

# ASSESSMENT REPORT

## WEST CLIFF COAL MINE – SURFACE GOAF GAS DRAINAGE PROJECT Longwall 35 Modification (MP 07\_0073 Mod 3)

### 1 BACKGROUND

BHP Billiton Illawarra Coal Holdings Pty Ltd (Illawarra Coal) owns and operates the West Cliff Coal Mine (West Cliff), located approximately 20 kilometres northwest of Wollongong, in the Southern Coalfield. Part of the operation of this mine involves the removal of goaf gas, which is the methane-rich gas that accumulates in the mined section of the longwall. If not removed, this gas can present a safety hazard to mine workers. To remove the gas, vertical wells are drilled from the surface and the gas then drained to the surface where it is either flared or vented from a small extraction plant.

Approval was granted by the Minister for Planning on 8 December 2008 for the West Cliff Coal Mine – Surface Goaf Gas Drainage Project (MP 07\_0073), which then involved the construction and operation of 21 coal seam wells in West Cliff's 'Area 5' (see **Appendix B**). The project approval was modified on 7 December 2009 and 29 April 2011 to allow for additional extraction wells and mobile gas extraction plant above Longwall 34.

### 2 PROPOSED MODIFICATION

On 16 May 2011, Illawarra Coal submitted an application seeking a third modification to the project approval under section 75W of the EP&A Act. The proposed modification would provide gas extraction infrastructure above Longwall 35 (see **Figure 1**) which is described in detail in the Environmental Assessment (EA) for the proposal (see **Appendix C**). Illawarra Coal had planned to seek approval for goaf gas management works associated with the remainder of West Cliff's Area 5 as part of the larger Bulli Seam Operations (BSO) Project (08\_0150). However, due to delays in finalising the assessment of the BSO project, a modification of the West Cliff project approval is required to maintain a safe working environment as the mine continues to develop. Table 1 provides a summary of the approved and modified project.

**Table 1: Summary of the Approved and Modified Project**

Aspect	Project Description – as Approved	Project Description – as Modified (Proposed)
<b>Extraction Wells</b>	Gas extraction infrastructure above Longwalls 32 to 34, with a total of 23 approved boreholes.  Each borehole located roughly 70 to 300 metres (m) from the nearest residential receiver.	As approved, but with construction of either: <ul style="list-style-type: none"> <li>• 12 additional vertical gas extraction wells over Longwall 35 (with contingency for a further 6 if required); or</li> <li>• a combination of a Medium Radius Drilling (MRD) compound in addition to 5 vertical wells (with a contingency of 3 further wells if required).</li> </ul> Each borehole would be located roughly 80 to 1050 m from the nearest residential receiver.
<b>Extraction Plant</b>	Extracted gas piped to one of two centralised extraction plants/flares/vent stacks via surface pipelines and then flared or vented. The extraction plants are located at least 500 m from the nearest residences.	Three centralised extraction plants/flares/vent stacks would be utilised. The extraction plants would be located at least 500 m from the nearest residences.  The additional flaring unit would increase the capacity to flare larger volumes of methane.
<b>Project Location</b>	Area 5 of the West Cliff Coal Mine.  Individual boreholes are located on the edge of Longwalls 32 to 34.	As approved, with the additional boreholes, pipelines and extraction plants over longwall 35 as indicated in Figure 1.

<b>Aspect</b>	<b>Project Description – as Approved</b>	<b>Project Description – as Modified (Proposed)</b>
<b>Standard Construction hours</b>	7 am to 6 pm Monday – Friday  Drilling and other construction activities may be conducted outside of these hours, if agreed with all affected landholders.	As approved.

Table 2 provides a summary of the proposed project timeframes.

**Table 2: Summary of Proposed Project Timeframes**

<b>Component</b>	<b>Timeframe</b>	<b>Hours</b>
<b>Construction</b>		
<i>Vertical Wells</i>	2.5 weeks per well	Standard construction hours
<i>MRD Well</i>	6 weeks	24 hours per day, 7 days per week
<i>Pipelines</i>	1-3 weeks per well	Standard construction hours
<b>Operation</b>		
<i>Goaf Gas Plant</i>	7 months	24 hours per day, 7 days per week

An MRD Well is wider in diameter than a standard vertical well. If proven viable, the MRD compound and extraction plant would be located near the proposed site for vertical well 35-7 (refer to **Figure 1**). The MRD site would operate 24 hours a day and would negate the need to establish vertical wells 35-1 to 35-7 and their associated pipelines and extraction plant.

### **3 STATUTORY CONTEXT**

#### **Section 75W**

The changes proposed under the modification application would not change the purpose of the original project, namely goaf gas drainage, nor would they materially change the intensity of the approved operations.

The Department is satisfied that the proposed changes can be properly characterised as a modification to the existing approval, and can be determined under section 75W of the *Environmental Planning & Assessment Act 1979* (EP&A Act).

#### **Approval Authority**

The Minister was the approval authority for the original project. Consequently, the Minister is the approval authority for the modification application. However, the Director, Mining and Industry Projects may determine the application under the former Minister's delegation of 25 January 2010. The Minister for Planning and Infrastructure has confirmed that this delegation can be exercised providing that the local council has not objected to the proposal.

### **4 CONSULTATION**

Under section 75W of the EP&A Act, the Department is not required to exhibit the modification application or undertake consultation. However, the modification application was referred to relevant public authorities for comment.

Three public authorities (Office of Environment and Heritage (OEH), the Division of Resources and Energy (DRE) within Department of Trade and Investment, Regional Infrastructure and Services, and Campbelltown Council) provided submissions on the proposal (see **Appendix D**). While none of these agencies objected to the proposal, Campbelltown Council did raise some concerns. These concerns are discussed in more detail below.

Illawarra Coal has negotiated access agreements with all landowners whose properties are directly affected by the project. These landowners were also advised by Illawarra Coal of the modification application and their right to make a submission to the Department. No submissions were received by the Department from any of the relevant landholders.

Illawarra Coal has provided a formal response to the agency submissions (see **Appendix E**).



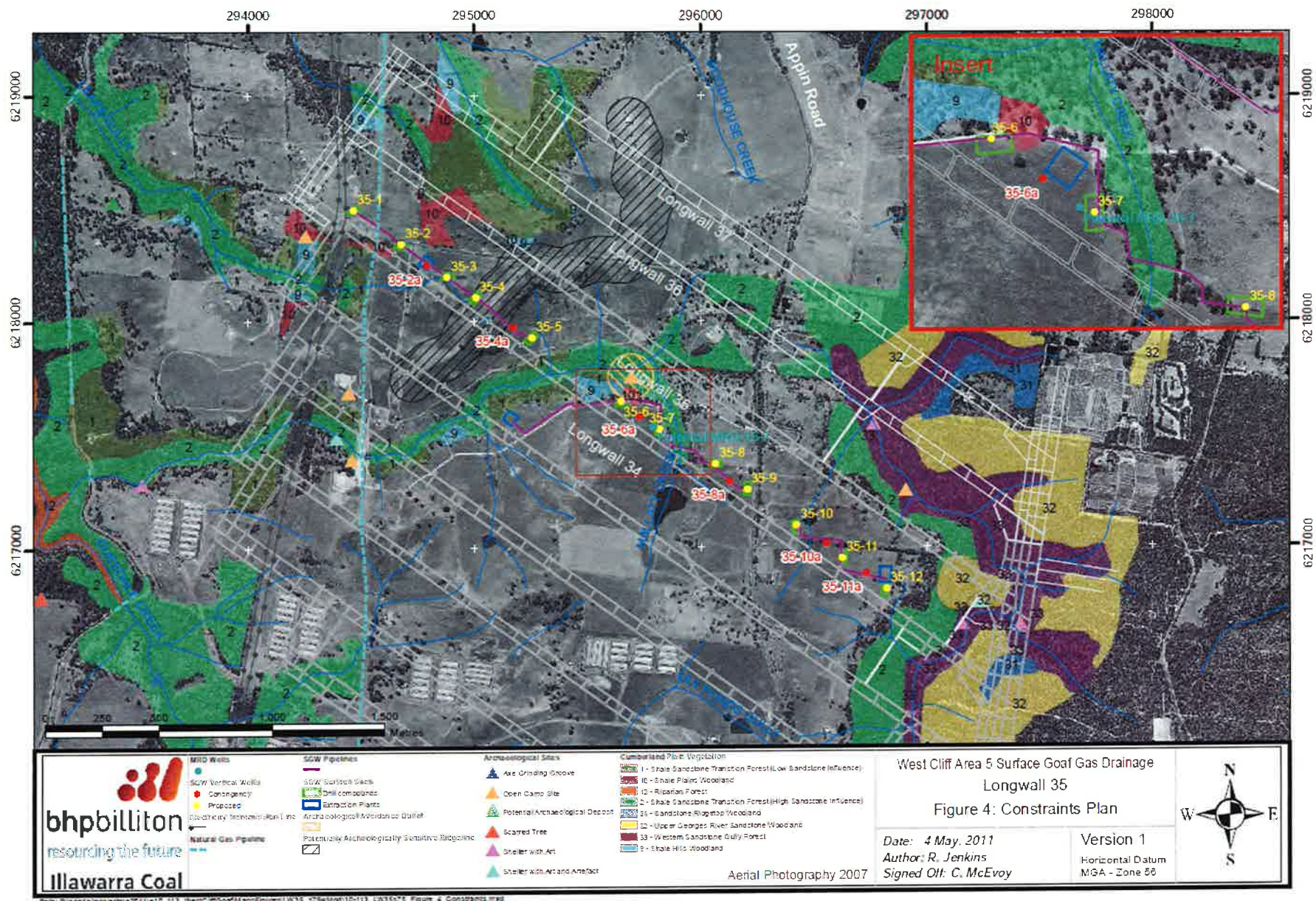


Figure 1: Project layout and constraints

## 5 ASSESSMENT

The Department has assessed the merits of the proposal in detail, in accordance with the relevant requirements of the EP&A Act, and summarised the conclusions of this assessment in **Table 3**.

**Table 3: Assessment of Key Issues**

<b>Issue</b>	<b>Impact and Consideration</b>	<b>Conclusion and Recommendation</b>
<i>Noise</i>	<ul style="list-style-type: none"> <li>The EA contains a Noise Impact Assessment (NIA), undertaken using conservative assumptions, which concluded that the modified project would continue to comply with the existing noise criteria/limits, when operational.</li> <li>Modelling in the NIA determined that, with the inclusion of temporary noise barriers of varying heights and setbacks, noise impacts would be within the relevant noise management criteria at all receivers, during standard construction hours (7 am to 6 pm, Monday to Friday).</li> <li>Due to operational requirements, drilling of the single proposed MRD well must occur 24 hours per day, 7 days a week for a period of 6 weeks. While the NIA determined that with mitigation, noise levels from MRD drilling would be within the relevant noise management criteria, exceedences to the project specific noise assessment criteria would occur. Illawarra Coal is required (under the existing approval) to enter into negotiated noise agreements for any exceedences to these criteria.</li> <li>The NIA included qualitative assessments of noise impacts resulting from pipeline construction and construction traffic and concluded that, with implementation of the proposed mitigation measures, neighbouring receivers would not be adversely impacted.</li> <li>Illawarra Coal has undertaken that it would establish written negotiated noise agreements with any impacted landowner for any works undertaken outside standard construction hours.</li> </ul>	<ul style="list-style-type: none"> <li>No further action required.</li> </ul>
<i>Water</i>	<ul style="list-style-type: none"> <li>Illawarra Coal has committed to implement appropriate sediment, erosion and drainage control measures, as outlined in the revised EMP for the project.</li> <li>Campbelltown Council recommended that Illawarra Coal submit a specialist report on surface water and groundwater impacts for the modification and investigate the need to obtain a licence under the <i>Water Management Act 2000</i>.</li> <li>Illawarra Coal has confirmed that no water will be extracted from surface or groundwater sources. The original EA assessed the potential for the interception and cross-contamination of groundwater as a result of well construction and found that it would be prevented through the proposed lining and grouting of wells.</li> <li>The proposed modification is consistent with the development assessed in the original application and no water-related impacts have been observed. Consequently, the Department is satisfied that the modification application does not require any further water impact assessment and that no water licences are likely to be required.</li> </ul>	<ul style="list-style-type: none"> <li>No further action required.</li> </ul>
<i>Flora and Fauna</i>	<ul style="list-style-type: none"> <li>The EA's Ecological Assessment reported that no significant impacts to any threatened species, population or endangered ecological community (EEC) would occur as a result of the modification. The modification area is highly modified and disturbed by vegetation clearing and longterm grazing activities.</li> <li>Campbelltown Council raised concerns regarding the adequacy of the Ecological Assessment's consideration of indirect impacts of the modified development, specifically with regards to increased stormwater flow. However, OEH raised no concerns with the adequacy of the ecological assessment.</li> <li>Illawarra Coal has confirmed that indirect impacts to biodiversity associated with water management would be unlikely to occur due to distances to any tributaries from gas drainage infrastructure and the relatively short duration of the project.</li> </ul>	<ul style="list-style-type: none"> <li>The Department is satisfied that no impact to any threatened species, population or EEC is likely.</li> <li>No further action required.</li> </ul>
<i>Air Quality and Greenhouse Gas</i>	<ul style="list-style-type: none"> <li>The EA's air assessment found that the modification would comply with existing air quality criteria/limits.</li> <li>Both Campbelltown Council and DRE suggested that Illawarra Coal should investigate alternative ways of utilising the recovered</li> </ul>	<ul style="list-style-type: none"> <li>No further action required.</li> </ul>



<b>Issue</b>	<b>Impact and Consideration</b>	<b>Conclusion and Recommendation</b>
	methane. Illawarra Coal confirmed that the gas reticulation system at West Cliff Mine was too remote from the drainage plants to utilise the goaf gas for power generation.	
<i>Aboriginal Heritage</i>	<ul style="list-style-type: none"> <li>An Aboriginal Objects Due Diligence Assessment (AODDA) was undertaken by Niche Environment and Heritage in accordance with the <i>National Parks and Wildlife Regulation 2009</i> for the EA. The AODDA concluded that no Aboriginal object would be harmed as a result of the modification.</li> <li>To ensure no Aboriginal objects are harmed as a result of the modification, Illawarra Coal has committed to: <ul style="list-style-type: none"> <li>avoid the archaeologically sensitive ridge line on the western end of Longwall 35 (refer to <b>Figure 1</b>);</li> <li>implement a 100 m avoidance buffer around archaeological site BS 11 (52-2-3691); and</li> <li>establish a cease-work protocol should any objects be encountered during works.</li> </ul> </li> <li>Campbelltown Council raised concerns regarding the assessment of impacts on Potential Archaeological Deposits and recommended OEH be consulted. However, OEH raised no concerns with the AODDA and noted that no likely impacts to cultural heritage were reported in the EA.</li> </ul>	<ul style="list-style-type: none"> <li>The Department is satisfied that no impact to any Aboriginal heritage is likely.</li> <li>No further action required.</li> </ul>
<i>Visual</i>	<ul style="list-style-type: none"> <li>Only borehole sites 35-8, 35-9 and 35-10 (refer to <b>Figure 1</b>) will be visible from Appin Road. Temporary noise bunding surrounding these compounds would reduce the visual impact. This is consistent with similar borehole sites approved under the existing project.</li> </ul>	<ul style="list-style-type: none"> <li>No further action required.</li> </ul>
<i>Rehabilitation</i>	<ul style="list-style-type: none"> <li>Rehabilitation of all disturbed areas would occur immediately after decommissioning of the wells, extraction plants and pipelines using pasture grass species for re-seeding.</li> </ul>	<ul style="list-style-type: none"> <li>No further action required.</li> </ul>
<i>Landholder Consent</i>	<ul style="list-style-type: none"> <li>Landowner access agreements have been negotiated between Illawarra Coal and the owners of all affected properties.</li> </ul>	<ul style="list-style-type: none"> <li>No further action required.</li> </ul>

## 6 RECOMMENDED CONDITIONS

The Department has drafted a notice of modification for the proposal (see **Appendix A**). This notice includes an updated project plan and additional commitments by the proponent. Illawarra Coal has reviewed and accepted these conditions.

## 7 CONCLUSION


The Department has assessed the modification application in accordance with the relevant requirements of the EP&A Act. The Department is satisfied that the proposed modification would enable Illawarra Coal to continue the West Cliff Coal Mine – Surface Goaf Gas Drainage Project and improve the safety of the underground working environment for mine employees, with negligible changes to the environmental impacts of the approved project.

Therefore, the Department is satisfied that the proposed modification is in the public interest and should be approved, subject to conditions.

## 8 RECOMMENDATION

It is **RECOMMENDED** that the Director, Mining and Industry Projects, as delegate of the Minister:

- **consider** the findings and recommendations of this report;
- **determine** that the proposed modification falls within the scope of section 75W of the EP&A Act;
- **approve** the application under section 75W, subject to conditions; and
- **sign** the notice of modification in **Appendix A**.

  
Howard Reed  
Manager, Mining Projects  
21.7.11

  
David Kitto  
Director, Mining and Industry Projects