

Amendment Report

Application for Licence Amendment

Part V Division 3 of the Environmental Protection Act 1986

Licence Number	L4459/1987/13
Licence Holder	Argyle Diamonds Limited
ACN	009 102 621
File Number	DER2013/000649-1
Premises	Argyle Diamond Mine Lissadell Road LAKE ARGYLE WA 6743 Mining Tenements M259 SA, L80/11, L80/24, L80/53, L80/1 and M80/114 As defined by the Premises map attached to the Revised Licence
Date of Report	6 January 2022

Decision Revised licence granted

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

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1. Decision summary

Licence L4459/1987/13 is held by Argyle Diamonds Limited (Licence Holder) for the Argyle Diamond Mine (the Premises), located at Mining Tenements M259 SA, L80/11, L80/24, L80/53, L80/1 and M80/114. 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 operation of the Premises. As a result of this assessment, Revised Licence L4459/1987/13 has been granted.

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 1 November 2021, Argyle Diamonds Limited (the Licence Holder) submitted an application to the department to amend Licence L4459/1987/13 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act).

The amendment being sought is the installation and operation of a mobile screening plant to screen available waste rock for the intent of armouring for drainage and scour protection at Argyle Diamond Mine (the premises).

During the assessment process, the Licence Holder requested the inclusion under condition 32 and 33 the diversion of water to the open pit via the underground decline to avoid the Waste Rock Seepage Retention Dam overflowing into Limestone Creek. In addition to the mobile screening plant location at the North Waste Rock Dump (NWRD), the Licence Holder has requested a second location situated at the South Waste Rock Dump (SWRD).

The premises relates to the category 12 and assessed production capacity under Schedule 1 of the *Environmental Protection Regulations 19*87 (EP Regulations) are defined in licence L4459/1987/13.

2.3 Amendment description

Following the cessation of mining operations in late 2020 towards closure, rehabilitation activities have commenced at the Premise. It has been identified to install a mobile screening plant, a Terex Finlay 893 heavy-duty screen within the NWRD and SWRD to process available waste rock, which falls under Category 12 activity. The Licence Holder estimates that screening activity will occur over a four-week period or as required taking into consideration of unforeseen circumstances, for example weather.

The screening plant will process 50,000 to 170, 000 tonnes of available waste rock (dependent of requirements) for the intent of armouring for drainage and scour protection in rehabilitated areas. The durable rock will be screened from the Hensman stockpile and from the southern portion of the SWRD, comprised of high quartzite durable rock into the specified size requirements (between 150-500mm) for scour protection as shown in Figure 1. Any rock outside these specifications will be placed on a separate stockpile to be used for other rehabilitation purposes. Additional rock may be screened if this process is successful.

The Licence Holder has ensured all potential environmental and public health risks will be mitigated to ensure they remain low.

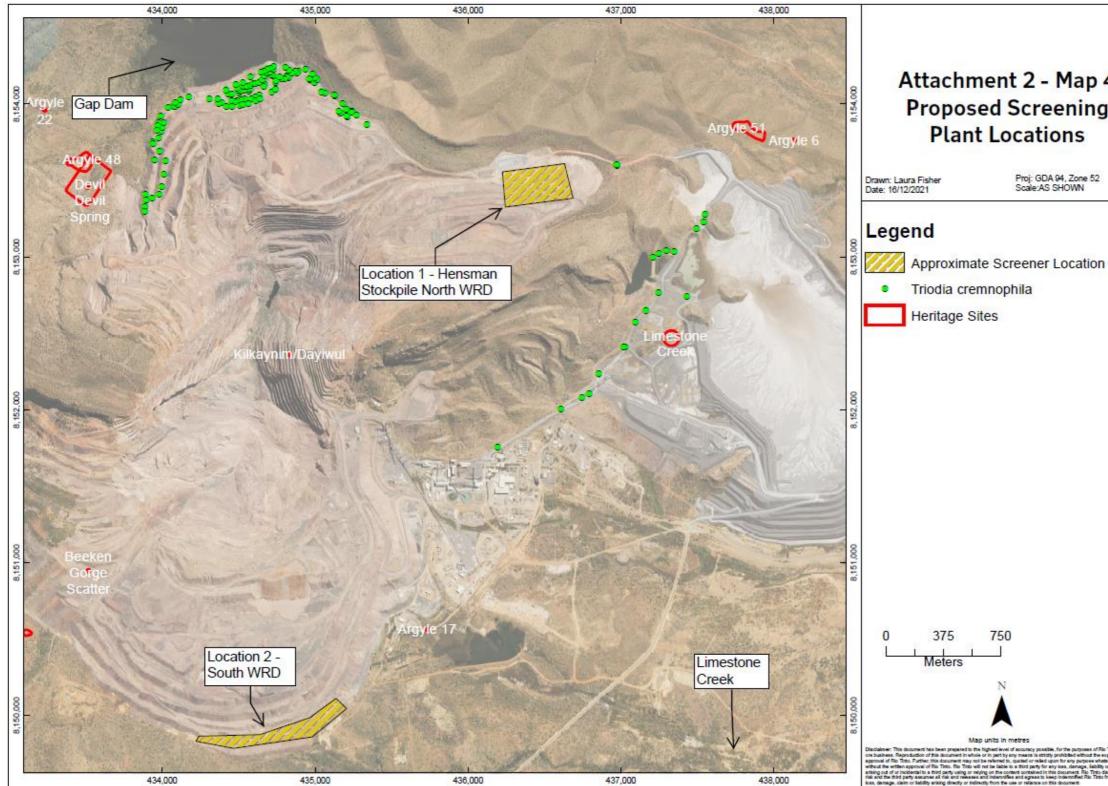


Figure 1: Locations of the proposed screening plant

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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 2020a).

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.

The risk assessment will focus on the location of the mobile screening plant where receptors will be at most risk, which is the NRWD, east of the Hensman stockpile.

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 1 below. Table 1 also details the proposed control measures the Licence Holder has proposed to assist in controlling these emissions, where necessary.

Emission	Sources	Potential pathways	Proposed controls				
Construction							
Dust	Movement and installation of mobile screen plant and associated equipment. Vehicle movements.	Air/windborne pathway.	 Plant to be located on previously disturbed land away from any native vegetation or drainage channels. Water tank and cart on standby at all times. Visual area inspections carried out during construction. 				
Noise	Movement and installation of mobile screen plant and associated equipment. Vehicle movements.	Air/windborne pathway.	 No controls are proposed as there are no nearby sensitive receptors from the prescribed activity. Thus, this emission will not be further assessed and discussed. 				
Operation							
Dust	Operating a mobile screen plant (i.e., screening, unloading, loading and storage of material). Vehicle movements. Lift-off from waste rock stockpiles.	Air/windborne pathway.	 Built-in dust suppression sprays on the screening plant with water supply from a temporary tank. Water cart on standby at all times during operation of the screening plant. Visual area inspections carried out during operation. 				

Table 1: Licence Holder controls

Emission	Sources	Potential pathways	Proposed controls
Discharge of contaminants to land (e.g., hydrocarbons spill)	Operating a mobile screen plant (i.e., screening, unloading, loading and storage of material). Refuelling and accidental spillages. Unforeseen equipment malfunction (e.g., lines	Seepage/spillage pathway. Overland runoff/seepage pathway.	 Spill kits will be available on site for immediate clean up, with all spills reported and cleaned up as per the Licence Holder's standard spill response procedure. Visual area inspections carried out during operation. Potentially contaminated water to be captured / treated / mitigated as per the current drainage management procedures Current operating licence L4459/1987/13 has conditions for managing hydrocarbon contaminated soils.
Sediment laden and/or contaminated stormwater to surface and/or groundwater	bursting) Run off from area following rain/ drainage		 Plant to be located on previously disturbed land away from any native vegetation or drainage channels. Potentially contaminated water to be captured / treated / mitigated as per the current drainage management procedures.

3.1.2 Receptors

In accordance with the *Guideline: Risk assessments* (DWER 2020a), 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 and Figure 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 2020b)).

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

Human receptors	Distance from prescribed activity
Lissadell Station Homestead	13.5 km north-east from the prescribed activity. Screened out as a receptor as distance considered too great.

Environmental receptors	Distance from prescribed activity
Environmentally Sensitive Area Large Argyle (Part of the Australian Ramsar wetland site 32)	20 km north-east from the prescribed activity. Screened out as a receptor as distance considered too great.
Threatened/Priority Ecological Communities Vegetation Association 833 as defined by John Beard's vegetation mapping for the Kimberley (Beard 1979) P3(iii)	Buffer zone of the priority ecological community is approximately 0.65 km south-east from the prescribed activity.
Threatened/Priority Fauna Common Sandpiper (<i>Actitis hypoleucos</i>) listed as a migratory species under the EPBC Act	Recorded at two locations, approximately 2.6 km south-east and 2.5 km north-west from the prescribed activity. Screened out as a receptor as these are migratory birds and their distribution and abundance are seasonally dependant.
Threatened/Priority Flora Priority flora - <i>Triodia cremnophila</i> (P1)	Recorded approximately 330 m east from the prescribed activity. No Declared Rare Flora species recorded at the Premises. Other populations of the Priority species are 760 m south-east and 1.2 km north-west from the prescribed activity.
Registered artefact/scatter site (Argyle 51/21540)	Approximately 1.1 km east from the prescribed activity.
Gap Dam	Approximately 1.8 km north-west from the prescribed activity. Screened out as a receptor as distance considered too great.
Limestone Creek	Approximately 2.5 km south-west from the prescribed activity. Note: in proximity to the SWRD location the creek is approximately 160 m south from the prescribed activity, but risk is considered low.
Canning-Kimberley Groundwater Area	Within the prescribed activity. Screened out as a receptor as plant will only be screening on previously disturbed land and away from drainage lines.
Ord River and Tributaries / Ord River Irrigation Surface Water Area	Within the prescribed activity. Screened out as a receptor as plant will only be screening on previously disturbed land and away from drainage lines.

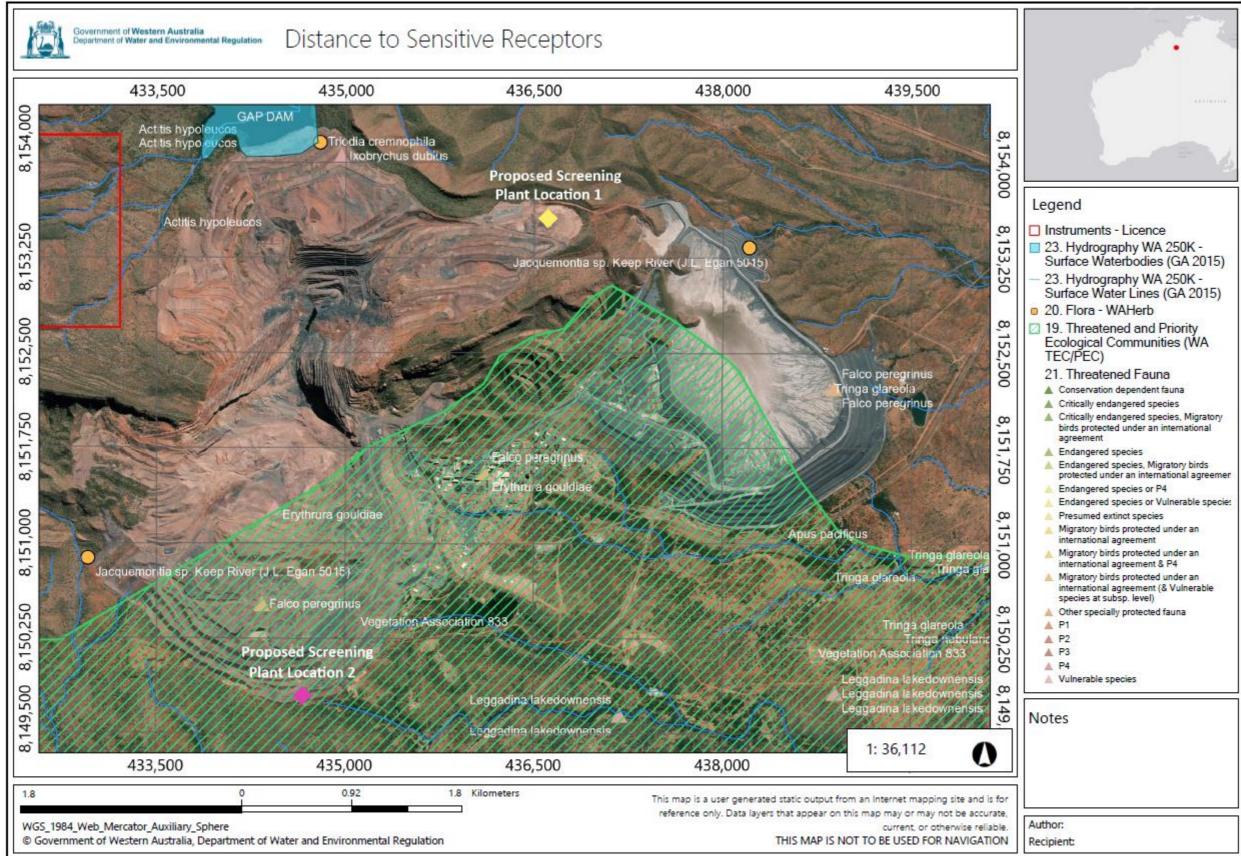


Figure 2: Distance to sensitive receptors

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020a) 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 in-complete 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 L4459/1987/13 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 construction and operation

Risk Event	Risk Event							
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls	C = consequence L = likelihood	Holder's controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Construction								
Movement and installation of mobile screen plant and associated equipment. Vehicle movements.	Dust	Air/windborne pathway Smothering causing reduced photosynthetic functions of vegetation	Priority Ecological Community Priority flora in particular <i>Triodia</i> <i>cremnophila</i> (P1) Nearby vegetation	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Yes	Condition 3 Measures to prevent/minimise dust emissions Condition 4 Employ measures to minimise dust emissions <u>Condition 43</u> <u>Infrastructure</u> <u>requirements</u>	Condition 43 outlines the infrastructure and controls authorised for construction under the licence at the proposed location to ensure emissions during construction and installation of the screening plant do not impact nearby receptors. Additional regulatory controls are not required. The Delegated Officer considers the applicant's controls, short duration of construction, and existing conditions are sufficient to manage the potential impact from dust emissions from the screening plant construction and installation. The general provisions of the EP Act apply.
Operation								
Operating a mobile screen plant (i.e., screening, unloading, loading and storage of material). Vehicle movements. Lift-off from stockpiles.	Dust	Air/windborne pathway Smothering causing reduced photosynthetic functions of vegetation	Priority Ecological Community Priority flora in particular <i>Triodia</i> <i>cremnophila</i> Nearby vegetation	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Yes	Condition 3 Measures to prevent/minimise dust emissions Condition 4 Employ measures to minimise dust emissions <u>Condition 43</u> <u>Infrastructure</u> requirements	Condition 43 as outlined above. Additional regulatory controls are not required. The Delegated Officer considers the applicant's controls, short duration of operation, and existing conditions are sufficient to manage the potential impact from dust emissions from the screening plant operation. The general provisions of the EP Act apply.

k Event					Risk rating ¹	Licence		
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls	C = consequence L = likelihood	Holder's controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
	Discharge of contaminants to land (e.g., hydrocarbons spill)	Seepage/spillage potentially causing ecosystem disturbance/soil contamination	Priority Ecological Community Priority flora in particular <i>Triodia</i> <i>cremnophila</i> (P1) Nearby vegetation Nearby native fauna Surrounding soils Surface water Groundwater	Refer to Section 3.1	C = Slight L = Rare Low Risk	Yes	Condition 1Prevention of stormwater run-off/contaminationCondition 2Stormwater diversion by drains or other appropriate meansCondition 43 Infrastructure requirementsConditions 44 and 45Compliance Report Environmental Protection (Unauthorised Discharges) Regulations 2004 apply.	Condition 1 indicates that the Licence Hol is to undertake all reasonably practicable measures to prevent stormwater run-off and contamination. Condition 43 as outlined above. The Delegated Officer considers the applicant's controls, short duration of operation, and existing conditions are sufficient for the management of potential contaminants to land and stormwater from the screening plant operation. Existing standard administration and reporting requirements. The general provisions of the EP Act regarding preventing pollution and environmental harm apply.
	Sediment laden and/or contaminated stormwater to surface and/or groundwater	Overland runoff potentially causing ecosystem disturbance Seepage causing contamination of surface water and/or groundwater		Refer to Section 3.1	C = Slight L = Rare Low Risk	Yes	Condition 2 Stormwater diversion by drains or other appropriate means <u>Condition 43</u> <u>Infrastructure</u> <u>requirements</u> Conditions 44 and 45 Compliance Report <i>Environmental Protection</i> (Unauthorised Discharges) Regulations 2004 apply.	Condition 1 as outlined above. Condition 43 as outlined above. The Delegated Officer considers the applicant's controls and existing conditions are sufficient for the management of poter contaminants to land and stormwater from the screening plant operation. Existing standard administration and reporting requirements. The general provisions of the EP Act regarding preventing pollution and environmental harm apply.

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.

4. Consultation

Table 4 provides a summary of the consultation undertaken by the department.

Table 4: Consultation

Consultation method	Comments received	Department response
Licence Holder was provided with draft amendment on 10 December 2021.	 Licence holder included these amendments; Condition 31 - Table 2, page 11 inserted the abbreviation (LCDM) after the monitoring location, Waste Rock Seepage Retention Dam Inclusion to condition 32, page 11 – "or diversion of water to the open pit via the underground decline" Condition 33, Table 3, page 12 inserted additional sampling frequency – "Prior to the diversion to the open pit lake via the underground portal and at monthly intervals thereafter during the period of pumping". 	Amendment prepared for second draft prior to final signing.
Licence Holder was provided with second draft amendment on 22 December 2021.	 LCDM/Jacko's Dam overflowing into limestone creek. Licence holder included these comments and amendments: Query if there is a concern for the plant to be on site more than the 4-week period as long as the amount produced does not exceed that specified in the licence. The risks with this amendment would not be altered by the time period. Verify the requirement to report diversion of clean water (well below discharge limits) from RCP2B to the underground portal as it would create an artificial perennial flow downstream in Limestone Creek. Suggested if reporting required leave the licence as present under Condition 33, Table 3, Column 2, otherwise amend 	 The department amended the context under Section 2.3 – Amendment description as; The Licence Holder estimates that screening activity will occur over a four-week period or as required taking into consideration of unforeseen circumstances, for example weather. This is to reflect the second screening plant location and operation. As noted, the risks will not be impacted by an extension of the existing 4-week period. No amendments were made to the licence. Condition 33, Table 3, Column 2 has been amended to indicate the

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 to as - "Prior to the diversion of LCDM to the open pit lake via the underground portal and at monthly intervals thereafter during the period of pumping". Confirmation on retaining or the removal of Gap Creek Sump referenced in Condition 31. The sump has not flown since February/March 2021 and will be removed/ decommissioned 2022. 	 diversion of LCDM, as reporting of the diversion of water from RCP2B is not required. Note: diversion of water from RCP2B is to be clean water only as indicated by the licence holder. Removal of Gap Creek Sump referenced in Condition 31, Table 2 and the requirements in Conditions 32 and 33 as the plant that previously fed the sump has been decommissioned. The sump is now dry and will be removed/decommissioned 2022.

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 5 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.

Condition no.	Proposed amendments
N/A	Licence page category description table updated with new changes.
N/A	Administrative amendments were made within the licence.
Premise map	Updated the Premise map for better clarity and orientated the page to landscape.
Attachments 1 – 7	Updated the maps in Attachments $1 - 7$ for better clarity.
Attachment 8	Inserted in to provide the proposed locations of the mobile screening plant
Condition 1	A new condition has been inserted to take into account the prevention of stormwater run-off becoming contaminated by the screening operation. Grounds: the existing stormwater condition is in relation to stormwater diversion only.
Condition 31 – Table 2	Inserted the abbreviation (LCDM) after the monitoring location, Waste Rock Seepage Retention Dam as per requested by the Licence Holder.
	Removal of reference to Gap Creek Sump as per requested by the Licence Holder.

Licence: L4459/1987/13

Condition no.	Proposed amendments
	Grounds: The sump has not flown since February/March 2021 and will be removed/decommissioned in 2022.
Condition 32	Inserted "or diversion of water to the open pit via the underground decline" to the condition as per requested by the Licence Holder.
Condition 33 – Table 3	Inserted additional sampling frequency " <i>Prior to the diversion to the open pit lake via the underground portal and at monthly intervals thereafter during the period of pumping</i> ", as per requested by the Licence Holder.
Conditions 2 – 45 (previously conditions 1 – 44)	Condition numbering has only changed in sequential order with a new condition 1 (stormwater prevention) being inserted. This includes any conditions referred to within condition text the numbering has been amended.
Condition 43	Primary Landfill infrastructure was removed from Table 5.
(previously condition 42), Table 5	Grounds: Licence Holder has provided a compliance report 26 July 2021 and deemed compliant for Condition 43 and 44 (previously conditions 42 and 43).
Condition 41 (previously	Inserted that the Annual Environmental Report shall contain information including but not limited to:
condition 40)	ix) the quantity of material processed by the screening operation

References

- 1. Argyle Diamonds Limited 2021, Operating Licence Amendment Application L4459/1987/13 Argyle Diamonds Limited, 1 November 2021.
- 2. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting conditions*, Perth, Western Australia.
- 3. Department of Water and Environmental Regulation (DWER) 2020a, *Guideline: Risk assessments*, Perth, Western Australia.
- 4. DWER 2020b, Guideline: Environmental siting, Perth, Western Australia.

Appendix 1: Application validation summary

SECTION 1: APPLICATION SUMMARY							
Application type							
	X	Current licence number:	L4459/1987/13				
Amendment to licence		Relevant works approval number:		N/A	\boxtimes		
Date application received		1 November 2021					
Applicant and Premises details							
Applicant name/s (full legal name/s)	Argyle Diamonds Limited						
Premises name	Argyle Diamond Mine						
Premises location	Mining Lease No. 259SA						
Local Government Authority	Shire of Wyndham-East Kimberley						
Application documents							
HPCM file reference number:	HPCM file reference number:			DER2013/000649-1			
Key application documents (additional to application form):		Attachment 2 – Premise maps (Maps 1-4) Attachment 3B – Additional Information for Proposed Activities Attachment 6A – Emissions and Discharges Attachment 7 – Siting and Location					
Scope of application/assessment		I	0				
Summary of proposed activities or		Following the cessation of mining operations in late 2020 towards closure, rehabilitation activities have commenced at the premise. It has been identified to install a mobile screening plant, a Terex Finlay 893 heavy-duty screen within the Waste Rock Dump (WRD) to process available waste rock. The Licence Holder has applied for an amendment to Licence to incorporate this change, which falls under Category 12 activity. It is estimated that screening activity will occur over a four-week period.					
changes to existing operations.	The screening plant will process more than 50,000 tonnes of available waste rock for the intent of armouring for drainage and scour protection in rehabilitated areas. The durable rock will be screened from the Hensman stockpile, comprised of high quartzite durable rock into the specified size requirements (between 150- 500mm) for scour protection. Any rock outside these specifications will be placed on a separate stockpile to be used for other rehabilitation purposes.						

Prescribed premises category and description		osed pr	oduction capacity	Proposed changes to the production or design capacity	
Category 12: Screening etc. of material: premises (other than premises within category 5 or 8) on which material extracted from the ground is screened, washed, crushed, ground, milled, sized or separated.			es (dependent of for screened rock)	Not applicable	
egislative context and other approv	als				
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: 1023 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: 26 January 2025 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: 4532/10 No clearing is proposed as site has been previously developed.	
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: N/A Licence/permit No: GWL200798 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: Has Regulatory Services (Water) been consulted? Yes I No I N/A I Regional office:
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 <u>WQPN 25</u>)? Yes No N/A
Is the Premises subject to any other Acts or subsidiary regulations (e.g., <i>Dangerous</i> <i>Goods Safety Act 2004, Environmental</i> <i>Protection (Controlled Waste) Regulations</i> <i>2004, State Agreement Act xxxx</i>)	Yes ⊠ No □	Diamond (Argyle Diamond Joint Venture) Agreement Act 1981 JTSI Ministerial Statement (mine closure plan)
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: possibly contaminated – investigation required Date of classification: updated 23 March 2009