



Application for Licence Amendment

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

Licence Number	L9013/2016/1
Licence Holder	Gascoyne Resources Limited
ACN	139 522 900
File Number	DER2016/002214-1
Premises	Dalgaranga Gold Project Legal description – Mining Lease M59/749 and Miscellaneous Licence L59/151 DAGGAR HILLS WA 6638 As defined by the Premises maps attached to the Revised Licence
Date of Report	8 November 2021

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

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1. Decision summary

Licence L9013/2016/1 is held by Gascoyne Resources Limited (Licence Holder) for the Dalgara Gold Project (the Premises), located at Mining Lease M59/749 and Miscellaneous Licence M59/151, Daggar Hills, Western Australia.

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 operation of the Premises. As a result of this assessment, Revised Licence L9013/2016/1 has been granted.

The Revised Licence issued as a result of this amendment consolidates and supersedes the existing Licence previously granted in relation to the Premises.

2. 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 9 July 2021, the Licence Holder submitted an application to the department to amend Licence L9013/2016/1 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The following amendments are being sought:

- Increase in Category 5 processing plant throughput from 2.8 Mt/annum to 3.0 Mt/annum;
- Removal of the weak acid dissociable cyanide (WAD CN) limit (50 mg/L) from condition 12. Limit relates to concentration of WAD CN in the Tailing Storage Facility (TSF) decant pond.
- Installation of a replacement monitoring bore next to bore MBWD01 which can no longer be accessed for sampling. The replacement bore to be labelled MBWD01a

Administrative amendments

- Update site plan 5 – Golden Wings in pit groundwater monitoring bores, with a new version of the plan showing the new bore label (MBWD01a)
- Update site plan 1 and 4 with new site plans
- Update Table 7 within the licence with new bore label (MBWD01a)
- Removal of reference to the decommissioned Gilbeys TSF as tailings will no longer be discharged to it.

2.2.1 Increase in Processing plant throughput

The Licence Holder wishes to increase the throughput for the processing plant from 2.8 Mt/annum to 3.0Mt/annum. Construction or installation of additional plant infrastructure will not be required to achieve this 0.2Mt/annum increase in throughput. The increase will be the result of plant optimization processes and processing of softer ore which will allow for a greater throughput to be processed through the plant.

No changes to the environmental management systems for the plant have been proposed.

2.2.2 Removal of Gilbeys TSF from licence

The premises has two TSFs, one being Gilbeys TSF which is an open area dam, approximately 63ha in size and the other being the Golden Wings in-pit TSF. The Licence Holder has stated that tailings is no longer being deposited within Gilbeys TSF and that it is being decommissioned and decant pond allowed to dry out. Tailings is now being deposited into the Golden Wings in-pit TSF since March 2021.

The Licence Holder has confirmed that they wish to have the Gilbeys TSF removed from the licence as an authorised discharge point for tailings. As there will no longer be a decant pond associated with the Gilbeys TSF, decant water quality monitoring conditions will also be updated to remove reference to Gilbeys TSF.

2.2.3 Removal of the WAD CN limit

Condition 12 of the existing licence requires monthly monitoring of WAD CN concentration within the decant pond for each TSF (Golden Wings in-pit TSF and Gilbeys TSF) on the premises and sets a limit of 50mg/L of WAD CN. The Licence Holder is requesting that this limit is removed from the licence.

The purpose of the 50mg/L WAD CN limit within the decant ponds is to reduce health impacts to birds who may come in contact with the decant pond water.

As the Gilbeys TSF will be removed from the licence as a tailings discharge point and therefore will no longer have a decant pond, the removal of the WAD CN limit applies to the decant pond on the Golden Wings in-pit TSF.

As mining has progressed deeper into fresh rock, the ore contains significant amounts of metal sulphides. The higher levels of metal sulphides result in higher WAD CN concentrations and consequently higher dosing levels of cyanide being required to liberate the gold. The Licence Holder expects that some of these problem ore types will reduce as the mine reaches more consistent fresh rock types and the need for higher cyanide dosing will reduce.

The Licence Holder is required to undertake monthly monitoring of the decant water and has done so since August 2018. Elevated WAD CN readings from the Gilbeys TSF decant water above the 50mg/L limit have been recorded throughout the last reporting period. Since January 2019, the WAD CN concentrations have ranged from below 50mg/L up to 200mg/L. Figure 1 below indicate the WAD CN concentrations of the Gilbeys TSF decant pond since April 2020.

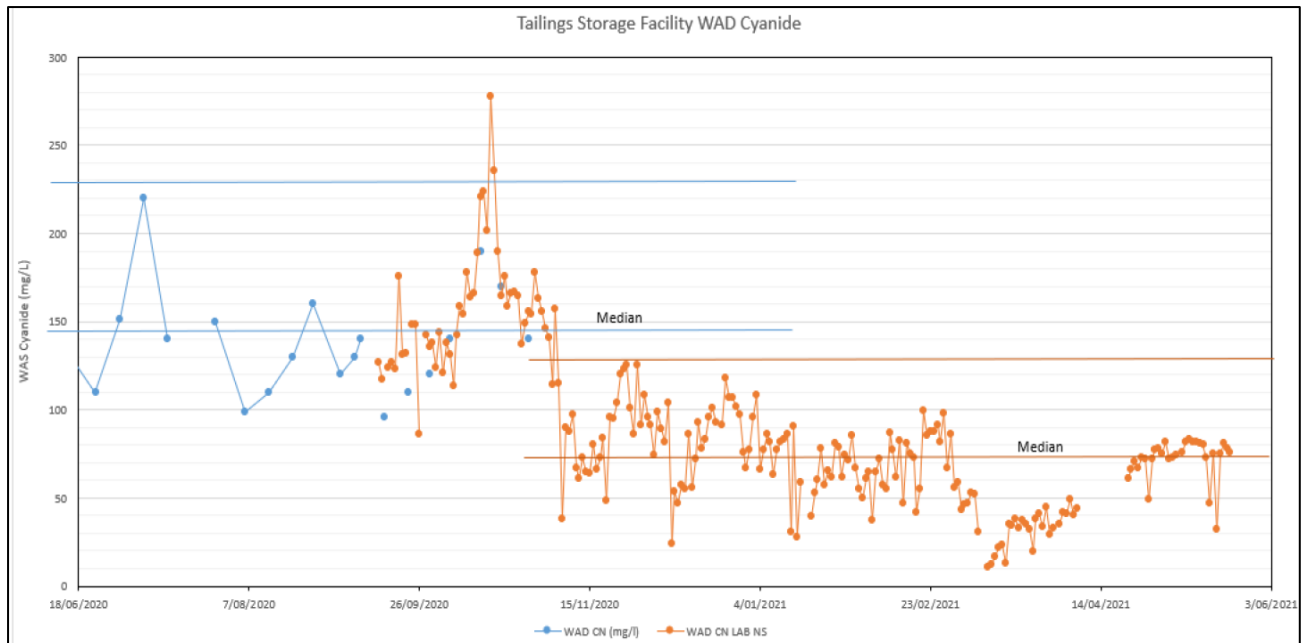


Figure 1: TSF decant WAD-CN concentrations (mg/L)

No data has been provided for the water quality of the Golden Wings in-pit TSF decant pond since deposition only began in March 2021. The Licence Holder has stated that they expect pond water to be of similar water quality as to water found in the Gilbeys TSF.

The Licence Holder has tried to address this non-compliance with the 50mg/L limit by taking steps to optimise the cyanide input into the plant via an online monitor and have investigated WAD CN destruction methods within the decant pond. Over the last 12 months the Licence Holder has:

- installed an automated cyanide dosing system in the process plant and lowered set points to reduce cyanide addition;
- limited the treatment of high percentage shale and sulphur ore types which are known to consume higher volumes of cyanide;
- investigated two traditional WAD CN chemical destruction methods using sodium metabisulphite and Caro's acid;
- trailed the use of local bacteria to consume WAD CN; and
- undertaken a desktop assessment of the level of risk to birds along with a prefeasibility investigation into bird deterrent technology.

The Licence Holder has stated that the two traditional WAD CN chemical destruction methods (sodium metabisulphite and Caro's acid) investigated were effective in reducing WAD CN concentrations, however came at a high cost, due to the importation and transport of significant quantities of chemicals. The Licence Holder determined that the two chemical destruction methods would reduce the market and shareholder value of the Gascoyne Group to an unacceptable level and therefore do not want to pursue these methods. The destruction of WAD CN using local bacteria showed potential, however to date, has not produced sustainable results and therefore the Licence Holder does not want to pursue this method either.

The Licence Holder expects to continue to not comply with the 50mg/L WAD CN limit within the decant pond of Golden wings in-pit TSF as they expect they will continue to encounter ore with high levels of metal sulphides which will result in higher WAD CN concentrations within the decant pond. The Licence Holder therefore would like the WAD CN limit removed from condition 12 of the licence.

To manage the risk to birds, who interact with the Golden Wings in-pit TSF decant pond, from high levels of WAD CN the Licence Holder is proposing to install 3 gas guns along with visual deterrents in the form of kites and reflectors to deter bird use and to undertake an investigation to quantify the level of risk to birds and assess the feasibility of other cutting-edge bird deterrent technologies.

3. 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 2020).

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 operation which have been considered in this Amendment Report are detailed in Table 1 below. Table 1 also details the proposed control measures the Licence Holder has proposed to assist in controlling these emissions, where necessary.

Table 1: Licence Holder controls

Emission	Sources	Potential pathways	Proposed controls
Noise	Operation of processing plant (crushing and screening and CIL processing) at an increased throughput of 3 Mtpa (800 000 tpa increase)	Air/windborne pathway	No additional controls proposed. Receptors are too far for a pathway to exist.
Air emissions	Air emissions (increase) from carbon regeneration kiln etc.	Air/windborne pathway	No additional controls proposed. Receptors are too far for a pathway to exist.
Dust	Operation of processing plant (crushing and screening and CIL processing) at an increased throughput of 3 Mtpa (800 000 tpa increase)	Air/windborne pathway	Existing water sprays installed on crusher for dust suppression are sufficient.
Contaminated stormwater (hydrocarbon spills / sediment)	Increase in sediment Spills and leaks from processing plant	Overland runoff potentially causing ecosystem disturbance	Existing stormwater management infrastructure (containment bunds with sediment basin captures contaminated stormwater within processing area. Plant installed on concrete hardstand

Emission	Sources	Potential pathways	Proposed controls
			with bunding to contain any spills are leaks from the mill or leach tanks.
TSF Decant water with WAD CN concentration greater than 50mg/L	TSF Decant Pond	Direct ingestion of pond water by waterbirds / wildlife	Drying out of the large paddock style Gilbeys TSF to remove decant pond (discontinue use of the TSF as tailings now going into the in-pit TSF). Deployment of traditional bird deterrents around the Golden wings in-pit TSF (gas guns and kites) A 24-month investigation (carried out by a consultant) into the level of risk to birds from exposure to the decant pond (with high levels of cyanide) which will include: - Monitoring of birds visits to the decant pond (Including electronic monitoring using artificial intelligence augmented surveillance cameras); and - An assessment of traditional and modern bird deterrence technology.
		Seepage into groundwater	A network of groundwater monitoring bores exists around the in-pit TSF to monitor impacts to groundwater – sampled monthly A limit for WAD CN concentrations has been applied to these bores - <0.5 mg/l.

3.1.2 Receptors

In accordance with the *Guideline: Risk assessments* (DWER 2020), 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 2 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 2020)).

Table 2: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	Distance from prescribed activity
Residential Premises	No pathway to human receptors has been identified. The closest town is Mount Magnet which is about 60 km to the southeast.
Environmental receptors	Distance from prescribed activity
Native vegetation	Native vegetation is present east, less than 500m, from processing plant area. No priority flora has been located within 5km of processing plant.
Birds	No bird species identified as occurring or potentially occurring within the Dalgaringa Project Area are listed as Critically Endangered, Endangered, Vulnerable, Presumed Extinct, Migratory or Conservation Dependent under either the <i>Biodiversity Conservation Act</i>, (2016) (Western Australia) or the <i>Environmental Protection and Biodiversity Act</i> (1999) (Commonwealth) (Cooe, 2021) Bird species identified (by Cooe, 2021) as potentially being at high risk from impacts from TSF decant pond; ▪ <i>Anas gracilis</i> (Grey Teal) ▪ <i>Anas superciliosa</i> (Pacific Black Duck) ▪ <i>Aythya australis</i> (Hardhead) ▪ <i>Falco peregrinus</i> (Peregrine Falcon) Priority fauna ▪ <i>Fulica atra</i> (Eurasian Coot) ▪ <i>Malacorhynchus membranaceus</i> (Pink-eared Duck) ▪ <i>Oxyura australis</i> (Blue-billed Duck) ▪ <i>Poliocephalus</i> (Hoary-headed Grebe) ▪ <i>Tadorna tadornoides</i> (Australian Shelduck)
Groundwater	Premises is located within the East Murchison Groundwater Management Area.

3.2 Risk ratings

Risk ratings have been assessed in accordance with the Guideline: Risk Assessments (DWER 2020) for those emission sources which are proposed to change and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are incomplete they have not been considered further in the risk assessment.

Where the Licence Holder has proposed mitigation measures/controls (as detailed in Section 3.1), 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 3.

The Revised Licence L9013/2016/1 that accompanies this Amendment Report authorises emissions associated with the operation of the Premises. The conditions in the Revised Licence have been determined in accordance with Guidance Statement: Setting Conditions (DER 2015).

Table 3. Risk assessment of potential emissions and discharges from the Premises during 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	Licence Holder's controls				
Operation								
Operating Category 5 processing plant at increased throughput (2.8 Mtpa to 3.0 Mtpa – 0.2Mtpa increase).	Dust	Air/windborne pathway causing impacts to health of vegetation	Native vegetation adjacent to processing facility. No specified ecosystems or rare/threatened flora.	Refer to Section 3.1.1	C=Minor L= unlikely Medium Risk	Yes	N/A.	No change to risk rating. Applicant's existing dust controls sufficient to manage this risk. No additional regulatory controls required.
	Contaminated stormwater (hydrocarbon/chemical spills / sediment)	Overland runoff potentially causing ecosystem disturbance	Native vegetation adjacent to processing facility. No specified ecosystems or rare/threatened flora.	Refer to Section 3.1.1	C= Moderate L= Unlikely Medium Risk	Yes	Existing condition 3 (Table 1) stormwater management operational requirements.	No change to risk rating. Applicant's existing controls sufficient. Existing conditions on the licence adequately mange this risk

Licence: L9013/2016/1

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	Licence Holder's controls				
Removal of WAD CN limit of 50mg/L from decant pond of TSF	WAD CN concentration within decant pond greater than 50mg/L	Direct ingestion of decant pond water / absorption through skin	Water birds / wildlife	Refer to Section 3.1.1	C= Moderate L= Possible Medium Risk	Yes	New requirement in condition 3, Table 1- gas guns and kites New condition 14- bird monitoring requirements New condition 15 – investigation into level of risk to birds and feasibility of bird deterrent technology	See Detailed risk assessment in section 3.3.1
		Leachate (containing higher levels of cyanide) from Golden Wings in-pit TSF seeping into groundwater	Groundwater	Refer to section 3.1.1	C= Moderate L= Unlikely Medium Risk	Yes	Existing condition 10 (monitoring of groundwater quality around TSF, including a limit for WAD CN of 0.5mg/L) New condition 1 – replacement monitoring bore construction requirements New condition 2 – construction report submission	Groundwater monitoring bores existing around the in-pit TSF. Groundwater monitoring data to date have recorded WAD CN levels below the limit of 0.5mg/L. No exceedances of this limit have been recorded since monitoring of groundwater began. Bore MBWD01 has been damaged and therefore will be replaced with bore MBWD01a. Conditions have been added to the licence for bore construction requirements.

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guideline: Risk assessments* (DWER 2020).

Note 2: Proposed Licence Holder's controls are depicted by standard text. **Bold and underline text** depicts additional regulatory controls imposed by department.

3.3 Detailed risk assessment

3.3.1 Description of risk event – WAD CN concentrations >50mg/L within TSF decant pond

The Licence Holder wishes to have the limit (50mg/L) within condition 12 for WAD CN within the TSF decant ponds removed as they have been exceeding this limit for over 12 months. Monthly monitoring of the Gilbeys TSF decant water has been undertaken since August 2018.. The data indicates the pond is alkaline with pH readings between 8.4-10.3 and Total dissolved solids (TDS) ranging between 4,040mg/L – 9570 mg/L. Elevated WAD CN readings from the Gilbeys TSF decant water above the 50mg/L limit have been recorded throughout the last reporting period. Since January 2019, the WAD CN concentrations have ranged from below 50mg/L up to 200mg/L (see Figure 1).

Decant pond monitoring data has not been provided for the new Golden Wings in-pit TSF since deposition of tailings has only just begun (since March 2021). The Licence Holder has stated that it is expected that the decant pond water within the Golden Wings TSF will have similar water quality to that of the Gilbeys TSF.

Deposition of tailings into the Gilbeys TSF was discontinued in March 2021 with tailings now being deposited in the Golden Wings in-pit TSF. The Licence Holder has stated that the approved stage 5 lift for the Gilbeys TSF will now not proceed and that the decant tower and spigots are currently being removed. The Gilbeys TSF will be allowed to dry completely removing the decant pond as a potential pathway for cyanide exposure of birds. Therefore, this risk assessment will focus on impacts from the Golden Wings in-pit TSF decant pond only.

Research has indicated that gold processing tailings with residual WAD CN in solution above 50 mg/L, with a salinity of less than 50,000 mg/L, present a risk to wildlife health (Adams *et al* 2008). Cyanide in the bloodstream is toxic to birds and may cause death. Birds may be exposed to cyanide when they interact with the decant pond. Waterbirds may ingest the pond water or absorb the cyanide through the skin (from wading or diving). Predator bird species may ingest cyanide by drinking pond water or ingesting small prey birds who have been exposed to cyanide.

The Licence Holder has commissioned COOE Pty Ltd in January 2021 to undertake a desktop risk assessment for bird exposed to WAD CN in the two existing TSF on the premises. The assessment found that eight species of waterbirds and one Priority 1 predator species (see Table 3) scored a significant level of risk, indicating management action required while the TSF decant ponds have elevated WAD CN levels. Thirty-one species of non-passerine birds were determined to be at an intermediate risk level requiring ongoing monitoring of potential risk. No bird species identified as occurring or potentially occurring within the Dalgara Project Area are listed as Critically Endangered, Endangered, Vulnerable, Presumed Extinct, Migratory or Conservation Dependent under either the *Biodiversity Conservation Act*, (2016) or the *Environmental Protection and Biodiversity Act* (1999). The desktop risk assessment identified some information gaps which suggest that the risk assessment is over conservative. Site specific monitoring of bird visits was recommended.

3.3.2 Proposed controls

To deter birds from using the in-pit TSF decant pond the Licence Holder is proposing to deploy gas guns and kites around the in-pit TSF, including modifying the timing and frequency to reduce the change of habituation by birds.

As well as using conventional bird deterrents the Licence Holder is proposing to commission Cooe Pty Ltd to undertake an investigation to help inform the Licence Holder on the scale of

the potential harm to birds from elevated levels of cyanide in the in-pit TSF and to investigate the effectiveness of bird deterrent strategies currently used within the aviation and agricultural industries. The scope of the investigation will be as follows (Cooe, 2021a);

1. Design and implement a person-based bird monitoring program over a period of twenty-four months to gather site specific data on birds; including species, numbers, interaction with TSF/behaviour, and response to the traditional bird deterrents, and date time of observations
2. Evaluate the bird data to provide the level of risk to birds associated with the tailings storage facilities
3. Determine the feasibility of using Artificial Intelligence (AI) to detect and quantify the numbers and species of birds to maximise the data collected and improve the quality of the risk assessment. If shown to be feasible execute this data collection methodology
4. Determine the feasibility of using the artificial intelligence, developed in item 3, to trigger traditional bird deterrent devices in prevent harm to birds and execute if feasible. Further, assess its effectiveness against the data collected in item 1, where the level of risk is unacceptable.
5. Determine the feasibility of applying the AI species-based bird deterrent technology being developed for the agricultural industry to the mining application.

Outcomes from the 24-month study will be (Cooe,2021a):

1. A collation of bird monitoring data acquired by various means (attended, incidental and electronic surveillance) over a 24-month study. The data will be processed and interpreted on a routine basis generating interim summaries every six months.
2. An update of the desktop bird risk assessment with recommendations on the management of the level of risk of harm to birds from WAD CN in tailings storage facilities.
3. A report on the feasibility of using AI surveillance cameras for monitoring birds at the remote sites around Dalgaranga Project.
4. A report on the feasibility of AI managed traditional bird deterrence if it proves to provide significant advantages over the traditional time-based bird deterrence systems
5. An assessment of bird behavior and response to the deterrence system.
6. An assessment of bird species specific deterrents triggered by AI, if required.

3.3.3 Consequence

Cyanide exposure from the decant pond of the in-pit TSF may result in mortalities to birdlife (with the potential to impact a Priority 1 species), therefore the consequence rating has been determined to be '**Moderate**' as (mid-level impacts may occur (death of a small number of birds)).

3.3.4 Likelihood

Based on the information provided, the likelihood that birdlife may be impacted by exposure to WAD CN above concentrations of 50mg/L within the in-pit TSF decant pond has been determined to be '**Possible**' as the risk event could occur at some time.

3.3.5 Overall risk rating and regulatory outcome

The overall risk rating for this risk event has been determined to be '**Medium**' once the

Licence Holder's proposed controls have been implemented. These controls will be conditioned within the licence (new conditions 3, 14 and 15).

Based on this risk assessment the Delegated Officer has determined that the removal of WAD CN limit from condition 12 (now condition 11) is acceptable. The Licence Holder will be required to undertake monitoring of bird visitation to the in-pit TSF decant pond, implement conventional bird deterrent technologies (gas guns and kites) and to undertake an investigation into the feasibility of the use of other conventional and modern bird deterrent technologies.

Authorisation allowing tailings to be deposited within the Gilbeys TSF will also be removed from the licence as the Licence Holder has informed the department that Gilbeys TSF has been decommissioned. The large paddock style Gilbeys TSF has a different risk level to birds (from WAD CN present within the decant pond) then the Golden Wings in-pit TSF and has not been considered as part of this assessment due to Gilbeys TSF no longer being used for tailings deposition. To ensure the Gilbeys TSF won't be used in the future for tailings deposition, and hence form a decant pond, it has been removed from the licence as a tailings discharge point.

4. Consultation

The Licence Holder was provided with the draft Amendment Report on 12 October 2021. Comments received from the Licence Holder on 23 October 2021 have been considered by the Delegated Officer as detailed in Appendix 1.

5. 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 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 4: Summary of licence amendments

Condition no.	Proposed amendments
Cover page	Assessed production capacity for Category 5 has been updated from 2.8 to 3.0 Mtpa.
Condition 1, Table 1 (deleted)	Deleted. Condition relates to construction requirements for Stage 5 embankment lift for the Gilbeys TSF. The Licence Holder has stated that they no longer plan to construct this lift as the Gilbeys TSF will no longer be a discharge point for tailings and is being decommissioned.
Condition 2 (deleted)	Deleted. Condition relates to the operation of the Gilbeys TSF after stage 5 embankment construction compliance conditions have been submitted. Stage 5 is no longer being constructed so this condition is no longer required.
New condition 1	New condition added for construction requirements of replacement groundwater monitoring well MBWD01 with MBWD01a
New condition 2	New condition requiring Licence Holder to submit a construction report for new monitoring well.
	Reference to Table 2 has been changed to be Table 1 (as original Table 1 in Condition

Condition 3	1 has been deleted).
	Table 1 rows 7-9 have been deleted. These rows refer operational requirements for Gilbeys TSF i.e freeboard, decant tower and spigots. These have been deleted as TSF is being decommissioned
	New row has been added regarding Gilbeys TSF being a decommissioned TSF and that Tailings is no longer to be discharged into it.
	New requirement added requiring the Licence Holder to use bird deterrent technology to deter birds from interacting with the in-pit TSF decant pond.
Condition 4	Condition relates to authorized emissions. Reference to Table 3 has been changed to Table 2. Reference to the discharge of tailings to Gilbeys TSF has been removed from this condition as it has been decommissioned.
Condition 5	Reference to Table 4 has been changed to Table 3
Condition 6	Reference to Table 5 have been updated to be Table 4
Condition 7	Reference to Table 6 have been updated to be Table 5. Wording within row 3 have been modified to remove reference to embankments. Reference to a pump in row 4 has been removed.
Condition 8 (deleted)	Former condition 8 required the licence holder to undertake a monthly water balance of the Gilbeys TSF. As the Gilbeys TSF is being decommissioned a monthly water balance is not required.
Condition 10	Reference to Table 7 has been changed to Table 6. Monitoring bore MBWD01 has been deleted and replaced with MBWD01a as MBWD01 can no longer be accessed for sampling and has been replaced.
Condition 11	Reference to Table 8 has been changed to Table 7. Wording within column 1 changed to refer to only the Golden Wings in-pit TSF. WAD CN limit of 50mg/L within the decant pond has been removed.
Condition 12	References to condition 14 has been added. Reference to condition 11 and 12 has been changed to refer to conditions 10 and 11.
Condition 13	Reference to Table 9 has been changed to Table 8.
New condition 14	A new condition has been added requiring the licence holder to undertake monitoring of birds that interact with the in-pit TSF decant pond.
New condition 15	A new condition has been added that requires the Licence Holder to undertake an investigation in accordance with the document: 'GNT Resources, Dalangaranga Gold Project, Proposal to:1. Quantify the level of risk to birds from exposure to mine tailings water 2. Assess the feasibility of bird deterrent technology for application to mining' by Cooe Pty Ltd and dated 10/6/2021.
Condition 16 (deleted)	Deleted. Condition relates to the requirement to submit construction compliance report regarding the Stage 5 TSF lift. Lift is no longer being built and construction requirement condition has been removed. Therefore, this condition is no longer necessary.
Condition 17	Reference to previous condition numbers within (e) have been updated to refer to new numbers. Reference to 'material change' has been deleted from this condition as it is unnecessary.
Condition 20 (deleted)	Condition relates to the submission of a report every quarter of the SWL data collected from the Gilbeys TSF groundwater monitoring bores. This condition has been deleted as the TSF is being decommissioned and therefore the submission of SWL data every quarter is unnecessary.

Condition 21- renumbered to be condition 20	References to condition numbers within Table 10 has been updated to new numbers where applicable. Reference to water balance data (old condition 8) has been deleted. A row has been added requiring the submission of bird monitoring data collected in accordance with condition 14
New condition 22	A condition has been added requiring the submission of a report of the outcome of the investigation required by condition 15.
Definitions	Some definitions deleted and some new definitions added.
Schedule 1 - Maps	Site plan 1, 4 and 5 updated to new maps.
Schedule 2 – TSF lift diagram	Schedule 2 has been deleted as Stage 5 lift is no longer going ahead.
Schedule 2 – monitoring well construction	New Schedule 2 has been added to outline monitoring well construction requirements.

References

1. Adams, M.D., Donato D.B., Schulz, R.S. and Smith, G.B., (2008) *Influences of Hypersaline Tailings on Wildlife Cyanide Toxicosis*; MERIWA Project M398 (II) 'Cyanide Ecotoxicity at Hypersaline Gold Operations' Final Report Volume 2 – Definitive Investigation, 26 August 2008.
2. Cooe Pty Ltd, 2021, *GNT Resources Pty Ltd Dalgaranga Gold Mine, Desktop Bird Risk Assessment for Cyanide in Tailings*, Dated 18/01/2021, Unpublished Report, DWER Record A2025031.
3. Cooe Pty Ltd, 2021a, *GNT Resources Dalgaranga gold Project Proposal to: 1. Quantify the level of risk to birds from exposure to mine tailings water 2. Assess the feasibility of bird deterrent technology for application to mining*. Dated 10/6/2021. Unpublished report. DWER record A2025030.
4. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
5. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
6. DWER 2020, *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
Front page	On the front page - M59/151 should read L59/151	Updated as requested.
Schedule 2	Schedule 2: Well network Map – do we read this condition as applying to the Licenced monitoring wells.	Schedule 2 table 12 only relates to the construction of replacement monitoring well MBWD01a. Schedule 2 is linked to the new conditions 1 and 2 of the licence. These requirements do not apply to the already constructed licenced monitoring wells.
Schedule 2 Table 12	Schedule 2: Time frame – 90 days to replace the bore. The industry is currently extremely active and hence the time to find a water bore drill rig and mobilise to site could be longer than 90 days. We request that this timing be 120 days.	Updated as requested.

Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY					
Application type					
Works approval	☐				
Licence	☐	Relevant works approval number:		None	☐
		Has the works approval been complied with?			Yes ☐ No ☐
		Has time limited operations under the works approval demonstrated acceptable operations?			Yes ☐ No ☐ N/A ☐
		Environmental Compliance Report / Critical Containment Infrastructure Report submitted?			Yes ☐ No ☐
		Date Report received:			
Renewal	☐	Current licence number:			
Amendment to works approval	☐	Current works approval number:			
Amendment to licence	☒	Current licence number:	L9013/2016/1		
		Relevant works approval number:		N/A	☐
Registration	☐	Current works approval number:		None	☐
Date application received		09/07/2021			
Applicant and Premises details					
Applicant name/s (full legal name/s)		Gascoyne Resources Limited			
Premises name		Dalgara Gold Project			
Premises location		M59/749 and M 59/151 Daggar Hills WA 6638			
Local Government Authority		Shire of Mount Magnet.			
Application documents					
HPCM file reference number:		DER2016/002214-1			
Key application documents (additional to application form):		Supporting documents			
Scope of application/assessment					
Summary of proposed activities or changes to existing operations.		<u>Licence amendment</u> The Category 5 processing plant through-put is proposed to be increased from 2.8 Mt/annum to 3.0 mt/annum with tailings disposal to the Golden Wings In-pit TSF. Licence holder wishes to remove the WAD CN limit within the licence and update monitoring bore MBWD01 to MBWD01a and other administrative changes (maps and references).			

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	2.8 Mtpa	3.0 Mtpa (in increase of 0.8Mtpa)
Category 85: Sewage Facility	50 m ³ day	No change proposed
Category 89: Putrescible landfill site	400 tonnes per year	No change proposed

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: 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: EPA Report No:	
Has the proposal been referred and/or assessed under the EPBC Act?	Yes ☐ No ☒	Reference No:	
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes ☒ No ☐	Certificate of title ☐ General lease ☐ Expiry: Mining lease / tenement ☒ Expiry: M59/749 (Sep 22 2034) and L59/151 (Aug 1 2037) Other evidence ☐ Expiry:	
Has the applicant obtained all relevant planning approvals?	Yes ☒ No ☐ N/A ☐	Approval: Expiry date: If N/A explain why?	
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 No clearing is proposed.	
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes ☒ No ☐	Application reference No: Licence/permit No: Construction of a replacement bore	

Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes ☒ No ☐	Name: East Murchison Groundwater Area Type: Proclaimed Groundwater Area Has Regulatory Services (Water) been consulted? Yes ☐ No ☐ N/A ☒ Regional office:
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes ☐ No ☒	Name: N/A Priority: 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. <i>Dangerous Goods Safety Act 2004</i> , <i>Environmental Protection (Controlled Waste) Regulations 2004</i> , <i>State Agreement Act xxxx</i>)	Yes ☒ No ☒	<i>Dangerous Goods Safety Act 2004</i> <i>Mining Act 1976</i>
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes ☐ No ☒	
Is the Premises subject to any EPP requirements?	Yes ☐ No ☒	
Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i> ?	Yes ☐ No ☒	Classification: Not classified due to an incomplete report. Date of classification: N/A