RioTinto

Proposal Content Document

Brockman Syncline Proposal Assessment Number 2219

October 2022

Hamersley Iron Pty Limited

RTIO-0212812

RioTinto

Disclaimer and Limitation

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Document Status					
Rev	Author	Reviewer/s	Date	Approved for Issue	
				To Whom	Date
1	J. Barker	C.Baxter	20.09.2022	EPA	28.09.2022

1 CONTENT OF A PROPOSAL

1.1 General Proposal Description

Table 1-1 provides a consolidated updated general proposal description for the Proposal.

Table 1-1: Consolidated Updated General Description of the Brockman Proposal

	Existing Description	Proposed Amended Description
Proposal Title	Brockman Syncline Proposal	No Change
Proponent Name	Hamersley Iron Pty Limited	Hamersley Iron Pty Limited (ACN 004 558 276)
Short Description	The Proposal is located approximately 60 km west-northwest of Tom Price in the central Pilbara region of Western Australia. The Proposal includes the extension and development of new above and below water table deposits as an extension to existing iron ore operations at Nammuldi-Silvergrass, Brockman 2 and Brockman 4. The Proposal includes, but is not limited to the following: • Dewatering and surplus water management, including use in ore processing, on-site use including discharge to disused pits, use at the Nammuldi irrigated agriculture project, discharge to creeklines, and injection to the aquifer. • Mineral waste management, including waste fines storage. • Other associated mine infrastructure and support facilities.	The Brockman Syncline Proposal (the Proposal) is located approximately 60 km west-northwest of Tom Price in the central Pilbara region of Western Australia. The Proposal is located within the Native Title Determination Areas of the Puutu Kunti Kurrama and Pinikura People and the Eastern Guruma People. The Proposal includes the extension and development of new above and below water table deposits and associated activities to extend the life of existing iron ore operations at Brockman Syncline 2, Brockman Syncline 4 and Nammuldi-Silvergrass. The Proposal also includes, but is not limited to the following: • Development of new deposits and extensions of existing operations, including above water table and below water table mining • Ore processing, transport and handling infrastructure • Ore, topsoil and subsoil stockpiles • Mineral waste management, including but not limited to: o Waste rock dumps o Storage of waste fines

	Existing Description	Proposed Amended Description
		o Land bridges o Low-grade ore dumps • Surface water management infrastructure, including but not limited to: o Diversion drains o Levees o Culverts • Infrastructure for groundwater abstraction and utilisation • Dewatering and surplus water management, including but not limited to: o Use in ore processing o On-site use, including discharge to disused pits o Use at the Nammuldi irrigated agriculture project o Infiltration to the aquifer o Provision to other users o Discharge to creek lines • Other associated mine infrastructure and support facilities and upgrades, including but not limited to: o Accommodation Camps o Workshops o Hydrocarbon and ANFO storage o Laydown areas, offices and accommodation facilities

	Existing Description	Proposed Amended Description
		o Linear infrastructure including but not limited to: - Heavy and light vehicle access roads - Crushing and conveying systems - Pipe and power lines (including sub-stations) - Utilities and communications distribution networks - Rail and associated infrastructure - Renewable energy infrastructure.

1.2 Proposal Elements which have the Potential to have a Significant Effect on the Environment

Table 1-2 details the changes to Proposal elements for the BSP which have been identified as those elements which have the potential to have a significant effect on the environment.

Table 1-2: Proposal Elements which have the Potential to have a Significant Effect on the Environment

Element	Location	Approved Proposal Extent (MS 131, 867, 925 and 1000)	Proposal	Amended Proposal
Physical Elements				
Mine and associated infrastructure	Figure 1-1	• MS 131 and 867: No clearing limit specified (estimated at 1,106 ha) • MS 925: Clearing of up to 6,300 ha of native vegetation within the Nammuldi-Silvergrass Development Envelope • MS 1000: Clearing of no more than 4,503 ha within the Brockman 4 Development Envelope	Additional clearing of 7,896 ha within a 63,343 ha Development Envelope	Clearing of up to 19,805* ha within a 63,343 ha Development Envelope
Irrigated Infrastructure	Figure 1-1	Clearing of up to 2,500 ha within the Nammuldi Irrigated Area within the Development Envelope	No change	Clearing of up to 2,500 ha within the Nammuldi Irrigated Area within the 63,343 ha Development Envelope
Operational Elements				
Groundwater abstraction for water supply and mine dewatering	N/A	• MS 925: Groundwater abstraction of 51 GL/a at Nammuldi and 68 GL/a at Silvergrass. • Undefined for MS 131, 867 and 1000.	Abstraction of up to 50 GL/a	Abstraction of up to 50 GL/a
Management of Surplus Water	Figure 1-2	• MS 131 and MS 867: Discharge of excess water to Pit 5 at 950 ML/a. • MS 925: Transfer for offsite use; transfer to the Irrigated Agriculture Area and periodic	Surplus water management options include: • Use on site • Discharge to disused pits • Irrigated agriculture at Nammuldi	Surplus water management options include: • Use on site • Discharge to disused pits • Irrigated agriculture at Nammuldi

Element	Location	Approved Proposal Extent (MS 131, 867, 925 and 1000)	Proposal	Amended Proposal
		discharge to Duck Creek. • MS 1000: Dewatering disposal through controlled discharge to surface drainage of Boolgeeda Creek. Dewater discharge to extend no further than 37 km along Boolgeeda Creek from the discharge point under natural no-flow conditions	• Provision to other users • Controlled discharge to the environment via Duck and Boolgeeda Creek with a wetting front not exceeding 67 and 37 km respectively, under natural no-flow conditions.	• Provision to other users • Controlled discharge to the environment via Duck and Boolgeeda Creek with a wetting front not exceeding 67 and 37 km respectively, under natural no-flow conditions.
Backfill of Pits	Figure 1-1	• Partial backfill of Pits 1, 4, 4 extension, 5 and 6 at BS2[1] • Backfill of BS2 pit to sufficient depth to ensure that, following mine closure and backfilling, the groundwater water table will permanently remain at least 3 metres below the lowest point of the pit floor[2] • All open cut Marra Mamba pits in the Silvergrass area to be backfilled to above the post-mining water table levels[3] • BS4 Mine Pits are to be backfilled so that the final surface levels are at a higher elevation than the pre-mining groundwater level to prevent the formation of pit lakes (Pits 2, 3, 4, 5, 6, 7, 10, 11, 12, 15, 16, 17 and 18)[4]	• Backfill of BS3 Extension Deposits (MMJ and Creekside)	• Partial backfill of Pits 1, 4, 4 extension, 5 and 6 at BS2[1] • Backfill of BS2 pit to sufficient depth to ensure that, following mine closure and backfilling, the groundwater water table will permanently remain at least 3 metres below the lowest point of the pit floor[2] • All open cut Marra Mamba pits in the Silvergrass area to be backfilled to above the post-mining water table levels[3] • BS4 Mine Pits are to be backfilled so that the final surface levels are at a higher elevation than the pre-mining groundwater level to prevent the formation of pit lakes (Pits 2, 3, 4, 5, 6, 7, 10, 11, 12, 15, 16, 17 and 18)[4] • Backfill of BS3 Extension Deposits (MMJ and Creekside) to above post mining recovered water levels
Proposal Elements with Greenhouse Gas Emissions				
Scope 1[5]		Diesel and land clearing – no more than 411,546 t CO_2-e pa		
Scope 2[5]		Electricity – no more than 75,152 t CO_2-e pa		

Element	Location	Approved Proposal Extent (MS 131, 867, 925 and 1000)	Proposal	Amended Proposal
Scope 3[6]		1,310 Mt CO_2-e		
Rehabilitation and Closure				
• The key closure outcome is to rehabilitate the site to create a safe, stable and non-polluting landscape consistent with the post-mining land use and to maintain environmental and cultural heritage values. • Rehabilitation and closure activities will be carried out in accordance with the approved Mine Closure Plan (MCP).				
Other Elements which Affect the Extent of Effects on the Environment				
Proposal Time		Maximum project life	Operational phase estimated at 25 years (not including construction and closure implementation phases).	

1 Previous condition required under MS 131

2 Previous condition required under MS 867

3 Previous condition required under MS 925

4 Previous condition required under MS 1000

5 Predicted peak annual emissions include forecast existing operations and new activities associated with the Amended Proposal

6 Attributable to this Proposal.

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Figure 1-1
Development Envelope and Indicative Location of Key Proposal Elements

Drawn: L.Fuentes
Plan: PDE0182295v1
Date: July 2022

Proj: GDA 1994 MGA Zone 50
Scale: 1:185,000 @A3
GIS.Team@riotinto.com

Legend

- Development Envelope
- Part IV Indicative Approved Footprint

Conceptual Footprint

- Pit
- Waste Rock Landform
- Infrastructure
- Rio Tinto Mine
- Rio Tinto Railway
- Conveyor
- Major Road
- Minor Road
- Site Access Road
- Major Creek

Kilometres
Map units in metres

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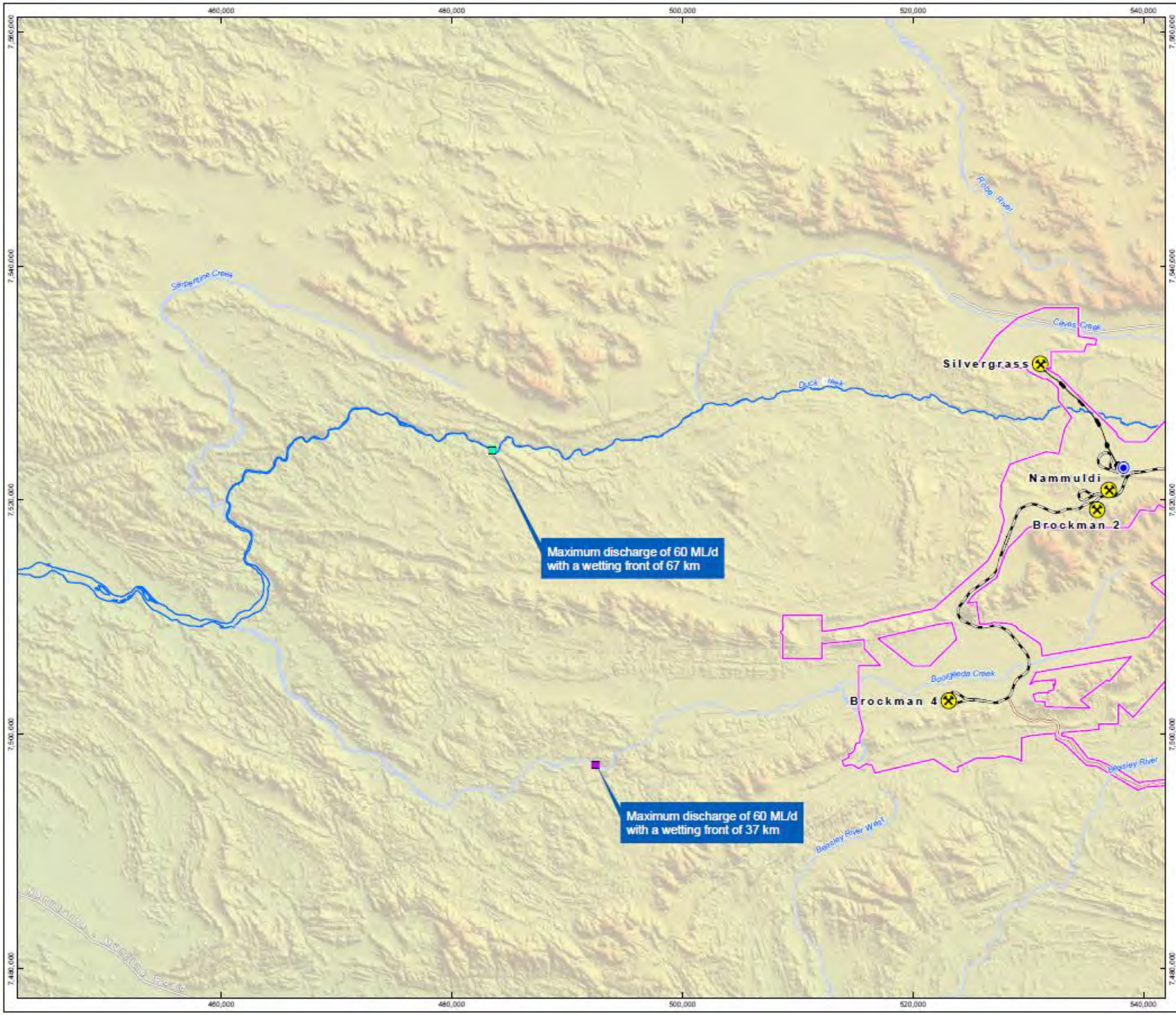
Figure 1-2
Modelled Wetting Front under Natural No Flow Conditions for Duck and Boolgeda Creek

Drawn: L.Fuentes
Plan: PDE0182278v1
Date: August 2022

Proj: GDA 1994 MGA Zone 50
Scale: 1:500,000 @A3
GIS.Team@riotinto.com



Legend

- Development Envelope
- Discharge Point
- Maximum Duck Creek Wetting Front
- Maximum Boolgeeda Creek Wetting Front
- Duck Creek
- Pilbara Major Streams

Discharge Extents

- Extrapolated
- Modelled

- Rio Tinto Mine
- Rio Tinto Railway
- Conveyor
- Major Road
- Minor Road
- Site Access

N

0 2 4 6 8 10
Kilometres
Map units in metres