



Decision Report

Application for Licence

Division 3, Part V *Environmental Protection Act 1986*

Licence Number	L9221/2019/1
Applicant	Fortescue Metals Group Ltd
ACN	002 594 872
File Number	DER2019/000542
Premises	Eliwana Mine Crushing and Screening Facility Part of tenements M47/1524 and M47/1523 Hamersley Range WA 6716 As defined by the coordinates in Schedule 1 of the Licence
Date of Report	3 December 2019
Status of Report	Final

Table of Contents

1. Definitions of terms and acronyms	1
2. Purpose and scope of assessment	3
2.1 Background	3
2.2 Application details	3
3. Overview of Premises.....	3
3.1 Description of proposed activity	3
3.2 Prescribed premises categories	6
3.3 Infrastructure and equipment.....	6
3.4 Exclusions to the Premises	6
3.4.1 Drilling, blasting, mining and transport of material/product.....	6
3.4.1 Storage of hydrocarbons (fuel, oil).....	7
4. Legislative context.....	7
4.1 Part V of the EP Act	7
4.1.1 Applicable regulations, standards and guidelines	7
4.1.2 Works approval history	8
4.1.3 Compliance with Works Approval W6233/2019/1	8
5. Siting.....	8
5.1 Residential and sensitive Premises	8
5.2 Specified ecosystems.....	8
5.3 Climate	10
5.5 Hydrology	11
5.6 Groundwater and water sources.....	11
6. Consultation	11
7. Risk assessment and regulatory controls	12
8. Applicant's comments.....	14
9. Conclusion	14
Appendix 1: Key documents	15
Appendix 2: Summary of applicant's comments on risk assessment and draft conditions	16
Attachment 1: Licence L9221/2019/1	17
 Table 1: Definitions	 1
Table 2: Prescribed premises category	6
Table 3: Category 12 infrastructure and equipment.....	6
Table 3: Other approvals relevant to the premises	7

Table 4: Works approval history	8
Table 5: Sensitive land uses and distance from the activity boundary	8
Table 6: Specified ecosystems and other environmental receptors	9
Table 7: Risk assessment - operations	12

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 <i>Public Sector Management Act 1994</i> 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 <i>Public Sector Management Act 1994</i> and is responsible for the administration of the <i>Environmental Protection Act 1986</i> along with other legislation.
EPA	Environmental Protection Authority
EP Act	<i>Environmental Protection Act 1986</i> (WA)
EP Regulations	<i>Environmental Protection Regulations 1987</i> (WA)
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cth)
Licence Holder	Fortescue Metals Group Ltd
MCSF	Mobile crushing and screening facility
Minister	the Minister responsible for the EP Act and associated regulations
MS	Ministerial Statement
mtpa	million tonnes per annum
Noise Regulations	<i>Environmental Protection (Noise) Regulations 1997</i> (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
Risk Event	As described in <i>Guidance Statement: Risk Assessment</i>
UDR	<i>Environmental Protection (Unauthorised Discharges) Regulations 2004 (WA)</i>

2. Purpose and scope of assessment

2.1 Background

Fortescue Metals Group (FMG) is developing the Eliwana Iron Ore Mine Project located approximately 90km north-west of Tom Price in the Pilbara Region of Western Australia. A mobile crushing and screening facility (MCSF) is required to produce construction material for the project.

On 19 June 2019 DWER granted Works Approval W6233/2019/1 for the installation of the MCSF components within a premises boundary located within mining tenements M47/1524 and M47/1523. The Works Approval additionally authorised short-term operation of the MCSF as specified in Condition 5 of the Works Approval.

2.2 Application details

On 1 October 2019 FMG submitted an application for a Licence for ongoing operation of the MCSF for a period of approximately 3 years. FMG proposed an overall production capacity of 1 million tonnes per annum.

3. Overview of Premises

3.1 Description of proposed activity

FMG estimates 250,000 tonnes of rock material will be extracted within the premises for construction purposes. Construction is expected to be completed over a 12 hours per day, 7 days per week. However, considering potential delays, possible excess material requirements and allowing for waste material, the overall production capacity applied for is 1 million tonnes per annum.

A summary of the MCSF operations is provided below:

- Material is feed into the MCSF by excavator and bucket;
- Material is fed through static grizzlies for sizing of rock material;
- Material is crushed to size via either a jaw crusher (600 tonne per hour (t/hr) maximum capacity) or cone crusher (400 t/hr maximum capacity) and then screened via a double deck screener (600 t/hr maximum capacity);
- Crusher material is discharged onto a conveyor; and
- Conveyor deposits material in a stockpile or otherwise straight into a truck. If stockpiled, the crushed material is picked up by front end loader and or excavator and loaded into a truck.

FMG will operate additional MCSF components that were not considered in Works Approval W6233/2019/1. That is, an additional smaller cone crusher and additional screens will be used to produce finer crushed rock required for the mine airstrip.

Figure 1 illustrates the regional location of the Eliwana Project. Figure 2 illustrates the location of the prescribed premises within tenements M47/1524 and M47/1523.

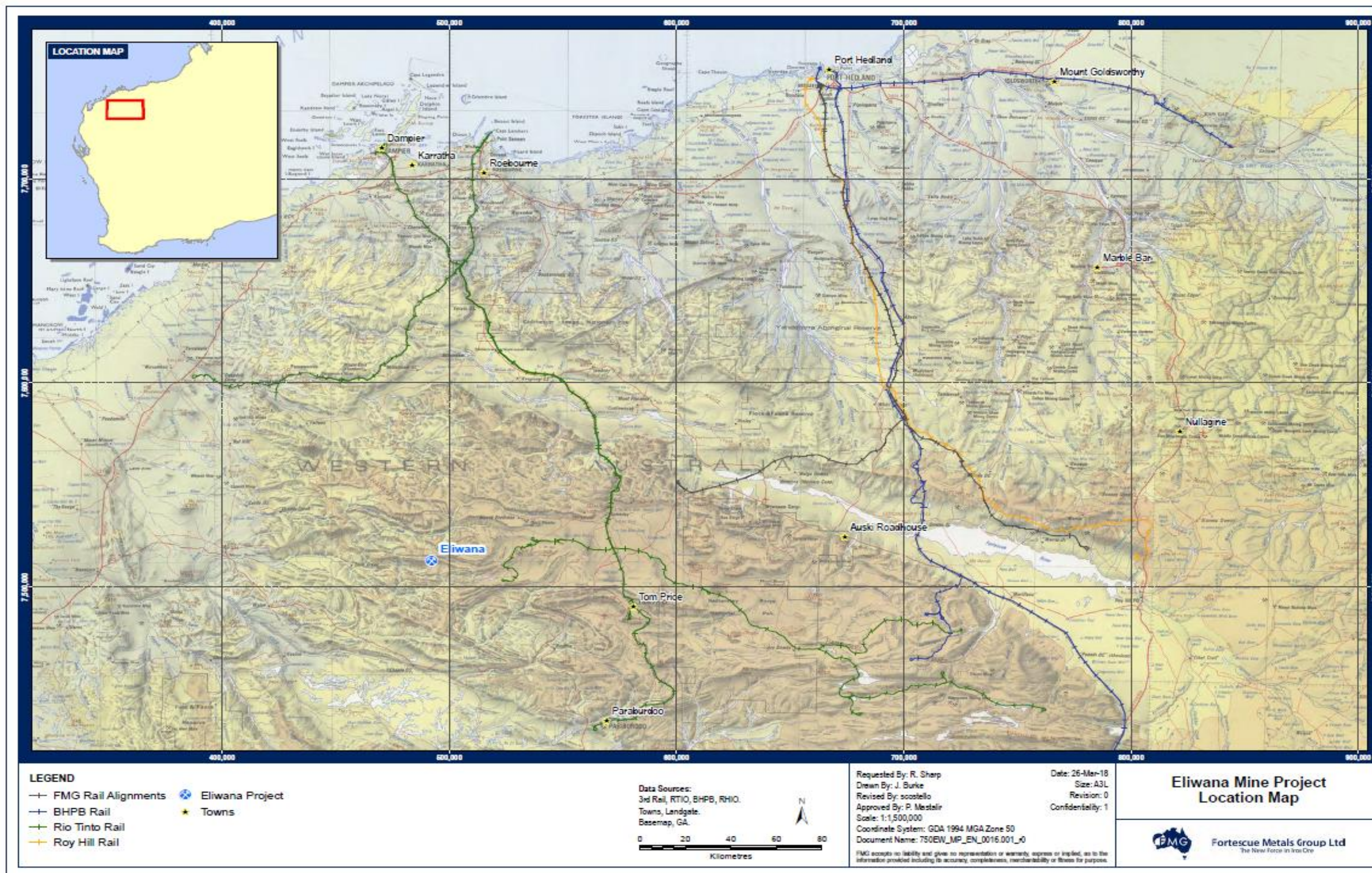


Figure 1: Project location

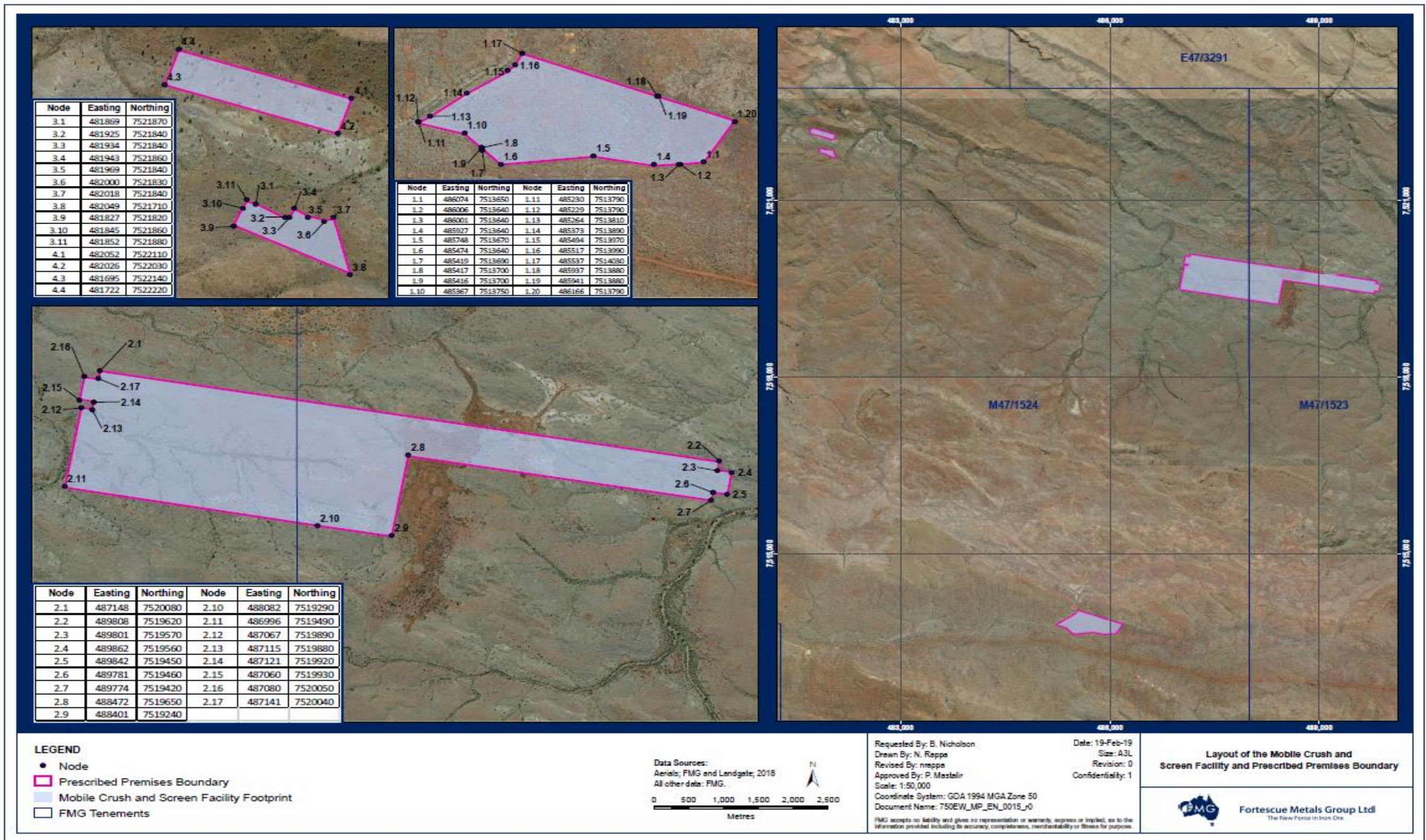


Figure 2: Prescribed premises boundary

3.2 Prescribed premises categories

The prescribed premises category relevant to the Licence application is detailed in **Error! Reference source not found.** below.

Table 2: Prescribed premises category

Prescribed Premises	Description	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.	50,000 tonnes or more per year

3.3 Infrastructure and equipment

The Eliwana MCSF infrastructure and equipment, as it relates to Category 12 activities, is detailed in Table 3.

Table 3: Category 12 infrastructure and equipment

Ref	Infrastructure and Equipment	Site Layout Plan Reference
	Prescribed Activity (Category 12)	
1	<p>MCSF consisting of the following:</p> <ul style="list-style-type: none"> ▪ Front end loader ▪ Hopper ▪ Jaw crusher 600 t/hr maximum capacity ▪ Cone Crusher 400 t/hr maximum capacity ▪ Additional smaller cone crusher – 100 t/hr capacity ▪ Double Deck Screener 600 t/hr maximum capacity ▪ Additional screener – 100t/hr capacity ▪ Conveyor ▪ Haul trucks 	Schedule 1 premises map
	Other infrastructure/equipment	
2	Collection and settling sump	Schedule 1 premises map
3	Windrows for stormwater diversion	
4	Service trucks for mobile re-fuelling (diesel)	

3.4 Exclusions to the Premises

3.4.1 Drilling, blasting, mining and transport of material/product

Under the *Environmental Protection Regulations 1987* Schedule 1 Part 1, prescribed premises

Category 12 *does not* include drilling, blasting, mining and transport of material/product. The scope of this assessment therefore *does not include* these particular activities and associated emissions/discharges.

3.4.1 Storage of hydrocarbons (fuel, oil)

Storage of fuel and oils is not required within the premises boundary. Plant will be refueled by a mobile fuel truck. Storage of hydrocarbons is not within the scope of this assessment as the activity *does not* trigger prescribed premises category 73.

4. Legislative context

Other approvals relevant to the premises are outlined in Table 4 **Table 1** below.

Table 4: Other approvals relevant to the premises

Legislation	Number	Approval
Part IV of the <i>EP Act (WA)</i>	N/A	Notice of decision to consent to minor or preliminary works – Eliwana Iron Ore Mine Project Assessment No.2125 – dated 1 August 2018. In advance of a decision on the Proposal under section 45 of the EP Act, the EPA provided consent to the undertaking of minor or preliminary works within the project development envelope.
	Statement number: 1109	Statement that a proposal may be implemented pursuant to section 45 of the <i>Environmental Protection Act 1986</i> - Eliwana Iron Ore Mine Project. Dated 14 August 2019.
<i>Environment Protection and Biodiversity Conservation Act 1999 (Cth EPBC Act)</i>	EPBC 2017/8024	Approval of action under the <i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i> – Eliwana Iron Ore Mine Project. Dated 25 September 2019.

4.1 Part V of the EP Act

4.1.1 Applicable regulations, standards and guidelines

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

The guidance statements which inform this assessment are:

- *Guidance Statement: Regulatory Principles (July 2015)*
- *Guidance Statement: Setting Conditions (October 2015)*
- *Guidance Statement: Licence Duration (August 2016)*
- *Guidance Statement: Decision Making (June 2019)*
- *Guidance Statement: Risk Assessments (February 2017)*
- *Guidance Statement: Environmental Siting (November 2016)*

4.1.2 Works approval history

Table 5 summarises the works approval history for the premises.

Table 5: Works approval history

Instrument	Issued	Nature and extent of works approval
W6233/2019/1	19 June 2019	Authorised the installation of the MCSF components within the premises boundary located within mining tenements M47/1524 and M47/1523. The Works Approval additionally authorised short-term operation of the MCSF as specified in Condition 5 of the Works Approval.

4.1.3 Compliance with Works Approval W6233/2019/1

On 7 August 2019 FMG submitted a compliance report for Works Approval W6233/2019/1 for the Eliwana MCSF. A review of compliance with conditions 1, 2, 3 and 4 of the Works Approval was completed and revealed partial compliance was achieved. The compliance report detailed water management infrastructure (sumps/windrows) were constructed at one of the four authorised locations for crushing/screening, as only one location has been used to extract/process material.

The Licence Holder is advised that in the event crushing/screening operations are mobilised to other unused locations within the premises boundary, the construction of water management infrastructure is required in accordance with conditions 1 and 3 of Works Approval W6233/2019/1.

5. Siting

5.1 Residential and sensitive Premises

The distances to residential and sensitive land uses are detailed in Table 6.

Table 6: Sensitive land uses and distance from the activity boundary

Sensitive Land Uses	Distance from Prescribed Activity
Pastoral station homesteads	FMGs Eliwana Iron Ore Mine Environmental Review report, section 4.9.4.3 (October 2018) provides a review of the location of homesteads in the vicinity of the mine development envelope. The nearest homesteads are Duck Creek and Mount Brockman homesteads located 10km and 12km away from the mine development envelope. Given that the premises boundary falls within the mine development envelope, the homesteads are therefore 10kms (or greater) away from the premises boundary.

5.2 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 7. Table 7 also identifies the distances to other potential environmental receptors which do not fit the definition of a specified ecosystem.

Table 7: Specified ecosystems and other environmental receptors

Specified ecosystems	Approximate location or distance from the premises
Threatened/priority fauna	
Northern Quoll (<i>Dasyurus hallucatus</i>) – Endangered	Recorded in vicinity (within 5km) of premises boundary
Ghost bat (<i>Macrodermia gigas</i>) – Vulnerable	
Pilbara Leaf-Nosed Bat (<i>Rhinonictis aurantia</i>) – Vulnerable	
Western Pebble-Mound Mouse (<i>Pseudomys chapmani</i>) – Priority 4	Recorded in vicinity (within 5km) of premises boundary Habitat identified within premises boundary
Peregrine falcon (<i>Falco peregrinus</i>)	Recorded in vicinity (within 5km) of premises boundary Habitat identified within premises boundary
Priority flora	
<i>Pentalepis trichodesmoides</i> subsp. <i>hispida</i> – Priority 2	Recorded in vicinity (within 5km) of premises boundary
<i>Eremophila magnifica</i> subsp. <i>velutina</i> - Priority 3	
<i>Grevillea saxicola</i> - Priority 3	
<i>Indigofera</i> sp. <i>Bungaroo Creek</i> - Priority 3	
<i>Triodia</i> sp. <i>Robe River</i>	
<i>Eremophila magnifica</i> subsp. <i>magnifica</i> - Priority 4	
Other environmental receptors	Approximate location or distance from the premises
Soils	Within premises boundary
Other native vegetation	Within or in the vicinity of the premises boundary
Unnamed ephemeral creeks	Downstream and in the vicinity of the 4 areas incorporating the premises
Pinarra creek	Located approximately 30m to the south of the southernmost component of the premises
Duck creek and associated pools	Located approximately 2.7kms to the north of the northernmost component of the premises.
Groundwater	Depth to groundwater within the premises is estimated to vary from shallow groundwater beneath ephemeral creek systems to deep

	<p>groundwater within fractured rock aquifers.</p> <p>The Licence Holder has estimated groundwater levels at the MCSF are greater than 2m below ground level.</p>
--	---

5.3 Climate

The regional climate consists of hot summers and mild winters. Annual rainfall in the Pilbara has a substantial yearly variation. Tropical cyclones and local thunderstorms produce much of the summer and early autumn rainfall.

Monthly rainfall and temperature averages for Tom Price and Paraburdoo (located approximately 95km and 115km south-east of the premises) are detailed in Figure 3 below.

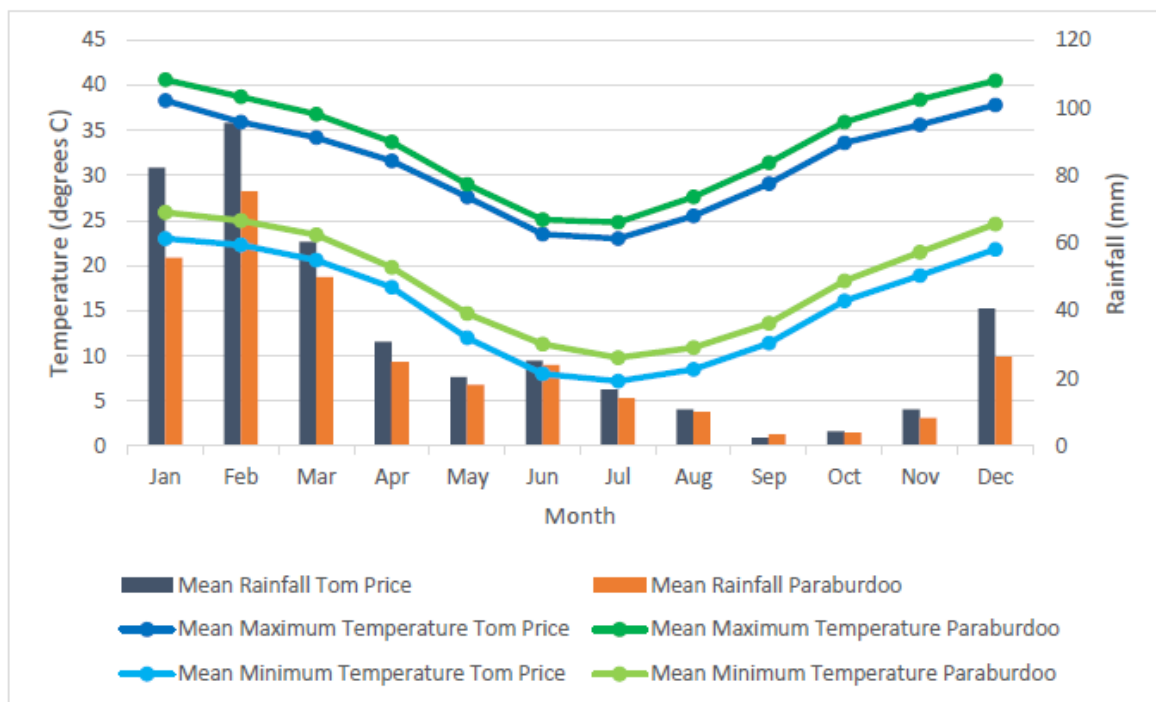


Figure 3: Mean monthly rainfall and maximum/minimum temperatures recorded at Tom Price and Paraburdoo Weather Stations; source Bureau of Meteorology (2019).

5.5 Hydrology

Creek flow and flood events in the region are largely expected to occur in the summer months when the remnants of tropical cyclones can pass inland.

The MCSF areas fall within the Duck Creek catchment area which drains to the regional Ashburton River basin. The Duck Creek catchment area is approximately 6,800km² at the confluence with the Ashburton River.

The MCSF areas occur within a sub-catchment of Duck Creek and a sub-catchment of Pinarra Creek.

Minor ephemeral creek lines are located within or in the vicinity of the three northernmost MCSF areas. Stormwater in these areas is generally expected to flow to the north or north-west towards Duck Creek. The separation distances from the northernmost MCSF areas to Duck Creek range from ~2.7kms to ~5kms.

The southernmost MCSF area is located in the vicinity of Pinarra Creek. Stormwater in this area is generally expected to flow to the west and south towards Pinarra Creek.

DWER's geographic information system indicates Duck Creek contains permanent river pools.

5.6 Groundwater and water sources

Depth to groundwater within the premises is estimated to vary from shallow groundwater beneath ephemeral creek systems to deep groundwater within fractured rock aquifers. The licence holder has estimated that groundwater levels at the MCSF are greater than 2m below ground level.

As there are no residential premises and town sites in the vicinity of the premises boundary (the nearest residence is at least 10km away) it is unlikely that there are potable water supply bores in the vicinity of the premises. Additionally, DWER's records indicate the nearest third party licensed production bore/s are located approximately 24kms (or greater) to the west of the premises boundary.

As the premises is located in the vicinity of Mt Stuart Pastoral station there may be stock water supply bores in the region.

6. Consultation

The licence application was advertised on DWER's website on 8 November 2019. Advertising was also completed in the West Australian on 11 November 2019. No submissions were received.

The application was referred to the Department of Mines, Industry Regulation and Safety (DMIRS) and the Shire of Ashburton on 8 November 2019.

A submission was received from DMIRS on 20 November 2019. In summary, based on the advice from DMIRS, it is understood a mining proposal relevant to the application was approved by DMIRS on 10 October 2019 (Reg ID 77316). It is further understood that DMIRS has no objections in relation to the granting of the licence.

7. Risk assessment and regulatory controls

Error! Reference source not found. below details the completed risk assessment. 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 7 below.

Where risk ratings have been determined the mitigation measures / controls proposed by the Applicant have been considered in determining the risk rating.

The conditions of the Licence will be set to give effect to the determined regulatory controls.

Table 8: Risk assessment - operations

Risk Event				Consequence rating*	Likelihood rating*	Risk*	Reasoning	Regulatory controls
Source/Activities	Potential emissions	Potential receptors, pathway and impact	Applicant controls					
Category 12 Crushing/screening of excavated material; Loading and stockpiling of product	Noise	Receptors: Duck creek & Mount Brockman Homesteads Threatened/priority fauna Pathway: Air/wind dispersion Impact: Amenity impacts (for residential premises) Adverse impact on habitat conditions (for fauna)	<ul style="list-style-type: none"> Managed in accordance with the <i>Environmental Protection (Noise) Regulations 1997</i> Inspection/maintenance of exhaust and silencing systems on machinery, equipment and vehicles will be conducted. Use of low noise equipment, where practicable. 	N/A	N/A	N/A	Duck Creek and Mount Brockman homesteads are located approximately 10kms (or more) away from the premises. It is considered that noise from the activity will not impact residential premises given the separation distances. In addition, impacts to conservation significant fauna are considered to be assessed and regulated under Part IV of the EP Act – i.e. Ministerial Statement 1109 condition 10.	Activity restricted to within the prescribed premises boundary. Impacts to conservation significant fauna are considered to be assessed and regulated under Part IV of the EP Act – i.e. Ministerial Statement 1109 condition 10.
	Dust	Receptors: Duck creek & Mount Brockman Homesteads Threatened/priority fauna Pathway: Air/wind dispersion Impact: Amenity impacts (for residential premises) Adverse impact on habitat conditions (for fauna)	<ul style="list-style-type: none"> Minimise dust emissions through the use of water sprays and/or water trucks. Enforce speed limits in the MCSF work areas to reduce dust generation. 	N/A	N/A	N/A	Duck Creek and Mount Brockman homesteads are located approximately 10kms (or more) away from the premises. It is considered that dust emissions from the activity will not impact residential premises given the separation distances. In addition, impacts to conservation significant fauna are considered to be assessed and regulated under Part IV of the EP Act – i.e. Ministerial Statement 1109 condition 10.	Activity restricted to within the prescribed premises boundary. Impacts to conservation significant fauna are considered to be assessed and regulated under Part IV of the EP Act – i.e. Ministerial Statement 1109 condition 10.

Risk Event				Consequence rating*	Likelihood rating*	Risk*	Reasoning	Regulatory controls
Source/Activities	Potential emissions	Potential receptors, pathway and impact	Applicant controls					
	Dust	Receptors: Priority flora Other native vegetation Pathway: Air/wind dispersion Impact: Potential suppression of photosynthetic and respiratory function	<ul style="list-style-type: none"> Minimise dust emissions through the use of water sprays and/or water trucks. Enforce speed limits in the MCSF work areas to reduce dust generation. 	N/A	N/A	N/A	Impacts to priority flora and vegetation are considered to be assessed and regulated under Part IV of the EP Act – i.e. Ministerial Statement 1109 condition 7.	Impacts to priority flora and vegetation are considered to be assessed and regulated under Part IV of the EP Act – i.e. Ministerial Statement 1109 condition 7.
	Sediments	Receptor: Ephemeral creeks Pinarra creek Duck creek and associated pools Pathway: During/following high rainfall events sediments from the MCSF areas may be mobilised and conveyed into downstream creeks. Impact: An increase in sediment loads discharged from catchment areas may impact the morphology and hydrology of the creek systems.	Provision of the following at the MCSF areas: <ul style="list-style-type: none"> Windrows to divert stormwater runoff away the MCSF areas Collection/settling sumps within MCSF areas. 	N/A	N/A	N/A	Impacts on surface water quality and creek pools assessed and regulated under Part IV of the EP Act – i.e. Ministerial Statement 1109 conditions 9 and 6.	Impacts on surface water quality and creek pools assessed and regulated under Part IV of the EP Act – i.e. Ministerial Statement 1109 conditions 9 and 6. Works Approval W6233/2019/1 and Licence L9221/2019/1 complement the requirements of Ministerial Statement 1109 – i.e. under the Works Approval and Licence the installation and maintenance of windrows and sumps is required at the MCSF areas to mitigate the risk of sediment discharges from the premises.
	Fuel/oil (hydrocarbon) spills from heavy vehicles and mobile plant	Receptor: Soils within premises Pathway: Direct discharge Impact: Soil contamination	<ul style="list-style-type: none"> . Provision/use of spill trays and/or other containment measures during servicing of mobile plant. Provision/use of spill kits 	Slight	Unlikely	Low	The Licence Holder will implement containment measures to prevent the spill of hydrocarbons during servicing of mobile plant. The occurrence of significant spill events is considered to be unlikely. In the event an accidental spill breaches containment measures impacts are expected to be localised and limited to soils within the premises. A low risk rating has therefore been determined.	The risk event is considered to be acceptable. The general provisions of the <i>EP Act</i> and <i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i> apply.

8. Applicant's comments

A draft Licence and draft Decision Report were issued to the applicant for comment on 20 November 2019. Comments received from the Applicant and DWER's response is outlined in Appendix 2.

9. 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.

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

Regulatory Services

Delegated Officer under section 20 of the *Environmental Protection Act 1986*

Appendix 1: Key documents

Document title	Availability
Works Approval W6233/2019/1 for Eliwana Mine mobile crushing and screening plant – issued 19 June 2019	https://www.der.wa.gov.au/our-work/licences-and-works-approvals/current-licences
Compliance report for Works Approval W6233/2019/1 titled: <i>Notification of completion of works – Eliwana Mine crushing and screening plant</i> , dated 7 August 2019 Additional correspondence received 21 October 2019	DWERDT186853 A1833701
Application for licence including: <ul style="list-style-type: none"> - Application form - Licence application supporting document, dated September 2019 	DWERDT207273
Comments received from Applicant in relation to the issued draft Licence and Decision Report – comments received on 29 November 2019.	DWERDT229214 A1846776

Appendix 2: Summary of applicant's comments on risk assessment and draft conditions

Section of Decision Report	Summary of Applicant's comment	DWER response
3.3 Infrastructure and equipment	<p>DWER query –</p> <p>Please note capacity of additional (smaller) cone crusher and screen in Table 3.</p> <p>Applicant response –</p> <p>Additional crusher can do about 100 tonnes per hour.</p> <p>Additional screen can only do about 100 tonnes per hour as it has screen to a finer particle size.</p>	<p>The overall authorised production capacity is maintained at 1 million tonnes per annum.</p> <p>Operation of the additional crusher and screen considered in the risk assessment and setting of licence conditions</p>
3.4.1 Storage of hydrocarbons (fuel, oil)	<p>DWER query –</p> <p>The licence application indicates "small volumes" of hydrocarbons will be stored/used at the premises. Please confirm the volume of diesel fuel and oils to be stored within the premises boundary.</p> <p>Applicant response –</p> <p>With regards to fuel and oil, at this time, no fuel or oils are required to be stored in the licensed area. The equipment is refueled by a mobile fuel truck.</p>	<p>Section 3.4.1 of the Decision Report has been updated to note that storage of fuel/oil is no longer required within the premises boundary.</p> <p>Section 7 of the Decision Report (Risk Assessment) has been updated to omit storage of fuel/oil from the scoping and assessment of risk events.</p>

Attachment 1: Licence L9221/2019/1
