

Annual Rehabilitation Report Form, Rehabilitation Maps and Rehabilitation Summary

Annual Rehabilitation Report Form – Mines

Year Ending: 2020

Mine: Mt Thorley Warkworth

Company: Yancoal Australia

Plans Attached:

Mt Thorley Warkworth – AER 2020

Approved Mining Operations Plan:

MTW MOP Amendment C (2015 – 2021) – Approval Date 24/11/2020

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 2020

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	373.0	397.4
	2C	Water Management Areas	Rehabilitation Area - Grassland	42.1	64.1
	2E	Water Management Areas	Rehabilitation Area - Woodland EEC	22.8	1.1
	3C	Infrastructure Area	Rehabilitation Area - Grassland	100.6	169.3
	3E	Infrastructure Area	Rehabilitation Area - Woodland EEC	68.5	0.1
	4C	Tailings Storage Facility	Rehabilitation Area - Grassland	76.4	37.1
	4D	Tailings Storage Facility	Rehabilitation Area - Woodland	11.7	75.5
	4E	Tailings Storage Facility	Rehabilitation Area - Woodland EEC	88.3	97.0
	5C	Overburden Emplacement Area	Rehabilitation Area - Grassland	363.2	184.9
	5D	Overburden Emplacement Area	Rehabilitation Area - Woodland	242.1	247.9

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	1191.11	1326.9
	Total Active			2579.8	2601.3
1.2 Decommissioning	Total - Decommissioning			0.0	0.0
1.3 Landform Establishment	4C	Tailings Storage Facility	Rehabilitation Area - Grassland	0.1	0.0
	4E	Tailings Storage Facility	Rehabilitation Area - Woodland EEC	0.2	0.4
	5C	Overburden Emplacement Area	Rehabilitation Area - Grassland	3.2	1.4
	5D	Overburden Emplacement Area	Rehabilitation Area - Woodland	2.7	0.0
	5E	Overburden Emplacement Area	Rehabilitation Area - Woodland EEC	18.0	16.6
	Total - Landform Establishment			24.2	18.4
1.4 Growth Medium Development	2C	Water Management Areas	Rehabilitation Area - Grassland	1.2	4.0
	2E	Water Management Areas	Rehabilitation Area - Woodland EEC	2.9	0.0
	4E	Tailings Storage Facility	Rehabilitation Area - Woodland EEC	4.0	4.0
	5C	Overburden Emplacement Area	Rehabilitation Area - Grassland	18.9	16.1
	5D	Overburden Emplacement Area	Rehabilitation Area - Woodland	26.1	0.0
	5E	Overburden Emplacement Area	Rehabilitation Area - Woodland EEC	81.8	62.4
	Total - Growth Medium Development			134.9	86.5
1.5 Ecosystem and Land Use Establishment	1A	Final Void	Final Void	1.5	1.2
	2C	Water Management Areas	Rehabilitation Area - Grassland	1.6	4.9
	2E	Water Management Areas	Rehabilitation Area - Woodland EEC	3.3	0.0
	3C	Infrastructure Area	Rehabilitation Area - Grassland	5.4	5.5
	3D	Infrastructure Area	Rehabilitation Area - Woodland	0.0	0.3
	3E	Infrastructure Area	Rehabilitation Area - Woodland EEC	0.5	0.1
	4C	Tailings Storage Facility	Rehabilitation Area - Grassland	26.4	27.0
	4D	Tailings Storage Facility	Rehabilitation Area - Woodland	1.4	0.6
	4E	Tailings Storage Facility	Rehabilitation Area - Woodland EEC	35.2	35.4

Rehabilitation Activity Type	Domain Identifier	Primary Domain	Secondary Domain	Total Area Last Reported (ha)	Total Area to date (ha)
	5C	Overburden Emplacement Area	Rehabilitation Area - Grassland	567.5	418.3
	5D	Overburden Emplacement Area	Rehabilitation Area - Woodland	52.8	201.7
	5E	Overburden Emplacement Area	Rehabilitation Area - Woodland EEC	446.7	532.9
	Total - Ecosystem and Land Use Establishment			1142.3	1227.9
1.6 Ecosystem and Land Use Development	1A	Final Void	Final Void	0.0	0.0
	2C	Water Management Areas	Rehabilitation Area - Grassland	0.0	0.0
	2E	Water Management Areas	Rehabilitation Area - Woodland EEC	0.0	0.0
	3C	Infrastructure Area	Rehabilitation Area - Grassland	0.0	0.0
	3D	Infrastructure Area	Rehabilitation Area - Woodland	0.0	0.0
	3E	Infrastructure Area	Rehabilitation Area - Woodland EEC	0.0	0.0
	4C	Tailings Storage Facility	Rehabilitation Area - Grassland	0.0	0.0
	4D	Tailings Storage Facility	Rehabilitation Area - Woodland	0.0	0.0
	4E	Tailings Storage Facility	Rehabilitation Area - Woodland EEC	0.0	0.0
	5C	Overburden Emplacement Area	Rehabilitation Area - Grassland	0.0	0.0
	5D	Overburden Emplacement Area	Rehabilitation Area - Woodland	0.0	0.0
	5E	Overburden Emplacement Area	Rehabilitation Area - Woodland EEC	0.0	0.0
	Total - Ecosystem and Land Use Development			0.0	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	374.5	398.6
	2C	Water Management Areas	Rehabilitation Area - Grassland	44.9	73.0
	2E	Water Management Areas	Rehabilitation Area - Woodland EEC	29.0	1.1
	3C	Infrastructure Area	Rehabilitation Area - Grassland	106.0	174.8
	3D	Infrastructure Area	Rehabilitation Area - Woodland	0.0	0.3
	3E	Infrastructure Area	Rehabilitation Area - Woodland EEC	69.0	0.2

Rehabilitation Activity Type	Domain Identifier	Primary Domain	Secondary Domain	Total Area Last Reported (ha)	Total Area to date (ha)
	4C	Tailings Storage Facility	Rehabilitation Area - Grassland	102.9	64.1
	4D	Tailings Storage Facility	Rehabilitation Area - Woodland	13.1	76.1
	4E	Tailings Storage Facility	Rehabilitation Area - Woodland EEC	127.7	136.8
	5C	Overburden Emplacement Area	Rehabilitation Area - Grassland	952.8	620.7
	5D	Overburden Emplacement Area	Rehabilitation Area - Woodland	323.7	449.6
	5E	Overburden Emplacement Area	Rehabilitation Area - Woodland EEC	1737.6	1938.8
	Total Footprint			3881.2	3934.1

Table 2: Soil Management and Erosion, 2020

Soil Stockpiling/ Use	Soil Used This Period (m3)	Soil Pre-stripped This Period (m3)	Stockpile Inventory to Date (m3)	Soil Stockpiled Last Report (m3)
	28,600	35,200	666,929	660,357
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	6.0	7.8	0.0

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	281.6
3.3 Give summary of control strategies used and verification by approval agency(s)	
Species targeted in rehabilitation areas during 2020 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>). 66.1ha treated for weed control using boom spray or wick wiper treatment; 215.5ha treated for weed control using Quikspray units, backpack sprays, cut and paint or manual removal.	

Table 4: Management of Rehabilitation Areas

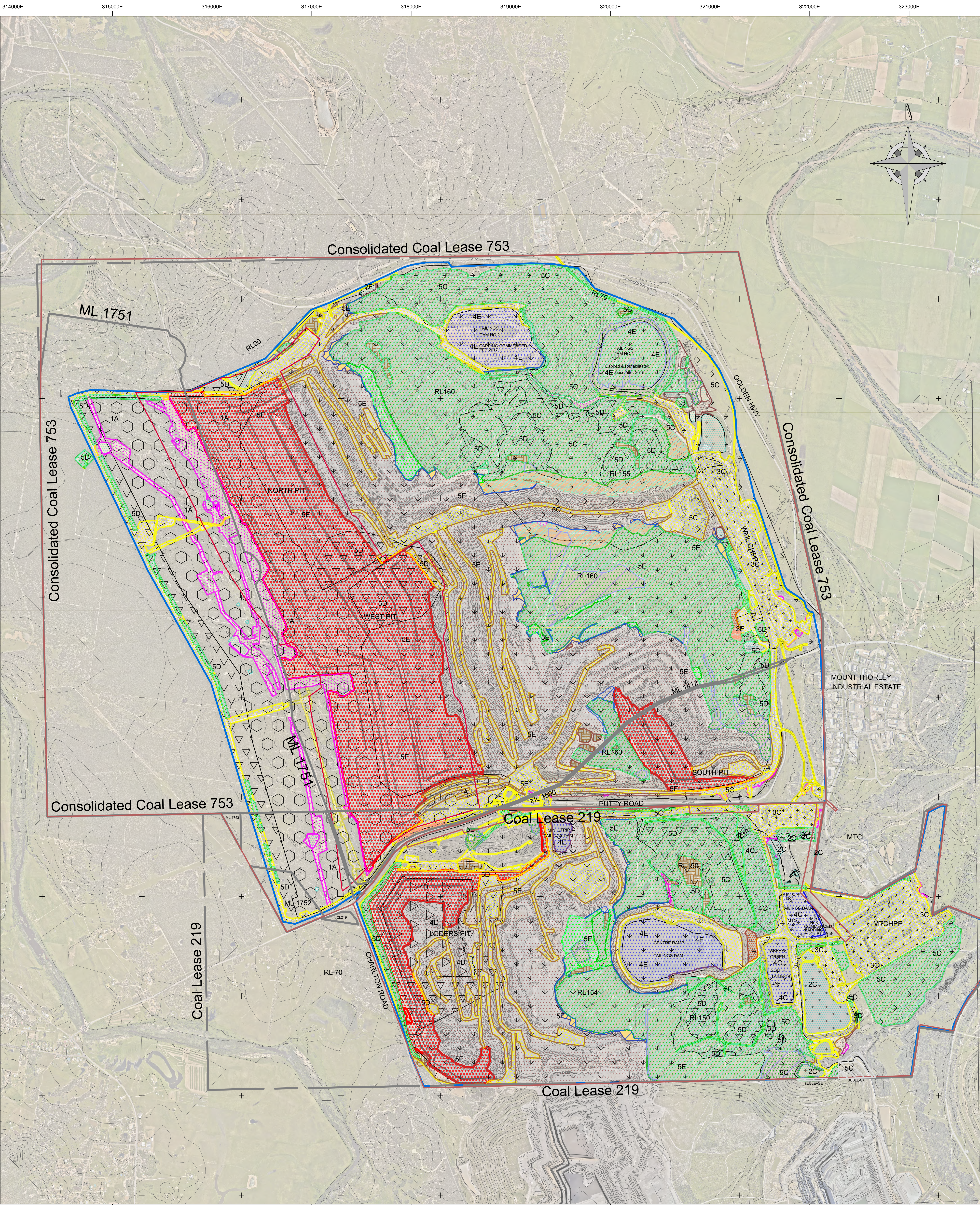
4.1 Area treated with maintenance fertiliser	0ha
4.2 Area treated by rotational grazing, cropping or slashing	0ha
Give Summary	

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	22ha
6.2 Area estimated to be rehabilitated	41ha of new rehabilitation; and 87ha of Stage 2 rehabilitation



Mining Tenement

Project Approval Area

Sublease Boundary

Area of disturbance

Expected mining area - 2020

Rehabilitation Phases

Ecosystem and Land Use Establishment

Growth of medium development

Landform establishment

Lease Boundary

2020- 5m Contours (AHD)

Primary Domains

1 - Final Void

2 - Water Management Area

3 - Infrastructure Area

4 - Tailings Storage Facility

5 - Overburden Emplacement

Secondary Domains

A - Final Void

B - Water Management Area

C - Rehabilitation Area- Grassland

D - Rehabilitation Area- Woodland Other

E - Rehabilitation Area- Woodland EEC

AEMR 2020 Areas

Active Mining

Shaped Spoils

Shaped Spoils >10°

Unshaped Spoils

Topsoil Stripped

Topsoil Spread > 18°

Topsoil Spread

New Rehabilitation

New Temporary Rehabilitation

Rehabilitation Existing

Temporary Rehabilitation Existing

Infrastructure

Infrastructure Tailings

Water Structures

Topsoil Stockpile

Compost Spread

Note: For plan clarity only, black polygons have been used for primary & secondary domains. Plan has been labeled with text.

Aerial photo date: 11th January 2021

Co-ordinate grid datum: MGA 2020 Zone 56

Height datum: Australian Height Datum (AHD71)

SCHEDULE OF ENDORSEMENTS			
REF	DATE	DESCRIPTION/REFERENCES	SIGNED
Full Plan	22-03-2021	Mine surveying content depicted on the plan is sourced from RT 769	J.SHERRITT
Full Plan	22-03-2021	Domain boundaries supplied by others.	J.SHERRITT
Full Plan	22-03-2021	Disturbance limits supplied by others.	J.SHERRITT
Full Plan	22-03-2021	Mining tenement & lease boundaries supplied by others.	J.SHERRITT
Full Plan	22-03-2021	Expected mining areas supplied by others.	J.SHERRITT
Full Plan	22-03-2021	Rehabilitation data & phases supplied by others.	J.SHERRITT

UNCONTROLLED IF PRINTED

YANCOAL

MT THORLEY WARKWORTH

0m100m 250m 500m 1000m 1500m 2000m

SCALE 1:12500

I, James Sherritt, Registered Mining Surveyor, No. 8826, certify that to the best of my knowledge and belief the survey information on this plan conforms to the accuracy and standards required by the Department of Trade & Investment Resources & Energy, NSW.

James Sherritt

Registered Mining Surveyor

22/03/2021

Date

MOUNT THORLEY OPERATIONS / WARKWORTH MINING Ltd.

Annual Environmental Review Plan 2020

REDUCTION RATIO: 1:12,500

DRAWN BY: J. SHERRITT DATE: 22/03/2021

APPROVED BY: B. BAXTER

PLAN No. MTW-1144

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