



Application for Licence Renewal

Division 3, Part V *Environmental Protection Act 1986*

Licence Number L8664/2012/2

Applicant Lanfranchi Nickel Mines Pty Ltd

ACN 110 078 263

File Number 2012/002931-1

Premises Lanfranchi Nickel Mine

Mineral Lease ML 15/346, ML 15/347, ML 15/377, ML 15/385,
ML 15/386, ML 15/387, ML 15/388, ML 15/486, ML 15/487,
ML 15/493 and Mining Lease M 15/473.

KAMBALDA WA 6429

Date of Report 2 October 2020

Status of Report Final

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1. Definitions of terms and acronyms

In this Decision Report, the terms in Table 1 have the meanings defined.

Table 1: Definitions

Term	Definition
Applicant	Lanfranchi Nickel Mines Pty Ltd
AACR	Annual Audit Compliance Report
ACN	Australian Company Number
AER	Annual Environment Report
BOD	Biochemical Oxygen Demand
Category/ Categories/ Cat.	Categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations
CS Act	<i>Contaminated Sites Act 2003 (WA)</i>
Decision Report	refers to this document.
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 As of 1 July 2017, the Department of Environment Regulation (DER), the Office of the Environmental Protection Authority (OEPA) and the Department of Water (DoW) amalgamated to form the Department of Water and Environmental Regulation (DWER). DWER was established under section 35 of the <i>Public Sector Management Act 1994</i> and is responsible for the administration of the <i>Environmental Protection Act 1986</i> along with other legislation.
EPA	Environmental Protection Authority
EP Act	<i>Environmental Protection Act 1986 (WA)</i>
EP Regulations	<i>Environmental Protection Regulations 1987 (WA)</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</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 Renewal
Licence Holder	Lanfranchi Nickel Mines Pty Ltd

m ³	cubic metres
Minister	the Minister responsible for the EP Act and associated regulations
MAWWTP	Mine Administration Wastewater Treatment Plant
MS	Ministerial Statement
NEPM	National Environmental Protection Measure
Noise Regulations	<i>Environmental Protection (Noise) Regulations 1997 (WA)</i>
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 Decision Report
Primary Activities	as defined in Schedule 2 of the Revised Licence
P&DC	Production and Design Capacity
Risk Event	As described in <i>Guidance Statement: Risk Assessment</i>
SoC	Shire of Coolgardie
UDR	<i>Environmental Protection (Unauthorised Discharges) Regulations 2004 (WA)</i>
WWTP	Wastewater Treatment Plant

2. Purpose and scope of assessment

On 9 July 2020, the Licence Holder submitted an application to the department to renew Licence L8664/2012/1 under section 59B of the *Environmental Protection Act 1986* (EP Act) as the licence expires in October 2020.

The Licence commenced on 15 October 2012 and expires on 14 October 2020. A licence renewal application form was submitted to DWER on 9 July 2020.

In renewing the licence, the department has considered and given due regard to its Regulatory Framework and relevant policy documents which are available at <https://www.der.wa.gov.au>.

2.1 Application details

Table 2 lists the documents submitted during the assessment process.

Table 2: Documents and information submitted during the assessment process

Document/information description	Date received
Application form and supporting information	9 July 2020
Correspondence: Response from Mark Properjohn to request for further information received. Prescribed premises map.	21 July 2020
Correspondence: Response from Mark Properjohn to request for further information received. Contaminated site information.	24 July 2020
Correspondence: Response from Mark Properjohn to request for further information received. Mineral lease and mining tenement details.	29 July 2020

3. Background

Licence L8664/2012/2 is held by Lanfranchi Nickel Mines Pty Ltd (Licence Holder) for the Lanfranchi Nickel Mine (LNM/the Premises), located within mineral lease ML15/346, ML15/347, ML15/377, ML 15/385, ML 15/386, ML 15/387, ML 15/388, ML 15/486, ML 15/487, ML 15/493 and mining lease M 15/473, KAMBALDA, WA 6429.

LNM tenements were previously held by BHP Billiton Nickel West (BHP Nickel West) and sub-leased to LNM. In October 2010, ownership of the tenements was transferred into the names of Cherish Metals Pty Ltd.

Black Mountain Metals Pty Ltd (BMM) purchased Cherish Metals Pty Ltd from the previous owner, Panoramic Resources, in December 2018. Cherish Metals Pty Ltd, including LNM, is a 100% wholly owned subsidiary of BMM.

The Licence relates to Category 61A: Solid waste facility, Category 85: Sewage facility and Category 89: Putrescible landfill site, under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations).

Table 3 lists the prescribed premises categories that have been applied for.

Table 3: Prescribed Premises Categories in the Existing Licence

Classification of Premises	Description	Approved Premises production or design capacity or throughput
61A	Solid waste facility; premises (other than premises within category 67A) on which solid waste produced on other premises is stored, reprocessed, treated, or discharged onto land.	876,000 cubic metres per annual period
85	Sewage facility: premises – (a) on which sewage is treated (excluding septic tanks); or (b) from which treated sewage is discharged onto land or into waters	80 cubic metres per day
89	Putrescible landfill site: premises on which waste (as determined by reference to the waste (as determined by reference to the waste type set out in the document entitled “Landfill Waste Classification and Waste Definitions 1996” published by the Chief Executive Officer, as amended from time to time) is accepted for burial.	2500 tonnes per annual period

4. Overview of Premises

4.1 Operational aspects

The Applicant operates under Existing Licence L8664/2012/1. The LNM comprises one underground nickel mine (Lanfranchi), a decommissioned underground mine (Winner), two partially rehabilitated waste rock dump (Lanfranchi and Winner), a decommissioned paste plant facility, accommodation village and associated supporting infrastructure.

LNM was placed on Care and Maintenance (C&M) on 12 November 2015, until BMM submitted a Project Management Plan (PMP) for surface exploration drilling and underground exploration development and drilling. The PMP was approved by DMIRS on the 26 February 2019 and therefore LNM is no longer under C&M.

Solid Waste Facility

The paste plant was operational till July 2015. The paste plant remains decommissioned. Cherish Metals would like to keep this category on the licence to accommodate any future development at LNM.

The Paste Plant Facility is a basic pug mill combining gold mine tailings, cement and water, to produce cement stabilised tailings paste to fill mine voids. All reject material (consisting of cement, tailings and water) is disposed within a sump.

Tailings material are stored on an established hardstand with capacity to store up to 20,000 tonnes. Sprinklers are used at the storage site to control dust generation during operations. Approximately 20,000 tonnes of tailings remain in situ at the paste plant.

A membrane has been applied to the tailings stockpile for the care and maintenance period to stabilise the stockpile and minimise dust and is inspected regularly.

Sewage Facility

Currently there are two (2) WWTP at the premises. The larger of the two WWTP, services the Lanfranchi Village with an approximate occupancy rate of 100 people and a throughput of 40m³/day. All treated wastewater is fully contained within the WWTP.

The smaller WWTP services the Mine Administration area with a throughput of approximately 20m³/day with discharge of treated wastewater to four effluent ponds for evaporation.

Two sewage facilities operational at Lanfranchi are:

- The Accommodation Village WWTP which is a MAK MBR-50 Membrane Bioreactor Sewage Treatment Plant system which receives waste water from the accommodation village. Previously treated waste water from this system was discharged to a nearby 1 ha dedicated spray irrigation area. However due to maintenance issues relating to the WWTP, monitoring results were indicating nutrient levels in excess of Limits for Biochemical Oxygen Demand (BOD), Total suspended solids (TSS), E. coli and for Total Nitrogen (TN). The WWTP did not operate as per manufacturer's specification. The Plant was reverted to a septic system where effluent was stored in the existing tanks, removed via a controlled waste truck and delivered to the effluent storage ponds on site. Discharge to the spray field has been suspended as a result.
- The Administration Effluent Storage Ponds which comprise four ponds that receive effluent from the Lanfranchi administration facilities. The first pond has mechanical aeration to aerate the effluent intermittently. When the first pond reaches sufficient volume, the effluent flows into the second holding pond via a pipeline for storage and evaporation. As each pond fills the effluent then flows to the next holding pond, while preserving the 300mm freeboard on each pond.

Landfill

The landfill is located within the approved Lanfranchi Waste Rock Dump footprint. Trenches are filled with inert waste type 1 and putrescible waste from the mining operations and progressively covered using waste rock material.

The LNM Licence (L8664/2012/1) was amended on 29 November 2019 to allow for the relocation of the putrescible landfill to another site within the same waste rock dump area. The old landfill site has now been covered over with in-situ soil and decommissioned once the new site was operational.

Works Approval (W6383/2020/1)

Works approval (W6383/2020/1) was issued on 23 July 2020 to construct the MAWWTP.

LNM is looking at decommissioning the Village WWTP due to the cost of reconditioning or replacing the WWTP. The intention of the Works Approval is to direct inflow from the Village WWTP to the existing effluent storage ponds at the MAWWTP. All treated wastewater is to be fully contained within the WWTP including allowance for a 1:10 ARI rainfall event.

This will entail;

- Decommissioning the Village WWTP and Spray Irrigation Field;
- Reusing the two existing Village WWTP 60,000 L storage tanks for the MAWWTP;
- Constructing an earthen bunded 2.8km, 110mm diameter polyethylene effluent pipeline from the Village WWTP to the MAWWTP;
- Reusing the three 25,000L storage tanks from the Village WWTP for the MAWWTP; and
- Refurbishing the clay lining for the existing four MAWWTP storage ponds.

Once the Village WWTP is decommissioned decant effluent from the Village septic tanks inflow

to the two 60,000L storage tanks which will then be pumped to the four MAWWTP storage ponds for treatment and evaporation. The three 25,000L tanks will be connected to the WWTP and can be used as storage in the event effluent cannot be transferred directly to the four storage ponds. Solids from the Village septic tanks will be disposed via a licensed controlled waste carrier.

The four storage ponds each have a volume capacity of 6ML or 6000m³. The first pond is artificially aerated to aid treatment. The sewage is treated in the dams by biodegradation which is accelerated by an agitator pump in pond 1. Clarified water passes through the facility overflow to successive dams, where it evaporates. The workshop oil/water separator is also linked to the ponds, whereby if the workshop system is overloaded, the excess wastewater flows to the ponds.

A diagram of the proposed MAWWTP and changes from the existing WWTPs is provided in Figure 1.

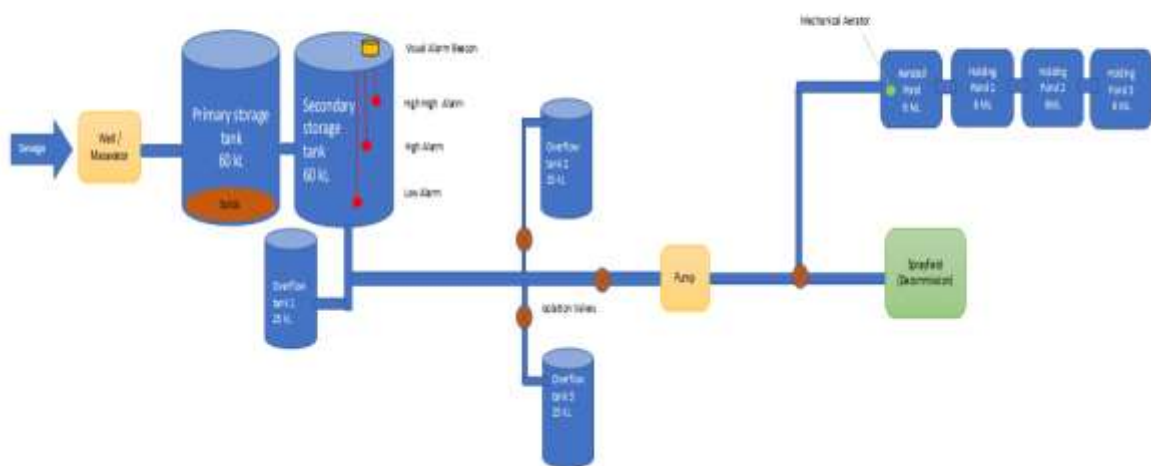


Figure 1 Proposed MAWWTP.

The four storage ponds at the MAWWTP will be refurbished and relined with compacted clay lining with a permeability of not less than $1 \times 10^{-9} \text{m/s}$. Pond 1 is mechanically aerated with a depth of 4m. Storage (Evaporation) pond 2, 3 and 4 will have a depth of no greater than 2m to allow for evaporation. Each storage pond will allow for a minimum top of embankment of 300mm and each pond flows into the next via an overflow pipe. No stormwater enters the ponds.

4.2 Infrastructure

The sewage facility, landfill facility and solid waste facility infrastructure, as it relates to Category 85, Category 61A and Category 89 activities, and with reference to the Site Plan is detailed in Table 4.

Table 4 lists infrastructure associated with each prescribed premises category.

Table 4: Sewage, landfill and solid waste facility infrastructure

	Infrastructure	Site Plan Reference
	Prescribed Activity Category 85	
Wastewater treatment plant		
1	2 x 60,000L tanks	Attachment 2 Site Plan
2	3 x 25,000L tanks	
3	2.8km pipeline	
4	4 x 6000m ³ storage ponds	
Putrescible landfill facility		
1	50m long, 5m wide and 6m deep landfill trench located within the footprint of the waste rock dump;	Figure 2 - Licence
2	Earthen bunding around landfill trenches.	
3	Sufficient cover materials	
Solid waste facility		
1	Paste plant with capacity to produce 876.000m ³ of paste fill per year	Attachment 2 Site Plan
2	Hard stand area to store tailings material	
3	Sprinkler system to control dust emission	
4	Dust suppression cover material	
5	Sump for the collection and disposal of reject materials	

5. Legislative context

5.1 Contaminated sites

A search of the DWER's records shows that ML15/347, ML15/486, ML15/487 and ML15/493 are possibly contaminated and investigation is required.

5.2 Other relevant approvals

LNM submitted Notification of Suspension of Mining Operations on the 13 February 2020 to the relevant DMIRS Inspectorate, in accordance with section 42 of the *Mines Safety and Inspection Act 1994*. LNM remains under Suspension of Mining Operations until further notice

5.3 Part V of the EP Act

5.3.1 Applicable regulations, standards and guidelines

The overarching legislative framework of this assessment is the EP Act and EP Regulations.

The guidance statements which inform this assessment are:

- *Guidance Statement: Regulatory Principles (July 2015)*
- *Guidance Statement: Setting Conditions (October 2015)*
- *Guidance Statement: Land Use Planning (February 2017)*
- *Guidance Statement: Licence Duration (August 2016)*
- *Guidance Statement: Publication of Annual Audit Compliance Reports (May 2016)*
- *Guidance Statement: Decision Making (February 2017)*
- *Guidance Statement: Risk Assessments (February 2017)*
- *Guidance Statement: Environmental Siting (November 2016)*

5.3.2 Works approval and licence history

Table 5 summarises the works approval and licence history for the premises.

Table 5: Works approval and licence history

Instrument	Issued	Nature and extent of works approval, licence or amendment
L8664/2012/1	20/06/2014	Licence converted to REFIRE format
L8664/2012/1	04/06/2015	Amendment to increase the maximum approved throughput at the landfill
L8664/2012/1	29/04/2016	Notice of Amendment - to extend expiry date of the Licence
L8664/2012/1	1/03/2019	Notice of Amendment to update registered office and contact details for the premises
L8664/2012/1	29/11/2019	Amendment to relocate the putrescible landfill to another site within the waste rock dump area and update registered address details. Amendment included consolation of Licence.
W6383/2020/1	23/07/2020	New WWTP
L8664/2020/2	2/10/2020	Licence renewal

5.3.3 Clearing

The Applicant has advised in the Application that no clearing is required.

6. Modelling and monitoring data

6.1 Monitoring of discharges to land

Existing Licence condition 3.5.1 regulates monitoring of emissions to land as provided in Table 6 below. This monitoring refers to the Village WWTP and subsequent emissions from the discharge of treated wastewater that occurred at the dedicated spray irrigation field. The Village WWTP was recommissioned in December 2017 and commenced treating waste water from the accommodation village periodically after this time. Weekly inspections of the WWTP were carried. Results from September 2018 indicated nutrient levels in excess of Limits for BOD, TSS and E. coli and a couple of results for TN. Results for TP, pH and majority TN were below licence limits. Currently all treated wastewater is fully contained within the WWTP with no disposal to the spray field occurring.

Table 6: Monitoring of emissions to land

Emissions to land				
Emission point reference	Parameter	Limits	Units	Frequency
L1	Biochemical Oxygen Demand	<20	(mg/L)	Within 7 days of commencement of discharge, quarterly thereafter.
	Total Suspended Solids	<30	(mg/L)	
	pH	6.5-8.5		
	Total Nitrogen	<60	(mg/L)	
	Total Phosphorus	<15	(mg/L)	
	<i>E.coli</i>	<10	(cfu/100 mL)	
	Monthly cumulative volumes	<100	m ³	Monthly

Key finding:

The Delegated Officer has reviewed the information regarding Monitoring and has found:

1. *The Applicant is proposing to construct a new MAWWTP with lined storage ponds. The ponds will be clay lined with a permeability of at least 1×10^{-9} m/s.*
2. *The Village WWTP will be decommissioned as will the dedicated spray irrigation field so there will no longer discharges to the environment.*
3. *Licence condition relating to monitoring discharges to land will be removed.*
4. *Discharges to the four lined storage (Evaporation) ponds is not considered a discharge to land as the ponds will be clay lined.*
5. *All treated wastewater is to be fully contained within the WWTP including allowance for a 1:10 ARI rainfall event.*

7. Consultation

The Application was advertised on 31 August 2020 seeking any public comment within 21 days. Comments were due 21 September 2020.

DMIRS and SoC were notified of the Application on 28 August 2020 and 31 August respectively. A response was requested within 14 days.

8. Location and siting

8.1 Siting context

The premises is located on Mineral Lease ML 15/346, ML 15/347, ML 15/377, ML 15/385, ML 15/386, ML 15/387, ML 15/388, ML 15/486, ML 15/487, ML 15/493 and M 15/473, KAMBALDA WA 6429.

8.2 Residential and sensitive receptors

The distances to residential and sensitive receptors are detailed in Table 7.

Table 7: Receptors and distance from activity boundary

Residential and sensitive premises	Distance from Prescribed Premises
Residential premises	No sensitive receptors in close proximity
Widgiemooltha township	Located approximately 25 km from the property boundary

8.3 Specified ecosystems

Specified ecosystems are areas of high conservation value and special significance that may be impacted as a result of activities at or Emissions and Discharges from the Premises. The distances to specified ecosystems are shown in Table 8. Table 8 also identifies the distances to other relevant ecosystem values which do not fit the definition of a specified ecosystem.

The table has also been modified to align with the *Guidance Statement: Environmental Siting*.

Table 8: Environmental values

Environmental receptors	Distance from Prescribed Premises
Lake Lefroy catchment	The Lanfranchi Project is located in the Lake Lefroy catchment and is 13.5 km from Lake Lefroy.
Threatened Ecological Communities or Declared Rare Flora	No Threatened Ecological Communities or Declared Rare Flora are listed for this location.

8.4 Groundwater and water sources

The distances to groundwater and water sources are shown in Table 9.

Table 9: Groundwater and water sources

Groundwater and water sources	Distance from Premises
Public Drinking Water Source Area	The premises is not located within a Public Drinking Water Source Area or in an area covered by any Environmental Protection Policies.
Surface water	Surface water resources are located in shallow ephemeral lakes and are generally saline or hypersaline.
Watercourse	There are no permanent watercourses in the general region and water supplies for pastoral activities are stored in earthen dams.
Groundwater	The Lanfranchi Project is located in the Goldfields Groundwater Area within the Lake Lefroy catchment. Regional groundwater flows are generally towards paleo-drainage lines where the water table approaches the surface and salt crusts can develop in drainage sinks. Identified water resources in this region are located in shallow ephemeral lakes or uncovered aquifers and are generally saline or hyper-saline. Recharge is low because of the low rainfall, high evaporation, heavy soils, and local internal drainage zones and well developed vegetation cover. Groundwater in the Kambalda mining region is typically

	encountered at the saprolitic interface with fresh rock at around 50 metres below surface. Below the base of oxidation, bedrock permeability is generally very low and groundwater inflows into mines are usually small.
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8.5 Soil type

Soil types are characterised by calcareous earths on the slopes, thicker development of structured sandy and sub-saline soils in the lower parts of the drainage channels. Soil pH indicates neutral to alkaline soil conditions with a range varying from 6.9 to 9.0.

9. Risk assessment

9.1 Determination of emission, pathway and receptor

In undertaking its risk assessment, DWER will identify all potential emissions pathways and potential receptors to establish whether there is a Risk Event which requires detailed risk assessment.

To establish a Risk Event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission. Where there is no actual or likely pathway and/or no receptor, the emission will be screened out and will not be considered as a Risk Event. In addition, where an emission has an actual or likely pathway and a receptor which may be adversely impacted, but that emission is regulated through other mechanisms such as Part IV of the EP Act, that emission will not be risk assessed further and will be screened out through Table 10.

The identification of the sources, pathways and receptors to determine Risk Events are set out in Table 10 and 11 below.

Table 10. Identification of emissions, pathway and receptors *during operation*

Risk Events					Continue to detailed risk assessment	Reasoning	
Sources/Activities	Potential emissions	Potential receptors	Potential pathway	Potential adverse impacts			
Waste Water Treatment Plants	Seepage	Leachate to groundwater	Groundwater dependent ecosystems, subterranean fauna	Direct discharge	Groundwater mounding	No	<p>Groundwater in the Kambalda mining region is typically encountered at the saprolitic interface with fresh rock at around 50 metres below surface. Total dissolved solids (TDS) in mine water range from 15,000 to 28,000 milligrams per litre (mg/L), depending on the amount of fresh make-up water used. Groundwater is saline.</p> <p>Ponds will be clay lined with a permeability of not less than 1×10^{-9}m/s. P&DC is low and throughputs will be minimal while the Premises is on care and maintenance.</p> <p>The Delegated Officer considers the separation distance between the source and receptors as adequate to inform the risk of seepage emissions as not foreseeable.</p> <p>Licence condition 9 which requires the licence holder to manage the effluent storage ponds.</p>
					Groundwater contamination	No	
	Treatment of sewage	Dust	No residences in proximity, vegetation including riparian vegetation adjacent to mine areas	Air / wind dispersion	Potential suppression of photosynthetic and respiratory functions.	No	
	Noise	No residences or other sensitive receptors in proximity	None		No	<p>No receptor present</p> <p>The Delegated Officer considers that if any noise impacts arise, management under the</p>	

Risk Events						Continue to detailed risk assessment	Reasoning
Sources/Activities	Potential emissions	Potential receptors	Potential pathway	Potential adverse impacts			
							<p><i>Environmental Protection (Noise) Regulations 1997</i> will be adequate. No further risk assessment is required.</p> <p>Odour emissions regulated under s49 of the EP Act.</p>
		Odour	No residences or other sensitive receptors in proximity	Air / wind dispersion	None	No	<p>No receptor present</p> <p>The Delegated Officer considers dust emissions are not likely or foreseeable to leave the Premises and combined with a separation distance of over 25km will not significantly impact upon the amenity of residents. No further risk assessment is required.</p>
	Sewage pipes and holding tanks	Spills/Rupture of pipes / overtopping of holding tanks resulting in sewage discharge to land	Vegetation adjacent to discharge area	Direct discharge	Soil contamination inhibiting vegetation growth and survival	No	<p>Pipeline will be earthen bunded.</p> <p>Small P&DC and throughput for the WWTP.</p> <p>The Delegated Officer considers spill emissions are not likely. No further risk assessment is required.</p> <p>Sewage emissions regulated under UDR.</p>
	Storage (Evaporation) ponds	Overtopping	<p>Vegetation adjacent to discharge area</p> <p>Groundwater dependent ecosystems, subterranean fauna</p>	Direct discharge	<p>Soil contamination inhibiting vegetation growth and survival</p> <p>Groundwater contamination</p>	No	<p>Licence condition 9 will regulate the operations of the four storage/evaporation ponds.</p> <p>The Application will not materially change the P&DC for the WWTP and throughput will be low as the premises is on care and maintenance.</p> <p>WWTP design includes inflow for a 1:10 ARI rainfall event including a freeboard of 300mm for each pond.</p> <p>No stormwater enters the ponds.</p> <p>Pond storage capacity of 6000m³ each.</p>

Risk Events					Continue to detailed risk assessment	Reasoning
Sources/Activities	Potential emissions	Potential receptors	Potential pathway	Potential adverse impacts		
Cat 64: Landfilling operations	Vehicle movements on unsealed access roads and movement of waste materials during landfilling operations	Noise	No residential premises in close proximity. The Widgiemooltha town site is located approximately 25 km from the Lanfranchi project area	Air / wind dispersion	None	No Daytime operation only With no sensitive receptors in the near vicinity, the Delegated Officer considers that if any noise impacts arise, management under the <i>Environmental Protection (Noise) Regulations 1997</i> will be adequate. No further risk assessment is required.
		Dust	Flora and vegetation		Potential to be deposited on vegetation and may prevent photosynthesis and plant respiration	No Water spray cart to prevent dust lift off during construction time. Given this dust management control, the Delegated Officer considers dust emissions are not likely to leave the Premises and combined with a separation distance of over 25km will not significantly impact upon the amenity of residents. No further risk assessment is required.
	Landfilling of putrescible wastes	Odour	No residential premises in close proximity. The Widgiemooltha town site is located approximately 25 km from the Lanfranchi project area	Air / wind dispersion	None	No Cover will applied to waste in accordance with the license condition Only one active tipping face will be exposed during active operations and the surface area will be kept as small as possible. The Delegated Officer considers that the provisions of the existing licence and Section 49 of the Environmental Protection Act 1986 are sufficient to regulate odour emissions during operation; therefore the risk is considered low and does not require any further regulatory controls. No further risk assessment is required.

Risk Events					Continue to detailed risk assessment	Reasoning
Sources/Activities	Potential emissions	Potential receptors	Potential pathway	Potential adverse impacts		
		Leachate	Ground-water 50mbgl	Seepage through soil and transport through ground-water	None	No According to the Licence holder the landfill is situated within the WRD and leachates unlikely to be emitted. Groundwater is saline. The Delegated Officer does not consider that a direct pathway exists given the landfill is situated within the WRD and the depth to groundwater is over 50m. No further risk assessment is required.
Cat 61A: Solid waste facility	20,000 tonnes of tailings stored on site	Dust	Flora and vegetation. No residential premises in close proximity.	Air / wind dispersion	Potential to be deposited on vegetation and may prevent photosynthesis and plant respiration	No The stockpile has been stabilised with a dust suppression cover and is being regularly inspected. Given this dust management control, the Delegated Officer considers dust emissions are not likely to leave the Premises. No further risk assessment is required.
		Leachate	Groundwater dependent ecosystems, subterranean fauna	Seepage through soil and transport through ground-water	None	No Groundwater present approximately 50mbgl. Recharge is low because of the less rainfall, high evaporation, heavy soils, and local internal drainage zones. Also any leachate produced will drain to a sump pit located in the close proximity. The sump is cleaned out regularly. The Delegated Officer does not consider that a direct pathway exists. No further risk assessment is required.

9.2 Consequence and likelihood of risk events

A risk rating will be determined for risk events in accordance with the risk rating matrix set out in Table 11 below.

Table 11: Risk rating matrix

Likelihood	Consequence				
	Slight	Minor	Moderate	Major	Severe
Almost certain	Medium	High	High	Extreme	Extreme
Likely	Medium	Medium	High	High	Extreme
Possible	Low	Medium	Medium	High	Extreme
Unlikely	Low	Medium	Medium	Medium	High
Rare	Low	Low	Medium	Medium	High

DWER will undertake an assessment of the consequence and likelihood of the Risk Event in accordance with Table 12 below.

Table 12: Risk criteria table

Likelihood		Consequence		
The following criteria has been used to determine the likelihood of the Risk Event occurring.		The following criteria has been used to determine the consequences of a Risk Event occurring:		
		Environment	Public health* and amenity (such as air and water quality, noise, and odour)	
Almost Certain	The risk event is expected to occur in most circumstances	Severe	<ul style="list-style-type: none"> onsite impacts: catastrophic offsite impacts local scale: high level or above offsite impacts wider scale: mid-level or above Mid to long-term or permanent impact to an area of high conservation value or special significance[^] Specific Consequence Criteria (for environment) are significantly exceeded 	<ul style="list-style-type: none"> Loss of life Adverse health effects: high level or ongoing medical treatment Specific Consequence Criteria (for public health) are significantly exceeded Local scale impacts: permanent loss of amenity
Likely	The risk event will probably occur in most circumstances	Major	<ul style="list-style-type: none"> onsite impacts: high level offsite impacts local scale: mid-level offsite impacts wider scale: low level Short-term impact to an area of high conservation value or special significance[^] Specific Consequence Criteria (for environment) are exceeded 	<ul style="list-style-type: none"> Adverse health effects: mid-level or frequent medical treatment Specific Consequence Criteria (for public health) are exceeded Local scale impacts: high level impact to amenity
Possible	The risk event could occur at some time	Moderate	<ul style="list-style-type: none"> onsite impacts: mid-level offsite impacts local scale: low level offsite impacts wider scale: minimal Specific Consequence Criteria (for environment) are at risk of not being met 	<ul style="list-style-type: none"> Adverse health effects: low level or occasional medical treatment Specific Consequence Criteria (for public health) are at risk of not being met Local scale impacts: mid-level impact to amenity
Unlikely	The risk event will probably not occur in most circumstances	Minor	<ul style="list-style-type: none"> onsite impacts: low level offsite impacts local scale: minimal offsite impacts wider scale: not detectable Specific Consequence Criteria (for environment) likely to be met 	<ul style="list-style-type: none"> Specific Consequence Criteria (for public health) are likely to be met Local scale impacts: low level impact to amenity
Rare	The risk event may only occur in exceptional circumstances	Slight	<ul style="list-style-type: none"> onsite impact: minimal Specific Consequence Criteria (for environment) met 	<ul style="list-style-type: none"> Local scale: minimal to amenity Specific Consequence Criteria (for public health) met

[^] Determination of areas of high conservation value or special significance should be informed by the *Guidance Statement: Environmental Siting*.

* In applying public health criteria, DWER may have regard to the Department of Health's *Health Risk Assessment (Scoping) Guidelines*.

"onsite" means within the Prescribed Premises boundary.

9.3 Acceptability and treatment of Risk Event

DWER will determine the acceptability and treatment of Risk Events in accordance with the Risk treatment table 13 below:

Table 13: Risk treatment table

Rating of Risk Event	Acceptability	Treatment
Extreme	Unacceptable.	Risk Event will not be tolerated. DWER may refuse application.
High	May be acceptable. Subject to multiple regulatory controls.	Risk Event may be tolerated and may be subject to multiple regulatory controls. This may include both outcome-based and management conditions.
Medium	Acceptable, generally subject to regulatory controls.	Risk Event is tolerable and is likely to be subject to some regulatory controls. A preference for outcome-based conditions where practical and appropriate will be applied.
Low	Acceptable, generally not controlled.	Risk Event is acceptable and will generally not be subject to regulatory controls.

10. Regulatory controls

A summary of regulatory controls determined to be appropriate for the Risk Event is set out in below. The risks are set out in the assessment in section 9 and the controls are detailed in this section. DWER will determine controls having regard to the adequacy of controls proposed by the Applicant. The conditions of the Licence will be set to give effect to the determined regulatory controls.

10.1 Licence Conditions

- Licence condition 1 outlines infrastructure and equipment maintenance requirements
- Licence condition 2 outlines requirements to manage spills;
- Licence condition 3 outlines requirements to avoid vegetation deaths when using saline water for dust suppression;
- Licence condition 4 outlines vehicle wash down area requirements;
- Licence condition 5 outlines vehicle wash down area requirements;
- Licence condition 6 outlines requirements for all pipelines containing hazardous substances;
- Licence condition 7 outlines pipeline bunding requirements;
- Licence conditions 8 and 9 outlines waste acceptance requirements;
- Licence condition 10 outlines storage pond maintenance requirements;
- Licence condition 11 outlines containment infrastructure requirements;
- Licence condition 12 outlines requirements for safe disposal of collected screenings, grit and floating debris from the waste water treatment plant;
- Licence condition 13 outlines landfill waste processing requirements;
- Licence condition 14 outlines requirements to manage landfill activities;
- Licence condition 15 outlines cover requirements relating to the putrescible landfill;

- Licence condition 16 outlines requirements to manage windblown waste;
- Licence condition 17 outlines monitoring of waste volumes requirements;
- Licence conditions 18 – 23 outlines the requirements of reporting to DWER.

11. Determination of Licence conditions

The conditions in the issued Licence in Attachment 1 have been determined in accordance with the *Guidance Statement: Setting Conditions*.

The *Guidance Statement: Licence Duration* has been applied and the issued licence expires in 20 years from date of issue.

Table 14 provides a summary of the conditions to be applied to this works approval.

Table 14: Summary of conditions to be applied

Condition Ref	Grounds
Infrastructure and Equipment 1, 2, 3, 4, 5, 6 and 7	These conditions are valid, risk-based and contain appropriate controls.
Waste acceptance 8 and 9	These conditions are valid, risk-based and contain appropriate controls.
Premises operations 10, 11, 12, 13, 14, 15 and 16	These conditions are valid, risk-based and contain appropriate controls.
Monitoring 17	This condition is valid, risk-based and consistent with the EP Act.
Record-keeping and reporting 18, 19, 20, 21, 22 and 23	These conditions are valid and are necessary administration and reporting requirements to ensure compliance.

DWER notes that it may review the appropriateness and adequacy of controls at any time and that, following a review, DWER may initiate amendments to the works approval under the EP Act.

12. Applicant's comments

The *Applicant* was provided with the draft Decision Report and draft Licence on 24 September 2020. The Applicant advised on 1 October 2020 that they have no further comments on the draft licence and draft decision document and waived the remaining consultation period.

13. Conclusion

This assessment of the risks of activities on the Premises has been undertaken with due consideration of a number of factors, including the documents and policies specified in this Decision Report (summarised in Appendix 1).

Based on this assessment, it has been determined that the Issued Licence will be granted subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

Jane Dalin
SENIOR ENVIRONMENTAL OFFICER
INDUSTRY REGULATION

Delegated Officer under section 20 of the *Environmental Protection Act 1986*

Appendix 1: Key documents

	Document title	In text ref	Availability
1.	Licence L8664/2012/1 – Lanfranchi Nickel Mine	L8664/2012/1	accessed at www.der.wa.gov.au
2.	Application for a Licence renewal	Application	DWER records (A1911873)
3.	DER, July 2015. <i>Guidance Statement: Regulatory principles.</i> Department of Environment Regulation, Perth.	DER 2015a	accessed at www.dwer.wa.gov.au
4.	DER, October 2015. <i>Guidance Statement: Setting conditions.</i> Department of Environment Regulation, Perth.	DER 2015b	
5.	DER, August 2016. <i>Guidance Statement: Licence duration.</i> Department of Environment Regulation, Perth.	DER 2016a	
6.	DER, November 2016. <i>Guidance Statement: Risk Assessments.</i> Department of Environment Regulation, Perth.	DER 2016b	
7.	DER, November 2016. <i>Guidance Statement: Decision Making.</i> Department of Environment Regulation, Perth.	DER 2016c	
8.	DER, February 2017. <i>Guidance Statement: Land Use Planning.</i> Department of Environment Regulation, Perth.	DER 2017a	
9.	DER, February 2017. <i>Guidance Statement: Risk Assessments.</i> Department of Environment Regulation, Perth.	DER 2017b	
10.	DWER, June 2019. <i>Guideline: Decision Making.</i> Department of Water and Environmental Regulation, Perth.	DWER 2019a	
11.	DWER, June 2019. <i>Guideline: Industry Regulation Guide to Licensing.</i>	DWER 2019b	

	Department of Water and Environmental Regulation, Perth.		
12.	DWER, June 2019. <i>Guideline: Odour emissions</i> . Department of Water and Environmental Regulation, Perth.	DWER 2019c	

Attachment 1: Issued Licence L8664/2020/2

Attachment 2: Site Plan





Attachment 3: Conversion table

Condition summary	Existing licence condition	IR-T06 licence condition	Conversion notes
Interpretation	1.1.1 1.1.2	Definitions	
References to Standards/Guidelines/Codes	1.1.3 1.1.4	Interpretation	
General condition	1.2.1	NA	Previous Licence Condition 1.2.1 has been removed from the licence as it was not consistent with DWER (DER's) <i>Guidance Statement: Setting Conditions</i> as it relates to general advice rather than explanatory statement and not a valid or enforceable condition. The Delegated Officer considers that impacts from emissions can be sufficiently regulated under section 49 of the <i>Environmental Protection Act 1986</i> (is an offence to cause pollution and unreasonable emissions).
General condition	1.2.2	NA	Previous Licence Condition 1.2.2, relating to the maintenance of pollution control and monitoring equipment, has been removed as it was not consistent with DWER (DER's) <i>Guidance Statement: Setting Conditions</i> in that the condition was not enforceable as the specific equipment or internal management system endorsed was not clearly designated.
General condition	1.2.3	NA	Previous Licence Condition 1.2.3, relating to the storage of environmentally hazardous material in accordance with the code of practice for the storage and handling of dangerous goods has been removed as it related to a code of practice which is not administered by DWER. The storage of dangerous goods is regulated by the Department of Mines Industry Regulation and Safety.
Infrastructure and Equipment		1	Standard licence condition relating to Infrastructure and equipment requirements has been added to the licence.
Removing and disposing of spills	1.2.4	2	Previous Licence Condition 1.2.4, now 2, which related to immediately recovering or removing and disposing of spills of environmentally hazardous materials outside an engineered containment system has been updated to only reference wastes approved under the licence rather than the previous broad term "environmentally hazardous materials"

Stormwater run-offs	1.2.5	3	Licence condition retained from previous licence
Using saline water for dust suppression	1.3.1	4	Licence condition retained from previous licence. Standard licence condition
Vehicle wash down area requirements	1.3.2	5	Licence condition retained from previous licence. Standard licence condition
Pipelines containing hazardous substances	1.3.3	6	Licence condition retained from previous licence. Standard licence condition
Pipeline bunding requirements	1.3.4	7	Licence condition retained from previous licence. Standard licence condition
Waste acceptance requirements	1.3.5	8	Licence condition retained from previous licence. Standard licence condition
Waste not meeting the acceptance criteria	1.3.6	9	Licence condition retained from previous licence. Standard licence condition
Irrigation to land requirements	1.3.7	NA	This condition has been removed, since all treated effluent water is retained in the evaporation ponds with no discharge to the environment.
Effluent storage ponds maintenance requirements	1.3.8	10	Licence condition retained from previous licence. Standard licence condition
Containment structure requirement	1.3.9	11	Licence condition retained from previous licence. Standard licence condition
Disposal of waste collected from the treatment plant	1.3.10	12	Licence condition retained from previous licence. Standard licence condition
Waste processing requirements	1.3.11	13	Licence condition retained from previous licence. Standard licence condition
Managing landfill activities	1.3.12	14	Licence condition retained from previous licence. Standard licence condition
Applying landfill cover requirements	1.3.13	15	Standard licence condition
Managing windblown waste requirements	1.3.14	16	Standard licence condition
Emissions	2.1 – 2.4	NA	All sections with no specified conditions have been removed in accordance with current DWER licensing protocol.
Emission to land requirements	2.5.1	NA	This condition has been removed, since all treated effluent water is retained in the evaporation ponds with no discharge to the environment.

Fugitive emissions	2.61-2.6.2	NA	Fugitive emissions of dust can be sufficiently regulated under section 49 of the <i>Environmental Protection Act 1986</i> . In accordance with DER's licensing process, therefore no specified conditions for fugitive emissions have been included on this licence.
Odour	2.7.1	NA	Odour emissions can be sufficiently regulated under section 49 of the <i>Environmental Protection Act 1986</i> . In accordance with DWER's licensing process, no specified conditions for fugitive emissions have been included on this licence.
Noise	2.8.1	NA	Consistent with DWER's licensing protocol, this section was deleted because it did not contain any conditions.
General monitoring	3.1.1 -3.1.2	NA	This condition has been removed, since all treated effluent water is retained in the evaporation ponds with no discharge to the environment.
Monitoring	3.2-3.4	NA	Consistent with DWER's licensing protocol, this section was deleted because it did not contain any conditions.
Monitoring of emissions to land	3.5.1	NA	This condition has been removed, since all treated effluent water is retained in the evaporation ponds with no discharge to the environment.
Monitoring of inputs and outputs	3.6.1	17	Standard licence condition
Monitoring	3.7-3.9	NA	Consistent with DWER's licensing protocol, this section was deleted because it did not contain any conditions.
Improvements	4.1	NA	Consistent with DWER's licensing protocol, this section was deleted because it did not contain any conditions.
Keeping records	5.1.1	18 and 19	Standard licence condition
Person in charge	5.1.2	20	Standard licence condition
Annual audit compliance reporting	5.1.3	22	Standard licence condition
Complaints management	5.1.4	21	Standard licence condition
Reporting	5.2.1	23	Standard licence condition