

# **Decision Report**

# **Application for Works Approval**

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

Works Approval Number W6484/2020/1 Applicant Robe River Mining Co Pty Ltd ACN 008 694 246 **File Number** DER2020/000622 **Premises** Pannawonica Deepdale Landfill Legal description Part of Mining Tenement 70/248 As defined by the coordinates in Schedule 1 of the Works Approval Date of Report 16 August 2021 Decision Works approval granted

#### MANAGER WASTE INDUSTRIES REGULATORY SERVICES

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

# **Table of Contents**

1.	Decision summary3						
2.	Scope	e of assessment	3				
	2.1	Regulatory framework	3				
	2.2	Application summary and overview of Premises	3				
3.	Cleari	ng Permit	4				
4.	Risk a	assessment	6				
	4.1	Source-pathways and receptors	6				
		4.1.1 Emissions and controls	6				
		4.1.2 Receptors	7				
	4.2	Risk ratings	9				
5.	Consi	ultation1	1				
6.	Concl	usion1	1				
Refe	rences	\$1	1				
App	endix <sup>•</sup>	I: Summary of applicant's comments on risk assessment and draft					
			2				
Арр	endix 2	2: Application validation summary1	3				

Table 1: Prescribed premises category and capacity	.4
Table 2: Proposed applicant controls	.6
Table 3: Sensitive human receptors and distance from prescribed activity	.8
Table 4: Sensitive environmental receptors and distance from prescribed activity	.8
Table 5: Risk assessment of potential emissions and discharges from the Premises during construction and operation	.9
Table 6: Consultation1	11

## 1. **Decision summary**

This Decision Report documents the assessment of potential risks to the environment and public health from emissions and discharges during the construction and operation of the Premises. As a result of this assessment, Works Approval W6484/2020/1 has been granted.

### 2. Scope of assessment

### 2.1 Regulatory framework

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

### 2.2 Application summary and overview of Premises

Robe River Mining (the applicant) holds an existing landfill facility operating under Licence L8293/2008/2 located within State Agreement Mining Lease 248 SA granted under the *Iron Ore (Robe River) Agreement Act 1964.* This landfill is nearing its life expectancy, therefore the applicant intends on constructing a new landfill under this application, then will decommission and cap the old landfill.

On 4 December 2020 the applicant submitted an application for a works approval to the department under section 54 of the *Environmental Protection Act 1986* (EP Act). The application is to undertake construction works relating to a new landfill under Category 64 within the same mining tenement. The landfill is approximately 6 km south-west of Pannawonica.

The applicant intends on constructing a Class II putrescible landfill with a design capacity of 15 000 tonnes per annum. It is intended that the landfill will support mining activities occurring at the Mesa A Iron Ore Operations, Mesa J and K Iron Ore Operations and the town of Pannawonica. Putrescible wastes will be buried and green waste will be burnt at the premises. Special Waste Type 1 (Asbestos) will be disposed of into a designated asbestos disposal cell. Inert Waste Type 2 (Used Tyres) will be disposed of at the premises by burial, however in a manner that will facilitate recovery should recycling become viable in the future. Inert Waste Type 1 will be disposed of at the premises, above ground and uncovered, in perpetuity. Clean fill will be accepted for waste coverage.

Scrap metals will be stored at the premises in accordance with Category 62 solid waste depot, until they can be transported to a recycling facility. Storage will be above ground on cleared earthen areas, no infrastructure is necessary for these activities. It is anticipated 800 tonnes per year will be recycled. Some scrap metals unable to be recycled will be disposed of with other Inert Waste Type 1 and included in Category 64 recorded tonnages.

The applicant intends on constructing cells to meet the initial needs of waste disposal under time limited operations. Construction authorised under this works approval include all general infrastructure associated with the premises including fencing, firebreaks, signage, waste storage areas, designated burning areas for greenwaste and the initial construction of designated cells for putrescible wastes, used tyres and asbestos as required for immediate waste disposal. Subsequent future cell construction will be authorised via licence conditions (an amendment application will be required), enabling construction on an as-needs basis and reporting this construction to DWER in the annual environmental report. Figure 1 (below) depicts the conceptual design of the proposed landfill and waste storage facility.

The Premises relates to the category and assessed design capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in Works Approval W6484/2020/1 and Table 1. The infrastructure and equipment relating to the premises category, time limited operations and any associated activities which the department has considered in line with *Guideline: Risk Assessments* (DWER 2020) are outlined in Works Approval W6484/2020/1.

#### Table 1: Prescribed premises category and capacity

Prescribed premises category description (Schedule 1, Environmental Protection Regulations 1987)	Assessed design capacity
Category 64 Class II or III putrescible landfill site: premises (other than clean fill premises) on which waste of a type permitted for disposal for this category of prescribed premises, in accordance with the Landfill Waste Classification and Waste Definitions 1996, is accepted for burial.	15 000 tonnes per annum
Category 62 Solid waste depot: premises on which waste is stored or sorted, pending final disposal or re-use, other than in the course of operating –	800 tonnes per annum
<ul> <li>(a) a refund point (as defined in the Waste Avoidance and Resource Recovery Act 2007 section 47C(1)) (a refund point); or</li> </ul>	
(b) a facility or other place (an <i>aggregation point</i> ) for the aggregation of containers that have been returned to refund points until those containers are accepted for processing or disposal.	

# 3. Clearing Permit

The Applicant lodged an application to amend clearing permit CPS 5639/4 with the Department of Mines, Industry Regulation and Safety on 16 November 2020. 6 hectares of progressive clearing is required over a 15 year period for the construction of the landfill and subsequent cells. Over 40% of the landfill area has been previously disturbed and the remaining vegetation is in poor condition. Clearing will not be authorised through the works approval.



### Figure 1: Proposed landfill design

Works Approval: W6484/2020/1

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PP02         7601227.4320         42650.2475         167.477           PP03         760125.5774         426619.2241         168.663           P01         760178.7344         426615.508         169.874           P02         76010714.079         426031.5071         159.488           P03         76010714.494         42603.5608         169.874           P04         7601071.494         171.134.           P05         7601272.013         426671.4344         171.134.           P05         760122.65880         42674.47750         170.757           P06         760122.65880         42674.47750         170.757           P07         760190.8286         42671.4341         171.095           P09         760122.6580         42671.4341         170.757           P08         760198.5392         42671.7331         168.434           P10         7601250.667         42671.7331         170.203           P13         7601250.667         42671.7334         170.203           P13         760128.5794         42673.4519         170.761           P14         760128.5794         42653.2761         168.437           P14         760128.5794         42653.2761         168.46						E
P01         760188,734.6         426653,5068         169,874           P02         7601203,1093         426631,8977         169,489           P03         7601071,409         426703,7663         171,304           P04         7601072,2733         426643,5977         169,489           P05         7601212,2733         426645,5569         199,250           P06         760122,5880         426674,9716         108,873           P07         7601094,9286         426716,7753         186,834           P10         7601250,6667         426716,7733         186,839           P11         7601250,6667         42673,7391         100,203           P11         7601268,636         42672,1489         167,761           P13         760128,6724         426873,2351         108,337           P14         760128,5724         426873,2531         168,337           P15         7601278,2744         426873,2541         168,366           P20         760128,3744         426643,26531         168,337           P14         760128,3744         426643,26531         168,337           P24         760128,3744         426643,2651         168,337           P23         760128,3744						
P02         760123.093         24653.1997         169.488           P03         7601071.499         24603.7653         11.304           P04         7601057.0752         226677.4344         171.634           P05         760122.133         22664.5696         19.250           P06         7601026.578         22671.4344         171.634           P07         760190.539         42670.445.7750         198.873           P07         760190.539         42670.445.7750         107.57           P08         7601255.6920         42670.4431         171.095           P09         7601255.6920         42670.4431         170.035           P10         760126.0667         42671.701         168.307           P11         760118.607         42671.701         168.307           P11         760128.1024         42671.101         168.307           P13         760128.1072         42671.101         168.307           P14         760128.1072         42687.251         167.730           P15         7601129.0905         426807.3383         170.036           P17         760128.1024         42687.0524         168.076           P17         760128.1024         426651.377						
P03         760071.4.999         42670.37.653         171.304           P04         760057.0752         426674.3444         171.634           P05         7601212.213         426648.5666         189.250           P06         7601226.213         426648.5666         189.250           P07         760199.42864         426746.7750         170.757           P08         760199.5339         426720.4431         171.095           P09         7601256.0667         426717.79101         168.309           P10         7001256.0667         426717.79101         168.309           P11         7601286.0323         426720.4431         171.095           P10         7601256.0667         426717.9101         168.309           P11         7601256.072         42673.3173         170.0203           P12         7601268.071         42673.3173         170.0203           P14         7601231.9971         426873.3183         170.036           P15         7601283.3986         426637.3183         170.036           P20         7601283.3976         162.665.3266         167.736           P21         7601285.9744         42664.14.10         168.031           P22         7601283.3976		0.000				
P05         7.60122.2133         4.266.48.5696         169.250           P06         7.60122.6380         4.2667.4014         168.873           P07         7.601094.5280         4.2674.5750         110.757           P08         7.601094.5280         4.2674.5750         110.757           P09         7.60123.5620         4.26717.9101         168.304           P10         7.60123.6520         4.26717.9101         168.304           P11         7.60118.4073         4.2678.71831         170.203           P12         7.60110.0326         4.2673.3451         170.203           P13         7.60128.1987         4.2678.7181         10.316           P14         7.60123.1973         4.2687.3363         170.036           P17         7.60127.9005         4.26687.3363         170.036           P17         7.60127.8007         4.2668.26.837         168.305           P20         7.60128.3986         12.2658.2751         168.306           P21         7.60128.3986         12.2658.2751         167.780           P23         7.60128.3986         12.2658.3751         167.780           P24         7.60128.3087         4.26651.4271         168.427           P25         7.60				426703.7663		
P06         T60122.5.880         4265(1,9014)         168.873           P07         T601094,9286         426764,7756         170,757           P08         T601080,5539         426716,7756         170,757           P09         T601250,6657         426716,7153         168.634           P10         T601250,6657         426717,110         168.339           P11         T601104,0326         426737,1579         170,726           P13         T601286,1504         42673,1519         170,718           P14         T601286,1504         42673,1519         170,718           P14         T601286,179         42673,2761         167,731           P14         T601286,1721         42683,736         168,272           P14         T601278,671         42683,735         100,356           P14         T601283,794         426643,2637         168,367           P20         T601283,794         426643,2652         167,766           P21         T601283,794         426643,2652         167,766           P22         T601283,724         426643,2764         178,864           P23         T601283,724         426643,2764         168,207           P24         7601283,724         42						
P08         7.601080.5539         426720.4431         171.095           P09         7.601250.6621         426671.5783         186.634           P10         7.601250.6621         426717.181         186.309           P11         7.601126.0267         42679.7837         170.023           P12         7.601104.0324         426783.4519         170.715           P13         7.60128.0364         426721.1499         167.715           P14         7.60132.19773         426873.7383         170.036           P15         7.60163.92721         42687.3183         160.216           P15         7.601278.6714         426687.7383         170.036           P15         7.60128.37944         426681.251         168.367           P20         7.601283.7944         426641.410         168.031           P21         7.601283.7944         426643.2565         167.796           P22         7.601283.7944         426643.2761         168.106           P23         7.601283.7944         426653.2761         167.796           P24         7.60130.7573         168.427         167.796           P25         7.60128.79744         426653.2761         167.796           P24         7.601327.075			7601226.5880		168.873	
P10         7601250.066         426717.910         168.309           P11         7601250.066         426717.910         168.309           P12         7601104.0326         42673.211         170.203           P13         760128.036         42673.211         170.7161           P14         760123.1973         426873.2151         170.518           P15         760123.1973         426873.2152         156.116           P16         7601278.671         42673.2751         168.337           P17         760128.3986         426621.2751         168.366           P20         7601283.3986         122658.2751         168.037           P21         7601283.3986         122658.2751         168.036           P22         7601283.3986         122.568.0276         107.786           P23         7601290.586.02         226650.2016         107.906           P24         7601305.7532         126655.3276         168.157           P25         7601280.457         426651.3271         168.457           P26         7601250.457         426651.4271         168.457           P27         7601250.257         426651.4271         168.457           P28         7601252.0752         4		100000				
P11         760118.4073         426789.7837         170.203           P12         760110.6326         426783.4519         170.518           P13         760128.1306         426783.4519         170.518           P14         760128.1306         426731.4519         167.761           P15         760118.9273         426873.4061         169.276           P16         7601278.001         426628.2751         168.237           P18         760128.0784         426638.07524         168.031           P20         760128.5794         426658.2751         168.066           P20         760128.5794         426658.3762         167.786           P22         760128.5794         426658.3762         167.786           P23         7601295.5976         426653.3774         167.598           P24         7601295.4057         426658.3721         167.150           P25         7601254.0571         426655.317         168.157           P26         7601254.051         426653.370         168.157           P27         7601254.051         426653.370         168.157           P26         7601254.054         426653.157         168.408           P27         7601254.054         4266						F
P12         760110.0326         42673.4519         110.518           P14         760128.0366         426721.1489         167.761           P14         760128.0326         42673.1489         167.761           P15         760128.03273         42687.3460         189.761           P15         760123.0973         42687.3460         189.216           P16         760127.9995         42682.2751         168.237           P18         760128.0996         426652.6637         168.166           P19         760128.3986         426652.6637         168.166           P19         760128.3986         426652.0521         167.396           P20         760128.3986         426659.2013         167.796           P21         760128.3924         167.736         167.786           P22         760129.3776         426659.2013         167.780           P24         760128.3924         168.331         168.157           P25         760128.9054         167.780         168.227           P26         760125.42655.317         168.435         167.780           P27         760125.42514         24665.45930         168.235           P28         760125.42514         24665.45930		11 10				
P14.         76013219773         42677.0276         167.130           P15         760163.9273         426873.1680         169.216           P16         760172.9095         426873.1680         169.216           P17         760172.9095         426873.1680         170.036           P17         7601728.0074         426628.751         168.066           P19         7601728.0024         426632.637         168.066           P20         7601728.0724         426645.8296         167.968           P21         7601728.07924         426645.8296         167.968           P22         7601729.5774         426653.3774         167.968           P23         7601729.5775         426655.3774         167.760           P24         7601729.5775         426655.3774         167.760           P25         7601726.940.57         426657.3709         168.157           P26         7601726.951         426650.2161         168.345           P27         7601726.953         426655.3171         168.071           P26         7601726.953         426655.3171         168.071           P37         7601726.954         426655.3171         168.071           P38         7601726.955				426763.4519	170.518	
P15         7.601163.9273         426873.1680         169.216           P16         7.601163.9273         4.26873.368         119.036           P17         7.601278.6071         4.26678.7368         110.036           P18         7.601278.6071         4.26678.7371         118.367           P19         7.601283.3986         4.26637.0214         118.066           P20         7.601283.3986         4.26653.2266         1167.066           P21         7.601285.3976         4.26655.8296         1167.706           P22         7.601295.5076         4.26659.7123         1167.706           P23         7.601295.3776         4.26659.7022         107.780           P24         7.601305.7523         4.26659.7022         107.780           P25         7.601254.024         4.26697.022         107.827           P26         7.601254.024         4.26659.702         108.325           P27         7.001254.024         4.26651.3271         108.457           P28         7.601252.0275         4.26651.4271         108.457           P27         7.001254.0274         4.26651.4271         108.457           P30         7.601252.0275         4.26647.373         166.157           P31						
P17         7601278.6071         426628.2751         169.237           P18         7601278.0024         426632.6377         168.166           P19         7601283.3964         426653.2637         168.166           P20         7601283.3964         426653.2637         168.096           P21         7601290.5860         426653.2751         167.906           P22         7601290.5860         426653.2774         167.706           P23         7601290.5860         426659.2781         167.706           P24         7601390.7523         426653.2774         167.736           P25         7601284.024         426697.022         167.789           P26         7601264.0254         426659.3704         168.375           P27         7601264.0254         426653.14271         168.375           P28         7601252.052         426653.4271         168.34           P30         7601252.052         426653.4371         168.34           P31<7601252.052		IP15			169.216	-
P18         7.601281.0028         42.6632.6637         168.166           P19         7.601283.794.4         42.6637.0524         168.096           P20         7.601283.794.4         42.6641.4.4.10         168.031           P21         7.601283.794.4         42.6657.0524         167.7968           P22         7.601295.5876         42.6655.8296         167.7968           P23         7.601295.5876         42.6658.9956         167.7968           P24         7.601309.7523         42.6655.3276         167.4250           P25         7.601283.4204         42.6609.7022         167.829           P26         7.601283.4204         42.6609.7021         167.829           P27         7.60128.4204         42.6609.7021         167.829           P26         7.60128.4204         42.6609.7021         167.829           P27         7.60128.4204         42.6609.7021         168.157           P28         7.601252.0752         42.6655.14211         168.157           P30         7.601252.0752         42.6657.70384         168.536           P31         7.601252.0752         42.6657.70807         168.607           P32         7.601270.651         42.657.9807         168.607 <td< td=""><td></td><td>10.000</td><td></td><td></td><td></td><td></td></td<>		10.000				
P20         7601258.794.4         42664.14.410         168.031           P21         7601280.1902         42664.5.8296         167.966           P22         7601290.560         42665.2026         167.966           P23         7601290.560         42665.2026         167.966           P24         7601309.7524         426658.9956         167.780           P24         7601309.7524         426659.7022         167.426           P25         760128.4264         426699.7022         167.829           P26         760126.4574         426650.204.4         168.157           P27         760125.4514         426664.570         168.157           P28         760125.4673         426651.4271         168.471           P30         760125.70668         426651.4271         168.471           P31         760125.4772         42664.2061.4271         168.471           P32         760125.4772         42664.2061.4271         168.471           P33         760135.3931         42673.3109         166.393           P34         760135.3931         42673.409         168.546           P37         760128.4573         426581.4271         168.466           P38         760128.4573		IP18	7601281.0028	426632.6637	168.166	
P21         760128.1902         42665.8296         167.968           P22         7601290.5860         426650.2183         167.966           P23         7601295.3776         426658.3976         167.780           P24         760139.5723         426658.3774         167.780           P25         7601283.204         426697.32702         167.297           P26         7601283.204         426697.0221         167.829           P27         760124.2651         426651.3370         168.157           P28         7601261.8583         426650.2014         168.345           P29         7601251.6634         426651.3171         168.408           P30         7601252.0524         426553.4157         168.408           P31         7601252.0524         426553.4157         168.408           P33         7601379.2845         42673.6109         166.534           P34         7601353.9564         426897.4073         166.700           P35         7601353.9564         426591.3127         168.407           P37         7601270.7937         426581.1924         168.700           P38         7601286.4621         426591.1924         168.700           P37         7601270.7937						
P23         7601253.3776         426558.9956         167.780           P24         7601309.7523         426658.9956         167.450           P25         7601283.4204         426695.7022         167.450           P26         7601283.4204         426695.7022         167.429           P27         7901264.7541         426655.1370         168.157           P27         7901264.7541         426654.5271         168.282           P28         7901264.7541         426654.1271         168.471           P30         7601257.6668         426651.4271         168.471           P31         7601252.752         42665.31.271         168.471           P33         7601353.931         42664.70.384         168.536           P33         7601353.9350         42667.4037         166.790           P34         7601353.93560         426807.4973         166.670           P37         7601256.424         426584.1869         168.576           P38         7601256.9424         426581.1824         168.407           P37         7601256.424         426581.1824         168.607           P38         7601256.424         426581.1824         168.704           P39         7601270.7937		IP21	7601288.1902	426645.8296	167.968	G
P24         7601399.7523         426685.3274         167.450           P25         760128.4204         426697.0022         167.829           P26         760128.4204         426697.002         168.157           P27         760126.4254         126673.3703         168.157           P28         7601259.4625         426655.4571         168.282           P28         7601259.4625         426655.4571         168.408           P30         7601259.4625         426651.4271         168.374           P31         760125.4670         42667.301         168.570           P32         760125.4670         42667.301         168.571           P31         760125.4670         42667.301         168.576           P32         760125.4670         42679.361         165.770           P34         7601335.3981         426763.6109         166.893           P35         760126.8647         426573.370         168.407           P36         760127.0737         426584.7378         168.406           P37         760128.6467         42659.1724         168.662           P38         760128.6474         42659.1724         168.662           P39         760128.64747         168.6764 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>						
P26         7601260,0457         426673,2703         158,157           P27         7601264,2541         426664,5930         168,282           P28         7601264,5531         426664,5930         168,282           P29         7601254,8531         426664,2930         168,282           P30         7601254,8531         426664,2930         168,282           P30         7601254,8531         426664,271         168,471           P31         7601254,6710         426647,0384         168,536           P32         7601379,2845         426738,6530         165,770           P34         7601379,2845         426738,6530         165,770           P35         7601379,78651         426561,3109         166,893           P37         7601268,6647         426594,737         166,770           P3         7601268,6647         426594,737         168,466           P39         7601268,6647         426581,1524         168,700           P40         7601268,6428         426581,1524         168,700           P40         7601270,7337         426581,1524         168,700           P40         7601270,7337         426581,1524         168,700           P40         7601270,7337		IP24	7601309.7523	426685.3274	167.450	
P27         760124.25c1         426664.5930         168.282           P28         760125.4625         426650.204.4         168.345           P29         760125.4626         426651.4271         168.408           P30         760125.70668         426651.4271         168.471           P31         760125.4626         426651.4271         168.471           P33         760135.2752         42642.4698         168.534           P33         760135.9845         42673.6530         165.700           P34         760135.9841         42673.6530         166.700           P35         760135.9841         42673.409         166.393           P36         7601278.451         426504.2408         168.576           P37         760128.4513         426504.3109         166.409           P38         760128.4513         426584.1978         168.402           P39         760126.4647         426594.3142         168.700           Metres         DRA WING MUST BE PRINTED IN COLOUR TO CORRECTLY SHOW DETAILS         168.700           Metres         Metres         168.704         168.706           P40         7601270.7937         426581.1924         168.706           P40         7601270.7937						
P28         760125.16583         426660.20.4.         108.345           P29         7601259.4625         426555.157         108.408           P30         7601257.0668         426551.4271         108.345           P31         7601257.0668         426551.4271         108.534           P32         7601257.0668         426551.4271         108.534           P33         7601373.7845         426647.0384         108.536           P33         7601373.7845         42673.3409         106.893           P34         7601277.651         426571.9807         108.607           P35         7601277.651         426597.19807         108.466           P37         7601270.7937         426581.1924         108.576           P38         7001256.424         426594.3142         108.576           P37         7601270.7937         426581.1924         108.704           P40         7601270.7937         426581.1924         108.704           P40         7601270.7937         426581.1924         108.704           P40         7601270.7937         426581.1924         108.704           P40         7601270.7937         426581.1924         108.602           P40         7601270.7937		IP27				
			7601261.8583	426660.2044		
P32         760125.2752         42642.46498         166.576           P33         7601379.2845         42673.6530         165.790           P34         760135.3961         42673.6530         165.790           P35         760135.3961         42673.619         166.790           P35         7601375.3961         42673.619         166.790           P36         760127.6511         426577.3907         168.607           P37         760126.2613         426579.3907         168.607           P38         760126.6647         426594.3412         168.642           P39         760126.6424         426594.1406         168.764           P40         7601270.7937         426581.1924         168.700		IP30	7601257.0668	426651.4271	168.471	
P34         7601353.991         42673.8109         166.893           P35         7601359.3560         426807.4973         1166.790           P36         7601278.651         426507.9907         1168.466           P37         760128.2657         426558.7578         1168.466           P38         760128.6647         426594.3469         168.764           P39         760126.6428         426584.1869         168.764           P30         760126.6428         426584.1869         168.764           P39         7601265.6428         426581.1924         168.700           OF Mathematical State Stat						Н
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P37         760122.6373         242563.7578         168.466           P38         760126.6647         426594.3412         168.462           P39         760126.6427         426594.1869         168.764           P40         7601270.7937         426591.1924         168.700           IBE RVER MINING COMPANY PTY LTD HAMERSLEY HMS PTY LTD HERVER MINING COMPANY PTY LTD BE RIVER MINING COMPANY PTY LTD DE RIVER MINING COMPANY P						
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### 4. 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.

### 4.1 Source-pathways and receptors

#### 4.1.1 Emissions and controls

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

Sources	Emission	Emission Potential Proposed controls pathways							
Construction	Construction								
Construction of landfill cells and waste storage areas.	Dust	Air/wind	Dust suppression including water trucks, restricted vehicle speeds.						
Construction of associated stormwater	Noise		Commitment to the EP Noise Regs during construction.						
management infrastructure.			Fuel storage tanks designed and constructed to AS 1940.						
	Hydrocarbons from fuel	Subsurface	Bunding and secondary containment to contain spills.						
	storage and	seepage	Spill response plan and kits.						
	refuelling		The nearest groundwater bores are located 900 m north-east of the premises, where groundwater is 20 m below ground level.						
Operation (incl	luding time limite	ed operations)							
Operation of landfill	Dust		Dust suppression including water trucks, restricted vehicle speeds.						
Operation of waste storage areas	Odour	Air/windborne pathway	Wastes covered with 150 mm of soil weekly and 300 mm of soil monthly, plus final capping of 1 m soil upon closure.						
	Windblown	Wind	Cells located according to prevailing winds to minimise windblown rubbish.						
			Wastes covered with 150 mm of soil weekly and 300 mm of soil monthly, plus final capping of 1 m soil upon closure.						
	rubbish	dispersion	Boundary fencing to 1.8 m height with lockable gates.						
			Separate landfill cell for Special Waste Type 1 (asbestos) disposal, including bagging and cell depth of 1 m.						

**Table 2: Proposed applicant controls** 

Sources	Emission	Potential pathways	Proposed controls
	Leachate	Subsurface	Siting selection: <ul> <li>The nearest groundwater bores are located 900 m</li> </ul>
		seepage	north-east of the premises, where groundwater is 20 m below ground level.
	Hydrocarbons	Subsurface seepage	No acceptance of hydrocarbons at the landfill.
			500 mm high soil windrow surrounding premises to divert stormwater.
	Contaminated		Internal sump to collect and retain contaminated stormwater within the premises.
	stormwater	Overland flow	Siting selection:
			<ul> <li>Landfill sits outside the modelled 1:100 AEP Robe River flood extent;</li> </ul>
			Landfill is located 900 m north west of the Robe River.
			3 m wide firebreak to be installed around premises.
	Unauthorised fires	Air/wind	Green waste is the only waste to be burnt at the premises, which will occur at a designated green waste burning location to prevent spread into other waste sources.
			Used Tyres will be disposed of at the premises by burial to prevent the risk of fires, however in a manner that will facilitate recovery should recycling become viable in the future.
		Disect content	Regular covering of wastes to prevent vermin infestation.
	Vermin and		Boundary fencing to 1.8 m height with lockable gates to exclude.
	scavenging animals	Direct contact	Siting selection:
			<ul> <li>The nearest residential receptor is located within the Pannawonica townsite, 6 km north-east of the Premises.</li> </ul>

#### 4.1.2 Receptors

In accordance with the *Guideline: Risk Assessment* (DWER 2020), the Delegated Officer has excluded employees, visitors and contractors of the applicant's from its assessment. Protection of these parties often involves different exposure risks and prevention strategies, and is provided for under other state legislation.

Table 3 below provides a summary of potential human and environmental receptors that may be impacted as a result of activities upon or emission and discharges from the prescribed premises *(Guideline: Environmental Siting* (DWER 2020)).

Human receptors	Distance from prescribed activity			
Residential town of Pannawonica	6 km north-east of the Premises. The Delegated Officer considers that due to distance there is no likely impact on the town of Pannawonica, so they are not considered receptors under this assessment.			

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

Table 4 below provides a summary of potential environmental receptors that may be impacted as a result of activities upon or emission and discharges from the prescribed premises *(Guideline: Environmental Siting (DER 2020))*.

Environmental receptors	Distance from prescribed activity
Surface water sources	Robe River is located 900 m south-east of the proposed landfill boundary.
Groundwater sources	The depth to groundwater is approximately 20 m below ground level at the proposed landfill location.
	The Bungaroo Creek Water Reserve (P1) is located 4.5 km to the south-west of the premises boundary. Groundwater directional flow
	The Delegated Officer considers this is an adequate separation distance to prevent subsurface seepage impacting groundwater. Groundwater is not considered a receptor under this assessment.
Priority flora	Two priority species have been located within a 10 km radius of the premises boundary.
	<ul> <li>One Priority 3 species <i>Triodia pisoliticola</i></li> <li>One Priority 4 species <i>Rhynchosia bungarensis</i></li> </ul>
	Neither species have been located within the proposed landfill area. The vegetation within the landfill area is of degraded quality. The Delegated Officer considers the proposed construction works are not likely to impact these priority flora species.
Threatened fauna	Three threatened fauna species have been located within a 10 km radius of the premises boundary, however were not located within the proposed landfill area:
	<ul> <li>Rhinonicteris aurantia (Pilbara Leaf-nosed Bat)</li> <li>Dasyurus hallucatus (Northern Quoll)</li> <li>Liasis olivaceus barroni (Pilbara Olive Python)</li> </ul>
	Neither species have been located within the proposed landfill area. The vegetation within the landfill area is of degraded quality. The Delegated Officer considers the vegetation does not represent ideal habitat for the threatened fauna, and that proposed construction works are not likely to impact these threatened fauna species.
Aboriginal heritage sites of significance	There are several registered sites adjacent to the proposed landfill area, however they are outside the landfill area and will not be impacted by the proposed works. The Delegated Officer considers that there is no likely impact upon these sites of significance, so they are not considered receptors under this assessment.

Table 4: Sensitive environmental receptors and distance from prescribed activity

### 4.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for each identified emission source and takes into account potential source-pathway and receptor linkages as identified in Section 4.1. Where linkages are in-complete they have not been considered further in the risk assessment.

Where the applicant has proposed mitigation measures/controls (as detailed in Section 4.1), these have been considered when determining the final risk rating. Where the Delegated Officer considers the applicant's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the works approval and licence as regulatory controls.

Additional regulatory controls may be imposed where the applicant's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 5.

Works Approval W6484/2020/1 that accompanies this Decision Report authorises construction and time-limited operations. The conditions in the issued Works Approval, as outlined in Table 5 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

A licence is required following the time-limited operational phase authorised under the works approval to authorise emissions associated with the ongoing operation of the Premises. A risk assessment for the operational phase has been included in this Decision Report, however licence conditions will not be finalised until the department assesses the licence application.

Risk Event					Risk rating <sup>1</sup>	Applicant controls sufficient?	Conditions <sup>2</sup> of works approval/licence	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls	C = consequence L = likelihood			
Construction								
Construction of landfill cells and	Dust	Air/windborne pathway causing impacts to health and amenity	None	See section 4.1	No receptors present			
waste storage areas	Noise				No receptors prese	nt		
areas Construction of associated stormwater management infrastructure	Spills of hydrocarbons	Overland flow impacting surface water bodies	Robe River		C = Slight L = Unlikely Low Risk	Yes	N/A	N/A General provisions of the Environmental Protection (Unauthorised Discharges) Regulations 2004 apply.

Table 5: Risk assessment of potential emissions and discharges from the Premises during construction and operation

Works Approval: W6484/2020/1

Risk Event					Risk rating <sup>1</sup>		Conditions <sup>2</sup> of	
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls	C = consequence L = likelihood	Applicant controls sufficient?	works approval/licence	Justification for additional regulatory controls
Operation (including	ng time limited o	operations)						
	Dust	Air / windborne pathway causing	None		No receptors prese	nt		
	Odour	impacts to health and amenity			No receptors prese	nt		
	Windblown rubbish	Wind dispersion causing impacts to amenity and fauna	Fauna	See section 4.1	C = Slight L = Unlikely Low Risk	Yes	Conditions 1, 9, 10, 11, 12	N/A
Operation of landfill	Leachate	Subsurface seepage impacting groundwater sources	None		C = Slight L = Unlikely Low Risk	Yes	N/A	N/A
Operation of waste storage areas	Contaminated stormwater	Overland flow impacting surface water bodies	Robe River		C = Minor L = Unlikely <b>Medium Risk</b>	Yes	Condition 1	N/A
	Unauthorised fires	Air / windborne pathway causing impacts to surrounding native vegetation	Surrounding vegetation		C = Slight L = Unlikely <b>Low Risk</b>	Yes	Condition 1, 8, 9	N/A
	Vermin and scavenging animals	Direct contact causing human health impacts	None		No receptors prese	nt		

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

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

# 5. Consultation

Table 6 provides a summary of the consultation undertaken by the department.

#### Table 6: Consultation

Consultation method	Comments received	Department response	
Application advertised on the department's website (18/02/2021) and in the West Australian (22/02/2021)	None received	N/A	
Local Government Authority advised of proposal (18/02/2021)	None received	N/A	
Department of Mines, Industry Regulation and Safety (DMIRS) advised of proposal (18/02/2021)	None received	N/A	
Applicant was provided with draft documents (19 July 2021)	Refer to Appendix 1	Refer to Appendix 1	

## 6. Conclusion

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

### References

- 1. Department of Environment Regulation (DER) 2016, *Guidance Statement: Environmental Siting*, Perth, Western Australia.
- 2. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
- 3. DWER 2020, Guideline: Risk Assessments, Perth, Western Australia.

# Appendix 1: Summary of applicant's comments on risk assessment and draft conditions

Condition	Summary of applicant's comment	Department's response
Condition 1 Table 1	Table 1 of the draft Works Approval requires the landfill cells to be constructed not exceeding 2 metres in depth below the ground surface (and 2 metres in height above the ground surface). The Works Approval application proposes the depth of each cell does not exceed 4 metres below the ground surface (and 2 metres above the surface). Waste is not expected to interact with groundwater. The Licensee committed in the Works Approval application that the landfill will be located so that vertical distance between the waste and the highest seasonal post mining groundwater level is more than 10 metres. Bores nearby show that the depth to ground level. As such, a cell depth of 4 metres below the ground surface will maintain a vertical distance between the waste and the groundwater of more than 10 metres. As such, the Licensee requests that the Works Approval requires the landfill cells to be constructed not exceeding 4 metres in depth below the ground surface (and 2 metres in height above the ground surface).	Given the depth to groundwater is known to be more than 10 metres below ground, the Delegated Officer considers permitting the landfill cell to extend to 4 metres below ground level presents a low risk of impacts to groundwater. The Delegated Officer has altered Condition 1 Table 1 to allow construction of landfill cells that do not exceed 4 metres in depth below the ground surface.
Schedule 3: Conceptual landfill design Figure 2 Decision	The Conceptual Landfill Design provided in the Draft Works Approval is updated to include the requirements of the Works Approval, specifically, signage, a designated area for green waste, a 500 mm windrow around the landfill perimeter and a firebreak around the boundary of the premises, to a width of at least 3 metres.	Figure 2 in the Works Approval and Figure 1 in the Decision Report have been updated.
Report Figure 1		

# **Appendix 2: Application validation summary**

SECTION 1: APPLICATION SUMMARY										
Application type										
Works approval	$\boxtimes$									
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:								
		Relevant works approval number:	None	N/A						
Registration		Current works approval number:		None						
Date application received		11 November 2020								
Applicant and Premises details										
Applicant name/s (full legal name/s)		Robe River Mining Co Pty Ltd								
Premises name		Pannawonica Deepdale Landfill								
Premises location		Part of AML 70/248								
Local Government Authority		Shire of Ashburton								
Application documents										
HPCM file reference number:		DER2020/000622								
Key application documents (additional to application form):		Supporting document								
Scope of application/assessme	nt	1								
Summary of proposed activities or changes to existing operations.		Works Approval								
		Construction of new landfill premises								

Prescribed premises category and description	Assessed pr or design ca		Proposed changes to the production or design cap (amendments only)	
Category 64: Class II or III putrescible landfill site: premises (other than clean fill premises) on which waste of a type permitted for disposal for this category of prescribed premises, in accordance with the Landfill Waste Classification and Waste Definitions 1996, is accepted for burial.	15 000 tonnes per year		N/A	
egislative 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 🖂			
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes 🗆 No 🛛			
Has the proposal been referred and/or assessed under the EPBC Act?	Yes 🗆 No 🛛			
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes 🛛 No 🗆		Mining lease / tenement ⊠ Expiry: 30/10/2033	
Has the applicant obtained all relevant planning approvals?	Yes 🗆 No 🗆	N/A 🖂		
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes ⊠ No □		CPS No: 5639/3 Proposed to clear 6 ha via amendment to existing clearing permit. Application lodged with DWER 16/11/2020 for 230 ha.	
Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes 🗆 No 🛛		Licence not required	
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes 🛛 No 🗆		Licence GWL 107677	
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes 🗆 No 🖂			

Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes 🗆 No 🖂		
Is the Premises subject to any other Acts or subsidiary regulations (e.g. Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx)	Yes ⊠ No □	Mining Act	
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 ⊠		