

ASSESSMENT REPORT

Hunter Valley Operations South Section 75W Modification (MP 06_0261 MOD 1)

1 BACKGROUND

Hunter Valley Operations (HVO) is an open cut coal mining complex located approximately 18 kilometres west of Singleton in the Hunter Valley (see Figure 1).

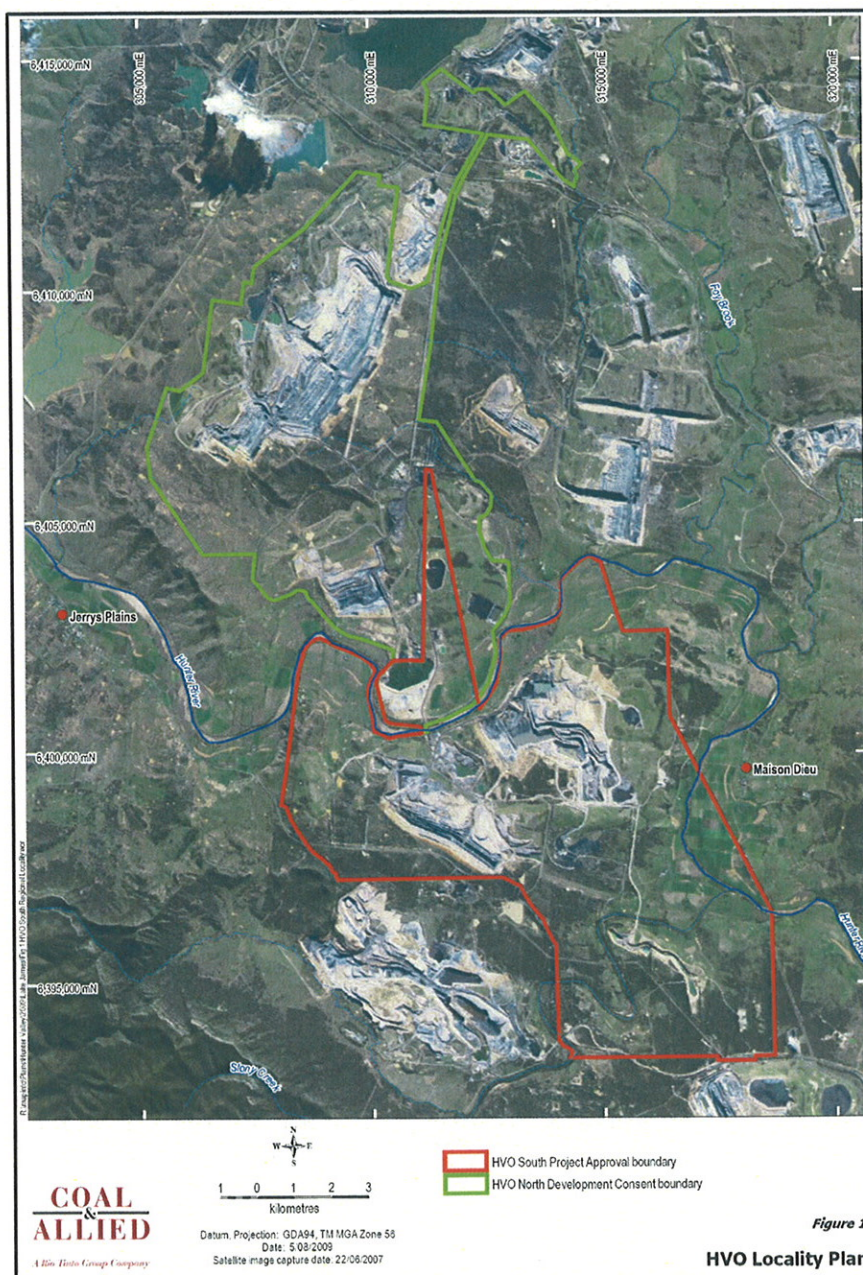


Figure 1: Location of Hunter Valley Operations, South and North

The HVO complex comprises two open cut coal mines, HVO North and HVO South (see Figure 1), which have separate project approvals, but are owned and managed by Coal & Allied Operations Pty Limited (Coal & Allied) as an integrated operation.

HVO South is regulated by a Ministerial project approval (MP 06_0261), which was granted on 24 March 2009. Under this approval, HVO South is permitted to extract up to 16 million tonnes of run-of-mine (ROM) coal a year from its open cut mining operations.

2 PROPOSED MODIFICATION & PROJECT NEED

On 20 October 2009, Coal & Allied submitted an application to the Department, seeking to modify the Minister's approval for HVO South under Section 75W of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The proposed modification comprises the following four components:

- increasing the storage capacity of Lake James from 330 megalitres (ML) to 730 ML;
- increasing the currently approved maximum discharge rate for Lake James from 120 ML/day to 200 ML/day;
- amending the HVO South approval boundary to incorporate the entire footprint of Lake James Dam (Lake James) and associated infrastructure; and
- minor administrative amendments.

Increasing Lake James storage capacity

Lake James is part of the integrated HVO water management system, used to transport water around both the HVO South and HVO North sites as required. However, Lake James' primary function is as a water storage dam to permit dewatering of mining voids (specifically from the Cheshunt Pit), prior to discharging water from HVO South to the Hunter River.

Coal & Allied proposes to increase the storage capacity of Lake James from 330 ML to 730 ML in order to provide additional capacity for dewatering mining voids, so as to permit current mining operations to continue, while also providing a long term water supply for use during periods of prolonged drought.

The proposed works would include:

- increasing the existing footprint of the dam from approximately 10 hectares (ha) to approximately 20 ha (see Figure 3)
- an embankment raise of approximately 2.5 metres (m) in height and an increase in the length of the embankment by approximately 30 m;
- the excavation of a 4 ML dissipater dam (approximately 40 m x 50 m), to the east of Lake James, that would provide for secondary containment, testing capacity and control of discharge; as well as additional buffering capacity in the event of a dam leak or flood event;
- the realignment of the southern clean water diversion further upslope, as the existing diversion would be absorbed into the increased footprint; and
- construction of an 8.5 ML sediment dam (approximately 55 m x 50 m) to control water entering the existing northern clean water diversion.

Increasing discharge rate

Lake James is also used as the discharge point for HVO South operations into the Hunter River. Any discharge events from Lake James into the Hunter River are conducted in accordance with the conditions of Environment Protection Licence (EPL) 640 and the Hunter River Salinity Trading Scheme (HRSTS). EPL 640 currently permits the discharge of up to 120 ML/day from Lake James into the Hunter River.

Coal & Allied is proposing to replace the existing discharge system with a larger discharge system, which has the capacity to discharge up to 200 ML/day, an increase of 80 ML/day. The proposed increase in discharge rate is required to dispose of excess water accumulated since the 1:100 ARI rainfall event in 2007 and to provide ongoing flexibility to maximise discharges into future short-period flood events.

No component of the proposed modification changes the mining rate or the approved tonnage, nor does it increase the footprint of the existing mining area or involve a substantial change to the existing layout.

Amending approval boundary

The project approval boundary as shown in the existing project approval bisects Lake James. In order for the proposed modification to be approved, the current project approval boundary needs to be extended to incorporate the Lake's extended footprint and all associated infrastructure (see Figure 2).

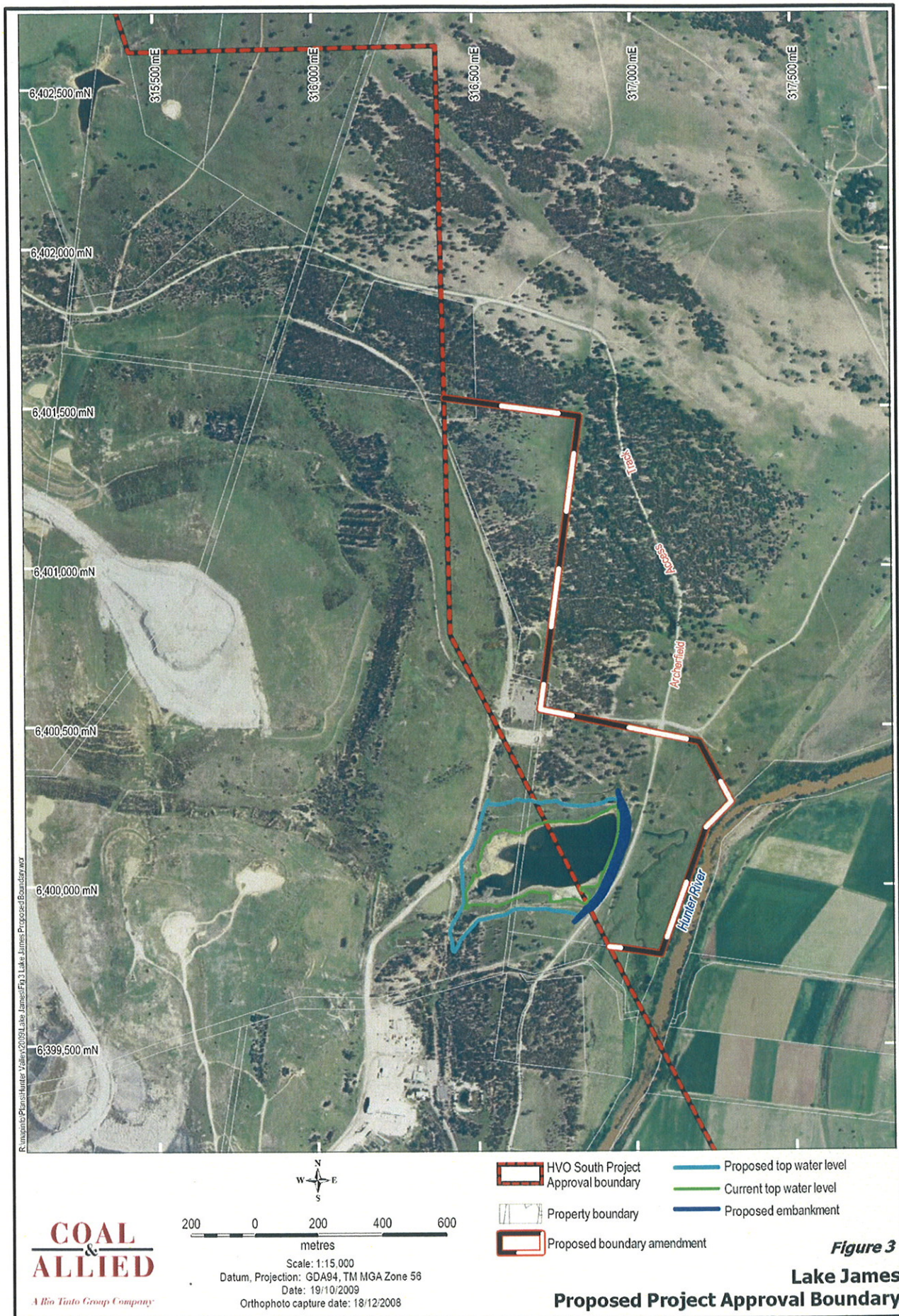


Figure 2: Proposed boundary amendment and current and proposed Lake James dam footprint

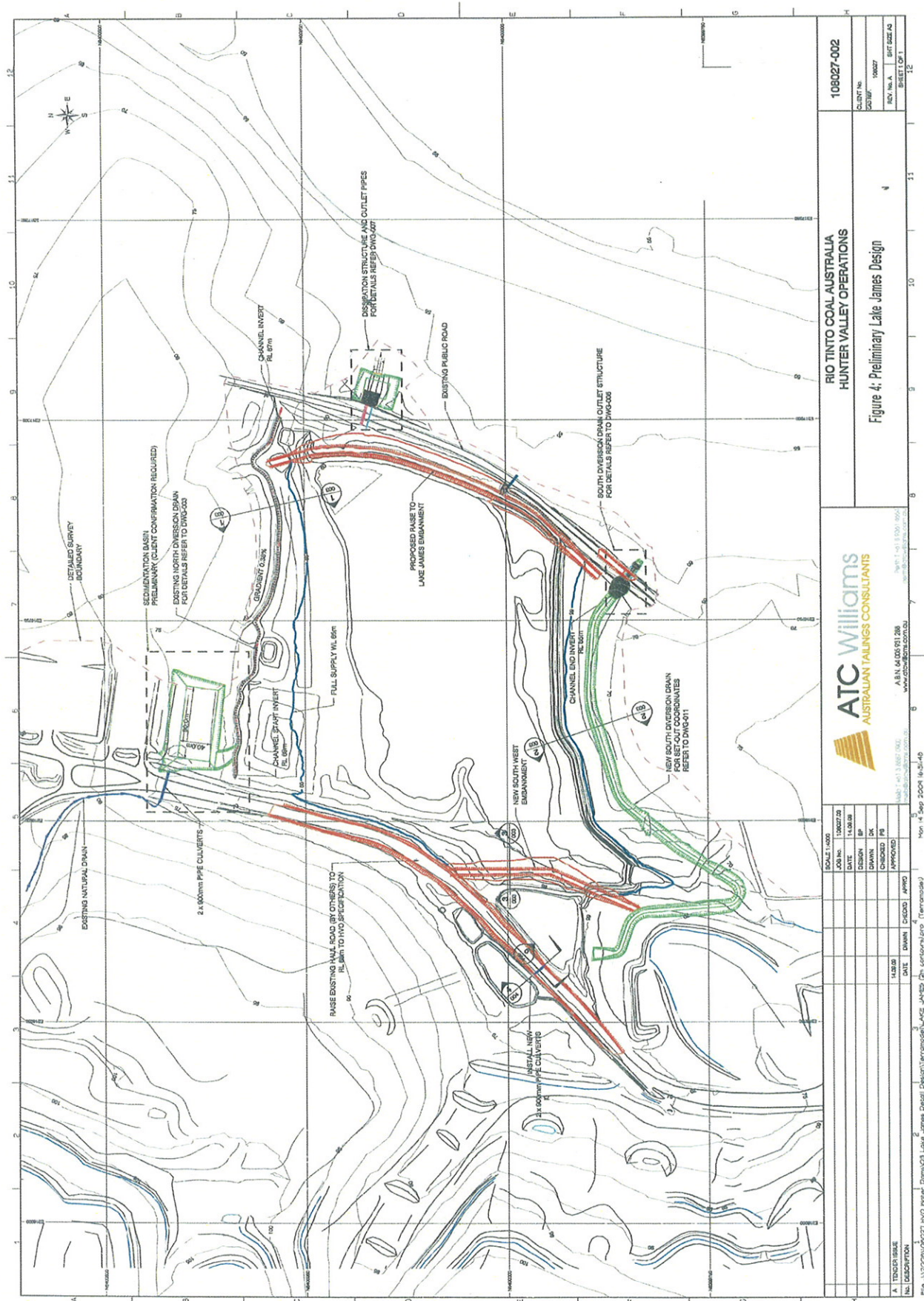


Figure 3: Lake James additional storage capacity design

The land proposed to be included within the project approval boundary is a larger portion of land owned by Coal & Allied (Lot 2 DP 48646), located directly adjacent to existing mining operations. Because no development other than the proposed extension of Lake James is proposed for the remainder of this portion, no environmental impact assessment has been carried out for the remainder of the portion.

Coal & Allied has acknowledged that the mining lease area would need to be modified to reflect any amended project approval boundary, through submitting a mining lease application to DII.

Administrative amendments

Coal and Allied is also proposing minor administrative amendments to the project approval, see Table 1 below.

Table 1: - Administrative amendments.

Condition	Modification	Reason
<i>Schedule 3, Condition 2</i>	<ul style="list-style-type: none"> Delete property 17 – Algie. Insert property 50 – Nelson. 	<ul style="list-style-type: none"> This property should be deleted as field inspections verified that this property is not (and was not at the time of preparation of the EA) a habitable residence. This property should have been assessed and included in the project approval as it is predicted to have similar noise impacts to property 34 – Ernst.
<i>Schedule 3, Condition 3 and 20</i>	<ul style="list-style-type: none"> Change "conditions 10-12 of schedule 4" to "conditions 7-9 of schedule 4". 	<ul style="list-style-type: none"> Conditions 10-12 of schedule 4 do not exist.
<i>Schedule 3, Condition 21</i>	<ul style="list-style-type: none"> Delete property 17 – Algie Amend Table 14 to include "and residences located within 250 metres of this residence" after "24 – Clifton and Edwards". 	<ul style="list-style-type: none"> As above. The original approval condition did not specifically address residences near to property 24 that may receive similar air quality impacts.
<i>Schedule 5, Condition 5</i>	<ul style="list-style-type: none"> Change date to "31 March 2010". 	<ul style="list-style-type: none"> Approval was granted on 2 November 2009 to delay the requirement for an independent environmental audit until 31 March 2010.
<i>Appendix 3, Statement of Commitments</i>	<ul style="list-style-type: none"> Insert the following after 22.1 on page 39 of the Statement of Commitments, "should there be an inconsistency between the noise impact assessment criteria in this table and the criteria in condition 2, schedule 3 of the Project Approval, the noise impact assessment criteria of the Project Approval shall prevail". 	<ul style="list-style-type: none"> This change is being requested to provide a hierarchy of applicable criteria.
<i>Appendix 4</i>	<ul style="list-style-type: none"> Update the Landowner/receiver locations for Maison Dieu (East). 	<ul style="list-style-type: none"> The changes are required to delete property 17 – Algie (as above); rectify the MGA56 Coordinates for properties 24 – Clifton and Edwards and 61 – Shearer; and include properties 50 – Nelson and 56 – Edwards as they should have been assessed and included in the project approval as they are predicted to have similar impacts to other receivers in that location.

As described in the table above the Department is confident the amendments are minor in nature, of little or no environmental impact and consistent with the existing approval and can therefore be modified in the project approval. However, the Department does not support the proposed amendment to the Statement of Commitments, as condition 3 of schedule 2 in the project approval clearly provides for the primacy of all conditions over the Statement of Commitments.

3 STATUTORY CONTEXT

Approval Authority

The Minister was the approval authority for the original project application, and is consequently the approval authority for this modification application. However, the Executive Director Major DA Assessments may determine this application under the Minister's delegation of 4 March 2009.

Modification

The proposed modification represents a minor change to the approved mining operations which would not change the intensity of these operations. Consequently the Department is satisfied that the proposed modification would not involve a "radical transformation" of the project, and that it can be determined under Section 75W of the EP&A Act.

4 CONSULTATION

Under Section 75W of the EP&A Act the Department is not required to notify or exhibit the application. However, the Department referred the application to the **Department of Environment, Climate Change and Water (DECCW)**, DECCW's **NSW Office of Water (NOW)**, the **Department of Industry and Investment (DII)** and **Dams Safety Committee (DSC)** for comment. A summary of the issues raised is provided below.

DECCW did not object to the proposed modification but noted that, if approved, DECCW would amend EPL 640 to include a Pollution Reduction Program for Saline Dispersion Investigation.

NOW did not object to the proposed modification and noted that the dam expansion is ancillary to the current water licence for Lake James, and therefore no separate licence is required.

DII had no objections to the proposed modification but noted that, if approved, Coal & Allied would need to submit a mining lease application to DII to amend the current HVO South mining lease area to reflect the modified project approval boundary.

DSC stated that, if the modification was approved, it would prescribe Lake James with a "Significant" Consequence Category, as it stores saline water and is in an active mining area. DSC also stated that the modified dam should be designed to withstand mining impacts and requested that Coal & Allied submit a Design Report and design drawings of the modified dam to DSC for its approval prior to any construction occurring.

Coal & Allied has provided responses to the issues raised in submissions. The Department has considered the issues raised, and Coal & Allied's responses to these issues, in its assessment of the proposed modification.

5 ASSESSMENT

The environmental assessment of the proposed modification is set out in Table 2 below.

Table 2: - Assessment of key issues.

Issue	Potential Impacts & Consideration	Conclusion
<i>Structural integrity of Lake James Dam</i>	<ul style="list-style-type: none"> The proposed modification needs to be designed and built in accordance with relevant standards and approvals, including being able to withstand currently approved mining impacts. The modifications to Lake James have been designed by Australian Tailings Consultants to meet the relevant standards and ensure the modified dam design complies with DSC's requirements. Coal & Allied has committed to submitting a preliminary design report and design drawings to DSC to ensure that Lake James is designed and built to withstand currently approved mining activities. Coal & Allied has also committed to updating the HVO South Mining Operations Plan to include the additional capacity proposed for Lake James and submit it to DII for approval. 	<ul style="list-style-type: none"> The Department has recommended conditions requiring Coal & Allied to seek approval from DSC for the design of Lake James.
<i>Water</i>	<ul style="list-style-type: none"> The proposed modification could impact on surface and groundwater resources. However, increasing the footprint/capacity of Lake James would not result in the interception of any natural water courses or significant catchment drainage lines. Therefore, the Department considers the impact to downstream surface waters from increasing the capacity of Lake James to be minimal. Coal & Allied engaged JP Environmental to undertake a Stream Impact Assessment (SIA) for the modification to address: <ul style="list-style-type: none"> the impact of increased discharge on the drainage channel from Lake James to the Hunter River; and the additional salinity load into the Hunter River. The SIA determined that the increased discharge rate would not have a significant impact on the Hunter River for the following reasons: <ul style="list-style-type: none"> native vegetation in the vicinity of the channel can be classified as moderately salt tolerant; the length of exposure is short and limited to the extent of the discharge; and the increased discharge capacity would not increase the amount of salt discharged into the Hunter River or impact on 	<ul style="list-style-type: none"> No additional control measures required.

Issue	Potential Impacts & Consideration	Conclusion
	<p>the HRSTS discharge cap, which maintains the maximum salt level in the Hunter River below 900 $\mu\text{S/cm}$.</p> <ul style="list-style-type: none"> The SIA predicted that full mixing of discharged water into the Hunter River would occur 850 m downstream of the discharge point. Coal & Allied owns all the land 7.5 km downstream of the discharge point on the western side of the Hunter River, where the mixing is expected to occur. Landowners on the eastern side of the Hunter River are not predicted to be impacted. Coal & Allied has committed to undertake mixing investigations once the discharge point is upgraded to determine the mixing distance where the river water drops below 900 $\mu\text{S/cm}$. This commitment would be formalised in DECCW's EPL. Regarding potential impacts to the drainage channel, Coal & Allied has committed to erosion protection in the form of rock-filled gabion baskets and mattresses on all spillway and diversion outlets to prevent erosion into the Hunter River. In addition, Coal & Allied has committed to continued surface water monitoring, in accordance with its existing <i>Environmental Procedure 1.10.5 Water Monitoring Manual</i>, EPL 640 and the project approval. The construction and operation of the proposed modification would not impact on groundwater. There is no construction associated with increasing the depth of the dam structure, the depth of the excavation for construction of the dissipater dam would be above any aquifers and the base of Lake James and the dissipater dam would be suitably prepared to minimise loss of water. Therefore, the Department is confident that the proposed modification would not have a significant impact on surface water or groundwater resources. 	
Noise	<ul style="list-style-type: none"> The proposed modification has the potential to cause noise impacts. However, noise associated with the modification is predicted to be minimal for the following reasons: <ul style="list-style-type: none"> construction activities would be carried out during daytime hours (7am – 6pm) only, over approximately 10 weeks, which is considered temporary in nature; the location of Lake James is approximately 1 km from the nearest private residence; and the scale of the modification relative to the noise impacts from existing open cut mining operations is minimal. Coal & Allied acknowledged there is the potential for noise impacts at the nearest private residences during adverse weather conditions. As a result, Coal & Allied has committed to operating equipment in a manner that would reasonably and practically minimise noise emissions and, if any operations are found to generate noise levels, above those set out in the project approval for off-site receivers, work patterns would be altered or temporarily cease. In addition, Coal & Allied would undertake the modification in accordance with its existing <i>Environmental Procedure 9.1 Noise</i>, EPL 640 and the project approval. Coal & Allied has not proposed any changes to the operational noise limits set out in the project approval and therefore is required to carry out the modification in accordance with these limits. Therefore, the Department is confident that noise impacts associated with the modification would be minimal relative to noise already generated from existing operations, and that noise emissions can be managed in accordance with the existing Noise Monitoring Program for the mine. 	<ul style="list-style-type: none"> No additional control measures required.
Air Quality	<ul style="list-style-type: none"> The proposed modification has the potential to cause air quality impacts during construction activities. However, air quality impacts during construction are predicted to be minimal for the following reasons: <ul style="list-style-type: none"> construction activities would be carried out during daytime hours (7am – 6pm) only, over approximately 10 weeks, which is considered temporary in nature; the location of Lake James is approximately 1 km from the nearest private residence; and the scale of the modification relative to the air quality impacts from existing open cut mining operations is minimal. Coal & Allied has committed to mitigation measures to minimise air quality impacts, including: <ul style="list-style-type: none"> minimising the disturbance footprint; watering exposed areas to prevent dust emissions; ceasing or modifying dust-generating activities during adverse weather conditions; and re-vegetating/stabilising disturbed areas as soon as 	<ul style="list-style-type: none"> No additional control measures required.

Issue	Potential Impacts & Consideration	Conclusion
	<ul style="list-style-type: none"> practicable to prevent/minimise wind-blown dust. In addition, Coal & Allied would undertake construction activities in accordance with its existing <i>Environmental Procedure 8.2 Dust Management</i>, the project approval and EPL 640. Therefore, the Department is confident that the overall air quality impacts from construction activities would be minimal, relative to dust emissions already generated from existing operations, and that dust emissions can be managed in accordance with the existing Air Quality Monitoring Program for the mine. 	
Ecology	<ul style="list-style-type: none"> The proposed modification has the potential to impact terrestrial and aquatic flora and fauna. However, Coal & Allied's assessment found there are no threatened species or Endangered Ecological Communities within the disturbance footprint, which is considered to be highly disturbed and dominated by exotic species. Increasing the footprint of Lake James would result in the inundation of approximately 9 trees and 60 saplings that would either be cleared or left as stags. Constructing the new southern clean water diversion could potentially result in the clearing of 12 trees and 20 saplings. The SIA indicated that there would be no significant impact to the Hunter River as a result of the increased discharge rate and the short term saline pulse discharges proposed. Vegetation that would be impacted by the modification is classified as moderately salt tolerant and therefore would be unlikely to be significantly affected. Given the heavily disturbed nature of the site and the negligible impacts predicted on the ecological values of the Hunter River, the Department is confident that the impacts to ecology would be minimal. 	<ul style="list-style-type: none"> No additional control measures required.
Heritage	<ul style="list-style-type: none"> The proposed modification has the potential to impact on Aboriginal heritage. However, an assessment of the area associated with the proposed modification did not identify any items of Aboriginal heritage significance. The Department is confident that there would be no impacts to Aboriginal heritage items and that any impact could be managed through the existing Aboriginal Heritage Management Plan. 	<ul style="list-style-type: none"> No additional control measures required.
Visual Impacts	<ul style="list-style-type: none"> The proposed modification has the potential to cause visual impacts to surrounding residential receivers. However, visual impacts are expected to be substantially the same as for the existing development. The Department is satisfied that any visual impacts as a result of the proposal would be minimal. 	<ul style="list-style-type: none"> No additional control measures required.
Rehabilitation	<ul style="list-style-type: none"> As part of future mine closure, Coal & Allied would decommission Lake James and associated infrastructure, and rehabilitate the site. The Department is satisfied that Lake James and associated infrastructure can be successfully rehabilitated as part of the HVO South Landscape Management Plan. 	<ul style="list-style-type: none"> No additional control measures required.

6 RECOMMENDED CONDITIONS

The Department has drafted recommended conditions for the modification. Coal & Allied has reviewed and accepted these conditions.

7 CONCLUSION

The Department has assessed the modification application, EA, submissions on the proposal, and Coal & Allied's response to submissions in accordance with the relevant requirements of the EP&A Act, including the objects of the EP&A Act and the principles of ecologically sustainable development.

The assessment found that the impacts associated with the proposed modification would be minor. However, the Department has recommended a condition to formalise a commitment made by Coal & Allied to seek approval from DSC for the design of Lake James.

The proposed modification would provide HVO South with additional water storage capacity, allow the dewatering of mining voids to permit current operations to continue and provide a long term water supply during periods of prolonged drought. The proposed modification would also assist in the management of water on the HVO South site generally. The Department is satisfied that the

proposed modification represents a logical step in managing water at HVO South, and is satisfied that its benefits sufficiently outweigh its costs.

Consequently, 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 Executive Director, as delegate of the Minister:

- consider the findings and recommendations of this report;
- determine that the proposed modification would not "radically transform" the approved project;
- approve the proposed modification under Section 75W of the EP&A Act, subject to the conditions set out in the attached notice of modification; and
- sign the attached notice of modification.

DKitto 17/12/09

David Kitto
Director
Mining and Industry

[Signature]

Chris Wilson
Executive Director
Major DA Assessments

Howard Reed
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