Government of Western Australia
Department of Water and Environmental Regulation

Works Approval

Works approval number	W6969/2024/1
Works approval holder	Aragon Resources Pty Ltd
ACN	114 714 662
Registered business address	Level 6 200 St Georges Terrace PERTH WA 6000
DWER file number	DER2024/000520
Duration	10/01/2025 to 9/01/2028
Date of issue	10/01/2025
Premises details	Fortnum Gold Operations L52/172, M52/5, M52/6, M52/95, M52/96, M52/98, M52/99, M52/125, M52/132 and M52/133 PEAK HILL WA 6642

Prescribed premises category description **(Schedule 1, *Environmental Protection Regulations 1987*)**	**Assessed design capacity**
Category 5: Processing or beneficiation of metallic or non-metallic ore	1,100,000 tonnes per annual period

This works approval is granted to the works approval holder, subject to the attached conditions, on 10 January 2025, by:

Lauren Edmands
Digitally signed by Lauren Edmands
Date: 2025.01.10 14:25:19 +08'00'

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

Works approval history

Date	Reference number	Summary of changes
10/01/2025	W6969/2024/1	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:

(a) construct and/or install the infrastructure and/or equipment;

(b) in accordance with the corresponding design and construction / installation requirements; and

(c) 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
1.	Decant facility	• Floating shallow water suction intake (such as Turret) that is connected to a pump arrangement.	As depicted in Schedule 1, Figure 2
2.	Tailings slurry and return water pipelines	• HDPE tailings slurry and return water pipelines. • Tailings slurry and return water pipelines to be located within a compacted earth bund nominally 3-5 m wide and 600-1,000 m high (constructed from excavation spoil). • Telemetry and flow meters installed on tailings slurry and return water pipelines. • Return water pipeline to be connected to the decant facility.	
3.	Spigots	• HDPE spigot pipes. • Spigot piping and valves connected to the tailings slurry pipeline and positioned over the NPTSF rim.	
4.	Stormwater management	• A perimeter bund wall around the NPTSF	Not shown

Construction of monitoring infrastructure

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 well location(s)	Timeframe
Groundwater monitoring bore(s)	<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.	N1, N2, N3 and N4 As depicted in Schedule 1, Figure 3	Must be constructed, developed (purged), and determined to be operational and suitable for use prior to the commencement of deposition into NPTSF
	<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.		

Infrastructure	Design, construction, and installation requirements	Monitoring well location(s)	Timeframe
	Installation survey: the vertical (top of casing) and horizontal position of each monitoring bore must be surveyed and subsequently mapped by a suitably qualified surveyor.		
	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 8 of Schedule B2 of the *Assessment of Site Contamination NEPM* for guidance on bore screen depth and length.

Compliance reporting

3. The works approval holder must within 30 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.

4. The Environmental Compliance Report required by condition 3, must include as a minimum the following:

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

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

(c) photographic evidence of the installation of the infrastructure; and

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

5. Subject to condition 3, where an item of infrastructure or component of infrastructure has been certified as not being constructed, or does not comply with corresponding requirements, or contains material defects, the works approval holder must:

(a) correct the non-compliant or defective works, prior to re-certifying in accordance with condition 4(a); or

(b) provide to the CEO a description of, and explanation for, any departures from the requirements specified in Table 1 that do not require recertification and do not constitute a material defect along with the report required by condition 4.

Compliance reporting – bore construction

6. The works approval holder must, within 30 calendar days of the monitoring bores in Table 2 being constructed, submit to the CEO a bore construction report evidencing compliance with the requirements of condition 2.

7. The works approval holder must, within 30 days of the monitoring bores in Table 2 being constructed and prior to environmental commissioning of the NPTSF, conduct baseline sampling (at least one event) on the bores in accordance with Schedule B2 (Section 5.4 and 8.2.4) of the *Assessment of Site Contamination NEPM* for the parameters outlined in Table 7.

Environmental commissioning phase

Environmental commissioning requirements

8. The works approval holder may only commence environmental commissioning of an item of infrastructure listed in condition 9 once the Environmental Compliance Report has been submitted for that item of infrastructure in accordance with conditions 3 and 4 of this works approval.

9. Any environmental commissioning activities undertaken for an item of infrastructure specified in Table 3 may only be carried out:

(a) in accordance with the corresponding commissioning requirements; and

(b) for the corresponding authorised commissioning duration.

Table 3: Environmental commissioning requirements

	Infrastructure	Commissioning requirements	Authorised commissioning duration
1	NPTSF	• Subject to completing the requirements of conditions 2, 6 and 7. • To be dewatered prior to the commencement of tailings deposition.	For a period not exceeding 60 calendar days in aggregate.
2	Tailings slurry and return water pipelines	• Subject to NPTSF completing the requirements of row 1 of this table. • Subject to completing the requirements of conditions 3 and 4. • Visual inspection of pipelines to check for leaks or any other issues. • Flow meters to be regularly tested and calibrated in accordance with manufacturer's specifications.	
3	Spigots	• Subject to NPTSF completing the requirements of row 1 of this table. • Subject to completing the requirements of conditions 3 and 4.	

10. During environmental commissioning, the works approval holder must ensure that the emission specified in Table 4, is discharged only from the corresponding discharge points and only at the corresponding discharge point location.

Table 4: Authorised discharge point during environmental commissioning

Emission	Discharge point	Discharge point location
Tailings	Spigot points located on the north, east and west sides of NPTSF	As shown in Schedule 1, Figure 2

Environmental commissioning reporting

11. The works approval holder must submit to the CEO an Environmental Commissioning Report within 30 calendar days of the completion date of environmental commissioning for each item of infrastructure specified in Table 3.

12. The works approval holder must ensure the Environmental Commissioning Report required by condition 11 of this works approval includes the following:

(a) a summary of the environmental commissioning activities undertaken, including timeframes, volumes of tailings discharged into NPTSF, tailings stream solid content and water returned to the process water pond;

(b) a summary of the environmental performance of each item of infrastructure or equipment as constructed or installed (as applicable), which at minimum includes records detailing the:

(i) commissioning of the infrastructure; and

(ii) testing of the infrastructure.

(c) a review of the works approval holder's performance and compliance against the conditions of this works approval; and

(d) where they have not been met, measures proposed to meet the manufacturer's design specifications and the conditions of this works approval, together with timeframes for implementing the proposed measures.

Time limited operations phase

Commencement and duration

13. The works approval holder may only commence time limited operations for an item of infrastructure identified in condition 1:

(a) where the item of infrastructure is not authorised to undertake environmental commissioning, the Environmental Compliance Report as required by condition 3 has been submitted by the works approval holder for that item of infrastructure; and

(b) where the item of infrastructure is authorised to undertake environmental commissioning under condition 9, the Environmental Commissioning Report for that item of infrastructure as required by condition 11 has been submitted by the works approval holder.

14. The works approval holder may conduct time limited operations for an item of infrastructure specified in condition 15 (as applicable):

(a) for a period not exceeding 180 calendar days from the day the works approval holder meets the requirements of condition 13 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 14(a).

Time limited operations requirements

15. During time limited operations, the works approval holder must ensure that the premises infrastructure and equipment listed in Table 5 and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirement set out in Table 5.

Table 5: Infrastructure and equipment requirements during time limited operations

	Site infrastructure and equipment	Operational requirement	Infrastructure location
1.	NPTSF	• Maintain a total freeboard of 1 m. • Sub-aerial deposition of tailings into NPTSF via spigot points. • Deposition of tailings to be in a clockwise direction allowing tailings to beach along the NPTSF access ramp. • Maintain a small decant pond (target 10% of NPTSF surface area). • Decant water to be pumped back to process water pond for reuse in the processing circuit.	As shown in Schedule 1, Figure 2
2.	Decant facility	• To be maintained as per the design and construction / installation requirements in condition 1. • Decant pump arrangement to move up the access ramp as the tailings level rises.	As shown in Schedule 1, Figure 2
3.	Tailings slurry and return water pipelines	• To be maintained as per the design and construction / installation requirements in condition 1.	As shown in Schedule 1, Figure 2

16. During time limited operations, the works approval holder must ensure that the emission specified in Table 6, is discharged only from the corresponding discharge points and only at the corresponding discharge point location.

Table 6: Authorised discharge point during time limited operations

Emission	Discharge point	Discharge point location
Tailings	Spigot points located on the north, east and west sides of NPTSF	As shown in Schedule 1, Figure 2

Monitoring during time limited operations

17. The works approval holder must monitor the groundwater during time limited operations for concentrations of the identified parameters in accordance with Table 7.

Table 7: Monitoring of ambient concentrations during time limited operations[3]

Monitoring location	Parameter	Unit	Limit	Frequency & Averaging period	Method
N1, N2, N3, N4 and MB01 As depicted in Schedule 1, Figure 3	Standing Water Level[1]	mAHD	5	Monthly	Spot sample AS/NZS 5667.1 AS/NZS 5667.11 By a NATA accredited laboratory
	pH[2]	pH units	-	Quarterly (January, April, July, October)	
	Sodium (Na) Potassium (K) Calcium (Ca) Magnesium (Mg) Bicarbonate (HCO_3) Sulphate (SO_4) Chloride (Cl)	mg/L			
	Nitrate-nitrogen (NO_3-N)				
	Total Dissolved Solids (TDS)				
	Cyanide (total)				
	Antimony (Sb) Arsenic (As) Bismuth (Bi) Boron (B) Cadmium (Cd) Chromium (Cr) - including hexavalent chromium (Cr VI) Cobalt (Co) Copper (Cu) Iron (Fe) Lead (Pb) Manganese (Mn) Mercury (Hg) Molybdenum (Mo) Nickel (Ni) Selenium (Se) Thallium (Tl) Zinc (Zn)				

Note 1: Standing Water Level must be determined prior to collection of water samples.

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

Note 3: Level of detection is required to be sufficient to enable comparison with *ANZECC & ARMCANZ 2000* guidelines.

18. The works approval holder must ensure that:

(a) monthly monitoring is undertaken at least 15 days apart; and

(b) quarterly monitoring is undertaken at least 45 days apart.

19. The works approval holder must record the results of all monitoring activity required by condition 17.

Water balance during time limited operations

20. The works approval holder must undertake monitoring of the water balance for the NPTSF 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;

(e) tailings solid content (w/w %);

(f) volume of water retained in tailings; and

(g) calculated seepage rates.

Inspections

21. The works approval holder must conduct visual inspections of the infrastructure during commissioning and time limited operations at the frequency specified in Table 8.

Table 8: Inspections of infrastructure

Infrastructure	Type of inspection	Frequency
NPTSF embankment	To confirm required freeboard capacity is available	Daily
Tailings slurry and return water pipelines	Integrity check / loss of containment	

Compliance reporting

22. The works approval holder must submit to the CEO a report on the time limited operations within 30 calendar days of the completion date of time limited operations or 90 calendar days before the expiration date of the works approval, whichever is the sooner.

23. The works approval holder must ensure the report required by condition 22 includes the following:

(a) a summary of the time limited operations, including timeframes and amount of ore processed and tailings discharged into NPTSF;

(b) interpretation of ambient groundwater monitoring results obtained during time limited operations under condition 17;

(c) interpretation of the water balance (condition 20), including seepage rates, and volumes of any seepage recovered;

(d) a summary of the environmental performance of all infrastructure as constructed or installed (as applicable), which includes records detailing the:

(i) operations of the infrastructure; and

(ii) testing of the infrastructure.

(e) a review of performance and compliance against the conditions of the works approval; and

(f) where the manufacturer's design specifications and the conditions of this works approval have not been met, what measures will the works approval holder take to meet them, and what timeframes will be required to implement those measures.

Records and reporting (general)

24. 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.

25. 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;

(b) any maintenance of infrastructure that is performed in the course of complying with condition 15 of this works approval;

(c) monitoring and inspection programmes undertaken in accordance with conditions 17 and 21; and

(d) complaints received under condition 24.

26. The books specified under condition 25 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 9 have the meanings defined.

Table 9: Definitions

Term	Definition
ACN	Australian Company Number.
ANZECC & ARMCANZ 2000	means the most recent version and relevant parts of the Australian and New Zealand guidelines for fresh and marine water quality – Volume 3 – Livestock drinking water guidelines (Australian and New Zealand Environment and Conservation Council, Agriculture and Resource Management Council of Australian and New Zealand) available at ANZECC & ARMCANZ (2000) guidelines (www.waterquality.gov.au).
Assessment of Site Contamination NEPM	means the *National Environment Protection (Assessment of Site Contamination) Measure 1999*, as amended from time to time.
AS1726	means the Australian Standard AS1762 *Geotechnical site investigations*, as amended from time to time.
AS/NZS 5667.1	means the Australian/New Zealand Standard 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/New Zealand Standard 5667.11:1998 *Water Quality – Sampling – Guidance on Sampling of Groundwaters*.
ASTM D5092/D5092M-16	means the ASTM international standard for *Standard practice for design and installation of groundwater monitoring wells* (Designation: ASTM D5092/D5092M-16), as amended from time to time.
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. CEO for the purposes of notification means: Director General Department administering the *Environmental Protection Act 1986* Locked Bag 10 Joondalup DC 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.

Term	Definition
emission	has the same meaning given to that term under the EP Act.
environmental commissioning	means the sequence of activities to be undertaken to test equipment integrity and operation, or to determine the environmental performance, of equipment and infrastructure to establish or test a steady state operation and confirm design specifications.
Environmental Commissioning Report	means a report on any commissioning activities that have taken place and a demonstration that they have concluded, with focus on emissions and discharges, waste containment, and other environmental factors.
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).
HDPE	means high density polyethylene.
mAHD	means metres Australian Height Datum.
NATA	means the National Association of Testing Authorities, Australia.
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.
NPTSF	means Nathan's In-Pit Tailings Storage Facility.
premises	the premises to which this works approval applies, as specified at the front of this works approval 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.
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.
waste	has the same meaning given to that term under the EP Act.

Term	Definition
w/w	means weight per weight.
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 map

The boundary of the prescribed premises is shown in the map below (Figure 1).

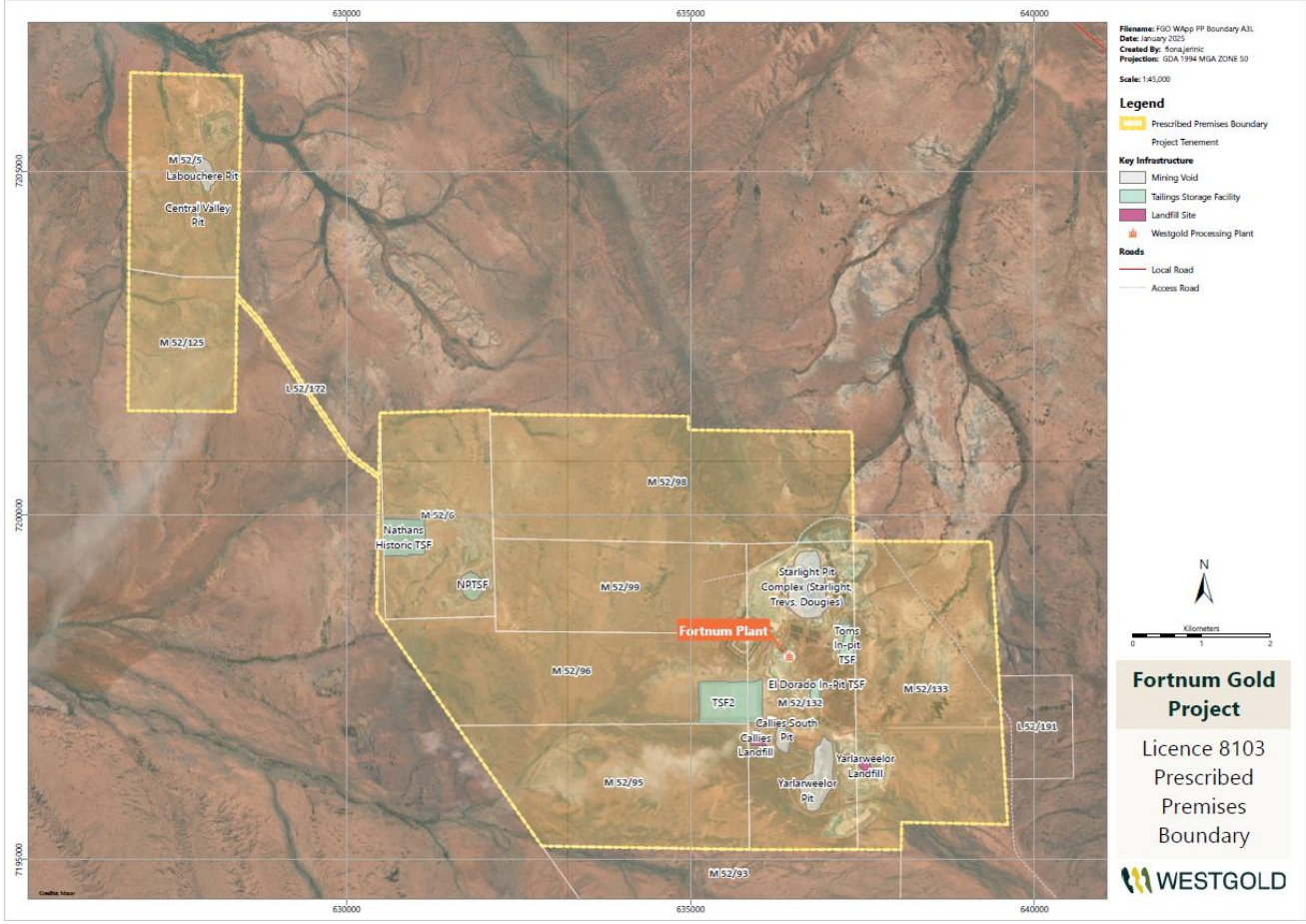

Figure 1: Map of the boundary of the prescribed premises

Infrastructure

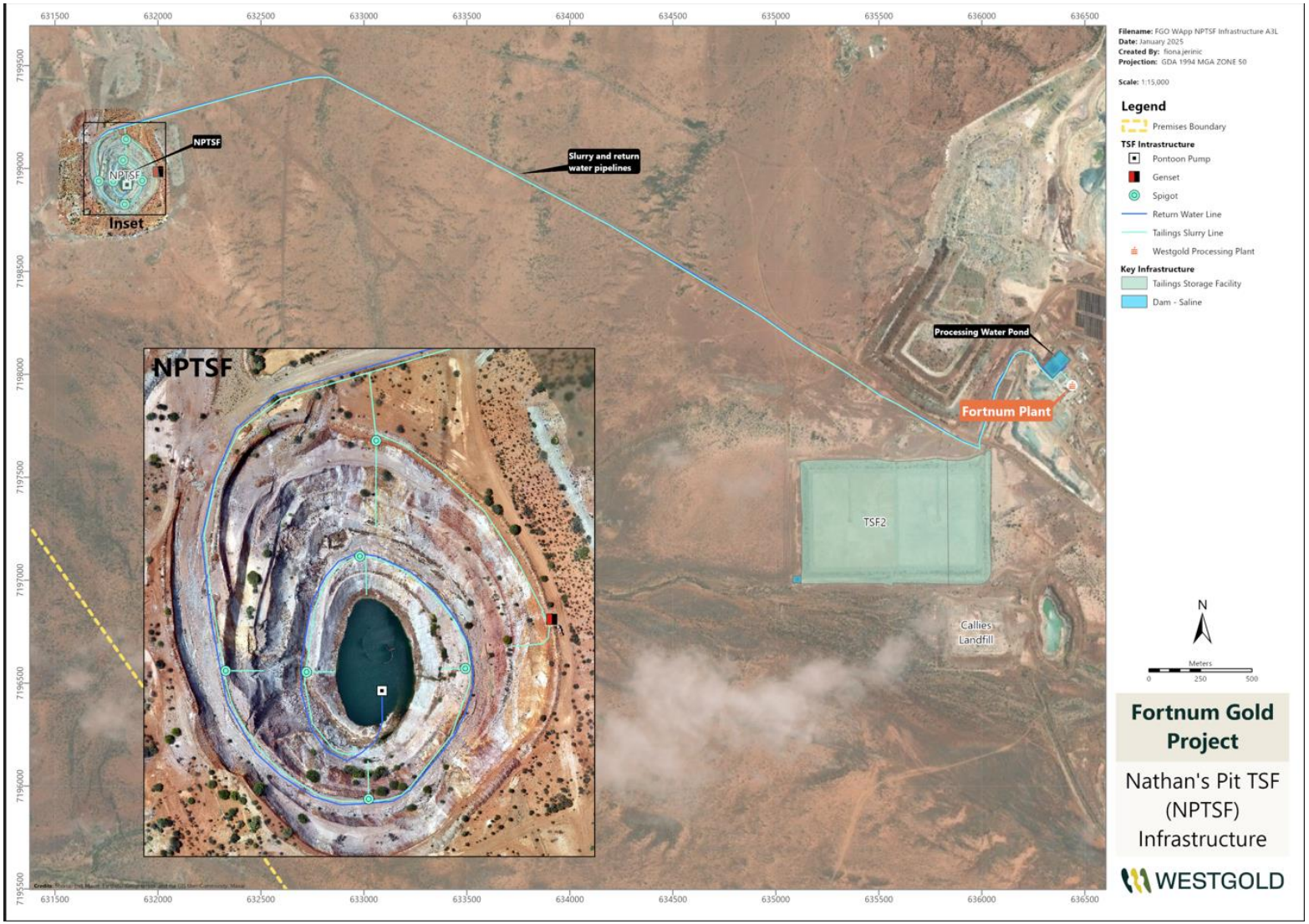

Figure 2: NPTSF infrastructure and layout

Monitoring

Figure 3: NPTSF monitoring bore locations