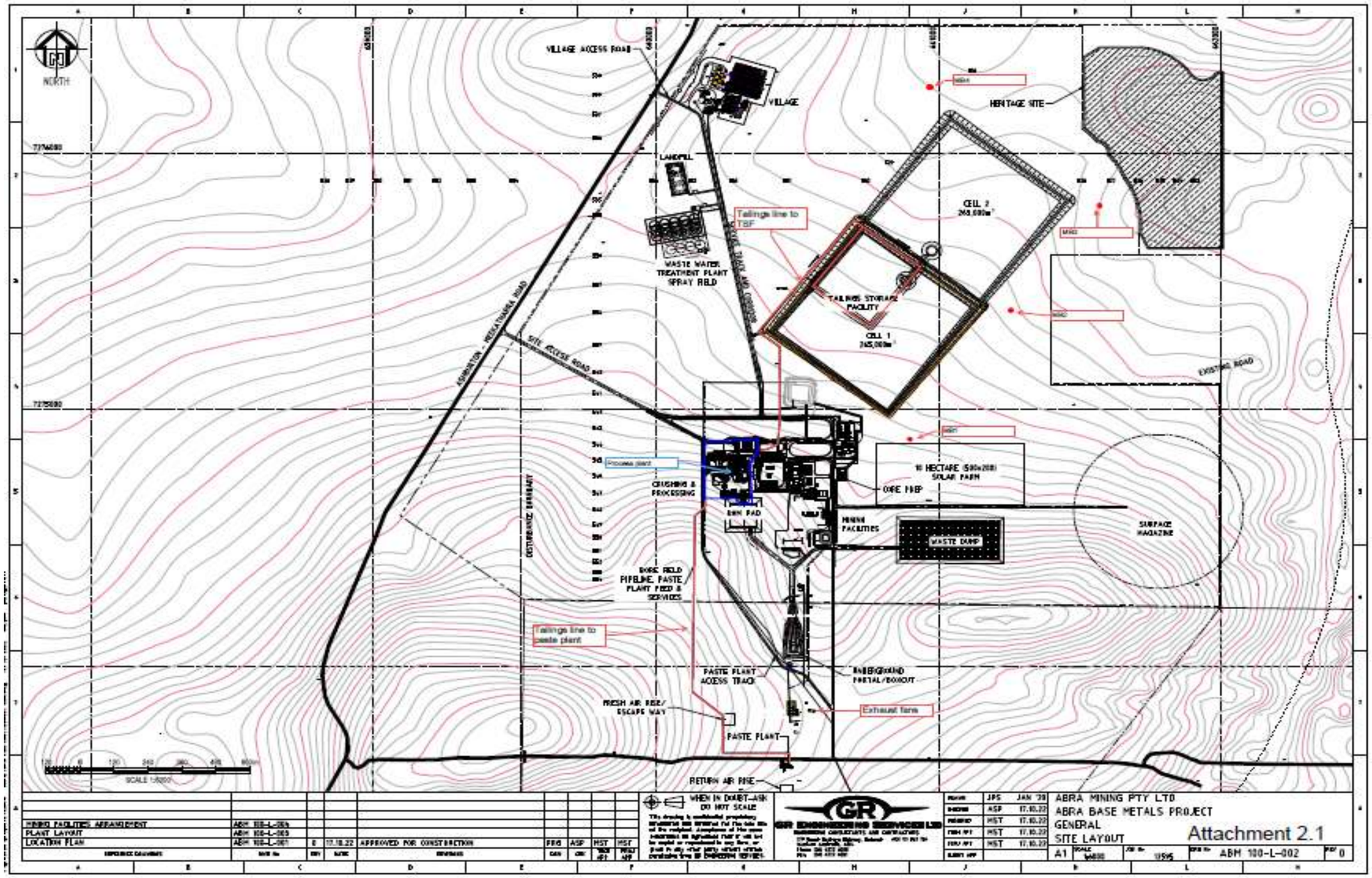

Figure 2: General Site Layout

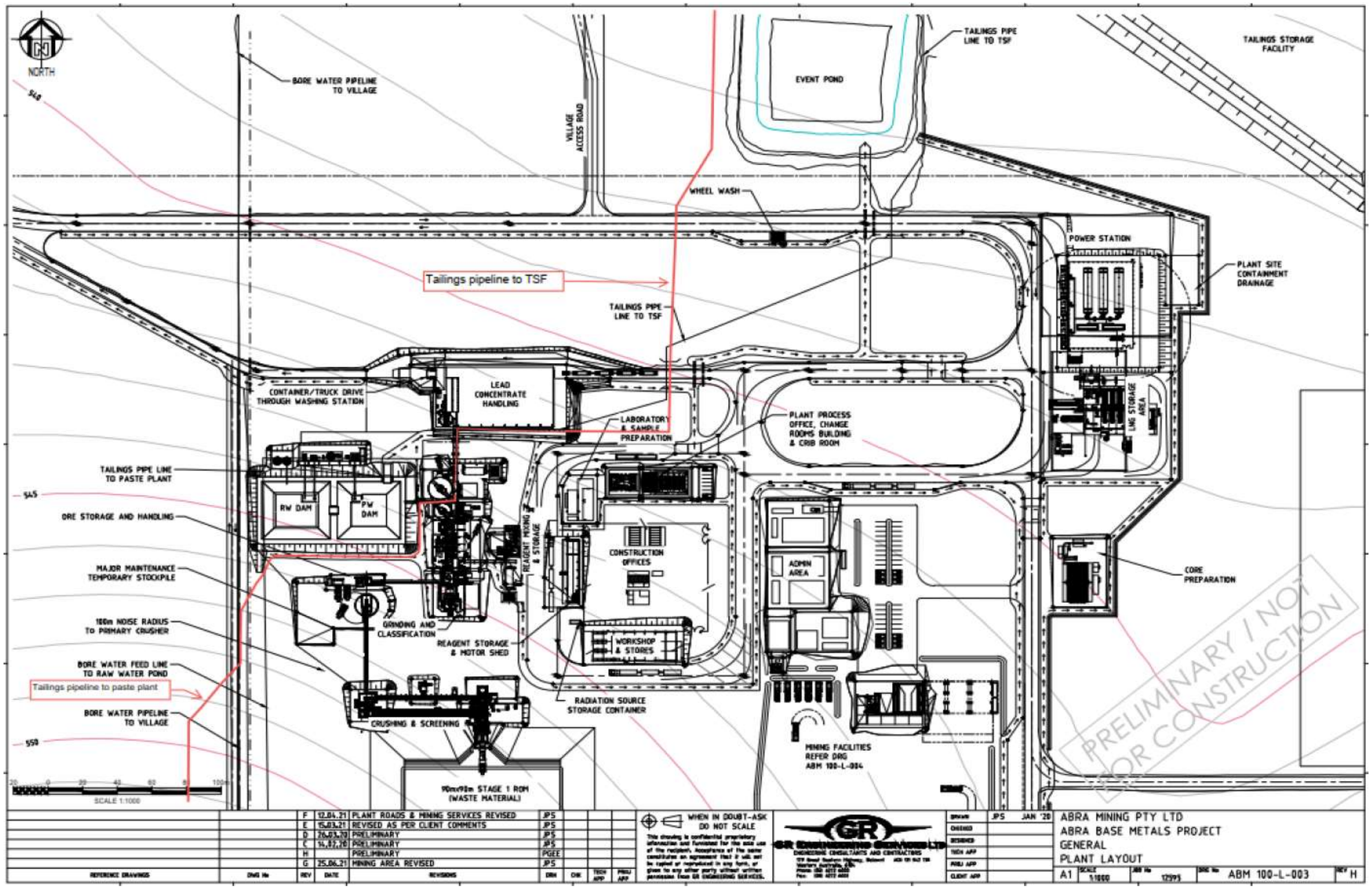

Figure 3: Infrastructure layout

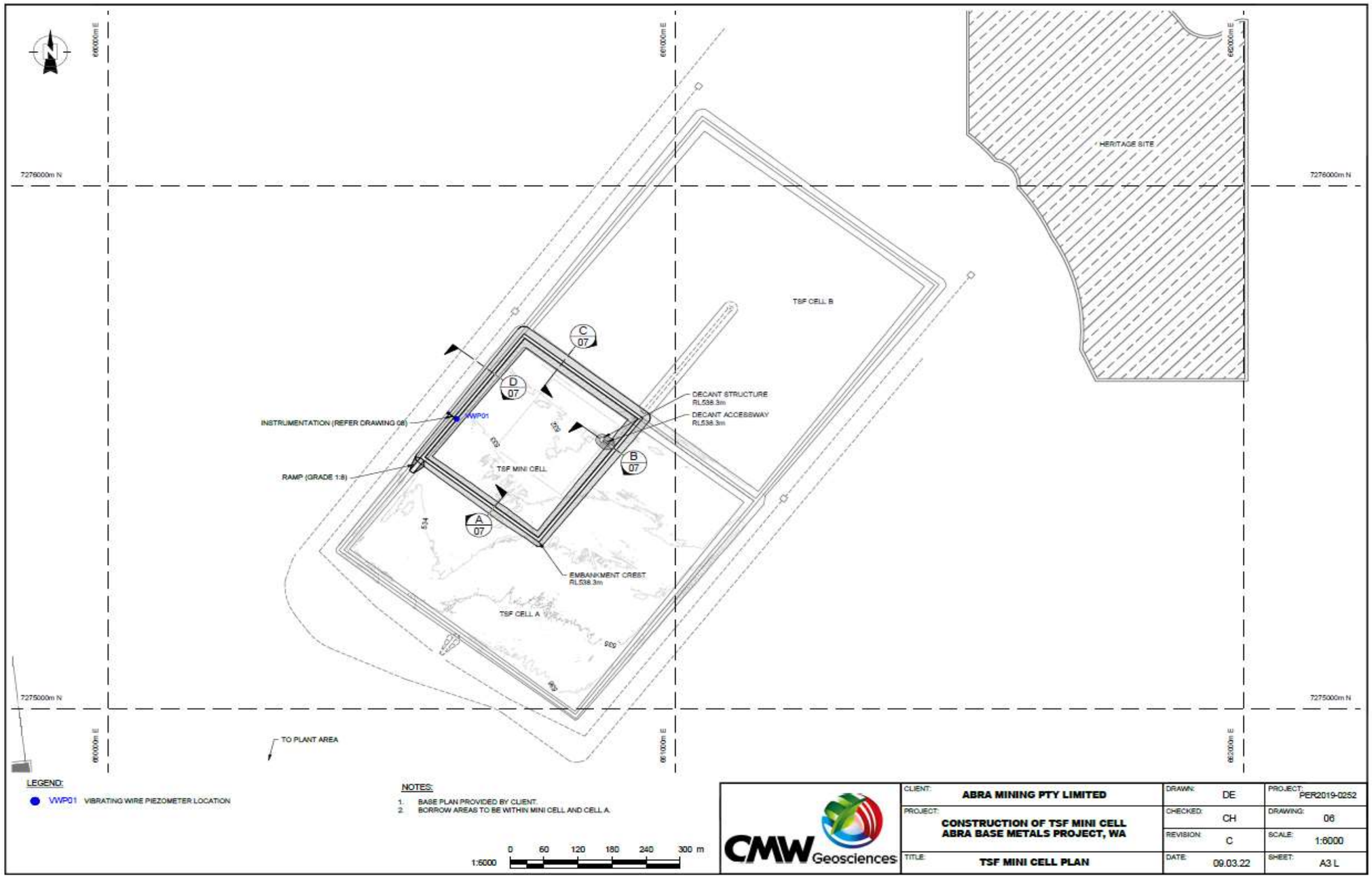

Figure 4: TSF Mini Cell

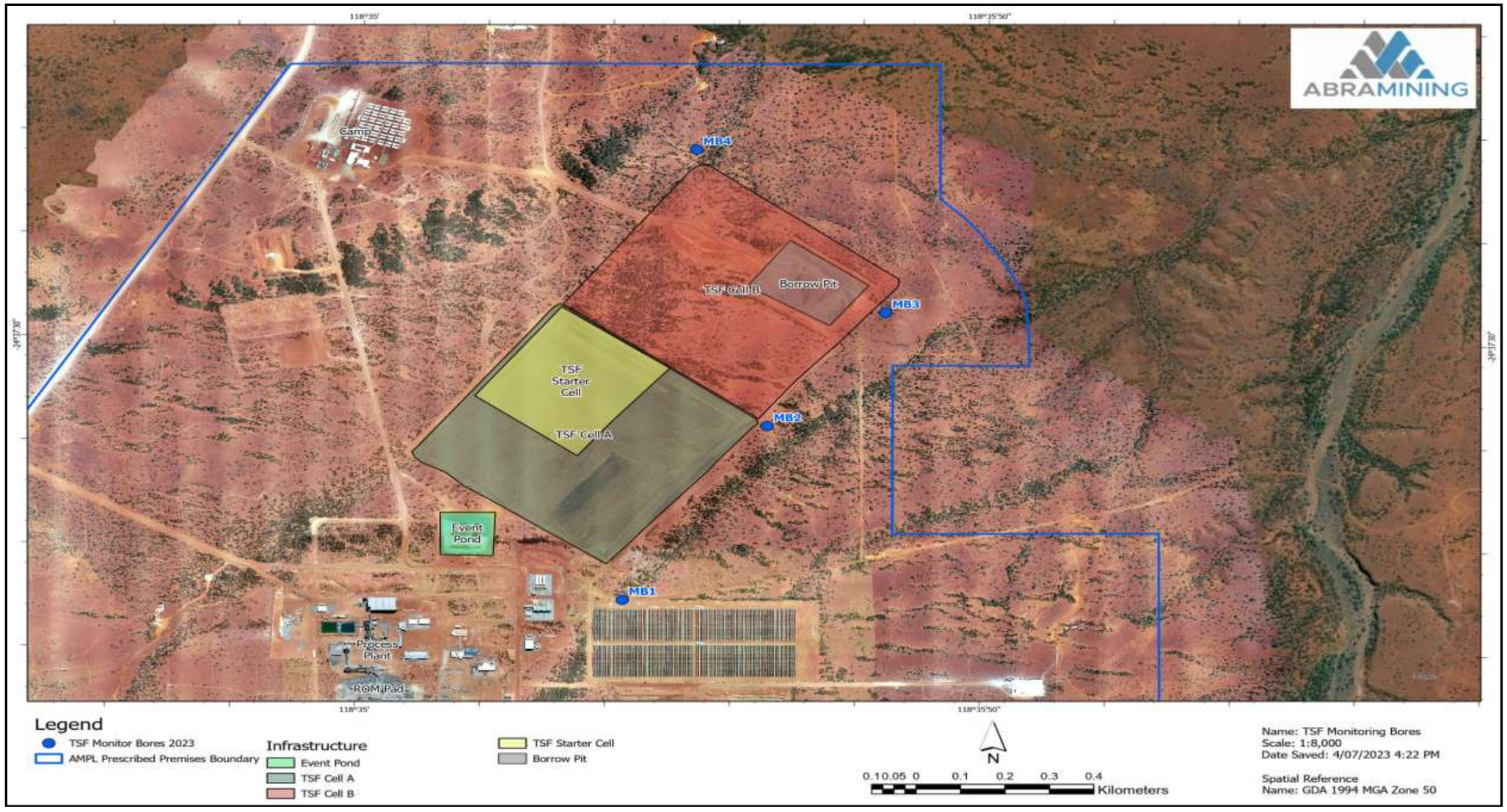

Figure 5: TSF Groundwater monitoring bores