

**LAND COURT OF QUEENSLAND**

REGISTRY: BRISBANE  
NUMBER: MRA428-14, EPA429-14  
MRA430-14, EPA431-14  
MRA432-14, EPA433-14

Applicant: ADANI MINING PTY LTD  
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

**AFFIDAVIT OF CHRISTOPHER PAUL TAYLOR**

I, Dr Christopher Paul Taylor, of c/- URS Australia Pty Ltd, Level 17, 240 Queen Street, Brisbane in the State of Queensland, affirm as follows:

- 1 I am an environmental scientist employed by URS (in Australia and the United Kingdom) since about 2008. I have 15 years postgraduate experience in academic research and environmental consultancy, specialising in atmospheric emissions, preparation of emissions inventories, greenhouse gas (**GHG**) assessments and climate change.
  
- 2 I hold the following qualifications:
  - (a) Chemistry (1<sup>st</sup> class) from the University of Wales, Swansea, UK; and

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Deponent

  
Taken by:  
Solicitor / Justice of the Peace

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**Affidavit**  
Filed on behalf of the Applicant

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**McCullough Robertson Lawyers**  
Level 11 Central Plaza Two 66 Eagle Street  
BRISBANE QLD 4000  
Phone: (07) 3233 8888 Fax: (07) 3229 9949  
GPO Box 1855, BRISBANE QLD 4001  
Ref: CEM:PWS:159359-00022

(b) PhD in Atmospheric Chemistry and Climate Change from the University of Reading, UK.

3 I have been engaged by McCullough Robertson, on behalf of the Applicant, to appear as an expert witness in these proceedings in relation to issues raised in the objections to the Applicant's mining lease applications and environmental authority applications for the Carmichael Coal Mine project (**Objections**).

4 My curriculum vitae is attached to the individual expert report referred to below. I refer to my curriculum vitae and say that I have provided expert evidence to a number of matters of dispute relating to GHG emissions and climate change. These include:

(a) expert report on behalf of the Applicant in the Land Court of Queensland (*Xstrata Coal Queensland Pty Ltd & Ors v Friends of the Earth – Brisbane Co-Op Ltd & Ors* [2012] QLC 013); and

(b) expert report on behalf of the Applicant in the Land Court of Queensland (*Hancock Coal Pty Ltd v Kelly & Ors and the Department of Environment and Heritage Protection (No. 4)* [2014] QLC 12).

5 I have previously prepared a joint report with Associate Professor Malte Meinshausen relating to GHG emissions and climate change issues for the proposed Carmichael Coal Mine (**GHG Joint Report**).

6 I have been further asked to prepare an individual expert report in relation to GHG emissions and climate change with regard to the Applicant's proposed Carmichael Coal Mine and any issues raised within my field of expertise due to any points of difference between experts. Exhibited to my affidavit and marked 'CT-1' is a true copy of my report dated 6 February 2015 (**Individual Report**).

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Deponent

  
Taken by:  
Solicitor / Justice of the Peace

7 Pursuant to rule 428(3) *Uniform Civil Procedure Rules 1999* (Qld), I confirm that:

- (a) the factual matters stated by me in the Joint Report and my Individual Report are, as far as I know, true;
- (b) I have made all enquiries considered appropriate;
- (c) I genuinely hold the opinions stated by me in the Joint Report and in my Individual Report;
- (d) my Individual Report contains reference to all matters that I considered significant; and
- (e) I understand my duty to the court and I have complied with this duty.

8 All the facts and circumstances deposed to in this affidavit are within my own knowledge except those stated to be on information and belief. I have, as required, set out the basis and source of my knowledge or information and belief.

Affirmed by Christopher Paul Taylor

at Brisbane

this 6<sup>th</sup> day of February 2015

Before me:

  
\_\_\_\_\_

A Justice of the Peace/Solicitor

  
\_\_\_\_\_

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Applicant: ADANI MINING PTY LTD

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

## CERTIFICATE OF EXHIBIT

Exhibit 'CT-1' to the affidavit of Christopher Paul Taylor affirmed 6 February 2015.

  
\_\_\_\_\_  
Signed:  
Deponent

  
\_\_\_\_\_  
Taken by:  
Solicitor / ~~Justice of the Peace~~ /  
~~Commissioner for Declarations~~

# URS

Report

Dr C Taylor  
Expert report  
to the Land  
Court of  
Queensland

AUSTRALIA



## Adani Mining Pty Ltd (Adani) v Land Services of Coast and Country Inc & Ors

6 February 2015





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Appendix A

Appendix B





## 1 QUALIFICATIONS AND CURRICULUM VITAE

My name is Dr Christopher Paul Taylor.

My business address is URS Australia Pty Ltd, Level 17, 240 Queen Street, Brisbane, QLD 4000.

I am an environmental scientist with 15 years' postgraduate experience in academic research and environmental consultancy, specialising in atmospheric emissions, preparation of emissions inventories, greenhouse gas (GHG) assessments and climate change. I hold the following qualifications:

- MChem in Chemistry (1st class) from the University of Wales, Swansea, UK
- PhD in Atmospheric Chemistry and Climate Change from the University of Reading, UK.

My curriculum vitae is provided at **Appendix A**.

## MATERIAL RELIED ON IN PREPARING STATEMENT

In preparing this report I have relied on the following sources of information:

- Calculations prepared by me as detailed in my joint report with Associate Prof Malte Meinshausen dated 23 December 2014 (GHG Joint Report)
- Greenhouse Gas Protocol (2004) World Resources Institute
- Forecasts of global mean temperature increase from Climate Action Tracker (<http://climateactiontracker.org>)

## 3 BACKGROUND TO REPORT

I was not involved in the preparation of any material in support of the proposed mine. However, I have carried out additional calculations of GHG emissions associated with the project, as reported in the GHG Joint Report.

I have been engaged by McCullough Robertson, on behalf of Adani, to provide an expert report in the Land Court proceedings.

I have read the letter of instruction (provided at **Appendix B**) and I understand my duties to the Land Court as an expert witness.

I consider that I am able to provide an informed independent opinion about the matters contained within this report.

## **4 OPINION ON OBJECTIONS**

### **4.1 Land Services of Coast and Country Inc.**

#### **4.1.1 *Impact of the mine on climate change and ocean acidification***

**4.1.1.1** Land Services of Coast and Country Inc. (LSCC) states in its objection that “if the mine proceeds, there will be severe and permanent adverse environmental impacts caused by the operations carried out under the authority of the proposed mining leases”. The Facts and Circumstances of the objections to the MLA and EA made by LSCC include the assertions that:

- If the mine proceeds, it will cause serious and material environmental harm by contributing to climate change and ocean acidification.
- The full extent of the serious and material environmental harm that the mine will cause by contributing to climate change and ocean acidification cannot be particularised by the objector due to the inadequate information provided by the Application in the application, EIS and SEIS.
- It has not been adequately demonstrated that the mine will not increase the likelihood, severity and longevity of the environmental harm that will result from climate change and ocean acidification.

**4.1.1.2** In the GHG Joint Report I outlined the GHG assessment carried out in the EIS, which quantified Scope 1 and Scope 2 emissions from the project, as required by the Terms of Reference (ToR). I also explained that the ToR followed convention in Australian GHG reporting by not requiring an assessment of Scope 3 emissions, such as those associated with the combustion of product coal. It should also be noted that this convention is adopted internationally and is consistent with the internationally accepted Greenhouse Gas Protocol developed by the World Resources Institute. Scope 3 emissions inventories are typically prepared to help an organisation understand its value chain (upstream and downstream) emissions. As briefly outlined in the joint report, an organisation has control over its direct Scope 1 emissions; however it only has influence (rather than control) over its indirect emissions. An organisation can, therefore, exert influence over how its product is used, but under accepted carbon accounting principles, it does not take responsibility for value chain emissions.

**4.1.1.3** The emission of GHG from a power station supplied by a coal mine is just one example of value chain or Scope 3 emissions. Considering other examples of value chain emissions demonstrates that it is entirely inappropriate for an organisation to take responsibility for such emissions. For example, a local petrol station would be accountable for emissions from the primary production and transport of oil, the refining process, fuel distribution and vehicle emissions from private and commercial vehicles.

**4.1.1.4** The ToR and EIS approach is also consistent with EIS GHG assessments prepared for other resource projects in Queensland in recent years. By all normal GHG accounting principles, the Scope 3 emissions from the burning of product coal are and should be attributed to the power station burning the coal and not to the mine itself.

**4.1.1.5** From this perspective, the impacts of the mine are those resulting from Scope 1 and Scope 2 emissions and the EIS assessment is adequate. This being the case, there was (and is) no need for the EIS to assess climate change impacts as Scope 1 and Scope 2 emissions from the mine are insignificant in a global context. As Scope 1 and Scope 2 emissions from the mine are insignificant, the mine will not cause serious and material environmental harm by contributing to climate change and ocean acidification.

- 4.1.1.6** The correct context for assessing Scope 3 emissions is in the assessment of cumulative impacts, referred to in the objectors Facts and Circumstances in the MLA objection as “the combined effects of the mining activity and other activities and factors”. When considering cumulative impacts it is not sufficient to consider the overall magnitude of the impact. We must also understand what the contribution of a project is to that overall impact. This issue is discussed in the GHG Joint Report at paragraph 12, which states that the question of whether “climate impacts [of the mine] are additional to what would have occurred in the absence of the Mine’s approval depends on the extent the Mine increases global coal consumption.” In the joint report of Jon Stanford and Tim Buckley (dated 30 December 2014), Jon Stanford states that global coal demand “will not change as a result of the commissioning of the Carmichael Mine.” If that is the case, then the cumulative impact or “combined effects” of the mine on climate change and ocean acidification would be negligible.
- 4.1.2** *Impact on Australian greenhouse gas policies*
- 4.1.2.1** The GHG Joint Report discusses Australian GHG emissions policies at paragraph 8 and compares Scope 3 emissions associated with the mine to Australian emissions reduction targets at paragraph 22. As stated in the joint report, the burning of the coal would not fall within Australia’s national greenhouse accounts. These emissions are, therefore, irrelevant to the achievement of Australian GHG policies. The magnitude of the comparison is correct, but Australia’s contribution to global GHG emissions is modest. The emissions in question would be covered by other countries’ GHG budgets and related policies.
- 4.1.2.2** Adani has made a number of commitments, outlined in the EIS and summarised in the Coordinator-General’s Report, regarding the minimisation of direct GHG emissions and those from purchased electricity. These emissions, being Scope 1 and Scope 2, are relevant to Australia’s GHG policies. However, they are not significant in the context of national emissions and would not have a material impact on the national emissions reduction target.
- 4.1.3** *Impact on international “2 degree” target*
- 4.1.3.1** The GHG Joint Report discusses an international target to limit global warming to 2 degrees and, at paragraph 21, notes that the approval of the mine could be either consistent or inconsistent with this goal.
- 4.1.3.2** In reality, we can expect fossil fuels to play a more significant role in future energy production than suggested by the 2 degree target because that target itself appears highly unrealistic. As expressed in the joint report, international pledges to reduce emissions are insufficient to achieve the 2 degree target. Climate Action Tracker, which tracks the emissions commitments and actions of countries, suggests at the time of writing that global mean temperatures will increase above pre-industrial levels by about 3.1 °C by 2100. This estimate already takes into account GHG pledge announcements in 2014 by the EU, US and China.
- 4.1.3.3** As noted in the GHG Joint Report, the global emissions budget to limit warming to 2 °C will be exceeded in approximately 20 years at current rates of emissions. As global emissions are on an increasing trajectory, the budget is likely to be exceeded sooner and before one third of the calculated cumulative emissions associated with the mine would have occurred.
- 4.1.3.4** Any realistic scenario in which the 2 degree target is achieved still includes the continued burning of fossil fuels as the power stations that will provide the world’s electricity for decades to come have already been built. Emissions from these power stations can be considered locked in. The source of their fuel will depend on market forces, but their emissions are virtually certain to occur, regardless of the exact fuel supply.

## 4.2 Conservation Action Trust

The Conservation Action Trust (CAT) has raised objections relating to the impact of existing and in development coal fired power stations in India on local communities. Although I have considerable experience in the assessment of emissions from power generation and industrial process, I do not have sufficient information to provide an opinion on the impact of these power stations specifically. However, it is my opinion that their impacts are not a relevant consideration for the approval of the Carmichael Coal Mine. Existing and in development power stations will obtain fuel on the international market regardless of the approval of this particular mine. Therefore, the mine will not have any meaningful impact on the health and wellbeing of communities in India.

## 5 SUMMARY OF CONCLUSIONS

- 5.1.1.1** It is my opinion that the mine will not cause serious and material environmental harm by contributing to climate change and ocean acidification. Further, it is my opinion that it has been adequately demonstrated that the mine will not increase the likelihood, severity and longevity of the environmental harm that will result from climate change and ocean acidification.
- 5.1.1.2** Following national and international GHG accounting principles, emissions from the burning of the product coal are the responsibility of the power station that burns the coal, not the mine. Other emissions associated with the project are not significant in a global context.
- 5.1.1.3** Emissions from the burning of product coal should be considered as a cumulative impact of the project with other activities. As noted in the GHG Joint Report, the cumulative impact of the mine only creates additional impacts if it results in a net change in global coal consumption. If Jon Stanford is correct in stating that global coal demand will not change as a result of the mine then the cumulative impact of the mine would be negligible.
- 5.1.1.4** The mine will have a negligible impact on the achievement of Australia's GHG emissions reduction policies. Emissions from the burning of product coal from the mine will not form part of Australia's inventory. Scope 1 and Scope 2 emissions, which do fall within Australia's emissions inventory, will be minimised according to commitments made by Adani and will not be significant.
- 5.1.1.5** The 2 degree warming target is highly unrealistic because, as noted in the joint report, international pledges are insufficient to achieve it. Fossil fuel use is locked in for the coming decades as coal fired power stations have already been built or committed to. The approval of the mine will not affect emissions from these existing and in development power stations.
- 5.1.1.6** It was not possible to assess the health impacts of existing or in development power stations in India. However, I do not believe this is a relevant consideration for the approval of the Carmichael Coal mine because their operation is not dependent on the mine's approval.

## 6 EXPERT'S CONFIRMATION

I have read and understood relevant extracts of the Land Court Rules 2010 (Qld) and the Uniform Civil Procedure Rules 1999 (Qld). I acknowledge that I have an overriding duty to assist the Court and state that I have discharged that duty.

I have provided within my report:

- details of my relevant qualifications;
- details of material that I relied on in arriving at my opinions; and
- other things as required by the Land Court Rules.

I confirm the following:

- the factual matters included in the statement are, to the best of my knowledge, true;
- I have made all enquiries I consider appropriate for the purpose of preparing this statement;
- the opinions included in this statement are genuinely held by me;
- this statement contains reference to all matters I consider significant for its purpose;
- I have not received or accepted any instructions to adopt or reject a particular opinion in relation to an issue in dispute in the proceeding.
- If I become aware of any error or any data which impact significantly upon the accuracy of my report, or the evidence that I give, prior to the legal dispute being finally resolved, I shall use my best endeavours to notify those who commissioned my report or called me to give evidence.
- I shall use my best endeavours in giving evidence to ensure that my opinions and the data upon which they are based are not misunderstood or misinterpreted by the Land Court.
- I have not entered into any arrangement which makes the fees to which I am entitled dependent upon the views I express or the outcome of the case in which my report is used or in which I give evidence.



## APPENDIX A

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## Curriculum Vitae



### Qualifications

*PhD Atmospheric Chemistry and Climate Change, University of Reading, 2002*

*MChem, Chemistry, University of Wales, Swansea, 1999*

## Chris Taylor

*Senior Associate Environmental Scientist*

### Areas of Experience

- Emissions inventories
- Greenhouse Gas assessments
- Climate Change
- Atmospheric dispersion modelling
- Emissions reduction strategies
- Air quality monitoring surveys
- Assessment of dust and odour
- Public hearings and Expert Witness

### Career Summary

Chris is a Senior Associate Environmental Scientist and URS air quality team leader for Brisbane. He specialises in air quality, greenhouse gas assessments and climate change. He has extensive experience in mining, oil and gas, ports and industry across Australia, Asia, Middle East and Europe.

Projects include providing Expert Witness services in relation to the climate change impact of Xstrata's Wandoan Coal Mine and the GVK Hancock Alpha Coal Mine.

Before starting a career in consultancy, Chris undertook research into atmospheric chemistry and climate change at the University of Reading, UK.

### Career Details

#### *Mining*

- Wandoan Coal Mine (QLD) - Provided Expert Witness services in the QLD Land Court on greenhouse gas emissions and climate change for a major coal mine project proposed by Xstrata.
- Alpha Coal Mine (QLD) - Provided Expert Witness services in the QLD Land Court on greenhouse gas emissions and climate change for a major coal mine project proposed by Hancock GVK. Also technical review of air quality and greenhouse gas assessments for the EIS and SEIS
- Kevin's Corner Coal Mine (QLD) - Technical review of air quality and greenhouse gas assessments for an underground coal mine development
- Red Hill Mining Lease Project (QLD) – Project manager for the EIS for an expansion of the existing Goonyella Riverside Broadmeadow mine
- Ivanhoe Osborne (QLD) – Updated EM Plan to support a licence amendment for a new Tailings Storage Facility.
- Ivanhoe Merlin Molybdenum-Rhenium Project (QLD) - Air quality input to the Feasibility Study and relevant aspects of an Environmental Management Plan
- McArthur River Mine (NT) - Air quality and greenhouse gas assessment components of an EIS for a significant mine expansion plan. Further work has included assessments of power generation options and proposed dust control technologies during the detailed design phase.

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**Chris Taylor.** *Senior Associate Environmental Scientist*

- Gove Operations Pacific Aluminium (NT) – Air quality monitoring and modelling assessment of proposed changes to the mine and port operation.

***Oil and Gas***

- Arrow Energy Bowen Gas Project (QLD) – Air quality assessment of a major coal seam gas project, including modelling of local scale constraints and regional scale photochemical ozone production. A greenhouse gas assessment was also prepared for scope 1 and scope 2 emissions, including loss of carbon sink capacity.
- Bow Energy (QLD) – Air quality assessment of a major coal seam gas project, including modelling of local scale constraints and regional scale impacts. A greenhouse gas assessment was also prepared for scope 1 and scope 2 emissions, including loss of carbon sink capacity.
- Dragon LNG (UK) - Air quality assessment for an application to vary an Environmental Permit for a large new Liquefied Natural Gas (LNG) terminal. Emission sources included submerged combustion vaporisers, gas-fired boiler and flare
- 4GAS LNG le Verdon (France) - Air quality impact assessment of a new LNG terminal at le Verdon, France. The assessment included modelling of operational point source emissions and the impact of construction plant and traffic
- South Hook LNG Terminal (UK) - Air quality dispersion modelling of point source emissions, examining alternative site layouts and stack heights for environmental permit application
- Shell Pinkenba Grease Plant (QLD) - Air quality monitoring advice relating to the recommissioning of a grease plant at Shell's Pinkenba Terminal, Brisbane
- Caltex Oil Refinery (QLD) - Air quality modelling to ensure regulatory compliance using TAPM and CALMET/CALPUFF
- Oil Refinery Expansion (UK) - Assessment of the impact of emissions to air from a major oil refinery expansion project. Tasks included options assessment and consideration of impacts on ecologically sensitive sites
- Bahrain Petroleum Company Refinery Gas Desulphurisation Project (Bahrain) - Air quality assessment for a US\$120 million project to reduce the environmental impact of the BAPCO refinery by installing equipment to treat sour water and gases, including an additional Sulphur Recovery Unit and Tail Gas Treating Unit
- Bahrain Petroleum Company Refinery Lube Base Oil Project (Bahrain) - Dispersion modelling assessment using Aermot to examine the air quality impact of a refinery expansion to produce lube base oil
- Bahrain Petroleum Company Gas Dehydration Unit (Bahrain) - Air pollution and odour assessment of a khuff gas dehydration unit (GDU) following odour complaints, including site inspection and air quality monitoring program. Sources of atmospheric pollution included vents, flares, combustion emissions and fugitive emissions
- Total ABK HSEIA (Abu Dhabi) - TOTAL Abu Al Bukhoosh were required by Abu Dhabi National Oil Company to prepare a Health, Safety and Environmental Impact Assessment (HSEIA) and Control of Major Accident Hazards (COMAH) study for all its existing facilities and associated operations.
- Responsible for the delivery of the EIA and air quality emissions inventory and AERMOD modelling aspects of this study

***Ports & Terminals***

- ASEAN Ports Capacity Development (Asia Pacific) - Emissions inventory training and support for ten ports across Thailand, Philippines, Indonesia, Cambodia, Vietnam and Malaysia
  - Bangkok Port (Thailand) - Rapid assessment of transport issues at Bangkok Port and an emissions inventory for road vehicles, cargo handling equipment, ocean going vessels and harbour craft
-

following US EPA methods. Recommendations were made for traffic and environmental management systems.

- Teesport Northern Gateway (UK) - Air quality impact assessment of a major deep sea container port, proposed by PD Teesport. The assessment included an emissions inventory and dispersion modelling of shipping, site plant emissions and the associated road and rail freight traffic.
- Cairnryan Ferry Terminal EIA - Air quality assessment of a major expansion to a passenger ferry terminal, including modelling of ship and road traffic emissions using ADMS. Additional work included representing the client at a public consultation meeting and local Council hearing and acting as Expert Witness at Public Local Inquiry.
- Port Wirral EIA (UK) - Air quality aspects of the EIA for a new dry bulk and coal import terminal on the Manchester Ship Canal, including consideration of dust control and impacts of road traffic
- Thamesport Quay Extension EIA (UK) - Responsible for the air quality aspects of an EIA for a quay extension at the Thamesport container terminal. Key issues for stakeholders were deposition of pollutants at nearby Site of Special Scientific Interest and emissions from construction and operational traffic
- Oikos Storage Ltd new oil jetty (UK) - Oikos import A1 jet fuel, which is then distributed by pipeline. In response to increasing demand there was a need to upgrade the jetty facilities to accommodate vessels of up to 100,000 DWT. The project included concept design and outline costings for various upgrade options, walkover and diving inspections of existing structures, desk-based geotechnical investigation and advice on the environmental constraints and consents required for the new structure
- Oldbury Nuclear Power Station Marine Offloading Facility (UK) - Environmental options appraisal for a new marine facility to support the construction of a new nuclear power station, working with colleagues developing concept designs, construction programme and costing. Constraints mapping, impact identification, development of mitigation and consultation with stakeholders

#### ***Other Projects***

- Milford Power Gas-Fired Power Station EIA (UK) - Air quality and greenhouse gas assessments for CCGT power station, including options for a 1600MW or 2000MW plant. The air quality assessment considered stack emissions, road traffic and construction dust. A number of plant and stack design options were assessed. Issues included the effects on public health and the deposition of pollutants on sensitive habitats
- Mersey Tidal Power (UK) - sustainability scoping report and carbon lifecycle assessment for a major tidal power scheme on the Mersey Estuary
- Stanton under Bardon Air Quality Monitoring (UK) - Air quality monitoring programme for a site intended for use as a waste management facility. Managed tendering process for a continuous monitoring station for nitrogen dioxide particulates (PM<sub>10</sub> and PM<sub>2.5</sub>) and heavy metals
- Ramat Hovav Wastewater Lagoons (Israel) - Wastewater from the Ramat Hovav industrial area will be discharged to evaporation lagoons. The issue of odour nuisance as a result of the evaporation of VOCs was raised as a concern. Responsible for the dispersion modelling of the lagoon emissions in order to specify suitable effluent discharge limits
- Bahrain International Investment Park (Bahrain) - Air quality monitoring campaign and large-scale modelling study for the Hidd industrial area of Bahrain to determine the suitability of a new Investment Park for clean industry. Local sources include iron, steel and aluminium production, existing and proposed power stations, ready-mix cement, other industry and road traffic. The methodology was agreed in consultation with the General Directorate for Environment and Wildlife Protection (GDEWP)

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**Chris Taylor.** *Senior Associate Environmental Scientist*

- Biodiesel Production Facility (UK) - Responsible for the EIA and Environmental Statement, including technical delivery of the air quality and odour aspects, for a new biodiesel and glycerine production facility

**Professional History**

Senior Associate Environmental Scientist, URS Australia Pty Ltd, Brisbane, 2012 - present

Associate Environmental Scientist, URS Australia Pty Ltd, Brisbane, 2011 - 2012

Principal Environmental Specialist, URS Scott Wilson, UK, 2008 - 2011

Senior Environmental Consultant, Royal Haskoning, UK, 2004 - 2008

Environmental Consultant, RPS, UK, 2003 - 2004

Post-Doctoral Research Assistant, University of Reading, UK, 2002

**Education and Training**

PhD Atmospheric Chemistry and Climate Change, University of Reading, 2002

MChem, Chemistry, University of Wales, Swansea, 1999

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## APPENDIX B

Partner Peter Stokes  
Writer Claire Meiklejohn  
Direct line 07 3233 8760  
Email cmeiklejohn@mccullough.com.au  
Our reference CEM:PWS:159359-00022

2 February 2015

Dr C Taylor  
Senior Associate  
URS

Email [chris.p.taylor@urs.com](mailto:chris.p.taylor@urs.com)

Dear Chris

**Adani Mining Pty Ltd v Land Services of Coast & Country Inc. & Anor  
Land Court of Queensland Proceedings no. MRA428-14, EPA429-14, MRA430-14,  
EPA431-14, MRA432-14 and EPA433-01 Land Court of Queensland Proceedings no.  
MRA428-14, EPA429-14, MRA430-14, EPA431-14, MRA432-14 and EPA433-01**

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We refer to:

- 1 Mining Lease Applications (**MLAs**) 70441, 70505 and 70506 made by Adani Mining Pty Ltd (**Adani**);
- 2 the associated environmental authority application, as re-made on 14 April 2014;
- 3 the Environmental Impact Statement (**EIS**), Supplementary EIS (**SEIS**) and Additional Information to the EIS (**AEIS**) prepared for Adani and made publicly available under the *State Development and Public Works Organisation Act 1971* (Qld);
- 4 the draft Environmental Authority (**EA**) issued by the Statutory Party on 28 August 2011;
- 5 the Objection of Land Services of Coast and Country Inc (**LSCCI**) to the MLAs dated 16 June 2014;
- 6 the Objection of LSCCI to the EA made 10 September 2014;
- 7 the submission (dated 17 June 2014) and objection (dated 25 September 2014) about the EA made by Debi Goenka of the Conservation Action Trust (**CAT**);
- 8 the Preliminary List of Issues for the LSCCI dated 2 December 2014;
- 9 your joint report, with Associate Professor M Meinshausen, dated 23 December 2014 (**Joint Report**); and.
- 10 our letter of instruction to you dated 30 Janu2 February 2015.

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## Instructions

- 11 We require you to provide a further statement of evidence under the *Land Court Rules 2000* (Qld) (**Rules**).
- 12 In accordance with orders made by the Court, your further statement of evidence is required by **Friday, 6 February 2015**.

## Format of report

- 13 When preparing the further statement of evidence, and responding to the questions dealt with in section E below, please deal with the following:

### **SECTION A - Qualifications and Curriculum Vitae**

- 14 Please attach your curriculum vitae to the report.

### **SECTION B - Material relied on in preparing the statement**

- 15 Lists are sufficient for the statement, it would be useful to ensure that you (and we) have a copy of all the listed material when finalising your report. In particular, you should list:
  - (a) all material facts, written or oral, on which the statement of evidence is based; and
  - (b) reference to any literature or other material relied on by you to prepare the statement.
- 16 It may also be necessary to review the Joint Report to ensure your lists include sources which may not be specifically identified in that report. You do not need to list material you have **not** relied on.
- 17 Any inspection, examination or experiment conducted, initiated or relied on by you to prepare the statement must also be described. This can be done by reference to the calculation methodology as set out in the Joint Report, with any further explanation or clarification if necessary.

### **SECTION C – Background to Report**

- 18 Please set out the extent of your previous involvement with the Mine. Specifically, we would like you to:
  - (a) indicate whether you were involved in the preparation of any material in support of the proposed Mine and, if so, provide details of that work;
  - (b) confirm that you have since been engaged by McCullough Robertson, on behalf of Adani, to provide an expert report in the Land Court proceedings;
  - (c) confirm that you have read this letter of instruction (and attach a copy of this letter of instruction to your report), and confirm that you understand your duties to the Land Court as an expert witness;
  - (d) confirm that, notwithstanding your previous relationship with the Mine (if any), you consider you are able to provide an informed, independent opinion about the matters contained within your Report.



## **SECTION D – Opinion on objections**

- 19 Please review the objections and respond to any issues within your field of expertise which concern the MLAs and EAs and which concern matters upon which you and Associate Professor M Meinshausen have reported upon. In this regard please note paragraph 23 of these instructions.
- 20 In particular, we draw your attention to the grounds in paragraphs 1 to 3, and 8, of the MLAs objections, and each paragraph of the EA application objection. All of the grounds of each objection are set out below for convenience.

### **MLAs objection**

*The application for the mining leases under the Mineral Resources Act 1989 (Qld) (MRA) for the Carmichael Coal Mine (the mine) should be refused on the basis of the considerations stated in section 269(4)(c), (f), (i), (j), (k), (l) and (m) of the MRA:*

- 1. If the mine proceeds, there will be severe and permanent adverse impacts caused by the operations carried out under the authority of the proposed mining leases.*
- 2. If the mine proceeds, the public right and interest will be prejudiced.*
- 3. Good reason has been shown for a refusal to grant the mining leases due to the risk of severe environmental impacts and the lack of scientific certainty regarding those impacts.*
- 4. Taking into consideration the current and prospective uses of the land, the proposed mining operation is not an appropriate land use.*
- 5. There is an unacceptable risk that there will not be an acceptable level of development and utilisation of the mineral resources within the area applied for because the mine, if it proceeds at all, is likely to cease to be economically viable within the term of the lease, resulting in some or all of the environmental impacts without realising the full economic benefits predicted.*
- 6. The Applicant does not have the necessary financial capabilities to carry on mining operations under the proposed mining leases.*
- 7. If the mine proceeds, the operations to be carried on under the authority of the proposed mining leases will not conform with sound land use management.*
- 8. In the alternative to grounds 1-7 above, if the applications are not refused, conditions should be imposed to address the matters raised in grounds 1-7.*

### **EA application objection**

*The application for the environmental authority for the Carmichael Coal Mine (the mine) should be refused under the Environmental Protection Act 1994 (Qld) (EPA) on the basis of the considerations stated in ss 3, 5, 171 and 191 of the EPA and other relevant considerations having regard to the subject-matter, scope and purpose of the EPA:*

- 1. Approval of the mine is contrary to the object of the EPA stated in s 3 because approval and construction of the mine will not protect Queensland's environment while allowing for development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends (ecologically sustainable development).*

2. *Approval of the mine would be contrary to the requirement in s 5 of the EPA for the administering authority and the Land Court to perform a function or exercise its power under the Act in a way that best achieves the object of the Act.*
3. *Approval and construction of the mine would be contrary to the precautionary principle, which is a principle of environmental policy as set out in the Intergovernmental Agreement on the Environment and, therefore, part of the standard criteria for the decision.*
4. *Approval and construction of the mine would be contrary to intergenerational equity, which is a principle of environmental policy as set out in the Intergovernmental Agreement on the Environment and, therefore, part of the standard criteria for the decision.*
5. *Approval and construction of the mine would be contrary to the conservation of biological diversity and ecological integrity, which is a principle of environmental policy as set out in the Intergovernmental Agreement on the Environment and, therefore, part of the standard criteria for the decision.*
6. *Approval and construction of the mine will cause environmental harm to the character, resilience and value of the receiving environment.*
7. *Approval and construction of the mine would be contrary to the public interest.*
8. *Approval and construction of the mine will cause material and serious environmental harm.*
9. *In the alternative to grounds 1-8 above, if the application is not refused, conditions should be imposed to address the matters raised in grounds 1-8 above.*

- 21 We also ask you to again review and consider those 'Facts and Circumstances' relied on in support of each objection that are relevant to your field of expertise, namely:
- (a) paragraphs 25 to 27 and 34 of the Facts and Circumstances in the MLAs objection; and
  - (b) paragraphs 25 to 27 and 29 of the Facts and Circumstances in the EA objection.
- 22 Your further statement of evidence should also build on the Joint Report, which sets out in detail those notified issues relevant to your field of expertise. The Joint Report also includes a detailed background and agreed commentary in relation to climate change and greenhouse gas emissions.
- 23 Please note that, pursuant to the Rules, your further statement may not:
- (a) contradict, depart from or qualify an opinion in relation to an issue the subject of agreement in the Joint Report; or
  - (b) raise a new matter not already mentioned in the Joint Report.
- 24 In discussing those areas of disagreement noted in the Joint Report, as they primarily obtain to LSCCI's notified issues, we ask that you expand on and relate your opinion back (by reference for example to its number) to any relevant Facts and Circumstances and Grounds of the objections.
- 25 For example, the Joint Report discusses the policy and convention for greenhouse gas accounting and reporting in Australia and the requirements of the Terms of References for the EIS. If appropriate, the discussion of these matters can be related back the primary ground of the objections, that the Mine should be refused.

- 26 This discussion may occur in the context of, or by reference to, the areas of agreement in the Joint Report.
- 27 By way of another example, the Joint Report refers to your opinion as to reporting of emissions where the organisation does not have operational control of the emissions. If appropriate, further explanation of this can be made, again by reference (where appropriate) to the relevant grounds of the objections.
- 28 By way of further example, the Joint Report refers to Australia's objectives under the United Nations Framework Convention on Climate Change<sup>1</sup>, and the target of limiting warming to 2 degrees<sup>2</sup>. To the extent that there are additional matters relating to these topics relevant to responding to the objections, and in respect of which you and Professor Meinshausen did not reach agreement, it is appropriate for you to opine upon your views, including:
- (a) on the application of the Convention of the project and assessment of greenhouse gas emissions, including whether or not assessment of scope 3 emissions at overseas power stations (for example) would affect Australia's objectives;
  - (b) on whether the Mine project is consistent or inconsistent with the 2 degree target;
  - (c) the relevance of relative comparisons of annual emissions (scope 1, scope 2 and scope 3) from the Mine in respect to Australia's (and other significant countries') base year greenhouse gas emissions; and
  - (d) on expert expectations as to the likelihood of the 2 degree target being avoided, and the time frame for event proximity to this target by comparison with the Mine project lifetime.
- 29 We ask that you also specifically respond to the allegations made in the objections that inadequate information was provided by Adani in the EIS and SEIS in relation to climate change and greenhouse gas emissions.
- 30 If you have an opinion as to whether it has been adequately demonstrated that the Mine will not increase the likelihood, severity and longevity of environmental harm which may result from climate change, please include that opinion also.
- 31 Please address the CAT submission and objection to the extent they are relevant to your field of expertise.
- 32 In your further statement of evidence, the Rules also require that where:
- (a) there is a range of opinion on matters dealt with, a summary of the range of opinion and the reasons why you have adopted a particular opinion be provided; and
  - (b) access to any **readily ascertainable** additional facts would assist you in reaching a more reliable conclusion, a statement to that effect be included.
- 33 In dealing with the points of disagreement in the Joint Report, and responding to the relevant Facts and Circumstances and grounds of the objections, please also specifically identify any relevant conditions of the draft EA and express your opinion as to the appropriateness of the draft condition or its relevance to the grounds of the objections.

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<sup>1</sup> Paragraphs 7 and 8 of the Joint Report.

<sup>2</sup> Paragraphs 21 and 22 of the Joint Report.

### **SECTION E – Summary of conclusions**

- 34 The Rules require your further statement to provide a summary of the conclusions you have reached. In our view, this is often best presented in a separate, concluding section (or at the start of the statement).

### **SECTION F – Expert’s confirmation**

- 35 It is important that the report you prepare be an independent report prepared bearing in mind an expert witness’ overriding duty to the court. The overriding duty encompasses the following points:

- (a) You have an overriding duty to assist the Court on matters relevant to your area of expertise;
- (b) You are not an advocate for a party, even when giving testimony that is necessarily evaluative rather than inferential; and
- (c) Your paramount duty is to the Court and not to the person retaining you.

- 36 An example of the type of thing that might be said in this section is as follows:

- (a) *I have read and understood relevant extracts of the Land Court Rules 2010 (Qld) and the Uniform Civil Procedure Rules 1999 (Qld). I acknowledge that I have an overriding duty to assist the Court and state that I have discharged that duty.*
- (b) *I have provided within my report:*
  - (i) *details of my relevant qualifications;*
  - (ii) *details of material that I relied on in arriving at my opinions; and*
  - (iii) *other things as required by the Land Court Rules.*
- (c) *I confirm that:*
  - (i) *the factual matters included in the statement are, to the best of my knowledge, true;*
  - (ii) *I have made all enquiries I consider appropriate for the purpose of preparing this statement;*
  - (iii) *the opinions included in this statement are genuinely held by me;*
  - (iv) *this statement contains reference to all matters I consider significant for its purpose;*
  - (v) *I have not received or accepted any instructions to adopt or reject a particular opinion in relation to an issue in dispute in the proceeding.*
- (d) *If I become aware of any error or any data which impact significantly upon the accuracy of my report, or the evidence that I give, prior to the legal dispute being finally resolved, I shall use my best endeavours to notify those who commissioned my report or called me to give evidence.*
- (e) *I shall use my best endeavours in giving evidence to ensure that my opinions and the data upon which they are based are not misunderstood or misinterpreted by the Land Court.*

- (f) *I have not entered into any arrangement which makes the fees to which I am entitled dependent upon the views I express or the outcome of the case in which my report is used or in which I give evidence.*

## **Confidentiality**

- 37 Any report generated by you should remain in draft until such time as we are in a position to discuss the contents of the report with you. We ask that the report be kept strictly confidential as it is to be used for the purpose of obtaining legal advice or for use in legal proceedings. You are not authorised to provide these instructions or your report to any other person or party.

If you would like any further material, or have any questions, please contact us.

Yours sincerely



**Peter Stokes**  
Partner



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