



## OD Hydrology

22 November 2016

Coolmore Australia



Darley Australia (Head Office)



**Attn: Paddy Power (Coolmore), Ross Cole (Darley)**

**Re: Review of NSW Department of Planning and Environmental (DPE),  
September 2016 Drayton South Final Assessment Report.**

Dear Sirs,

The following report is provided based on review of:

- NSW Department of Planning and Environmental (DPE), September 2016: “State Significant Development Assessment Drayton South Coal Project (SSD 6875) - Final Assessment Report”, including “Appendix E - Final Recommended Conditions of Consent”. (‘the Final Assessment Report’)

Consideration was also given to:

- NSW Planning Assessment Commission (PAC), November 2015 “Drayton South Open Cut Coal Project Review Report”. (‘the Commission Report’)

This report was undertaken to provide advice on the Proponent’s reports relevant to surface water and groundwater.

In summary, the key outcomes of our review are:

- 1 The Commission have recognised our concerns raised at the September 2015 PAC hearing regarding the Applicant’s assessment on “long-term final void and salt balance” (Page 62 of the Commission Report). The Commission unambiguously states that these issues “require further consideration” and that the Commission “are not convinced that these issues can be addressed via conditions”.
- 2 In response to the Commission Report, the DPE makes no mention of, and shows no recognition, in the Final Assessment Report of the concerns raised regarding the final void water and salt balance, referenced in the Commission Report as requiring further consideration.
- 3 Put simply, the Final Assessment Report gives no consideration to these concerns and the matters we have raised, which have been recognised by the Commission, have not been addressed.



## Summary of review

### Commission Report

In the Commission Report, the Commission makes seven (7) recommendations. The first recommendation is “The application for the Drayton South open cut coal mine should not proceed”. This is the only recommendation which relates directly and specifically to the Drayton South Project. All subsequent recommendations refer only to “the existing Drayton Mine” operation and rehabilitation (Recommendations 2 and 3) and the NSW planning framework in general (Recommendations 4 to 7).

The above is an important point of note in that in order to conclude and demonstrate that the Project should be allowed to go ahead, the reasons for Recommendation 1 as described in the main body of the Commission Report, the PAC would need to be satisfied that the reasons for this recommendation can be or have been overcome.

In our presentation to the PAC (September, 2015), we presented the following outcomes of our review and independent assessment of the proposed Drayton South final void water/salt balance:

- Our review of the EIS assessment shows that assessment of the final void has been undertaken effectively in isolation from the long-term spoil and groundwater assessment.
- As a result, the assessments that need to be linked and integrated are instead inconsistent and simply do not make sense together.
- To be clear - ***it is scientifically and physically impossible for both sets of reported outcomes to occur together in the real world.***

Our conclusions on the basis of the above were:

- “In conclusion, and put simply, nobody – including us, the Proponent, the Department, the PAC – still know what the real impacts would be. The range of actual possible conditions haven’t been assessed. And we can’t trust critical parts of the analysis. Given that water use and availability are such critical parts of the ongoing viability of the area and Hunter Valley in general, the remaining uncertainty unfortunately does not allow for a well-founded decision.”

In relation to the above, the Commission Report (which recommended that the Project not be approved) made the following statement in the first paragraph of Page 62:

- “Concern was also raised about the potential salt export via Saddlers Creek after the closure of the mine and *the assumptions adopted within the Applicant’s assessment on long term final void water and salt balance. The Commission is not convinced that these issues can be addressed via conditions. Further consideration of long term final void water and salt balance would be needed, to provide greater certainty of likely long term impacts of the final void, if the project was likely to proceed.*” (emphasis added).

This is an unambiguous statement by the Commission regarding the uncertainty surrounding the potential impacts of the proposed Drayton South final void, and the need for further scrutiny to be placed on the assessment of long-term impacts associated with it. For the Drayton South Project to be justifiably recommended for approval, these clearly stated concerns and recommendations for further consideration would need to be properly addressed.

### **Final Assessment Report**

Our review of the Final Assessment Report indicates that there has been no further consideration of the long-term final void water and salt balance issues raised in response to our concerns presented to the September 2016 PAC and recognised within the Commission Report.

The Final Assessment Report indicates a misunderstanding by DPE regarding the potential issues and long-term impacts associated with final voids, and misinterpretation of the findings and recommendations within the Commission Report.

The findings of the most recent Commission (September 2015) as well as previous Commissions (December 2013) have correctly referred to long-term impacts associated with final voids as comprising two main components:

- Water quality/quantity: Long-term final void water and salt balance;
- Landform stability: Long-term soil erosion and backfilled overburden stability.

All discussion/commentary within the Final Assessment Report relating to final voids refers to landform stability only, and DPE comments/conclusions supporting the Project do not include any mention of long-term final void water and salt balance outcomes for the proposed Drayton South Project. The major conclusions in regards final voids stated by DPE in support of the Project are provided on Page 29 of the Final Assessment Report.

The following lists DPE statements in, *italic* font, with our responses/comments in normal font directly below:

- *"The Department and DRE are of the view that the design of the final voids for the project, including final voids to be retained at Drayton Mine, have been comprehensively reviewed."*

While they may have been reviewed, they have been shown in our submissions to be **fundamentally flawed** and recognised by the Commission as not able to be addressed via conditions, and requiring further consideration. No indication of further consideration of the long-term final void water/salt balance is given in the Final Assessment Report.

- *"The planned Drayton South mine rehabilitation and final void includes contemporary leading practice standards for macro-relief, micro-relief, naturalistic visual features, reinstated surface water catchments and drainage contours"*

These are all landform characteristics only. They in no way affect or address the issues that we have raised regarding long-term final void water and salt balance.

- *“The scale of the proposed Drayton South final void has been minimised an outcome which the Department and DRE both support.”*

Again, this deals with landform only. They in no way affect or address the issues that we have raised regarding long-term final void water and salt balance.

- *“Existing voids associated with the existing Drayton mine have also undergone design changes to final high walls which have the potential to create greater landform stability into the longer-term future.”*

Again, this deals with landform only. They in no way affect or address the issues that we have raised regarding long-term final void water and salt balance.

- *“Taking into consideration the significant number of engineering reviews and revisions to final landforms undertaken as part of the original and current assessment processes, the Department is of the view that the currently proposed project has incorporated all likely reasonable and feasible measures to reduce the size, scale and number of final voids to the greatest extent practicable.”*

Again, this deals with landform only. They in no way affect or address the issues that we have raised regarding long-term final void water and salt balance.

- *“The proposed final landform outcomes for both Drayton South and Drayton now present more beneficial and foreseeable long-term final landform outcomes for the Muswellbrook LGA than a number of other mining proposals approved over the past 10 years.”*

Again, this deals with landform only. They in no way affect or address the issues that we have raised regarding long-term final void water and salt balance.

In my opinion, the underlying issues regarding final void water quality and salt transport specific to the proposed Drayton South Project is a significant, long-term legacy issue for the State of NSW. The lack of any consideration/discussion regarding long-term water quality and quantity outcomes associated with the Drayton South Project indicates either or both:

- a fundamental lack of understanding by DPE of the distinction between long-term final void water quality/quality issues and impacts, and those associated with landform stability; and/or,
- a misinterpretation of the specific concerns related to the proposed Drayton South Project final void approach, which have been unambiguously recognised by the Commission.

The Final Assessment Report provides no evidence or confidence that the potential real-world, long-term impacts of the proposed Drayton South Project have been recognised or understood by the Applicant or DPE, in any meaningful, scientifically-robust way, or would be able to be mitigated if the Project was to proceed.

## Previously submitted advice

Over the series of stages associated with both the current and previous Drayton South mining applications, OD Hydrology undertook reviews of information relevant to the proposed project at that time to provide advice regarding the Proponent's reports relevant to surface water and groundwater.

In summary, we find that previous matters we have raised, including deficiencies, omissions and errors, plus those raised by previous PAC's have not been addressed. Our analysis has indicated the following key areas of concern regarding surface water/groundwater.

- All previously OD Hydrology reported conclusions and advice regarding limitations in final void impact assessment remain valid for current information. No additional information or evidence has been provided which warrant any change to our previous findings. These findings relevant to current EIS and supporting/related information comprise:
  - OD Hydrology letter report "Review of Drayton South Coal Project Environmental Impact Statement released May 2015", 1 June 2015
  - OD Hydrology letter report "Review of documentation relating to Drayton South Coal Project Environmental Impact Statement released May 2015", 12 August 2015.
  - OD Hydrology letter report "Review of Secretary's Environmental Assessment Report – State Significant Development Assessment Drayton South Coal Project (SSD 6875)", 28 August 2015.
  - OD Hydrology letter report "Review of May 2015 Drayton South Coal Project Environmental Impact Statement and related documents", 28 September 2015.

Effectively there are two main areas of deficient assessment and understanding:

- Life-of-mine assessment: There is a lack of a clear, confirmed mine plan allowing direct and robust assessment of potential life-of-mine water management system behaviour and impacts, and erroneous presentation/interpretation of results of assessment that was undertaken.
- Post-mine assessment: There is limited and erroneous long-term final void assessment, with overly basic and flawed assumptions regarding surface water/groundwater interaction and linkages. Direct inconsistencies exist between groundwater and surface water modelling and reported outcomes, with particular implications for both long-term void water quality and impact assessment against Aquifer Interference Policy (AIP).

The issues previously raised on water have been identified to previous PACs as well as the DPE and Proponent, and remain valid and current for the project as currently proposed. They simply have not been addressed.

## Conclusions

We find that previous matters we have raised, plus those raised within the Commission Report have not been recognised or addressed within the Final Assessment Report.

In summary, the key outcomes of our review are:

- 1 The Commission has recognised our concerns raised at the September 2015 PAC regarding the Applicants assessment on “long-term final void and salt balance” (Page 62 of the Commission Report). The Commission unambiguously states that these issues “require further consideration” and that the Commission “are not convinced that these issues can be addressed via conditions”.
- 2 In response to the Commission’s Report, the DPE makes no mention of, and shows no recognition in the Final Assessment Report, of the concerns raised regarding the final void water and salt balance, referenced in the Commission Report as requiring further consideration.
- 3 The Final Assessment Report gives no consideration to these concerns and the matters we have raised, which have been recognised by the Commission have not been addressed.

In my opinion there is insufficient relevant information or analysis in the Final Assessment Report to support the DPE recommendation that the PAC “approves the development application”. The Final Assessment Report provides no indication that all concerns raised by the PAC in the Commission Report have been recognised or considered.

I trust the information is useful and if you wish to discuss any or clarify anything further, please do not hesitate to call.

Yours sincerely,



**Owen Droop**

*Director/Principal Water Resources Engineer*