

**IN THE LAND COURT OF QUEENSLAND**

REGISTRY: BRISBANE  
NUMBERS: MRA428-14 & EPA429-14 (MLA 70441)  
MRA430-14 & EPA431-14 (MLA 70505)  
MRA432-14 & EPA433-14 (MLA 70506)

Applicant: **ADANI MINING PTY LTD (ACN 145 455 205)**

AND

First Respondent: **LAND SERVICES OF COAST AND COUNTRY INC.**

AND

Second Respondent: **CONSERVATION ACTION TRUST**

AND

Statutory Party: **CHIEF EXECUTIVE, DEPARTMENT OF  
ENVIRONMENT AND HERITAGE PROTECTION**

**SUMMARY OF CLOSING SUBMISSIONS ON  
BEHALF OF THE FIRST RESPONDENT**

1. The Court's function in assessing the proposed Carmichael Coal Mine under the *Environmental Protection Act 1994* (Qld) (**EPA**) and the *Mineral Resources Act 1989* (**MRA**) to consider the impacts of the proposed mine, positive and negative, through a public hearing and to make a recommendation about whether the mine should be allowed to proceed.<sup>1</sup> The Court has said in the past that it is not a "rubber stamp" on the application.<sup>2</sup> It has an important statutory function as an independent umpire weighing the evidence for and against the project.
2. In weighing the balance for **this mine**, in the light of the, at times astounding, evidence presented at the hearing, there are eight matters of particular significance.

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<sup>1</sup> The First Respondent's closing submissions analyse the legal frameworks for the objection hearing in detail at [4] – [149].

<sup>2</sup> *Hancock Coal Pty Ltd v Kelly & Ors* [2013] QLC 9 at [4]; *Hancock Coal Pty Ltd v Kelly & Ors (No 4)* [2014] QLC 12 at [415] (**the Alpha case**).

SUMMARY OF CLOSING  
SUBMISSIONS BY  
FIRST RESPONDENT  
Filed on behalf of the First Respondent

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3. **First**, this would be the largest coal mine in Australia and among the largest coal mines in the world. Its sheer scale means that the environmental harm it will cause will be correspondingly great.
4. **Second**, not only is the mine enormous in scale, it is proposed in a particularly sensitive area with nearby groundwater springs of exceptional ecological value, the Doongmabulla Springs Complex, and the largest populations of two threatened species actually on the mine site. As a consequence of its location, nature and scale, the development and running of the mine will cause – or creates a major risk of causing – very significant environmental harm. The harm includes:
  - (a) The likelihood that the nationally significant wetlands of the Doongmabulla Springs Complex west of the mine will dry up with the loss of exceptional ecological values;<sup>3</sup>
  - (b) Removing the core habitat of the most significant global population of the endangered Black-throated Finch (**BTF**) with little evidence and significant uncertainty that this loss can be offset;<sup>4</sup>
  - (c) A risk of serious harm to an internationally significant population of the vulnerable Waxy Cabbage Palm (**WCP**);<sup>5</sup> and
  - (d) Contributing damage to the already vulnerable and degraded Great Barrier Reef through a material contribution to climate change and ocean acidification when the coal is burnt.<sup>6</sup>
5. **Third**, the information presented in the EIS and SEIS on impacts to the Doongmabulla Springs, BTF and WCP has been shown in the evidence presented at trial to be deficient and wrong in crucial respects. This means that the support for the mine by the Coordinator-General, the statutory party (**DEHP**), and the Commonwealth Environment Minister, was given on a fundamentally different and mistaken basis. The crucial errors in the EIS and SEIS include:
  - (a) In relation to groundwater:
    - (i) even on the Applicant’s case, putting to one side A/Prof Webb’s opinion that it is likely that the Doongmabulla Springs are fed – at least in part – from the Colinlea Sandstone:
      - (A) If the Court takes at face value the drawdown impacts predicted in the modelling done by GHD in the EIS and SEIS on behalf of the Applicant, Dr Merrick’s evidence demonstrates that even those

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<sup>3</sup> See the First Respondent’s closing submissions at [150] – [562].

<sup>4</sup> See the First Respondent’s closing submissions at [588] – [775].

<sup>5</sup> See the First Respondent’s closing submissions at [563 – [587].

<sup>6</sup> The First Respondent’s closing submissions at [111]-[149] provide a detailed analysis of why this is relevant under the EPA and MRA, contrary to the Court’s decisions in *Xstrata Coal Queensland Pty Ltd & Ors v Friends of the Earth – Brisbane Co-Op and DERM* [2012] QLC 013; (2012) 33 QLCR 79 (MacDonald P) concerning the proposed Wandoan Coal Mine (**the Xstrata case**); and the *Alpha Case* [2014] QLC 12 (Smith M), concerning the proposed Alpha Coal Mine. See generally, Stapleton J, “Unnecessary causes” (2013) 129 *The Law Quarterly Review* 39. The scientific and economic evidence regarding this contribution is considered, respectively, at [776] – [791] and [983] – [1009] of the First Respondent’s closing submissions.

drawdown impacts will be sufficient to cause an unknown but significant number of the Doongmabulla Springs to dry up.<sup>7</sup>

- (B) If the Court accepts that the EIS and SEIS model predictions of drawdown are inappropriately constrained by the unjustifiably low conductivity values (particularly in the Rewan formation and the units underlying it) the inevitable consequence is that drawdown has been underestimated. If so, the likelihood of the whole complex drying up is dramatically increased.<sup>8</sup>
- (ii) If the Court accepts Prof Werner's evidence that the numerical modelling cannot be relied on as a basis for assessing the likely impacts of the mine then the Court has no basis at all to assess the risk of the mine to the Doongmabulla Springs.<sup>9</sup>
- (iii) Finally, if the Court accepts A/Prof Webb's evidence about the Colinlea Sandstone as a likely contributing aquifer to the Doongmabulla Springs then if the mine proceeds the springs and their exceptional ecological value will be lost.<sup>10</sup> Prior to the evidence in the Court, the Applicant had assumed the source aquifer was above the Rewan Formation. This assumption was shown to be fragile at best and the consequences of it being wrong were conceded by the Applicant in its opening regarding the source of groundwater to the springs that:
- If, however, the source is below the Rewan, like the aquifer that feeds the Mellaluka, then the impacts will be significant. The ... springs will not merely have a drawdown but will be lost.<sup>11</sup>
- (iv) This concession by the Applicant in its opening is a very significant one in the context of the evidence of A/Prof Webb and Professor Werner for the First Respondent that the hydrogeological conceptualisation and modeling for the mine is fundamentally flawed. Their concerns reflect those raised by the Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development (**IESC**).<sup>12</sup> The extent of the failings in this work does not permit the impact of the mine on groundwater to be understood sufficiently to permit the mine to proceed.
- (v) While A/Prof Webb's opinion that the Doongmabulla Springs are fed – at least in part – from the Colinlea Sandstone is independent of his reconceptualization of the regional geology, his views on this topic undermine confidence in the Applicant's understanding of the area. Three parts of the evidence, in particular, can give the Court confidence that A/Prof Webb is correct in relation to the geology surrounding the Doongmabulla Springs:

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<sup>7</sup> See the First Respondent's closing submissions commencing at [163].

<sup>8</sup> See the First Respondent's closing submissions commencing at [163].

<sup>9</sup> See the First Respondent's closing submissions commencing at [163].

<sup>10</sup> See the First Respondent's closing submissions commencing at [164].

<sup>11</sup> Transcript 1-10, lines 39-42.

<sup>12</sup> Exhibit 59; OL032 (IESC Advice to decision maker on coal mining project). See the discussion in the First Respondent's closing submissions at [158], [228], [285], [291], [294], [337], [379], and [495]-[501].

- (A) A/Prof Webb simply applied an evidence-based approach to forming his opinion rather than rely upon historic mapping that was done prior to satellite technology and other modern techniques being available. He considered the historic geological mapping together with available seismic data<sup>13</sup> and bore log data<sup>14</sup> in developing his conceptualisation, and he gave a detailed explanation of the process by which this suite of data sources assists him in understanding the regional geology.<sup>15</sup> There is nothing unusual in an expert taking an evidence-based approach rather than simply relying upon past work of others and, indeed, it is to be commended rather than scorned. A/Prof Webb described it as his “standard practice”:

The first thing I do when I – I’m involved in any study of geology of a particular area is to get all the data that’s available for the area, and so that includes the existing geology maps, it includes the topography, the radiometrics, the aeromagnetics, the satellite imagery, and I put it all together – which I can on do very quickly – and I use it to check the geology, just to confirm in my own mind that what they’ve said is right, that everything makes sense. It’s standard practice for me.<sup>16</sup>

- (B) In Mr Bradley’s examination-in-chief, he put for the first time a theory that the radiometric imaging suggestive of Rewan Formation outcropping was simply as a consequence of flood plain deposits.<sup>17</sup> This attempt to challenge A/Prof Webb backfired badly when A/Prof Webb subsequently demonstrated that there is no upstream geology that shows the same radiometric signature, so the high-potassium readings could not be caused by flood deposition and are better explained by erosion of surface strata in the surface drainage channels to reveal the underlying Rewan Formation.<sup>18</sup>
- (C) A/Prof Webb identified an outcrop of Clematis Sandstone slightly to the northeast and at a higher elevation to the Doongmabulla Springs Complex. He first identified its distinctive characteristics using radiometric and satellite imagery, then verified his identification of Clematis Sandstone during a helicopter fly past on 21 November 2014.<sup>19</sup> He stated repeatedly how distinctive Clematis Sandstone is and how readily it can be identified (a matter that he was not challenged on in cross-examination).<sup>20</sup> If the Court accepts A/Prof Webb’s identification of the Clematis Sandstone and the Rewan Formation at this point, it follows that the historic mapping of the Moolayember Formation around Doongmabulla Springs Complex that the Applicant and Mr Bradley rely upon must be incorrect. This is because, based on

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<sup>13</sup> Transcript 5-11, line 45 to 5-12, line 5.

<sup>14</sup> I.e. the well completion reports from Carmichael 1 and Lake Galilee 1 - see Transcript to 5-12, line 37 to 5-13, line 2.

<sup>15</sup> Transcript 5-10, line 20 to 5-11, line 43; Transcript 5-17, line 17 to 5-18, line 13.

<sup>16</sup> Transcript 5-7, lines 12-18.

<sup>17</sup> Transcript 2-48, lines 17-27; Transcript 6-52, lines 22-27.

<sup>18</sup> Transcript 5-14, line 17 to 5-15, line 34; Transcript 6-52, lines 5-20.

<sup>19</sup> See Exhibit 18; OL018 (A/Prof Webb Expert Report), paras [16], [17], [24] and [34].

<sup>20</sup> Transcript 5-9, lines 35-40; Transcript 5-11, lines 25-33; Transcript 5-11, lines 39-41; Transcript 5-16, lines 28-33; & Transcript 5-16, lines 45-47. See also the First Respondent’s closing submissions at [477] – [479].

the accepted stratigraphy of the Galilee Basin, Clematis Sandstone lies beneath the Moolayember Formation. Consequently, the rock strata outcropping around Doongmabulla Springs beneath the Clematis Sandstone outcrop identified by A/Prof Webb cannot be Moolayember Formation as the historic mapping and Mr Bradley suggest.

(b) In relation to Black-throated Finch:

- (i) The experts agree that the population of BTF on the MLA, Moray Downs and wider landscape, is the most significant and largest population in the world, and that the area surrounding 10 Mile Bore supports habitat that is critical for the species' survival.<sup>21</sup>
- (ii) The recognition of the significance of the BTF population on the MLA only occurred during the joint expert process for the hearing in the Court *and was not recognised* during in the EIS or SEIS.<sup>22</sup>
- (iii) If the Court recommends this mine be approved, there is no doubt that this will result in the destruction of key critical habitat.<sup>23</sup> It is this habitat that supports what is now believed to be a core population of BTF, and an area which provides an important function in sustaining that population.<sup>24</sup>
- (iv) From the evidence presented before the Court, it has been demonstrated that there remains profound uncertainties and insufficient information for the Court to have any confidence in whether granting approval of this mine will not fast track the BTF's trajectory towards extinction.
- (v) The Court cannot have any confidence in aspirational conditions, nor rely on the offsets proposed without a proper understanding of the values being lost.<sup>25</sup>
- (vi) In the absence of knowledge about the BTF itself and the reasons for its reliance on this core habitat, coupled with the inadequacy of the Applicant's survey efforts to date, both on the MLA and in the proposed offset areas, the Court must exercise extreme caution when making its final decision.<sup>26</sup>

(c) In relation to Waxy Cabbage Palm (WCP):

- (i) The experts agreed that:
  - (A) The WCP is very rare and is found only in the Burdekin River catchment from the Carmichael River to the environs of the Charters Towers.<sup>27</sup>
  - (B) The Carmichael River population is the largest single known

<sup>21</sup> See the First Respondent's closing submissions at [588] and [595] – [602].

<sup>22</sup> See the First Respondent's closing submissions at [603] – [641].

<sup>23</sup> Transcript 13-22, lines 21-28; Exhibit 27; JR002 (First BTF Joint Experts Report) p 11, para 6.2.6. See also the First Respondent's closing submissions at [642] – [655].

<sup>24</sup> See the First Respondent's closing submissions commencing at [589].

<sup>25</sup> See the First Respondent's closing submissions at [590] and [656] – [771].

<sup>26</sup> See the First Respondent's closing submissions at [591] and [772] – [775].

<sup>27</sup> Exhibit 24; JR001 (Waxy Cabbage Palm Joint Experts' Report), lines 174-177.

population of WCP.<sup>28</sup>

(C) The Carmichael River population is considered “necessary for the species long-term survival and recovery, necessary to maintain a genetic diversity, near the limits of the species range and habitat critical to the survival of the species.”<sup>29</sup>

(D) If the hydrogeological conditions in the Carmichael River are adversely impacted by the proposed mining activity there is a likelihood of a significant impact on at least parts of the Carmichael River population.<sup>30</sup>

(E) There is a lack of scientific knowledge about the nature of the relationship between the WCP and hydrogeological conditions.<sup>31</sup>

(ii) While Mr Wilson’s opinion was that only a small number of palms in the Carmichael River population would be impacted by the relatively small changes in water table and base flow predicted in the SEIS,<sup>32</sup> his opinion was crucially flawed due to his misunderstanding of the likely role of base flow from the Doongmabulla Springs in the Carmichael River downstream of the springs and his failure to appreciate the crucial gaps in information regarding base flow from the springs in this section of the Carmichael River. He expressed an unwarranted certainty in his expert report about the relationship between the palms and base flow in the Carmichael River.<sup>33</sup>

(iii) The impacts of the mine on the WCP can be viewed as joined at the hip to the impacts of the mine on groundwater supply to Doongmabulla Springs. The grave uncertainty regarding these impacts raised in the evidence of A/Prof Webb and Prof Werner applies equally to the potential impacts of the mine on the most globally important population of the WCP on the Carmichael River.

(iv) The offset areas proposed for impacts on the Carmichael River population of WCP do not provide any offset for changes in base flow in the Carmichael River as the offset areas will be equally affected by these changes.<sup>34</sup>

6. **Fourth**, given the grave uncertainties exposed in the evidence presented to the Court in relation to the source of groundwater to the Doongmabulla Springs, BTF, and WCP this is the epitome of a case where the precautionary principle calls for the applications to be refused. Recommending approval of the mine on the basis of the proposed conditions can only be done if the precautionary principle is disregarded.

7. **Fifth**, the conditions proposed in the Draft Environmental Authority and imposed on the approval under the *Environment Protection and Biodiversity Conservation Act 1999*

<sup>28</sup> Exhibit 24; JR001 (Waxy Cabbage Palm Joint Experts’ Report), lines 179-184.

<sup>29</sup> Exhibit 24; JR001 (Waxy Cabbage Palm Joint Experts’ Report) at lines 184-189.

<sup>30</sup> Exhibit 24; JR001 (Waxy Cabbage Palm Joint Experts’ Report) at line 313.

<sup>31</sup> Exhibit 24; JR001 (Waxy Cabbage Palm Joint Experts’ Report) at line 332.

<sup>32</sup> Exhibit 22; AA011 (Mr Wilson’s first affidavit), lines 523-529.

<sup>33</sup> See the First Respondent’s closing submissions at [566] – [572], especially [570].

<sup>34</sup> See the First Respondent’s closing submissions at [573] – [587].

(Cth) (**EPBC Act**) do not overcome the expected or possible impacts on the Doongmabulla Springs, Black-throated Finch or Waxy Cabbage Palm population. The purpose of conditions on a permit is to avoid or manage impacts once they have been identified. This requires the Court to have some confidence that it knows what the impacts of granting approval will be and, further, to have confidence that the conditions imposed will be able to manage those impacts. In all the circumstances of this case, the Court cannot have that confidence. Accordingly, rather than seek to regulate unknown impacts through stringent conditions, it is appropriate to simply recommend refusal of the applications.

8. To a large extent, the conditions purport to apply “adaptive management” principles but, contrary to good regulatory practice,<sup>35</sup> the proposed conditions of the Draft Environmental Authority and the conditions of the EPBC Act:
  - (a) Are not based on thorough front-end environmental impact assessment (**EIA**) that is capable of determining ecosystem baselines, identifying uncertainties and making informed decisions on planning and management.
  - (b) Are not transparent in both their upfront design and implementation.
  - (c) Are being used as an excuse to defer tough planning and management decisions and upfront EIA to opaque post-approval processes.
  - (d) Do not provide substantive limits to guide and constrain acceptable impacts of the mine on Doongmabulla Springs, BTF and WCP.
  - (e) Are likely to become nothing more than mere process that fails to deliver substantive environmental outcomes.
  - (f) Do not provide, prior to the grant of a project approval, a clear definition of the management problem and baseline conditions, and an effective numerical model to predict the impacts of the project and identify areas of uncertainty.
  
9. **Sixth**, the economics of thermal coal have dramatically changed in recent years.<sup>36</sup> The scale of economic benefits can no longer be assumed. Neither can the financial viability of the project:
  - (a) In reality, the outlook for the seaborne thermal coal market has changed profoundly since the Applicant first proposed the project, in 2010. Prices have dropped by 60% in recent years, mining companies have seen unprecedented wealth destruction and future outlooks are consistently being revised down.
  - (b) Even conservative estimates of future demand and price create an existential threat that this mine is financially unviable and will ultimately become a stranded asset if constructed.

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<sup>35</sup> See Lee J, “Theory to practice: Adaptive management of the groundwater impacts of Australian mining projects” (2014) 31 *Environmental and Planning Law Journal* 251-287; Lee J and Gardner A, “A peek around Kevin’s Corner: adapting away substantive limits?” (2014) 31 *Environmental and Planning Law Journal* 247-250.

<sup>36</sup> See the First Respondent’s closing submissions at [957] – [969].

- (c) In this environment, harm from this mine would be certain with any economic benefits at risk of being unrealized.
10. **Seventh**, the Applicant grossly overstated the jobs and royalties that the mine can be expected to generate during the EIS and SEIS processes so that, as with the environmental impacts presented in the EIS and SEIS, the support for the mine given by the Coordinator-General, DEHP, and the Commonwealth Environment Minister, was given on a mistaken basis. A remarkable feature of the Applicant's case is the wholesale change as a result of the joint expert meeting process in its claims regarding the economic benefits of the project:
- (a) As late as December 2014, the Applicant used Input/Output modeling as the basis of its claims of economic benefits from the mine. This was the basis upon which the project was assessed by the Coordinator-General, DEHP, and the Commonwealth Environment Minister.
- (b) During the joint expert process, the Applicant's own economic expert, Dr Fahrer, agreed that the Applicant's Input/Output model was deficient. The Applicant then sought to rely upon a different method of economic modeling (CGE) which created entirely different predictions of economic benefits, including a reduction in the predicted net new jobs from something between 6,000 and 10,000 to only 1,464.<sup>37</sup>
- (c) Dr Fahrer also agreed that, relative to total employment in Queensland, the increase in jobs from the Project is "very small",<sup>38</sup> emphatically repeating that "[i]t's not many jobs. We can agree on that... Not many jobs... No argument. Not many jobs",<sup>39</sup> and going so far as to say "again, the benefits of this project are not about jobs; they're about incomes".<sup>40</sup>
- (d) The Applicant still relies on claimed very large economic benefits from the mine being built and operated. Expert evidence called by the First Respondent established that these predictions are likely to massively overstate the economic benefits of the mine using opaque modeling techniques built on unrealistic assumptions.<sup>41</sup>
- (e) The two new economic models presented by the Applicant in response to questions from the First Respondent's expert both suffer from unreliable input data and profoundly unrealistic assumptions. When plausible inputs and assumptions are substituted in, there is a strong likelihood that the economic impact of this mine will be negative for Australia and for Queensland.<sup>42</sup>
- (f) The Applicant's Group Financial Controller responsible for compliance with tax requirements, Mr Gupta, was unable or unwilling to answer basic questions about its corporate structure or plans to (lawfully) minimise taxation paid in Australia,

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<sup>37</sup> See the First Respondent's closing submissions at [824] – [825].

<sup>38</sup> Transcript 16-42, line 14.

<sup>39</sup> Transcript 16-42, lines 20 to 26.

<sup>40</sup> Transcript 16-42, lines 15 to 16.

<sup>41</sup> See the First Respondent's closing submissions at [834] – [894].

<sup>42</sup> See the First Respondent's closing submissions commencing at [796]



which did not reflect well on the Applicant's claims of the economic benefits of the project for Queensland and Australia.<sup>43</sup>

11. **Eighth**, and very significantly, as the Applicant's expert Mr Stanford accepted, this is "... this is an extremely risky project ... everybody knows that, I admit that."<sup>44</sup> Mr Buckley's conservative estimates of future demand and price demonstrated a real risk that this mine is financially unviable and will become a stranded asset if it is constructed at all. If the likely risk that this mine will become a stranded asset comes to pass then significant environmental harm is certain with economic benefits unrealised.
12. For these reasons, the Court is far better informed of the likely costs, benefits and risks of the mine to Queensland than any of the previous decision-makers who have assessed these applications. Even with the far greater amount of information and expert analysis available to the Court, there remain very grave uncertainties and risks. The trial process has served to uncover these uncertainties and risks, which had been ignored or papered over in the EIS and SEIS process by the Applicant and its consultants.
13. In the circumstances, the risks of this proposal are just too great to justify it, particularly in the light of the dramatically reduced economic benefits and very questionable financial viability of it. Consequently, the Court should recommend refusal of the mine under both the EPA and the MRA.

**Saul Holt QC**  
**Dr Chris McGrath**  
**14 May 2015**

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<sup>43</sup> See the First Respondent's closing submissions at [864] – [876].

<sup>44</sup> Transcript 19-57, lines 21-22. See also Transcript 19-57, line 20 to 19-58, line 11.