

4 September 2020

Mr Matthew Sprott
Resource Assessments & Compliance Division
Department of Planning, Industry & Environment
GPO Box 39
Sydney NSW 2001

Dear Matthew,

Re: Mount Thorley Warkworth Complex (SSD-6464 and SSD-6465) Mining Operations Plan Amendment C

The Mount Thorley Warkworth (MTW) Mining Operations Plan (MOP) is used by MTW to comply with the requirements of MTW's development consents (SSD-6464 Schedule 3 Condition 58 and SSD-6465 Schedule 3, Condition 36) which require a Rehabilitation Management Plan. The MTW development consents require the Rehabilitation Management Plan to be approved by NSW Resources Regulator; and for Department of Planning, Industry & Environment (DPI&E) to be consulted during the preparation of this management plan. DPI&E have previously been consulted with during the preparation of the initial MOP and subsequent amendments in 2015, 2017 and 2018. The purpose of this letter is to provide details to DPI&E of proposed changes to the MOP that will be submitted to Resources Regulator for approval on 4 September 2020.

The changes that have been made in MTW MOP Amendment C are summarised below:

1. Incorporation of recommendations from the Independent Review of Rehabilitation Progress - Mount Thorley Warkworth Mine (report prepared by Emergent Ecology, September 2019) including revised rehabilitation phase information, revised performance criteria and seed mix changes;
2. Updated final landform for filling of the South Pit Void;
3. Revised rehabilitation forecasts for 2020 and 2021; and
4. Earlier commencement of tailings deposition into the Loders Pit Tailings Storage Facility (TSF) in lieu of raising the embankment height on the Centre Ramp TSF.

1. Recommendations from the Independent Review of Rehabilitation Progress

MTW commissioned Emergent Ecology to conduct an independent assessment of the current status of approximately 1,200 hectares of rehabilitation in response to Section 240 notices issued by NSW Resources Regulator in July 2019. This assessment resulted in the reclassification of rehabilitation as shown in the maps presented in Attachment A. The first map shows the rehabilitation phases that were presented in Plan 3E of MTW MOP Amendment B (currently approved MOP) and the second map shows the rehabilitation phases presented in the same plan for MTW MOP Amendment C. The rehabilitation phase changes following the Independent Review of Rehabilitation Progress have been incorporated into Plan 3E from MTW MOP Amendment C.

The main changes to the rehabilitation phases were as follows:

- rehabilitation areas previously mapped as Ecosystem and Landuse Sustainability were reclassified to Ecosystem and Landuse Establishment based on assessment against the performance criteria (approximately 1,050ha); and
- rehabilitation was reclassified to the Growth Medium Development phase due to the areas having been sown to cover crops rather than the target vegetation community (approximately 140ha).

Emergent Ecology found that the Grassland and Woodland Other rehabilitation domains had achieved some of the performance criteria targets for the Ecosystem and Landuse Establishment phase however did not meet all the targets, particularly those relating to exotic plant cover. The Grassland and Woodland Other domains have been established using exotic pasture species so the restrictions on the amount of exotic plant cover are not relevant to these domains. Emergent Ecology recommended that the MOP performance criteria be modified to provide appropriate and realistic targets for these domains which will still achieve the desired land use outcomes specified in the Project Approvals. The performance criteria have therefore been modified in MTW MOP Amendment C which will allow the older rehabilitation to progress to the Ecosystem and Landuse Sustainability phase.

MTW will be progressing the Growth Medium Development areas by sowing them with the seed mixes for the target vegetation communities during the period 2019 to 2021. A schedule for this seeding program is presented in the map shown in Attachment B.

Some species have been removed from the seed mix species list for the Woodland EEC domain in response to Emergent Ecology assertions that these species were not representative of the target Grey Box – Ironbark Woodland vegetation community.

2. Final Landform for Filling of the South Pit Void

The Environmental Impact Statement (EIS) for the Warkworth Continuation 2014 project included the provision for the South Pit void to be left open for potential future underground mining access of deeper coal seams. It also stated that if studies indicated that the void was not needed for underground mining access then it would be used for emplacement of overburden and/or tailings. Yancoal MTW continues to investigate the underground mining potential at MTW including investigating portal access into a potential underground mine via a residual void in South pit. Whilst these studies continue, the immediate opportunity to emplace rock in the South Pit void will provide operational efficiencies and reduce the extent of this void. MTW MOP Amendment C incorporates a new micro-relief (Geofluv) style landform with the South Pit void backfilled. A comparison of the final landform in the South Pit area is provided in Attachment C for the currently approved MOP (with the void unfilled) and MTW MOP Amendment C.

The proposed backfilling of the South Pit void has also previously been discussed with Mike Young from DPI&E in March 2020. The letter that summarised Yancoal's proposal to commence backfilling of the South Pit void is provided in Attachment D.

3. Revised rehabilitation forecasts for 2020 and 2021

The MOP rehabilitation forecast has been updated to reflect the fact that less area will be available for rehabilitation in 2020 and 2021. This is due to overburden from the West Pit being used to backfill the Loders Pit void as part of the Loders Pit Tailings Storage Facility (TSF) commissioning and operation, and to backfill the lower dumps in the South Pit Void, neither of which will generate areas for rehabilitation during the MOP term. A comparison of the 2020 and 2021 rehabilitation progression for the current approved MOP and MTW MOP Amendment C are shown in Table 1.

Table 1 – Comparison of rehabilitation progression for MTW MOP Amendment B and MTW MOP Amendment C

Site	Year	Rehabilitation (hectares)	
		MTW MOP Amendment B	MTW MOP Amendment C
Warkworth	2020	34.7	24.0
	2021	42.2	16.8
Mount Thorley	2020	29.3	19.8
	2021	33.6	18.2
MTW Total	2020	64.0	43.8
	2021	75.8	35.0

Progressive rehabilitation commitments are outlined in the Warkworth Continuation 2014 and Mt Thorley Operations 2014 Environmental Impact Statements. These documents modelled a total of 1,103 ha of rehabilitation to be completed by the end of 2017, and a further 505.8ha to be completed by the end of 2023. Assuming that all of the rehabilitation areas currently in the Growth Medium phase (134.9ha) are seeded to the final seed mixes before the end of 2021, and new rehabilitation areas are achieved in line with the MOP rehabilitation forecast detailed in Table 1, then the total rehabilitation area across MTW at the end of 2021 will be 1,348ha.

4. Earlier commencement of tailings deposition into the Loders Pit TSF

The use of the Loders Pit final void for tailings disposal is approved under the development consent SSD-6465 for the Mt Thorley Continuation Project and this facility will provide sufficient tailings capacity through to the end of the currently approved mine life. The commencement of tailings deposition into the Loders Pit TSF has been brought forward in lieu of building an additional embankment raise on the Centre Ramp TSF. After the Loders Pit TSF has been commissioned, strategic deposition of tailings will continue into Centre Ramp TSF, Mini Strip TSF and Abbey Green South TSF during the MOP period to increase the strength of the tailings surface and facilitate earlier capping and rehabilitation of these facilities.

A copy of the MTW MOP Amendment C has been provided which shows the changes made in Amendment C in green text, in line with the Resources Regulator requirements for MOP Amendments. Please do not hesitate to contact me using details below should you have any queries or require further information.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'G Mulhearn', with a long horizontal flourish extending to the right.

Gary Mulhearn
Environment & Community Manager

Yancoal Mt Thorley Warkworth

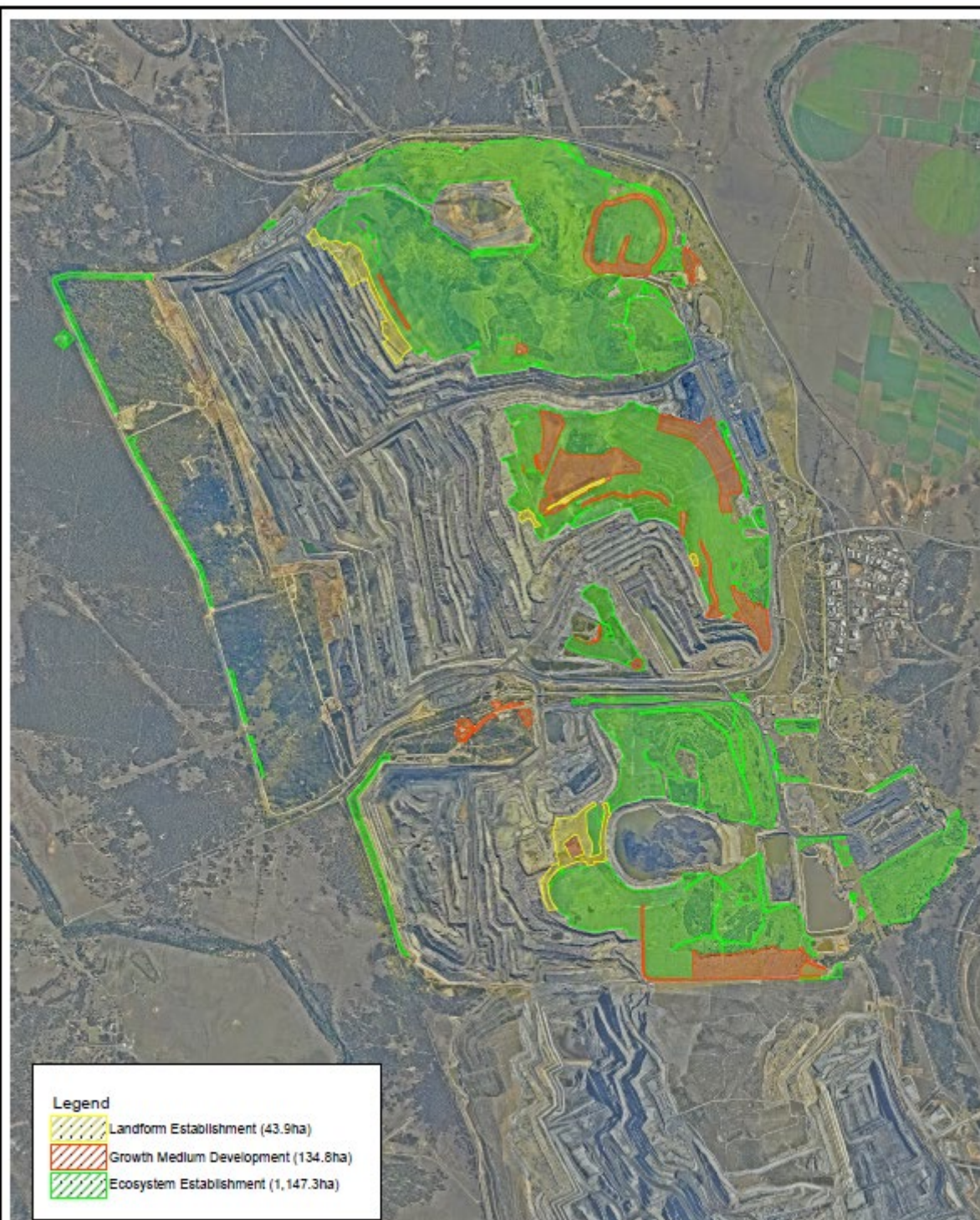
Ph: 02 6570 1734, gary.mulhearn@yancoal.com.au

Attachment A:

Rehabilitation Phases from Plan 3E of MTW MOP Amendment B (currently approved MOP)



Rehabilitation Phases from Plan 3E of MTW MOP Amendment C



YANCOAL
 兗州煤业集团有限公司

MTW

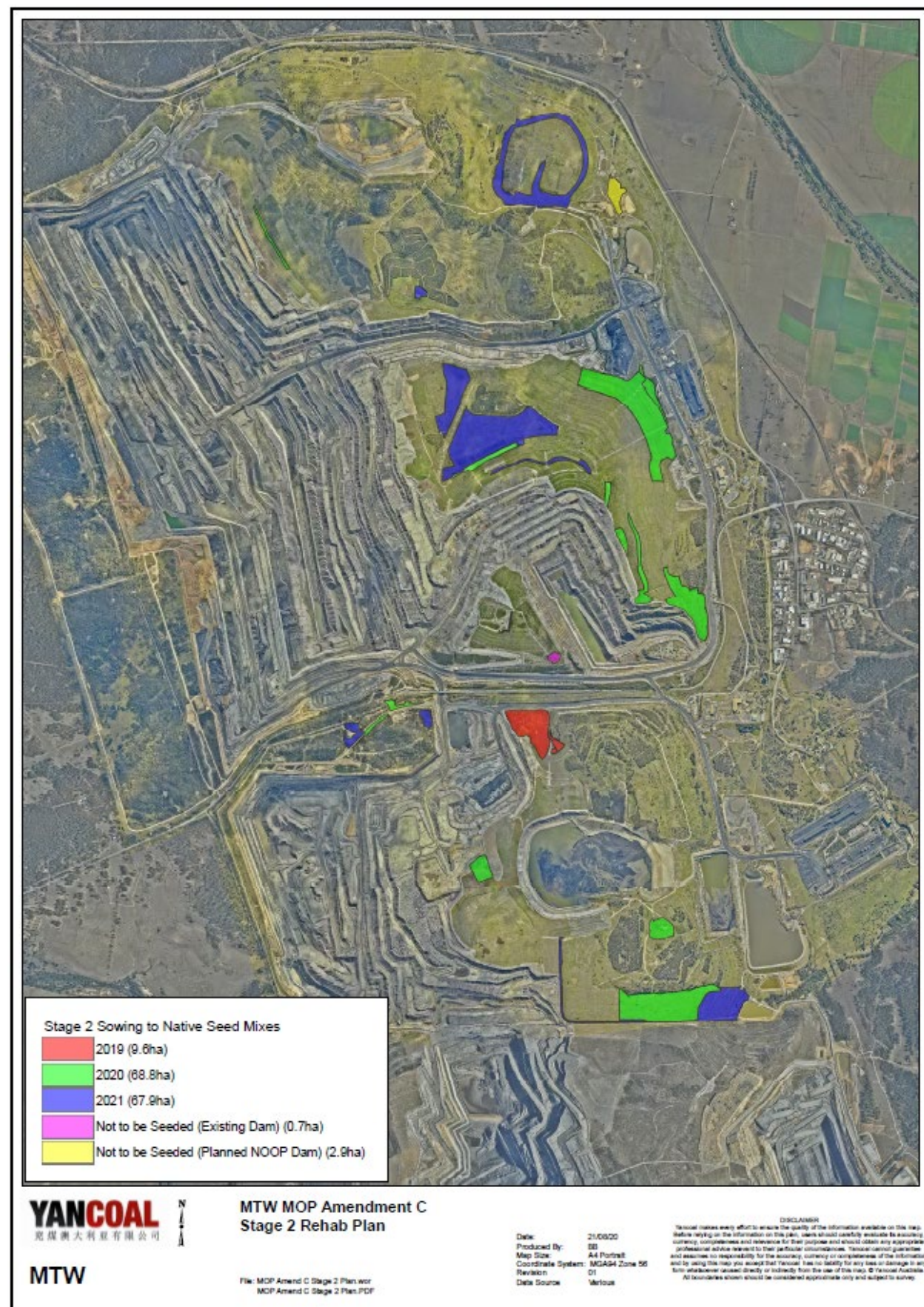
**MTW MOP Amendment C
 2019 Rehab Phases**

File: 2019 Rehab Phase Amend Cover
 2019 Rehab Phase Amend C.PDF

Date: 19/06/20
 Produced By: DD
 Map Size: A4 Portrait
 Coordinate System: MGA94 Zone 56
 Revision: 01
 Data Source: Velocis

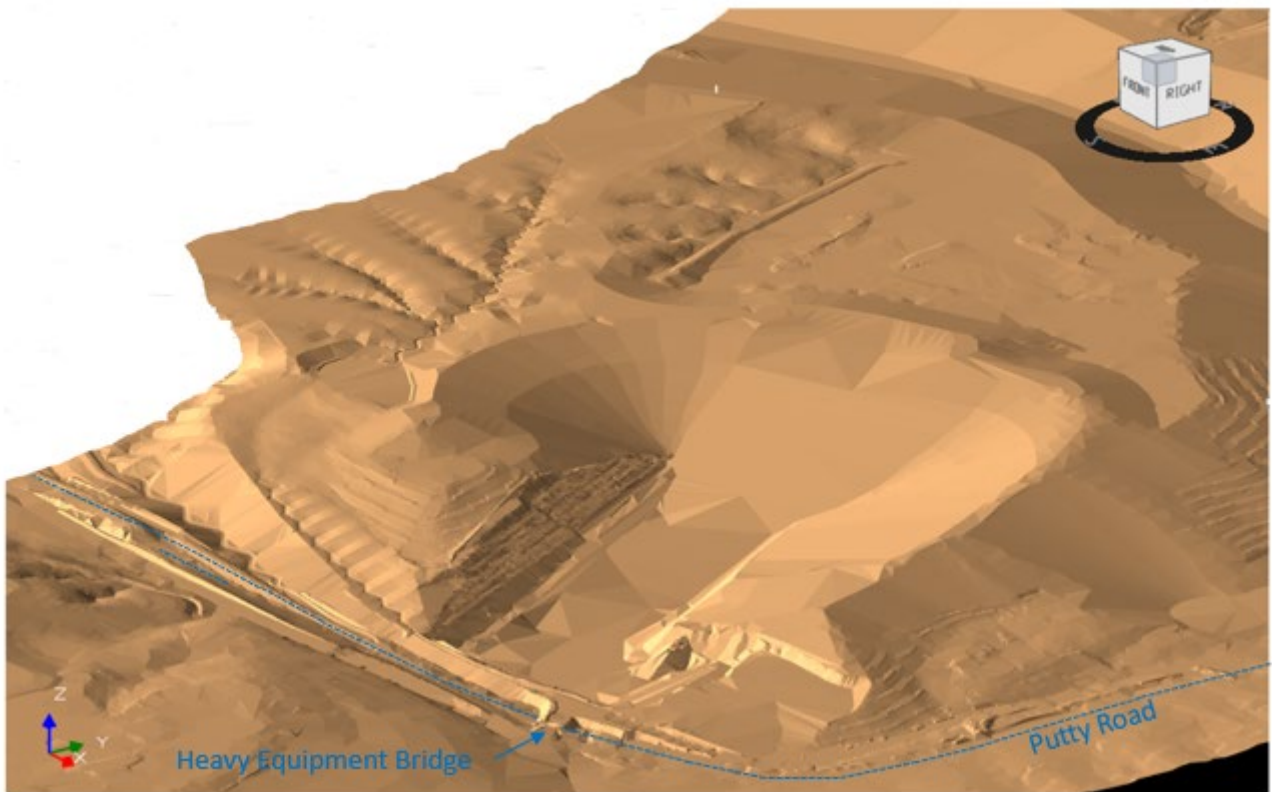
DISCLAIMER
 Yancoal makes every effort to ensure the quality of the information available on this map. Before relying on the information on this plan, users should carefully evaluate the accuracy, currency, completeness and relevance for their purpose and obtain any appropriate professional advice relevant to their particular circumstances. Yancoal cannot guarantee and assumes no responsibility for the accuracy, currency or completeness of the information and by using this map you accept that Yancoal has no liability for any loss or damage in any form whatsoever caused directly or indirectly from the use of this map. © Yancoal Australia. All boundaries shown should be considered approximate only and subject to survey.

Attachment B: Schedule for sowing of Growth Medium Development areas with seed mixes for target vegetation communities.

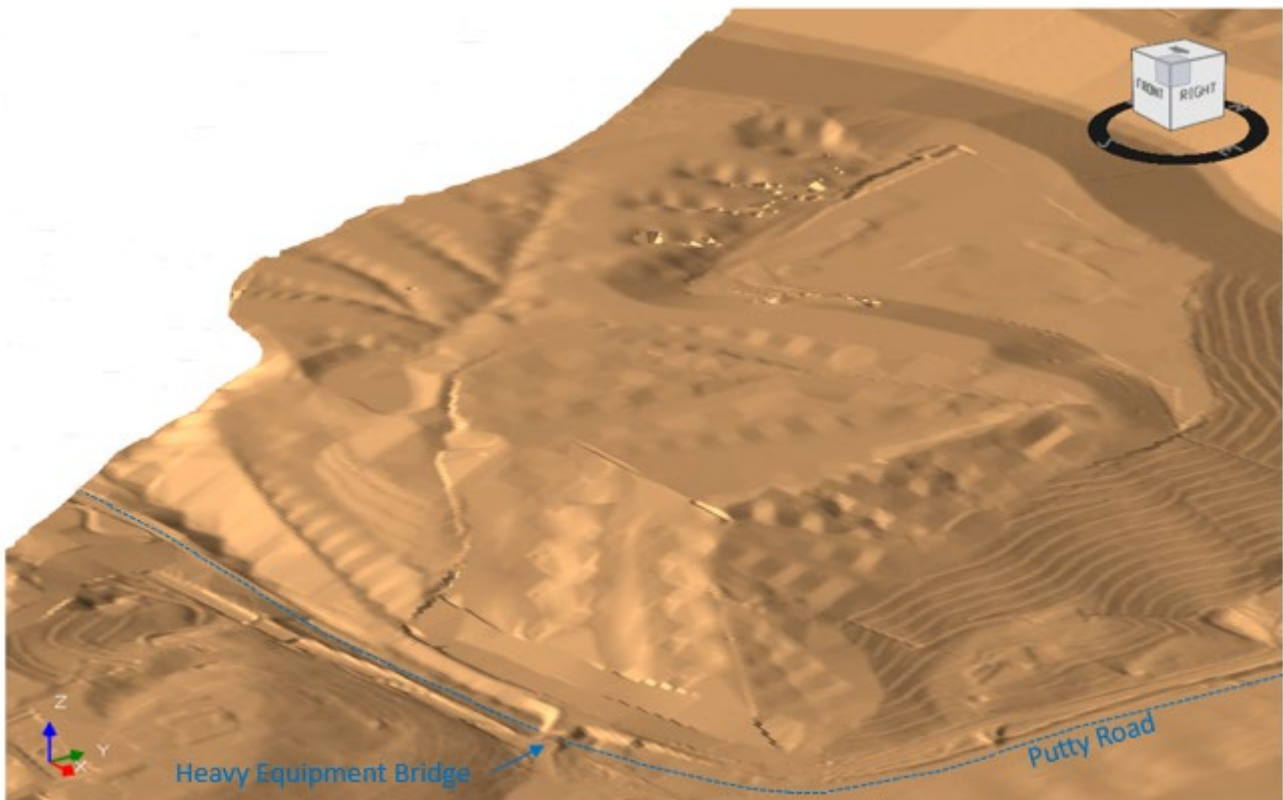


Attachment C:

3D view of final landform from currently approved MOP (South Pit void not filled)



3D view of final Landform from MTW MOP Amendment C (South Pit void backfilled)



Attachment D: Letter to DPI&E outlining Yancoal MTW's proposal to commence backfilling of the South Pit void.

1 April 2020

Mr Mike Young
Executive Director – Energy and Resource Assessments
Department of Planning, Industry and Environment
Locked Bag 5022
Parramatta NSW 2124

Dear Mike,

Re: Warkworth Mine (SSD-6464) – Backfilling of the South Pit Void

Yancoal Australia Ltd (Yancoal) has been investigating the potential backfilling of the South Pit void at its Warkworth Mine and has identified that this would provide for more efficient waste rock handling and disposal (see enclosed figure).

Yancoal has confirmed that reducing the extent of this void via the proposed backfilling is consistent with the activities described in the 2014 Environmental Impact Statement (EIS) for the approved Warkworth Continuation Project. Hence it is consistent with the development consent (SSD-6464) because:

- emplacement of overburden and/or tailings in the South Pit void was contemplated in the EIS, and the development must be carried out 'generally in accordance with the EIS', as per condition 2 of Schedule 2; and
- backfilling the South Pit void (even if partially) aligns with the rehabilitation objectives in Table 13 and the progressive rehabilitation objectives of condition 57 of Schedule 3.

The EIS contemplated a residual void in the South Pit to 'enable optionality should future studies into the feasibility of underground mining determine that coal extraction of deeper coal seams at MTW is viable' (Section 2.4.2iii of the EIS). The EIS also provided flexibility, noting that 'if the South Pit open void is not required for underground mining access, it would be used for emplacement of overburden and/or tailings' (Section 4.4.1 of the EIS). The South Pit void is depicted in the conceptual final landform design in Figure 2.16 of the EIS and reproduced as Appendix 6 of the Warkworth consent (SSD-6464).

Yancoal continues to investigate the underground mining potential at the Warkworth and Mount Thorley mines, including investigating portal access into a potential underground mine via a residual void in South Pit. Whilst these studies continue, the immediate opportunity to emplace waste rock in the South Pit void will provide operational efficiencies and reduce the extents of these voids, thereby resulting in a better final landform.

This letter is provided to the Department for information only and the proposed partial backfilling of the South Pit void will be incorporated in a revised Mining Operations Plan.

Please do not hesitate to contact me should you have any queries or require further information on this matter.

Yours sincerely,



Mark Jacobs
Executive General Manager, Environment & Community
Yancoal Australia Ltd
Ph: 0408 634 613, mark.jacobs@yancoal.com.au

