



Licence number	L6145/1983/11
Licence holder	GMA Garnet Pty Ltd
ACN	009 344 227
Registered business address	Suite 2, Floor 18, Exchange Plaza 2 The Esplanade PERTH WA 6000
DWER file number	DER2014/001258-1
Duration	01/10/2014 to 30/09/2034
Date of amendment	04 August 2023
Premises details	GMA Garnet Narngulu 122 Goulds Road NARNGULU WA 6532 As defined by the Premises map in Schedule 1

Prescribed premises category description (Schedule 1, <i>Environmental Protection Regulations 1987</i>)	Assessed production/design capacity
Category 8: Mineral sands mining or processing	3,000,000 tonnes per annual period

This licence is granted to the licence holder, subject to the attached conditions, on 4 August 2023, by:

**A/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
31/07/2014	L6145/1983/11	Licence reissue and REFIRE format conversion
26/04/2016	L6145/1983/11	Notice of Amendment of Licence Expiry Dates (2016)
16/05/2022	L6145/1983/11	Notice of Amendment of Amended Reporting Conditions (2022)
4/08/2023	L6145/1983/11	<p>Licence amended for the construction and operation of a small in-pit tailings storage facility (solar drying pond) for the storage of tailings produced by the onsite Laboratory.</p> <p>The Licence is also amended by removing conditions relating to emissions to land and monitoring requirements for the Diesel Storage Bunded Area and the Washdown Bay.</p> <p>The Licence has been updated to the latest licensing format.</p>

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 (construction)

1. The licence holder must construct and/or install the infrastructure listed in Table 1, in accordance with;
 - (a) the corresponding design and construction requirement / installation requirement; and
 - (b) at the corresponding infrastructure location; as set out in Table 1.

Table 1: Design and construction/installation requirements

Infrastructure	Design and construction/installation requirements	Infrastructure location
Solar drying pond	<ul style="list-style-type: none"> • Embankments built into the natural sloping landform to a maximum depth of 1.95 mbgl with an internal slope horizontal distance to vertical rise of 1V:2H m. • Constructed with a 0.5 m high earthen bund around the perimeter of the solar drying pond. • Constructed to provide capacity for a 1:100-year AEP 72-hour storm event while maintaining a minimum total freeboard of 500mm. • Fitted with a fixed tailings deposition pipe located in the north-western corner for the transfer of tailings to the solar drying pond. • Perimeter fence fitted with screening (shade cloth or similar material) to mitigate dust emissions emanating from drying tailings. 	As shown in Figure 2, 3 and 4 of Schedule 1.
Tailings pipeline	<ul style="list-style-type: none"> • Installed from the concrete tailing sump located within the wet processing screening shed (Shed E) to the Solar Drying Pond discharge outlet. • Designed to transfer tailings via gravity. • Subterranean installation. 	As shown in Figure 2 of Schedule 1
Groundwater monitoring wells 1 and 2	<ul style="list-style-type: none"> • Designed and constructed in accordance with ASTM D5092/D5092M-16: Standard practice for design and installation of groundwater monitoring wells. • Well screens must target the part, or parts, of the aquifer most likely to be affected by contamination. Where temporary/seasonal perched features are present, wells must be nested, and the perched features individually screened. • Must be constructed, developed (purged), and determined to be operational prior to the deposition of tailings. 	As shown in Figure 5 of Schedule 1

2. The licence holder must within 30 days of each item of infrastructure required by condition 1 being constructed:

- (a) undertake an audit of their compliance with the requirements of condition 1; and
 - (b) prepare and submit to the CEO an audit report on that compliance.
3. The report required by condition 2, must:
 - (a) be certified by a suitably qualified professional engineer that each item of infrastructure specified in Condition 1 has been constructed in accordance with the Conditions of the Licence with no material defects; and
 - (b) be signed by a person authorised to represent the Licence Holder and contain the printed name and position of that person within the company.

Infrastructure and equipment

4. The licence holder must ensure that the site infrastructure and equipment listed in Table 2 and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirement set out in Table 2.

Table 2: Infrastructure and equipment requirements

Site infrastructure and equipment	Operational requirement	Infrastructure location
Solar drying pond	<ul style="list-style-type: none"> Maintain a minimum total freeboard of 500 mm plus allowance to store a 1 in 100 annual exceedance probability (AEP) storm event over 72 hours. Ensure tailings deposition does not cause erosion of the pond embankment. Maintain a 0.5 m high earthen bund around the perimeter of the solar drying pond to prevent stormwater runoff entering the pond. Maintain screening on perimeter fencing to mitigate dust emissions emanating from drying tailings. 	As shown in Figure 2 of Schedule 1.
Washdown bays	<ul style="list-style-type: none"> Maintain an impervious, sealed collection sump for the storage of washdown water. 	As shown in Figure 2 of Schedule 1.

5. The Licence Holder shall:
 - (a) undertake inspections as detailed in Table 3;
 - (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 3: Inspection of infrastructure

Scope of inspection	Type of inspection	Frequency of inspection
Solar drying pond	Visual assessment to confirm the minimum freeboard is being maintained. Visual assessment to confirm the general integrity of the embankments and earthen safety bund are being maintained. Visual assessment to ensure controls for managing dust emissions are being maintained and remain effective.	At least once every 12-hour shift
Tailings pipeline	Visual assessment to check for any visible leakage or damage.	
Washdown bays	Visual to confirm the capacity of the collection sump is being maintained for the storage of wash water.	

Emissions and discharges

6. The Licence Holder must ensure that the emissions specified in Table 4, are discharged only from the corresponding discharge point and only at the corresponding discharge point location.

Table 4: Authorised discharge point

Emission	Discharge Point	Discharge point location	Authorised discharged volume
Discharge of tailings	Solar drying pond	Figure 2 of Schedule 1.	Maximum of 200 m ³ per annum

Monitoring

Ambient groundwater monitoring

7. The licence holder must monitor the groundwater for concentrations of the parameter listed in Table 5:
- (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 5.

Table 5: Ambient groundwater monitoring

Parameter	Monitoring Location	Unit	Frequency	Averaging period	Method
Standing Water Level ¹	Monitoring well 1 and 2 as shown in Figure 5 of Schedule 1:	mbgl	Prior to tailings deposition then monthly thereafter	Spot sample	-
pH ²		pH units			AS/NZS 5667.1 AS/NZS 5667.11
Electrical Conductivity ²		µS/cm			
Total Dissolved Solids		mg/L	Prior to tailings deposition then quarterly thereafter		
Total Hardness (as CaCO3)					
Total Alkalinity (as CaCO3)					
Dissolved metals (Silica, Aluminum, Arsenic, Iron, Manganese, Nickel)					

Note 1: Standing water level shall be determined prior to collection of water samples.

Note 2: In-field non-NATA accredited analysis permitted.

8. The licence holder must record the results of all monitoring activity required by condition 7 .
9. 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.
10. The licence holder must undertake monitoring of the water balance for the Solar Drying Pond each monthly period, and (as a minimum) record the following information:
 - (a) site rainfall;
 - (b) evaporation rate;
 - (c) volume of tailings deposited; and
 - (d) estimate of seepage losses.

Records and reporting

11. 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.
12. 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 September of each year an Annual Audit Compliance Report in the approved form.
13. The licence holder must submit to the CEO an Annual Environmental Report by 30 September 2023, and biennially thereafter. The report shall contain the information as set out in Table 6 of this licence.

Table 6: Annual Environmental Report

Condition	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.
-	Summary of premises annual throughput of waste material and ore product produced.
-	Summary of all contaminated waste materials removed from the premises (liquid or solid) including, but not limited to: <ul style="list-style-type: none"> Type of waste and waste volume; Submission of contaminated waste tracking forms.
5	Inspections of infrastructure of any failure or malfunction.
7	Ambient groundwater monitoring results during operations. Tabulated monitoring data results for each monitoring well 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 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.
10	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.
11	Complaints summary
12	Annual Audit Compliance Report

14. 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 4 of this licence;
 - (d) monitoring programmes undertaken in accordance with condition 7 of this licence; and
 - (e) complaints received under condition 11 of this licence.

15. The books specified under condition 14 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 7 have the meanings defined.

Table 7: 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 August until 31 July 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
Biennial report	contains information and monitoring data as prescribed in the licence relating to the two previous annual periods.
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 <i>Environmental Protection Act 1986</i> Locked Bag 10 Joondalup DC WA 6919 or: info@dwer.wa.gov.au
Department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> (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	<i>Environmental Protection Act 1986</i> (WA)
EP Regulations	<i>Environmental Protection Regulations 1987</i> (WA)
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.

Term	Definition
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
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.
solar drying pond	means the In-pit tailings storage facility (solar drying pond)
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: Map of infrastructure location

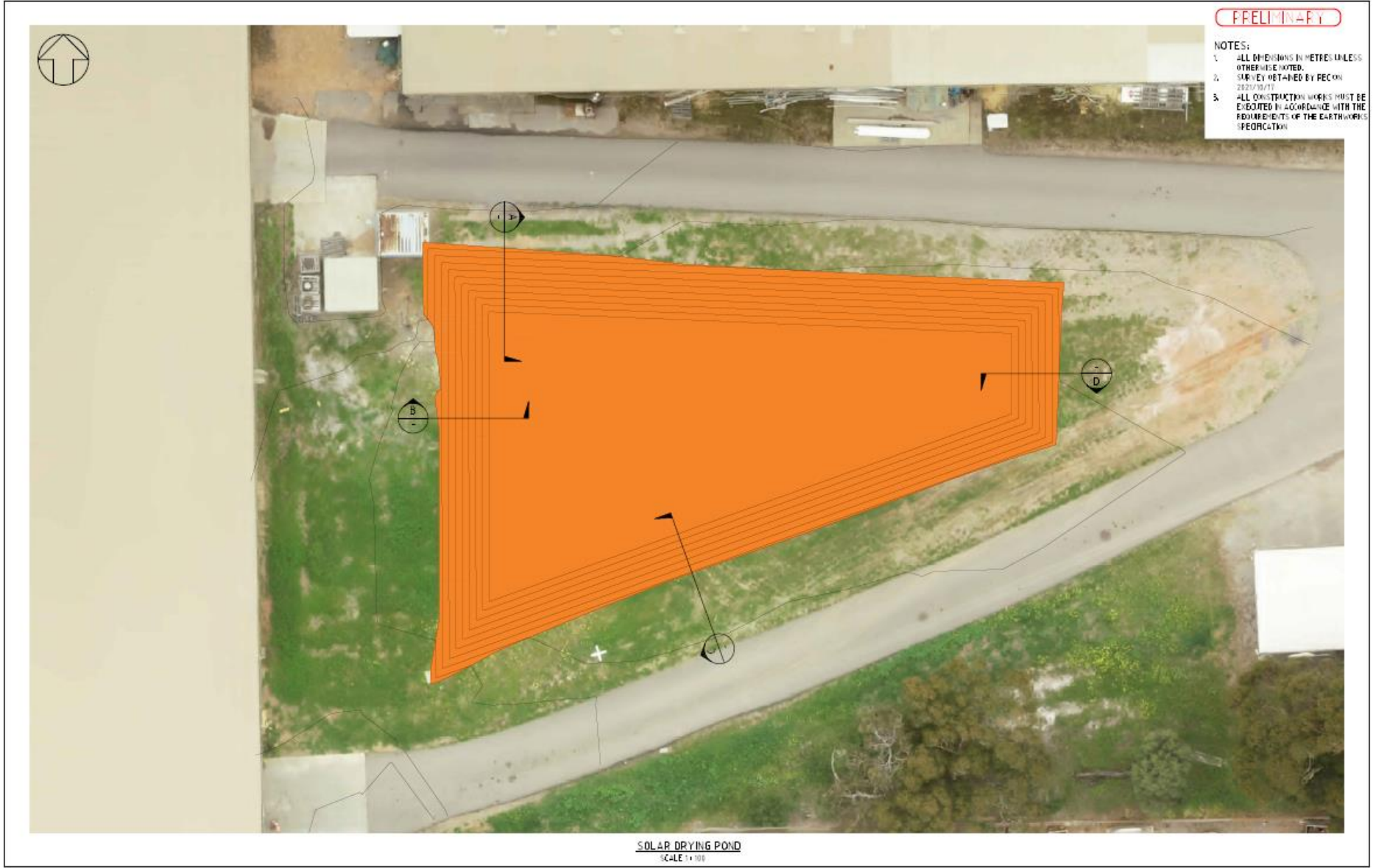


Figure 3: Solar Drying Pond layout

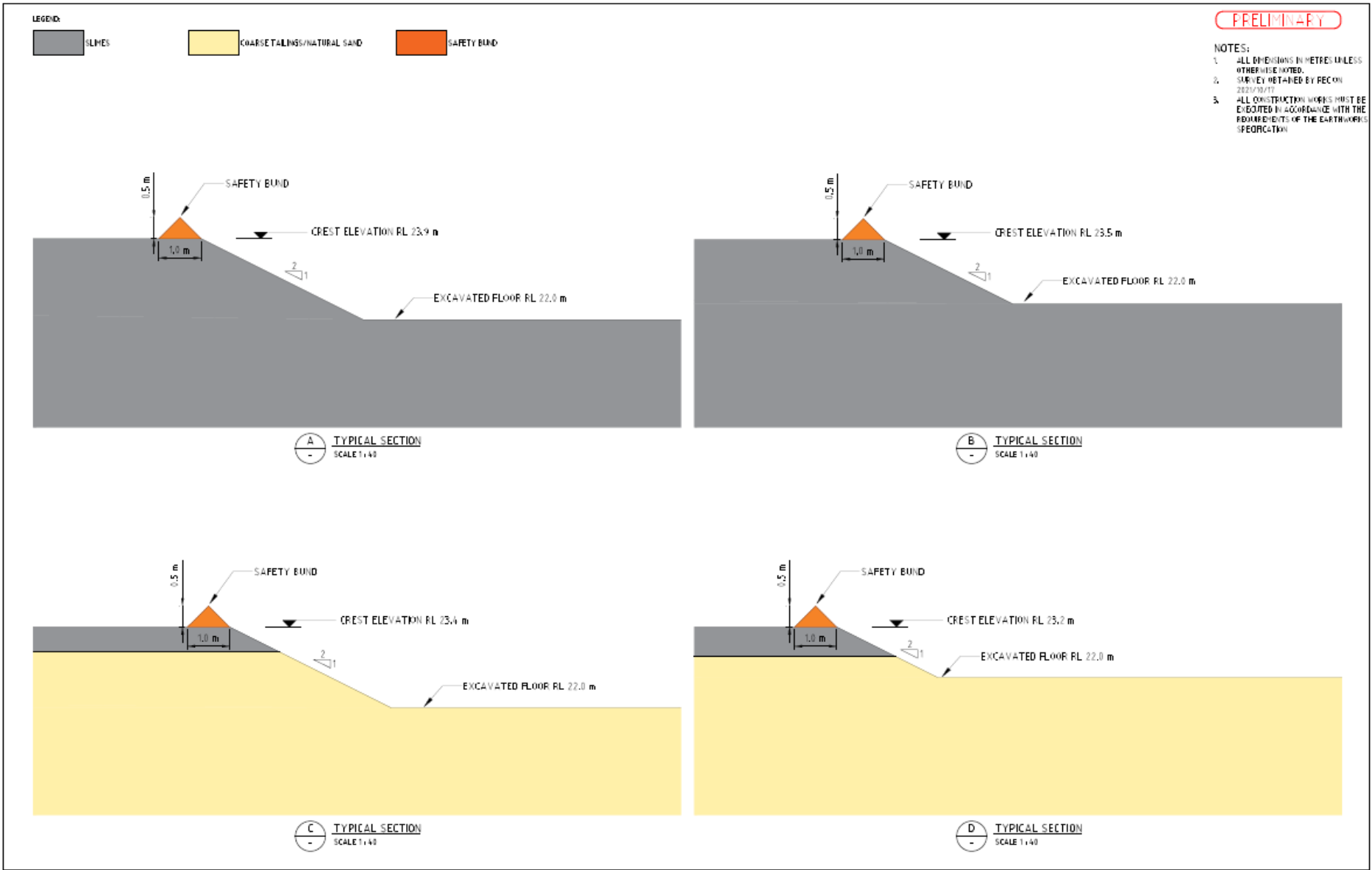


Figure 4: Solar Drying Pond sections



Figure 5: Location of Solar Drying Pond groundwater monitoring wells