Government of Western Australia
Department of Water and Environmental Regulation

Works Approval

Works approval number	W5399/2013/1
Works approval holder	Murrin Murrin Operations Pty Ltd
ACN	076 717 505
Registered business address	Level 10 58 Mounts Bay Road PERTH WA 6000
DWER file number	2013/000523-1
Duration	27/05/2013 to 26/05/2026
Date of issue	23/05/2013
Date of amendment	05/02/2024
Premises details	Murrin Murrin Nickel and Cobalt Project Mining tenements M39/420, M39/421, M39/423, M39/848 and M39/1066 LAVERTON WA 6438 As depicted 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: premises on which - (a) metallic or non-metallic ore is crushed, ground, milled or otherwise processed; (b) tailings from metallic or non-metallic ore are reprocessed; or (c) tailings or residue from metallic or non-metallic ore are discharged into a containment cell or dam	3 800 000 tonnes

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

Christine Pustkuchen
Digitally signed by Christine Pustkuchen
Date: 2024.02.05 13:00:29 +08'00'

A/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
23/05/2013	W5399/2013/1	Works approval granted.
17/03/2016	W5399/2013/1	Amendment to extend the expiry date of Works Approval for an additional 6 years from May 2013 to May 2019
26/05/2016	W5399/2013/1	Amendment to extend the expiry date of Works Approval for an additional 3 years from 26 May 2019 to 26 May 2022
22/05/2019	W5399/2013/1	Amendment Notice 1 to add an alternative pipeline route for the 19 South In-pit TSF to the premises maps. Only one route will be constructed.
26/05/2022	W5399/2013/1	Amendment to extend the expiry date of Works Approval for an additional 3 years from 26 May 2022 to 26 May 2025.
05/02/2024	W5399/2013/1	Amendment to allow for time-limited-operations and to extend the expiry date of Works Approval for an addition year from 26 May 2025 to 26 May 2026.

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 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	Construction / installation requirements	Infrastructure location
1.	Stage 1 19Sth in-pit TSF tailings [1]pipeline, decant pipeline and associated infrastructure	Pipelines and associated infrastructure are to be designed and constructed according to the following documents: • Strategen Environmental Consultants 2013, MM19Sth In-pit Tailings Storage Facility Mining Proposal and Works Approval Application (31 January 2013). • Coffey mining 2012 Geotechnical Assessment – Pit 19 TSF. Murrin Murrin Operations Pty Ltd. Pit 19 In-pit Tailings Storage Facilities (MWP00410AD-AB Geotech Rev 0). • Saprolite Environmental 2012, *Murrin Murrin North Mining Area Proposed In-Pit Tailings Disposal into Pit Void MM19 South: Hydrogeological Assessment,* report prepared for Murrin Murrin Operations Pty Ltd, November 2012.	As shown in Schedule 1: Maps
2.	Stage 2 19Sth in-pit TSF tailings pipeline, decant pipeline and associated infrastructure		

Note 1: Two pipeline corridor options are presented in Figure 1, only one pipeline is permitted.

Compliance reporting

2. 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.

3. The Environmental Compliance Report required by condition 2, must include as a minimum the following:

(a) certification by an 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 or photographs for each item of infrastructure or component of infrastructure specified in condition 1; and

(c) 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

4. The works approval holder may only commence time limited operations for an item of infrastructure identified in condition 1 where the Environmental Compliance Report as required by condition 2 has been submitted by the works approval holder for that item of infrastructure.

5. The works approval holder may conduct time limited operations for an item of infrastructure specified in condition 6 (as applicable):

(a) for a period not exceeding 180 calendar days from the day the works approval holder meets the requirements of condition 4 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 5(a).

Time limited operations requirements and emission limits

6. During time limited operations, the works approval holder must ensure that the premises 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 during time limited operations

	Site infrastructure and equipment	Operational requirement	Infrastructure location
1.	Tailings and decant pipelines, pipeline corridor and sumps	a) Pipelines are to be either: i. Equipped with telemetry systems and pressure sensors along pipelines to allow the detection of leaks and failures: ii. Equipped with automatic cut-outs in the event of a pipe failure; or iii. Provided with secondary containment sufficient to contain any spill for a period equal to the time between routine inspections. b) Pipelines, flow meters, sumps and pipeline bunding must be managed and maintained; c) Maintenance of flow and telemetry reporting to control room for leak detection; and d) Daily pipeline inspections to ensure pipeline integrity.	As shown in Schedule 1: Maps Figure 1.

	Site infrastructure and equipment	Operational requirement	Infrastructure location
2.	19 South Series In-pit TSF	a) Deposition of tailings and decant liquor from onsite operations; b) Rotational deposition to maximise desiccation to reduce seepage; c) Maintained total freeboard of 0.5 m or a 1 in 100 year/72-hour storm event (whichever is greater) is maintained; and d) Supernatant water removed via decant pump and transferred to existing evaporation ponds.	
3.	Groundwater monitoring bores	Baseline monitoring and monitoring during time limited operations as set out in Schedule 2: Monitoring.	
4.	Stage 1 tailings deposition spigot	Deposition of tailings from a single spigot located at the western section of 19Sth in-pit TSF.	As Shown in Schedule 1: Maps Figure 3
5.	Stage 2 tailings deposition spigot	Deposition of tailings from all spigots at 19Sth in-pit TSF.	

Monitoring during time limited operations

7. The works approval holder must conduct a groundwater monitoring program in accordance with the requirements specified in Schedule 2 and record the results of all monitoring activity conducted under that program.

8. The works approval holder must adhere to the field quality assurance and quality control (QAQC) procedures specified in Schedule 2 for the monitoring 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 in Schedule 2.

Compliance reporting

10. 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 30 calendar days before the expiration date of the works approval, whichever is the sooner.

11. The works approval holder must ensure the report required by condition 10 includes the following:

(a) a summary of the time limited operations, including timeframes and amount of tailings deposited;

(b) a summary of groundwater results obtained during time limited operations under condition 7;

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

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

i. in-pit TSF water balance;
ii. interpretation of groundwater monitoring,
iii. and plan of action if water level limits are at risk of not being met; and

(e) 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)

12. 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.

13. 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 calculation of fees payable in respect of this works approval;

(b) the works conducted in accordance with condition 1;

(c) any maintenance of infrastructure that is performed in the course of complying with conditions of this works approval;

(d) monitoring programmes undertaken in accordance with condition 7; and

(e) complaints received under condition 12.

14. The books specified under condition 13 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 3 have the meanings defined.

Table 3: Definitions

Term	Definition
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.
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).
mbgl	meters below ground level
monthly period	means a one-month period commencing from 1st day of a month until the last day of the month.
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.
QAQC	quality assurance and quality control
SWL	Standing water level
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.

Term	Definition
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).

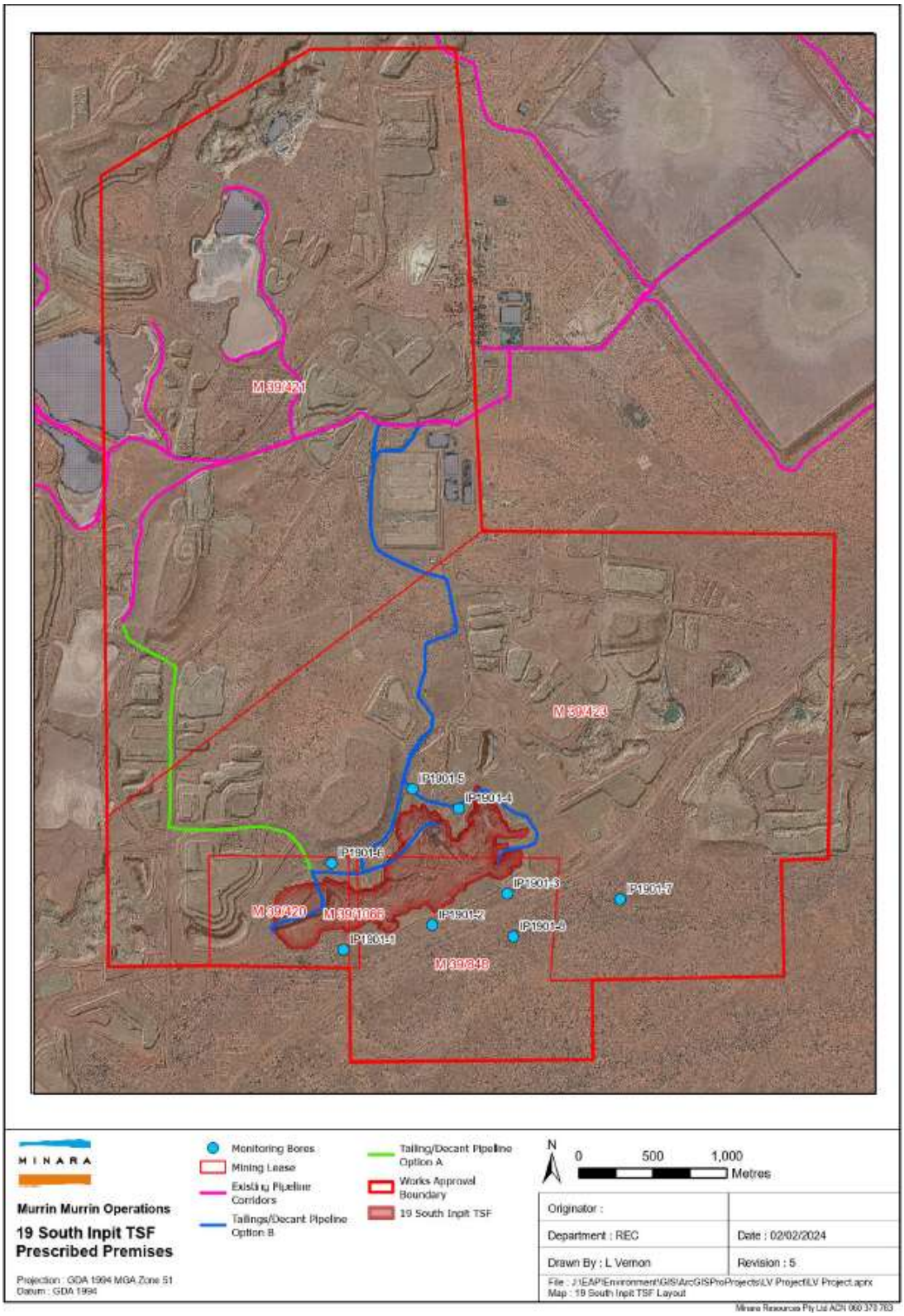

Figure 1: Map of the boundary of the prescribed premise

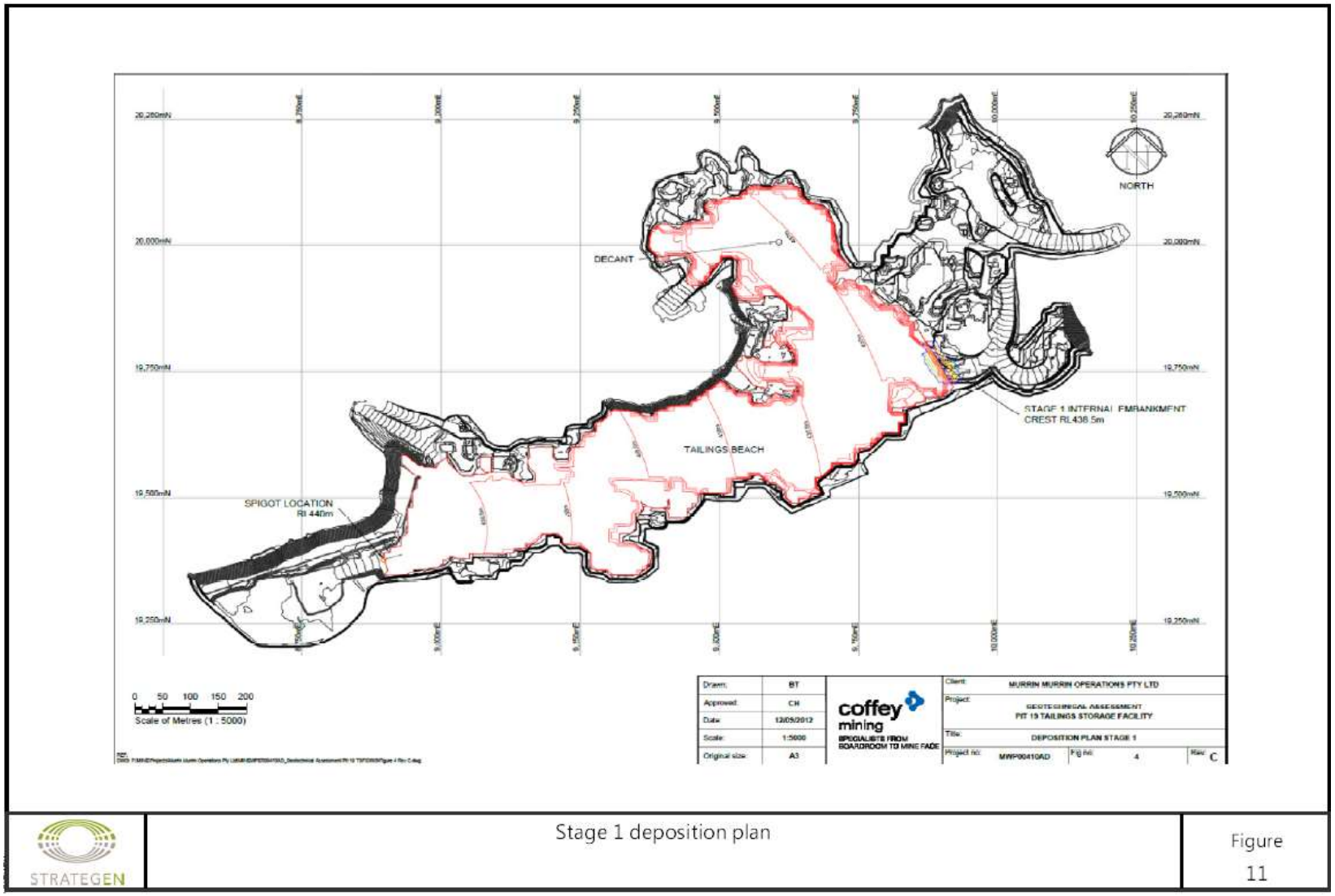

Figure 2: Stage 1 spigot and decant locations at 19Sth in-pit TSF.

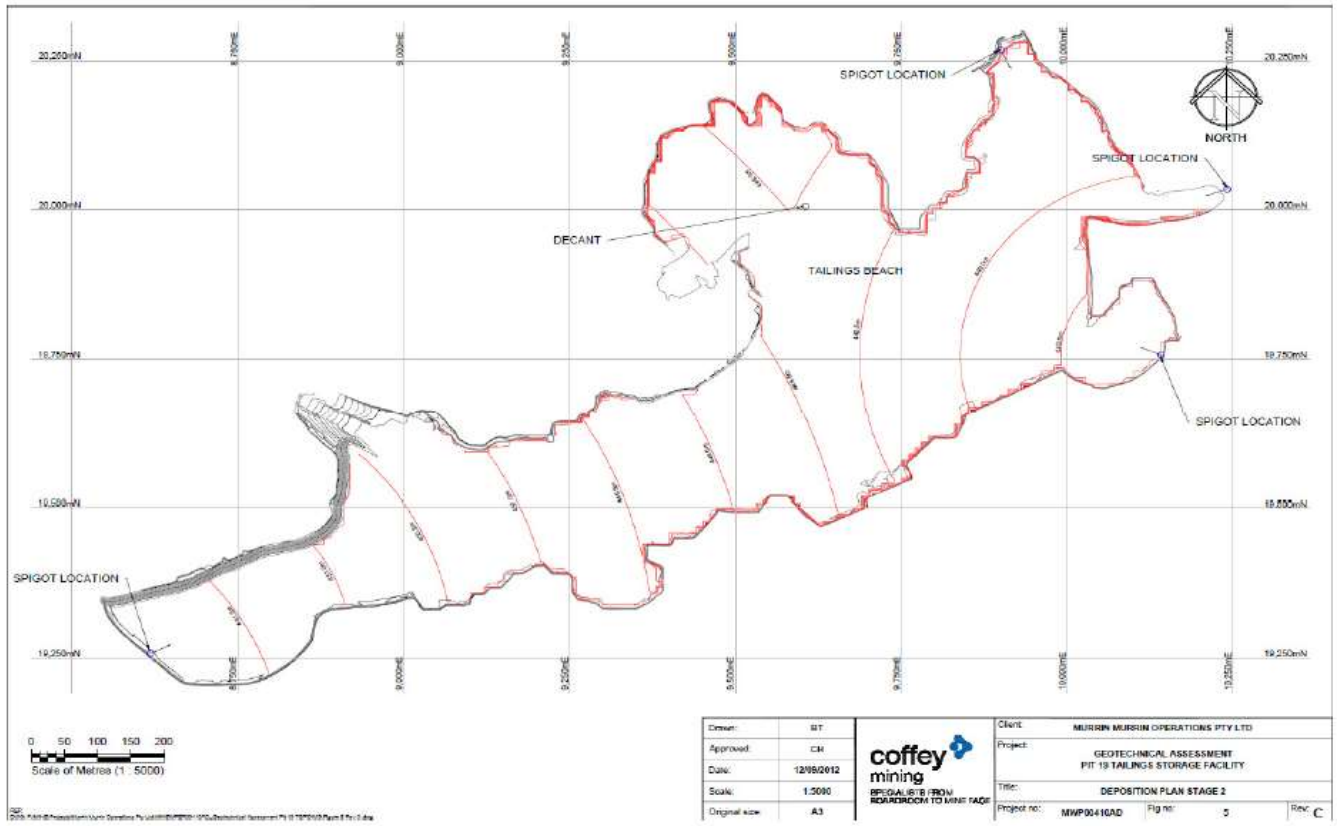

Figure 3: Stage 2 spigot and decant locations at Pit 19Sth In-pit TSF.

Schedule 2: Monitoring

Groundwater monitoring

15. The Works approval holder must monitor groundwater concentrations of the identified parameters in accordance with the requirements of Table 4.

Table 4: Groundwater monitoring of ambient concentrations

Monitoring Well location	Parameter	Limit	Unit	Frequency	Averaging Period	Method
IP1901-1 IP1901-2 IP1901-3 IP1901-4 IP1901-5 IP1901-6 IP1901-7 IP1901-8 As shown in Figure 1	[1]SWL	4	mbgl	One single baseline monitoring event up to at least one year prior to the deposition of tailings and then [2]Quarterly after deposition begins	Spot-sample	In accordance with: AS/NZS 5667.1; and AS/NZS 5667.11
	[1]pH	-	-			
	[1]TDS	-	mg/L			
	aluminum	-				
	cadmium	-				
	copper	-				
	lead	-				
	mercury	-				
	silicon	-				
	zinc	-				
	arsenic	-				
	sodium	-				
	cobalt	-				
	nickel	-				

[1]Non-NATA accrediated field parameters/measurements permitted.
[2]Monitoring is undertaken in each quarterly period such that there are at least 45 days in between the days on which samples are taken in successive quarters.

Quality Assurance and Quality Control Requirements

16. The works approval holder must ensure the report required by condition 10

(a) decontamination procedures for the cleaning of tools and re-useable 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) replicate 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.