

Date : 31/05/2019 4:00:53 PM

From : "LOWE Trinity"

To : "Hannah Jackson"

Cc : "MACGROARTY Robynne" , "ELLWOOD Dean" , "MONKIVITCH James" , "BROWN Glen" , "LOVEDAY Chris" , "MERRICK Jamie" , "TRACEY Alena"

Subject : Adani Calls

Attachment : Adani_Script CRT 31 May 2019 (002).docx;image001.png;image003.png;

Good Afternoon Hannah

Please see the attached script that has been provided to the Community Response Team (CRT).

Calls can be transferred to our internal bypass number until 5:00pm (this is an automatic computer timed lock out number – 3330 5280.

After 5.00pm the Pollution Hotline number can be given which is 1300 130 372 – Option 2 where a message can be left for a call back from the department on Monday.

Please let me know if there is anything else you need.

Thanks & Cheers

Trinity



Trinity Lowe
Executive Officer
Office of the Deputy Director General
Environmental Services and Regulation Division
Department of Environment and Heritage Protection

P 07 3330 5812
Level 7 400 George St Brisbane

SCRIPT: ADANI – CARMICHAEL COAL MINE – GROUNDWATER DEPENDENT ECOSYSTEM MANAGEMENT PLAN AND BLACK-THROATED FINCH MANAGEMENT PLAN

Status Adani State Government Approvals:

- As at 31 May 2019, there is one outstanding plan requiring departmental approval before significant mining activities can commence at the Carmichael Coal Mine site that being the Groundwater Dependent Ecosystem Management Plan (GDEMP).
- **On 31 May 2019, DES approved the Black Throated Finch Management Plan.**
- As part of their Environmental Authority, Adani is required to publish a copy of the BTFMP within 10 business days on their website.

Black-throated Finch Management Plan (BTFMP)

- DES approved the BTFMP on 31 May 2019
- The BTFMP details the management, mitigation measures and monitoring to minimise impacts to the endangered Black-throated Finch.
- Because the location of the Carmichael Coal Mine site hosts the most significant known population of the Black-throated Finch in Australia, DES engaged an independent expert panel to review the Plan.
- Review process:
 - The review was finalised and the final report was provided to Adani on 18 February 2019 for their consideration. Adani provided submissions to DES on 15 March and 2 April 2019 about the review.
 - On 2 May 2019, DES advised Adani that the BTFMP did not meet the EA requirements and that it required amendments.
 - On 24 May 2019, DES reached agreement with Adani with respect to the requirements of the BTFMP.
 - On 28 May 2019, Adani submitted its most recent version of the plan addressing the required amendments.
- On 31 May 2019, DES approved the BTFMP.
- Note: The independent expert panel review report (Wintle Report) on the Black-throated Finch Management Plan (BTFMP) is not a document available on the public register under the *Environmental Protection Act 1994*. However, the report would be subject to Right to Information provisions and may be accessible through that process. DES is currently determining whether the report is able to be published on the DES website.

Groundwater Dependent Ecosystem Management Plan (GDEMP)

- DES is currently assessing a Groundwater Dependant Ecosystem Monitoring Plan for the proposed mine.
- The GDEMP must identify the source aquifer of the Doongmabulla Springs Complex and methodology used to determine the source.
- The Commonwealth Department of the Environment and Energy had engaged the CSIRO and Geoscience Australia to undertake an independent scientific review of the GDEMP and DES received a copy of the review on 9 April 2019.
- DES will assess whether the GDEMP meets the EA requirements, and advise Adani if further information or changes are required.

- DES will make a decision on the GDEMP by 13 June 2019.

State Approval

- The Queensland Coordinator-General approved the Environmental Impact Statement for the project in 2014. The development of the BTFMP and GDEMP have been required since then by conditions of the mine's Environmental Authority.

Commonwealth approval

- The Commonwealth Department of the Environment and Energy (DoEE) approved the BTFMP on 18 December 2018 and the GDEMP on 9 April 2019.

Financial Assurance

- DES currently holds the full required amount \$15,824,063.00 in financial assurance for Carmichael Coal Mine.

Published on DES Disclosure Log
RTI Act 2009

Date : 31/05/2019 5:06:59 PM

From : "Media DES"

To : "ELLWOOD Dean"

Cc : "Media DES" , "WELLS Melissa"

Subject : Dean - for approval - response to RMIT ABC Fact Check re the scale of Carmichael mine - not required until Monday

Attachment : 310519 - Carmichael Mine Approvals - RMIT ABC Fact

Check.docx;image002.png;image004.jpg;image005.jpg;image006.jpg;image007.jpg;image008.jpg;image009.jpg;image010.jpg;image011.jpg;image003.png;image012.jpg;

Hi Dean

For your approval, please. This is not required until Monday 3 June.

The attached response to RMIT ABC Fact Check re the scale of the Carmichael Mine and associated approvals has been approved by Melissa Wells.

The response is a direct cut and paste from a response we did for The Guardian online news site on 30 April.

Note the journalist has asked two questions. The second is being addressed by State Development.

Regards

Kieran Lewis

Media Services

Department of Environment and Science

media@des.qld.gov.au

Level 31 | 400 George Street | Brisbane

Tel 07 3330 5897

www.des.qld.gov.au

If you are emailing about a media matter, please cc media@des.qld.gov.au

From: Media <Media@dsdmip.qld.gov.au>

Sent: Friday, 31 May 2019 12:25 PM

To: Media DES

Cc: Media

Subject: FW: Media request: fact check about Pembroke/Carmichael mine approvals

Hi I'm told DES is to answer question 1.

We will answer question 2.

Deadline Monday lunch time

Cheers,



Harry Krebs

Senior Media/Communications Officer

Marketing, Communication and Media

Department of State Development,

Manufacturing, Infrastructure and Planning

PO Box 15009, City East QLD 4002

Level 38, 1 William Street, Brisbane QLD 4000

PO Box 15009, City East QLD 4002

www.dsdmip.qld.gov.au

LET'S CONNECT



LEARN MORE
ABOUT HOW WE'RE

INVESTED IN QUEENSLAND

From: s.78B(2) <s.78B(2)@rmit.edu.au>

Sent: Friday, 31 May 2019 12:12 PM

To: Media <Media@dsdmip.qld.gov.au>

Subject: Media request: fact check about Pembroke/Carmichael mine approvals

Hello,

I'm a journalist with RMIT ABC Fact Check.

We're writing a story on whether Pembroke's Olive Downs mine is "as big as" Adani's Carmichael project, and whether it has been "approved" by the Queensland Government.

I'd appreciate comment from the Coordinator General in relation to two questions:

1. The Coordinator General's [2014 report](#) suggests the Carmichael project received conditional approval based on a proposed output of 60 mtpa. Since then, Adani has said it proposes to at least halve this output (starting at 10 mtpa and increasing to 27.5 mtpa).

Are there any restrictions that would limit the mine's output to 10 mtpa or 27.5 mtpa? Or is it free to produce up to 60 mtpa?

s.73

At what point can it be said the mine has been approved by the Government?

If possible, I'd appreciate a response before lunchtime Monday.

Warm regards,

s.78B(2)

Senior Journalist

[RMIT ABC Fact Check](#)

(03) 9925 3279



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RTI Act 2009

Media response

Re: Carmichael Mine approvals

For: s.78B(2)
RMIT ABC Fact Check
(03) 9925 3279

Enquiry received: 12.35 pm (via State Development) 31 May 2019

Media deadline: Noon Monday 3 June 2019

Date: 31 May 2019

Questions:

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RTI Act 2009

s.73

☐ ☐ ☐

Please attribute to a Department of Environment and Science (DES) spokesperson:

The Carmichael Coal Mine approval was assessed based on a maximum footprint and scale of up to 60Mtpa product coal as described in the Environmental Impact Statement (EIS). While no additional approvals may be required for a smaller mine, certain matters, such as financial surety, may vary.

While Adani have made announcements about scaling-back the project, the scope of the environmental authority is based on the maximum project described in the EIS. The GDEMP and BTFMP are also required to consider the maximum potential impacts of the 60Mtpa project, including appropriate management and mitigation measures such as biodiversity offsets.

ENDS

For further media enquiries contact Media Services on (07) 3339 5831 or email media@des.qld.gov.au.

AGENCY BACKGROUND – NOT FOR PUBLICATION (do not include in response to media)

The Department of State Development is responding to Question 2. When approved, DES will share its response to Question 1 with State Development.

Note the above DES response is a direct lift from an earlier DES response (30 April 2019) to The Guardian Australia.

Contact: Melissa Wells
Ph: 4987 9343
Date: 31 May 2019

Endorsed:
Ph: 07
Date:

Published on DES Disclosure Log
RTI Act 2009

Date : 27/05/2019 9:10:34 AM

From : "BENNINK Kate"

To : (b) (6) Personal information@csiro.au"

sch (b) (6) Personal information@csiro.au", "WELLS Melissa", "ELLWOOD Dean"

Subject : DES/CSIRO contract - consulting services agreement

Attachment : Qld DES Draft FTA 2019051193 (McDonald).pdf; Advice request and costing response_CSIRO_GA_24May2019_for_submission.docx; image001.png;

Good morning (b) (6) Personal information

The department wishes to proceed on the basis of the two draft documents previously provided by CSIRO and attached.

Can you please advise any information you require from DES, and then return the agreement for DES representative signature?

My best contact is mobile (b) (6) Personal information

Kind regards,
Kate



Kate Bennink
Director
Business Centre Coal | Coal and Central Queensland
Compliance
Environmental Services and Regulation
Department of Environment and Science

P (07) 4987 9339 (b) (6) Personal information
E kate.bennink@des.qld.gov.au
99 Hospital Road, Emerald QLD 4720
PO Box 3028, Emerald QLD 4720

CSIRO
ABN: 41 687 119 230
Clunies Ross Street
Black Mountain ACT 2601
Australia

**CONSULTING
SERVICES
AGREEMENT**



Client:	CSIRO Technical Contact	CSIRO Contract Manager
----------------	--------------------------------	-------------------------------

Tel:
Fax:

sch4p4(6) Personal information

Details of Service

Services	tba
Deliverables	tba
Application	tba
Materials	tba
Return Instructions	tba
Dates	Start Date: 01/07/2019 Delivery Date: 02/07/2019

Client Charges

Fee (AUD)	\$2.00 before GST tba	\$2.20 including GST
Additional Expenses	tba	
Payment Terms	The Fee and any Additional Expenses will be invoiced on the Delivery Date	

This proposal to enter into an Agreement (which will consist of this cover page, the terms overleaf and any attachments) is valid for 60 days from the date shown at the top of this cover page. To accept this proposal, please have your authorised representative sign below and return all of the pages of the Agreement to sch4p4(6) Personal information via fax () or email () @csiro.au; or post to CSIRO, GPO Box 1700, Canberra, ACT, 2601, Australia.

By signing below you confirm you have read and accepted the Agreement and that you are authorised to sign on behalf of the Client.

CSIRO

by sch4p4(6) Personal information

on

null

by

(Signature)

(Print Name)

on

(Date)

TERMS OF SERVICE

1. Definitions

'Background IP' means any IP which is or has been created by CSIRO independently of the work it is doing for you under this Agreement and which is provided for your use as part of the Deliverables.

'Confidential Information' means all information disclosed in any form or media, which is by its nature confidential or which either of us identify as confidential and all copies, notes and records made of such information.

'CSIRO' means the Commonwealth Scientific and Industrial Research Organisation ABN 41 687 119 230, having its principal office at CSIRO Black Mountain Science and Innovation Park, Clunies Ross Street, Acton ACT, Australia.

'IP' means any rights in any existing or future copyright work, patentable invention, design, circuit layout, new plant variety, trademark, know-how or trade secret.

'Project IP' means any IP created by CSIRO in the course of providing Services for you under this Agreement, which is for the Application and which is provided for your use as part of the Deliverables.

'we', 'us' or 'our' means the Client and CSIRO severally.

'you' or 'your' means the Client identified on the cover page.

Other capitalised expressions used in this Agreement have the meanings given to them in the cover page.

2. CSIRO Services

- 2.1 CSIRO will perform the Services to professional standards.
- 2.2 The knowledge and skills that CSIRO personnel will use to perform the Services have been developed in the course of providing the same or similar services to other clients. CSIRO may develop further knowledge and skills while performing the Services. CSIRO can use such general knowledge and skills for other clients.
- 2.3 CSIRO will keep copies of any reports, computer programs or data that form part of the Deliverables and may reproduce and use such reports, computer programs and data for its own internal research and record keeping purposes.
- 2.4 CSIRO will make reasonable efforts to deliver the Deliverables to you by the Delivery Date. If CSIRO is unable to meet the Delivery Date then you will be told of any delay and of the revised delivery date for the affected Deliverable to be provided within a reasonable time.
- 2.5 You may notify CSIRO at any time that you do not wish to proceed with the Services. On receipt of your notice, CSIRO will cease work as soon as practicable and will not be obliged to provide any further Services or Deliverables unless otherwise agreed. CSIRO will invoice you on a pro-rata basis for work done and expenses incurred or

committed prior to cessation.

- 2.6 If CSIRO personnel are to perform the Services at your premises then you must ensure that they are provided with a healthy and safe working environment and are properly supervised. It is your responsibility to ensure CSIRO personnel are informed of your policies as to health, safety, security and conduct while on your premises. CSIRO will instruct its personnel while on your premises to comply with all reasonable directions given by you as to health, safety, security and conduct. CSIRO personnel and any motor vehicles they use while performing the services are insured.

3. Your Materials

- 3.1 You must provide the Materials on time, ensure they are safely transported to and from CSIRO laboratories and are suitable for the Services. If the Materials are damaged, defective, or are otherwise unsuitable and CSIRO performs any part of the Services before discovering the Materials are unsuitable then CSIRO will charge you for any costs it has incurred, including the cost of any additional work required due to the unsuitability of the Materials.
- 3.2 You must ensure that any Materials you provide to CSIRO are: (i) suitably packaged; (ii) labelled with your name and contact details, the contents and the name of the CSIRO Technical Contact; and (iii) labelled with appropriate safety warnings or instructions for their handling, testing, storage, transportation and disposal. You must also advise CSIRO of any hazardous or otherwise dangerous components or properties of the Material.
- 3.3 If you do not comply with the above and CSIRO has to take measures to safeguard the health and safety of CSIRO staff, CSIRO laboratories or the public, then CSIRO will charge you for the cost of taking these measures.

4. Payment

- 4.1 You must pay CSIRO the Fee (and any Additional Expenses) in accordance with the Payment Terms. If payment is to be made in full upfront then CSIRO will not start performing the Services until such payment is received. If payment is to be made by instalments following receipt of invoices from CSIRO and you do not pay any invoice on time then CSIRO may stop performing the Services until the outstanding amount is paid.
- 4.2 All invoices issued by CSIRO must be paid within 30 days after the invoice date. If an invoice is not paid on time then you must pay interest on the outstanding amount. Interest is calculated daily at the NAB Benchmark Rate plus 2% per annum from the due date until the date the outstanding amount is paid.
- 4.3 For GST purposes the cover page and any receipts issued by CSIRO are tax invoices. Any additional invoices issued by CSIRO will be in the form of a tax invoice.

5. Your Use of Deliverables

- 5.1 The Deliverables are for the Application. CSIRO is not providing the Deliverables or any part of them for any other purpose.
- 5.2 Except to the extent expressly specified on the cover page, the Application does not include publishing or providing the Deliverables to any third party.
- 5.3 You use the Deliverables at your own risk.
- 5.4 CSIRO is not responsible for the consequences of any third party using or relying on the Deliverables.
- 5.5 CSIRO assigns the Project IP to you on the date the Fee and the Additional Expenses are fully paid.
- 5.6 You grant CSIRO an irrevocable, non-exclusive, royalty-free licence to use the Project IP for any purpose, including sub-licensing to third parties. This licence commences on the date the Project IP is assigned to you.
- 5.7 CSIRO owns its Background IP. CSIRO grants you a non-exclusive, royalty-free licence to use its Background IP as necessary to use the Deliverables for the Application. This licence commences on the date the Fee and the Additional Expenses are fully paid. If you use the Deliverables for any purpose other than the Application CSIRO may cancel this licence.

6. Confidential Information

- 6.1 Confidential Information must be kept confidential for a period of 5 years commencing on the date you sign this Agreement.
- 6.2 The obligation to maintain the confidentiality of Confidential Information does not apply to information which either of us can prove was:
 - a) created by our own officers, employees and contractors independently of each other's Confidential Information;
 - b) rightfully known by either of us as a consequence of the information being disclosed from an independent source without any limitation on its use or disclosure; or
 - c) in the public domain (other than as a result of a breach of this Agreement).
- 6.3 We may each disclose the other's Confidential Information if required by law, but only to the extent of that legal requirement and after appropriate action is taken to protect the form and content of the disclosure.

7. Limitation of Liability

- 7.1 This Agreement does not exclude or limit any guarantee, condition, warranty, right or liability implied into it by law (including the *Competition and Consumer Act 2010*), the exclusion of which would contravene the law or cause this Agreement to be void ('non-excludable consumer warranties'). This Agreement is at all times to be read subject to such non-excludable consumer warranties.

- 7.2 CSIRO's liability to you for breach of any term of the Agreement or of any non-excludable consumer warranties is limited, at CSIRO's option, to resupplying the Deliverables or re-performing the Services, or the costs of resupplying the relevant Deliverables or performing the affected part of the Services again.
- 7.3 CSIRO will not be liable to you for any loss of data, information, revenue, profit or business opportunity or for any damage to goodwill or reputation which is suffered by you in any way arising from the Services or your use of the Deliverables.

8. Dispute Resolution

- 8.1 Any dispute, controversy or claim arising out of or in connection with this Agreement, including its existence, breach, validity or termination (Dispute) must be dealt with in accordance with this clause. This clause does not prevent any of us from seeking urgent injunctive or similar interim relief from a Court.
- 8.2 Any of us claiming that there is a Dispute must notify each other in writing and give details of that Dispute to each other's contact person specified in the cover page.
- 8.3 If the Dispute is not resolved within 90 days from the date that the written notice of the Dispute is received, then the Dispute must be submitted to mediation in accordance with, and subject to, the Resolution Institute Mediation Rules. The mediation must take place in Sydney, Australia and be administered by the Resolution Institute.
- 8.4 If the Dispute cannot be resolved within 90 days (unless this period is extended by our mutual agreement in writing) from the date it is submitted for mediation, then the Dispute must be resolved by arbitration in accordance with the Resolution Institute Arbitration Rules 2016.
- 8.5 There is to be one arbitrator and the place of arbitration is Sydney, Australia. Unless we agree upon an arbitrator, either of us may request a nomination from the Chair of the Resolution Institute. All hearings will take place in private unless agreed otherwise in writing. The decision of the arbitrator (including any award as to costs) will be final and binding. CSIRO may, if required, disclose any information regarding the arbitration to its responsible government Minister, House of Parliament or a Committee of Parliament.

9. Termination

If either you or CSIRO breach this Agreement and that breach is not remedied within 30 days after receipt of notice to remedy, then the other may terminate this Agreement by written notice.

10. Use of CSIRO Name

You must not use CSIRO's name (that is, "CSIRO" or "Commonwealth Scientific and Industrial Research Organisation") in a manner that suggests that CSIRO endorses or is associated with your business, products or services. In no case may you use CSIRO's logo without first receiving CSIRO's prior written consent.

11. General

- 11.1** This Agreement records our entire agreement and supersedes all earlier agreements and representations that may have been made by CSIRO to you about the Services.
- 11.2** The terms in this Agreement override any contrary terms contained in any invoice, purchase order or other documentation issued by you to CSIRO for the Services.
- 11.3** This Agreement is governed by the law applicable to the State or Territory given in the CSIRO address specified at the top left corner of the cover page.
- 11.4** If any term of this Agreement is prohibited, void or unenforceable under any applicable law, it will be severed to the extent necessary to make this Agreement valid and enforceable. The severance of a term will not affect the validity or enforceability of the remaining terms of this Agreement.

Advice request | Queensland Department of Environment and Science (QDES) request on Carmichael Coal Mine Project Groundwater Dependent Ecosystem Management Plan (GDEMP)

This proposal responds to a request for advice from the Queensland Department of Environment and Science on 20 May 2019 with regard to the Carmichael Coal Mine Project. This proposal sets out the advice sought, our understanding of the request, provides a costing estimate, delivery timeframe, and personnel roles and responsibilities.

Review documents (for clarification please note DES does not require a review of the GMMP): GDEMP v11b (track change versions v10 – v11 and v11a-11b attached);

1 Advice regarding the source aquifer(s) of the Doongmabulla Springs Complex (DSC)

The following are excerpts from the request letter sent to Geoscience Australia (GA) and the CSIRO.

Following the department's review of the CSIRO/GA 2019 Report, the department seeks your advice about the type of investigation and research that may provide greater certainty regarding the department's interest in relation to the identification of the source aquifer(s) to the Doongmabulla Springs Complex (DSC).

The environmental authority (EA) for the Carmichael Coal Mine requires Adani to develop and implement a Groundwater Dependent Ecosystems Management Plan (GDEMP). The term GDEMP is defined in the EA and states, among other things, that a GDEMP must include 'detailed baseline research to establish the source aquifer(s) for groundwater supply to each groundwater dependent ecosystem [potentially or indirectly impacted by mining activities].

Having regard for **the 2019 Report, the 2018 advice, and the meeting on 16 April 2019**, the department asks three questions to clarify their understanding about further research (steps) to improve the certainty about the source aquifer(s) of the DSC and other groundwater dependent ecosystems.

- 1. Does the above summary accurately reflect the CSIRO/GA advice with respect to further work that could increase certainty of the source aquifer(s) for the DSC?*
- 2. Would CSIRO/GA recommend any additional measures?*
- 3. Would it be appropriate from an adaptive management framework for all the above matters to be undertaken over a set period i.e. prior to the model review (re-run)?*

2. Advice regarding acceptable levels of uncertainty for groundwater research and modelling, groundwater drawdown trigger thresholds and adaptive management measures in the updated GDEMP.

Based on GDEMP 11b (track change version/s) and the CSIRO/GA advice dated November 2018 and February 2019, the department seeks your additional advice on the following questions:

- 4. Generally, in respect to groundwater research and modelling, is it acceptable and/or common from a scientific basis to have some level of uncertainty? i.e. can source aquifer(s) ever be categorically determined or definitively identified? Can you have absolute certainty? Is there always some level of uncertainty?*

5. *Are the groundwater drawdown trigger thresholds proposed in the updated GDEMP 11b appropriate and suitable to ensure the long-term protection of the DSC in light of your advice that the numerical model is not fit for purpose?*
6. *For question 5, are the adaptive management measures and commitments in the updated GDEMP appropriate? If not, please provide suggestions to address this?*

Scope of advice to be provided by GA-CSIRO

The joint response from GA and CSIRO will:

- Build upon existing advice to DoEE but incorporate changes to recent documents, specifically changes in GDEMPv11b
- Rely on documents supplied by QDES, in particular the 'tracked changes' versions of the GDEMP that contain all changes made between document versions 'v10 to v11' and 'v11a to v11b'
- Seek a single point of contact in QDES for CSIRO and GA staff to clarify technical matters

Cost estimates

GA Cost: \$24,907 includes technical assessment, peer review and agency clearance.

CSIRO Cost – \$23,503 includes technical assessment, peer review and agency clearance.

Estimated total cost: \$48,410 GST exclusive

Delivery of services

From date of contract execution the advice would be delivered to QDES by no later than **COB Friday 7 June 2019** in the form of a short report. This timeline assumes the scope of work remains unchanged from that set out above.

Resourcing

GA Staff and effort

Role	Days
GA Response coordinator	2
Hydrodynamics – Senior	2
Hydrochemistry – Senior	5
Geology/Hydrogeology - Senior	5

GA Cost – \$24,907 includes technical assessment, peer review and agency clearance.

CSIRO Staff and effort

Role	Days
CSIRO coordinator and reviewer	2
GDE Ecologist	5
Groundwater hydrologist	5

CSIRO Cost – \$23,503 includes technical assessment, peer review and agency clearance.

Role descriptions

GA and CSIRO Response coordinator 1) technical hydrogeological lead to direct response 2) uphold scientific impartiality and integrity, 3) coordinate a cohesive response across agencies and disciplines, and 4) support and facilitate response through cross-disciplinary collaboration

GA Geology/Hydrogeology - Senior 1) consider the strategic implications of proponent's preferred hydrogeological (including structure) conceptualisation and plausible/reasonable alternatives, 2) Provide strategic technical advice under broad direction, 3) evaluate and communicate risks, in the technical context.

GA Hydrodynamic - Senior 1) to assess and evaluate the adequacy and feasibility of proponent technical methodology and approaches including hydraulic parameterisation and water flow, 2) Provide high level specialist technical advice under broad direction, 3) Evaluate, prioritise and communicate identified technical risks in the context of a multi-disciplinary science advice response, and 4) contribute to a concise and timely cohesive advice response to support decision making.

GA Hydrochemistry - Senior 1) to assess and evaluate the adequacy and feasibility of proponent technical methodology and approaches including bulk chemistry and water quality, 2) Provide high level specialist technical advice under broad direction, 3) Evaluate, prioritise and communicate identified technical risks in the context of a multi-disciplinary science advice response, and 4) contribute to a concise and timely cohesive advice response to support decision making.

CSIRO Groundwater hydrologist 1) to assess and evaluate the adequacy and feasibility of proponent technical methodology and approaches including numerical methods, model parameterisation and conceptual implementation, 2) Provide high level specialist technical advice under broad direction, 3) Evaluate, prioritise and communicate identified technical risks in the context of a multi-disciplinary science advice response, and 4) contribute to a concise and timely cohesive advice response to support decision making.

CSIRO Ecologist 1) to assess and evaluate the adequacy and feasibility of proponent technical methodology and approaches including ecosystem monitoring and mitigation measures, 2) Provide high level specialist technical advice under broad direction, 3) Evaluate, prioritise and communicate identified technical risks in the context of a multi-disciplinary science advice response, and 4) contribute to a concise and timely cohesive advice response to support decision making.

05/19

3:30pm

telecon with CG/CSIRO

- Barry Bruce
- Melissa Wells
- Jane Gorman
- Warrick McDonald

3:39pm

on track for 7 June admin

- CSIRO. clearing technical effort now
M.W. will today
- CSIRO requested a review of the GMP.
- discussion about contract is finalized.
- CSIRO receiving some media enquiries.
about timing. CSIRO advised that their reply
being short and long will provide a time.

23 May 2019
11:15

CG DCS Adams

13.15

Barry Brown.

1 William St

Janie Merrick / Dee Ellwood.

Steve Tarte CG.

Sonya Booth CG

Lucas Dow (LD)

Hannah Mangi.

"CSIRO

John Tabled
document
that contains
the GDMMP version 7

13 June.

- discussion at start of meeting → BLD student place
GDMMP / GMMP → claimed that the Dept has
indicated that we not to amend the EA conditions
(have clarified with Business Centre not the case).

- commitment to share the CSIRO scope - by 100.

- Ed 7-10 days of work from GMMP for Adams

- any work in not about work prior to

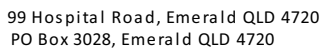
- any additional commitments are not intended
prior to commencement.

to Dept to draft letter about any amendments to
GDMMP is for further work not required
prior to commencement.

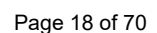
BTF:

Julia = email.

Attachment : image001.png;image004.png;image002.png;image006.png;image008.png;



99 Hospital Road, Emerald QLD 4720
PO Box 3028, Emerald QLD 4720



present.

GPO Box 1700
CSIRO Black Mountain Site
Clunies Ross St, Canberra ACT 2601

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response_CSIRO_GA_24May2019_for_submission.docx;image001.png;image003.png;image004.png;image005.png;



Subject: RE: Proposal for advice request from DHES around the Adani Carmichael mine

sch4p4(6) Personal information

GPO Box 1700
CSIRO Black Mountain Site
Clunies Ross St, Canberra ACT 2601

Importance: High

Page 21 of 70

Thank you for your proposal. In light of the feedback and information that CSIRO/GA have sought clarification on, DES has significantly reviewed the initial scope of the request to provide more clarity and direction in relation to DES's interests.

The revised scope provides clarity and focusses on the track changed versions of the GDEMP. The scope provides confirmation that the review does *not* include the updated GMMP and includes a refined list of questions. Accordingly, please find attached a narrowed and refined scope for the review and the 'track changed' GDEMPs (for ease of reference). Again, given the urgency around timeliness, if you could please review and provide an update proposal (costings/timeframes) at your earliest convenience.

If you would like to discuss or seek clarification I would be happy to arrange a meeting as soon as possible.

Kind regards,
Melissa.



Melissa Wells
Executive Director
Coal and Central Qld Compliance
Department of Environment and Science

P 07 4987 9343

99 Hospital Road, Emerald QLD 4720
PO Box 3028, Emerald QLD 4720

sch4p4(6) Personal information
From: [redacted] (sch4p4(6) Personal information) <[redacted]>

Sent: Monday, 20 May 2019 3:31 PM

To: WELLS Melissa

Cc: [redacted] s.78B(2)

Subject: Proposal for advice request from DHES around the Adani Carmichael mine

Dear Melissa [redacted] s.78B(2)

Thank you for your request on Friday May 10th for GA and CSIRO to provide advice about the type of investigation and research that may provide greater certainty regarding your Department's interest in relation to the identification of the source aquifer(s) to the Doongmabulla Springs Complex.

GA and CSIRO would be happy to undertake the work detailed in your email.

Please find attached our joint proposal, noting we are seeking clarification on aspects of the advice you are seeking. In summary, we have estimated the cost at \$103,072 (GST exclusive) and the advice delivered to you within 20 working days following contract execution.

Please engage with [redacted] (sch4p4(6) Personal information) the primary contact in relation to contractual issues [redacted] (sch4p4(6) Personal information) [redacted] (sch4p4(6) Personal information) [redacted] (sch4p4(6) Personal information)
sch4p4(6) Personal information

With [redacted] (sch4p4(6) Personal information)

sch4p4(6) Personal information

Director
CSIRO Land and Water

sch4p4(6) Personal information

T [redacted] (sch4p4(6) Personal information)

<https://www.csiro.au/en/Research/LWF>

CSIRO acknowledges the Traditional Owners of the lands that we live and work on across Australia and pays its respect to Elders past and present.

GPO Box 1700
CSIRO Black Mountain Site
Clunies Ross St, Canberra ACT 2601

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If you have received this message in error, you are asked to inform the sender as quickly as possible and delete this message and any copies of this message from your computer and/or your computer system network.

Advice request | Queensland Department of Environment and Science (QDES) request on Carmichael Coal Mine Project Groundwater Dependent Ecosystem Management Plan (GDEMP)

This proposal responds to a request for advice from the Queensland Department of Environment and Science on 20 May 2019 with regard to the Carmichael Coal Mine Project. This proposal sets out the advice sought, our understanding of the request, provides a costing estimate, delivery timeframe, and personnel roles and responsibilities.

Review documents (for clarification please note DES does not require a review of the GMMP): GDEMP v11b (track change versions v10 – v11 and v11a-11b attached);

1 Advice regarding the source aquifer(s) of the Doongmabulla Springs Complex (DSC)

The following are excerpts from the request letter sent to Geoscience Australia (GA) and the CSIRO.

Following the department's review of the CSIRO/GA 2019 Report, the department seeks your advice about the type of investigation and research that may provide greater certainty regarding the department's interest in relation to the identification of the source aquifer(s) to the Doongmabulla Springs Complex (DSC).

The environmental authority (EA) for the Carmichael Coal Mine requires Adani to develop and implement a Groundwater Dependent Ecosystems Management Plan (GDEMP). The term GDEMP is defined in the EA and states, among other things, that a GDEMP must include 'detailed baseline research to establish the source aquifer(s) for groundwater supply to each groundwater dependent ecosystem [potentially or indirectly impacted by mining activities].

Having regard for **the 2019 Report, the 2018 advice, and the meeting on 16 April 2019**, the department asks three questions to clarify their understanding about further research (steps) to improve the certainty about the source aquifer(s) of the DSC and other groundwater dependent ecosystems.

- 1. Does the above summary accurately reflect the CSIRO/GA advice with respect to further work that could increase certainty of the source aquifer(s) for the DSC?*
- 2. Would CSIRO/GA recommend any additional measures?*
- 3. Would it be appropriate from an adaptive management framework for all the above matters to be undertaken over a set period i.e. prior to the model review (re-run)?*

2. Advice regarding acceptable levels of uncertainty for groundwater research and modelling, groundwater drawdown trigger thresholds and adaptive management measures in the updated GDEMP.

Based on GDEMP 11b (track change version/s) and the CSIRO/GA advice dated November 2018 and February 2019, the department seeks your additional advice on the following questions:

- 4. Generally, in respect to groundwater research and modelling, is it acceptable and/or common from a scientific basis to have some level of uncertainty? i.e. can source aquifer(s) ever be categorically determined or definitively identified? Can you have absolute certainty? Is there always some level of uncertainty?*

5. *Are the groundwater drawdown trigger thresholds proposed in the updated GDEMP 11b appropriate and suitable to ensure the long-term protection of the DSC in light of your advice that the numerical model is not fit for purpose?*
6. *For question 5, are the adaptive management measures and commitments in the updated GDEMP appropriate? If not, please provide suggestions to address this?*

Scope of advice to be provided by GA-CSIRO

The joint response from GA and CSIRO will:

- Build upon existing advice to DoEE but incorporate changes to recent documents, specifically changes in GDEMPv11b
- Rely on documents supplied by QDES, in particular the 'tracked changes' versions of the GDEMP that contain all changes made between document versions 'v10 to v11' and 'v11a to v11b'
- Seek a single point of contact in QDES for CSIRO and GA staff to clarify technical matters

Cost estimates

GA Cost: \$24,907 includes technical assessment, peer review and agency clearance.

CSIRO Cost – \$23,503 includes technical assessment, peer review and agency clearance.

Estimated total cost: \$48,410 GST exclusive

Delivery of services

From date of contract execution the advice would be delivered to QDES by no later than **COB Friday 7 June 2019** in the form of a short report. This timeline assumes the scope of work remains unchanged from that set out above.

Resourcing

GA Staff and effort

Role	Days
GA Response coordinator	2
Hydrodynamics – Senior	2
Hydrochemistry – Senior	5
Geology/Hydrogeology - Senior	5

GA Cost – \$24,907 includes technical assessment, peer review and agency clearance.

CSIRO Staff and effort

Role	Days
CSIRO coordinator and reviewer	2
GDE Ecologist	5
Groundwater hydrologist	5

CSIRO Cost – \$23,503 includes technical assessment, peer review and agency clearance.

Role descriptions

GA and CSIRO Response coordinator 1) technical hydrogeological lead to direct response 2) uphold scientific impartiality and integrity, 3) coordinate a cohesive response across agencies and disciplines, and 4) support and facilitate response through cross-disciplinary collaboration

GA Geology/Hydrogeology - Senior 1) consider the strategic implications of proponent's preferred hydrogeological (including structure) conceptualisation and plausible/reasonable alternatives, 2) Provide strategic technical advice under broad direction, 3) evaluate and communicate risks, in the technical context.

GA Hydrodynamic - Senior 1) to assess and evaluate the adequacy and feasibility of proponent technical methodology and approaches including hydraulic parameterisation and water flow, 2) Provide high level specialist technical advice under broad direction, 3) Evaluate, prioritise and communicate identified technical risks in the context of a multi-disciplinary science advice response, and 4) contribute to a concise and timely cohesive advice response to support decision making.

GA Hydrochemistry - Senior 1) to assess and evaluate the adequacy and feasibility of proponent technical methodology and approaches including bulk chemistry and water quality, 2) Provide high level specialist technical advice under broad direction, 3) Evaluate, prioritise and communicate identified technical risks in the context of a multi-disciplinary science advice response, and 4) contribute to a concise and timely cohesive advice response to support decision making.

CSIRO Groundwater hydrologist 1) to assess and evaluate the adequacy and feasibility of proponent technical methodology and approaches including numerical methods, model parameterisation and conceptual implementation, 2) Provide high level specialist technical advice under broad direction, 3) Evaluate, prioritise and communicate identified technical risks in the context of a multi-disciplinary science advice response, and 4) contribute to a concise and timely cohesive advice response to support decision making.

CSIRO Ecologist 1) to assess and evaluate the adequacy and feasibility of proponent technical methodology and approaches including ecosystem monitoring and mitigation measures, 2) Provide high level specialist technical advice under broad direction, 3) Evaluate, prioritise and communicate identified technical risks in the context of a multi-disciplinary science advice response, and 4) contribute to a concise and timely cohesive advice response to support decision making.

Date : 27/05/2019 12:55:44 PM

From : "TRACEY Alena"

To : "STRICKLAND Emily"

Cc : "WELLS Melissa" , "ELLWOOD Dean"

Subject : FW: urgent - Brief

Attachment : attachment 1.docx;ATT00001.htm;image003.png;ATT00002.htm;image001.png;image002.png;

Please flip into DG BN and print for Jamie. Thanks, Alena



Alena Tracey

Executive Director

Office of the Director-General

Department of Environment and Science

E: alena.tracey@des.qld.gov.au

Level 32, 1 William Street, Brisbane Qld 4000

Level 27, 400 George Street, Brisbane Qld 4000

From: WELLS Melissa <Melissa.Wells@des.qld.gov.au>

Sent: Monday, 27 May 2019 12:35 PM

To: ELLWOOD Dean; TRACEY Alena

Cc: MERRICK Jamie

Subject: Fwd: urgent - Brief

Hi Dean and Alena as per below advice BN now attached for DDG and DG consideration and approval. Thanks, Melissa.

Published on DES Disclosure Log
RTI Act 2009

SECURITY CLASSIFICATION: UNCLASSIFIED

BRIEFING NOTE – EXECUTIVE DIRECTOR

Subject Engagement of CSIRO to provide advice relating to the Adani Carmichael Coal Mine Groundwater Dependent Ecosystem Management Plan

Approval required 27 May 2019.

RECOMMENDATION

It is recommended that the Executive Director:

- **approve** the engagement of CSIRO to provide advice relating to the Adani Carmichael Coal Mine Groundwater Dependent Ecosystem Management Plan (GDEMP).

BACKGROUND

- On 9 April 2019, Adani submitted the most recent version of the GDEMP (version 11b).
- The Commonwealth Department of the Environment and Energy (DOEE) previously engaged CSIRO and Geoscience Australia (GA) to review the GDEMP (version 10a), before the Federal Minister decided to approve that version of the GDEMP on 9 April 2019.
- CSIRO and GA's review report (February 2019) was received by DES on 9 April 2019.
- DES officers met with DOEE, CSIRO and Geoscience Australia representatives on 16 April 2019 to discuss the review report.
- Given that Adani has submitted a revised version of the GDEMP (version 11b) that is different to the one that the CSIRO/GA review relied on, DES is seeking clarification from CSIRO/GA about its review in light of the revised GDEMP.
- DES is seeking clarification around the evidence to support identification of the source aquifer(s) of the Doongmabulla Springs Complex.
- On 10 May 2019, DES wrote to CSIRO and GA requesting advice on five areas, and subsequently provided clarification of the advice sought on 22 May 2019.
- CSIRO and GA have agreed in-principle to provide the advice on a fee-for-service basis.

KEY ISSUES

- As CSIRO and GA conducted the review of the GDEMP for DoEE, and DES requires advice on specific issues within the scope of that review, only CSIRO and GA can provide the requested consulting services in the required timeframe
- The advice is required by COB 7 June 2019, as a decision on the GDEMP must be made by 13 June 2019.
- DES have accepted in-principle CSIRO's terms and conditions in the short form consulting services agreement.
- CSIRO will subcontract to GA through a standing order arrangement, therefore DES only require a contract with CSIRO.

ELECTION/CABINET/PUBLIC COMMITMENTS/LEGISLATION

- DES is required to make a decision whether to approve the GDEMP under environmental authority (EA) condition I12 for the Carmichael Coal Mine (EPML01470513) by 13 June 2019.
- DES has publically stated that advice on version 11b of the GDEMP will be sought from CSIRO and GA.

FINANCIAL IMPACTS

- Funding is available from within existing divisional budget.
- The estimated cost for the advice is approximately \$48,410.00 (GST exclusive).

CONSULTATION

- Procurement Services (mandatory if approval is related to a procurement exercise).

FUTURE STEPS

- The delegate will assess the GDEMP submitted by Adani on 9 April 2019 against the EA requirements. A decision is required to be made by 13 June 2019.
- The delegate will consider the advice from CSIRO and GA when assessing version 11b of the GDEMP.

Endorsed

Noted / Approved / Not Approved

Dean Ellwood
Deputy Director-General
Environmental Services and Regulation
27 / 5 / 2019

Jamie Merrick (or Executive Director on behalf of)
Director-General
27 / 05 / 2019

Director-General or Executive Director comments

Date : 24/05/2019 2:32:00 PM
From : "ELLWOOD Dean"
To : "WELLS Melissa"
Subject : Fwd:
Attachment : image002.png;

Dean Ellwood
Department of Environment and Science
[400 George St, Brisbane QLD 4000](#)
GPO [Box 2454, Brisbane QLD 4001](#)

Begin forwarded message:

From: [redacted] <[redacted]@coordinatorgeneral.qld.gov.au>
Date: 24 May 2019 at 2:30:38 pm AEST
To: [redacted] <[redacted]@des.qld.gov.au>
Cc: ELLWOOD Dean <Dean.Ellwood@des.qld.gov.au>

sch4p4(6) Personal information

I called and left a voicemail. I just wanted to have a quick chat about the good work you are assisting DES with on the GDEMP.

I also wanted to just give you a heads up about an approvals table that I expect will go online today so you are aware of it.

Please call when free

Regards



[redacted] Personal information

Coordinator-General

Department of State Development, Manufacturing, Infrastructure and Planning

P: 07 3452 3024 [redacted] Personal information

[redacted] <[redacted]@coordinatorgeneral.qld.gov.au>

Level 14 | 1 William Street | Brisbane QLD 4000 | PO Box 15517 | City East QLD 4002

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Date : 24/05/2019 10:27:50 AM

From : "ELLWOOD Dean"

sch4p4(6) Personal information

Subject : Fwd: Proposal for advice request from DHES around the Adani Carmichael mine

Attachment : image002.png;image006.png;image004.png;image008.png;

Begin forwarded message:

From: WELLS Melissa <Melissa.Wells@des.qld.gov.au>

Date: 24 May 2019 at 9:22:02 am AEST

To: ELLWOOD Dean <Dean.Ellwood@des.qld.gov.au>

Subject: FW: Proposal for advice request from DHES around the Adani Carmichael mine



Melissa Wells
Executive Director
Coal and Central Qld Compliance
Department of Environment and Science

P 07 4987 9343

99 Hospital Road, Emerald QLD 4720
PO Box 3028, Emerald QLD 4720

sch4p4(6) Personal information

Sent: Friday, 24 May 2019 9:16 AM

To: WELLS Melissa

Cc: s.78B(2)

Subject: RE: Proposal for advice request from DHES around the Adani Carmichael mine

Dear Melissa,

Thank you for this request, and we will be in contract with you as soon as we have considered this request.

sch4p4(6) Personal information

From: WELLS Melissa [<mailto:Melissa.Wells@des.qld.gov.au>]

Sent: Friday, 24 May 2019 8:56 AM

sch4p4(6) Personal information

To: WELLS Melissa <Melissa.Wells@des.qld.gov.au>

Cc: s.78B(2) <[s.78B\(2\)@ga.gov.au](mailto:s.78B(2)@ga.gov.au)>

Subject: RE: Proposal for advice request from DHES around the Adani Carmichael mine

sch4p4(6) Personal information

Further to my email below and in order for the delegate to consider CSIRO/GA's advice, the department respectfully requests the provision of all or part of the information by 7 June 2019.

I would be happy to arrange a meeting asap to discuss the revised scope, timeframes and provide direction around priorities.

Kind regards,
Melissa.



Melissa Wells
Executive Director
Coal and Central Qld Compliance
Department of Environment and Science

P 07 4987 9343

99 Hospital Road, Emerald QLD 4720
PO Box 3028, Emerald QLD 4720

sch4p4(6) Personal information (s.78B(2)) (6) Personal information (s.78B(2))

Sent: Wednesday, 22 May 2019 4:31 PM

To: WELLS Melissa

Cc: s.78B(2)

Subject: RE: Proposal for advice request from DHES around the Adani Carmichael mine

Dear Melissa,

Thank you for this revised request.

We will provide a formal response as soon as we can.

With regard to Personal information

From: WELLS Melissa [mailto:Melissa.Wells@des.qld.gov.au]

Sent: Wednesday, 22 May 2019 12:07 PM

sch4p4(6) Personal information (s.78B(2)) (6) Personal information (s.78B(2))

To: s.78B(2) [mailto:s.78B(2)@ga.gov.au]

Subject: RE: Proposal for advice request from DHES around the Adani Carmichael mine

Importance: High

sch4p4(6) Personal information (s.78B(2))

Thank you for your proposal. In light of the feedback and information that CSIRO/GA have sought clarification on, DES has significantly reviewed the initial scope of the request to provide more clarity and direction in relation to DES's interests.

The revised scope provides clarity and focusses on the track changed versions of the GDEMP. The scope provides confirmation that the review does *not* include the updated GMMP and includes a refined list of questions. Accordingly, please find attached a narrowed and refined scope for the review and the 'track changed' GDEMPs (for ease of reference). Again, given the urgency around timeliness, if you could please review and provide an update proposal (costings/timeframes) at your earliest convenience.

If you would like to discuss or seek clarification I would be happy to arrange a meeting as soon as possible.

Kind regards,
Melissa.



Melissa Wells
Executive Director
Coal and Central Qld Compliance
Department of Environment and Science

P 07 4987 9343

99 Hospital Road, Emerald QLD 4720
PO Box 3028, Emerald QLD 4720

sch4p4(6) Personal information (s.78B(2)) (6) Personal information (s.78B(2))

Sent: Monday, 20 May 2019 3:31 PM

To: WELLS Melissa

Cc: s.78B(2)

Subject: Proposal for advice request from DHES around the Adani Carmichael mine

Dear Melissa s.78B(2)

Thank you for your request on Friday May 10th for GA and CSIRO to provide advice about the type of investigation and research that may provide greater certainty regarding your Department's interest in relation to the identification of the source aquifer(s) to the Doongmabulla Springs Complex.

GA and CSIRO would be happy to undertake the work detailed in your email.

Please find attached our joint proposal, noting we are seeking clarification on aspects of the advice you are seeking. In summary, we have estimated the cost at \$103,072 (GST exclusive) and the advice delivered to you within 20 working days following contract execution.

Please engage with [redacted] the primary contact in relation to contractual issues [redacted] [redacted] .au, T:
sch4p4(6) Personal information

With [redacted] [redacted] Personal information

sch4p4(6) Personal information

Director

CSIRO Land and Water

sch4p4(6) Personal information

T [redacted] sch4p4(6) Personal information

<https://www.csiro.au/en/Research/LWF>

CSIRO acknowledges the Traditional Owners of the lands that we live and work on across Australia and pays its respect to Elders past and present.

GPO Box 1700

CSIRO Black Mountain Site

Clunies Ross St, Canberra ACT 2601

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Date : 27/05/2019 12:45:09 PM
From : "ELLWOOD Dean"
To : "GEORGA Margaret"
Subject : Fwd: urgent - Brief
Attachment : attachment 1.docx;ATT00001.htm;image003.png;ATT00002.htm;

Dean Ellwood

Department of Environment and Science
[400 George St, Brisbane QLD 4000](#)
GPO [Box 2454, Brisbane QLD 4001](#)

Begin forwarded message:

From: WELLS Melissa <Melissa.Wells@des.qld.gov.au>
Date: 27 May 2019 at 12:35:18 pm AEST
To: ELLWOOD Dean <Dean.Ellwood@des.qld.gov.au>, TRACEY Alena <Alena.Tracey@des.qld.gov.au>
Cc: MERRICK Jamie <Jamie.Merrick@des.qld.gov.au>
Subject: Fwd: urgent - Brief

Hi Dean and Alena as per below advice BN now attached for DDG and DG consideration and approval. Thanks, Melissa.

Published on DES Disclosure Log
RTI Act 2009

SECURITY CLASSIFICATION: UNCLASSIFIED

BRIEFING NOTE – EXECUTIVE DIRECTOR

Subject Engagement of CSIRO to provide advice relating to the Adani Carmichael Coal Mine Groundwater Dependent Ecosystem Management Plan

Approval required 27 May 2019.

RECOMMENDATION

It is recommended that the Executive Director:

- **approve** the engagement of CSIRO to provide advice relating to the Adani Carmichael Coal Mine Groundwater Dependent Ecosystem Management Plan (GDEMP).

BACKGROUND

- On 9 April 2019, Adani submitted the most recent version of the GDEMP (version 11b).
- The Commonwealth Department of the Environment and Energy (DOEE) previously engaged CSIRO and Geoscience Australia (GA) to review the GDEMP (version 10a), before the Federal Minister decided to approve that version of the GDEMP on 9 April 2019.
- CSIRO and GA's review report (February 2019) was received by DES on 9 April 2019.
- DES officers met with DOEE, CSIRO and Geoscience Australia representatives on 16 April 2019 to discuss the review report.
- Given that Adani has submitted a revised version of the GDEMP (version 11b) that is different to the one that the CSIRO/GA review relied on, DES is seeking clarification from CSIRO/GA about its review in light of the revised GDEMP.
- DES is seeking clarification around the evidence to support identification of the source aquifer(s) of the Doongmabulla Springs Complex.
- On 10 May 2019, DES wrote to CSIRO and GA requesting advice on five areas, and subsequently provided clarification of the advice sought on 22 May 2019.
- CSIRO and GA have agreed in-principle to provide the advice on a fee-for-service basis.

KEY ISSUES

- As CSIRO and GA conducted the review of the GDEMP for DoEE, and DES requires advice on specific issues within the scope of that review, only CSIRO and GA can provide the requested consulting services in the required timeframe
- The advice is required by COB 7 June 2019, as a decision on the GDEMP must be made by 13 June 2019.
- DES have accepted in-principle CSIRO's terms and conditions in the short form consulting services agreement.
- CSIRO will subcontract to GA through a standing order arrangement, therefore DES only require a contract with CSIRO.

ELECTION/CABINET/PUBLIC COMMITMENTS/LEGISLATION

- DES is required to make a decision whether to approve the GDEMP under environmental authority (EA) condition I12 for the Carmichael Coal Mine (EPML01470513) by 13 June 2019.
- DES has publically stated that advice on version 11b of the GDEMP will be sought from CSIRO and GA.

FINANCIAL IMPACTS

- Funding is available from within existing divisional budget.
- The estimated cost for the advice is approximately \$48,410.00 (GST exclusive).

CONSULTATION

- Procurement Services (mandatory if approval is related to a procurement exercise).

FUTURE STEPS

- The delegate will assess the GDEMP submitted by Adani on 9 April 2019 against the EA requirements. A decision is required to be made by 13 June 2019.
- The delegate will consider the advice from CSIRO and GA when assessing version 11b of the GDEMP.

Endorsed

Noted / Approved / Not Approved

Dean Ellwood
Deputy Director-General
Environmental Services and Regulation
27 / 5 / 2019

Jamie Merrick (or Executive Director on behalf of)
Director-General
27 / 05 / 2019

Director-General or Executive Director comments

Date : 27/05/2019 12:35:18 PM

From : "WELLS Melissa"

To : "ELLWOOD Dean" , "TRACEY Alena"

Cc : "MERRICK Jamie"

Subject : Fwd: urgent - Brief

Attachment : attachment 1.docx;ATT00001.htm;image003.png;ATT00002.htm;

Hi Dean and Alena as per below advice BN now attached for DDG and DG consideration and approval. Thanks, Melissa.

Published on DES Disclosure Log
RTI Act 2009

SECURITY CLASSIFICATION: UNCLASSIFIED

BRIEFING NOTE – EXECUTIVE DIRECTOR

Subject Engagement of CSIRO to provide advice relating to the Adani Carmichael Coal Mine Groundwater Dependent Ecosystem Management Plan

Approval required 27 May 2019.

RECOMMENDATION

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ELECTION/CABINET/PUBLIC COMMITMENTS/LEGISLATION

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FINANCIAL IMPACTS

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FUTURE STEPS

- The delegate will assess the GDEMP submitted by Adani on 9 April 2019 against the EA requirements. A decision is required to be made by 13 June 2019.
- The delegate will consider the advice from CSIRO and GA when assessing version 11b of the GDEMP.

Endorsed

Noted / Approved / Not Approved

Dean Ellwood
Deputy Director-General
Environmental Services and Regulation
27 / 5 / 2019

Jamie Merrick (or Executive Director on behalf of)
Director-General
27 / 05 / 2019

Director-General or Executive Director comments

Date : 31/05/2019 3:47:54 PM

From : "Adrian Werner"

To : "MERRICK Jamie" , "Jamie.Merrick@qld.gov.au" , "ELLWOOD Dean" , "ROBERTS Tony" , "environment@ministerial.qld.gov.au"

Cc : "Matthew Currell" , "John Webb (John.Webb@latrobe.edu.au)"

Subject : Meeting request: Adani Carmichael Coal Mine impacts to the Doongmabulla Springs

Attachment : MeetingRequest 20190531.pdf;PositionPaper Ver5

Main.pdf;image001.png;image003.gif;image005.jpg;image006.png;image007.jpg;image008.png;

Dear Mr Merrick, Mr Ellwood, Mr Roberts and Minister Enoch,

Please find attached a meeting request and associated position paper regarding our concerns with the current state of science for assessing Carmichael Coal Mine impacts.

Sincerely,

Prof. Adrian Werner

Adrian Werner

Australian Research Council Future Fellow

Professor of Hydrogeology
College of Science and Engineering
Flinders University

Chief Investigator, National Centre for Groundwater Research and Training
Associate Editor, Advances in Water Resources

Room 314, Earth Sciences Building
Flinders University / Sturt Road, Bedford Park South Australia 5042
GPO Box 2100 Adelaide SA 5001

P: +61 8 8201 2714 schmap (6) Personal information

E: adrian.werner@flinders.edu.au | www.flinders.edu.au/people/adrian.werner

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**NATIONAL CENTRE FOR
GROUNDWATER
RESEARCH AND TRAINING**



**Flinders
UNIVERSITY**

College of Science
& Engineering



Jamie Merrick
Director-General
Department of Environment and Science
Jamie.Merrick@des.qld.gov.au
Jamie.Merrick@qld.gov.au

Dean Ellwood
Deputy Director-General
Environmental Services and Regulation
Department of Environment and Science
Dean.Ellwood@des.qld.gov.au

Tony Roberts
Deputy Director-General
Environmental Policy & Programs
Department of Environment and Science
Tony.Roberts@des.qld.gov.au

cc, Minister Enoch
Minister for Environment and the Great Barrier Reef, Minister for Science, and
Minister for the Arts
environment@ministerial.qld.gov.au

Dear Mr Merrick,

I would like to arrange **a meeting with you and your staff** to discuss groundwater issues related to the Doongmabulla Springs Complex and the Adani Carmichael Coal Mine, in Central Queensland.

I am writing to you on behalf of seven University groundwater researchers who are motivated to ensure that important public policy decisions are made on the best available science.

We have reviewed the publicly available information regarding future impacts to the Doongmabulla Springs Complex (DSC) by the proposed Carmichael Coal Mine. We conclude, on the best available science, that the DSC face a legitimate threat of permanent and significant degradation, or possibly extinction, due to fundamental issues within the current modelling, hydrogeological assessment, and mitigation measures proposed for the Carmichael Mine project.

The purpose of the meeting is to discuss our findings, as summarised in the attached position paper. The complete analysis will be provided during the meeting, and we welcome you to invite your principle staff to join this meeting.

Due to the considerable public interest in this issue, I suggest Monday the 3rd June for this meeting. Accompanying me in attendance shall be:

1. A/Prof. [s.78B(2)] School of Engineering (Chemical and Environmental Engineering), RMIT University
2. A/Prof. [s.78B(2)] School of Life Sciences (Ecology, Environment and Evolution) and National Centre for Groundwater Research and Training, La Trobe University

This request is made to assist the Queensland Government in making the best-informed decisions regarding the mine development proposal. In addition, we offer the Queensland Government our assistance to determine the best approach to understand the likely impacts of the Carmichael mine on the springs, and to regional groundwater users.

We would also like to discuss with you the most appropriate approach to make the complete analysis a document public. We understand there is considerable interest in this important public policy decision.

Please do not hesitate to contact me., I look forward to hearing from you.

Sincerely,

[s.78B(2)]
sch4p4(6) Personal information

Prof. [s.78B(2)]

College of Science and Engineering, Flinders University
National Centre for Groundwater Research and Training
ARC Future Fellow

Att(1)

Position Paper by Concerned Scientists

Deficiencies in the scientific assessment of the Carmichael Mine impacts to the Doongmabulla Springs

Key points:

- (1) *Adani appears likely to have significantly under-estimated future impacts to the Doongmabulla Springs Complex (DSC) arising from the Carmichael Mine.*
- (2) *Should the Carmichael Mine cause springs within the DSC to cease flowing, this impact may be irreversible.*
- (3) *The safeguard against DSC impacts proposed by Adani, namely Adaptive Management, is unsuitable and unlikely to protect the DSC from severe degradation or cessation of flow.*
- (4) *Possible cumulative impacts to the DSC from other mining activities in the Galilee Basin have not been adequately considered.*

We conclude that the DSC face a legitimate threat of extinction due to the Carmichael Mine project.

Authors:

Prof. Adrian Werner: College of Science and Engineering, Flinders University and National Centre for Groundwater Research and Training, adrian.werner@flinders.edu.au

A/Prof. Andy Love: College of Science and Engineering, Flinders University and National Centre for Groundwater Research and Training, andy.love@flinders.edu.au

Dr Dylan Irvine: College of Science and Engineering, Flinders University and National Centre for Groundwater Research and Training, dylan.irvine@flinders.edu.au

Dr Eddie Banks: College of Science and Engineering, Flinders University and National Centre for Groundwater Research and Training, eddie.banks@flinders.edu.au

Prof. Ian Cartwright: School of Earth, Atmosphere & Environment, Monash University, ian.cartwright@monash.edu

A/Prof. John Webb: School of Life Sciences (Ecology, Environment and Evolution) and National Centre for Groundwater Research and Training, La Trobe University, john.webb@latrobe.edu.au

A/Prof. Matthew Currell: School of Engineering (Chemical and Environmental Engineering), RMIT University, matthew.currell@rmit.edu.au

Justification (see also Appendix A):

Key point 1:

Adani appears likely to have significantly under-estimated future impacts to the Doongmabulla Springs Complex (DSC) arising from the Carmichael Mine.

Justification Summary:

- (1) *The Carmichael Mine will cause considerable drawdown (groundwater level drop) in the coal-rich sediments (Permian aquifers) that lie beneath the DSC.*

Source: GHD and Adani (2013), Hydrosimulations (2015), AECOM (2019)

- (2) *Adani presumes that the source aquifer for the DSC is the shallow Triassic aquifer and that the Rewan Formation effectively isolates the DSC from significant drawdown in the Permian aquifers.*

Source: GHD and Adani (2013), Land Court of Queensland (2015), Adani (2019)

- (3) *However, the source aquifer for the springs is still uncertain, because the existing data indicate that the Rewan Formation may not be regionally impermeable or near-impermeable, as Adani have presumed.*

Source: IESC (2013), Webb (2015), Currell et al. (2017), Lewis et al. (2018), CSIRO and Geoscience Australia (2019)

- (4) *It follows that if the DSC relies on water from the Permian aquifers to maintain discharge rates, the impact to the DSC (e.g., reduction in spring discharge and wetland areas) from drawdown caused by the proposed Carmichael Mine is highly uncertain.*

Source: IESC (2013), Currell et al. (2017), CSIRO and Geoscience Australia (2019)

- (5) *Even if the DSC is predominantly dependent on groundwater flow from above the Rewan Formation, unrealistic model assumptions mean that drawdown is still likely to be greater than currently predicted.*

Source: Werner (2015), CSIRO and Geoscience Australia (2019)

Key point 2:

Should the Carmichael Mine cause springs within the DSC to cease flowing, this impact may be irreversible.

Justification Summary:

- (1) *Significant drawdown will remain at the end of the Carmichael Mine's life.*

Source: GHD and Adani (2013), AECOM (2019)

- (2) *The mine will impact groundwater flow pathways permanently by modifying landforms and the properties of the geological strata, e.g., by fracturing strata near longwall operations.*

Source: GHD and Adani (2013), Hydrosimulations (2014), CSIRO and Geoscience Australia (2019)

- (3) *Previous cases of mining- and pumping-induced spring extinction demonstrate that permanent cessation of spring flow due to human interference is a strong possibility.*

Source: Younger and Wolkersdorfer (2004), Wu et al. (2011), Brunetti et al. (2013), Fan et al. (2018).

Key point 3:

The safeguard against DSC impacts proposed by Adani, namely Adaptive Management, is unsuitable and unlikely to protect the DSC from extinction.

Justification Summary:

- (1) *The Queensland Land Court decision and EPBC approval decision relied heavily on the capacity for Adaptive Management, proposed by Adani, to protect the springs from future unknown impacts.*

Source: Land Court of Queensland (2015), Department of the Environment (2015)

- (2) *However, Adaptive Management is unsuitable for projects potentially causing irreversible impacts or where rehabilitation is impractical.*

Source: Williams et al. (2009)

- (3) *Adaptive Management requires that methods for addressing impacts should be detailed and assessed at the project outset. However, Adani has not provided information on exactly how the DSC would be remediated from impacts.*

Source: Williams et al. (2009), GHD and Adani (2013), AECOM (2019)

- (4) *Lag times between mining operations and identifiable impacts to the DSC are potentially considerable. This likely precludes effective responses to DSC decline.*

Source: Williams et al. (2009), GHD and Adani (2013), Currell (2016)

Key point 4:

Possible cumulative impacts to the DSC from other mining activities in the Galilee Basin have not been adequately considered.

Justification Summary:

- (1) *The cumulative impacts to the DSC from other current and proposed mining activities in the region (such as the possible China Stone Coal mine, North Alpha mine, etc.;*

amongst other likely project proposals) are additive and significant, and yet have not been adequately assessed by Adani.

Source: IESC (2013), Werner (2015), Lewis et al (2019), CSIRO and Geoscience Australia (2019)

(2) *An assessment of cumulative impacts is industry best practice.*

Source: National Water Commission (2009)

Published on DES Disclosure Log
RTI Act 2009

References:

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Date : 31/05/2019 4:20:09 PM

From : "LOWE Trinity"

To : "MONKIVITCH James"

Cc : "ELLWOOD Dean" , "BROWN Glen" , "LOVEDAY Chris" , "MERRICK Jamie" , "TRACEY Alena" , "Hannah Jackson" , "LAWRENCE Rob"

Subject : RE: Adani Calls

Attachment : Adani_Script CRT 31 May 2019 V 2.docx;image001.png;image002.png;

Hi James – second version a little shorter for the CRT to use.

Cheers

Trin

From: LOWE Trinity

Sent: Friday, 31 May 2019 4:01 PM

To: Hannah Jackson

Cc: MACGROARTY Robynne; ELLWOOD Dean; MONKIVITCH James; BROWN Glen; LOVEDAY Chris; MERRICK Jamie; TRACEY Alena

Subject: Adani Calls

Good Afternoon Hannah

Please see the attached script that has been provided to the Community Response Team (CRT).

Calls can be transferred to our internal bypass number until 5:00pm (this is an automatic computer timed lock out number – 3330 5280.

After 5.00pm the Pollution Hotline number can be given which is 1300 130 372 – Option 2 where a message can be left for a call back from the department on Monday.

Please let me know if there is anything else you need.

Thanks & Cheers

Trinity



Trinity Lowe

Executive Officer

Office of the Deputy Director General

Environmental Services and Regulation Division

Department of Environment and Heritage Protection

P 07 3330 5812

Level 7 400 George St Brisbane

SCRIPT: ADANI – CARMICHAEL COAL MINE – GROUNDWATER DEPENDENT ECOSYSTEM MANAGEMENT PLAN AND BLACK-THROATED FINCH MANAGEMENT PLAN

Status Adani State Government Approvals:

- As at 31 May 2019, there is one outstanding plan requiring departmental approval before significant mining activities can commence at the Carmichael Coal Mine site that being the Groundwater Dependent Ecosystem Management Plan (GDEMP).
- **On 31 May 2019, DES approved the Black Throated Finch Management Plan.**
- As part of their Environmental Authority, Adani is required to publish a copy of the BTFMP within 10 business days on their website.

Black-throated Finch Management Plan (BTFMP)

- DES approved the BTFMP on 31 May 2019
- The BTFMP details the management, mitigation measures and monitoring to minimise impacts to the endangered Black-throated Finch.
- Because the location of the Carmichael Coal Mine site hosts the most significant known population of the Black-throated Finch in Australia, DES engaged an independent expert panel to review the Plan.
- **The independent expert panel review** (Wintle Report) on the Black-throated Finch Management Plan (BTFMP) is not a document available on the public register under the *Environmental Protection Act 1994*. However, the report would be subject to Right to Information provisions and may be accessible through that process.

Groundwater Dependent Ecosystem Management Plan (GDEMP)

- DES is currently assessing a Groundwater Dependant Ecosystem Management Plan for the proposed mine.
- The Commonwealth Department of the Environment and Energy had engaged the CSIRO and Geoscience Australia to undertake an independent scientific review of the GDEMP and DES received a copy of the review on 9 April 2019.
- DES will assess whether the GDEMP meets the EA requirements, and advise Adani if further information or changes are required.
- DES will make a decision on the GDEMP by 13 June 2019.

State Approval

- The Queensland Coordinator-General approved the Environmental Impact Statement for the project in 2014. The development of the BTFMP and GDEMP have been required since then by conditions of the mine's Environmental Authority.

Commonwealth approval

- The Commonwealth Department of the Environment and Energy (DoEE) approved the BTFMP on 18 December 2018 and the GDEMP on 9 April 2019.

Financial Assurance

- DES currently holds the total amount required amount \$15,824,063.00 in financial assurance for Carmichael Coal Mine.

Published on DES Disclosure Log
RTI Act 2009

Date : 31/05/2019 12:46:34 PM

From : "BENNINK Kate"

To : "(b) (6) Personal information (BD&C, Newcastle)"

Cc : "KOPPE Drew" (b) (6) Personal information (L&W, Black Mountain); "WELLS Melissa", "ELLWOOD Dean" (b) (6) Personal information (L&W, Black Mountain); "(b) (6) Personal information (BD&C, Black Mountain)" (b) (6) Personal information (BD&C, Black Mountain)"

Subject : RE: DES/CSIRO contract - consulting services agreement

Attachment : Advice request and costing response_CSIRO_GA_27May2019_for_resending_KB changes for deliverables.docx;image003.png;image004.png;image005.png;

(b) (6) Personal information

As discussed, please see attached edits (in tracked changes) to the proposal for use as deliverables. Could you please review and advise if this would be acceptable?

Also, with regards to the application in the project plan, I note that it is different to what was proposed by DES. Did you have a concern with our proposed wording?

Cheers

Kate



Kate Bennink

Director

Business Centre Coal | Coal and Central Queensland
Compliance

Environmental Services and Regulation

Department of Environment and Science

P (07) 4987 9338 (b) (6) Personal information

E kate.bennink@des.qld.gov.au

99 Hospital Road, Emerald QLD 4720

PO Box 3028, Emerald QLD 4720

From: BENNINK Kate <Kate.Bennink@des.qld.gov.au>

Sent: Thursday, 30 May 2019 4:50 PM

To : "(b) (6) Personal information (BD&C, Newcastle)"

Cc : KOPPE Drew (b) (6) Personal information (L&W, Black Mountain); WELLS Melissa; ELLWOOD Dean (b) (6) Personal information (L&W, Black Mountain); "(b) (6) Personal information (BD&C, Black Mountain)" (b) (6) Personal information (BD&C, Black Mountain)

Subject: Re: DES/CSIRO contract - consulting services agreement

Hi (b) (6) Personal information, I tried to call and left you a voicemail. Further to our conversation yesterday, the questions in the deliverables need to match the questions that were in the proposal by CSIRO (response doc) of 24 May, rather than the summarised questions in the project plan. As per email correspondence earlier this week, there was a drafting omission and (b) (6) Personal information supplied on Monday is the complete proposal. Please call (b) (6) Personal information if you'd like to discuss. Cheers, Kate

Kate Bennink

Director | Business Centre Coal

Department of Environment and Science

P 4987 9338 (b) (6) Personal information

E kate.bennink@des.qld.gov.au

On 29 May 2019, at 1:54 pm, "(b) (6) Personal information (BD&C, Newcastle)" <(b) (6) Personal information> wrote:

Dear Kate (b) (6) Personal information

Please find attached a further version of the draft contract, with a draft Project Plan that would be an attachment to the contract.

Please excuse the document formatting issues for now.

Let me know if there's any aspect that you would like to discuss.

Kind regards

(b) (6) Personal information

Legal Counsel

Business Development and Commercial

CSIRO

Please note: I work part-time. I am in the office Tuesday, Wednesday, Friday.

(b) (6) Personal information T +61 2 4960 5084 (b) (6) Personal information

Postal Address: CSIRO Energy Centre, PO Box 330, Newcastle, NSW 2300

www.csiro.au

19-077

File B

Page 51 of 70

From: [redacted] (6) Personal information (GLW, Black Mountain)
Sent: Wednesday, 29 May 2019 9:29 AM
To: BENNINK Kate <Kate.Bennink@des.qld.gov.au>; KOPPE Drew <Drew.Koppe@dnrme.qld.gov.au>; [redacted] (6) Personal information (BD&C Newcastle) <[redacted]@csiro.au>
Cc: [redacted] (6) Personal information (GLW, Black Mountain); [redacted] (6) Personal information (csiro.au); WELLS Melissa <Melissa.Wells@des.qld.gov.au>; ELLWOOD Dean <Dean.Ellwood@des.qld.gov.au>
Subject: Re: DES/CSIRO contract - consulting services agreement

Hi Kate

sch4p4(6) Personal information will be in touch

Regards

sch4p4(6) Personal information

Research Director | Water Resource Management
CSIRO Land and Water

T: [redacted] sch4p4(6) Personal information csiro.au

From: BENNINK Kate <Kate.Bennink@des.qld.gov.au>
Date: Wednesday, 29 May 2019 at 9:18 am
To: KOPPE Drew <Drew.Koppe@dnrme.qld.gov.au>; [redacted] (6) Personal information (BD&C Newcastle) <[redacted]@csiro.au>; [redacted] (6) Personal information (GLW, Black Mountain) <[redacted]@csiro.au>
Cc: [redacted] (6) Personal information (csiro.au); WELLS Melissa <Melissa.Wells@des.qld.gov.au>; ELLWOOD Dean <Dean.Ellwood@des.qld.gov.au>
Subject: RE: DES/CSIRO contract - consulting services agreement

Good morning [redacted] (6) Personal information please advise regarding progression of the contract? Is there any outstanding information you require from DES? Cheers, Kate



Kate Bennink
Director
Business Centre Coal | Coal and Central Queensland
Compliance
Environmental Services and Regulation
Department of Environment and Science

P (07) 4983 9339 [redacted] (6) Personal information
E kate.bennink@des.qld.gov.au
99 Hospital Road, Emerald QLD 4720
PO Box 3028, Emerald QLD 4720

From: BENNINK Kate
Sent: Monday, 27 May 2019 12:28 PM
To: KOPPE Drew <Drew.Koppe@dnrme.qld.gov.au>; [redacted] (6) Personal information (BD&C Newcastle) <[redacted]@csiro.au>; [redacted] (6) Personal information (GLW, Black Mountain) <[redacted]@csiro.au>
Cc: [redacted] (6) Personal information (GLW, Black Mountain); WELLS Melissa; ELLWOOD Dean
Subject: RE: DES/CSIRO contract - consulting services agreement

Hi Drew, could you please [redacted] (6) Personal information directly regarding his question below? I am travelling but can be contacted on mobile.
Cheers Kate



Kate Bennink
Director
Business Centre Coal | Coal and Central Queensland
Compliance
Environmental Services and Regulation
Department of Environment and Science

P (07) 4983 9339 [redacted] (6) Personal information
E kate.bennink@des.qld.gov.au
99 Hospital Road, Emerald QLD 4720
PO Box 3028, Emerald QLD 4720

From: [redacted] (6) Personal information (BD&C Newcastle) <[redacted]@csiro.au>
Sent: Monday, 27 May 2019 12:19 PM
To: BENNINK Kate <Kate.Bennink@des.qld.gov.au>; [redacted] (6) Personal information (GLW, Black Mountain) <[redacted]@csiro.au>

sch4p4(6) Personal information (L&W, Black Mountain); WELLS Melissa; ELLWOOD Dean
Subject: Re: DES/CSIRO contract - consulting services agreement

Dear Kate

I will be working on the draft contract today/tomorrow.

One aspect that we will need the Department's input on is the definition of "Application". It is a term that will be defined on the first page of the contract – the resulting definition is then relevant to, for example, clause 5.1.

Thanks and regards

sch4p4(6) Personal information

Legal Counsel

Business Development and Commercial

CSIRO

Please note: I work part-time. I am in the office Tuesday, Wednesday, Friday.

sch4p4(6) Personal information + sch4p4(6) Personal information

Postal Address: CSIRO Energy Centre, PO Box 330, Newcastle, NSW 2300

www.csiro.au

From: BENNINK Kate <Kate.Bennink@des.qld.gov.au>

Sent: Monday, 27 May 2019 9:57 AM

sch4p4(6) Personal information (L&W, Black Mountain)
sch4p4(6) Personal information (L&W, Black Mountain); WELLS Melissa; ELLWOOD Dean (6) Personal information (BD&C, Newcastle)
Subject: RE: DES/CSIRO contract - consulting services agreement

sch4p4(6) Personal information

We've just identified an oversight in the drafting of the proposal. Items (a) – (f) from the DES revised request directly relate to question 1 but have dropped out of the proposal document. Could you please review the DES revised request from 22 May 2019 attached to ensure all relevant parts are included in the contract, and there is a consistent understanding of the scope?

Cheers
Kate



Kate Bennink
Director
Business Centre Coal | Coal and Central Queensland
Compliance
Environmental Services and Regulation
Department of Environment and Science

P (07) 4983 3344 (6) Personal information
E kate.bennink@des.qld.gov.au
99 Hospital Road, Emerald QLD 4720
PO Box 3028, Emerald QLD 4720

From: sch4p4(6) Personal information (L&W, Black Mountain) <[sch4p4\(6\) Personal information@csiro.au](mailto:sch4p4(6) Personal information@csiro.au)>

Sent: Monday, 27 May 2019 9:38 AM

To: BENNINK Kate

sch4p4(6) Personal information (L&W, Black Mountain); WELLS Melissa; ELLWOOD Dean (6) Personal information (BD&C, Newcastle)
Subject: Re: DES/CSIRO contract - consulting services agreement

I have passed this on for drafting. If not before, we will be in touch tomorrow (as the ACT is celebrating Reconciliation Day today).

Regards

sch4p4(6) Personal information

Research Director | Water Resource Management
CSIRO Land and Water

T: sch4p4(6) Personal information @csiro.au

From: BENNINK Kate <Kate.Bennink@des.qld.gov.au>

Date: Monday, 27 May 2019 at 9:12 am

To: sch4p4(6) Personal information, Black Mountain, sch4p4(6) Personal information @csiro.au

Cc: sch4p4(6) Personal information @csiro.au, WELLS Melissa <Melissa.Wells@des.qld.gov.au>, ELLWOOD Dean <Dean.Ellwood@des.qld.gov.au>

Subject: DES/CSIRO contract - consulting services agreement

Good morning sch4p4(6) Personal information

The department wishes to proceed on the basis of the two draft documents previously provided by CSIRO and attached.

Can you please advise any information you require from DES, and then return the agreement for DES representative signature?

My best contact is sch4p4(6) Personal information

Kind regards,
Kate



Kate Bennink
Director
Business Centre Coal | Coal and Central Queensland
Compliance
Environmental Services and Regulation
Department of Environment and Science

P (07) 4987 8338 sch4p4(6) Personal information
E kate.bennink@des.qld.gov.au
99 Hospital Road, Emerald QLD 4720
PO Box 3028, Emerald QLD 4720

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<Qld DES Draft FTA 2019051193 (McDonald)_280519_v2.docx>

<Project Plan_Attachment_290519.docx>

Advice request – Queensland Department of Environment and Science (QDES) request on Carmichael Coal Mine Project Groundwater-Dependent Ecosystem Management Plan (GDEMP)

This proposal responds to a request for advice from the Queensland Department of Environment and Science on 20 May 2019 with regard to the Carmichael Coal Mine Project. This proposal sets out the advice sought, our understanding of the request, provides a costing estimate, delivery timeframe, and personnel roles and responsibilities.

Review documents (for clarification please note DES does not require a review of the GEMP); GDEMP v11b (track change versions v10 – v11 and v11a-11b attached);

1 Advice regarding the source aquifer(s) of the Doongmabulla Springs Complex (DSC)

The following are excerpts from the request letter sent to Geoscience Australia (GA) and the CSIRO:

Following the department's review of the CSIRO/GA 2019 Report, the department seeks your advice about the type of investigation and research that may provide greater certainty regarding the department's interest in relation to the identification of the source aquifer(s) to the Doongmabulla Springs Complex (DSC).

The environmental authority (EA) for the Carmichael Coal Mine requires Adani to develop and implement a Groundwater-Dependent Ecosystems Management Plan (GDEMP). The term GDEMP is defined in the EA and states, among other things, that a GDEMP must include 'detailed baseline research to establish the source aquifer(s) for groundwater supply to each groundwater-dependent ecosystem (potentially or indirectly impacted by mining activities).

Having regard for the 2019 Report, the 2018 advice, and the meeting on 16 April 2019, the department asks three questions to clarify their understanding about further research (steps) to improve the certainty about the source aquifer(s) of the DSC and other groundwater-dependent ecosystems:

- ~~e) a) hydrogeochemical analysis of water samples for comparison within and across relevant aquifers (Clematis Sandstone, Dunda Beds and Rewan Formation);~~
- ~~f) a) incorporation of the use of isotope and ageing tracers in the above hydrogeochemical analysis;~~
- ~~g) a) a comprehensive review of groundwater level and quality data from relevant aquifers including data from new proposed nested bores in the vicinity of DSC;~~
- ~~h) a) detailed geological mapping including cores from bores drilled in the vicinity of DSC and facies modelling to better inform hydraulic connectivity within and across all aquifers;~~
- ~~i) a) incorporation of the airborne electro-magnetic modelling recently completed by Geoscience Australia (and available to Adani by June 2020); and~~
- ~~j) a) revision of the conceptual understanding of the source aquifer(s) for DSC and groundwater system based on information collected from the above for incorporation into the groundwater model review (re-run).~~

1. Does the ~~above~~below summary accurately reflect the CSIRO/GA advice with respect to further work that could increase certainty of the source aquifer(s) for the DSC?

- a) hydrogeochemical analysis of water samples for comparison within and across relevant aquifers (Clematis Sandstone, Dunda Beds and Rewan Formation);
- b) incorporation of the use of isotope and ageing tracers in the above hydrogeochemical analysis;

- c) a comprehensive review of groundwater level and quality data from relevant aquifers including data from new proposed nested bores in the vicinity of DSC;
- d) detailed geological mapping including cores from bores drilled in the vicinity of DSC and facies modelling to better inform hydraulic connectivity within and across all aquifers;
- e) incorporation of the airborne electro-magnetic modelling recently completed by Geoscience Australia (and available to Adani by June 2020); and
- f) revision of the conceptual understanding of the source aquifer(s) for DSC and groundwater system based on information collected from the above for incorporation into the groundwater model review (re-run).

~~11. —~~

~~13.3. Would it be appropriate from an adaptive management framework for all the above matters (a-f) to be undertaken over a set period i.e. prior to the model review (re-run)?~~

2. Advice regarding acceptable levels of uncertainty for groundwater research and modelling, groundwater drawdown trigger thresholds and adaptive management measures in the updated GDEMP.

~~Based on GDEMP 11b (track change version/s) and the CSIRO/GA advice dated November 2018 and February 2019, the department seeks your additional advice on the following questions:~~

~~16.5. Are the groundwater drawdown trigger thresholds proposed in the updated GDEMP 11b appropriate and suitable to ensure the long-term protection of the DSC in light of your advice that the numerical model is not fit for purpose?~~

~~17.6. For question 5, are the adaptive management measures and commitments in the updated GDEMP appropriate? If not, please provide suggestions to address this?~~

~~Scope of advice to be provided by GA-CSIRO~~

~~GA Cost — \$24,907 includes technical assessment, peer review and agency clearance.~~

~~CSIRO Cost — \$23,503 includes technical assessment, peer review and agency clearance.~~

Date : 29/05/2019 1:12:05 PM

From: (b) (6) Personal information (B&C, Newcastle)"

To : "BENNINK Kate" , "KOPPE Drew"

sch4p4(6) Personal information (B&C, Black Mountain)" , "WELLS Melissa" , "ELLWOOD Dean" sch4p4(6) Personal information (B&C, Black Mountain)" , (b) (6) Personal information (B&C, Black Mountain)" , sch4p4(6) Personal information (B&C, Black Mountain)"

Subject : RE: DES/CSIRO contract - consulting services agreement

Attachment : Qld DES Draft FTA 2019051193 (McDonald)_280519_v2.docx;Project

Plan_Attachment_290519.docx;image001.png;image002.png;

Dear Kate and Drew

Please find attached a further version of the draft contract, with a draft Project Plan that would be an attachment to the contract.

Please excuse the document formatting issues for now.

Let me know if there's any aspect that you would like to discuss.

Kind regards

sch4p4(6) Personal information

Legal Counsel

Business Development and Commercial

CSIRO

Please note: I work part-time. I am in the office Tuesday, Wednesday, Friday.

sch4p4(6) Personal information + sch4p4(6) Personal information
Postal Address: CSIRO Energy Centre, PO Box 330, Newcastle, NSW 2300
www.csiro.au

From: (b) (6) Personal information (B&C, Black Mountain)

Sent: Wednesday, 29 May 2019 9:29 AM

To: BENNINK Kate <Kate.Bennink@des.qld.gov.au>; KOPPE Drew <Drew.Koppe@dnrme.qld.gov.au> sch4p4(6) Personal information (B&C, Newcastle)

sch4p4(6) Personal information @csiro.au>

sch4p4(6) Personal information (B&C, Black Mountain) sch4p4(6) Personal information @csiro.au>; WELLS Melissa <Melissa.Wells@des.qld.gov.au>; ELLWOOD Dean <Dean.Ellwood@des.qld.gov.au>

Subject: Re: DES/CSIRO contract - consulting services agreement

Hi Kate

sch4p4(6) Personal information will be in touch

Regards

sch4p4(6) Personal information

Research Director | Water Resource Management
CSIRO Land and Water

T: sch4p4(6) Personal information @csiro.au

From: BENNINK Kate <Kate.Bennink@des.qld.gov.au>

Date: Wednesday, 29 May 2019 at 9:18 am

To: KOPPE Drew <Drew.Koppe@dnrme.qld.gov.au> sch4p4(6) Personal information (B&C, Newcastle) sch4p4(6) Personal information @csiro.au> sch4p4(6) Personal information (B&C, Black Mountain) sch4p4(6) Personal information @csiro.au>

sch4p4(6) Personal information (B&C, Black Mountain) sch4p4(6) Personal information @csiro.au>

sch4p4(6) Personal information @csiro.au>, WELLS Melissa <Melissa.Wells@des.qld.gov.au>, ELLWOOD Dean

<Dean.Ellwood@des.qld.gov.au>

Subject: RE: DES/CSIRO contract - consulting services agreement

sch4p4(6) Personal information sch4p4(6) Personal information please advise regarding progression of the contract? Is there any outstanding information you require from DES? Cheers, Kate

Kate Bennink

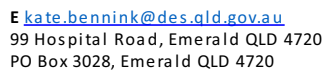
Director

Business Centre Coal | Coal and Central Queensland

Compliance

Environmental Services and Regulation

Department of Environment and Science



Subject: RE: DES/CSIRO contract - consulting services agreement

P (07) 49834341 (b) Personal information
E kate.bennink@des.qld.gov.au
99 Hospital Road, Emerald QLD 4720
PO Box 3028, Emerald QLD 4720

Subject: Re: DES/CSIRO contract - consulting services agreement

www.csiro.au

Sent: Monday, 27 May 2019 9:57 AM

sch4p4(6) Personal information (U&W, Black Mountain)
sch4p4(6) Personal information (U&W, Black Mountain); WELLS Melissa; ELLWOOD Dean (6) Personal information (B&C, Newcastle)
Subject: RE: DES/CSIRO contract - consulting services agreement

sch4p4(6) Personal information

We've just identified an oversight in the drafting of the proposal. Items (a) – (f) from the DES revised request directly relate to question 1 but have dropped out of the proposal document. Could you please review the DES revised request from 22 May 2019 attached to ensure all relevant parts are included in the contract, and there is a consistent understanding of the scope?

Cheers

Kate



Kate Bennink
Director
Business Centre Coal | Coal and Central Queensland
Compliance
Environmental Services and Regulation
Department of Environment and Science

P (07) 498 50344 (6) Personal information
E kate.bennink@des.qld.gov.au
99 Hospital Road, Emerald QLD 4720
PO Box 3028, Emerald QLD 4720

From: sch4p4(6) Personal information (U&W, Black Mountain) <sch4p4(6) Personal information@csiro.au>

Sent: Monday, 27 May 2019 9:38 AM

To: BENNINK Kate

sch4p4(6) Personal information (U&W, Black Mountain); WELLS Melissa; ELLWOOD Dean (6) Personal information (B&C, Newcastle)

Subject: Re: DES/CSIRO contract - consulting services agreement

Hi Kate

I have passed this on for drafting. If not before, we will be in touch tomorrow (as the ACT is celebrating Reconciliation Day today).

Regards

sch4p4(6) Personal information

Research Director | Water Resource Management
CSIRO Land and Water

T: + sch4p4(6) Personal information @csiro.au

From: BENNINK Kate <Kate.Bennink@des.qld.gov.au>

Date: Monday, 27 May 2019 at 9:12 am

To: sch4p4(6) Personal information (U&W, Black Mountain) <sch4p4(6) Personal information@csiro.au>

sch4p4(6) Personal information @csiro.au>, WELLS Melissa <Melissa.Wells@des.qld.gov.au>, ELLWOOD Dean
<Dean.Ellwood@des.qld.gov.au>

Subject: DES/CSIRO contract - consulting services agreement

Good morning sch4p4(6) Personal information

The department wishes to proceed on the basis of the two draft documents previously provided by CSIRO and attached.

Can you please advise any information you require from DES, and then return the agreement for DES representative signature?

My best contact is mobile sch4p4(6) Personal information

Kind regards,
Kate

Kate Bennink
Director
Business Centre Coal | Coal and Central Queensland
Compliance
Environmental Services and Regulation
Department of Environment and Science



P (07) 4980 9984 (M) Personal information
E kate.bennink@des.qld.gov.au
99 Hospital Road, Emerald QLD 4720
PO Box 3028, Emerald QLD 4720

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Published on DES Disclosure Log
RTI Act 2009

Date : 27/05/2019 10:36:06 AM

From: sch4p4(6) Personal information (L&W, Black Mountain)"

To: "BENNINK Kate"

sch4p4(6) Personal information (L&W, Black Mountain)", "WELLS Melissa", "ELLWOOD Dean", sch4p4(6) Personal information (B&C, Newcastle)"

Subject : Re: DES/CSIRO contract - consulting services agreement

Attachment : Advice request and costing response_CSIRO_GA_27May2019_for_resending.docx;image001.png;image002.png;

Hi Kate

Apologies, a drafting omission only. The advice scope and costs remain unchanged from 24 May 2019 proposal. Updated document attached.

Regards

sch4p4(6) Personal information

Research Director | Water Resource Management
CSIRO Land and Water

T: + sch4p4(6) Personal information @csiro.au

From: BENNINK Kate <Kate.Bennink@des.qld.gov.au>

Date: Monday, 27 May 2019 at 10:01 am

To: sch4p4(6) Personal information (L&W, Black Mountain); sch4p4(6) Personal information @csiro.au>

Cc: sch4p4(6) Personal information @csiro.au>, WELLS Melissa <Melissa.Wells@des.qld.gov.au>, ELLWOOD Dean <Dean.Ellwood@des.qld.gov.au>, sch4p4(6) Personal information (B&C, Newcastle), sch4p4(6) Personal information @csiro.au>

Subject: RE: DES/CSIRO contract - consulting services agreement

sch4p4(6) Personal information

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Cheers

Kate



Kate Bennink

Director

Business Centre Coal | Coal and Central Queensland
Compliance
Environmental Services and Regulation
Department of Environment and Science

P (07) 4987 8828 sch4p4(6) Personal information

E kate.bennink@des.qld.gov.au

99 Hospital Road, Emerald QLD 4720

PO Box 3028, Emerald QLD 4720

From: sch4p4(6) Personal information (L&W, Black Mountain); sch4p4(6) Personal information @csiro.au>

Sent: Monday, 27 May 2019 9:38 AM

To: BENNINK Kate

sch4p4(6) Personal information (L&W, Black Mountain); WELLS Melissa; ELLWOOD Dean; sch4p4(6) Personal information (B&C, Newcastle)

Subject: Re: DES/CSIRO contract - consulting services agreement

Hi Kate

I have passed this on for drafting. If not before, we will be in touch tomorrow (as the ACT is celebrating Reconciliation Day today).

Regards

sch4p4(6) Personal information

Research Director | Water Resource Management
CSIRO Land and Water

T: sch4p4(6) Personal information @csiro.au

Date : 27/05/2019 9:47:27 AM
From : "WELLS Melissa"
To : "BENNINK Kate" , "MCCOSKER Juliana"
Subject : FW: Proposal for advice request from DHES around the Adani Carmichael mine
Attachment: GDEMP TRACK CHANGES v10 to v11.pdf;GDEMP TRACK CHANGES v11a to v11b.pdf;DES CSIRO_GA Request REVISED.docx;image001.png;image002.png;image004.png;



Melissa Wells
Executive Director
Coal and Central Qld Compliance
Department of Environment and Science

P 07 4987 9343

99 Hospital Road, Emerald QLD 4720
PO Box 3028, Emerald QLD 4720

From: WELLS Melissa
Sent: Wednesday, 22 May 2019 12:06 PM
To: (6) Personal information (s.78B(2))
Cc: (6) Personal information
Subject: RE: Proposal for advice request from DHES around the Adani Carmichael mine
Importance: High

Thank you for your proposal. In light of the feedback and information that CSIRO/GA have sought clarification on, DES has significantly reviewed the initial scope of the request to provide more clarity and direction in relation to DES's interests.

The revised scope provides clarity and focusses on the track changed versions of the GDEMP. The scope provides confirmation that the review does *not* include the updated GMMP and includes a refined list of questions. Accordingly, please find attached a narrowed and refined scope for the review and the 'track changed' GDEMPs (for ease of reference). Again, given the urgency around timeliness, if you could please review and provide an update proposal (costings/timeframes) at your earliest convenience.

If you would like to discuss or seek clarification I would be happy to arrange a meeting as soon as possible.

Kind regards,
Melissa.



Melissa Wells
Executive Director
Coal and Central Qld Compliance
Department of Environment and Science

P 07 4987 9343

99 Hospital Road, Emerald QLD 4720
PO Box 3028, Emerald QLD 4720

From: (6) Personal information (s.78B(2))
Sent: Monday, 20 May 2019 3:31 PM
To: WELLS Melissa
Cc: (6) Personal information (s.78B(2))
Subject: Proposal for advice request from DHES around the Adani Carmichael mine

Dear Melissa (s.78B(2))

Thank you for your request on Friday May 10th for GA and CSIRO to provide advice about the type of investigation and research that may provide greater certainty regarding your Department's interest in relation to the identification of the source aquifer(s) to the Doongmabulla Springs Complex.

GA and CSIRO would be happy to undertake the work detailed in your email.

Please find attached our joint proposal, noting we are seeking clarification on aspects of the advice you are seeking. In summary, we have estimated the cost at \$103,072 (GST exclusive) and the advice delivered to you within 20 working days following contract execution.

Please engage with [redacted] the primary contact in relation to contractual issues [redacted] [redacted] [redacted]
sch4p4(6) Personal information

With regard to [redacted]
sch4p4(6) Personal information

sch4p4(6) Personal information

Director
CSIRO Land and Water

sch4p4(6) Personal information

T [redacted]
<https://www.csiro.au/en/Research/LWF>

CSIRO acknowledges the Traditional Owners of the lands that we live and work on across Australia and pays its respect to Elders past and present.

GPO Box 1700
CSIRO Black Mountain Site
Clunies Ross St, Canberra ACT 2601

Published on DES Disclosure Log
RTI Act 2009

DES CSIRO/GA GDEMP 11b Advice request – REVISED based on CSIRO/GA feedback and clarification provided 20 May 2019

Review documents (for clarification please note DES does not require a review of the GMMP):

1. GDEMP v11b (track change versions v10 – v11 and v11a-11b attached);

Following the department's review of the CSIRO/GA 2019 Report, the department seeks your advice about the type of investigation and research that may provide greater certainty regarding the department's interest in relation to the identification of the source aquifer(s) to the Doongmabulla Springs Complex (DSC).

The environmental authority (EA) for the Carmichael Coal Mine requires Adani to develop and implement a Groundwater Dependent Ecosystems Management Plan (GDEMP). The term GDEMP is defined in the EA and states, among other things, that a GDEMP must include *'detailed baseline research to establish the source aquifer(s) for groundwater supply to each groundwater dependent ecosystem [potentially or indirectly impacted by mining activities]'*.

Your 2019 Report states that:

'It is plausible and reasonable that the Clematis Sandstone is a major source aquifer for the DSC... It is not plausible and reasonable to state unequivocally that the Clematis Sandstone is the sole source aquifer for the DSC...' (p2); and

'Available evidence supports the conceptualisation that the Clematis Sandstone is a likely source aquifer for the DSC. However, the proposed monitoring and management approaches do not sufficiently address the uncertainty regarding the potential alternative or additional source aquifers (refer Section 3.2 and 3.3).' (p9); and

'To constrain the source aquifer(s) of the DSC, a more sophisticated statistical analysis of hydrochemistry data is required. This includes assessing a wider variety of groundwater and surface water analytes, as well as appropriate use of isotope hydrochemistry analysis. Further information on potential techniques is provided (CSIRO and Geoscience Australia, 2018) and other readily available references.' (p10)

Further, in advice given to the Commonwealth Department of the Environment and Energy, *'Advice on draft research plans to the Department of the Environment and Energy'*, dated November 2018, you state:

'An integrated analysis of existing and newly acquired geological, hydrodynamic and hydrochemical data would improve the conceptual understanding of the groundwater sources of the DSC.' (at page 5); and

'Further information on the specific methods and techniques to be applied to chemically assess the springs source and groundwater flow processes is required for a more detailed assessment to be made. This includes the need to define the

analytical suite, quality assurance and quality control methods, and use of a broader range of isotopic and environmental traces...' (at page 13).

Having regard to **the 2019 Report, the 2018 advice, and our meeting of 16 April 2019**, the department has the understanding that the following further research (steps) would improve the certainty about the source aquifer(s) of the DSC and other groundwater dependent ecosystems:

- a) hydrogeochemical analysis of water samples for comparison within and across relevant aquifers (Clematis Sandstone, Dunda Beds and Rewan Formation);
 - b) incorporation of the use of isotope and ageing tracers in the above hydrogeochemical analysis;
 - c) a comprehensive review of groundwater level and quality data from relevant aquifers including data from new proposed nested bores in the vicinity of DSC;
 - d) detailed geological mapping including cores from bores drilled in the vicinity of DSC and facies modelling to better inform hydraulic connectivity within and across all aquifers;
 - e) incorporation of the airborne electro-magnetic modelling recently completed by Geoscience Australia (and available to Adani by June 2020); and
 - f) revision of the conceptual understanding of the source aquifer(s) for DSC and groundwater system based on information collected from the above for incorporation into the groundwater model review (re-run).
1. Does the above summary accurately reflect the CSIRO/GA advice with respect to further work that could increase certainty of the source aquifer(s) for the DSC?
 2. Would CSIRO/GA recommend any additional measures?
 3. Would it be appropriate from an adaptive management framework for all the above matters to be undertaken over a set period i.e. prior to the model review (re-run)?

Based on GDEMP 11b (track change version/s) and the CSIRO/GA advice dated November 2018 and February 2019, the department seeks your additional advice on the following questions:

4. Generally, in respect to groundwater research and modelling, is it acceptable and/or common from a scientific basis to have some level of uncertainty? i.e. can source aquifer(s) ever be categorically determined or definitively identified? Can you have absolute certainty? Is there always some level of uncertainty?
5. Are the groundwater drawdown trigger thresholds proposed in the updated GDEMP 11b appropriate and suitable to ensure the long-term protection of the DSC in light of your advice that the numerical model is not fit for purpose?
6. For question 5, are the adaptive management measures and commitments in the updated GDEMP appropriate? If not, please provide suggestions to address this?

This advice will assist the department's review and assessment of the latest version of the GDEMP 11b.

Please note there is a high level of urgency to your advice given the department wishes to progress the assessment of the GDEMP and work with Adani to finalise the plan.

DES CSIRO/GA GDEMP 11b Advice request – REVISED based on CSIRO/GA feedback and clarification provided 20 May 2019

Review documents (for clarification please note DES does not require a review of the GMMP):

1. GDEMP v11b (track change versions v10 – v11 and v11a-11b attached);

Following the department's review of the CSIRO/GA 2019 Report, the department seeks your advice about the type of investigation and research that may provide greater certainty regarding the department's interest in relation to the identification of the source aquifer(s) to the Doongmabulla Springs Complex (DSC).

The environmental authority (EA) for the Carmichael Coal Mine requires Adani to develop and implement a Groundwater Dependent Ecosystems Management Plan (GDEMP). The term GDEMP is defined in the EA and states, among other things, that a GDEMP must include *'detailed baseline research to establish the source aquifer(s) for groundwater supply to each groundwater dependent ecosystem [potentially or indirectly impacted by mining activities]'*.

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'Further information on the specific methods and techniques to be applied to chemically assess the springs source and groundwater flow processes is required for a more detailed assessment to be made. This includes the need to define the

analytical suite, quality assurance and quality control methods, and use of a broader range of isotopic and environmental traces...' (at page 13).

Having regard to **the 2019 Report, the 2018 advice, and our meeting of 16 April 2019**, the department has the understanding that the following further research (steps) would improve the certainty about the source aquifer(s) of the DSC and other groundwater dependent ecosystems:

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 - e) incorporation of the airborne electro-magnetic modelling recently completed by Geoscience Australia (and available to Adani by June 2020); and
 - f) revision of the conceptual understanding of the source aquifer(s) for DSC and groundwater system based on information collected from the above for incorporation into the groundwater model review (re-run).
1. Does the above summary accurately reflect the CSIRO/GA advice with respect to further work that could increase certainty of the source aquifer(s) for the DSC?
 2. Would CSIRO/GA recommend any additional measures?
 3. Would it be appropriate from an adaptive management framework for all the above matters to be undertaken over a set period i.e. prior to the model review (re-run)?

Based on GDEMP 11b (track change version/s) and the CSIRO/GA advice dated November 2018 and February 2019, the department seeks your additional advice on the following questions:

4. Generally, in respect to groundwater research and modelling, is it acceptable and/or common from a scientific basis to have some level of uncertainty? i.e. can source aquifer(s) ever be categorically determined or definitively identified? Can you have absolute certainty? Is there always some level of uncertainty?
5. Are the groundwater drawdown trigger thresholds proposed in the updated GDEMP 11b appropriate and suitable to ensure the long-term protection of the DSC in light of your advice that the numerical model is not fit for purpose?
6. For question 5, are the adaptive management measures and commitments in the updated GDEMP appropriate? If not, please provide suggestions to address this?

This advice will assist the department's review and assessment of the latest version of the GDEMP 11b.

Please note there is a high level of urgency to your advice given the department wishes to progress the assessment of the GDEMP and work with Adani to finalise the plan.

Date : 24/05/2019 10:36:23 AM

From: [redacted] (6) Personal information

To : "ELLWOOD Dean"

Subject : RE: Proposal for advice request from DHES around the Adani Carmichael mine

Great thanks

sch4p4(6) Personal information

Coordinator-General

Department of State Development, Manufacturing, Infrastructure and Planning

P: 07 34527024 (6) Personal information

sch4p4(6) Personal information [redacted]@coordinatorgeneral.qld.gov.au

Level 14 | 1 William Street | Brisbane QLD 4000 | PO Box 15517 | City East QLD 4002

-----Original Message-----

From: ELLWOOD Dean <Dean.Ellwood@des.qld.gov.au>

Sent: Friday, 24 May 2019 10:28 AM

sch4p4(6) Personal information [redacted]@coordinatorgeneral.qld.gov.au

Subject: Fwd: Proposal for advice request from DHES around the Adani Carmichael mine

Begin forwarded message:

From: WELLS Melissa <Melissa.Wells@des.qld.gov.au<mailto:Melissa.Wells@des.qld.gov.au>>

Date: 24 May 2019 at 9:22:02 am AEST

To: ELLWOOD Dean <Dean.Ellwood@des.qld.gov.au<mailto:Dean.Ellwood@des.qld.gov.au>>

Subject: FW: Proposal for advice request from DHES around the Adani Carmichael mine

[cid:image002.png@01D51212.233FC230]

Melissa Wells

Executive Director

Coal and Central Qld Compliance

Department of Environment and Science

P 07 4987 9343

99 Hospital Road, Emerald QLD 4720

PO Box 3028, Emerald QLD 4720

sch4p4(6) Personal information [redacted] (6) Personal information [redacted] (6) Personal information [redacted] (6) Personal information [redacted] (6) Personal information

Sent: Friday, 24 May 2019 9:16 AM

To: WELLS Melissa

sch4p4(6) Personal information

Subject: RE: Proposal for advice request from DHES around the Adani Carmichael mine

Dear Melissa,

Thank you for this request, and we will be in contract with you as soon as we have considered this request.

sch4p4(6) Personal information

From: WELLS Melissa [mailto:Melissa.Wells@des.qld.gov.au]

Sent: Friday, 24 May 2019 8:56 AM

sch4p4(6) Personal information [redacted] (6) Personal information [redacted] (6) Personal information [redacted] (6) Personal information [redacted] (6) Personal information

Cc: [redacted] s.78B(2) [redacted]@ga.gov.au<mailto:[redacted] s.78B(2) [redacted]@ga.gov.au>>

Subject: RE: Proposal for advice request from DHES around the Adani Carmichael mine

sch4p4(6) Personal information

Further to my email below and in order for the delegate to consider CSIRO/GA's advice, the department respectfully requests the provision of all or part of the information by 7 June 2019.

I would be happy to arrange a meeting asap to discuss the revised scope, timeframes and provide direction around priorities.

Kind regards,
Melissa.

[cid:image006.png@01D51212.233FC230]

Melissa Wells
Executive Director
Coal and Central Qld Compliance
Department of Environment and Science

P 07 4987 9343

99 Hospital Road, Emerald QLD 4720
PO Box 3028, Emerald QLD 4720

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Sent: Wednesday, 22 May 2019 4:31 PM
To: WELLS Melissa
Cc: s.78B(2)
Subject: RE: Proposal for advice request from DHES around the Adani Carmichael mine

Dear Melissa,

Thank you for this revised request.

We will provide a formal response as soon as we can.

sch4p4(6) Personal information

From: WELLS Melissa [mailto:Melissa.Wells@des.qld.gov.au]
Sent: Wednesday, 22 May 2019 12:07 PM

sch4p4(6) Personal information & Water Black Mountains sch4p4(6) Personal information sch4p4(6) Personal information

Cc: s.78B(2)@ga.gov.au<mailto:s.78B(2)@ga.gov.au>>
Subject: RE: Proposal for advice request from DHES around the Adani Carmichael mine
Importance: High

sch4p4(6) Personal information

Thank you for your proposal. In light of the feedback and information that CSIRO/GA have sought clarification on, DES has significantly reviewed the initial scope of the request to provide more clarity and direction in relation to DES's interests.

The revised scope provides clarity and focusses on the track changed versions of the GDEMP. The scope provides confirmation that the review does not include the updated GMMP and includes a refined list of questions. Accordingly, please find attached a narrowed and refined scope for the review and the 'track changed' GDEMPs (for ease of reference). Again, given the urgency around timeliness, if you could please review and provide an update proposal (costings/timeframes) at your earliest convenience.

If you would like to discuss or seek clarification I would be happy to arrange a meeting as soon as possible.

Kind regards,
Melissa.

[cid:image008.png@01D51212.233FC230]

Melissa Wells
Executive Director
Coal and Central Qld Compliance
Department of Environment and Science

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PO Box 3028, Emerald QLD 4720

sch4p4(6) Personal information & Water Black Mountains sch4p4(6) Personal information sch4p4(6) Personal information

Sent: Monday, 20 May 2019 3:31 PM
To: WELLS Melissa
Cc: s.78B(2)
Subject: Proposal for advice request from DHES around the Adani Carmichael mine

Dear Melissa s.78B(2),

