

Annual Rehabilitation Report Form, Rehabilitation Maps and Rehabilitation Summary

Annual Rehabilitation Report Form – Mines

Year Ending: 2019

Mine: Mt Thorley Warkworth

Company: Yancoal Australia

Plans Attached:

Mt Thorley Warkworth – AER 2019

Approved Mining Operations Plan:

MTW MOP Amendment B (2015 – 2021) – Approval Date 11/06/2019

Total Area Covered by Mining Operations Plan:

MTW MOP – 6,185ha

Total Area Covered by Mining Lease for This Mine: 6,185ha

Table 1: Rehabilitation Progress 2019

Rehabilitation Activity Type	Domain Identifier	Primary Domain	Secondary Domain	Total Area Last Reported (ha)	Total Area to date (ha)
1.1 Active mining and infrastructure area, facilities, including roads and tracks	1A	Final Void	Final Void	312.8	373.0
	2C	Water Management Areas	Rehabilitation Area - Grassland	42.0	42.1
	2E	Water Management Areas	Rehabilitation Area - Woodland EEC	22.8	22.8
	3C	Infrastructure Area	Rehabilitation Area - Grassland	100.7	100.6
	3E	Infrastructure Area	Rehabilitation Area - Woodland EEC	68.6	68.5
	4C	Tailings Storage Facility	Rehabilitation Area - Grassland	75.7	76.4
	4D	Tailings Storage Facility	Rehabilitation Area - Woodland	11.7	11.7
	4E	Tailings Storage Facility	Rehabilitation Area - Woodland EEC	88.3	88.3
	5C	Overburden Emplacement Area	Rehabilitation Area - Grassland	364.4	363.2
	5D	Overburden Emplacement Area	Rehabilitation Area - Woodland	256.1	242.1

Rehabilitation Activity Type	Domain Identifier	Primary Domain	Secondary Domain	Total Area Last Reported (ha)	Total Area to date (ha)
	5E	Overburden Emplacement Area	Rehabilitation Area - Woodland EEC	1248.1	1191.1
	Total Active			2591.2	2579.8
1.2 Decommissioning	Total - Decommissioning			0.0	0.0
1.3 Landform Establishment	4C	Tailings Storage Facility	Rehabilitation Area - Grassland		0.1
	4E	Tailings Storage Facility	Rehabilitation Area - Woodland EEC		0.2
	5C	Overburden Emplacement Area	Rehabilitation Area - Grassland		3.2
	5D	Overburden Emplacement Area	Rehabilitation Area - Woodland		2.7
	5E	Overburden Emplacement Area	Rehabilitation Area - Woodland EEC		18.0
	Total - Landform Establishment			93.1 (included in 1.1)	24.2
1.4 Growth Medium Development	2C	Water Management Areas	Rehabilitation Area - Grassland		1.2
	2E	Water Management Areas	Rehabilitation Area - Woodland EEC		2.9
	4E	Tailings Storage Facility	Rehabilitation Area - Woodland EEC		4.0
	5C	Overburden Emplacement Area	Rehabilitation Area - Grassland		18.9
	5D	Overburden Emplacement Area	Rehabilitation Area - Woodland		26.1
	5E	Overburden Emplacement Area	Rehabilitation Area - Woodland EEC		81.8
	Total - Growth Medium Development			4.3 (included in 1.1)	134.9
1.5 Ecosystem and Land Use Establishment	1A	Final Void	Final Void		1.5
	2C	Water Management Areas	Rehabilitation Area - Grassland	1.2	1.6
	2E	Water Management Areas	Rehabilitation Area - Woodland EEC	2.9	3.3
	3C	Infrastructure Area	Rehabilitation Area - Grassland		5.4
	3E	Infrastructure Area	Rehabilitation Area - Woodland EEC		0.5
	4C	Tailings Storage Facility	Rehabilitation Area - Grassland		26.4
	4D	Tailings Storage Facility	Rehabilitation Area - Woodland		1.4

Rehabilitation Activity Type	Domain Identifier	Primary Domain	Secondary Domain	Total Area Last Reported (ha)	Total Area to date (ha)	
	4E	Tailings Storage Facility	Rehabilitation Area - Woodland EEC	4.0	35.2	
	5C	Overburden Emplacement Area	Rehabilitation Area - Grassland	35.9	567.5	
	5D	Overburden Emplacement Area	Rehabilitation Area - Woodland	28.4	52.8	
	5E	Overburden Emplacement Area	Rehabilitation Area - Woodland EEC	95.5	446.7	
	Total - Ecosystem and Land Use Establishment			167.9	1142.3	
1.6 Ecosystem and Land Use Development	1A	Final Void	Final Void	1.8	0.0	
	2C	Water Management Areas	Rehabilitation Area - Grassland	1.8	0.0	
	2E	Water Management Areas	Rehabilitation Area - Woodland EEC	3.3	0.0	
	3C	Infrastructure Area	Rehabilitation Area - Grassland	5.4	0.0	
	3D	Infrastructure Area	Rehabilitation Area - Woodland	1.5	0.0	
	3E	Infrastructure Area	Rehabilitation Area - Woodland EEC	0.5	0.0	
	4C	Tailings Storage Facility	Rehabilitation Area - Grassland	27.3	0.0	
	4D	Tailings Storage Facility	Rehabilitation Area - Woodland	1.4	0.0	
	4E	Tailings Storage Facility	Rehabilitation Area - Woodland EEC	35.5	0.0	
	5C	Overburden Emplacement Area	Rehabilitation Area - Grassland	550.4	0.0	
	5D	Overburden Emplacement Area	Rehabilitation Area - Woodland	43.7	0.0	
	5E	Overburden Emplacement Area	Rehabilitation Area - Woodland EEC	395.3	0.0	
		Total - Ecosystem and Land Use Development			961.1	0.0
	1.7 Rehabilitation Complete	Total - Rehabilitation Complete			0.0	0.0
1.8 Total Area Disturbed (items 1.1 to 1.7)	1A	Final Void	Final Void	314.6	374.5	
	2C	Water Management Areas	Rehabilitation Area - Grassland	45.0	44.9	
	2E	Water Management Areas	Rehabilitation Area - Woodland EEC	29.0	29.0	
	3C	Infrastructure Area	Rehabilitation Area - Grassland	106.1	106.0	
	3D	Infrastructure Area	Rehabilitation Area - Woodland	1.5	0.0	

Rehabilitation Activity Type	Domain Identifier	Primary Domain	Secondary Domain	Total Area Last Reported (ha)	Total Area to date (ha)
	3E	Infrastructure Area	Rehabilitation Area - Woodland EEC	69.1	69.0
	4C	Tailings Storage Facility	Rehabilitation Area - Grassland	103.0	102.9
	4D	Tailings Storage Facility	Rehabilitation Area - Woodland	13.1	13.1
	4E	Tailings Storage Facility	Rehabilitation Area - Woodland EEC	127.8	127.7
	5C	Overburden Emplacement Area	Rehabilitation Area - Grassland	950.7	952.8
	5D	Overburden Emplacement Area	Rehabilitation Area - Woodland	328.2	323.7
	5E	Overburden Emplacement Area	Rehabilitation Area - Woodland EEC	1738.9	1737.6
	Total Footprint			3827.0	3881.2

Table 2: Soil Management and Erosion, 2019

Soil Stockpiling/ Use	Soil Used This Period (m3)	Soil Pre-stripped This Period (m3)	Stockpile Inventory to Date (m3)	Soil Stockpiled Last Report (m3)
	68,500	40,030	660,357	688,826
2.2 Erosion Treatment	Total Area to Date (ha)	Total Area Last Report (ha)	Total Area This Report (ha)	Area Retreated This Period (ha)
Approx. area of sheet or gully erosion requiring reshaping topdressing and/or resowing	Not Available	21.7	6.0	3.5

Table 3: Weed Control

	Area (ha)
3.1 Approx. area adversely affected by weeds as of the date of this report	Not Available
3.2 Area treated for weed control during the period covered by the report	336.0
3.3 Give summary of control strategies used and verification by approval agency(s)	
Species targeted in rehabilitation areas during 2019 included: <i>Galenia pubescens</i> , Rhodes grass, green panic, <i>Acacia saligna</i> , mustard weed (Brassica), farmers friend (<i>Bidens pilosa</i>) and paddys lucerne (<i>Sida rhombifolia</i>). 164.5ha treated for weed control using boom spray or wick wiper treatment; 171.5ha treated for weed control using Quikspray units or backpack sprays.	

Table 4: Management of Rehabilitation Areas

4.1 Area treated with maintenance fertiliser	0ha
4.2 Area treated by rotational grazing, cropping or slashing	90ha
Give Summary	90ha Warkworth rehabilitation area licence agreement in place for grazing.

Table: 5 Variations to Rehabilitation Program

Has rehabilitation work proceeded generally in accordance with the conditions of an accepted Mining Operations Plan?	Yes
If not please cite any approval granted for variations, or briefly describe the seasonal conditions or other reasons for any changes and the nature of any changes which have been made.	NA

Table 6: Planned Operations During the Next Report Period

6.1 Area estimated to be disturbed	60ha
6.2 Area estimated to be rehabilitated	64ha