Rix's Creek South Mine

SSD6300 Independent Planning Commission of NSW Meeting

9 July 2019

THE Bloomfield GROUP

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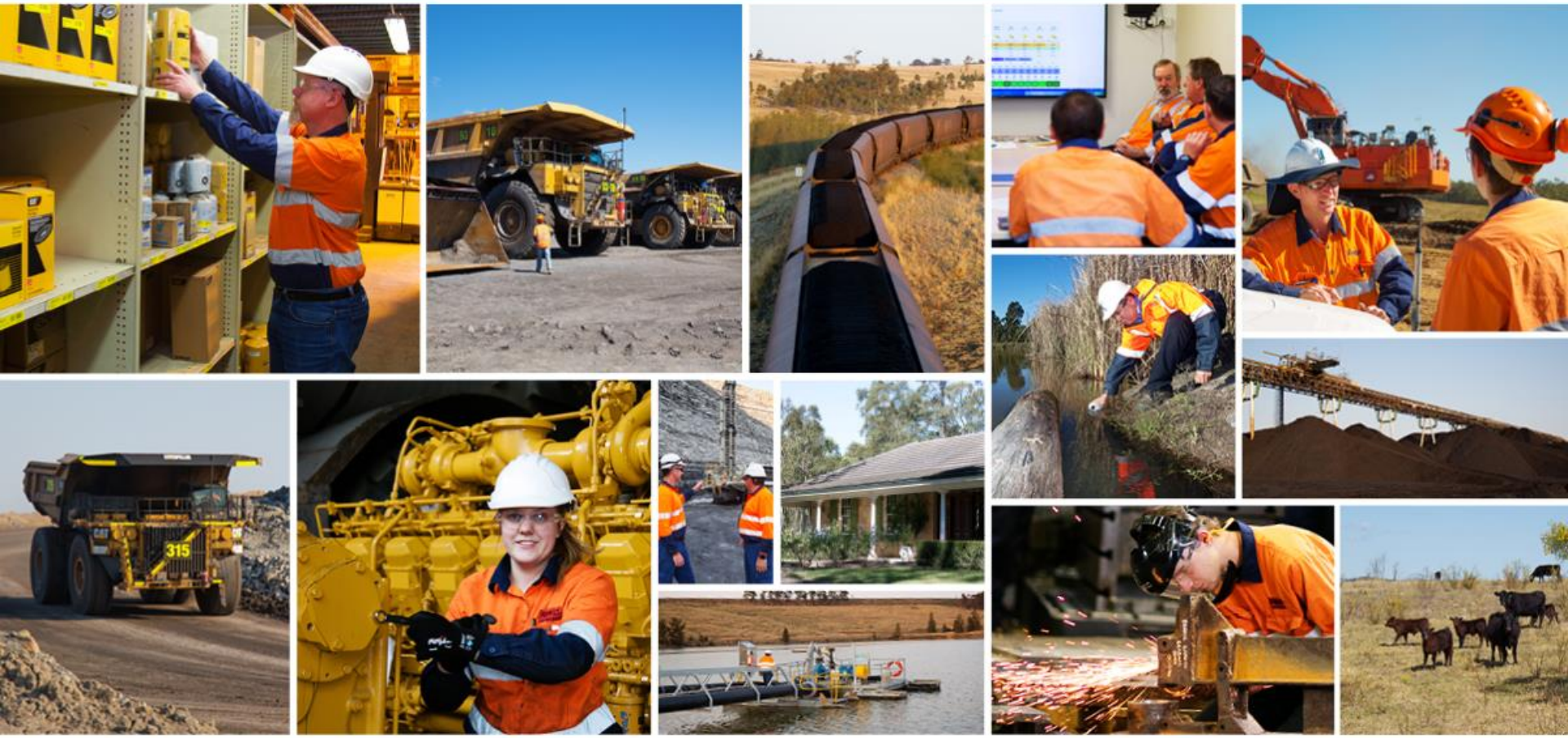

OUR PURPOSE: We are a proud and successful Australian mining and engineering group

OUR VISION: We seek excellence in all we do: respecting our history as we shape our future

OUR VALUES: We Care. We Deliver.

Agenda

- Overview
- Regulatory Responses
- IPCN Recommendations
  - Air Quality
  - Noise and Blasting
  - Rehabilitation and Mine Closure Planning
  - Final Void and Final Landform
  - Water
  - Biodiversity
  - Economic Impacts
  - Historic Heritage
  - Other Matters - Greenhouse Gases
- Summary

Overview
Rix's Creek Mine Locality

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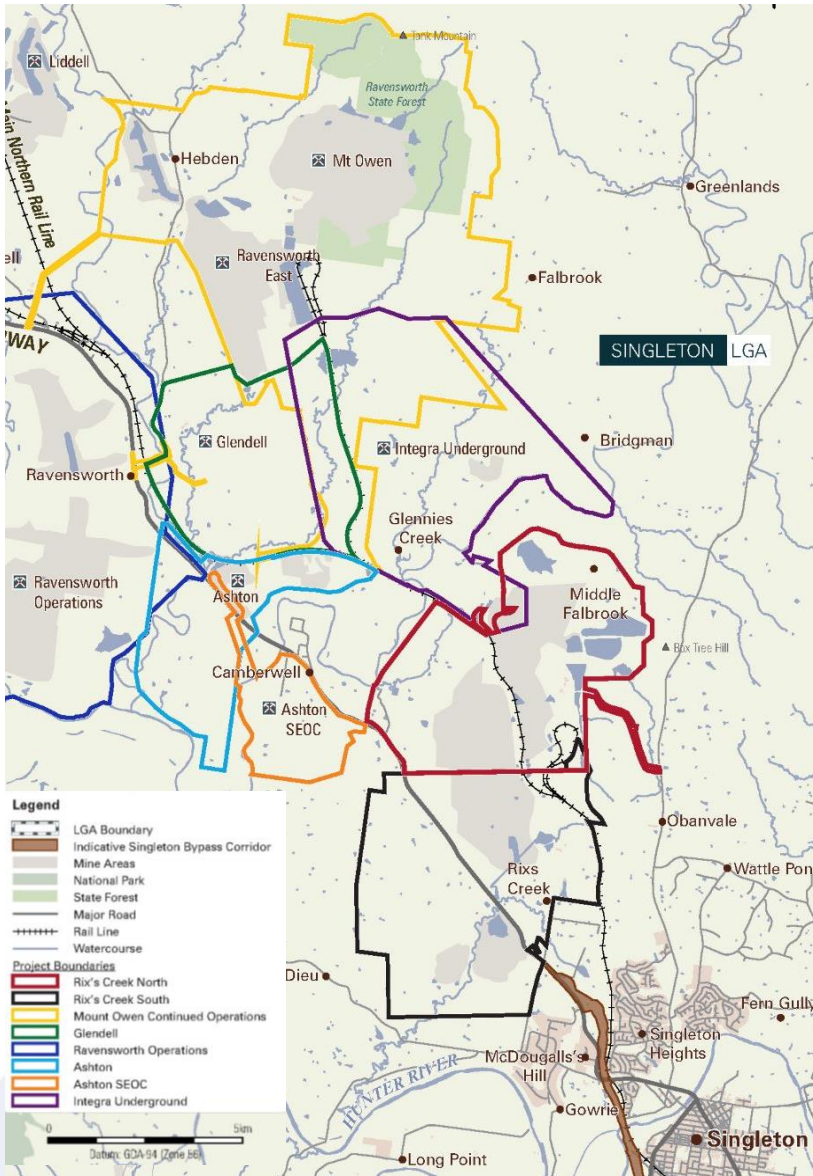
- Singleton Mining Precinct: Rix's Creek North, Ashton, Integra, Ravensworth and Glendell
- Infrastructure: Main Northern Rail line, New England Highway, various minor roads
- Maison Dieu Industrial Area to South



Overview
Rix's Creek South

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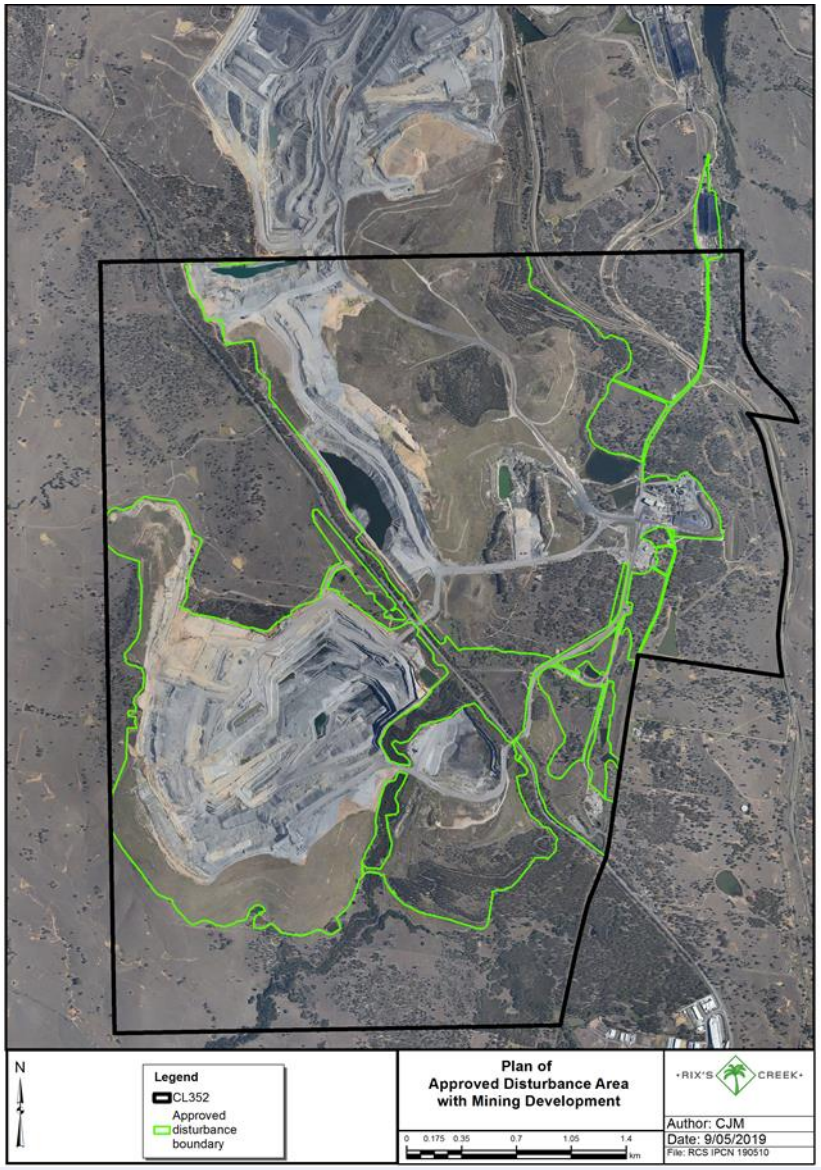
- Rix's Creek South (RCS) part of Rix's Creek Mine
- Mining commenced in the late 1800s
- Active mining 5 km north of Singleton
- Owned and operated by the Bloomfield since 1990
- 70% of employees reside locally (i.e. Singleton, Cessnock or Maitland shires). 33% from Singleton
- RCS operates under DA 49/94 valid to 24 March 2020



Overview – RCS Continuation Revised Project

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- Following EIS exhibition, Bloomfield purchased the Integra Open Cut Mine in November 2015
- Bloomfield reduced extraction sought from 4.5 Mtpa ROM to 3.6 Mtpa ROM
- Reduction in noise and air quality impacts
- Integrated a large percentage of the acquired sound attenuated mobile plant into Rix's Creek
- Rix's Creek South Mine no longer requires a standalone rail loop
- Removal of the requirement to divert Stonequarry Creek and Deadmans Gully

Overview - RCS Continuation
SSD 6300 Process and Status

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Action	Date	2013				2014				2015				2016				2017				2018				2019				2020	
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Request for Director General Requirements (DGRs)	21-11-13																														
DGRs Granted	03-03-14																														
Environmental Impact Statement (EIS) and Exhibition End	03-12-15																														
Response to Submissions (RTS)	20-10-16																														
RTS Addendum	21-12-16																														
Revised RTS	24-12-17																														
Planning Aassessment Report	10-05-18																														
Independent Planning Commission (IPC) Public Hearing	06-06-18																														
IPC Review	31-08-18																														
Response to IPC Review	07-12-18																														
Department of Planning & Environment (DPE) Assessment	19-06-19																														
IPC Assessment and Determination	From 20-06-19																														
Bloomfield Decision	01-10-19																														
DA49/94 Coal Extraction Expiry	24-03-20																														

Assessment Report

- IPCN presented its Review Report dated 31 August 2018 with 26 recommendations and stated

  "*…if the applicant can satisfactorily address the various recommendations contained within this review report the Project may have merit.*"

- Bloomfield provided a '*Response to IPC Recommendations'* in December 2018 and various clarifications to DPE in 2019
- DPE released its Final Assessment Report on 19 June 2019 which concluded

  "… Department considers that Bloomfield has addressed all of the Commission's recommendations … to improve environmental outcomes" and

  "… Department considers that the benefits of the Project outweigh its residual costs and considers that the Project is in the public interest and is approvable ..."

Government Responses

NSW Government agencies do not have any outstanding issues in relation to the Project

- DRG requires sustainable rehabilitation outcomes through a strengthened Rehabilitation Strategy which has been conditioned
- "… Council confirmed that it had reached in-principle agreement with Bloomfield on a VPA…"
- "OEH advised that it was satisfied with the BBAM calculations and had no further comments …"
- EPA required revised SOCs which are incorporated into EIS definition in consent
- "Following review of the draft conditions, NSW Health advised its concerns had been addressed"

IPCN Report – Air Quality

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R1 – Demonstrate how operational procedures will incorporate continual improvement to further reduce the generation and dispersion of particulate matter

- Air Quality management processes to be revised and updated as required with operational changes and technology advancements.
- Revisions to AQMP using adaptive management.
- Ongoing use of Proactive and Reactive System and TARP.

R2 – Develop an air quality Protocol to assist concerned stakeholders access data from the UHAQMN and provide instruction on NSW Government the "Environment Line"

- Protocol developed which includes the following;
  - Link to Upper Hunter AQ Monitoring Network.
  - Contact details for EPA Environment Line on Bloomfield website. Link also provided for instruction on how to use the Environment Line.
- Information shared with CCC members and complainants.

IPCN Report – Air Quality (cont.)

R3 – Provide evidence of the policies and protocols in place to manage mine-owned residences including whether termination rights are only triggered in relation to dust exceedances or available at any time

- NSW Health “Mine dust and you” fact sheet provided to tenants.
- Letter detailing options to terminate on air quality concerns provided to all tenants on mine owned residences without any penalties.
- Provided non-confidential information on tenancy agreements.

IPCN Report – Noise and Blasting

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R4

- **Make available timely information relating to how it is managing noise impacts including: adaptive practices and how proposes to use to management the Project noise impacts to conform to the ANC.**
- **NMP should be available on website or hard copy and should outline process to modify operations where noise exceedances occur and 24/7 contact number and details of the NSW Government "Environmental Line"**

  - Noise Management Plan on website.
  - Noise management actions include operational modifications and progressive shutdown.
  - Contact details provided for 24 hour community and blasting hotline.
  - Contact details provided for NSW Government Environment Line and instruction on how to use and find further information.

IPCN Report – Noise and Blasting

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R5 – Provide full and detailed list of all equipment to be used at the mine including schedule of noise attenuation where planned

- Equipment list provided.
- Attenuation timing in recommended Conditions.

R6 – Commit to completing the cladding of the CHPP prior to extraction of any coal under the Consent

- Cladding of CHPP completed.

R7 – Update BIA to provide additional monitoring and management measures for the Coke Ovens

- BIA updated for Coke Ovens.
- Controlling ground vibration will be managed through environmental blast design and predictive “site law” to meet criteria.

IPCN Report – Rehabilitation and Mine Closure

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R8 – Implement the Recommendations of the Unger Report requiring preparation of a Stakeholder Engagement Strategy (SES) that ensures stakeholder rehabilitation and closure issues addressed in the Rehabilitation Strategy

- A summary of the SES detailed in Section 3.1 of the Strategy.

R9 – Record all targeted consultation on mine rehabilitation and closure planning within the Rehabilitation Strategy. Demonstrate where issues have been considered.

- Consultation currently through the CCC and a register of additional consultation will be included in the Strategy.

R10 – Collate and include all relevant rehabilitation objectives and practices within the MOP and EIS documents into the Rehabilitation Strategy to be a consolidated rehabilitation and closure document.

- Strategy updated to include objectives and practices.

IPCN Report – Rehabilitation and Mine Closure

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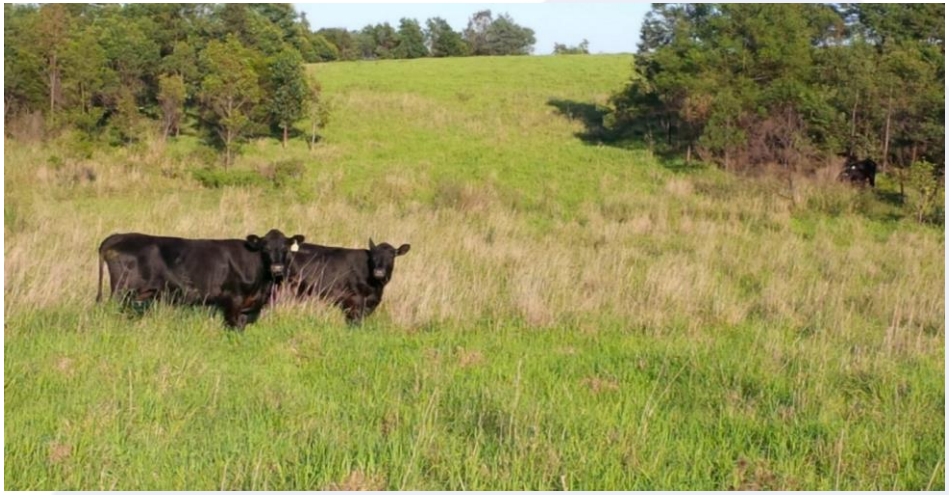
R11 – Address 'Strategic Framework for Mine Closure' in Rehabilitation Strategy including: identify and label closure domains, include objectives and completion criteria for all domains, unplanned closure and temporary closure, commitment register, consultation, plan for update and refinement

- Rehabilitation Strategy updated with ongoing requirement provided in recommended Conditions.

R12 – evaluate socio-economic impacts of mine closure in Detailed Mine Closure Plan

- Strategy has been updated to address the principles of the Strategic Framework.
- Information gathered to date and the elements of the SES
- requirement provided in recommended Condition Schedule 2 Part B74 (d).



IPCN Report – Rehabilitation and Mine Closure (cont.)

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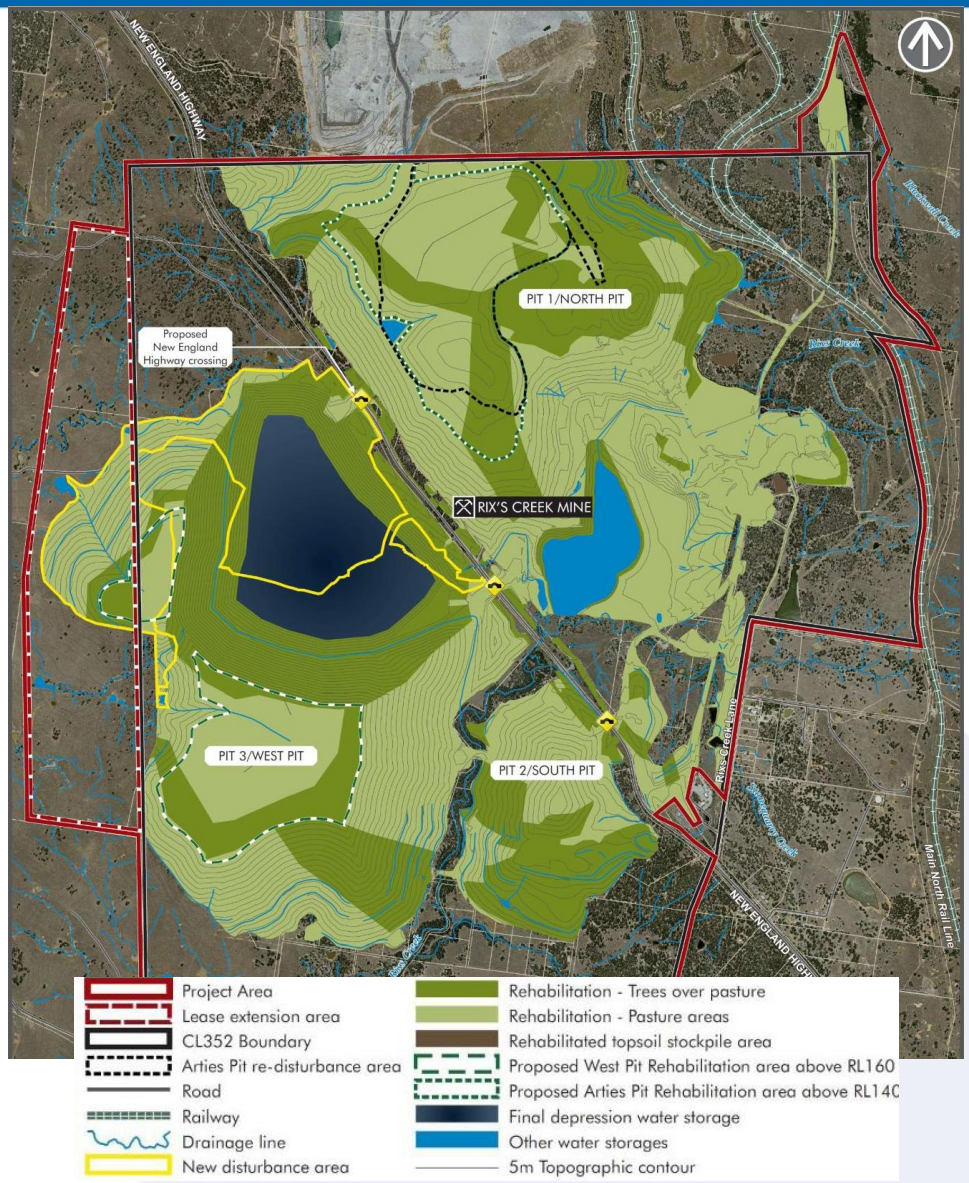
R13 – Rehabilitation Strategy to include a knowledge base around past rehabilitation performance.

Demonstrate ability to achieve proposed post-mining landuse and community information on progressive rehabilitation performance.

- Provided knowledge base in revised Strategy.
- Actively grazing cattle on rehabilitated land.



IPCN Report – Rehabilitation and Mine Closure (cont.) – Final Void

R14 – Revise Strategy to demonstrate a risk-based approach to rehabilitation and closure. Preparation of register outlining risk and opportunities relating to closure (both physical works and existing legacy or residual future).

- Risk register included in the Strategy.

R15 – Revise Rehabilitation Strategy to include detailed information around final void water levels and quality including beneficial uses post-closure

- Section 5.8 of the Strategy provides information on the anticipated final void characteristics following the completion of mining.
  - Final void water quality and equilibrium levels will ultimately be similar to connected regional groundwater aquifers and be moderated by inflows, evaporation and infiltration.
  - Final void and potential uses will be evaluated and will be prepared as part of the closure planning process.
  - Considering a mine life of 21 years, ongoing review of design alternatives for the final void will occur in an updated Strategy.

IPCN Report – Trade off Study

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R16 Prepare trade-off study assessing benefits of removing the western overburden emplacement area (WOEA) against the impacts associated with increasing the heights of the existing North and south pit dumps.

Outcomes to be considered as part of the Project's final assessment.

- **Option 1** – removed WOEA completely with overburden stored on the existing North and South Pit OEAs, by increasing the height of the existing dumps.
- **Option 2** reduced the area disturbed by removing the requirement to dump on the southern portion of the WOEA. Combination of overburden placed on the existing dumps and northern section only of the WOEA. Footprint and height of the North Pit OEA would be smaller and lower than Option 1.

IPCN Report – Trade off Study (cont.) Option 1 and Option 2

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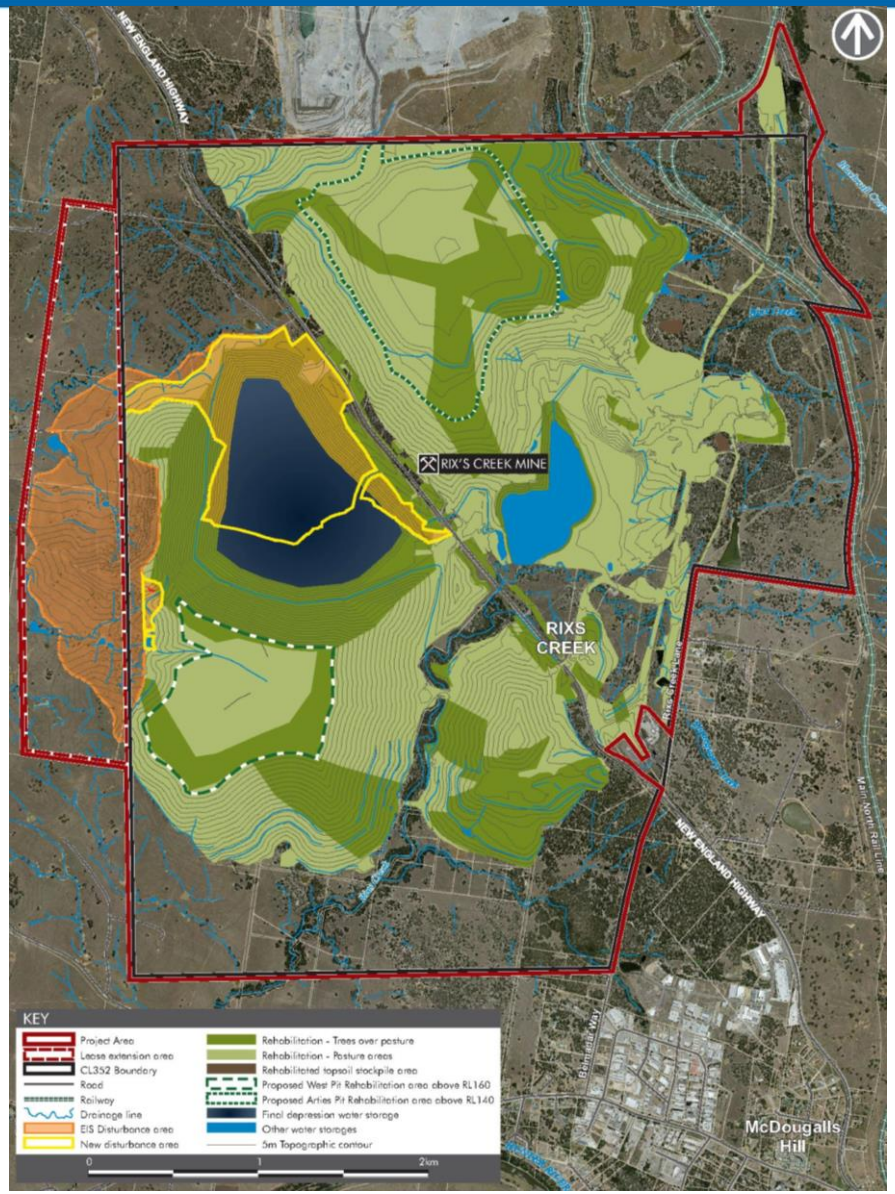

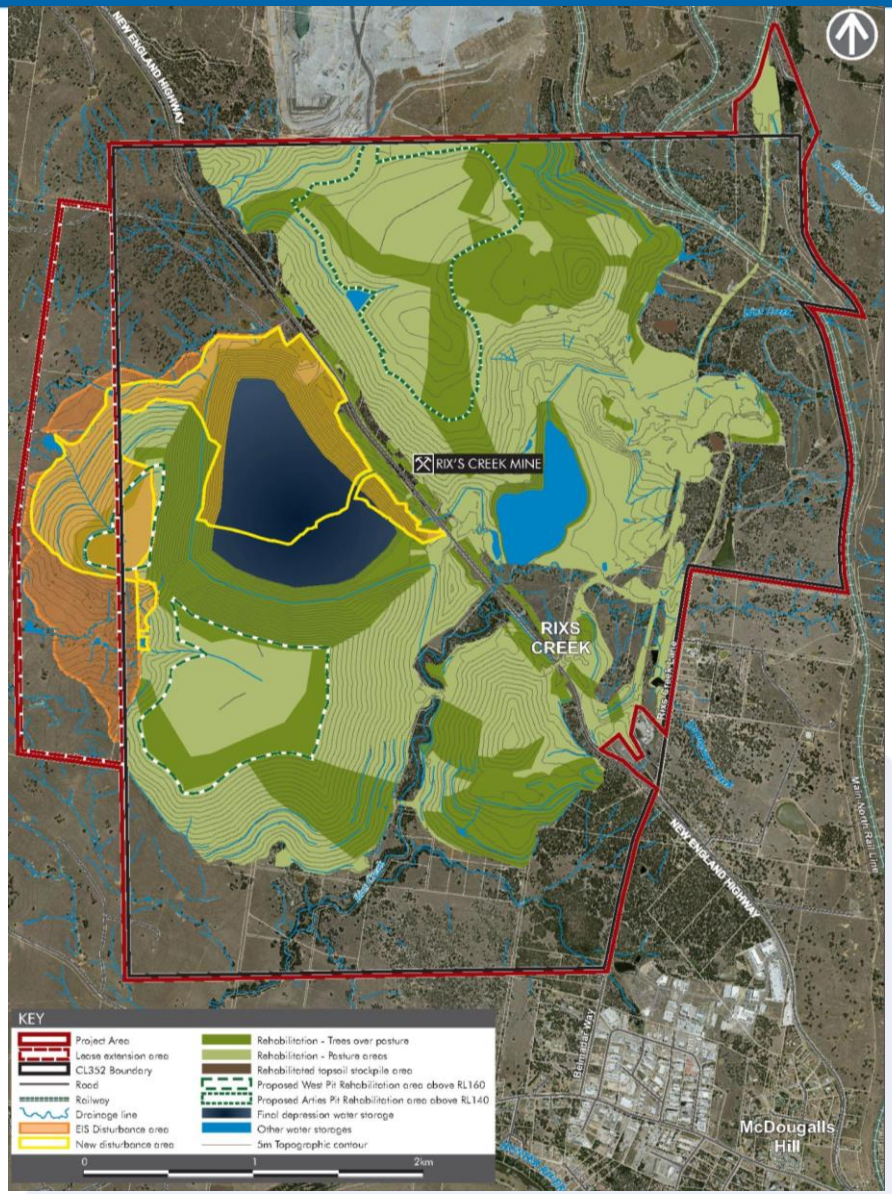

IPCN Report – Trade off Study (cont.)

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- Trade off study completed as a like for like comparison. Parameters as per EIS.
- Equipment quantities unchanged except where modified for haulage lengths.
- Air Quality assessment: No significant or reasonably measurable change in dust level at any off-site receptor.
- Noise impact assessment: No material differences to the overall noise impact outcomes compared with the EIS assessment.
- Biodiversity – 34% credit reduction for Option 1 & 24% for Option 2.
- Both options have increased haul distances compared with EIS.
    - Option 1 - 92% of volume to North Pit.
    - Option 2 - 41% to North Pit, 51% to the reduced Western OOP dump.

IPCN Report – Trade off Study (cont.)

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Option 1

- Require 50% more haul trucks to maintain production resulting in increased cost due to volume, haul distances and increased elevation.
- Re-disturbs 24 ha of established planted woodland on North dump.
- Reduced Class 4 and 5 land post-mining due to slopes.

Option 2

- Increased costs due to additional haul distance.
- Require re-disturbance of 4 ha of established planted woodland.
- Provides a more usable final landform in comparison to Option 1 (reduction of slope areas).

IPCN Report – Trade off Study (cont.)

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Option 2 Preferred

- Biodiversity assessment: Reduction in credits of 24%
- Visual impact and final landform assessments: no material difference
- Cost assessment- essentially cost neutral.($1.2M additional cost).
- Access to South and North pits not constrained by granting of MLA.
- Provides the greatest operational flexibility with additional dump destinations.

IPCN Report – Final Void (cont.)

R17 – Explore opportunities to undertake an assessment of void water re-use and include in Rehabilitation Strategy

- Section 5.8 of the Strategy includes the commitment to undertake an assessment of opportunities for the reuse of void water.
  - It is considered that it is best to undertake this assessment moving forward so as to allow a thorough review of potential reuse options.
  - Commitment to undertake this assessment.

IPCN Report – Water

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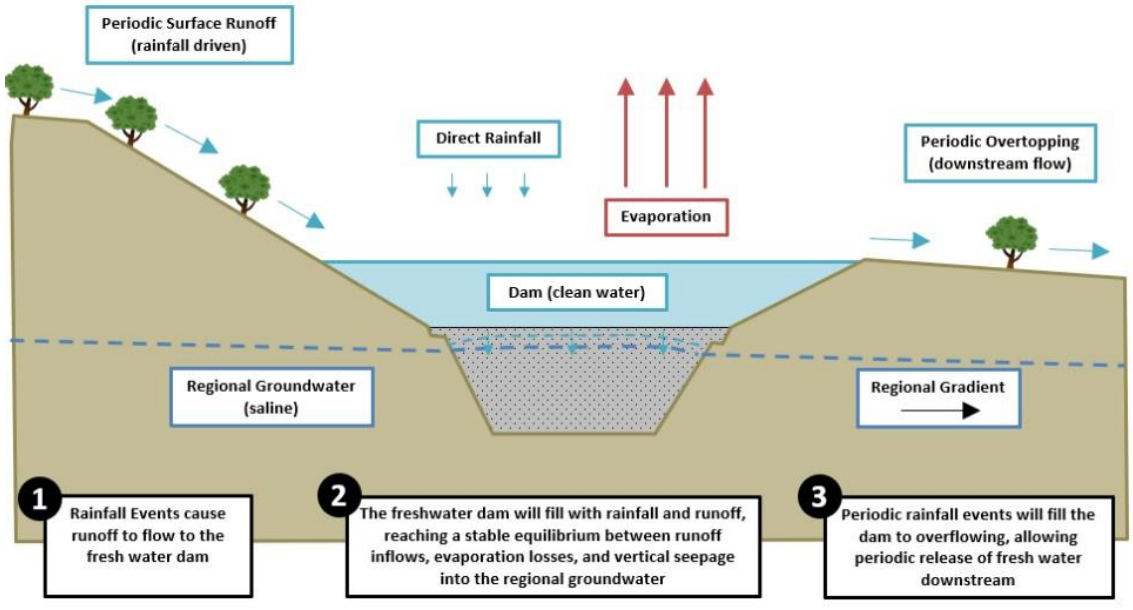
R18 - Investigate water impacts related to any interaction with the backfilled North Pit Void (consistent with South Pit Void)

- RPS concluded that the above water table North Pit void (the fresh water dam), will sustainably operate as intended (i.e. a fresh water dam, with periodic fresh water releases into the Rix's Creek drainage line).
- Such a dam in the above water table pit void will not impact upon future water quality of the regional groundwater resource.



IPCN Report – Biodiversity

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R19 – Detail and commit to offsetting approach including staging, timing, offset value and how it could be successfully undertaken

- Revised assessment for Option 2 showed reduced credits by 24%
- BMP to be updated.
- Mechanism: land-based offsets, credit purchases and/or BCT payment.
  - Two land based offset sites held which would fulfil 84% of total (Berewin and Ranch Road properties).
  - Proposed four-stage approach as per recommended consent conditions.

IPCN Report – Economics

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R20 required further information on the "base case" financial parameters, including the assumptions relating to commodity price and exchange rate forecasts, and references to other available commodity price and exchange rate forecasts

- "Base case" is cessation of mining and commencement of rehabilitation
- Rix's Creek produces 60% semi-soft coking coal and 40% thermal coal
- Macquarie Bank data used for coal price and exchange rate assumptions
  - selected to keep the source and underlying methodology consistent
  - Data available until 2030
  - Data on specific coal type
- No strong alternatives available (no other publicly available data had forecast periods exceeding five years forward)

IPCN Report – Economics (cont.)

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R21 required a more detailed discussion of the likelihood and range of feasible alternatives to the "base case" including, but not limited to its selection of the downside coal price scenario of 25% and the World Bank commodity price scenario

- Sensitivity analysis undertaken for economic analysis

- Historically exchange rate has tended to follow movements in coal prices.
- Analysis of severe downside for a zero economic benefit is outside the range of historical fluctuations.
- Bloomfield has excellent long term customers in premium markets
- Rix's Creek customers and markets protected from "downside" due to geographical diversity, longer contracts and high customer demand

IPCN Report – Economics (cont.)

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R22 required further information in relation to how it has considered severe downside scenarios (including, but not limited to, the World Bank commodity price scenario), in accordance with the Guideline (2012)

- Risk Minimisation Strategies not considered in economic analysis
- Bloomfield uses risk minimisation strategies as part of normal operations
- Risk minimisation strategies include
  - Setting aside prudent cash reserves in financially profitable or stable economic periods
  - Debt avoidance and conservative working capital management
  - Capital rationing (or freezing)
  - Targeting lower than average strip ratio mining areas when AUD received coal prices fall below a sustainable (or average of the cycle level) and, conversely, mining higher ratio areas when prices rebound
  - Taking advantage of the cyclical nature of the pressures in the mining sector (input costs may fall as coal prices soften) to renegotiate with the broader supply chain

IPCN Report – Historic Heritage

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R23 required preparation of a Heritage Management Plan (HHMP)

- Addressed in recommended Conditions.

R24 required the HHMP to evaluate the options to minimise tree root impacts on the Coke Ovens

- Bloomfield will engage a Chartered Structural Engineer who specialises in conservation of historical structures.

R25 required the HHMP to identify additional research on Coke Ovens including salvage and recording

- Addressed in recommended Conditions.

R26 required the HHMP and Rehabilitation Strategy to detail public access by the public and site management during the project life and closure

- Updated Strategy details how Coke Ovens currently managed and HHMP would include management following mine closure in discussion with Singleton Council.

Greenhouse Gases

- Scope 1-3 emissions conservatively calculated
- Annual Scope 1&2: 0.009% of Australia's annual emissions and 0.011% Australia's 2020 commitment under the Paris Agreement
- Greenhouse gases included in economic assessment and did not significantly affect the outcome.
- Product coal largely exported to Japan, Taiwan and South Korea
  - Japan and South Korea are signatories to the Paris Agreement and have GH reduction targets.
  - Taiwan has also developed GH reduction targets under its *Greenhouse Gas Reduction and Management Act.*
- Metallurgical coal demand for steel manufacturing required during Project life (60%)
- Thermal coal (40%) customers demand to continue.
- Project not inconsistent with climate change policies with Project alone impacts negligible.

Summary

- Employment for 255 full time employees and 44 full time equivalent contractors.
- Net wages of $21M injected into the Hunter community annually
- Ongoing capacity to support community initiatives
- Hunter expenditure of $93M (suppliers and contractors) annually
- Major payments to the Federal and State government of $50M (royalties, payroll tax, income tax, PAYG) annually
- Option 2 project area is only 15% increase to current approved disturbance area.
- Mining the area will provide a logical extension of the existing operation recovering additional coal resource and allowing for a systematic sequence to provide a long term stable final landuse.

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Our Vision - What we aspire to be

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