

## Minutes of the 6<sup>th</sup> Meeting of the Vickery Project Community Consultative committee

**Meeting held:** 28<sup>th</sup> October 2019 – 11.00am – 1.00pm

**Venue:** Whitehaven offices, Gunnedah

**Present:**

|                        |  |
|------------------------|--|
| Roberta Ryan (RR)      | Independent Chair                                |
| Stella Cimarosti (SC)  | Minute taker                                     |
| Cr Robert Hooke (RH)   | Gunnedah Shire Council (GSC)                     |
| Barry Thompson (BT)    | Narrabri Shire Council (NSC)                     |
| Brian Cole (BC)        | Executive General Manager, Project Delivery, WHC |
| Darren Swain (DS)      | Community Relations Manager, WHC                 |
| Andrew Johns (AJ)      | Gunnedah Shire Council (GSC) -staff              |
| Keith Blanch (KB)      | Community Representative                         |
| Ron Fuller (RF)        | Community Representative                         |
| Grant McIlveen (GM)    | Community Representative                         |
| Alexandra Carynny (AC) | WHC Environmental                                |
| Jorge Moraga (JM)      | WHC  |

**Apologies:** Cr Cameron Staines – NSC

| Item       | Description   | Action/<br>Responsibility          |
|------------|---|------------------------------------|
| <b>1</b>   | <b>Present, introductions and apologies</b>   |                                    |
| 1.1        | Meeting chair welcomed the group and members introduced themselves.   |                                    |
| <b>2</b>   | <b>Declaration of pecuniary or other interests</b>  |                                    |
| 2.1        | No new declarations made.   |                                    |
| <b>3</b>   | <b>Previous minutes and matters arising</b>   |                                    |
| 3.1        | Acceptance of minutes from the May 2019 meeting was moved by RH and seconded by GM. The minutes were accepted.  |                                    |
| <b>4</b>   | <b>Canyon and Vickery Environmental Monitoring Report</b><br>Presentation attached to minutes.  |                                    |
| 4.1        | Questions arising from presentation<br>RF – does Canyon still have water in it?<br>AC - The water level here is around the same as detailed in the last report that was provided. No significant changes have been recorded.<br>RF – Are there any interactions with the Red Hill area?<br>AC - The void itself is acting like a groundwater sink.<br>RF – Noted that there has been some filling of water trucks in the area east of the haul road.<br>AC - ground water data shows that groundwater measured at GW-9 is moving towards that void.<br>AC – The water storage to the east of the haul road is fed from Driggle Draggie Creek and contains surface water after rainfall. |                                    |
| 4.2        | GM requested further information about the winged peppergrass.<br>AC noted that as soon as the plan regarding the peppergrass is approved it can be provided this to the group.   | AC to provide plan when available. |
| <b>5.0</b> | <b>Vickery Extension Project – EIS Assessment Process Update</b>  |                                    |
| 5.1        | BC key points:<br>- Surface water, ground water, flooding and economics   |                                    |

## Minutes of the 6<sup>th</sup> Meeting of the Vickery Project Community Consultative committee

|     |  |  |
|-----|--|--|
|     | <p>assessments which were peer reviewed by WHC were also peer reviewed by DPIE peer reviewers.</p> <ul style="list-style-type: none"> <li>- DPI&amp;E is now in the process of conducting a Whole of Government (WoG) review after which it will issue a report.</li> <li>- WHC has prepared a Response to Submissions (RTS) which has been submitted to DPIE.</li> <li>- In preparing its RTS, WHC conducted some additional modelling to address issues raised by the IPC.</li> <li>- DPI&amp;E will issue its WoG report which will go to the IPC. Following receipt of the report the IPC will schedule another public hearing which could occur prior to Christmas.</li> <li>- The report from DPI&amp;E is expected to make a statement about whether the project should be approved or not and if so what conditions of approval are being recommended.</li> <li>- IPC will run the public hearing, review the conditions and make a decision.</li> <li>- At this stage it is anticipated that a decision will be made by early next year.</li> <li>- Minor Amendments to the project have been submitted. The mine footprint has been reduced slightly with the result that the amount of tonnes to be mined has reduced.</li> <li>- Key issues raised in the consultation include: <ul style="list-style-type: none"> <li>o Submissions overwhelmingly supported the project in terms of economic benefits for the region. There were also some views on adverse socio-economic impacts.</li> </ul> </li> <li>- No new issues came out of the submissions received and responses provided.</li> <li>- Predicted groundwater impacts as a result of the approved mine were very low. Extending the mine footprint marginally to the south would not have been expected to have much of an impact and this was what was found from the modelling. As groundwater is a topical issue questions were raised around the way modelling was carried out. Predictions demonstrated minor changes to the impact.</li> <li>- Since the last meeting we foreshadowed we would be doing some early work as part of the approved Vickery Coal Project. WHC has undertaken surveying, geotechnical engineering, access road maintenance and installation of compounds.</li> <li>- It is anticipated that construction could start at the end of 2020 or early 2021. In the meantime design works are being progressed.</li> </ul> |  |
| 5.2 | <p>General questions raised</p> <p>GM – What percentage of the 345 supportive comments were from Whitehaven employees?<br/> BC – Don't know for sure but would estimate maybe around 10 to 20%. This information could be ascertained from the submissions listed on the DPIE website and the IPC website.</p> <p>GM – What size will the catchment dams be?<br/> BC – This is being determined at the moment in the design process.</p> <p>GM - Can we get the figures when it's done?<br/> BC – Yes, but this won't be decided until the final design has been completed.</p> <p>GM – How deep will the piles go into the ground?<br/> BC – They will generally have a pile cap. Depending on the detailed design they will either have piles or a pad footing sitting close to the ground surface.</p> <p>GM – So they won't go into the ground?</p>  |  |

**Minutes of the 6<sup>th</sup> Meeting of the  
Vickery Project Community Consultative committee**

|     |  |  |
|-----|--|--|
|     | <p>BC – Yes they will.<br/> GM – How deep into the ground will they go?<br/> BC – It will depend on the ground conditions at each location.<br/> GM – How deep are they at Boggabri Maules Creek crossing?<br/> BC – From memory around 12 – 15 metres<br/> GM– On bedrock?<br/> BC – I don't think so.<br/> GM – How often would Maules Creek shut down at night due to inversions?<br/> DS – Pretty regularly during winter. They would shut sections of the operations or sometimes the whole mine. Sometimes they will change to using different equipment. It depends on the circumstances.<br/> GM – How are the trials with autonomous trucks at Maules Creek going?<br/> BC – Slowly. At the moment it involves intermitted work with one digger and one truck. Looking to start a 5-6 truck trial early next year. We will see how that goes and progressively extend it. This is the first application of autonomous hauling in a multi seam coal mine that I am aware of.<br/> RF – Where are you going to put the CHPP?<br/> BC – Just south of Braymont Road.<br/> RF – The sediment dams would still be there?<br/> GM – They will be further to the south than that.<br/> BC – They have only just started the preliminary work for this.</p>   |  |
| 5.3 | <p><b>Questions regarding VEP VPA</b></p> <p>BT – In regards to the VPA, why after discussions with Narrabri Shire Council and after the Shire didn't agree to an offer, did Whitehaven return to the Shire with a lower offer knowing the affects to Boggabri Community from this project?<br/> BC – There is a VPA agreement for the approved mine which allocated money to Gunnedah Shire and Narrabri Shire. A VPA for the approved Vickery Mine of \$2.25m was agreed by NSC in 2014 and is included in the Project Approval.<br/> GM – Has this money been handed over yet?<br/> BC – No, the VPA condition was that it would be paid when construction started.<br/> KB – Was the community consulted at the time?<br/> AJ –That would be something council would have to arrange.<br/> BC – The VPA for the VCP is a Condition of Approval. The \$2.25 million for the approved mine was based on the tonnes to be mined. The extension represents a relatively minor increase in tonnes (around 35 mil tonnes). We have been discussing the VPA with NSC since 2016. Whitehaven made an offer to extend the VPA for the VEP from the agreed one using the same formula. That offer was made to both councils at that time. The councils elected to let that offer sit on the basis that they would wait to see what the EIS contained – bearing in mind we have been working on the EIS for about three years – when the EIS was submitted in 2018 we reaffirmed the offer to the Councils. In the case of Narrabri council the offer was not accepted. As previously indicated due to a change in the footprint of the mine, the number of tonnes to be produced was reduced, This was reflected in the offer put to Narrabri Council in April this year and was communicated to the GM and the Council. As of the last few days we have received correspondence from Council rejecting that offer and putting a counter proposal forward.<br/> KB – The VPA is calculated by the amount of coal?<br/> BC – Yes<br/> KB – The community at Boggabri feels forgotten in all of this. We don't</p> |  |

## Minutes of the 6<sup>th</sup> Meeting of the Vickery Project Community Consultative committee

|   |  |
|---|--|
| <p>have a councillor to represent us at the moment.<br/> RF – How much does Narrabri Shire Council get out of the Narrabri Mine? What is the cents per tonne?<br/> BC – I'd only be guessing. I am not across this detail.<br/> RF – Wouldn't it be the same as most other mines?<br/> BC – I'd assume they are getting a VPA from a few different mines – Maules Creek, Narrabri, Boggabri, etc.<br/> GM – How much was the VPA for Maules Creek for Narrabri Council?<br/> BC – I'm not sure of this.<br/> KB – Boggabri doesn't want to miss out on this money. Our community will be impacted by this mine and we deserve some of this money.<br/> RR – To answer the initial question – why was the offer lower?<br/> BC – Because the amount of tonnes produced was going to be lower due to the change in the footprint of the mine.</p> | <p>BT – Given the EIS for this project was completed in 2018, will Whitehaven be making a modification to their worst case surface water modelling for the VEP?<br/> GM – If you're an irrigator located on the border of two zones - you can't move water from one zone to another. How does that work for Whitehaven?<br/> DS – WHC will follow the relevant rules and regulations.<br/> GM – The question is around the water being extracted from zone 4 to transferred to Zone 11 at Maules Creek?<br/> DS – The Groundwater Assessment for Maules Creek indicates that Maules Creek Mine is located in an area of outcropping bedrock surrounded by Zone 4, Zone 5 and Zone 11.<br/> RH – Does Whitehaven have to buy additional water licenses to run the mine – if so how many?<br/> BC – Not on the basis of the modelling that has been carried out which includes a number of significant droughts. The modelling shows that WHC has sufficient licenses.<br/> GM – What would Whitehaven do if the government said you could start mining there tomorrow?<br/> BC – We would ramp production but after the mine had been constructed.<br/> GM – Do you have enough water to fire up Vickery?<br/> BC – That's why we have the bore field in the plans.<br/> GM – But if you had to buy a licence to go to Maules Creek you must not have enough licenses.<br/> BC – That's related to Maules Creek not Vickery. The borefield isn't approved at the moment so it can't be installed. It is part of the scope for this project.</p> <p>There was a question from one of the committee members, of the timeframe of the Planning Department and the IPC's for the final approval of the Vickery Extension.</p> <p>BC said that he was hoping that the Planning Department would give an answer before Christmas, but he was concerned that the timeframe being so close to Christmas that he thought that the next IPC hearing may be scheduled in the New Year.</p> <p>BC also said that he understood that the IPC Panel that had administered the first phase of the assessment process had been disbanded after it produced its Issues Report. It is understood that a new IPC Panel would be formed to administer the next phase of the assessment. It would expected that there would be some commonality in the personnel comprising the two panels but presumably it would</p> |
|---|--|

## Minutes of the 6<sup>th</sup> Meeting of the Vickery Project Community Consultative committee

---

|          |   |  |
|----------|---|--|
|          | <p>depend on availability of Commissioners.</p> <p>GM asked RR and BC 'How could this be true when these 3 men have had only 18 months to get their heads around this project and that we would have 2 or 3 new committee people on the IPC for the final approval of the Vickery mine'. RR said that's what happens sometimes.</p> |  |
| <b>5</b> | <b>Date and agenda for next meeting</b>   |  |
|          | TBA depending on the approval process. Whitehaven will communicate any developments to the CCC.   |  |
|          | <p><b>These minutes have been endorsed by the meeting Chair.</b></p> <p><b>Date: 11<sup>th</sup> November.</b></p> <p><b>Roberta Ryan</b></p>   |  |

---

# Vickery Project CCC Meeting

28 October, 2019

Oct, 2019



---

# Agenda

- Present, introductions and Apologies
- Declaration of pecuniary interests
- Previous minutes
- Canyon and Vickery Environmental Monitoring Report
- Vickery Extension Project – EIS Assessment process
- General Business
- Date and agenda for next meeting.



---

# Canyon Coal Mine



# Agenda

Independent Environmental Audit

Environmental Monitoring – as per Project Approval and Management Plans

- Biodiversity
- Air quality
- Groundwater
- Surface water



---

# Independent Environmental Audit

Independent Environmental Audit is required every 3 years as per the Project Approval (DA 8-1-2005) by an auditor endorsed by the Department of Planning, Industry and Environment.

The Independent Environmental Audit Report was finalised in May 2019 by ERM.

Aim of the Audit is to:

- Assess the environmental performance of the development
- Assess whether the development is complying with relevant standards
- Review the adequacy of the Environmental Management Strategy and Monitoring Program

Copies were provided to all CCC members by 26 July 2019

---

# Independent Environmental Audit – Findings and Actions



## Stabilisation of gravel pit area

Stabilisation works occurred in August 2019.



## Ensure all relevant documentation is sent to relevant agencies

Ongoing, WHC commit to following this requirement. Agreement with Councils to receive documentation electronically.



## Satisfaction from the Department regarding security bond

WHC has requested confirmation from the Department to satisfy the requirement.

## Review water balance annually or request alteration to condition

Water balance has been updated in the Water Management Plan.

## Ongoing maintenance of erosion within the void

To be backfilled.

## Ensure any groundwater take is authorised and licensed

WHC have submitted all necessary applications for water take.

---

# Biodiversity Management

## Activities completed as per Rehabilitation Management Plan

Quarterly monitoring indicates that feral pig and fox numbers remained low. No control programs recommended, however continue to review trends.

Annual rehabilitation monitoring is underway with results arriving early 2020.



# Air Quality Monitoring

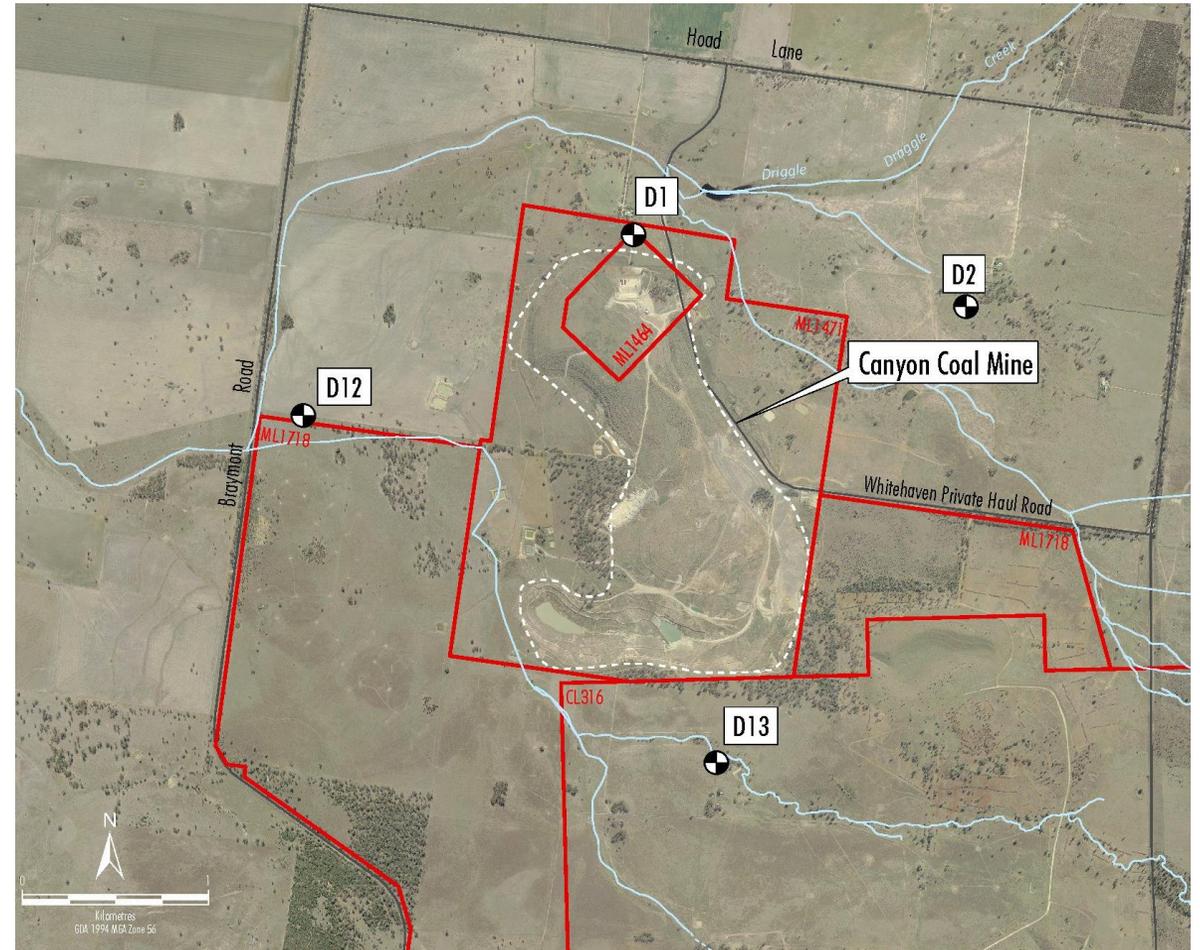
## Depositional Dust monitoring as per Project Approval and Air Quality Management Plan

| Depositional Dust<br>(12-month insoluble matter results in g/m <sup>2</sup> /month) |                |                              |
|---|----------------|------------------------------|
| Site  | Annual Average | Guideline                    |
| D1  | 1.8            | Annual average to be below 4 |
| D2  | 2.7            |                              |
| D12   | 4.3            |                              |
| D13   | 3.1            |                              |

Dust emissions are not a result of the development. Compliant with Project Approval and Air Quality Management Plan

Trends show higher annual averages at D12.

- Located adjacent to the Braymont Road
- Results are reported in the Annual Review

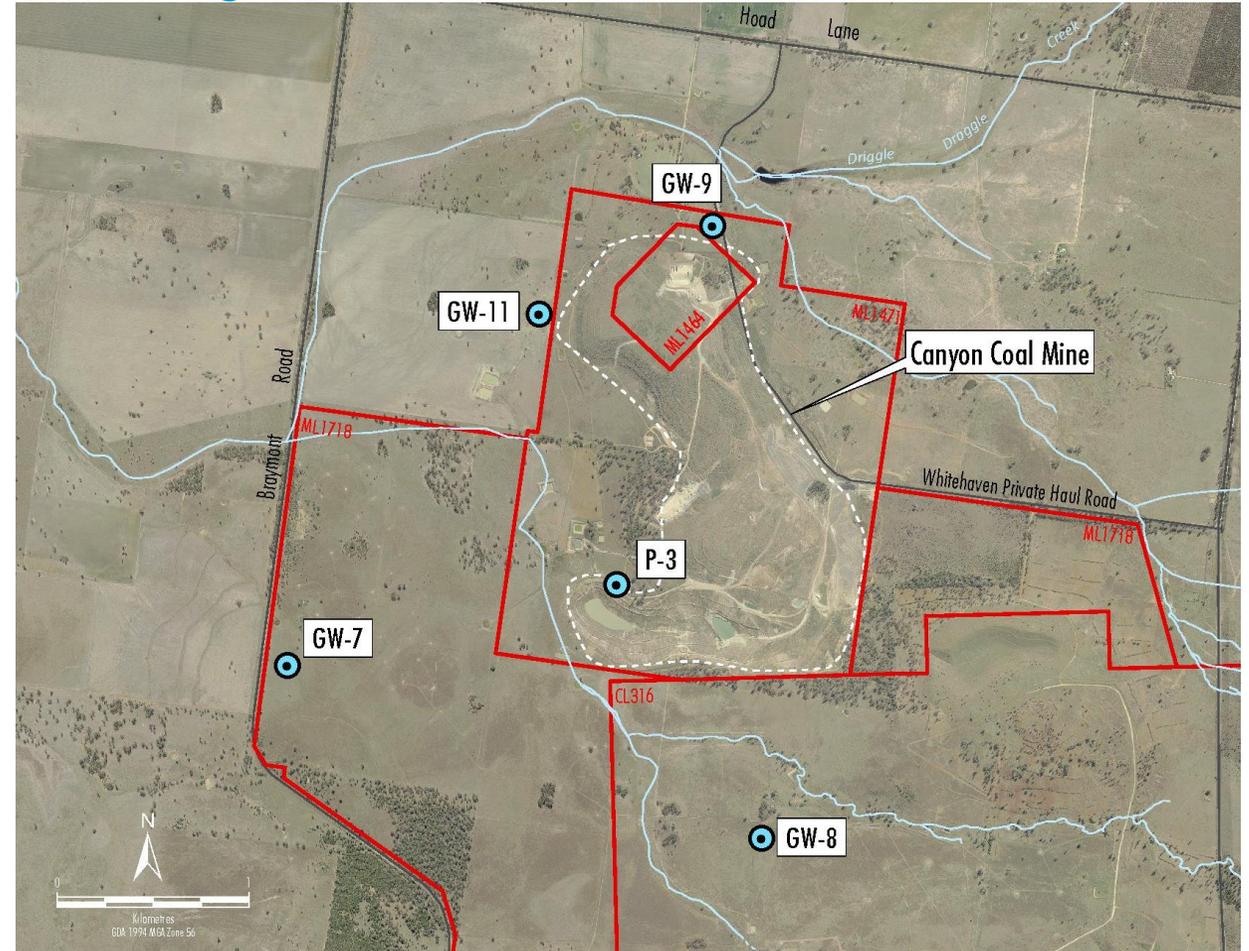


# Groundwater Monitoring

## Monitoring as per Project Approval and Water Management Plan

All sites have their standing water level assessed every 6 months. Levels are consistent at four locations since last CCC Meeting, one site shows a fluctuation in water level, with a solar pump on the bore.

Sites GW-11 and P-3 have water quality assessed every six months to review temporal trends. The results remain steady since the last CCC Meeting.

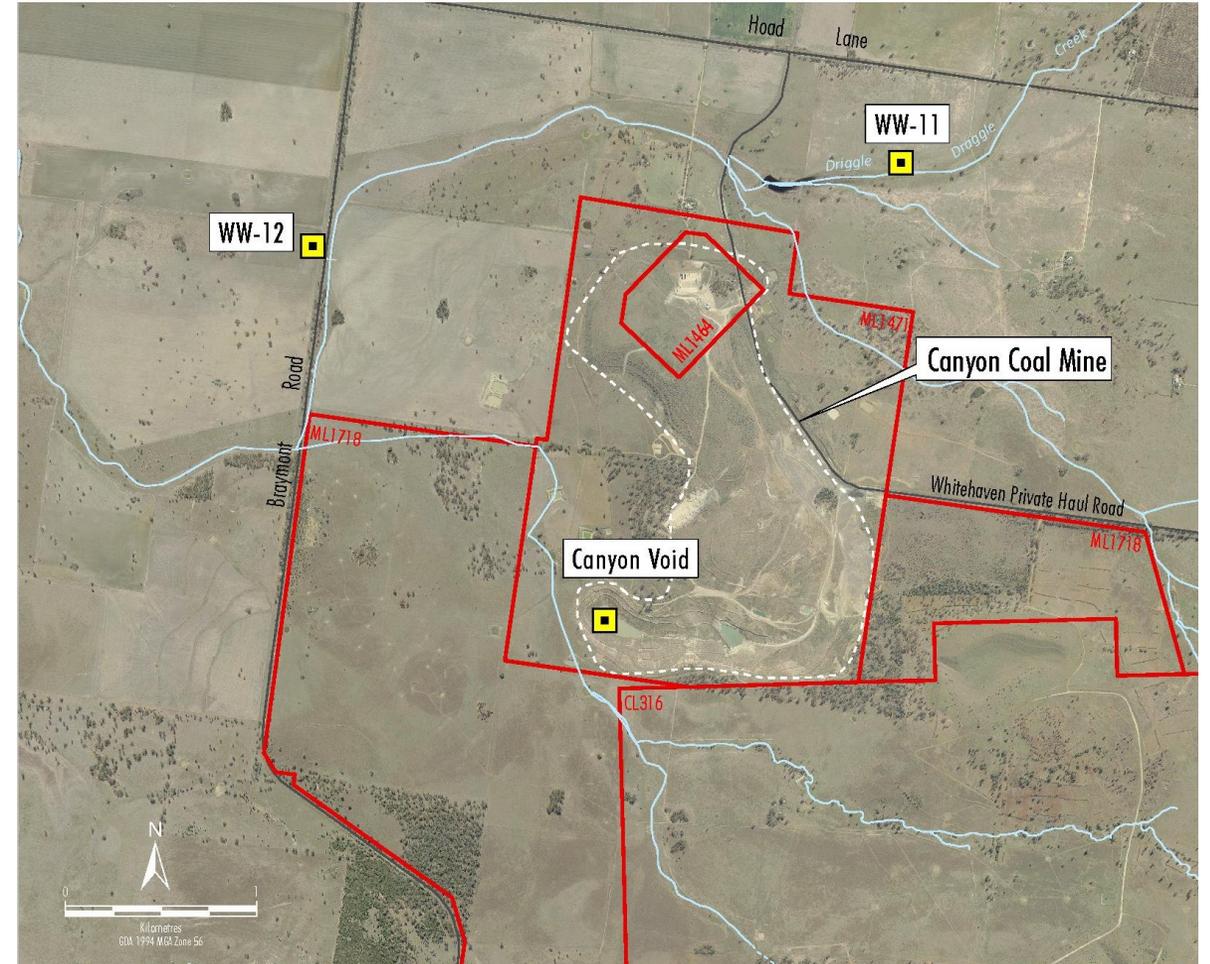


# Surface Water Monitoring

## Monitoring as per Project Approval and Water Management Plan

No surface water flow was generated since the last CCC Meeting. Monitoring will occur with flow events

Canyon Void water levels and quality are monitored on a 6 monthly basis. Water level and quality is consistent since the last CCC Meeting. Water extraction has ceased from the Canyon void for use at Rocglen and Tarrawonga mines.



# Complaints

No complaints received

<http://www.whitehavencoal.com.au/sustainability/environmental-management/canyon-mine/>

## Canyon Mine



Project Approvals

Closure Mining Operations Plan

Mining Lease

Environmental Assessments

Management Plans

Annual Review

Independent Audit

CCC Minutes and Agenda

Complaint Register

Telephone Complaints Line  
0436 685 548

Search ...

Search

### RECENT NEWS

Barada Barna People get a taste of partnership possibilities on visit to North West NSW

Whitehaven releases inaugural Sustainability Report

Whitehaven to acquire 7.5% interest in Narrabri Mine

Record full year results FY19

Collaboration to improve underground miner wellbeing recognised as industry-leading

---

# Vickery Coal Mine



---

# Agenda

Environmental Monitoring – as per Project Approval

- Biodiversity
- Air quality
- Groundwater
- Surface water

Specialist studies

DPI&E site visit



---

# Biodiversity Management

Biodiversity activities completed as required by EPBC Approval 2012/6263



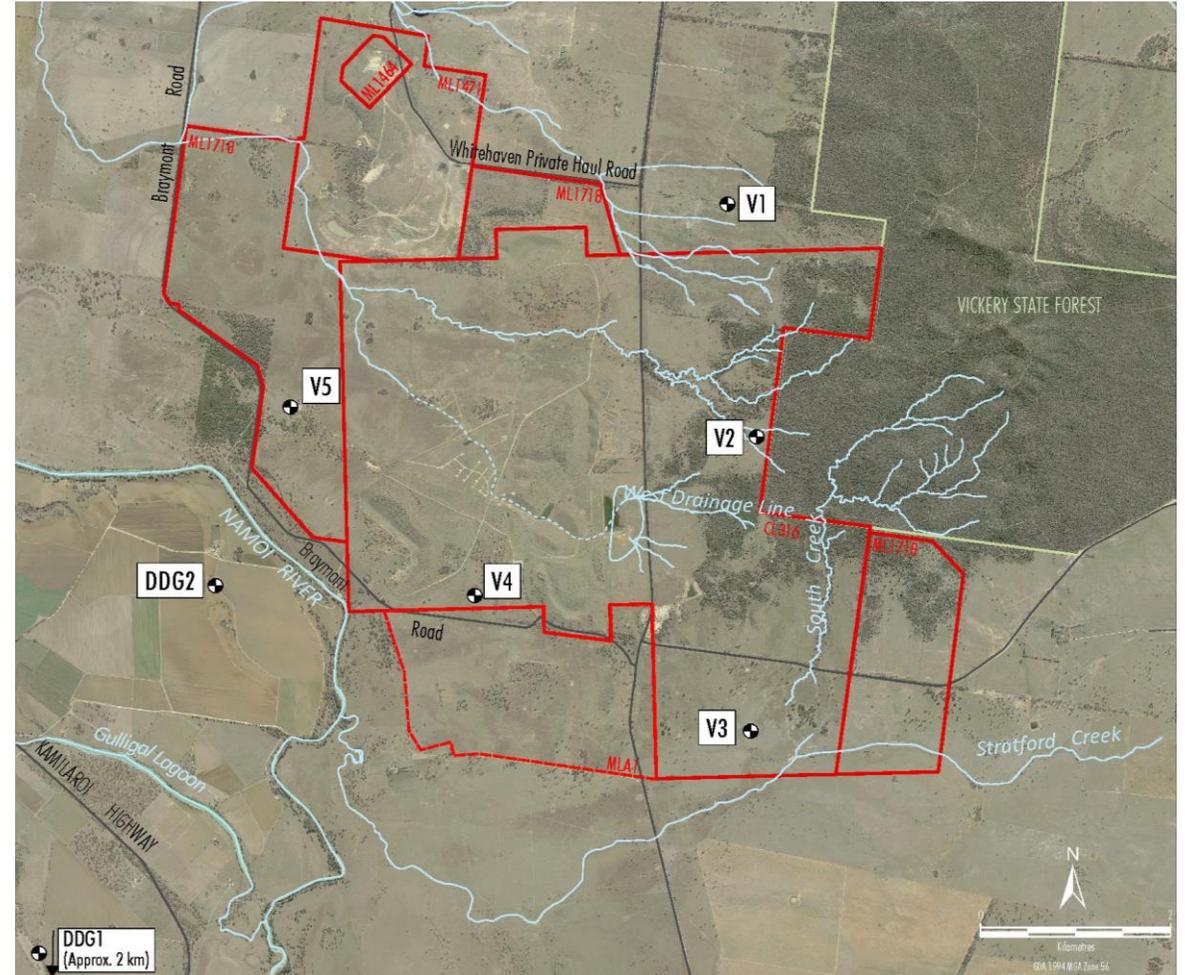
Winged Peppergrass Threatened Species Project Plan has been submitted to NSW DPI&E and Commonwealth Department of Environment and Energy.

The Project Plan describes measures to monitor, maintain and translocate the species.

# Air Quality Monitoring

## Depositional Dust monitoring as per Project Approval

| Depositional Dust<br>(12-month insoluble matter results in g/m <sup>2</sup> /month) |                |                              |
|---|----------------|------------------------------|
| Site  | Annual Average | Guideline                    |
| DG1   | 2.7            | Annual average to be below 4 |
| DG2   | 2.2            |                              |
| V1  | 1.8            |                              |
| V2  | 1.1            |                              |
| V3  | 8.0            |                              |
| V4  | 2.4            |                              |
| V5  | 2.4            |                              |



Dust emissions are not a result of the development. Compliant with Project Approval

V3 generally has the highest annual average of the Vickery depositional gauges.

Located on the corner of Shannon Harbour Road and Blue Vale Road.



---

# Other Activities

## Specialist Studies and DPI&E Site Visit

### **ENRS Consulting Land Contamination Site Inspection – 14 August 2019**

The EIS included a Land Contamination Assessment that concluded that a Detailed Site Investigation (DSI) should be conducted for six features of interest. The DSI is to determine if remediation is required.

The aim of the site inspection was to visually inspect the six features of interest to prepare a Sampling Analysis Quality Plan to inform the DSI.

### **Department of Planning, Industry and Environment Site Visit – 13 August 2019**

James Epstein and Heidi Watters of DPI&E requested a site visit for purposes of seeing the early works and to hand over responsibility from Heidi to James. No action required.

# Complaints

No complaints received

<http://vickery.com.au/>

WHITEHAVEN COAL

WHITEHAVEN HOME | SIGN UP TO NEWSLETTER | CAREER

COMMUNITY ENQUIRIES PLEASE CALL 1800WHCOAL (1800 942 625)

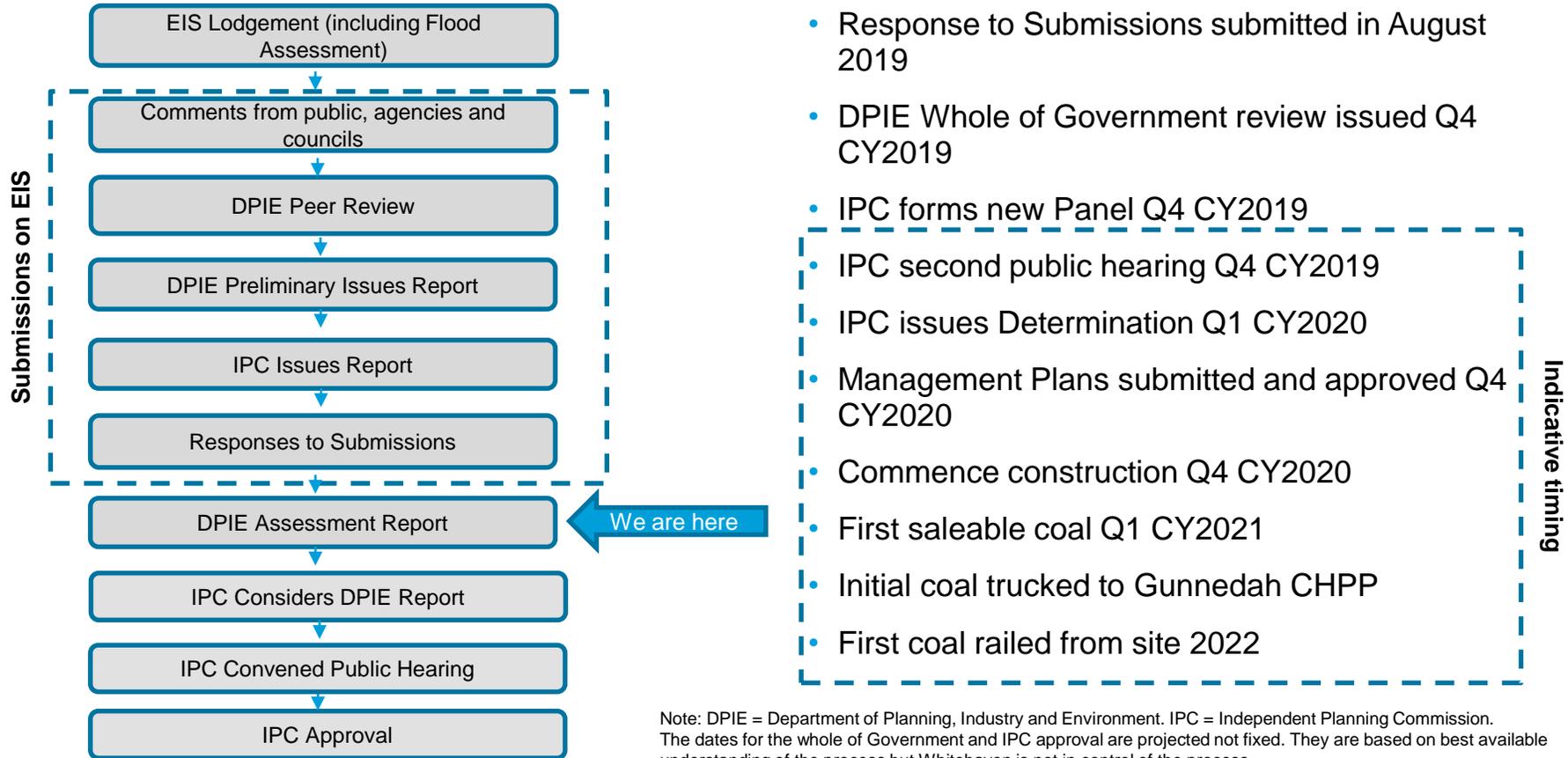
**POWERING THE REGION.**

YOUR OPINION MATTERS. HAVE YOUR SAY.

VICKERY PROJECT | JOBS | ENVIRONMENT | WATER & LAND | COMMUNITY | LOCATION & MAPS | ENQUIRIES

# Vickery Project status update

## Working through the approval process



Note: DPIE = Department of Planning, Industry and Environment. IPC = Independent Planning Commission. The dates for the whole of Government and IPC approval are projected not fixed. They are based on best available understanding of the process but Whitehaven is not in control of the process

---

# Amendments to Project

In summary, when compared to the EIS, the proposed amendment would:

- Reduce the total resource for the Project from 179 Mt to 168 Mt.
- Result in a minor reduction in net benefits to NSW from \$1.21 billion to \$1.16 billion.
- Reduce Scope 1 and 2 greenhouse gas emissions from 4.1 million tonnes carbon dioxide equivalent (Mt CO<sub>2-e</sub>) to 3.9 Mt CO<sub>2-e</sub>, as well as reduce associated Scope 3 greenhouse gas emissions by approximately 23 Mt CO<sub>2-e</sub>.
- Not change the peak production rate, disturbance footprint (as waste emplacement would continue to occur in ML 1718), mine life, workforce or hours of operation.
- Not result in additional environmental impacts beyond those assessed in the Project EIS (e.g. surface water, groundwater, air quality, noise).

---

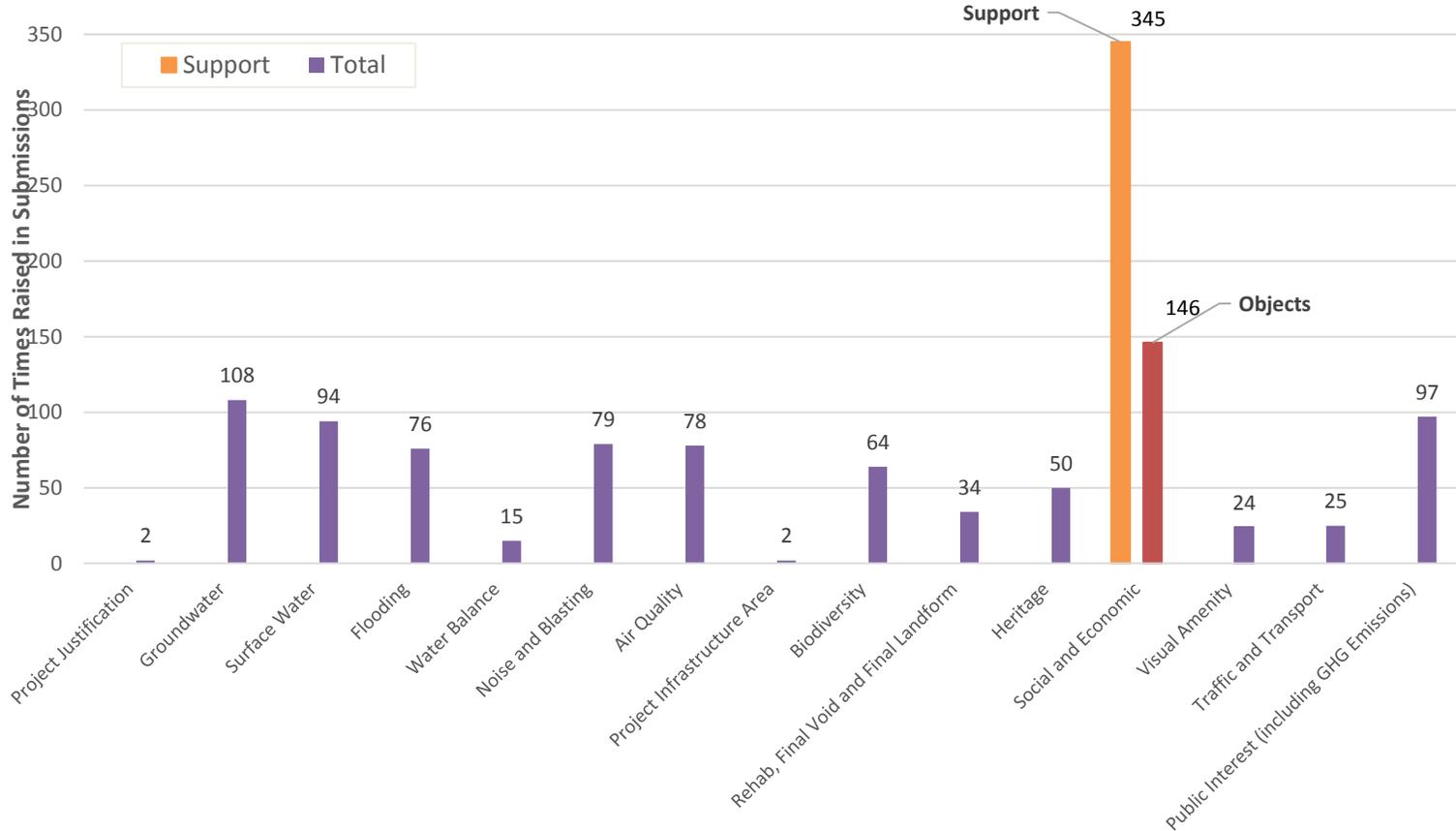
# Issues Raised

Most commonly raised issues:-

- socio-economic benefits;
- potential adverse socio-economic impacts;
- public interest concerns (including greenhouse gas emissions);
- potential impacts to groundwater, surface water and flooding;
- Potential noise and air quality impacts;
- Potential impacts to biodiversity; and
- The Project's rehabilitation and final landform.

# Issues Raised

Most commonly raised issues:-



CCC Meeting October, 2019

---

# Supplementary Environmental Assessments

- Flood modelling.
- Groundwater modelling.
- Further review of all Project years regarding potential noise and air quality emissions.
- Noise monitoring and rail noise analysis.
- Analysis of Coal Handling & Preparation Plant (CHPP) noise (including equipment sound power levels [SWLs] and location).
- Analysis of alternative Mine Infrastructure Area layouts and locations.
- Further analysis of rehabilitation data.

---

# Response to Submissions

Responses expressed in the context of the issues raised in the IPC Report with reference to other submissions.

- Project Justification
- Groundwater
- Surface Water
- Flooding
- Water Balance
- Noise and Blasting
- Air Quality
- Infrastructure
- Biodiversity
- Rehabilitation, Final Voids, Landform
- Heritage
- Social and Economic
- Visual
- Traffic and Transport
- Public Interest

---

# Groundwater

The issues raised by the IPC, DPIE, DPIE's Peer Reviewer and Submissions included:-

- Accuracy of groundwater modelling and predictions.
- Additional sensitivity analysis.
- Proposed groundwater monitoring and management measures.

---

# Groundwater

In regard to the groundwater modelling:-

- Additional modelling and further explanation of the basis of the model and the methodology adopted further reinforced the observations by DPIE Peer Reviewer that:-

***“My professional opinion is that the Vickery Extension hydrogeological and groundwater modelling assessment is fit for the purpose of mine dewatering environmental impact assessment (including cumulative impacts) and informing management strategies and licensing.”***

- And the IESC:-

***“The IESC notes that a number of the studies completed for this project such as the surface water assessment and the studies to determine the extent of the alluvium have been completed to a high standard. The proponent should be commended for these studies and for obtaining peer review of many on the major reports provided in the impact assessment”.***

---

# Groundwater

In regard to sensitivity analysis:-

In summary, the setting of the open cut within the Maules Creek Formation, and the extensive data available for model development minimises the potential for model uncertainty. This includes the following key factors:

- The open cut is confined to the relatively low permeability Maules Creek Formation and avoids the alluvium, as confirmed by site-specific investigations.
- Extensive site-specific data is available to constrain hydrogeological parameters.
- There is a long record of monitoring of the effects of existing operations.
- The model has been calibrated to monitoring data.
- Additional sensitivity analysis was conducted in the Groundwater Assessment and in response to peer review.

---

# Groundwater

- Proposed monitoring regime:-
  - A Water Management Plan would be developed for the Project in consideration of the requirements of any relevant Development Consent conditions for the Project.
  - The existing groundwater monitoring network (Figure 9) would be reviewed as part of preparation of the Water Management Plan with consolidation of the network as required.
  - Should monitoring or an investigation show greater than 2 m drawdown at a privately-owned bore, and the drawdown is attributable to the Project, 'make good' provisions for the affected groundwater user would be implemented in accordance with the AIP, and may include:
    - deepening the affected groundwater bore;
    - construction of a new groundwater bore; and/or
    - provision of an alternative water supply of appropriate quality and quantity.
  - Due to the open cut acting as a localised groundwater sink, no significant adverse impacts to groundwater quality are predicted for the Project. Notwithstanding, groundwater quality management measures would be detailed in the Water Management Plan.

# Groundwater

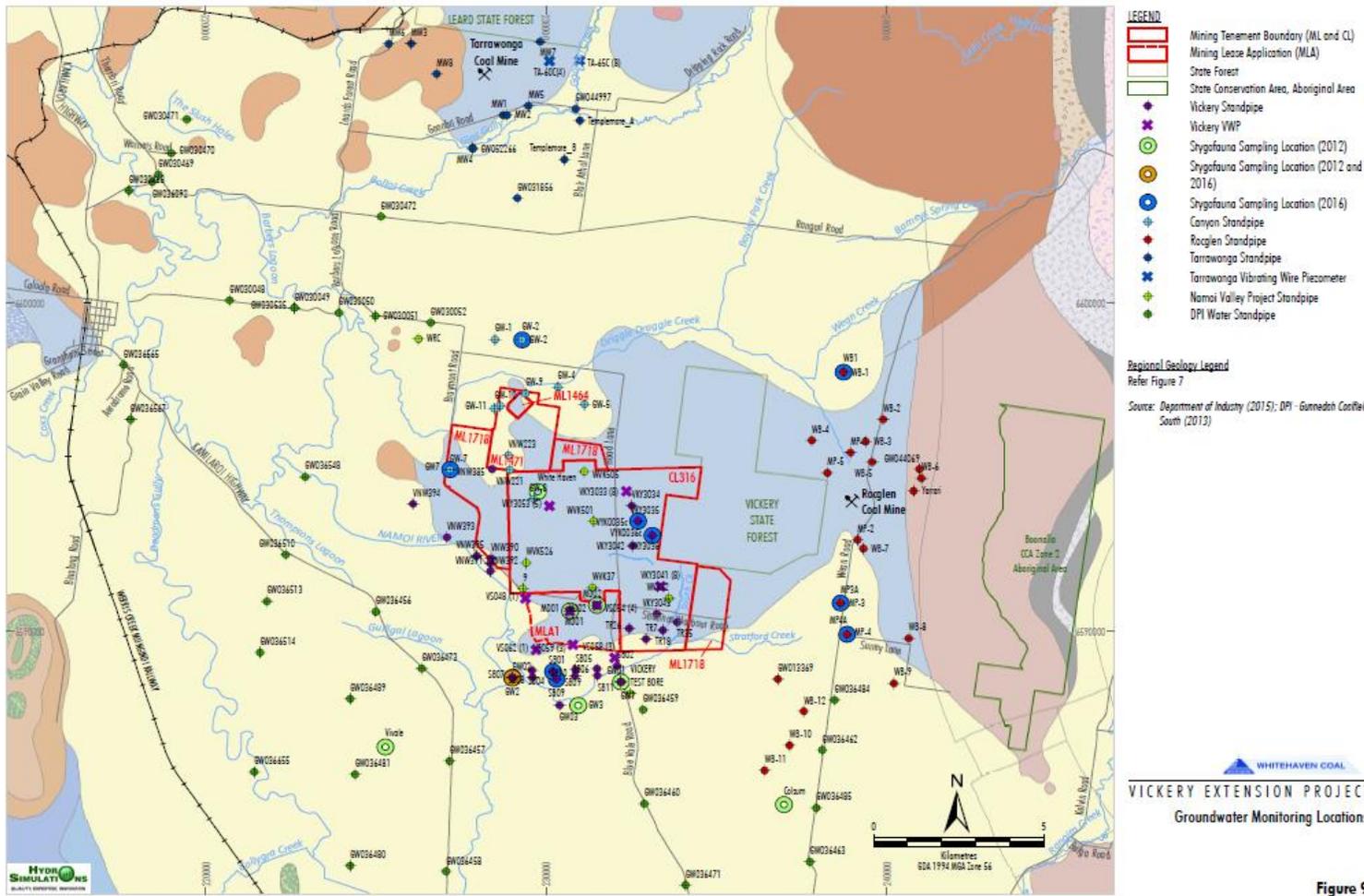


Figure 9

CCC Meeting October, 2019

---

# Surface Water

The issues were listed in the submissions included:-

- Accuracy of surface water modelling and predictions.
- Proposed surface water monitoring and management measures.

---

# Surface Water

- Accuracy of surface water modelling and predictions.
- The site water modelling is based on 124 years of daily rainfall records, and as such, considers the full range of climatic conditions (i.e. rainfall and evaporation) that have been experienced over this period. The records include the Federation drought and significant droughts in 1935 to 1948, 1979 to 1983 and 1992 to 1996.
- If the worst case climatic condition is considered to be the lowest rainfall conditions (“dry conditions”), there would be no discharge from the site as water collected on-site would be used to meet water demands.
- If the worst case climatic condition is considered to be the highest rainfall conditions (“wet conditions”), then during these times there would be high dilution in the receiving environment of any water released via sediment dam overflows. No releases of mine water or coal contact water are predicted based on the worst case climate sequence modelled.

---

# Surface Water

- Proposed surface water monitoring and management measures.

The Project surface water management and monitoring program will be developed to validate and verify the EIS predictions.

- Leading up to commissioning and during operation, surface water monitoring will be undertaken at points upstream and downstream on watercourses closest to the Project mining area (monitoring locations would be selected during development of the Water Management Plan).
- Water quality monitoring of sediment dams would include analysis of pH, TSS, EC, total alkalinity/acidity, sulphate, aluminium, arsenic, molybdenum and selenium. After a two year monitoring period the parameters being monitored would be reviewed.
- Water quality monitoring during a controlled discharge would be conducted in accordance with an EPL for the Project and would include analysis of EC, TSS, pH, oil and grease and total organic carbon.
- Water quality monitoring at selected locations along the ephemeral creeks surrounding the Project (on an opportunistic basis) would include EC, TDS, TSS, turbidity, pH, oil and grease, total organic carbon.

---

# Flooding

- Issues identified by the IPC and in submissions included:-
  - Justification of the Project rail spur design.
  - Accuracy of flood modelling and predictions.
  - Coincident flooding of Namoi River and tributaries.
  - Justification of Probable Maximum Flood (PMF) assessment methodology.

---

# Flooding

- Justification of the Project rail spur design.
- The objective of the flood modelling included in the EIS was to demonstrate that the proposed location of the Project rail spur would comply with the design objectives of the FMP which includes impacts to flood levels, velocities and distributions on privately-owned land.
- Initial conceptual design decisions involved elevating the Project rail spur above predicted flood levels (i.e. a superstructure supported on either pylon-like structures or in-filled embankment sections) and conceptually locating openings to provide for minimal impact to existing flooding regimes. Proceeding with a conceptual design
- It is noted the objectives of the FMP relevant to privately-owned land are for “large design floods”, which approximate the 1 in 20 year (i.e. 5% AEP) flood event. Therefore, the Project rail spur conceptual design, which includes provision to elevate the superstructure above the 1 in 100 year (i.e. 1% AEP) flood level, is considered to be conservative and prevents impacts for flood events well above what is required by the FMP.
- **Planning peer review opined “*The peer review has determined that that the assessment has been undertaken generally in accordance with industry best practice*”**

# Flooding



|             |  |                         |  |     |    |      |                        |     |       |           |   |  |                 |  |   |            |
|-------------|--|-------------------------|--|-----|----|------|------------------------|-----|-------|-----------|---|--|-----------------|--|---|------------|
| DRAWING NO. |  | REFERENCE DRAWING TITLE |  | REV | BY | DATE | ISSUED FOR INFORMATION | CHG | APP'D | PROJ APPR | DRAWN: MAR 27/11/18<br>CHECKED:<br>DESIGNED:<br>CIVIL APPR:<br>PROJ APPR: | FOR INFORMATION ONLY<br>DRAWING SIZE: A1 | WHITEHAVEN COAL | VICKERY EXTENSION PROJECT<br><br>RAIL INFRASTRUCTURE<br>CONCEPTUAL PROJECT RAIL SPUR<br>KAMILAROI HIGHWAY CROSSING | SCALE: NOT TO SCALE<br>SHEET SCALE: 1:10000<br>SHEET NO: 1<br>SHEETS: 1<br>DRAWING NO: VCP-40-SK-0066 | SUPP<br>A1 |
|-------------|--|-------------------------|--|-----|----|------|------------------------|-----|-------|-----------|---|--|-----------------|--|---|------------|

CCC Meeting October, 2019



# Flooding



|             |                         |   |    |          |         |          |                             |     |      |  |                     |             |                                |      |    |
|-------------|-------------------------|---|----|----------|---------|----------|-----------------------------|-----|------|--|---------------------|-------------|--------------------------------|------|----|
|             |                         |   |    | DRAWN    | MAR     | 28/11/19 | <b>FOR INFORMATION ONLY</b> |     |      | VICKERY EXTENSION PROJECT                  |                     | SCALE       | NOT TO SCALE                   | SIZE | A1 |
|             |                         |   |    | CHECKED  |         |          | DRAWING STATUS              |     |      |  | RAIL INFRASTRUCTURE |             | DO NOT SCALE - IF IN DOUBT ASK |      |    |
|             |                         |   |    | DESIGNED |         |          | SCALE BARS                  |     |      | CONCEPTUAL PROJECT RAIL SPUR               |                     | REV         | 1                              |      |    |
|             |                         |   |    | SEC APPR |         |          |                             |     |      | INDICATIVE VIEW FROM 500 METRES - ELEVATED |                     | DRAWING No. | VCP-40-SK-0070                 |      |    |
| DRAWING No. | REFERENCE DRAWING TITLE | A | BY | DATE     | BY/ISSN | DATE     | REVISION DETAILS            | CHD | APPR | PROJ                                       | APPB                |             |                                |      |    |

CCC Meeting October, 2019

---

# Flooding

Accuracy of flood modelling and predictions.

- The flood model extent was designed to assess the relevant aspects of the Project to flooding, in particular:
  - the potential impacts of Project infrastructure to flood levels, velocities and distribution; and
  - the immunity of the Project from flooding events.
- The key flood regime relevant to the Project is the Namoi River, given the Project rail spur crosses the Namoi River floodplain and the model has been developed based on data available to define the Namoi River flood characteristics. The model also considers local creeks such as Collygra Creek, Deadmans Gully, Stratford Creek, South Creek, Driggle Draggie Creek and Bollol Creek.
- The flood regime of other watercourses significantly upstream or downstream of the Project, which are tributaries of the Namoi River, does not require specific consideration as they are not directly relevant to the Project and their contributions to Namoi River flooding are accounted for in the data for the Namoi River

---

# Flooding

- Coincident flooding of Namoi River and tributaries.
- The catchment area of the Namoi River to the Project is approximately 18,000 square kilometres (km<sup>2</sup>) with an estimated 1% AEP peak discharge of 9,147 cubic metres per second (m<sup>3</sup>/s). By comparison, the catchment area of Stratford Creek that drains to the proposed rail spur is 105 km<sup>2</sup> with an estimated 1% AEP peak discharge of 221 m<sup>3</sup>/s.
- The relative sizes of the catchments mean that different storm mechanisms would produce peak discharges in each catchment. In other words, the likelihood of the regional and local flood producing events with the same AEP peaking at the Project site at the same time is very low.
- Notwithstanding, the model was rerun assuming coincident peaks.
- The difference in flood level impacts compared to the scenario where the local creeks flood independently from the Namoi River is imperceptible given that the Namoi River flows are significantly larger than the Collygra Creek and Stratford Creek flows.

---

# Noise and Blasting

- Issues raised by the IPC, the DPIE and other submissions included.
- Noise modelling predictions.
- Clarification of noise and blasting levels at other Whitehaven operations

---

# Noise and Blasting

- Noise modelling predictions.
- References for each indicative SWL used in the modelling are included in the Noise and Blasting Assessment in accordance with the *Noise Policy for Industry* (EPA, 2017) (NPfi), either to industry (i.e. manufacturer) or measurements conducted at other mine sites (e.g. Maules Creek Coal Mine).
- Additionally, recent advances have been made by mining equipment manufacturers such as Hitachi to reduce SWLs. These SWL reductions have been achieved through implementation of a range of measures such as acoustic scanning of equipment to identify and mitigate noise sources, re-engineered mufflers, variations to fan speed and modification of louvres to improve air flow.
- Accordingly, while the Noise and Blasting Assessment adopted current best practice mining equipment SWLs (consistent with the requirement for the Project to implement reasonable and feasible noise mitigation measures) it is likely that at the time Project equipment are procured, equipment SWLs will be lower than those modelled.
- Ongoing maintenance of equipment would be conducted over the life of the Project along with SWL monitoring to confirm the ongoing acoustic performance of mining equipment.

---

# Noise and Blasting

- Clarification of noise and blasting levels at other Whitehaven operations.

The majority of noise and blasting monitoring results recorded during the past 5 years across the Maules Creek, Tarrawonga and Rocglen Coal Mines are below the relevant compliance criteria.

- The *Maules Creek Coal Mine Conditions of Approval Independent Environmental Audit Report* (ERM, 2018) was conducted for the period July 2015 to June 2018 and concluded:

*The results of this (noise) monitoring generally demonstrated compliance with the noise impact assessment criteria at each of the monitoring locations for the audit period, with each exceedance as a result of the application of the NSW Industrial Noise Policy 2000 low frequency modifying factor, such exceedances are considered to be 'technical exceedances' [i.e. an exceedance where the noise measurement itself does not exceed criteria, only the measurement plus modifying factor].*

- *Blast monitoring is undertaken at monitoring locations BM 1 to BM 4 as per the requirements of the EPL and the Blast Management Plan. ... While there have also been a very limited number of blasts that have exceeded the 115dBL criteria, they have been insufficient to go above the 5% of allowable exceedances as authorised under the CoA and EPL.*

---

# Project Evaluation

Further modelling and analysis has also been undertaken to provide clarification of key aspects of the Project in response to submissions received.

This further modelling and analysis supports the predictions in the Project EIS, and accordingly also supports the conclusion in the EIS that, on balance, the Project has merit on the basis of the positive social and economic outcomes to the local region and NSW.

In summary, for key issues identified in the submissions, the Project is predicted to have the same or less environmental impacts than those approved for the Approved Mine, or can be designed and managed in accordance with standard guidelines and principles for mining projects. This includes the following:

---

# Project Evaluation

This includes the following:

- ❑ The Project rail spur has been designed to comply with the objectives of the FMP.
- ❑ Predicted groundwater impacts comply with the 'minimal impact' considerations of the AIP.
- ❑ Sediment dams would be designed and operated in accordance with Landcom (2004).
- ❑ Predicted water requirements are within Whitehaven's existing licenses for the Project.
- ❑ Air quality emissions are predicted to comply with the criteria in the EPA's Approved Methods at relevant receivers.
- ❑ Operational noise emissions are predicted to comply with the criteria in the NPfl, or can be managed in with procedures outlined in the Voluntary Land Acquisition and Mitigation Policy at relevant receivers.

---

# Project Evaluation

This includes the following:

- ▣ Rail noise emissions are predicted to comply with the non-network criteria in the RING at relevant existing receivers.
- ▣ Construction noise levels outside of standard hours would be maintained to comply with the 'Noise Affected' noise management level in accordance with the ICNG at relevant receivers.
- ▣ Biodiversity offset requirements can be satisfied in accordance with the FBA and the *NSW Offset Policy*.  
The Project final landform would reduce the number of voids in the landscape when compared to Approved Mine and the current landform.

**In consideration of the information provided in the EIS and RTS, Whitehaven considers the consent authority can reach a conclusion that the benefits of the Project outweigh its impacts.**

---

# VCP Commencement

- To position the VEP to be expeditiously executed post Approval.
- WHC elected to proceed with some works common to the VCP and VEP.
- These included:-
  - engineering surveying
  - geotechnical engineering investigations.
  - maintenance of access roads.
  - erection of compounds
  - establishment of site offices.
  - establishment of sediment control.
- In the planning phase consideration was given to:-
  - workplace health and safety
  - statutory requirements.
  - environmental compliance



---

# Surveying Works



Namoi River Pump  
Blue Vale Void  
Primary and Secondary Compounds  
Access Roads  
Blue Vale Rd Re-Alignment

---

# Geotechnical Engineering



e

---

# Primary and Secondary Compounds



# Site Access Roads and Fencing



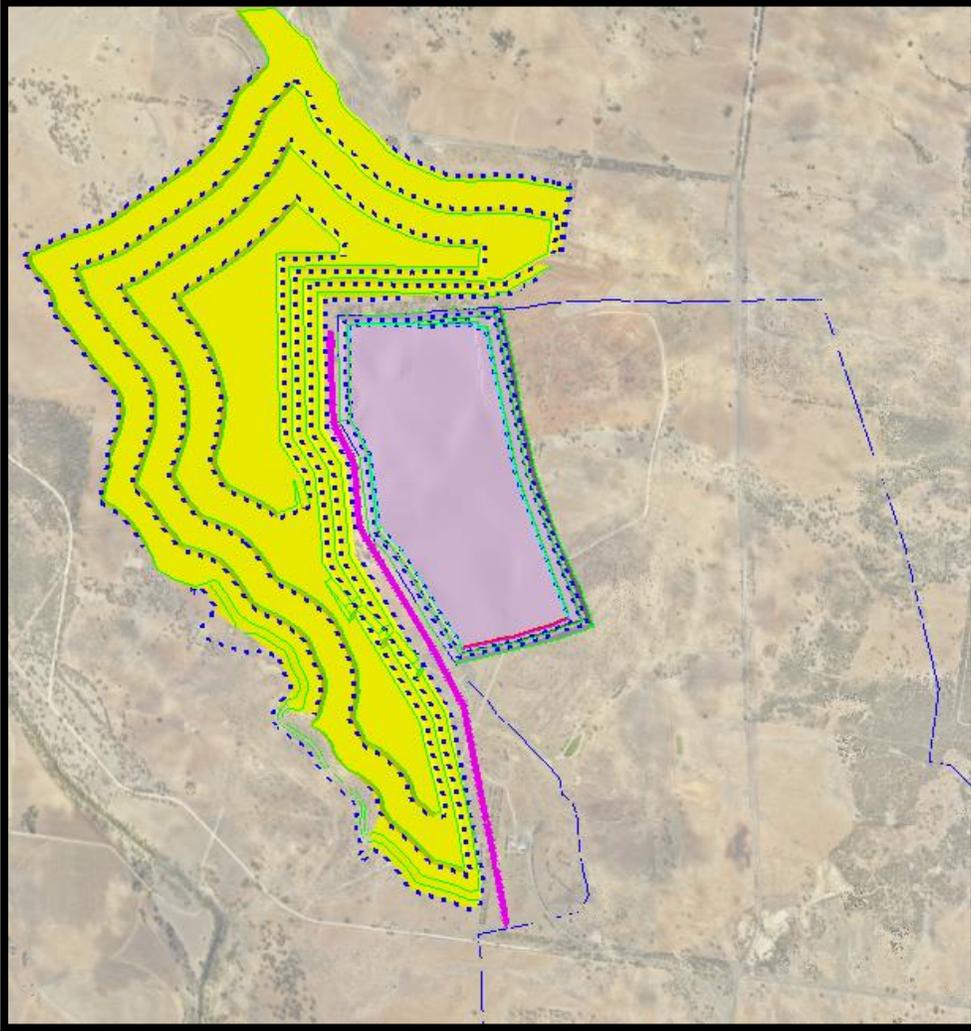
---

# CHPP Preliminary Design



---

# Five year Mine Plan



- Detailed mine schedule for FY20-24 has been developed.
- Dumping schedules developed.
- Considering optimum mine fleet
- Developing plans for managing surface water.
- Also topsoil management plan.