Government of Western Australia
Department of Water and Environmental Regulation

Amendment Report

Application for Licence Amendment

Part V Division 3 of the *Environmental Protection Act 1986*

Licence Number	L8485/2010/2
Licence Holder	St Ives Gold Mining Company Pty Limited
ACN	098 386 273
File Number	DER2018/000300-1
Premises	St Ives Gold Mine KAMBALDA WEST WA 6442 Legal description – Part of Mining Tenements described in Schedule 2 of the Revised Licence L8485/2010/2 As defined by the Premises maps attached to the Revised Licence
Date of Report	25 October 2022
Decision	Revised licence granted

Christine Pustkuchen

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Date: 2022.10.25 15:30:51 +08'00'

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

Table of Contents

Decision summary

Licence L8485/2010/2 is held by St Ives Gold Mining Company Pty Limited (Licence Holder) for the St Ives Gold Mine (the Premises), located in Kambalda West on the mining tenements defined in Schedule 2 of the licence.

This amendment report documents the assessment of potential risks to the environment and public health from proposed changes to the emissions and discharges during the construction and operations of the premises. As a result of this assessment, revised licence L8485/2010/2 has been granted.

Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this Amendment Report, the department has considered and given due regard to its Regulatory Framework and relevant policy documents which are available at https://dwer.wa.gov.au/regulatory-documents.

2.2 Application summary

On 14 April 2022, the Licence Holder submitted an application to the department to amend Licence L8485/2010/2 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The proposed changes relate to category 6 and 64 activities being undertaken at the premises. No changes to the assessed design capacity as defined in the licence have been proposed.

The following amendments are being sought:

(a) two new waste disposal locations;

   i. Diana landfill (Class II) and waste storage area located within a pit that has been backfilled; and

   ii. North Orchin waste disposal point (Class II) located at the inactive North Orchin in pit tailings storage facility (TSF) (backfilled in 2009 and inactive since 2012).

(b) redevelopment of an existing emission point to surface water (W8 on the licence - Argo Hydroslide and two settling ponds) to become a closed pipeline and turkeys nest for storage and discharge of dewater to Lake Lefroy;

(c) removal of five groundwater monitoring bores that are not in working order and that have been consistently dry or provide insufficient water to sample;

(d) addition of three new groundwater monitoring bores located near Leviathan in-pit TSF and TSF2 (already installed);

(e) change to the monitoring frequency of the groundwater monitoring bores identified in the licence as ‘North Orchin TSF’, ‘TSF1’, ‘TSF2’ and ‘TSF3’ from quarterly to six monthly;

(f) removal of point source emission to surface water identified as W12;

(g) removal of references to the wastewater treatment plant (WWTP) identified in the licence as ‘P5’; and

(h) Changes to the premises boundary.

2.2.1 Redevelopment of existing dewatering discharge point W8

To facilitate the redevelopment of the approved discharge point W8 (for dewatering effluent) the Licence Holder will construct an additional 1.75 km of discharge pipeline and a new

turkey's nest on the surface of Lake Lefroy. The discharge pipeline will run from the Athena underground mine and connect to the turkeys nest dam which will be located on Lake Lefroy. The pipeline will be constructed within the existing Argo Hydroslide corridor.

The turkeys nest (which will receive the dewater effluent and is a control measure for erosion and sediment) will be located at least 100 meters from the edges of Lake Lefroy. The dewater effluent will infiltrate (seep) from the turkeys nest into Lake Lefroy and/or evaporate. The turkeys nest is designed to allow slow re-infiltration of dewater into Lake Lefroy to minimise scouring or erosion of the lake. The turkeys nest lined with a geotextile materal.

The discharge of dewater effluent to Lake Lefroy, and specifically the direct discharge of dewater to W8 has been previously assessed is currently approved under the licence. The assessment of the redevelopment of W8, which involves modifications to the discharge design. The risks of erosion and sediment control have been considered as part of this assessment. The impacts of dewater discharge to Lake Lefroy at W8, including cumulative impacts to lake Lefroy has not been considered as part of this assessment.

2.2.2 Diana landfill

The proposed landfill will accept up to 2,000 tonnes of Class I and II waste per annum. An adjacent waste storage area will also be constructed.

Class I and II waste types accepted will include:

- Clean fill
- Inert type I waste
- Inert Type 2 waste
- Putrescible waste
- Contaminated solid waste that meets acceptable criteria for Class II landfill

2.2.3 North Orchin TSF

The Licence Holder intends to repurpose the North Orchin TSF (backfilled in 2009 and inactive since 2012) as a waste disposal location for inert waste types 1 and 2 and putrescible waste, specifically:

- Sewage sludge from the site septic and WWTP;
- Bioremediated hydrocarbon contaminated material;
- Screen trash / mill rejects from the Lefroy Mill;
- Wooden pallets; and
- Bulk Bags, core samples, drilling samples.

The same quantity limits that are applicable to Leviathan and Paddy's TSF are proposed for North Orchin TSF:

- Quantity limits for each waste type:
    - Inert Waste Type 1 (3,500 tonnes/annum)
    - Inert Waste Type 2 (2,000 tonnes/annum)
    - Putrescible waste (1,500 tonnes/annum)

2.2.4 Assessment of proposed amendments relating to Prescribed Premises changes.

The Licence Holder proposes changes to the Prescribed Premises. The following amendments are being sought:

- Excise portion of Prescribed Premise to enable Lunnon Metals to apply for its own Environmental Licence; and
- Amend Prescribed Premise boundary to encompass proposed microgrid power project.

The requested amendment is administrative and poses no change to the environmental risk profile of the site.

Prescribed Premise Excision

Lunnon Metals has become the primary tenement holder of 15 tenements within the St Ives Gold Mine Lease. Lunnon Metals has been previously operating under the Licence L8485/2020/2. This includes the W14 emission point and associated pipeline infrastructure from the inactive Foster nickel mine. Lunnon Metals is set to apply for their own Licence resulting in the need for these tenements being excised from L8485/2020/2.

Prescribed Premise Addition

The Licence Holder proposes the extension to the current prescribed premise for work on their renewable energy project. The extension will assist the construction phase of the renewable energy components as it will allow for concrete batching. The Licence Holder currently batches and supplies concrete within the prescribed premise, eliminating the need for a separate licence for Category 77: Concrete Batching under Schedule 1 of the E*nvironmental Protection Regulations 1987.*

The Licence Holder will comply with the requirements of the *Environmental Protection (Concrete batching and cement products manufacturing) Regulations 1998*.

2.2.5 Assessment of proposed amendments relating to monitoring schedule and monitoring bore locations.

In addition to the changes to the prescribed premises, changes are proposed to the monitoring schedule with additions and substitutions of monitoring bores and adjusted frequency of monitoring event. Table 1 below highlights the proposed changes and the departments assessment of them.

Table 1: Changes to monitoring points and frequency

Proposed amendment	Points	Justification from Licence Holder	DWER Response
Groundwater monitoring points removal	• NOMB09 • CD2538 • SID597	No longer in working order and unable to be repaired	Change accepted
Removal of bores	• LEVMB01 • TSF4-4A	Insufficient water levels to produce sample	Change accepted

Proposed amendment	Points	Justification from Licence Holder	DWER Response
Addition of monitoring bores	• LEVMB01D (382308, 6534510 • SID01 (385260, 6526502) • SID02 (386281, 6526949) (Located Leviathan in-pit TSF and TSF2)	The new bores have been installed close to the existing bores being removed from the Licence. These will provide additional monitoring coverage where it is currently lacking. The new bores have been airlifted and purged to ensure an adequate amount of water can be taken from them for sampling. The Licence Holder has considered it unnecessary to install new bores to replace bores TSF4-4A and NOMB09, due to adequate existing bore coverage at TSF4 and North Orchin. LEVMB01D is located 42m from the replacement bore. The slotted screen sits from 48- 66mbgl. The SWL has been recorded six times since monitoring began in 2021 and is sitting steady at ~33mbgl. SID01 is located 30m from the base of TSF2. The slotted screen sits from 24- 47mbgl. The SWL has been recorded three times since monitoring began in March and is sitting steady at ~28mbgl. SID02 is located 65m from the base of TSF2. The slotted screen sits from 11- 29mbgl. The SWL has been recorded three times since monitoring began in March and is sitting steady at ~13mbgl.	Change accepted
	NOMB04d	It exists currently as a Standing Water Level only bore on the Licence	Change accepted
Remove Temeraire mine dewater emission point	W12	Emission point being decommissioned and rehabilitated	Change accepted

Proposed amendment	Points	Justification from Licence Holder	DWER Response
Removal of Foster mine site pipeline and emission point from licence	W14	Emission point and all associated infrastructure to be transferred to the pending Lunnon licence. Foster mine and associated pipeline is currently inactive.	Change accepted
Remove Athena Paste WWTP	P5	WWTP decommissioned	Change accepted
Change in monitoring frequency to six monthly for Ambient Groundwater Quality monitoring points	North Orchin TSF points	North Orchin TSF, TSF1, TSF2 and TSF3 have not received tailings since 2016, 1999, 2010 and 2016, respectively. The Licence Holder has reviewed the monitoring data from the last five years at these locations, which reflects that the groundwater results are returning to expected baseline levels. If going forward, any groundwater results obtained from the six-monthly monitoring bores appear to be of concern, they will be re-sampled and if deemed necessary, returned to a quarterly monitoring frequency. Any noncompliance's will be reported to DWER in the AACR	Change accepted

2.3 Mining proposal

The Licence Holder has advised that a Mining Proposal (MP) (Reg ID 103460) has been submitted to Department of Mines, Industry Regulation and Safety (DMIRS), under the *Mining Act 1978* for, amongst other things, the construction of a Class II landfill at the backfilled Diana Open Pit. The MP is currently under assessment, with further information being sought from the applicant in relation to the suitability of the proposed construction materials.

The Licence Holder has also advised a separate amendment has been submitted to DMIRS for the addition of the proposed Argo's Turkey Nest as it is located outside the approved development area.

Risk assessment

The department assesses the risks of emissions from prescribed premises and identifies the

potential source, pathway and impact to receptors in accordance with the *Guideline: Risk assessments* (DWER 2020b).

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.

3.1 Source-pathways and receptors

3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises construction and operation which have been considered in this Amendment Report are detailed in Table 2. Table 2 also details the proposed control measures the Licence Holder has proposed to assist in controlling these emissions, where necessary.

Table 2: Licence Holder controls

Emission	Sources	Potential pathways	Proposed controls
Construction			
Dust	Mobile equipment movements etc. on disturbed ground during the construction of Argo's Turkey Nest on Lake Lefroy and associated pipelines.	Air/windborne pathway	• Limit activities to minimise dust generation on cleared areas; • Delay activities if weather conditions are likely to produce excessive dust; • Use water trucks for dust suppression as required; • Visual monitoring for dust during construction and maintenance activities; and • Speed limits will be imposed on unsealed roads.
Contaminated stormwater (sediment, hydrocarbons etc) and Hydrocarbons and other materials such as lubricants	Hydrocarbon spills or leaks from vehicle and equipment use, refuelling or maintenance activities during the construction of Argo Turkey's Nest on Lake Lefroy.	Via infiltration through soil and/or runoff	• St Ives Gold Mine Spill response procedure/ Waste Management Plan (SIG-ENV-PL003). This includes o Spill kits to be kept with construction equipment; o Machinery and equipment to be regularly inspected and maintained; and o Any spills to be cleaned up immediately and disposed of accordingly.
Operation			
Category 6: Mine Dewatering			
Hypersaline dewater effluent	Pipeline failure	Direct discharge to land	• Located within (in the centre) of the existing Argo Hydroslide disturbance corridor. The corridor is 7 metres (m) wide, has a 0.5 m rise, and a 3:1 batter angle. • Discharge of dewatering water into Lake Lefroy is currently authorised under the licence. No increase in dewatering discharge volume or source of

Emission	Sources	Potential pathways	Proposed controls
			dewatering water being discharged has been proposed. Current licence conditions will apply.
Hypersaline dewater effluent – sediment (dewater discharged with an increased / high flow rate leading to erosion and discharge of high concentration of suspended solids)	Dewater effluent directed from Athena underground mine, Apollo Pit or Argo Pit to the turkeys nest on Lake Lefroy	Direct discharge to Lake Lefroy: • seepage via the turkeys nest • overtopping of turkey's nest	• Tukeys nest to be lined with a geotextile material designed with a 5-hour water retention capability • Designed with a storage volume of 3,240 m² with a maximum water level of 0.9 m above ground level (mAGL) and allowance for a 1:100 flood events (0.3 m) and freeboard and wave action contingency (0.6 m); • Rock armoured side walls around the perimeter up to a maximum height of 1.8 mAGL; and • An inlet and overflow outlet pipe will be constructed into the eastern side wall, above the freeboard height.
Category 64: Class II putrescible landfill			
Sediment laden stormwater	Contaminated stormwater runoff	Surface water runoff	Diana Landfill • Stormwater drains will be installed around the perimeter of the landfill directing surface water runoff away from the landfill as per the licence conditions. North Orchin TSF • No Controls Proposed
Hydrocarbons contaminating soil or water	Disposal of bioremediated hydrocarbon contaminated material into waste facility.	Spills/leaks to ground resulting in infiltration through soil and into	• Periodic testing to determine the success of the bioremediation; and • Testing of bioremediated soil by a National Association of Testing Authorities (NATA) laboratory prior to disposal into the landfill. The testing is to ensure that the soil meets the criteria set out in the *Landfill Waste Classification and Waste Definitions 1996*

Emission	Sources	Potential pathways	Proposed controls
		groundwater	
Leachate	Operation of landfill/waste disposal location: • inert waste types 1 and 2; and • putrescible waste	Infiltration through soil and into groundwater	Diana Landfill • Higher risk waste types will be tipped with other lower risk waste types to encapsulate the more dispersive material; • Application of 200 mm of highly permeable material will be used regularly to cover putrescible waste; • Final waste profiles at Diana Landfill will be covered with a low permeable intermediate cover material which will be stripped back prior to filling the next layer of waste; and • Waste will be covered immediately with Clean Fill where possible but typically no longer than 24-48 hours after the waste deposition. North Orchin TSF • Material will be disposed of directly into trenches on the surface of the landfill. Waste will be covered immediately with clean fill no longer than 24-48 hours after waste disposal. • Sewage sludge will be dried at the Silverlake Sewage Ponds before being deposited into North Orchin TSF; • As per the licence conditions, dried sewage sludge will be covered with minimum 2 m layer of waste rock or clean fill material no later than 24 hours after disposal; and • Operation of a vacuumed controlled truck and the utilization of a controlled waste contractor will be used for the transport and deposition of the waste in trenches along the surface of North Orchin TSF.
Windblown waste	Operation of Diana Landfill and North Orchin landfill	Air / windblown pathway	• Waste covered prior to storm or high wind events; • Waste to be covered on a regular basis (24-48 hours after disposal); and • Fencing will be placed around the site and act as a barrier for waste leaving and fauna access.

3.1.2 Receptors

In accordance with the *Guideline: Risk assessments* (DWER 2020b), the Delegated Officer has excluded employees, visitors and contractors of the Licence Holder's from its assessment. Protection of these parties often involves different exposure risks and prevention strategies and is provided for under other state legislation. Table 3 below provides a summary of potential human and environmental receptors that may be impacted as a result of activities upon or emission and discharges from the prescribed premises *(Guideline: Environmental siting* (DWER 2020a)).

Table 3: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	Distance from prescribed activity
Human receptors	
Kambalda Township	26 kilometres (km) northwest of the Diana landfill, and 14km northwest of the North Orchin TSF. *Given the distance, the township will not be considered in the risk assessment.*
Environmental receptors	
Lake Lefroy – salt lake (ephemeral) covers an area of 554 square kilometers with riparian vegetation. The surrounding catchments drain via ephemeral gullies and drainage lines towards Lake Lefroy Lake Lefroy has low aquatic diversity.	• Direct discharge of hypersaline dewater effluent (dewater) from dewatering operations at Athena underground mine, Argo Pit and Apollo Pit onto Lake Lefroy. • 570m northwest of North Orchin TSF and 1.5km southwest of Diana Landfill.

Groundwater (hypersaline)	• Groundwater salinity concentrations represented by Total Dissolved Solids (TDS):
	  ○ in the groundwater below the waste disposal locations generally range from 50,000 to 350,000 mg/L; and
	  ○ within the immediate vicinity of Lake Lefroy's drainage system, ranges between 274,000 and 423,000 mg/L TDS (Geocortex).
	• Premises is located within the Goldfields groundwater area. Groundwater Area proclaimed under *Rights in Water and Irrigation Act 1914;*
	• Groundwater flows eastward towards the Eucla Basin and Lefroy paleodrainage system;
	• Approximately 49 meters below ground level (mbgl) (beneath the backfilled Diana Open Pit – where Diana Landfill is proposed);
	• Approximately 25 – 42 mbgl (beneath the North Orchin TSF);
	• The closest groundwater monitoring bores to the landfill sites are 170m southeast, 200 m north and 169 m west of the Diana Landfill and 275m northeast of North Orchin landfill.

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020b) for those emission sources which are proposed to change and takes into account potential source-pathway and receptor linkages as identified in Section 0. Where linkages are in-complete they have not been considered further in the risk assessment.

Where the Licence Holder has proposed mitigation measures/controls (as detailed section 3.1.1 Emissions and controls), these have been considered when determining the final risk rating. Where the Delegated Officer considers the Licence Holder's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the licence as regulatory controls.

Additional regulatory controls may be imposed where the Licence Holder's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 4.

The Revised Licence L8485/2020/2 that accompanies this Amendment Report authorises emissions associated with the operation of the Premises activities. The conditions in the Revised Licence have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

Table 4. Risk assessment of potential emissions and discharges from the Premises during construction and operation

Risk Event					Risk rating[1] C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions[2] of licence	Justification for additional regulatory controls
Source/Activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicants' controls**				
Construction								
Construction or placement of facilities and equipment including vehicle movements	Contaminated stormwater (sediment, hydrocarbons etc).	Spills or leaks causing direct discharge into Lake Lefroy resulting in impacts to lakebed.	Lake Lefroy	Refer to Section 3.1	C= Slight L = Possible **Low Risk**	Y	NA	N/A
Operation								
Discharge of dewater effluent to Lake Lefroy	Hypersaline dewater effluent	Direct discharge leading to increased erosion / sediment within Lake Lefroy	Lake Lefroy Aquatic ecosystem Riparian vegetation	Refer to Section 3.1	C = Minor L = Unlikely **Medium Risk**	Y	Condition 28 – Emission points to surface water Condition 23 – Construction requirements	N/A
Dewatering pipeline leaks and ruptures	Hypersaline dewater effluent	Discharge to land, soil and Lake Lefroy Increased erosion/sediment within Lake Lefroy	Native vegetation Lake Lefroy	Refer to Section 3.1	C = Minor L = Unlikely **Medium Risk**	N	**<u>Condition 1 – Saline dewatering requirements</u>** Condition 23 - Construction requirements	To minimize risk to receptors in the event of pipeline leaks an additional regulatory control has been added to the licence requiring pipelines containing saline dewater to be equipped with telemetry systems, automating cut-outs and have secondary containment for spills.

Risk Event					Risk rating[1] C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions[2] of licence	Justification for additional regulatory controls
Source/Activities	**Potential emission**	**Potential pathways and impact**	**Receptors**	**Applicants' controls**				
Operation of waste disposal (Diana landfill and North Orchin TSF)	Leachate Hydrocarbons	Generated through rainfall and seepage through base and embankments impacting groundwater quality	Groundwater	Refer to Section 3.1	C = Slight L = Unlikely **Low Risk**	Y	Condition 6 – Landfill inspection Condition 9 – Management of waste specifications, Conditions 10 – waste processing, Condition 11 – management of landfill activities, Condition 38 – monitoring of inputs of outputs Condition 39 – Groundwater monitoring	N/A
	Windblown waste	Air dispersion	Native vegetation	Refer to section 3.1	C = Slight L = Unlikely **Low Risk**	Y	Condition 12 – windblown waste	N/A
	Contaminated stormwater runoff	Overland flow Generated through stormwater runoff coming into contact with waste.	Native vegetation	Refer to section 3.1	C = Slight L = Unlikely **Low Risk**	Y	Condition 23- Construction requirements	N/A

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guideline: Risk assessments* (DWER 2020b).
Note 2: Proposed Licence Holder's controls are depicted by standard text. **Bold and underline text** depicts additional regulatory controls imposed by department.

Consultation

Table 5 provides a summary of the consultation undertaken by the department.

Table 5: Consultation

Consultation	Comments received	Department response
Department of Mines, Industry Regulation and Safety (DMIRS) (16 June 2022) (DWERDT619032)	• A Mining Proposal (MP) has not been submitted for the proposed waste disposal location at North Orchin (inactive TSF). • DMIRS advised that given the nature of the activity proposed, they would require a MP to be submitted so appropriate consideration can be given to both environmental and geotechnical issues. • DMIRS has been advised that a geotextile liner is no longer proposed to be placed within the Argo's Turkey's nest, which is designed to accept dewatering effluent from Hamlet/Athena mines. Furthermore, DMIRS also requested that the Licence Holder demonstrate that the location of the discharge point for the Argo hydroslide is consistent with commitments made within the SIGM: *The Beyond 2018 Project*.	Noted. The department's assessment and approval of waste disposal at the North Orchin landfill is not impacted by the absence of an approved MP for the activity. The applicant will need to ensure they apply for and receive all necessary approvals required by DMIRS before commencement of the waste disposal at North Orchin. The department sought confirmation about the geotextile liner for the turkeys nest from the applicant. On 14 September 2022, the applicant confirmed that the geotextile liner for the turkeys nest will be used. They confirmed that this detail was included in an amendment MP. They noted that the plastic liner of the hydro slide (existing) will be removed when the new pipeline is installed in the hyrdo slide corridor.
Shire of Coolgardie (26 May 2022)	No response received	N/A
Applicant was provided with draft documents on 30 September 2022	Comment received 21 October 2022. Refer to Appendix 1.	Refer to Appendix 1.

Conclusion

Based on the assessment in this Amendment Report, the Delegated Officer has determined that a Revised Licence will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

5.1 Summary of amendments

Table 6 provides a summary of the proposed amendments and will act as record of implemented changes. All proposed changes have been incorporated into the Revised Licence as part of the amendment process.

Table 6: Summary of licence amendments

Condition no.	Proposed amendments
3	Removal of reference to decant water, dewatering effluent and sewage and replaced with reference to materials listed in Table 1. Addition of “or dam number(s) or waste rick landform” to replace “ponds and enclosed tanks” Table 1: Removal of the WWTP ‘P5’ reference Addition of C23 (North Orchin TSF) and C24 (Diana Landfill)
4	Addition of “or dam number(s) 4. (a) Addition of C23 and C24
6	Update Table 2: Inspection of Infrastructure to include: • Addition of Diana Landfill inspection type and frequency
9	Update Table 3: Management of Waste to include: • Addition of North Orchin TSF as a Dried sewage sludge disposal location; • Addition of North Orchin TSF in Contaminated solid waste
10	Update Table 4: Waste Processing to include: • Addition of Paddy’s and North Orchin TSF to Sewage sludge waste type
11	11 (b) addition of “as soon as practicable after it is discharged and at a minimum of the end of the day” and removal or “to ensure all faces are stable and capable of retaining rehabilitation material: 11 (c) Remove condition 11 (C) and update with condition 11 (d)
17	Update geotextile fabric standard in Infrastructure design requirements table.
23	Update Table 23: Design and Construction requirements to reflect current construction. Removal of dewatering discharge point W14
28	Table 8: Emission points to surface water • Removal of Emission Point W12 • Emission Point W8 remove “pipework into the Argo Turkey’s nest (as depicted in Schedule 1, Figure 15). Prior to discharge mine dewater must be settled in the Argo turkey’s nest. Energy dissipation infrastructure must be maintained so as not to cause erosion of the lake surface” • Removal of W14 • Removal of West Idough
29	Table 9: Point source emission limits to surface water • Removal of Emission Point W12. • Addition of W15, W16, W17, W18, W19, W20 and W21 (these emissions points had been inadvertently missed from Table 9 of the licence that

	specifies a pH limit.
31	Table 11: Emissions to Land • Removal of Emission Point P5 • Removal of Athena Paste Sewage Treatment Plants
36	Table 13: Monitoring of point source emissions to surface water • Removal of Emission Point W12
37	Table 14: Monitoring of emissions to land • Removal of Emission Point P5
38	Table 15: Monitoring of inputs and outputs • Removal of Emission Point P5
39	Table 16: Monitoring of ambient groundwater quality • Addition of Monitoring Point SID01, SID02, NOMB04d. Removal of NOMB09, SID597 and CD2538. Change Frequency to Six Monthly. • Removal of Monitoring Point LEVMB01, TSF44-4A and Addition of LEVMB01D • Removal of Emission Point W12
All conditions	Edited to be consisted with most recent condition updates
Maps	Updated to be consistent with current operation
Schedule 2: Premises boundary	Removal of Tenements taken over by Lunnon Metals Limited Addition of new Tenements

References

1. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
2. Department of Water and Environmental Regulation (DWER) 2020a, *Guideline: Environmental Siting*, Perth, Western Australia.
3. DWER 2020b, *Guideline: Risk Assessments*, Perth, Western Australia.

Appendix 1: Summary of Licence Holder's comments on risk assessment and draft conditions

Condition	Summary of Licence Holder's comment	Department's response
	North Orchin is referred to throughout the licence as a 'landfill', when it should be referred to as a waste disposal location and still called North Orchin TSF (as it contains tailings). In the same way we have previously had Leviathan TSF and Paddy's Pit TSF licenced as waste disposal locations. North Orchin TSF will not be taking our site produced general waste that is collected in bins by our waste contractor (but it is proposed the Diana Landfill will).	Accepted
3 Table 1	Requirement for stormwater drains and controlled access gateway around the perimeter seems unreasonable for North Orchin TSF, as it is not a landfill, rather a waste disposal location as Leviathan TSF and Paddy's Pit TSF currently are.	Requirement removed and accepted by DWER as risk is low
6 Table 2	Inspection requirement is not there for other licenced waste disposal locations (Leviathan TSF and Paddy's Pit TSF), why is it required for North Orchin TSF?	Requirement removed and accepted by DWER as risk is low
6 Table 2	Argo Turkey's Nest – there shouldn't be an inspection requirement here, when none of the other turkeys nest's have this requirement	Accepted. Over topping not in risk assessment with risk over erosion from overtopping low
11	The height change of the tipping from 30m to 2m – it would be preferred if we had the option to backfill waste into North Orchin TSF and the height of the tip head for backfill is 11.5m (we are currently able to backfill into Leviathan TSF and Paddy's Pit TSF). The 2m tipping height for Diana Landfill however, is accepted.	Condition was updated to reflect current DWER standards Accepted – condition updates removed and original condition reinstated (change to a minimum and not larger than 30 m by 30 m)
23 Table 6	The construction requirements are very specific for W8, if we need to make small changes in design (without creating new or greater impact) we won't be able to do that. Our application refers to some measurements as 'approximates', not actuals (eg. the length of the pipeline). The existing discharge points are not held to this level of detail,	Construction of the dewatering pipelines is being authorised under this amendment and therefore the design specifications stipulated within the application have been conditioned to ensure what has been proposed to be constructed is being

Condition	Summary of Licence Holder's comment	Department's response
	what is the reason for this? Design and construction requirements are also listed in Table 5 (repetition).	constructed. The intent of this condition is to control construction specifications as stated by the applicant. This condition can be removed in a subsequent licence amendment after this infrastructure has been constructed and compliance documentation provided in accordance within condition 24. Some modifications has been made to remove overly detailed requirements to allow some flexibility that does not affect risk rating.
23 Table 6	As above, the construction requirements are also very specific for this turkey's nest, more than other turkeys nests, why? Design and construction requirements are also listed in Table 5 (repetition).	Construction of the turkey's nest is being authorised under this licence amendment and therefore the design specifications stipulated within the application have been conditioned to ensure what has been proposed to be constructed is being constructed. This condition can be removed in a subsequent licence amendment after this infrastructure has been constructed and compliance documentation provided in accordance within condition 24. Some modifications has been made to remove overly detailed requirements to allow some flexibility that does not affect risk rating.

Appendix 2: Application validation summary

<table>
<tr><th colspan="6">SECTION 1: APPLICATION SUMMARY</th></tr>
<tr><td colspan="6">Application type</td></tr>
<tr><td rowspan="2">Amendment to licence</td><td rowspan="2">☒</td><td>Current licence number:</td><td colspan="3">L8485/2010/2</td></tr>
<tr><td>Relevant works approval number:</td><td>N/A</td><td>N/A</td><td>☒</td></tr>
<tr><td colspan="2">Date application received</td><td colspan="4">14/03/2022</td></tr>
<tr><td colspan="6">Applicant and Premises details</td></tr>
<tr><td colspan="2">Applicant name/s (full legal name/s)</td><td colspan="4">St Ives Gold Mining Company Pty Ltd</td></tr>
<tr><td colspan="2">Premises name</td><td colspan="4">St Ives Gold Mine</td></tr>
<tr><td colspan="2">Premises location</td><td colspan="4">KAMBALDA WEST WA 6442
Mining tenements as described in schedule 2 of L8485/2010/2.</td></tr>
<tr><td colspan="2">Local Government Authority</td><td colspan="4">Shire of Coolgardie</td></tr>
<tr><td colspan="6">Application documents</td></tr>
<tr><td colspan="2">HPCM file reference number:</td><td colspan="4">DER2018/000300-1</td></tr>
<tr><td colspan="2">Key application documents (additional to application form):</td><td colspan="4">Landfill Operations Plan
Waste Management Plan
Groundwater Monitoring Data
Maps</td></tr>
<tr><td colspan="6">Scope of application/assessment</td></tr>
<tr><td colspan="2">Summary of proposed activities or changes to existing operations.</td><td colspan="4">The proposed amendments pertain to:
Category 6 – Mine Dewatering:
Redevelopment of Argo Hydroslide (Licenced discharge point W08) to include a turkey's nest (Argo Turkey's Nest) and resumes operations as a dewatering discharge point
Category 64 – Class II or III putrescible landfill site:
A new landfill facility (Diana Landfill) is proposed in the location of the backfilled Diana Open Pit
A new waste disposal location (North Orchin Waste Disposal) is proposed at North Orchin TSF.
Administrative changes:
Remove, add or substitute licenced monitoring bore locations
Update monitoring frequency so site operations reflect what is set out in the Licence
Remove Temeraire (W12) emissions point and monitoring requirements from the Licence
Remove WWTP P5 from the Licence.</td></tr>
</table>

Category number/s (activities that cause the premises to become prescribed premises)

Table 1: Prescribed premises categories

Prescribed premises category and description	Assessed production or design capacity	Proposed changes to the production or design capacity (amendments only)
Category 5: Processing or beneficiation of metallic or non-metallic ore	9 000 000 tonnes per annual period	N/A
Category 6: Mine dewatering	30 000 000 tonnes per annual period	No change
Category 7: Vat or in situ leaching of metal	3 000 000 tonnes per annual period	N/A
Category 54: Sewage facility	220 cubic metres per day	N/A
ategory 57: Used tyre storage (general): premises (other than premises within category 56) on which used tyres are stored	500 tyres	N/A
Category 64: Class II or III putrescible landfill site	7 000 tonnes per annual period	No change

Legislative context and other approvals

Has the applicant referred, or do they intend to refer, their proposal to the EPA under Part IV of the EP Act as a significant proposal?	Yes ☐ No ☒	Referral decision No: N/A Managed under Part V ☒ Assessed under Part IV ☐
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes ☒ No ☐	Ministerial statement No: MS 879 EPA Report No: 1411
Has the proposal been referred and/or assessed under the EPBC Act?	Yes ☐ No ☒	Reference No: N/A
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes ☐ No ☒	Certificate of title ☐ N/A General lease ☐ Expiry: N/A Mining lease / tenement ☐ Expiry: N/A Other evidence ☐ Expiry: N/A
Has the applicant obtained all relevant planning approvals?	Yes ☐ No ☐ N/A ☒	Approval: N/A Expiry date: N/A If N/A explain why? An

		application to amend the One Mining Proposal has been submitted to DMIRS for the addition of the proposed Argo Turkey's Nest and associated pipeline infrastructure.
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes ☐ No ☒	CPS No: N/A No clearing is proposed.
Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes ☐ No ☒	Application reference No: N/A Licence/permit No: N/A
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes ☐ No ☒	Application reference No: N/A Licence/permit No: N/A Licence / permit not required.
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes ☐ No ☒	Name: N/A Type: N/A Has Regulatory Services (Water) been consulted? Yes ☐ No ☐ N/A ☒ Regional office: N/A
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes ☐ No ☒	Name: N/A Priority: P1 / P2 / P3 / N/A Are the proposed activities/ landuse compatible with the PDWSA (refer to WQPN 25)? Yes ☐ No ☐ N/A ☒
Is the Premises subject to any other Acts or subsidiary regulations (e.g. *Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx*)	Yes ☒ No ☐	• Environmental Protection (Controlled Waste) Regulations 2004 • *Mining Act 1978*
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes ☐ No ☒	N/A
Is the Premises subject to any EPP requirements?	Yes ☐ No ☒	N/A

Is the Premises a known or suspected contaminated site under the *Contaminated Sites Act 2003*?	Yes ☒ No ☐	Classification: Possibly contaminated – investigation required. Date of classification: 27/02/2020