Decision Report

Application for Licence

Division 3, Part V *Environmental Protection Act 1986*

Licence Number	L9200/2019/1
Applicant	Drilline Pty Ltd
ACN	065 688 164
File Number	DER2018/001042-2
Premises	Warrawanda Creek South Sand Project Mining Lease M52/1064 NEWMAN WA
Date of Report	**06/05/2019**
Status of Report	Final

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1. Definitions of terms and acronyms

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

Table 1: Definitions

Term	Definition
AACR	Annual Audit Compliance Report
ACN	Australian Company Number
AER	Annual Environment Report
Category/ Categories/ Cat.	Categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations
Decision Report	refers to this document.
Delegated Officer	an officer under section 20 of the EP Act.
Department	means the department established under section 35 of the *Public Sector Management Act 1994* and designated as responsible for the administration of Part V, Division 3 of the EP Act.
DWER	Department of Water and Environmental Regulation As of 1 July 2017, the Department of Environment Regulation (DER), the Office of the Environmental Protection Authority (OEPA) and the Department of Water (DoW) amalgamated to form the Department of Water and Environmental Regulation (DWER). DWER was established under section 35 of the *Public Sector Management Act 1994* and is responsible for the administration of the *Environmental Protection Act 1986* along with other legislation.
EPA	Environmental Protection Authority
EP Act	*Environmental Protection Act 1986* (WA)
EP Regulations	*Environmental Protection Regulations 1987* (WA)
Existing Licence	The Licence issued under Part V, Division 3 of the EP Act and in force prior to the commencement of, and during this Review
Licence Holder	Drilline Pty Ltd
Noise Regulations	*Environmental Protection (Noise) Regulations 1997* (WA)
Occupier	has the same meaning given to that term under the EP Act.
Prescribed Premises	has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Decision Report applies, as specified at the front of this Decision Report

Primary Activities	as defined in Schedule 2 of the Revised Licence
Risk Event	As described in *Guidance Statement: Risk Assessment*

2. Purpose and scope of assessment

An Application for a Licence (Application, 2019) was received from Drilline Pty Ltd (Applicant) for a mobile screening plant to screen riverbed material sourced from Warrawanda Creek, located approximately 33km south-southeast of Newman, within mining tenement M52/1064 (the Premises).

This Decision Report presents an assessment of potential environmental and public health risks from emissions and discharges from the operation of the Premises. As a result of this assessment, a Licence has been granted (Issued Licence) (Attachment 1).

2.1 Application details

The Application was received on 7 March 2019 from the Applicant for Prescribed Premises Category 12 to operate a mobile screening plant at Warrawanda Creek (South), mining tenement M52/1064.

Table 2 lists the documents submitted during the assessment process.

Table 2: Documents and information submitted during the assessment process

Document/information description	Date received
Application form and associated attachments	7 March 2019

3. Background

The Applicant has entered into an agreement with the holder of tenement M52/1064 (Redstone Minerals Pty Ltd) and has been given the rights to conduct a mining and screening operation on M52/1064 for the purpose of producing construction material products sized between 4.75mm to 20mm.

The Applicant is proposing to screen riverbed material sourced from Warrawanda Creek using a Terex Finlay 683 mobile screening plant. No crushing of material is required and no water is used in the screening process. A maximum of 100,000 tonnes per annum of product is expected to be produced. Mining and screening will occur on a campaign basis with all equipment removed from site between campaigns.

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

Table 3: Prescribed Premises Categories in the Existing Licence

Classification of Premises	Description	*Approved Premises production or design capacity or throughput*
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.	100 000 tonnes per annual period

4. Overview of Premises

4.1 Operational aspects

The Application states that the operating period for the project is expected to be for the life of the mining lease which expires in 2035 or as renewed for 21 years. The sand resource is unlimited as it is replenished with each river flow. Operational hours will be between 6am and 6pm.

The Terex Finlay 683 mobile screening plant (screening plant) has a design capacity of 100,000 tonnes per annum. It is expected that a maximum 100 000 tonnes of material will be screened each annual period.

Sand mining will be undertaken in the river bed, with material being excavated to a depth of between 0.6m and 1m. Material will then be carted using an articulated 'Moxy' style dump truck, to the run of mine (ROM) working area for screening. The Applicant is proposing two ROM working areas within the premises boundary. These are shown in Figure 1. The screening plant will be moved between these two areas as required. The screening plant will be used to separate sand to the required specifications using a horizontal three way screen. Various product lines will be produced; nominally river sand (-8mm), coarser sand (+8mm to 10 mm) and river rock (+10mm to 100mm). No tailings will be generated and any undersize or oversize reject material will be returned to the creek bed excavation as backfill.

It is expected that the 2-5 personnel required to operate the site will be accommodated within the nearby roadhouse or the town of Newman. Power will be supplied by a diesel generator - Genset 10-15kva.

4.2 Infrastructure

The Warrawanda Creek South Sand Project infrastructure, as it relates to Category 12 activities, is detailed in Table 4 and with reference to the Site Plan shown below in Figure 2.

Table 4 lists the infrastructure associated with the prescribed premises category.

Table 4: Warrawanda Creek South Sand Project Category 12 infrastructure

	Infrastructure	Site Plan Reference
1	Terex Finlay 987 or 683 Screening plant	Screening Plant
2	Run of Mine working area	Working area
3	Windrow or bund around work area with low point spoon drains	
4	36t excavator	NA- mobile equipment
5	30t Moxy semi-articulated dump truck	
6	35t wheel loader	
7	4WD ute or service truck	
8	Single tipper or a road train double or triple trailer combinations	
9	Water cart	

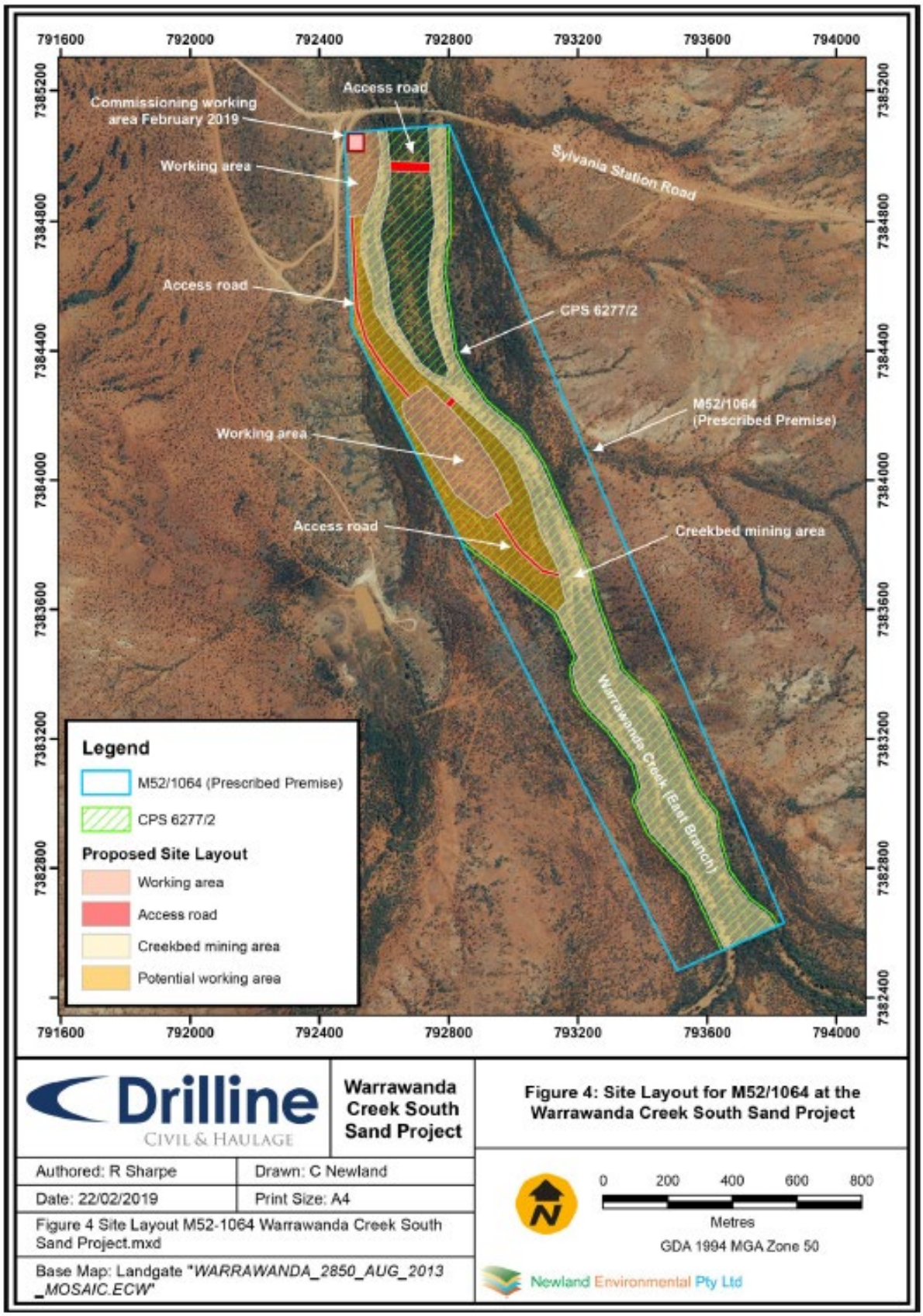

Figure 1: Warrawanda Creek South Sand Project Site overview.

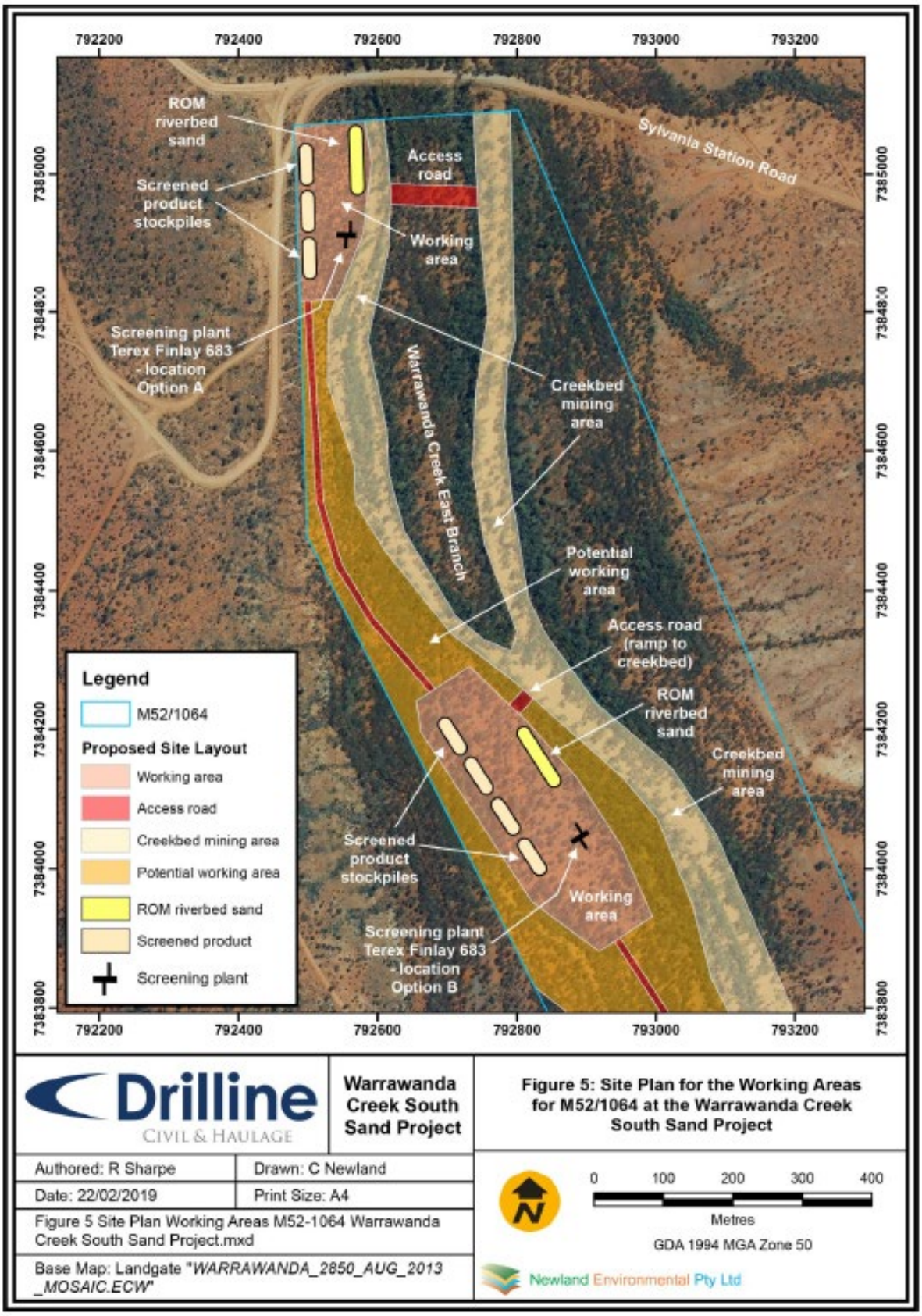

Figure 2: Warrawanda Creek South Sand Project Site Plan.

4.3 Exclusions to the Premises

The sand mining activities in the creek bed located within the Premises are outside the scope of regulation under Prescribed Premises Category 12 and are managed under Department of Mines, Industry Regulation and Safety (DMIRS) approval; Mining Proposal with Mine Closure Plan.

5. Legislative context

Table 5 summarises approvals relevant to the assessment.

Table 5: Relevant approvals and tenure

Legislation	Number	Subsidiary	Approval
Mining Act 1978	Mining Proposal and Mine Closure Plan 42088 (issued on 19/11/2014) Updated Mine Closure Plan 71196 (issued on 17/01/2018) Updated Mining Proposal MP 74782 (issued on 26/7/2018)	Mining Proposals and Mine Closure Plans managed by DMIRS.	*Mining Act 1978*
Environmental Protection Act 1986	Clearing permit CPS 6279/2 (valid until 29/11/2019).	Clearing permit managed by DMIRS	*Environmental Protection Act 1986*

5.1 Part IV of the EP Act

The proposal was not referred to the Environmental Protection Authority as it was not deemed to be a 'significant proposal' by the applicant.

5.2 Contaminated sites

M52/1064 is not listed on DWER's contaminated sites database.

5.3 Other relevant approvals

5.3.1 Planning approvals

The Applicant has submitted a copy of an email, from the Shire of Meekatharra, as part of this Application which indicates that planning approval is not required.

5.4 Part V of the EP Act

5.4.1 Applicable regulations, standards and guidelines

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

The applicable regulations include:

- *Environmental Protection (Noise) Regulations 1997; and*
- *Environmental Protection (Unauthorised Discharges) Regulations 2004.*

The guidance statements which inform this assessment are*:*

- *Guidance Statement: Setting Conditions (October 2015);*
- *Guidance Statement: Environmental Siting (November 2016);*
- *Guidance Statement: Licence duration (August 2016);* and
- *Guidance Statement: Risk Assessments (February 2017).*

5.4.2 Works approval and licence history

Table 6 summarises the works approval and licence history for the premises.

Table 6: Works approval and licence history

Instrument	Issued	Nature and extent of works approval, licence or amendment
W6164/2018/1	02/10/2018	Construction of a Category 12 Screening plant at the Warrawanda Creek South Sand Project.

5.4.3 Key and recent works approvals

Works Approval W6164/2018/1 was issued to Drilline Pty Ltd on 2 October 2018. The Works Approval Holder was required to construct/install a mobile Screening plant, Run of Mine working area with a surrounding bund and low point spoon drains. The Works Approval Holder submitted construction compliance audit documentation to DWER on 22 February 2019. The Works Approval Holder was notified on 28 March 2019 that DWER was satisfied from a desktop assessment that the works had been constructed in accordance with the requirements of works approval W6164/2018/1.

5.4.4 Clearing

The Applicant holds Clearing Permit CPS 6279/2 which allows the clearing of up to 29.65 ha of native vegetation which includes the Premises.

6. Consultation

The Application was advertised in the West Australian newspaper and on the DWER website on 8 April 2019. No public comments were received.

7. Location and siting

7.1 Siting context

The Premises is located within the Ethel Creek Pastoral Lease and Sylvania Pastoral Lease on mining tenement M52/1064 which is positioned approximately 33km south southeast of Newman. The work areas are located next to Warrawanda Creek which is an ephemeral system that only flows in the event of extreme rainfall. The general locality near the Premises is used for quarrying (Holcim (Australia) Pty Ltd) and pastoralism.

Figure 3 depicts the location of the Premises in relation to sensitive receptors.

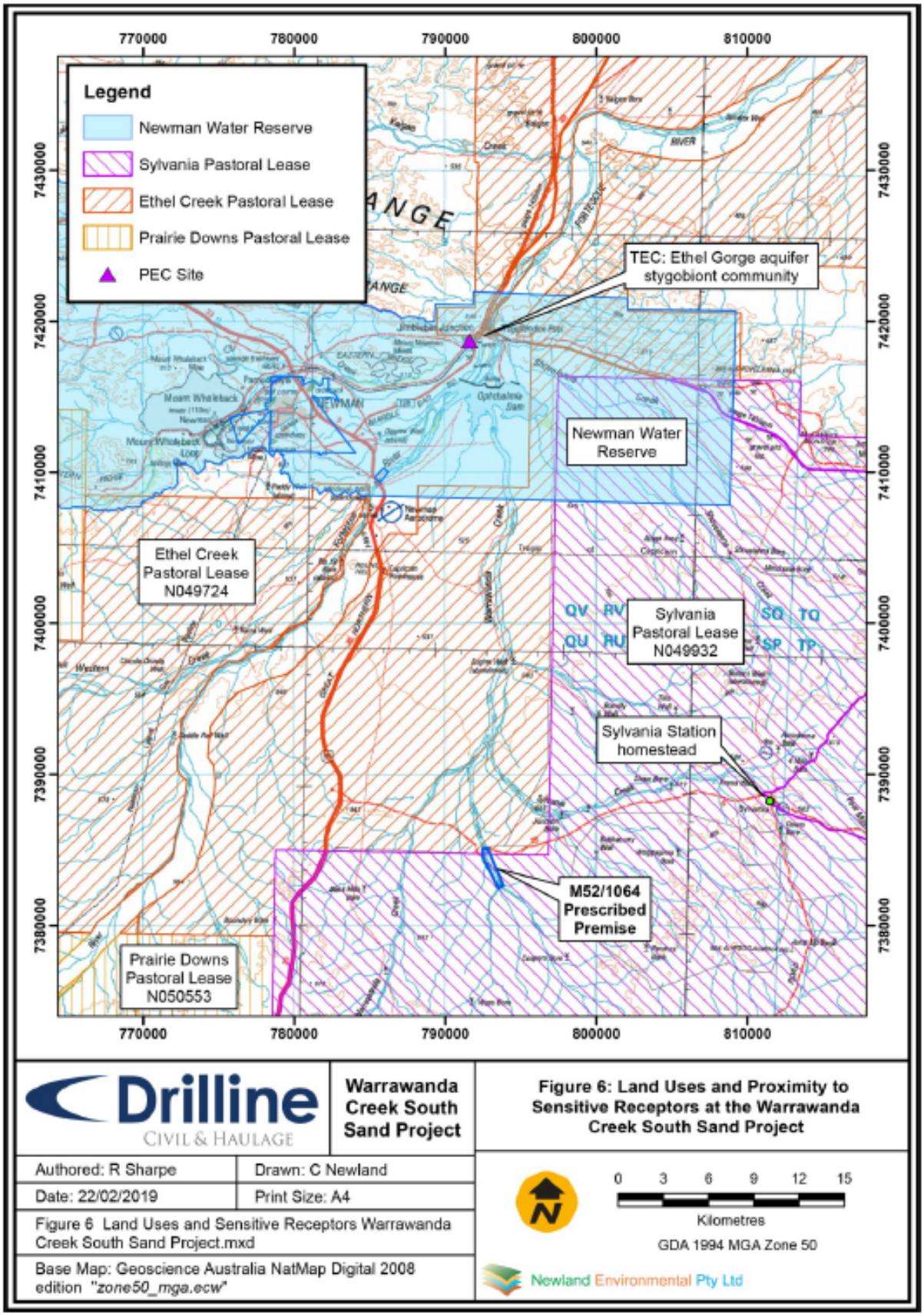

Figure 3: Location of the Premises in relation to sensitive receptors.

7.2 Residential and sensitive Premises

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

Table 7: Receptors and distance from activity boundary

Sensitive Land Uses	Distance from Prescribed Activity
Capricorn Roadhouse on Great Northern Hwy	20km to the north-northwest of the proposed premises.
Town of Newman	33km to the north- northwest of the proposed Premises.
Sylvania station homestead	18km to the east of the proposed Premises

7.3 Specified ecosystems

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

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

Table 8: Environmental values

Specified ecosystems	Distance from the Premises
Ramsar Sites in Western Australia	None within 2 km of the Premises
Geomorphic Wetlands	None within 2 km of the Premises
Parks and Wildlife Managed Lands and Waters	None within 2 km of the Premises
Threatened Ecological Communities and Priority Ecological Communities	Ethel Gorge aquifer stygobiont Threatened Ecological Community edge of 5km buffer is approximately 15km to the north-west of Premises boundary.
Biological component	**Distance from the Premises**
Threatened/Priority Flora	None within 2 km of the Premises
Threatened/Priority Fauna	None within 2 km of the Premises

7.4 Groundwater and water sources

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

Table 9: Groundwater and water sources

Groundwater and water sources	Distance from Premises	Environmental value
Public drinking water source areas	Newman Public Drinking Water Source Area is 23km North of Premises.	Water is used for potable and industrial use.
Major watercourses/waterbodies	Sections of Warrawanda Creek is located within the Premises boundary. Adjacent to work area.	Warrawanda Creek is a large ephemeral tributary of the Fortescue River, which only flows during extreme rainfall events. The creek flows into

		Ophthalmia Dam, 27km to the north of Premises. This dam provides water to the aquifers for Newman's water supply. The Applicant has stated that the sand mining activities will not interrupt or block the creek.
Groundwater	No WIN bores are located within a 5km radius of the Premises. The closest bore is to the east approximately 6.5 km away.	Water is used for potable and industrial use.

7.5 Meteorology

The area is characterized by a semi-arid climate, influence by summer rainfall events and a prolonged winter dry season. The average annual rainfall in the area is 327.7mm with 74% falling between December and April. Temperatures are hot to very hot in the summer months from November to March with the mean maximum temperature being 32ºC. Weather data is from the Bureau of Meteorology (BOM) for the Newman Aero Station no 7176 located approximately 25km to the northeast of the proposed Premises.

8. Risk assessment

8.1 Determination of emission, pathway and receptor

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

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

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

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

Risk Events						Continue to detailed risk assessment	Reasoning
Sources/Activities		**Potential emissions**	**Potential receptors**	**Potential pathway**	**Potential adverse impacts**		
Screening plant	Operation of the screening plant, and associated activities	Dust	Closest sensitive receptor is the Sylvania station homestead approximately 18km east of the proposed Premises.	Air / wind dispersion	Health and amenity impacts	No	Some dust is expected to be generated during operation of the screening plant. However it is not expected that dust will have a significant impact on sensitive receptors. The material being screened is river washed sand which will likely have no 'fines' which could cause dust. No crushing will occur during operation which will also minimise dust generation. To manage dust impacts, the applicant has provided a dust management plan outlining the following commitments: o have a water cart onsite at all times to water access roads and stockpiles as needed;
			No specified ecosystems or Threatened/Priority flora/fauna in close proximity (none within 2km of Premises)		Suppression of photosynthetic and respiratory functions		

Risk Events						Continue to detailed risk assessment	Reasoning
Sources/Activities		Potential emissions	Potential receptors	Potential pathway	Potential adverse impacts		
							○ barriers including dust covers and skirts to all processing equipment (as is practical); ○ operations on site will be managed during strong winds to prevent significant generation of dust; ○ Material drop heights between loaders and trucks and trucks to stockpiles will be kept to the minimum practical height; ○ traffic management plan will be implemented that includes vehicle speed limitations to minimise dust generation; and ○ haul trucks transporting material offsite will have loads fully covered. The Delegated Officer has considered the operator controls, distance to receptors and campaign nature of the project to be adequate to manage dust emissions. The general provisions of the *Environmental Protection Act 1986* and the *Environmental Protection (Unauthorised Discharges) Regulations 2004* are also applicable.
		Noise	Closest sensitive receptor is the Sylvania station homestead approximately 18km east of the proposed Premises.	Air / wind dispersion	Amenity impacts	No	Some noise emissions are expected to be generated during operation of the screening plant. However, the distance to residential receptors is considered to be too great for noise impacts from operations to occur.

Risk Events						Continue to detailed risk assessment	Reasoning
Sources/Activities		Potential emissions	Potential receptors	Potential pathway	Potential adverse impacts		
							The Delegated Officer considers the risk of impact from noise emissions during operation of the screening plant to be acceptable given the distance to sensitive receptors The provisions of the *Environmental Protection (Noise) Regulations 1997* are also applicable.
	Fuel storage and refuelling	Hydrocarbon spills	Surface water - sections of Warrawanda Creek are located within the Premises boundary, adjacent to work area.	Direct discharge to land	Contamination of surface water	No	No fuel will be stored on the Premises. Refuelling will be by mobile vehicle with spill clean-up equipment available. General provisions of the *Environmental Protection Act 1986* and the *Environmental Protection (Unauthorised Discharges) Regulations 2004* are applicable
Material storage and stockpiling	Stockpiling of raw material and products	Dust	Closest sensitive receptor is the Sylvania station homestead approximately 18km east of the proposed Premises.	Air / wind dispersion	Health and amenity impacts	No	The applicant will have a water cart onsite at all times to manage dust from stockpiles and loading and unloading. Raw materials and products are 'washed' as they originate from the creek and therefore the Applicant expects there to be minimal fines to produce dust. The Delegated Officer has considered the operator controls, distance to receptors and campaign nature of the project to be adequate to manage dust emissions from stockpiling and material loading etc. The general provisions of the *Environmental Protection Act 1986* and the *Environmental Protection*

Risk Events						Continue to detailed risk assessment	Reasoning
Sources/Activities		Potential emissions	Potential receptors	Potential pathway	Potential adverse impacts		
							(Unauthorised Discharges) Regulations 2004 are also applicable.
		Contaminated stormwater runoff from stockpiles	Surface water - sections of Warrawanda Creek are located within the Premises boundary, adjacent to work area	Land / waters	Impacts on surface water quality and ecosystem health.	No	Raw materials and products are 'washed' as they originate from the creek and therefore the Applicant expects there to be minimal fines to contaminate stormwater runoff. A windrow has been constructed around the work area which will direct any stormwater to spoon drains and contain stormwater on site. The area where the project is located has a high evaporation rate and therefore it is expected that collected stormwater will be disposed of via evaporation. The Delegated Officer has considered the operator controls, distance to receptors and campaign nature of the project to be adequate to manage contaminated stormwater emissions from stockpiling of material. The general provisions of the *Environmental Protection Act 1986* and the *Environmental Protection (Unauthorised Discharges) Regulations 2004* are also applicable.

8.2 Consequence and likelihood of risk events

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

Table 11: Risk rating matrix

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

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

Table 12: Risk criteria table

Likelihood		**Consequence**		
The following criteria has been used to determine the likelihood of the Risk Event occurring.		**The following criteria has been used to determine the consequences of a Risk Event occurring:**		
			Environment	**Public health* and amenity (such as air and water quality, noise, and odour)**
Almost Certain	The risk event is expected to occur in most circumstances	Severe	• **onsite impacts**: catastrophic • **offsite impacts local scale**: high level or above • **offsite impacts wider scale:** mid-level or above • Mid to long-term or permanent impact to an area of high conservation value or special significance^ • Specific Consequence Criteria (for environment) are significantly exceeded	• Loss of life • **Adverse health effects:** high level or ongoing medical treatment • Specific Consequence Criteria (for public health) are significantly exceeded • **Local scale impacts:** permanent loss of amenity
Likely	The risk event will probably occur in most circumstances	Major	• **onsite impacts**: high level • **offsite impacts local scale**: mid-level • **offsite impacts wider scale**: low level • Short-term impact to an area of high conservation value or special significance^ • Specific Consequence Criteria (for environment) are exceeded	• **Adverse health effects:** mid-level or frequent medical treatment • Specific Consequence Criteria (for public health) are exceeded • **Local scale impacts**: high level impact to amenity
Possible	The risk event could occur at some time	Moderate	• **onsite impacts**: mid-level • **offsite impacts local scale**: low level • **offsite impacts wider scale**: minimal • Specific Consequence Criteria (for environment) are at risk of not being met	• **Adverse health effects:** low level or occasional medical treatment • Specific Consequence Criteria (for public health) are at risk of not being met • **Local scale impacts:** mid-level impact to amenity
Unlikely	The risk event will probably not occur in most circumstances	Minor	• **onsite impacts**: low level • **offsite impacts local scale**: minimal • **offsite impacts wider scale**: not detectable • Specific Consequence Criteria (for environment) likely to be met	• Specific Consequence Criteria (for public health) are likely to be met • **Local scale impacts:** low level impact to amenity
Rare	The risk event may only occur in exceptional circumstances	Slight	• **onsite impact**: minimal • Specific Consequence Criteria (for environment) met	• **Local scale**: minimal to amenity • Specific Consequence Criteria (for public health) met

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

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

"onsite" means within the Prescribed Premises boundary.

8.3 Acceptability and treatment of Risk Event

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

Table 13: Risk treatment table

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

9. Determination of Licence conditions

The conditions in the Issued Licence in Attachment 1 have been determined in accordance with DWER's Guidance Statement: *Setting Conditions.*

The Delegated Officer notes that operation of the category12 screening operations proposed by the Applicant have the potential to generate the emissions outlined in Table 10. These emissions have been assessed and it has been determined that they present negligible risk to the environment.

DWER's Guidance Statement: Licence Duration has been applied and the Issued licence will expire in 16 years from date of issue (with the current mining lease approval).

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

Table 11: Summary of conditions to be applied

Condition Ref	Grounds
Emissions 1	This condition is valid, risk-based and consistent with the EP Act.
Infrastructure and equipment 2	This condition is valid, risk-based and consistent with the EP Act.
Record Keeping 3, 4, 5 and 6	These conditions are valid and are necessary administration and reporting requirements to ensure compliance.

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

10. Applicant's comments

The Applicant was provided with the draft Decision Report and draft issued Licence on 1 May 2019. The Applicant advised they had no comments on the draft documents.

11. Conclusion

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

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

Alana Kidd
MANAGER (Resource Industries)
Delegated Officer
under section 20 of the *Environmental Protection Act 1986*

Appendix 1: Key documents

	Document title	In text ref	Availability
1.	Drilline Pty Ltd, Licence Application form, 7 March 2019.	Application	DWER records (DWERDT141000)
2.	Drilline Pty Ltd, Supporting information for Licence to Operate, 7 March 2019.	Application	DWER records (DWERDT141000)
3.	DER, October 2015. *Guidance Statement: Setting conditions.* Department of Environment Regulation, Perth.	Accessed at www.dwer.wa.gov.au	
4.	DER, November 2016. *Guidance Statement: Environmental Siting.* Department of Environment Regulation, Perth.		
5.	DER, August 2016. *Guidance Statement: Licence duration.* Department of Environment Regulation, Perth.		
6.	DER, November 2016. *Guidance Statement: Risk Assessments*. Department of Environment Regulation, Perth.		

Attachment 1: Issued Licence L9200/2019/1