



Licence Number	L6617/1992/15
Licence Holder	Nifty Copper Pty Ltd
ACN	074 145 636
Registered business address	Level 5, 197 St Georges Terrace PERTH WA 6000
File Number:	DER2014/001324-2
Premises	Nifty Copper Operation Legal description – Mining Tenement AM7000271 TELFER WA 6762
Date of Amendment	12 July 2019

Amendment

The Chief Executive Officer (CEO) of the Department of Water and Environmental Regulation (DWER) has amended the above Licence in accordance with section 59 of the *Environmental Protection Act 1986* (EP Act), as set out in this Amendment Notice. This Amendment Notice constitutes written notice of the amendment in accordance with section 59B(9) of the EP Act.

Alana Kidd

MANAGER, RESOURCE INDUSTRIES

REGULATORY SERVICES

an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA).

Definitions and interpretation

Definitions

In this Amendment Notice, the terms in Table 1 have the meanings defined.

Table 1: Definitions

Term	Definition
ACN	Australian Company Number
AER	Annual Environment Report
Amendment Notice	means an amendment granted under s.59 of the EP Act in accordance with the procedure set out in s.59B of the EP Act.
Category/ Categories/ Cat.	Categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations
CEO	means Chief Executive Officer. CEO for the purposes of notification means: Director General Department administering the <i>Environmental Protection Act 1986</i> Locked Bag 10 Joondalup DC WA 6919 info@dwer.wa.gov.au
Delegated Officer	an officer under section 20 of the EP Act.
Department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> and designated as responsible for the administration of Part V, Division 3 of the EP Act.
DWER	Department of Water and Environmental Regulation
EP Act	<i>Environmental Protection Act 1986 (WA)</i>
Existing Licence	The Licence issued under Part V, Division 3 of the EP Act and in force prior to the commencement of and during this Review
Licence Holder/ Licensee	Nifty Copper Pty Ltd
Occupier	has the same meaning given to that term under the EP Act.
Prescribed Premises	has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Decision Report applies, as specified at the front of this Amendment notice
Risk Event	As described in <i>Guidance Statement: Risk Assessment</i>
RL	Reduced level, a relative measurement of vertical distance between an assumed survey height reference point, and other survey data points
TSF	Tailings Storage Facility

Amendment Notice

This amendment is made pursuant to section 59 of the EP Act to amend the Licence issued under the EP Act for a prescribed premises as set out below. This notice of amendment is given under section 59B(9) of the EP Act.

This notice is limited only to an amendment for Category 5. No changes to the aspects of the original licence relating to the other Licence Categories have been requested by the Licence Holder.

The following guidance statements have informed the decision made on this amendment:

- *Guidance Statement: Regulatory Principles* (July 2015)
- *Guidance Statement: Setting Conditions* (October 2015)
- *Guidance Statement: Decision Making* (February 2017)
- *Guidance Statement: Risk Assessment* (February 2017)

Amendment description

The Licence Holder has applied for a Licence amendment to allow construction activities to raise the embankments of TSF 1 by 2.5m to provide for further tailings storage capacity.

The amendment authorises the works to raise the embankments. The construction and operation of the TSF1 2.5m raise has been assessed below.

The amendment also changes the name of the occupier but not the ACN, as well as removing improvement conditions of which the due date has passed and the Licence Holder has supplied the required information. From the submissions made the licence has also been updated with the Investigative trigger values for ambient groundwater monitoring.

The Stage 8 TSF raise design was reviewed by the Department of Mines Industry Regulation and Safety's Environment and Safety divisions and they did not raise any concerns with the progression of the Stage 8 raise.

Amendment history

Table 2 provides the amendment history for L6617/1992/15 since 2005.

Table 2: Licence amendments

Instrument	Issued	Amendment
L6617/1992/9	08/04/2005	Licence re-issue
L6617/1992/10	03/04/2006	Licence re-issue
L6617/1992/11	04/04/2007	Licence re-issue
L6617/1992/12	03/04/2008	Licence re-issue
L6617/1992/13	08/04/2009	Licence re-issue
L6617/1992/14	29/03/2013	Licence re-issue
L6617/1992/14	19/02/2015	Licence amendment to convert to new format template
L6617/1992/15	26/03/2015	Licence re-issue
L6617/1992/15	16/06/2016	Licence amendment to increase the height of the TSF embankments, administrative changes and the licence updated to version 2.9.
L6617/1992/15	12/07/2019	This amendment by notice to allow TSF 1 embankments to be raised by 2.5m (Stage 8)

Location and receptors

Table 3 below lists the relevant sensitive land uses in the vicinity of the Prescribed Premises which may be receptors relevant to the proposed amendment.

Table 3: Receptors and distance from activity boundary

Residential and sensitive premises	Distance from Prescribed Premises
residential receptors	>5km from the works

Table 4 below lists the relevant environmental receptors in the vicinity of the Prescribed Premises which may be receptors relevant to the proposed amendment.

Table 4: Environmental receptors and distance from activity boundary

Environmental receptors	Distance from Prescribed Premises
Groundwater, groundwater users and groundwater dependent ecosystems	3 to 5m below the base of the TSF. No third party groundwater users within 10km of the premises. No stygofauna or groundwater dependent ecosystems were identified.
Sensitive ecological receptors to contaminated groundwater.	There are no threatened ecological communities within 10km of the premises. The nearest watercourse is 15km south of the premises

Risk assessment

Table 5 and Table 6 below describe the Risk Events associated with the amendment consistent with the *Guidance Statement: Risk Assessments*. Both tables identify whether the emissions present a material risk to public health or the environment, requiring regulatory controls.

Table 5: Risk assessment for proposed amendments during construction

Risk Event					Consequence rating	Likelihood rating	Risk	Reasoning	
Source/Activities	Potential emissions	Potential receptors	Potential pathway	Potential adverse impacts					
Cat 5 Processing or beneficiation of metallic or non-metallic ore	Construction of TSF embankment and relocation of infrastructure including machinery and vehicle movement on unsealed roads and earth works	Dust and noise associated with construction activities	No residential receptors within 5 km of the TSF	Air	amenity impacts	Slight	Rare	Low	The Delegated Officer believes that the distance to the nearest receptor makes it unlikely that there will be an impact during construction activities.

Table 6: Risk assessment for proposed amendments during operation

Source/Activities		Risk Event				Consequence rating	Likelihood rating	Risk	Reasoning
		Potential emissions	Potential receptors	Potential pathway	Potential adverse impacts				
Cat 5 Processing or beneficiation of metallic or non-metallic ore	Additional tailings deposition	Increase in leachate/ seepage from tailings disposal potentially with a low pH or containing heavy metals, TDS and, sulfate	Groundwater within 3-5m below the base of the TSF	Seepage through soil to groundwater.	Contamination of groundwater with heavy metals, TDS and, sulfate causing an impact to its beneficial use	Moderate	Possible	Medium	Documentation provided by the Licence Holder shows that use of the Stage 8 TSF raise will increase seepage flow rates by approximately 8.5%. The water balance provided by the Licence Holder shows that seepage is about 16% of the total water inflow from tailings slurry and rainfall which is approximately 164,000kL per year. Vegetation surveys conducted by the Botanic Gardens and Park Authority show that there has been no increase in change in vegetation cover in the vicinity of the TSF since 2012.
		Tailings seepage	Vegetation in the vicinity of the TSF	Groundwater mounding due to seepage	Saline water inundation of vegetation root systems leading to vegetation death	Moderate	Possible	Medium	Condition 1.3.5 of the licence requires the supernatant pond to be minimized as much as possible. Condition 3.6.1 and 5.2.1 require 6 monthly groundwater monitoring and a comparison of results against trigger levels. Ongoing groundwater monitoring required by the Licence in the vicinity of the TSF has shown that seepage has led to an increase in TDS, sulfate and manganese in groundwater, with these parameters exceeding the investigative trigger values in some bores. Ongoing vegetation surveys within the vicinity of the TSF have shown TSF seepage may have impacted some perennial grasses however this is limited to an area less than 1ha and in the immediate vicinity of the TSF. Medium risks are acceptable generally subject to regulatory controls. The Delegated Officer has therefore deemed it necessary to capture the trigger values in the licence with a comparison to these and contingencies/ actions proposed with exceedances, given there is the likelihood of further seepage. The seepage is not expected to reduce the beneficial use of groundwater outside the premises boundary. The current licence conditions are considered appropriate for the operation of the TSF after the Stage 8 raise but an assessment against the trigger values within the licence has been updated.

Decision

Licence Holder controls for the construction of the works are conditioned on the licence to ensure that the TSF raise is constructed as per the application supporting documents. Condition 3.6.1 currently on the Licence captures the monitoring of ambient groundwater relating to the emissions from the TSF.

Condition 1.3.10 has been updated to include the construction requirements as stated in the latest TSF design and operating strategy.

Condition 4.1.1 has been removed from the Licence as the Licence Holder submitted the report submitted required by IR1 of the condition on 29 June 2016 and Investigative trigger values.

The *Nifty Copper Operations Review of Provisional Trigger Values for Groundwater Quality, June 2015* outlined 'Investigative Trigger Values' (ITVs) for the identified parameters with specific outcomes, for the monitoring of ambient groundwater at the TSF, Fines Dam and Dune swale. These values have been added to Table 3.6.1. Table 5.2.1 currently requires exceedances of these trigger values to be investigated with reporting of the actions implemented, and an assessment of environmental impacts.

When identifying which parameters require ITVs, DWER has taken into consideration the following reports:

- Nifty Copper Operations Mine Water Discharge Management Strategy, June 2016; and
- Nifty Copper Operations Review of Provisional Trigger Values for Groundwater Quality, June 2015.

The Licence Holder details have also been updated as requested by the Licence Holder in an email to the Department on 19 September 2016.

Licence Holder's comments

The Licence Holder was provided with the draft Amendment Notice on 4 July 2019. Comments received from the Licence Holder have been considered by the Delegated Officer as shown in Appendix 2.

Amendment

- The Licence Holder's trading name and registered business address is amended from the name and address below:

*Birla Nifty Pty Ltd
256 Adelaide Terrace
PERTH WA 6000*

To the new name and address below:

*Nifty Copper Pty Ltd
Level 5, 197 St Georges Terrace
PERTH WA 6000*

- Condition 1.3.10 of the Licence is amended by the deletion of the text shown in strikethrough below and the insertion of the bold text shown in underline below:

1.3.10 The Licensee shall ~~is authorised to~~ construct and operate the **Stage 8** TSF lifts in accordance with the ~~documentation~~ **specifications** detailed in Table 1.3.5.

Table 1.3.5: Construction requirements		
<u>Document-Infrastructure</u>	<u>Parts-Specifications</u>	<u>Date of Document</u>
Nifty Copper Operation Tailings Storage Facility 2015 Operating Strategy and Design Report, prepared by Coffey Mining Pty Ltd for Birla Nifty Pty Ltd	All	17 December 2015
<u>Stage 8 TSF lift and associated drainage infrastructure</u>	<u>2.5m high embankments – to a maximum height of RL10325.7m on the west embankment crest and RL10308m on the east embankment crest</u>	-
<u>Tailings delivery and return water infrastructure</u>	<u>Capable of returning 20% of the inflow to the TSF</u>	-

Note 1: Where the details and commitments of the documents listed in condition 1.3.10 are inconsistent with any other condition of this Licence, the conditions of this Licence shall prevail.

3. Table 3.6.1 in Condition 3.6.1 is amended by the insertion of the bold text shown in underline below.

3.6.1 The Licensee shall undertake the monitoring in Table 3.6.1 according to the specifications in that table.

Table 3.6.1: Groundwater monitoring					
Monitoring point reference and location	Parameter	Units	Averaging period	Frequency	<u>Investigative trigger value</u>
<u>Background</u> THRC1439 MB1 THRC1450 NORC24 <u>Heap leach facility</u> YNC8d YNC58s YNC58d YNC59s YNC59d YNC60s YNC60d NORC16 NORC17 YNC214s YNC214d MB6 MB7 <u>Concentrator Containment</u> <u>Pond</u> YNC216s YNC215s YNC215d <u>TSF</u> TSF1s TSF1d TSF2s TSF2d TSF3s TSF3d TSF4s TSF4d <u>Enclosed Dune Swale</u> THRP152s THRP152d THRP153 THRP154s THRP154d <u>Fines Dam</u> FD1s FD1d <u>Near Mine</u> MB2 MB13 MB14	Standing water level	mbgl m(AHD)	Spot sample	Quarterly	<u>NA</u>

Table 3.6.1: Groundwater monitoring					
Monitoring point reference and location	Parameter	Units	Averaging period	Frequency	Investigative trigger value
MB16 MB17 <u>NWB002</u> <u>YNC164</u> MB8 MB9 MB10 MB12 MB15 THRP119s THRP119d THRP120s THRP120d THRP121s THRP121d THRP122s THRP122d THRP162s THRP162d	Standing water level	mbgl m(AHD)	Spot sample	Six monthly	<u>NA</u>
<u>Background -Weathered Shale Aquifer</u> THRC1439 THRC1450	pH ¹	pH units			<u>Less than 6 or greater than 8.5</u>
<u>Heap leach facility – Alluvium Aquifer</u> YNC58s YNC59s YNC59d YNC60s YNC214s MB6	Total dissolved solids				<u>6,000 mg/L</u>
	Aluminium				<u>5 mg/L</u>
	Sulfate				<u>2,000 mg/L</u>
	Lead				<u>0.1 mg/L</u>
<u>Heap leach facility – Weathered Shale Aquifer</u> YNC58d YNC60d NORC16 NORC17 MB7	Copper				<u>1.0 mg/L</u>
	Iron				<u>0.3 mg/L</u>
	Manganese				<u>10 mg/L</u>
<u>Concentrator Containment Pond – Alluvium Aquifer</u> YNC216s YNC215s	Molybdenum				<u>NA</u>
<u>TSF – Alluvium Aquifer</u> TSF2s TSF3s TSF4s	Zinc	mg/L			<u>3 mg/L</u>
	Arsenic		Spot sample	Six monthly	<u>0.1 mg/L</u>
	Cadmium				<u>0.01 mg/L</u>
<u>TSF – Weathered Shale Aquifer</u> TSF1s TSF1d TSF2d TSF3d TSF4d	Nickel				<u>1 mg/L</u>
<u>Enclosed Dune Swale – Alluvium Aquifer</u> THRP152s THRP153 THRP154s	Selenium				<u>NA</u>
<u>Fines Dam</u> FD1s					

Monitoring point reference and location	Parameter	Units	Averaging period	Frequency	Investigative trigger value
Discharge monitoring Bores DMB1 DMB2 DMB3 DMB4	pH	NA	Spot sample	Six monthly	Less than 6 or more than 9
	TDS	mg/L			6,000 mg/L
	Aluminium				5 mg/L
	Arsenic				2 mg/L
	Cadmium				0.01 mg/L
	Copper				1.0 mg/L
	Iron				0.3 mg/L
	Lead				0.1 mg/L
	Manganese				10 mg/L
	Molybdenum				NA
	Nickel				1 mg/L
	Zinc				3 mg/L
	Calcium				0.01mg/L
	Magnesium				NA
	Potassium				NA
Sulfate	2,000 mg/L				
Total Recoverable Hydrocarbons	NA				

4. The Licence is amended by the deletion of Condition 4.1.1 as shown in the strikethrough below.

4.1.1 ~~The Licensee shall complete the improvements in Table 4.1.1 by the date of completion in Table 4.1.1.~~

Improvement reference	Improvement	Date of completion
IR1	<p>The Licensee shall submit a long term mine water management strategy to the CEO. The long term mine water management strategy shall detail measures to be implemented to manage dewatering water to replace the current interim dune swale discharge method and shall include:</p> <ul style="list-style-type: none"> an analysis of long term mine water management options detailing reasons for selecting the preferred management method; where applicable, water quality triggers and contingency measures should triggers be exceeded; monitoring and reporting procedures; and timeframes for implementation. 	30 June 2016
IR2	<p>The Licensee shall submit proposed limits for:</p> <ul style="list-style-type: none"> emissions to land detailed in Table 2.3.2 for emission point reference L3. The limits proposed are required for parameters pH, TDS and TRH; and ambient groundwater quality detailed in Table 3.6.1 for monitoring points TSF1s, TSF1d, TSF2s, TSF2d, TSF3s, TSF3d, TSF4s, TSF4d, THRP152s, THRP153, THRP154s and FD1s. The limits proposed are required for parameters pH, TDS and Sulfate. <p>The proposed limits shall be supported with evidence detailing how each limit has been determined, and should take into account:</p> <ul style="list-style-type: none"> background levels pre-mining activities; monitoring data presented in previous Annual Environmental Reports; the receiving environment; the Nifty Copper Operations, <i>Review of Provisional Trigger Values for Groundwater Quality</i>, prepared for Birla Nifty Pty Ltd, June 2015; and any relevant Australian Standards or Guidelines. 	July 2016

5. Table 5.2.1 in Condition 5.2.1 is amended by the insertion of the bold text shown in underline below.

5.2.1 The Licensee shall submit to the CEO an Annual Environmental Report by 1 April each year. The report shall contain the information listed in Table 5.2.1 in the format or form specified in that table.

Table 5.2.1: Annual Environmental Report		
Condition or table (if relevant)	Parameter	Format or form¹
-	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	None specified
-	Update on the seepage recovery trial being conducted at the TSF, including contaminants in seepage, depth to groundwater, extent of groundwater mound, summary of vegetation health in this area and any other receptors	None specified
1.3.8	Annual assessment of vegetation within the zone of influence of any containment structures for tailings and decant water	None specified
1.3.9	Annual water balance of TSF	None specified
Table 3.2.1	Volumetric flow rate, Temperature, Moisture content, Nitrogen oxides, Carbon monoxide	AR1
Table 3.3.1	Effluent discharges from Mine Camp WWTP (L1) and Copper Concentrator WWTP (L2) Biochemical oxygen demand, Total suspended solids, pH, Total nitrogen, Total phosphorus, <i>E.coli</i>	LR1
	Mine dewater discharged to swale area (L3) pH, Total dissolved solids, Total suspended solids, Aluminium, Arsenic, Cadmium, Copper, Iron, Lead, Manganese, Molybdenum, Nickel, Zinc, Calcium, Magnesium, Potassium, Sulfate, Total recoverable hydrocarbons	None specified
	Water discharged from the Oily Water Separators (L4) Total recoverable hydrocarbons	LR1
Table 3.4.1	Volume (cumulative) of effluent from the Village ABCO WWTP and Concentrator WWTP discharged to irrigation areas	None specified
	Inert Waste Type 1, Inert Waste Type 2, Putrescible Waste and Clean Fill	
	Volume (cumulative) of mine dewatering water discharged to the disposal area	
Table 3.5.1	Total recoverable hydrocarbons from the wastewater received via the Reverse Osmosis Plant vehicle washdown bay wash water	None specified
	Volume of tailing deposited into the TSF	
	Volumes of water recovered from the TSF	
	Volumes of seepage recovered	
Table 3.6.1 and 3.6.2	Monitoring of ambient groundwater quality: Comparison of sampling results against the <u>Investigative Trigger Values show in table 3.6.1 as derived from the</u> trigger levels described in the document <i>Nifty Copper Operation Provisional Groundwater Trigger Values</i> , MBS Environmental (June, 2015) and <u>Nifty Copper Operations Mine Water Discharge Management Strategy, MBS (June 2016)</u> . Details of investigations into trigger value exceedances, actions implemented, timeframes and an assessment of environmental impacts.	None specified
5.1.3	Compliance	Annual Audit Compliance Report (AACR)
5.1.4	Complaints summary	None specified

Note 1: Forms are in Schedule 2

6. Table 5.3.1 of the Licence is amended by the deletion of the text shown in strikethrough below and the insertion of the bold text shown in underline below:

5.3.1 The Licensee shall ensure that the parameters listed in Table 5.3.1 are notified to the CEO in accordance with the notification requirements of the table.

Table 5.3.1: Notification requirements			
Condition or table (if relevant)	Parameter	Notification requirement¹	Format or form²
1.3.1 and 2.1.1	Breach of any limit specified in the Licence	Part A: As soon as practicable but no later than 5pm of the next usual working day Part B: As soon as practicable	N1
Table 1.3.5	Construction of TSF lifts	Notify the CEO in writing following the construction of the TSF lifts as specified in condition 1.3.10. The written notification shall: <u>(a) be certified by a suitably qualified professional engineer that each item of infrastructure listed in Table 1.3.5 meets the corresponding specifications and has been constructed with no material defects;</u> (a) confirm that the works were constructed in accordance with condition 1.3.10 and Table 1.3.5; 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. Following submission of the written notification, the Licensee shall operate the TSF in accordance with the conditions of this Licence.	None specified
3.1.5	Calibration report	As soon as practicable	None specified
-	Entering or ceasing care and maintenance	Within 7 days of changing status	None specified

Note 1: Notification requirements in the licence shall not negate the requirement to comply with s72 of the Act

Note 2: Forms are in Schedule 2

7. Schedule 1 of the Licence is amended by the deletion of the Map of Monitoring Locations and the inclusion of the map below.

Map of Monitoring Locations

The locations of the monitoring points defined in Tables 3.6.1 and 3.6.2 are shown below

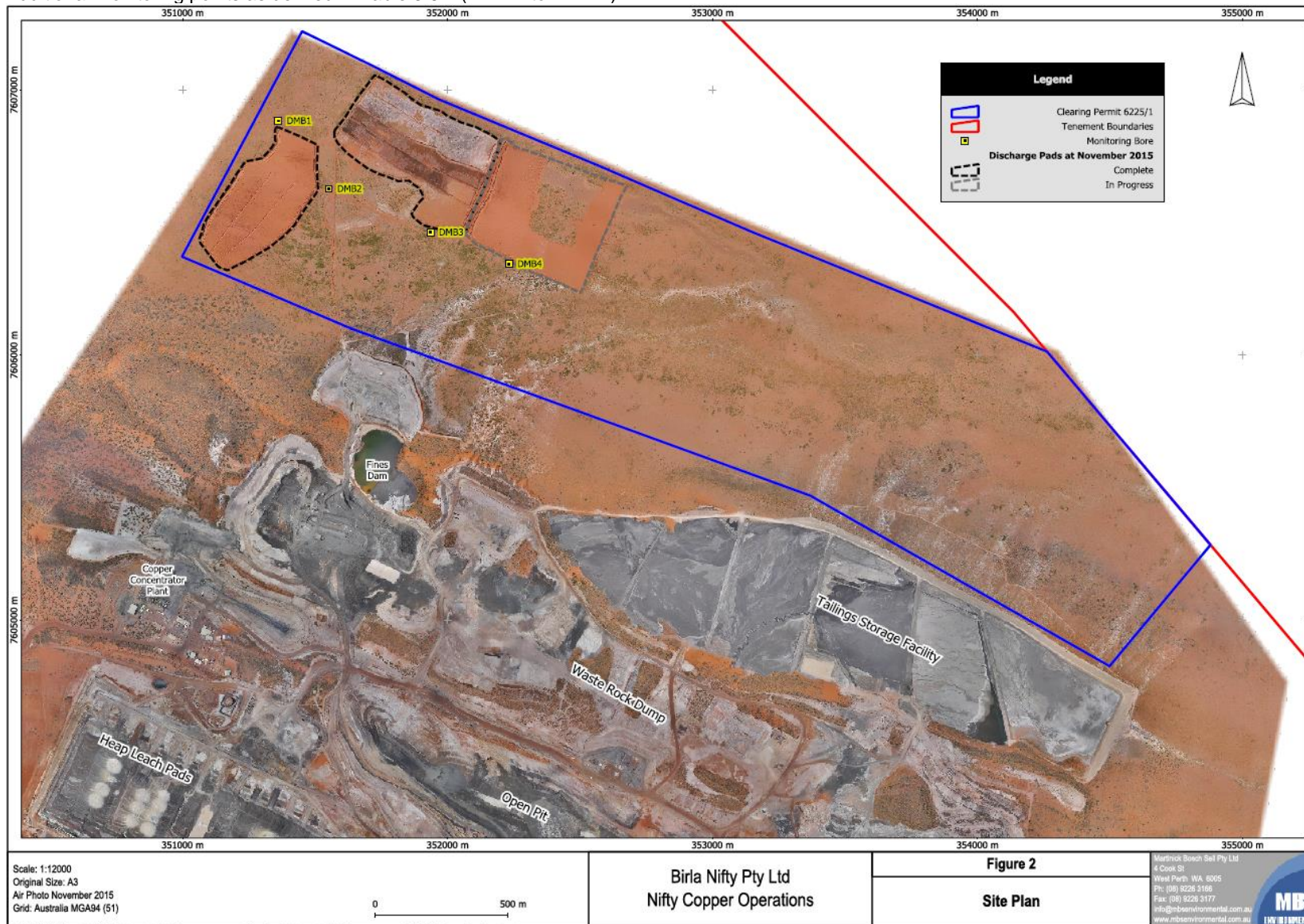


Map of Monitoring Locations

The locations of the monitoring points defined in Tables 3.6.1 and 3.6.2 including those added and retained are shown in the maps below



Additional monitoring points as defined in Table 3.6.1 (DMB 1 to DMB 4)



Appendix 1: Key documents

	Document title	Availability
1	Licence L6617/1992/15 –	www.dwer.wa.gov.au
2	<i>Application form to amend Licence L6617 and supporting documentation received by DWER on 15 December 2018</i>	
3	<i>Tailings Storage Facility 2018 Operating Strategy and Design Report Revision 0, 14 December 2018</i>	
4	Memorandum, Coffey Services Australia Pty Ltd (2019), <i>Review of Nifty TSF Stage 8 Design - Seepage and Water Balance DWER L6617/1992/15 Nifty Copper</i>	
5	Robinson, Michael, Letter to Department of Water and Environmental Regulation, <i>L6617/1992/15 Nifty Copper Operations – Tailings Storage Facility Stage 8 – Application for Licence Amendment</i> , 19 February 2019	
6	<i>Nifty Copper Operations Mine Water Discharge Management Strategy</i> , MBS, June 2016	
7	DER, July 2015. <i>Guidance Statement: Regulatory Principles</i> . Department of Environment Regulation, Perth.	
8	DER, October 2015. <i>Guidance Statement: Setting Conditions</i> . Department of Environment Regulation, Perth.	
9	DER, November 2016. <i>Guidance Statement: Risk Assessments</i> . Department of Environment Regulation, Perth.	
10	DER, November 2016. <i>Guidance Statement: Decision Making</i> . Department of Environment Regulation, Perth.	

Appendix 2: Summary of Licence Holder comments

The Licence Holder was provided with the draft Amendment Notice on 4 July 2019 for review and comment. The Licence Holder responded on 4 July 2019. The following comments were received on the draft Amendment Notice.

Condition	Summary of Licence Holder comment	DWER response
3.6.1	<p>Removal of monitoring bores that are dry so unable to be monitored.</p> <p>The bores removed from the monitoring requirement are:</p> <ul style="list-style-type: none"> • NORC21 • THRP119s • THRP119d • THRP162d • MB8 • MB9 • MB10 • MB12 • MB15 • THRP120s • THRP120d • THRP121s • THRP121d • THRP122s • THRP122d • THRP162s • THRP162d • THRC1450 • YNC60s • MB7 	<p>The groundwater has been gradually lowered as shown in previous Annual Reports and the bores are now unable to be sampled due to them being dry. The Delegated Officer has determined that the dry bores can be removed from the Licence and the additional bores show be added to the monitoring requirement.</p>
3.6.1	<p>Addition requirement to monitor static water levels in bores:</p> <ul style="list-style-type: none"> • MWB002 • YNC164 • MB1 	