

Date : 20/05/2019 10:16:04 AM

From : "ESR"

To : "MERRICK Jamie" , "TRACEY Alena" , "Pamela Frost" , "Hannah Jackson" , "Angus.Sutherland@ministerial.qld.gov.au" , "sonja.litz@ministerial.qld.gov.au" , "SEELIG Tim" , "MACGROARTY Robynne" , "DLO DES" , "Media DES"  
Cc : "ESR" , "LAWRENCE Rob" , "ESR Snr Mgt" , "BENNINK Kate" , "CAGNEY Justin" , "IRELAND Anne-Maree" , "justin.carpenter@premiers.qld.gov.au" , "Elizabeth Fellows" , "chris.mckenna@premiers.qld.gov.au"

Subject : Adani Weekly Update #41 - week ending 17 May 2019

Attachment : Adani Weekly Update 41 week ending 17052019.docx;image002.png;image003.png;

Good morning,

Please find attached the Adani Weekly Update #41 for the week ending 17 May 2019.

Kind regards,



**Lindsay Hope**

Senior Program Officer

Office of the Deputy Director-General

Environmental Services and Regulation

Department of Environment and Science

P 07 3330 5535

E [lindsay.hope@des.qld.gov.au](mailto:lindsay.hope@des.qld.gov.au)

Level 7, 400 George Street

GPO Box 2454 Brisbane QLD 4001

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## Adani Weekly Update # 41

|                                                                |                                                                                                                                                                                                     |
|----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Date:                                                          | Week ending 17 May 2019                                                                                                                                                                             |
| Contact:                                                       | Office of the Deputy Director-General Environmental Services and Regulation, <a href="mailto:esr@des.qld.gov.au">esr@des.qld.gov.au</a>                                                             |
| <b>CURRENT</b>                                                 |                                                                                                                                                                                                     |
| <b>Carmichael Coal Mine</b>                                    |                                                                                                                                                                                                     |
| <b>Assessment</b>                                              |                                                                                                                                                                                                     |
| <p style="text-align: center;">s.73</p>                        |                                                                                                                                                                                                     |
| <b>Groundwater Dependent Ecosystem Management Plan (GDEMP)</b> | <ul style="list-style-type: none"> <li>No update this week.</li> </ul>                                                                                                                              |
| <b>Groundwater Management and Monitoring Program (GMMP)</b>    | <ul style="list-style-type: none"> <li>20 May 2019 – proposed meeting between Adani and DES to discuss GMMP. DES to provide feedback on GMMP submitted on 9 April 2019 prior to meeting.</li> </ul> |
| <p style="text-align: center;">s.73</p>                        |                                                                                                                                                                                                     |

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| <b>Compliance</b> |
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**Abbot Point**

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| <b>Compliance &amp; Litigation</b> |
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#### Public Register

- 1 (one) new requests received for the period 3:00 pm Thursday 9 May to 3:30 pm Thursday 16 May 2019. PR19-199 EDO requesting copy of a complete copy of the most recent (or current) submitted plan of operations and annual return and evaluation.

Historical information is provided on the following pages.

**HISTORICAL**

**Carmichael Coal Mine**

**Assessment**

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**GDEMP**

- Required by EA conditions I11 to I13 and EA definition.
- The GDEMP is required to be approved by the administering authority prior to commencement of Project Stage Two as per condition I12.
- Project Stage Two is defined in the EA as: project activities, other than activities carried out under project stage 1, leading to the production of coal including:
  - removal of existing structures, site clearance
  - construction of access roads, potable water treatment and sewage treatment plants, new power plants, mine administrative buildings, water storage infrastructure and hardstanding
  - removal and stockpiling of overburden and excavation of box cuts for open pit or underground mining
  - commencement of dewatering operations.
- Versions 1 – 4 of the GDEMP were not submitted to DES.
- 7 November 2016 – DES received GDEMP (version 5).
- 15 December 2016 – DES provided comments on GDEMP.
- Version 6 of the GDEMP was not submitted to DES.
- 10 April 2017 – DES received GDEMP (version 7).
- 30 May 2017 – DES provided comments on GDEMP.

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|  | <ul style="list-style-type: none"> <li>• 28 September 2017 – DES received GDEMP (version 8).</li> <li>• 2 November 2017 – DES provided comments on GDEMP.</li> <li>• 15 December 2017 – DES received GDEMP (version 9).</li> <li>• 22 December 2017 – DES received a request from Adani to suspend the review of GDEMP.</li> <li>• 25 January 2018 – DES received GDEMP (version 9 dated 18 January 2018).</li> <li>• 6 March 2018 – DES sent Adani correspondence outlining its concerns with the GDEMP.</li> <li>• 28 March 2018 – Adani sent DES correspondence in response to DES comments of 6 March 2018.</li> <li>• 5 April 2018 – DES sent Adani correspondence outlining the outstanding issues that includes a request for consideration of how information from the Australian Government's Bioregional Assessment: Lake Eyre Basin Springs Assessment would be used to confirm the source aquifer for the Doongmabulla Springs Complex.</li> <li>• 13 July 2018 – DES received GDEMP (version 9 dated 5 July 2018).</li> <li>• 30 July 2018 – DES sent Adani preliminary feedback on the GDEMP stating the source aquifer must be identified.</li> <li>• 4 October 2018 – Adani sent DES correspondence outlining the research that has been undertaken to identify the source aquifer.</li> <li>• 15 October 2018 – DES sent Adani comments on GDEMP and additional information on source aquifer provided by Adani on 4 October 2018.</li> <li>• 16 October 2018 – workshop between Adani, Commonwealth and DES to present government feedback on GDEMP.</li> <li>• 24 October 2018 – teleconference between Adani, Commonwealth and DES to clarify government feedback on GDEMP.</li> <li>• 7 November 2018 – meeting between Adani, DES and Commonwealth to discuss how Adani will address feedback on GDEMP.</li> <li>• 14 November 2018 – DNRME provided advice that there are still issues with the actual groundwater data on which the GDEMP and GMMP are based and that these must be resolved prior to submission of the final versions of these documents.</li> <li>• 15 November 2018 – meeting between Adani, DES and Commonwealth to clarify any outstanding issues with feedback and how feedback will be addressed in revised GDEMP.</li> <li>• 16 November 2018 – meeting between Adani, DES and Commonwealth to provide final feedback prior to GDEMP submission.</li> <li>• 19 November 2018 – Adani submitted GDEMP (version 10).</li> <li>• 20 November 2018 – DES sent GDEMP to DNRME and DES Water Sciences for review.</li> <li>• 20 November 2018 – Commonwealth briefed DES on the preliminary advice from CSIRO/GA on previous drafts of GDEMP and GMMP plus additional information about groundwater conceptual model and Doongmabulla Springs Complex source aquifer.</li> </ul> |
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|  | <ul style="list-style-type: none"> <li>• 20 November 2018 – DES received preliminary CSIRO/GA advice from the Commonwealth.</li> <li>• 20 November 2018 - DES sought DNRME advice on CSIRO/GA preliminary advice.</li> <li>• 21 November 2018 – DNRME provided comments on CSIRO/GA preliminary advice indicating that some of the issues raised in the advice had been resolved in the EIS/SEIS assessment via IESC, DNRME and Adani agreement.</li> <li>• 21 November 2018 – DNRME communicated to DES that the bore data discrepancies had been resolved with Adani for one aquifer (Clematis), and that work on the next aquifer (alluvium) had commenced.</li> <li>• 21 November 2018 – DES and Commonwealth met with Adani and were advised that Adani had completed more research on source aquifer and had a 150 page report to submit.</li> <li>• 23 November 2018 – Commonwealth sent Adani the CSIRO/GA preliminary advice.</li> <li>• 27 November 2018 – DES, DNRME and the Commonwealth met with Adani to discuss a way forward with verification of bore water level data discrepancies. The water level data for bores in the Clematis aquifer has been verified by DNRME hydrologists. DES and the Commonwealth advised Adani that the review of the GDEMP could not be finalised until the water level data had been verified for all bores in all aquifers.</li> <li>• 11 December 2018 – the department received CSIRO/GA pre-Tranche 2 assessment report from the Commonwealth that highlighted further outstanding issues with the GDEMP and GMMP.</li> <li>• 13 December 2018 – Adani provided the department with a spreadsheet detailing the DNRME verification of 10 of the 81 bores groundwater water level data.</li> <li>• 14 December 2018 – the Commonwealth organised a teleconference/workshop to discuss the outstanding issues as raised by CSIRO/GA assessment report with CSIRO/GA, Adani, DES and DNRME.</li> <li>• 14 December 2018 – DES sent Adani correspondence stating that the review of the GDEMP and GMMP will not continue until all water levels for all bores in all aquifers have been verified and the CSIRO/GA assessment report issues were addressed.</li> <li>• 21 December 2018 – Adani provided DES with data from all bores for verification.</li> <li>• 21 December 2018 – DNRME emailed DES to say that of the 63 bores remaining, 30 require further investigation and are likely to require clarification with Adani/AECOM. This information was relayed to Adani same day.</li> <li>• 21 December 2018 – DES provided feedback to date on submitted GDEMP to Adani to allow updates for resubmission in January 2019.</li> <li>• 9 January 2019 – Adani provided information to reconcile Dunda Bed water bore levels based on feedback from DNRME.</li> <li>• 10 January 2019 – the Dunda Bed water bore level reconciliation information was sent to DNRME for its advice.</li> <li>• 11 January 2019 – DNRME provided DES with a review summary of bore water level data and follow up actions/questions for Adani/AECOM.</li> </ul> |
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|  | <ul style="list-style-type: none"> <li>• 15 January 2019 – Meeting between DES, Adani and AECOM to confirm agreement on groundwater trigger level values.</li> <li>• 15, 16 &amp; 17 January 2018 – Adani provided response to DES regarding DNRME review of bore water level data. Responses were sent to DNRME by DES.</li> <li>• 21 January 2019 – Adani were verbally advised that DNRME were not able to provide any further review advice relating to bore water level data, and that Adani should consider seeking peer review should further validation be required prior to formal submission.</li> <li>• 25 January 2019 – Commonwealth requested confirmation from DNRME (via DES) that the review of Adani's bore water level data has been completed.</li> <li>• 25 January 2019 – DNRME provided advice to DES reiterating that DNRME's initial review of the bore water level data has been completed.</li> <li>• 21 January 2019 – Adani advised DES that the GDEMP submitted to the Commonwealth incorporates updated bore water level data but does not address all previous comments by CSIRO, Geoscience Australia and DES. Adani has acknowledged that a further submission of a final GDEMP that addresses all comments is required, and will be provided in the near future.</li> <li>• 29 January 2019 – the Commonwealth advised DES that it has received an updated GDEMP on 21 January 2019.</li> <li>• 29 January 2019 – the Commonwealth advised DES that the CSIRO and Geoscience Australia independent scientific review commenced on 25 January 2019. The review will be based on the most recent versions of the GDEMP and Groundwater Management and Monitoring Program (GMMP) submitted to the Commonwealth. The independent scientific review is expected to take four weeks and be completed by 22 February 2019.</li> <li>• 1 February 2019 – the Commonwealth provided DES with a copy of their regulatory comments on version 10 of the GDEMP, which they also provided to Adani on the same day.</li> <li>• 8 February 2019 – email sent to Adani attaching NMRE advice regarding groundwater level data validation.</li> <li>• 8 February 2019 – Commonwealth's response to NRME regarding groundwater level data validation.</li> <li>• <b>22 February 2019 – the CSIRO and GA review was finalised.</b></li> <li>• 26 February 2019 – DES attended teleconference with Commonwealth to receive verbal summary of CSIRO/GA review findings.</li> <li>• 27 February 2019 – DES received a copy of the Commonwealth's requirements to Adani resulting from CSIRO/GA review findings.</li> <li>• 5 March 2019 – DES wrote to the Commonwealth requesting a copy of the CSIRO/GA review report.</li> <li>• 12 March 2019 – Minister Enoch wrote to Federal Minister Price on behalf of DES requesting a copy of the CSIRO/GA review report.</li> <li>• 13 March 2019 – DES received the Commonwealth's comments on the latest GDEMP it has received.</li> </ul> |
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- 9 April 2019 – the Federal Minister of the Environment approved the GDEMP.
- 9 April 2019 – DES received updated GDEMP version (11b) from Adani.
- 9 April 2019 – DES received a copy of the CSIRO/GA review of the GDEMP and GMMP, and will consider the review findings and the EA requirements before making a decision regarding approval of the GDEMP.
- 2 May 2019, DES met Adani to discuss GDEMP, GMMP and BTFMP.
- 10 May 2019, DES to meet with Adani to provide preliminary comments on GDEMP and GMMP, and details of the clarification DES require from CSIRO and Geoscience Australia.
- 10 May 2019, DES met with Adani to provide clarification on BTFMP requirements and discuss timeframes for GDEMP and GMMP assessment.
- 10 May 2019, DES sent letter to CSIRO and GA to seek clarification on certainty of the source aquifer for DSC.

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*Formal Investigation*

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**Assessment**

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Date : 17/05/2019 3:18:06 PM

From : s.73

To : "MERRICK Jamie"

Cc : "WELLS Melissa" , "ELLWOOD Dean"

Subject : Correspondence for DES

Attachment : DES re Groundwater Management Plan - 20190517.pdf;2019 05 16 Application RTI to DES re GMMP and GDEMP (Lodged).pdf;image146889.jpg;

Jamie,

Please find attached correspondence in relation to the GDEMP.

Thanks

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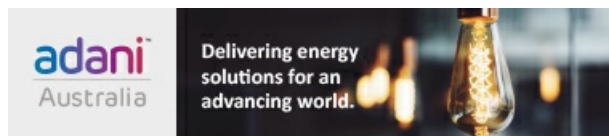
E s.73@adani.com.au

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17 May 2019

Private & Confidential

Mr Jamie Merrick  
Director-General  
Department of Environment and Science  
Queensland Government  
400 George Street  
Brisbane QLD 4000

By email: [jamie.merrick@des.qld.gov.au](mailto:jamie.merrick@des.qld.gov.au)

Dear Jamie

### **Adani Mining Pty Ltd – Groundwater Management Plans**

We refer to our previous correspondence in relation to groundwater management plans, in particular the Groundwater Dependent Ecosystems Management Plan (**GDEMP**) and the Groundwater Monitoring and Management Plan (**GMMP**) for Adani Mining Pty Ltd (**Adani**), and in particular our letter to you more than a month ago on 12 April 2019 which sought clarity from you on the process and timing for approval of those plans. In the most recent email from your Ms Melissa Wells at 5:15pm on 16 May 2019, we have been advised by the Department of Environment and Science (**DES**) that:

*"...the CSIRO/GA advice is to provide clarification to the department about its original review in light of the revised GDEMP. Adani will be provided with a copy of the CSIRO/GA advice once it becomes available..."*

This latest correspondence from Ms Wells was in response to our request where we had once again sought that DES provide us with the questions that DES has put to CSIRO / GA. We understand that these questions form the basis for a new contract being entered into between DES and CSIRO / GA. The latest email from DES is, at best, unresponsive and we ask:

**Question 1: Can the DES please provide us with the questions that have been asked of CSIRO / GA?**

It would seem fairer and simpler if you just provided us with these basic details so we have a proper opportunity to understand and engage in the process.

However, given the apparent unwillingness to meet this very simple request we have also submitted a formal Right to Information application (copy attached). As that RTI application exclusively relates to ourselves, DES and then to CSIRO / GA (who seem able to respond very rapidly to such requests) it is our expectation that this application will be dealt with as a priority.

**Adani Mining Pty Ltd**  
Level 25  
10 Eagle Street, Brisbane QLD 4000  
GPO Box 2569, Brisbane QLD 4001  
Australia

**Tel** +61 7 3223 4800  
[www.adaniaustralia.com](http://www.adaniaustralia.com)

**Question 2: When will you receive the advice from CSIRO / GA?**

Separately, with respect to the latest correspondence from Ms Wells, there is a reference to advice from CSIRO / GA and its provision to us when it becomes available. We would expect it is a very short time frame given what seems to be, by implication, a strictly limited scope and we wish to be prepared to respond once it is available.

We are only seeking clarity as to process and timing and would appreciate the ability to be able to fully engage with the DES with a proper understanding of what is happening.

We remain committed to working collaboratively to finalise these plans so that we can get on with the task of delivering thousands of jobs for Queenslanders.

Yours sincerely

s.73

s.73

**Attachment** 2019 05 16 Application RTI to DES re GMMP and GDEMP (Lodged).pdf

**cc** Ms Mellissa Wells Melissa.Wells@des.qld.gov.au  
Mr Dean Ellwood Dean.Ellwood@des.qld.gov.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 (1) Black Mountain)

Cc: s.78B(2)

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

Importance: High

sch4p4(6) Personal information (1) Black Mountain)

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 (1) Black Mountain) sch4p4(6) Personal information (1) Black Mountain)

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 10<sup>th</sup> 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.

4p4( 6) **Personal** information

Wsch4p4(6) Personal information

sch4p4( 6) Personal information

Director  
CSIRO Land and Water

sch4p4( 6) Personal information

T +61 2 6246 4384 p4 (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

**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.

Date : 24/05/2019 5:00:47 PM

From : "WELLS Melissa"

To : "ELLWOOD Dean"

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

Attachment : Advice request and costing

response\_CSIRO\_GA\_24May2019\_for\_submission.docx;image001.png;image003.png;image004.png;image005.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: (b) (6) Personal information <(b) (6) Personal information>

Sent: Friday, 24 May 2019 4:52 PM

To: WELLS Melissa

Cc: (b) (6) Personal information, Executive, Black Mountain, (b) (6) Personal information, L&W, Black Mountain)

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

Dear Melissa,

Thank you for your revised scope of the request for GA and CSIRO to provide advice around the proposed Adani Carmichael mine, as per your email of Wednesday, 22<sup>nd</sup> May .

GA and CSIRO would be pleased to provide this advice by the requested deadline of June 7<sup>th</sup>, and provide our joint proposal for undertaking this work in the attached document. In summary, we have estimated the cost as being \$48,410 (GST exclusive).

Please call me if you wish to discuss this, and as previously advised (b) (6) Personal information will be the key contact in relation to contractual issues  
sch4p4(6) Personal information, sch4p4(6) Personal information

With regards  
sch4p4(6) Personal information

sch4p4(6) Personal information

Director  
CSIRO Land and Water

sch4p4(6) Personal information

T + sch4p4(6) Personal information

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

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

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

Sent: Wednesday, 22 May 2019 12:07 PM

sch4p4(6) Personal information, (b) (6) Personal information, (b) (6) Personal information

Cc: Johnson James <[James.Johnson@ga.gov.au](mailto:James.Johnson@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.



**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: [redacted] (6) Personal information <[redacted]@csiro.au>

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 (cc James),

Thank you for your request on Friday May 10<sup>th</sup> 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] (6) Personal information as your primary contact in relation to contractual issues. [redacted] (6) Personal information [redacted] (6) Personal information [redacted] (6) Personal information

With regards to [redacted] (6) Personal information

[redacted] (6) Personal information

Director  
CSIRO Land and Water

[redacted] (6) Personal information

T +61 2 6246 4383 M [redacted] (6) Personal information

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## **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.

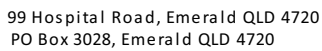
GA Hydrodynamic - Senior 1) to assess and evaluate the adequacy and feasibility of proponent technical methodology and approaches including hydraulic parameterisation and water flow, 2) Provide high level specialist technical advice under broad direction, 3) Evaluate, prioritise and communicate identified 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.

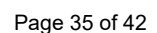
CSIRO Groundwater hydrologist 1) to assess and evaluate the adequacy and feasibility of proponent technical methodology and approaches including numerical methods, model parameterisation and conceptual implementation, 2) Provide high level specialist technical advice under broad direction, 3) Evaluate, 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.

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



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



Dear Melissa,

Thank you for this revised request.

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

With regards, [redacted] Personal information

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

**Sent:** Wednesday, 22 May 2019 12:07 PM

**To:** [redacted] (L&W: Black Mountain) [redacted] (6) Personal information >

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

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

**Importance:** High

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With regards, [redacted] Personal information

[redacted] (6) Personal information

Director  
CSIRO Land and Water

[redacted] (6) Personal information

T [redacted] sch4p4( 6) Personal information

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*present.*

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## Adani Weekly Update # 40

Date: Week ending 10 May 2019

### CURRENT

#### Carmichael Coal Mine

#### Assessment – Contact Kate Bennink

|                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Black Throated Finch Management Plan (BTFMP)</b>                                                                                                     | s.73                                                                                                                                                                                                                                                                                                                              |
| <b>Groundwater Dependent Ecosystem Management Plan (GDEMP)</b>                                                                                          | <ul style="list-style-type: none"> <li>10 May 2019, DES to meet with Adani to provide clarification on BTFMP requirements and discuss timeframes for GDEMP and GMMP assessment.</li> <li>10 May 2019, DES sent letter to CSIRO and GA to seek clarification on certainty of the source aquifer for DSC (see attached).</li> </ul> |
| <b>Groundwater Management and Monitoring Program (GMMP)</b>                                                                                             | <ul style="list-style-type: none"> <li>10 May 2019, DES to meet with Adani to provide clarification on BTFMP requirements and discuss timeframes for GDEMP and GMMP assessment.</li> </ul>                                                                                                                                        |
| <b>Moray Downs West Offset Area Management Plan (MDWOAMP)</b><br><br><b>Plan of Operations and Financial Assurance (FA)</b><br><br><b>EA conditions</b> | s.73                                                                                                                                                                                                                                                                                                                              |

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| <p><b>GDEMP</b></p> | <ul style="list-style-type: none"> <li>• Required by EA conditions I11 to I13 and EA definition.</li> <li>• The GDEMP is required to be approved by the administering authority prior to commencement of Project Stage Two as per condition I12.</li> <li>• Project Stage Two is defined in the EA as: project activities, other than activities carried out under project stage 1, leading to the production of coal including: <ul style="list-style-type: none"> <li>○ removal of existing structures, site clearance</li> <li>○ construction of access roads, potable water treatment and sewage treatment plants, new power plants, mine administrative buildings, water storage infrastructure and hardstanding</li> <li>○ removal and stockpiling of overburden and excavation of box cuts for open pit or underground mining</li> <li>○ commencement of dewatering operations.</li> </ul> </li> <li>• Versions 1 – 4 of the GDEMP were not submitted to DES.</li> <li>• 7 November 2016 – DES received GDEMP (version 5).</li> <li>• 15 December 2016 – DES provided comments on GDEMP.</li> <li>• Version 6 of the GDEMP was not submitted to DES.</li> <li>• 10 April 2017 – DES received GDEMP (version 7).</li> <li>• 30 May 2017 – DES provided comments on GDEMP.</li> <li>• 28 September 2017 – DES received GDEMP (version 8).</li> <li>• 2 November 2017 – DES provided comments on GDEMP.</li> <li>• 15 December 2017 – DES received GDEMP (version 9).</li> <li>• 22 December 2017 – DES received a request from Adani to suspend the review of GDEMP.</li> <li>• 25 January 2018 – DES received GDEMP (version 9 dated 18 January 2018).</li> <li>• 6 March 2018 – DES sent Adani correspondence outlining its concerns with the GDEMP.</li> <li>• 28 March 2018 – Adani sent DES correspondence in response to DES comments of 6 March 2018.</li> <li>• 5 April 2018 – DES sent Adani correspondence outlining the outstanding issues that includes a request for consideration of how information from the Australian Government's Bioregional Assessment: Lake Eyre Basin Springs Assessment would be used to confirm the source aquifer for the Doongmabulla Springs Complex.</li> <li>• 13 July 2018 – DES received GDEMP (version 9 dated 5 July 2018).</li> <li>• 30 July 2018 – DES sent Adani preliminary feedback on the GDEMP stating the source aquifer must be identified.</li> <li>• 4 October 2018 – Adani sent DES correspondence outlining the research that has been undertaken to identify the source aquifer.</li> <li>• 15 October 2018 – DES sent Adani comments on GDEMP and additional information on source aquifer provided by Adani on 4 October 2018.</li> </ul> |
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|  | <ul style="list-style-type: none"> <li>• 16 October 2018 – workshop between Adani, Commonwealth and DES to present government feedback on GDEMP.</li> <li>• 24 October 2018 – teleconference between Adani, Commonwealth and DES to clarify government feedback on GDEMP.</li> <li>• 7 November 2018 – meeting between Adani, DES and Commonwealth to discuss how Adani will address feedback on GDEMP.</li> <li>• 14 November 2018 – DNRME provided advice that there are still issues with the actual groundwater data on which the GDEMP and GMMP are based and that these must be resolved prior to submission of the final versions of these documents.</li> <li>• 15 November 2018 – meeting between Adani, DES and Commonwealth to clarify any outstanding issues with feedback and how feedback will be addressed in revised GDEMP.</li> <li>• 16 November 2018 – meeting between Adani, DES and Commonwealth to provide final feedback prior to GDEMP submission.</li> <li>• 19 November 2018 – Adani submitted GDEMP (version 10).</li> <li>• 20 November 2018 – DES sent GDEMP to DNRME and DES Water Sciences for review.</li> <li>• 20 November 2018 – Commonwealth briefed DES on the preliminary advice from CSIRO/GA on previous drafts of GDEMP and GMMP plus additional information about groundwater conceptual model and Doongmabulla Springs Complex source aquifer.</li> <li>• 20 November 2018 – DES received preliminary CSIRO/GA advice from the Commonwealth.</li> <li>• 20 November 2018 - DES sought DNRME advice on CSIRO/GA preliminary advice.</li> <li>• 21 November 2018 – DNRME provided comments on CSIRO/GA preliminary advice indicating that some of the issues raised in the advice had been resolved in the EIS/SEIS assessment via IESC, DNRME and Adani agreement.</li> <li>• 21 November 2018 – DNRME communicated to DES that the bore data discrepancies had been resolved with Adani for one aquifer (Clematis), and that work on the next aquifer (alluvium) had commenced.</li> <li>• 21 November 2018 – DES and Commonwealth met with Adani and were advised that Adani had completed more research on source aquifer and had a 150 page report to submit.</li> <li>• 23 November 2018 – Commonwealth sent Adani the CSIRO/GA preliminary advice.</li> <li>• 27 November 2018 – DES, DNRME and the Commonwealth met with Adani to discuss a way forward with verification of bore water level data discrepancies. The water level data for bores in the Clematis aquifer has been verified by DNRME hydrologists. DES and the Commonwealth advised Adani that the review of the GDEMP could not be finalised until the water level data had been verified for all bores in all aquifers.</li> <li>• 11 December 2018 – the department received CSIRO/GA pre-Tranche 2 assessment report from the Commonwealth that highlighted further outstanding issues with the GDEMP and GMMP.</li> </ul> |
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|  | <ul style="list-style-type: none"> <li>• 13 December 2018 – Adani provided the department with a spreadsheet detailing the DNRME verification of 10 of the 81 bores groundwater water level data.</li> <li>• 14 December 2018 – the Commonwealth organised a teleconference/workshop to discuss the outstanding issues as raised by CSIRO/GA assessment report with CSIRO/GA, Adani, DES and DNRME.</li> <li>• 14 December 2018 – DES sent Adani correspondence stating that the review of the GDEMP and GMMP will not continue until all water levels for all bores in all aquifers have been verified and the CSIRO/GA assessment report issues were addressed.</li> <li>• 21 December 2018 – Adani provided DES with data from all bores for verification.</li> <li>• 21 December 2018 – DNRME emailed DES to say that of the 63 bores remaining, 30 require further investigation and are likely to require clarification with Adani/AECOM. This information was relayed to Adani same day.</li> <li>• 21 December 2018 – DES provided feedback to date on submitted GDEMP to Adani to allow updates for resubmission in January 2019.</li> <li>• 9 January 2019 – Adani provided information to reconcile Dunda Bed water bore levels based on feedback from DNRME.</li> <li>• 10 January 2019 – the Dunda Bed water bore level reconciliation information was sent to DNRME for its advice.</li> <li>• 11 January 2019 – DNRME provided DES with a review summary of bore water level data and follow up actions/questions for Adani/AECOM.</li> <li>• 15 January 2019 – Meeting between DES, Adani and AECOM to confirm agreement on groundwater trigger level values.</li> <li>• 15, 16 &amp; 17 January 2018 – Adani provided response to DES regarding DNRME review of bore water level data. Responses were sent to DNRME by DES.</li> <li>• 21 January 2019 – Adani were verbally advised that DNRME were not able to provide any further review advice relating to bore water level data, and that Adani should consider seeking peer review should further validation be required prior to formal submission.</li> <li>• 25 January 2019 – Commonwealth requested confirmation from DNRME (via DES) that the review of Adani's bore water level data has been completed.</li> <li>• 25 January 2019 – DNRME provided advice to DES reiterating that DNRME's initial review of the bore water level data has been completed.</li> <li>• 21 January 2019 – Adani advised DES that the GDEMP submitted to the Commonwealth incorporates updated bore water level data but does not address all previous comments by CSIRO, Geoscience Australia and DES. Adani has acknowledged that a further submission of a final GDEMP that addresses all comments is required, and will be provided in the near future.</li> <li>• 29 January 2019 – the Commonwealth advised DES that it has received an updated GDEMP on 21 January 2019.</li> </ul> |
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|  | <ul style="list-style-type: none"> <li>• 29 January 2019 – the Commonwealth advised DES that the CSIRO and Geoscience Australia independent scientific review commenced on 25 January 2019. The review will be based on the most recent versions of the GDEMP and Groundwater Management and Monitoring Program (GMMP) submitted to the Commonwealth. The independent scientific review is expected to take four weeks and be completed by 22 February 2019.</li> <li>• 1 February 2019 – the Commonwealth provided DES with a copy of their regulatory comments on version 10 of the GDEMP, which they also provided to Adani on the same day.</li> <li>• 8 February 2019 – email sent to Adani attaching NMRE advice regarding groundwater level data validation.</li> <li>• 8 February 2019 – Commonwealth's response to NRME regarding groundwater level data validation.</li> <li>• <b>22 February 2019 – the CSIRO and GA review was finalised.</b></li> <li>• 26 February 2019 – DES attended teleconference with Commonwealth to receive verbal summary of CSIRO/GA review findings.</li> <li>• 27 February 2019 – DES received a copy of the Commonwealth's requirements to Adani resulting from CSIRO/GA review findings.</li> <li>• 5 March 2019 – DES wrote to the Commonwealth requesting a copy of the CSIRO/GA review report.</li> <li>• 12 March 2019 – Minister Enoch wrote to Federal Minister Price on behalf of DES requesting a copy of the CSIRO/GA review report.</li> <li>• 13 March 2019 – DES received the Commonwealth's comments on the latest GDEMP it has received.</li> <li>• 9 April 2019 – the Federal Minister of the Environment approved the GDEMP.</li> <li>• 9 April 2019 – DES received updated GDEMP version (11b) from Adani.</li> <li>• 9 April 2019 – DES received a copy of the CSIRO/GA review of the GDEMP and GMMP, and will consider the review findings and the EA requirements before making a decision regarding approval of the GDEMP.</li> <li>• 2 May 2019, DES met Adani to discuss GDEMP, GMMP and BTFMP.</li> <li>• 10 May 2019, DES to meet with Adani to provide preliminary comments on GDEMP and GMMP, and details of the clarification DES require from CSIRO and Geoscience Australia.</li> </ul> |
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