

Date : 12/06/2019 3:46:04 PM

From : "LOWE Trinity"

To : "WELLS Melissa"

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

Subject : Adani - actions please

Attachment : Adani_Script CRT 5June 2019 V3.docx;image001.png;image003.png;

Hi Melissa

It's been suggested the script should sit with your team for update to ensure consistency with the other information you are preparing including draft media statements and Q&A's etc.

I am currently in discussions with CRT about extra resourcing for the phones tomorrow afternoon and all day Friday.

If there is anything the ODDG can do to assist, please let me know.

Thanks & Cheers

Trin



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

Published on DES Disclosure Log
RTI Act 2009

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

Status Adani State Government Approvals:

- 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.**

Black-throated Finch Management Plan (BTFMP)

- The Commonwealth approved a BTFMP for the project in December 2018.
- On 31 May 2019 DES approved a later, updated version of that plan (version 8a May 2019).
- As part of their Environmental Authority, Adani is required to publish a copy of the DES approved BTFMP on their website.
- You can access a copy of the DES approved BTFMP here:
- https://www.adaniaustralia.com/-/media/Project/Australia/Our-Projects--Businesses/mine-environment-reporting/BTF-Management-Plan_v8a-FINAL-28May2019.pdf?la=en&hash=D4C8EBBFB222B5FF28A61321F1A2078B
- Please note that the Adani web site also has the Commonwealth approved BTFMP (Dec 2018) – callers should be advised about the two versions.
- BTFMP details the management, mitigation measures and monitoring to minimise impacts to the endangered Black-throated Finch.
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- **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.

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- Based on this advice, DES is satisfied that the GDEMP sufficiently establishes the main source aquifer of the springs as the Clematis Sandstone. A requirement of Adani's environmental approval.
- CSIRO and Geoscience Australia also confirmed that some level of uncertainty in geological and groundwater conceptual models always exists. Therefore, DES has required additional commitments from Adani to undertake further scientific work over the next two years. This is required to identify any potential contribution from other aquifers and strengthen the GDEMP.

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- Further work to improve the understanding of the source aquifers of springs in the locality, particularly the Doongmabulla Springs Complex, including:
 - Undertaking detailed hydrogeochemical analysis of groundwater and spring samples from different springs within each spring complex
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 - Incorporating air-borne electro-magnetic modelling undertaken by Geoscience Australia to improve hydrogeological understanding of the area.
- Using a bore in the Dunda Beds (also known as the Rewan Formation) as an early warning trigger for groundwater drawdown monitoring in the Carmichael River.
- Additional measures in the GDEMP also address concerns raised by Flinders University scientists that the Permian aquifers should not be ruled out as a Doongmabulla Springs Complex source.
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- Underground mining will not commence until these actions are completed and only if predicted impacts are consistent with approved impacts. Likewise, if the hydrogeological conceptualisation differs from that of the approved project, approval must be sought prior to relevant impact causing activities.
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Date : 19/06/2019 3:55:38 PM

From : "Corro DES ESR DDG"

To : "ELLWOOD Dean"

Subject : CTS No. 12121/19: Concerning (ESR) // MIN LTR // Concern for the Jangga People - Adani's carmichael Coal Project /

Email from Irene Leard, Manager, Jangga Operations P/L obo Colin McLennan, Elder and Traditional Owner of the Jangg

Attachment : Incoming 12121-19 Email- Irene Leard.pdf;12121-19 Draft Min Reply Irene Leard.docx;image001.png;image002.png;

Hi Dean

Attached response for your endorsement please. Due to ECU 24/06.

Kind regards

tdt



Tonina Di Tullio

Executive Support Officer

Office of the Deputy Director-General

Environmental Services and Regulation

Department of Environment and Science

P 07 3330 5549

Level 7, 400 George St, Brisbane QLD 4000

GPO Box 2454, Brisbane QLD 4001

GENERAL CORRESPONDENCE

REQUEST FORM

Minister's Office to complete

Date: 11 / 4 / 19

MINISTERIAL OFFICER

Minister's Office reference: MIN/19/ 11545678.

☒ Hannah Jackson (CoS)	☐ Angus Sutherland (SPA)
☒ Sonja Litz (SPA)	☐ Chris Vernon (PA)
☐ Luke Moore (PA)	☐ URGENT (Due Date / /)

☒ Environment
 ☐ National Parks
 ☐ Science
 ☐ Arts/Heritage
 ☐ Corporate

ACTION REQUESTED

SIGN OFF BY

- | | |
|---|--|
| ☒ Letter of Response & Correspondence Brief (if required)
☐ Copy of letter to MP
☐ Contact by Phone within 48 hours
☐ Dot point brief
☐ Meeting Brief
☐ Refer to other Minister/MP
☐ Refer to Department to respond
☐ | ☒ Minister
☐ Chief of Staff
☐ SPA 1 (Angus Sutherland)
☐ SPA 2 (Sonja Litz)
☐ Ministerial Office Interim Response Required
☐ Noted No Action Required
☐
☐ CLA Ref: (Electronic copy to Luke Moore) |
|---|--|

DEPARTMENT ACTION: DLO to complete

DLO Received: 3 / 5 / 19 Dept Reference: CTS No. 12121 /19

Reply Due to ESU/ DLO : ____/____/____ DG Office: ____/____/____ Mins Office: ____/____/____

ODG / DLO Comments:

Taylor Seawright

From: s78B(2)
Sent: Thursday, 11 April 2019 6:47 AM
To: Environment
Subject: Jangga People - ADANI PROJECT
Attachments: Letter re Adani to Leanne Enoch.docx

Dear Ms Enoch

Please find attached a letter of utmost importance to the Jangga People it would be greatly appreciated if this letter is read in the context for which it has been written with Respect and great concern for the Jangga people if this project does not go ahead.

We have worked hard to negotiate the right agreements with Adani who have been nothing short of respectful, professional and consultative with us the Jangga People and our CULTURAL HERITAGE.

We look forward to hearing from you regarding this matter and hope we have your support in this matter.

Regards

s78B(2)

Manager
Jangga Operations P/L

For and on behalf of Colin McLennan
Elder and Traditional owner of the Jangga People

Mobile: sch4p4(6) Personal information

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11/04/2019

Ministerial Office – Leanne Enoch

Minister for the Environment
1 William Street
BRISBANE QLD 4000

Phone: (07) 3719 7140

Fax: (07) 3012 9017

Email: environment@ministerial.qld.gov.au

Dear Ms Enoch

Re: The Carmichael Coal Project

I am writing to you on behalf of the Jangga people to express our concerns at the most recent delay being created for the Carmichael Coal Project.

We seek an urgent meeting with you to discuss these concerns.

We are Traditional Owners for the rail section of this project and have entered into a native title agreement with Adani Mining giving our consent to this project. The State of Queensland has also executed this native title agreement.

These agreements, which were executed a number of years ago contain significant commitments by Adani which will directly benefit the Jangga people, and bring generational change for our people. We have been working with Adani, in partnership to realise these commitments. However, our efforts and expectations are being frustrated by your government.

It now appears that green activists, who have never been to our country or met our people, are being brought in at the eleventh hour to frustrate and delay the progress of this important project for the Jangga people (as well as our neighbours in regional Queensland). Well. Enough is Enough.

We are the silent minority. We won't be silent anymore.



sch4p4(6) Personal information

We are determined to ensure that the Jangga people are allowed to help themselves gain self-respect and self-determination by lifting ourselves from poverty and shifting from a welfare mentality. The Carmichael Coal Project is helping us do this, building our capacity and capability, employing our people, enabling access to contracts, whilst at the same time allowing us to respectfully manage our cultural heritage interests.

Please contact s78B(2) on e-mail s78B(2) @janggaoperations.com.au or mobile s78B(2) to organise a meeting.

Yours sincerely

sch4p4(6) Personal information

*Bulganunna Chairperson
Traditional Owner and Elder of the Jangga People*

Prepared by: Juliana McCosker Position: Manager Bus Unit: Business Centre Coal Telephone: (07) 49879356	Endorsed by: Rob Lawrence Position: Deputy Director-General Bus Area: Environmental Services and Regulation Telephone: (07) 3330 5628 Date:	Recommended by: Jamie Merrick (or Director on behalf of) Title: Director-General, DES Telephone: 3338 9304 Date Approved:
--	--	---

Our Ref: CTS 12121/19

s78B(2)

Manager
Jangga Operations P/L
irene.leard@janggaoperations.com.au

Dear s78B(2)

Thank you for your email and letter of 11 April 2019 regarding the Carmichael Coal project.

The Queensland Government has been clear that the Carmichael Coal Mine and rail project must stack up on its own merits, both financially and environmentally. The project has been subject to a rigorous environmental assessment process under State and Commonwealth environmental protection legislation. The State environmental authority (EA) has placed approximately 140 conditions on the project to protect the natural environment and the interests of landholders and Traditional Owners.

On the 13 June 2019, the Department of Environment and Science (DES) approved Adani's Groundwater Dependent Ecosystem Management Plan (GDEMP).

The GDEMP is the second of the two environmental management plans that needed to be approved before Adani could begin significant mining activities at its Carmichael mine site. The other was the Black-Throated Finch Management Plan (BTFMP) that was approved by DES on 31 May 2019.

The BTFMP and the GDEMP are required under the conditions of the EA for the Carmichael Coal Mine, and are necessary to protect these unique Queensland environmental values. DES sought independent scientific advice on both plans and worked diligently with Adani over the past two years to ensure that both plans protect these values and will ensure that the mine meets its environmental obligations.

Should you require any further information, you may contact Ms Juliana McCosker, Manager, Environmental Services and Regulation, Department of Environment and Science on telephone (07) 4987 9320 or by email at Juliana.mccosker@des.qld.gov.au.

Yours sincerely

Leeanne Enoch MP
Minister for Environment and the Great Barrier Reef,
Minister for Science and Minister for the Arts

Date : 19/06/2019 3:55:38 PM

From : "Corro DES ESR DDG"

To : "ELLWOOD Dean"

Subject : CTS No. 12121/19: Concerning (ESR) // MIN LTR // Concern for the Jangga People - Adani's carmichael Coal Project /

Email from Irene Leard, Manager, Jangga Operations P/L obo Colin McLennan, Elder and Traditional Owner of the Jangg

Attachment : Incoming 12121-19 Email- Irene Leard.pdf;12121-19 Draft Min Reply Irene Leard.docx;image001.png;image002.png;

Hi Dean

Attached response for your endorsement please. Due to ECU 24/06.

Kind regards

tdt



Tonina Di Tullio

Executive Support Officer

Office of the Deputy Director-General

Environmental Services and Regulation

Department of Environment and Science

P 07 3330 5549

Level 7, 400 George St, Brisbane QLD 4000

GPO Box 2454, Brisbane QLD 4001

GENERAL CORRESPONDENCE

REQUEST FORM

Minister's Office to complete

Date: 11 / 4 / 19

MINISTERIAL OFFICER

Minister's Office reference: MIN/19/ 11545578.

☒ Hannah Jackson (CoS)	☐ Angus Sutherland (SPA)
☒ Sonja Litz (SPA)	☐ Chris Vernon (PA)
☐ Luke Moore (PA)	☐ URGENT (Due Date / /)

☒ Environment
 ☐ National Parks
 ☐ Science
 ☐ Arts/Heritage
 ☐ Corporate

ACTION REQUESTED

SIGN OFF BY

- | | |
|---|--|
| ☒ Letter of Response & Correspondence Brief (if required)
☐ Copy of letter to MP
☐ Contact by Phone within 48 hours
☐ Dot point brief
☐ Meeting Brief
☐ Refer to other Minister/MP
☐ Refer to Department to respond
☐ | ☒ Minister
☐ Chief of Staff
☐ SPA 1 (Angus Sutherland)
☐ SPA 2 (Sonja Litz)
☐ Ministerial Office Interim Response Required
☐ Noted No Action Required
☐
☐ CLA Ref: (Electronic copy to Luke Moore) |
|---|--|

DEPARTMENT ACTION: DLO to complete

DLO Received: 3 / 5 / 19 Dept Reference: CTS No. 12121 /19

Reply Due to ESU/ DLO : ____/____/____ DG Office: ____/____/____ Mins Office: ____/____/____

ODG / DLO Comments:

Taylor Seawright

From: s78B(2)
Sent: Thursday, 11 April 2019 6:47 AM
To: Environment
Subject: Jangga People - ADANI PROJECT
Attachments: Letter re Adani to Leanne Enoch.docx

Dear Ms Enoch

Please find attached a letter of utmost importance to the Jangga People it would be greatly appreciated if this letter is read in the context for which it has been written with Respect and great concern for the Jangga people if this project does not go ahead.

We have worked hard to negotiate the right agreements with Adani who have been nothing short of respectful, professional and consultative with us the Jangga People and our CULTURAL HERITAGE.

We look forward to hearing from you regarding this matter and hope we have your support in this matter.

Regards

s78B(2)

Manager
Jangga Operations P/L

For and on behalf of s78B(2)
Elder and Traditional owner of the Jangga People

Mobile: sch4p4(6) Personal information



sch4p4(6) Personal information

11/04/2019

Ministerial Office – Leanne Enoch

Minister for the Environment
1 William Street
BRISBANE QLD 4000

Phone: (07) 3719 7140

Fax: (07) 3012 9017

Email: environment@ministerial.qld.gov.au

Dear Ms Enoch

Re: The Carmichael Coal Project

I am writing to you on behalf of the Jangga people to express our concerns at the most recent delay being created for the Carmichael Coal Project.

We seek an urgent meeting with you to discuss these concerns.

We are Traditional Owners for the rail section of this project and have entered into a native title agreement with Adani Mining giving our consent to this project. The State of Queensland has also executed this native title agreement.

These agreements, which were executed a number of years ago contain significant commitments by Adani which will directly benefit the Jangga people, and bring generational change for our people. We have been working with Adani, in partnership to realise these commitments. However, our efforts and expectations are being frustrated by your government.

It now appears that green activists, who have never been to our country or met our people, are being brought in at the eleventh hour to frustrate and delay the progress of this important project for the Jangga people (as well as our neighbours in regional Queensland). Well. Enough is Enough.

We are the silent minority. We won't be silent anymore.



sch4p4(6) Personal information

We are determined to ensure that the Jangga people are allowed to help themselves gain self-respect and self-determination by lifting ourselves from poverty and shifting from a welfare mentality. The Carmichael Coal Project is helping us do this, building our capacity and capability, employing our people, enabling access to contracts, whilst at the same time allowing us to respectfully manage our cultural heritage interests.

Please contact s78B(2) on e-mail s78B(2) @janggaoperations.com.au or mobile s78B(2) to organise a meeting.

Yours sincerely

sch4p4(6) Personal information

*Bulganunna Chairperson
Traditional Owner and Elder of the Jangga People*

Published on DES Disclosure Log
RTI Act 2009

Prepared by: Juliana McCosker Position: Manager Bus Unit: Business Centre Coal Telephone: (07) 49879356	Endorsed by: Rob Lawrence Position: Deputy Director-General Bus Area: Environmental Services and Regulation Telephone: (07) 3330 5628 Date:	Recommended by: Jamie Merrick (or Director on behalf of) Title: Director-General, DES Telephone: 3338 9304 Date Approved:
--	--	---

Our Ref: CTS 12121/19

s78B(2)

Manager
Jangga Operations P/L
irene.leard@janggaoperations.com.au

Dear s78B(2)

Thank you for your email and letter of 11 April 2019 regarding the Carmichael Coal project.

The Queensland Government has been clear that the Carmichael Coal Mine and rail project must stack up on its own merits, both financially and environmentally. The project has been subject to a rigorous environmental assessment process under State and Commonwealth environmental protection legislation. The State environmental authority (EA) has placed approximately 140 conditions on the project to protect the natural environment and the interests of landholders and Traditional Owners.

On the 13 June 2019, the Department of Environment and Science (DES) approved Adani's Groundwater Dependent Ecosystem Management Plan (GDEMP).

The GDEMP is the second of the two environmental management plans that needed to be approved before Adani could begin significant mining activities at its Carmichael mine site. The other was the Black-Throated Finch Management Plan (BTFMP) that was approved by DES on 31 May 2019.

The BTFMP and the GDEMP are required under the conditions of the EA for the Carmichael Coal Mine, and are necessary to protect these unique Queensland environmental values. DES sought independent scientific advice on both plans and worked diligently with Adani over the past two years to ensure that both plans protect these values and will ensure that the mine meets its environmental obligations.

Should you require any further information, you may contact Ms Juliana McCosker, Manager, Environmental Services and Regulation, Department of Environment and Science on telephone (07) 4987 9320 or by email at Juliana.mccosker@des.qld.gov.au.

Yours sincerely

Leeanne Enoch MP
Minister for Environment and the Great Barrier Reef,
Minister for Science and Minister for the Arts

Date : 13/06/2019 12:11:20 PM

From : "Media DES"

To : "ELLWOOD Dean"

Cc : "MERRICK Jamie" , "LOWE Trinity" , "GRANT Andrea" , "WELLS Melissa" , "DE JERSEY Timothy"

Subject : Dean - for approval - media statement re GDEMP

Attachment : 130619 - MR - GDEMP approved.docx;

Hi Dean

For your approval.

Melissa Wells has approved the attached statement re the GDEMP.

Regards

Kieran Lewis

Media Services

Department of Environment and Science

media@des.qld.gov.au

Level 31 | 400 George Street | Brisbane

Tel 07 3339 5887 (6) Personal information

www.des.qld.gov.au

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

Published on DES Disclosure Log
RTI Act 2009

Draft media release

Deadline:	Briefing officer: Juliana McCosker
Media Services contact: Kieran Lewis	Phone: 4987 9356
Phone: 3339 58874 (6) Personal information	DDG:
Approved: ED Melissa Wells	Phone:
Geographical area/s of interest:	

GDEMP approved

The Department of Environment and Science (DES) approved Adani's Groundwater Dependent Ecosystem Management Plan (GDEMP) today.

Adani submitted its most recent version of the plan, addressing the department's feedback, yesterday.

The GDEMP's assessment has been rigorous and based on the best available science with DES and Adani meeting regularly to ensure the plan is robust and provides the maximum environmental protection.

In assessing the plan, both Adani and DES took on board advice from CSIRO and Geoscience Australia – the same advice considered by the Commonwealth Government in approving an earlier version of the GDEMP in April this year.

DES sought further clarification and advice from CSIRO and Geoscience Australia, which it received on 7 June 2019.

Based on this advice, DES is satisfied that the GDEMP sufficiently establishes the main source aquifer of the springs.

The advice further confirmed that some level of uncertainty in geological and groundwater conceptual models always exists.

To this extent, other lesser sources are plausible but not proven, and DES has required additional commitments from Adani to undertake further scientific work over the next two years to identify any potential contribution from other aquifers and strengthen the GDEMP that include:

- Additional work to improve the understanding of the source aquifers of springs in the locality, particularly the Doongmabulla Springs Complex, including:
 - Undertaking detailed hydrogeochemical analysis of groundwater and spring samples from different springs within each spring complex
 - Undertaking Isotopic analysis (including noble, radioactive gases and strontium isotopes where isotopic analysis is not sufficient)
 - Examine core samples from new bores to attain a better understanding of hydraulic properties and provide detailed geological mapping

- Incorporate air-borne electro-magnetic modelling undertaken by Geoscience Australia to improve hydrogeological understanding of the area.
- Using a bore in the Dunda Beds (also known as the Rewan Formation) as an early warning trigger for groundwater drawdown monitoring in the Carmichael River.

Additional measures in the GDEMP also address concerns raised last week by Flinders University scientists that the Permian aquifers should not be ruled out as a Doongmabulla Springs Complex source.

These include installing a new bore below the Rewan Formation, in the vicinity of the Doongmabulla Springs Complex, to assist in determining if the Permian aquifers (Colinlea) form a source for the springs.

Adani is also required to review hydrological, hydrochemistry analyses and seismic information as part of its second geological and groundwater remodelling after box cut mining starts, and review seismic information pertaining underground mining impacts (which is scheduled to start in year 10 of the project).

Underground mining will not commence until these actions are completed and only if predicted impacts are consistent with approved impacts. Likewise, if the hydrogeological conceptualisation differs from that of the approved project, approval must be sought prior to relevant impact causing activities.

The GDEMP is the second of the two environmental management plans (the other being the Black-Throated Finch Management Plan, approved on 31 May) that needed to be approved before Adani could begin significant mining activities at its Carmichael mine site.

Both plans are a requirement of Adani's EA.

For details of what constitutes "significant mining activities", refer to Appendix 1 – Definitions of the EA for the Carmichael mine, available at <https://apps.des.qld.gov.au/env-authorities/pdf/epml01470513.pdf>.

ENDS

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

Date : 13/06/2019 12:11:20 PM

From : "Media DES"

To : "ELLWOOD Dean"

Cc : "MERRICK Jamie" , "LOWE Trinity" , "GRANT Andrea" , "WELLS Melissa" , "DE JERSEY Timothy"

Subject : Dean - for approval - media statement re GDEMP

Attachment : 130619 - MR - GDEMP approved.docx;

Hi Dean

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Regards

Kieran Lewis

Media Services

Department of Environment and Science

media@des.qld.gov.au

Level 31 | 400 George Street | Brisbane

Tel 07 3339 5887 (6) Personal information

www.des.qld.gov.au

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

Published on DES Disclosure Log
RTI Act 2009

Draft media release

Deadline:	Briefing officer: Juliana McCosker
Media Services contact: Kieran Lewis	Phone: 4987 9356
Phone: 3339 58874 (6) Personal information	DDG:
Approved: ED Melissa Wells	Phone:
Geographical area/s of interest:	

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Both plans are a requirement of Adani's EA.

For details of what constitutes "significant mining activities", refer to Appendix 1 – Definitions of the EA for the Carmichael mine, available at <https://apps.des.qld.gov.au/env-authorities/pdf/epml01470513.pdf>.

ENDS

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

Date : 12/06/2019 11:31:02 AM
From : "LEWIS Kieran"
To : "ELLWOOD Dean"
Cc : "Media DES", "LOWE Trinity", "LAWRENCE Rob", "WELLS Melissa"
Subject : Dean - for approval - response to Courier Mail re Adani GDEMP

Hi Dean

For your approval, please.

Courier Mail has a 3pm deadline for a response to its latest Adani GDEMP questions. These are not questions we can ask the Emerald business unit to research at this time, so suggesting our standard generic response, as below:

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

DES received the latest version of Adani's Groundwater Dependent Ecosystem Management Plan (GDEMP) on Monday .
The department continues to work with Adani with a view to making a decision on the company's GDEMP by 13 June 2019.

ENDS

Regards

Kieran Lewis
Media Services
Department of Environment and Science
media@des.qld.gov.au

Level 31 | 400 George Street | Brisbane
Tel 07 3339 5887 / sch4p4(6) Personal information
www.des.qld.gov.au

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

From: [redacted] s78B(2) @news.com.au>
Sent: Wednesday, 12 June 2019 10:06 AM
To: Media DES
Subject: Courier Mail - Adani inquiry

Hi guys,

I have a few quick questions about Adani.

1. Since asking for more information from Adani last Friday, has the mine been asked for further information on its groundwater management plan since then?
2. What is the status of the groundwater management plan? Is it currently back with Adani for further clarification or is DES assessing it?
3. Is a decision still on track for tomorrow?
4. Any further comments you wish to add.

My deadline is 3pm today.

Thank you,

[redacted] s78B(2)
Journalist

Cnr Mayne Road & Campbell Street Bowen Hills QLD 4006

sch4p4(6) Personal information
E [redacted] s78B(2) @news.com.au W www.couriermail.com.au

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Published on DES Disclosure Log
RTI Act 2009

Date : 13/06/2019 1:42:22 PM

From : "Media DES"

Cc : "Media DES"

Subject : Department of Environment & Science: Adani Groundwater Environment Management Plan

Attachment : image001.png;image002.png;image004.jpg;

Good afternoon,

Please see below the Department of Environment and Science statement regarding the Adani Groundwater Environment Management Plan.

GDEMP approved

The Department of Environment and Science (DES) approved Adani's Groundwater Dependent Ecosystem Management Plan (GDEMP) today.

Adani submitted its most recent version of the plan, addressing the department's feedback, yesterday.

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In assessing the plan, both Adani and DES took on board advice from CSIRO and Geoscience Australia – the same advice considered by the Commonwealth Government in approving an earlier version of the GDEMP in April this year.

DES sought further clarification and advice from CSIRO and Geoscience Australia, which it received on 7 June 2019.

Based on this advice, DES is satisfied that the GDEMP sufficiently establishes the main source aquifer of the springs as the Clematis Sandstone.

CSIRO and Geoscience Australia also confirmed that some level of uncertainty in geological and groundwater conceptual models always exists.

DES has required additional commitments from Adani to undertake further scientific work over the next two years. This is required to identify any potential contribution from other aquifers and strengthen the GDEMP.

Additional commitments in the approved GDEMP include:

- Further work to improve the understanding of the source aquifers of springs in the locality, particularly the Doongmabulla Springs Complex, including:
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ENDS



Media Services| Corporate Communications

Department of Environment and Science

P 07 3339 5831

GPO Box 2454, Brisbane QLD 4001

If it's a media matter, please include the group email media@des.qld.gov.au

Website www.des.qld.gov.au



I acknowledge Aboriginal and Torres Strait Islander people as the Traditional Owners of this country, and their connection to land, sea and community.
I pay my respect to all Traditional Owners, and to the Elders past, present and emerging.

Published on DES Disclosure Log
RTI Act 2009

Date : 13/06/2019 1:42:22 PM

From : "Media DES"

Cc : "Media DES"

Subject : Department of Environment & Science: Adani Groundwater Environment Management Plan

Attachment : image001.png;image002.png;image004.jpg;

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ENDS



Media Services| Corporate Communications

Department of Environment and Science

P 07 3339 5831

GPO Box 2454, Brisbane QLD 4001

If it's a media matter, please include the group email media@des.qld.gov.au

Website www.des.qld.gov.au



I acknowledge Aboriginal and Torres Strait Islander people as the Traditional Owners of this country, and their connection to land, sea and community.

I pay my respect to all Traditional Owners, and to the Elders past, present and emerging.

Published on DES Disclosure Log
RTI Act 2009

Date : 8/06/2019 5:54:54 PM

From : "WELLS Melissa"

To : "MERRICK Jamie" , "ELLWOOD Dean"

Subject : DES comments on Adani response to GDEMP recommendations 8 June 2019

Attachment : Adani Proposed Response to DES GACSIRO 080619v2 JM.docx;

Jamie and Dean,

Please find attached our responses in track changes. Subject to your views I can provide this document back to Adani either tonight (or in the morning) noting that these comments are based on the document provided and today's discussion and subject to reviewing the amendments in the documents in their entirety (including cross reference of inconsistencies).

Thanks,
Melissa.

Published on DES Disclosure Log
RTI Act 2009

Date : 7/06/2019 9:16:22 PM

From : "WELLS Melissa"

To : "s.73"

Cc : "MERRICK Jamie" , "ELLWOOD Dean" s.73 , "MCCOSKER Juliana"

Subject : DES GDEMP (CSIRO/GA advice) Feedback 7 June 2019

Attachment : CSIRO-Geoscience Australia QDES AdviceJun2019(Secured).pdf;DES GDEMP_CSIRO_GA Feedback 7 June 2019.pdf;Letter_DES GDEMP (CSIRO_GA) Feedback 7 June 2019.pdf;image001.png;image002.png;

Good evening s.78B(2)

Please see attached correspondence.

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

Published on DES Disclosure Log
RTI Act 2009



Department of
Environment and Science

Our Ref: GDEMP_CSIRO/GA

7 June 2019

s.73

Adani Mining Pty Ltd
Level 25, 10 Eagle Street
Brisbane QLD 4000

By email: s.73 @adani.com.au

Dear s.73

The Department of Environment and Science (the department) has now received the clarification and advice sought from the Commonwealth Scientific and Industrial Research Organisation (CSIRO) and Geoscience Australia (GA) in relation to Adani's Groundwater Dependent Ecosystem Management Plan (GDEMP).

The department has now considered this advice and requires the matters set out in Attachment A to be addressed to progress the finalisation of the GDEMP.

It is the department's view that the advice from CSIRO/GA reinforces advice provided by the department to date and is not inconsistent with discussions held previously between the department and Adani.

Accordingly, this advice should be read and addressed in conjunction with the preliminary GDEMPv11b comments provided on the 31 May 2019 and discussed at our meeting on the 6 June 2019.

To provide further background and context a copy of the CSIRO/GA advice is enclosed.

Should you require any further information, please contact Juliana McCosker, Manager of Business Centre (Coal) of the department on telephone (07) 4987 9356 or by email at juliana.mccosker@des.qld.gov.au.

Yours sincerely

sch4p4(6) Personal information

Melissa Wells
Executive Director
Coal and Central Queensland Compliance
Environmental Services and Regulation

Enc:

*Attachment A – Departmental comments on the GDEMP v11b (dated 7 June 2019); and
Attachment B – Carmichael Coal Mine, Advice on Groundwater Dependent Ecosystem
Management Plan v11b to the Queensland Department of Environment and Science (June
2019).*

Published on DES Disclosure Log
RTI Act 2009

Date : 7/06/2019 12:05:44 PM

From : "LEWIS Kieran"

To : "DLO DES"

Cc : "Media DES" , "ELLWOOD Dean" , "WELLS Melissa"

Subject : DLOs - for approval - holding statement re "DES receives CSIRO advice on GDEMP"

Attachment : 070619 - HS - DES receives CSIRO advice on GDEMP.docx;

Hi DLOs

For ODG and MO approval please.

The attached holding statement re the department receiving CSIRO advice today on Adani's Groundwater Dependent Ecosystem Management Plan has been departmentally approved to DDG level.

It's hoped this statement can be used for any media enquiries we might receive later today, this evening, or over the weekend, on this matter.

Regards

Kieran Lewis

Media Services

Department of Environment and Science

media@des.qld.gov.au

Level 31 | 400 George Street | Brisbane

Tel 07 3339 5887 / (6) Personal information

www.des.qld.gov.au

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

Published on DES Disclosure Log
RTI Act 2009

Draft holding statement

Deadline:	Briefing officer: Juliana McCosker
Media Services contact: Kieran Lewis	Phone: 4987 9356
Phone: 3339 5887 (6) Personal information	DDG:
Approved: ED Melissa Wells; DDG Dean Ellwood	Phone:
Geographical area/s of interest: Statewide	

DES receives CSIRO advice on GDEMP

The Department of Environment and Science can confirm that it has today (07 June) received advice from CSIRO on Adani's Groundwater Dependent Ecosystem Management Plan (GDEMP).

DES had sought clarification from CSIRO on some aspects of the advice the agency had given the Federal Government when the latter was assessing the GDEMP from a Commonwealth perspective.

DES will take CSIRO's advice on board when assessing the GDEMP and continues to work to a 13 June date for making a decision on the plan.

The GDEMP is the final environmental management plan that needs to be approved by the department before Adani can begin significant mining activities at its Carmichael mine.

The Black-Throated Finch Management Plan was approved by the department on the 31 May 2019.

ENDS

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

Date : 14/06/2019 5:10:24 PM

From : "Media DES"

To : "DLO DES" , "TONES Peter"

Cc : "Media DES" , "ESR" , "LOWE Trinity" , "LAWRENCE Rob" , "WELLS Melissa" , "ELLWOOD Dean"

Subject : DLOs - for approval - urgent response to The Australian newspaper re size of Adani mine

Hi DLOs and Peter

For ODG and MO approval please.

We've just received the below enquiry from The Australian newspaper requesting information on approvals and the size of the Adani mine. We have a past approved response that answers this questions (response to the ABC on 03 June) and are seeking approvals to send this to Jamie Walker of the Australian. As below, Mr Walker says he needs the information now for a story tomorrow.

Question: I've interviewed [s.73] of Adani Australia, who says that the approvals for the mine cover the original 60m tonne iteration, allowing it to expand from the 10m tonne operation that will be built.
Can you confirm, deny this, pls, urgently. Am writing for tomorrow, deadline approaching.

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.

Financial surety, for example, is based on a mine's plan of operations, which in turn is based on the scale of the mining that is actually occurring. The amount of financial surety required will increase if a mine submits an amended plan of operations for higher output, even if the higher output still falls within that approved in the mine's environmental authority.

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 also considered the maximum potential impacts of the 60Mtpa project, including appropriate management and mitigation measures such as biodiversity offsets.

ENDS

Kieran Lewis

Media Services

Department of Environment and Science

media@des.qld.gov.au

Level 31 | 400 George Street | Brisbane

Tel 07 3339 5887 (6) Personal information

www.des.qld.gov.au

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

From: [s78B(2)]@theaustralian.com.au>

Sent: Friday, 14 June 2019 4:44 PM

To: Media DES

Subject: urgent media request from jamie walker, the australain, re adani EA

Guys: Sorry to come so late with this, but has taken a while to get to [s78B(2)]

I've interviewed [s.73] of Adani Australia, who says that the approvals for the mine cover the original 60m tonne iteration, allowing it to expand from the 10m tonne operation that will be built.

Can you confirm, deny this, pls, urgently. Am writing for tomorrow, deadline approaching

Pls let me know you are looking at this. Will phone now.

best,

j

--

[s78B(2)]

Writer

Cnr Mayne Road & Campbell Street Bowen Hills QLD 4006

sch4p (6) Personal information

[s78B(2)]@theaustralian.com.au w theaustralian.com.au

Date : 14/06/2019 5:10:24 PM

From : "Media DES"

To : "DLO DES" , "TONES Peter"

Cc : "Media DES" , "ESR" , "LOWE Trinity" , "LAWRENCE Rob" , "WELLS Melissa" , "ELLWOOD Dean"

Subject : DLOs - for approval - urgent response to The Australian newspaper re size of Adani mine

Hi DLOs and Peter

For ODG and MO approval please.

We've just received the below enquiry from The Australian newspaper requesting information on approvals and the size of the Adani mine. We have a past approved response that answers this questions (response to the ABC on 03 June) and are seeking approvals to send this to Jamie Walker of the Australian. As below, Mr Walker says he needs the information now for a story tomorrow.

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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.

Financial surety, for example, is based on a mine's plan of operations, which in turn is based on the scale of the mining that is actually occurring. The amount of financial surety required will increase if a mine submits an amended plan of operations for higher output, even if the higher output still falls within that approved in the mine's environmental authority.

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 also considered the maximum potential impacts of the 60Mtpa project, including appropriate management and mitigation measures such as biodiversity offsets.

ENDS

Kieran Lewis

Media Services

Department of Environment and Science

media@des.qld.gov.au

Level 31 | 400 George Street | Brisbane

Tel 07 3339 5004 (6) Personal information

www.des.qld.gov.au

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

From: Walker, Jamie <walkerja@theaustralian.com.au>

Sent: Friday, 14 June 2019 4:44 PM

To: Media DES

Subject: urgent media request from jamie walker, the australain, re adani EA

Guys: Sorry to come so late with this, but has taken a while to get to Pam Frost.

I've interviewed [s.73] of Adani Australia, who says that the approvals for the mine cover the original 60m tonne iteration, allowing it to expand from the 10m tonne operation that will be built.

Can you confirm, deny this, pls, urgently. Am writing for tomorrow, deadline approaching

Pls let me know you are looking at this. Will phone now.

best,

j

--

[s.78B(2)]

Writer

Cnr Mayne Road & Campbell Street Bowen Hills QLD 4006

sch4 (6) Personal information

[s.78B(2)]@theaustralian.com.au w theaustralian.com.au

Date : 7/06/2019 3:49:53 PM

From : "LEWIS Kieran"

To : "DLO DES"

Cc : "Media DES" , "ELLWOOD Dean" , "WELLS Melissa"

Subject : DLOs - seeking your approvals to send our GDEMP CSIRO advice statement to Townsville Bulletin

Attachment : DLOs - for approval - holding statement re "DES receives CSIRO advice on GDEMP";

Hello DLOs

The Townsville Bulletin is seeking a response from DES regarding the CSIRO advice DES has received today for the Adani GDEMP.

These questions can be answered by the holding statement sent to you for approvals earlier today (see attached). We are asking whether this has been approved to send.

We would not be answering Madura's second question, as we would not provide this information publicly at this time.

We have asked Madura for a deadline and have yet to be advised. Historically, however, she has come to us later on Friday on these matters and asked for a response by the evening. We'll keep you posted.

Regards

Kieran Lewis

Media Services

Department of Environment and Science

media@des.qld.gov.au

Level 31 | 400 George Street | Brisbane

Tel 07 3339 5887 (6) Personal information

www.des.qld.gov.au

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

From: [redacted] s78B(2) @news.com.au>

Sent: Friday, 7 June 2019 3:37 PM

To: Media DES

Subject: Townsville Bulletin: CSIRO/ Geoscience

Good afternoon guys,

Just checking in as I understand the DES was meant to receive word back from CSIRO and GeoScience Australia today re: Adani's GDEMP.

- 1) Would like to know if that has since been received
- 2) And if it is possible to know what advice CSIRO and GeoScience Australia have come back with regarding the GDEMP.

Regards,

[redacted] s78B(2)

[redacted] s78B(2)

Reporter

[redacted]

538 Flinders Street Townsville QLD 4810

sch4p4 (6) Personal information

[redacted] s78B(2) @news.com.au W www.townsvillebulletin.com.au

Proudly supporting 1 degree, A News Corp Australia initiative.

[redacted]

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Date : 12/06/2019 3:20:20 PM

From : "LOWE Trinity"

To : "ELLWOOD Dean"

Subject : FW: Adani - actions please

Attachment : Adani_Script CRT 5June 2019

V3.docx;image001.png;image002.png;image005.png;image006.png;image008.png;image009.png;

FYI – Below from CRT

Cheers

Trin



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

From: LOWE Trinity

Sent: Wednesday, 12 June 2019 2:05 PM

To: MONKIVITCH James

Cc: ESR; WELLS Melissa

Subject: RE: Adani - actions please

Hi James – I'm just in SMT at the moment. We are on it and I will endeavour to answer the below questions asap today. Re the script and advice, the pressure Coal business centre is under at the moment is extraordinary and I am awaiting a copy to their draft media statement about the GDEMP before I update that. As soon as I have that sorted, I'll send it through. Thanks for everything your team is doing to assist at the moment.

Cheers

Trin



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

From: MONKIVITCH James <James.Monkivitch@des.qld.gov.au>

Sent: Wednesday, 12 June 2019 1:46 PM

To: LOWE Trinity; HOPE Lindsay

Cc: LOVEDAY Chris

Subject: Adani - actions please

Dear Trin,

We are already getting a bit of a spike in calls re the GDEMP decision expected tomorrow. Total calls to date = 81, with 12 calls today so far. Some things for action please.

1. A common question is – can I see the results of the CSIRO and Geoscience independent review?. Predictable question – Can you please update script to include text to respond to that question? Is the review available or not??

In case it is not clear, when CRT gets a call put through from the Ministers office we are sticking to script – but we are also undertaking our normal business with some calls, for example if there are questions that we cannot answer we are collating those and sending to the appropriate area in DES for a response. Any re Adani assessment therefore go to Coal Assessment. There are multiple allegations of non-compliance esp relating to unauthorised stage 2 works. Those we will enter into Ecotrack and pass to the compliance centre for consideration.

2. The log we keep separately for the calls is what I have been updating you on, numbers and primary concerns. The question is – whilst it is normal business does the ODDG require any other feedback about how we are handling each call?

3. Is there a plan/timing available for tomorrow? We expect a decision to be made at some time and need to be able to switch from "will be made" to has been made – please make sure that is passed through promptly. If there is any planned media it would be good to get the timing on that in advance so we can be ready.
4. We are getting some concern from multiple callers that they are being told, we assume at Ministers office, words to the effect of "we are not the regulator" and then when transferred to CRT we get some confusion from them about who is the regulator. Can you please work on words for Ministers Office about how the transfer goes – ie to clarify the ministers role and that the caller is being transferred to DES Pollution hotline, and that DES is the regulatory authority for the Adani approvals – something to remove the confusion in people's minds it appears to be negatively impacting their view of the Ministers office and takes time to clarify once they get to CRT.
5. Finally for clarification can we have some approved txt about the decision making for the GDEMP – like the delegate of the department makes the decision, taking into account advice from experts and internal persons..... specifically did DES seek independent expert advice on the GDEMP to make its decision.

Keen to get these things moving today please. Let me know if you need any assistance, ie we could do first version draft scripts or ?.

Cheers



James Monkivitch
Manager
Community Response
Operational Support | Regulatory Support
Department of Environment and Science

P 07 3330 5699
Level 9 – 400 George Street BRISBANE QLD 4000
GPO Box 2454, BRISBANE QLD 4001

From: MONKIVITCH James
Sent: Thursday, 6 June 2019 3:51 PM
To: LOWE Trinity
Subject: RE: Adani - update

Dear Trin,

Call number is total 43 till 2 pm today.
A lot of emotion from callers. Some calls taking 15 min.
Common request from callers is "can you please make sure this is on the record and logged".
Still lot of interest in getting the independent expert review.

We are directing persons to the Sate approved BTFMP that is on the web.

Have shared our script with Public Register team and PALM.

Let me know if there are any updates .

Cheers



James Monkivitch
Manager
Community Response
Operational Support | Regulatory Support
Department of Environment and Science

P 07 3330 5699
Level 9 – 400 George Street BRISBANE QLD 4000
GPO Box 2454, BRISBANE QLD 4001

From: MONKIVITCH James
Sent: Tuesday, 4 June 2019 11:01 AM
To: LOWE Trinity
Subject: Adani - Question

Dear Trin,

I hope the beast is OK?

The update on Questions re Adani –We have had four calls already this morning.

The primary question coming is “can I get a copy of the independent review” Callers know that RTI cost money and takes ~ >20 days – they are pretty upset.

We are advising that the Department has decided that the report not be made publically available,

Just checking whether there is a specific reason that we could provide to callers or not? Is there a specific response other than above that you want us to provide ?

Cheers



James Monkivitch
Manager
Community Response
Operational Support | Regulatory Support
Department of Environment and Science

P 07 3330 5699
Level 9 – 400 George Street BRISBANE QLD 4000
GPO Box 2454, BRISBANE QLD 4001

Published on DES Disclosure Log
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SCRIPT: ADANI – CARMICHAEL COAL MINE – GROUNDWATER DEPENDENT ECOSYSTEM MANAGEMENT PLAN AND BLACK-THROATED FINCH MANAGEMENT PLAN

Status Adani State Government Approvals:

- 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.**

Black-throated Finch Management Plan (BTFMP)

- The Commonwealth approved a BTFMP for the project in December 2018.
- On 31 May 2019 DES approved a later, updated version of that plan (version 8a May 2019).
- As part of their Environmental Authority, Adani is required to publish a copy of the DES approved BTFMP on their website.
- You can access a copy of the DES approved BTFMP here:
- https://www.adaniaustralia.com/-/media/Project/Australia/Our-Projects--Businesses/mine-environment-reporting/BTF-Management-Plan_v8a-FINAL-28May2019.pdf?la=en&hash=D4C8EBBFB222B5FF28A61321F1A2078B
- Please note that the Adani web site also has the Commonwealth approved BTFMP (Dec 2018) – callers should be advised about the two versions.
- 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 (EIS) 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

Attachment : CSIRO-Geoscience Australia QDES AdviceJun2019(Secured).pdf;image001.png;image003.png;

FYI



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: (S) Personal information [Black Mountain] (S) Personal information
Sent: Friday, 7 June 2019 4:56 PM
To: WELLS Melissa
Cc: Johnson James
Subject: Advice to Queensland DES on the Carmichael Coal Mine

Dear Melissa,

Further to your request relating to advice around the proposed Adani Carmichael mine, as per your email of Wednesday, 22nd May, please find attached advice prepared by GA and CSIRO.

Please call me if you wish to discuss this.

With regards to Personal information

sch4p4(6) Personal information
Director

CSIRO Land and Water

(6) Personal information

sch4p4(6) Personal information
T+61 2 6246 4384(4)(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

Date : 10/06/2019 12:06:27 PM
From : "DE JERSEY Timothy"
To : "WELLS Melissa" , "CAGNEY Justin"
Cc : "LEWIS Kieran" , "ELLWOOD Dean"
Subject : FW: Carmichael Mine groundwater management plan questions from Brisbane Times

Melissa/Justin
I'm not inclined to think we can go into this much detail here.

Will give one of you a call.
Tim

Timothy de Jersey
Media Manager
Department of Environment and Science

P: 3339 5890 (M) Personal information
E: timothy.dejersey@des.qld.gov.au
A: Level 31, 400 George Street, Brisbane QLD 4000
W: www.des.qld.gov.au | media@des.qld.gov.au

From: [redacted] s78B(2) @brisbanetimes.com.au>
Sent: Monday, 10 June 2019 11:45 AM
To: Media DES
Subject: Carmichael Mine groundwater management plan questions from Brisbane Times

Good morning.

Questions re Adani Mining's application for the proposed Carmichael Mine near Clermont.

I understand Adani Mining was to submit it revised plan to protect groundwater water supplies (Groundwater Dependent Ecosystem Management Plan) around the Carmichael Mine to the DES by June 10.

Question 1 - Has that happened by June 10?

The CSIRO on April 11, 2019 asked that Adani re-run its groundwater model within two years to get more accurate data.

Here is that CSIRO statement.

"CSIRO identified inadequacies in the plans and was subsequently asked to review Adani's response to the recommendations CSIRO made to address the issues raised, as summarised by the Department of the Environment and Energy.

Adani had committed to address the modelling limitations identified by the CSIRO and GA review in a groundwater model re-run to be undertaken within two years. "

Question 2 - Has that two -year groundwater model rerun begun yet, or it yet to begin? Please explain.

Accuracy of the modelling is the main issue raised by the CSIRO.

In their February 2019 review the CSIRO says

"The review found that the modelling used is not suitable to ensure the outcomes sought by the EPBC Act conditions are met. A number of limitations were also identified in the proposed monitoring and management approaches indicating they are not sufficiently robust to monitor and minimise impacts to protected environments."

The CSIO found the modelling used by Adani Mining provided the most plausible conceptualisation of the Doongmabulla Springs, however it found..

On Page 3 of the CSIRO's February 2019 review (Page 3, section 2) includes this quote..

"The SEIS model includes the most recent calibrated parameter set developed for the Carmichael Coal Mine in 2013.

Although, it must be noted that model errors increased from 4.5% RMS error reported for the SEIS model to 7.2% when compared to updated

data following resurveying bore locations.

This degradation in calibration statistic is equivalent to 0.8 m of groundwater level (refer Section 2.3.2).

Question 3: Does this mean there is a 0.8 metre margin of error in the original GDEMP because some of the borehole information was from 2013?

Question 4: Is that the additional groundwater information you have requested from Adani by June 10.

Also on page 3 of the CSIRO February 2019 report is this statement.

"Representation in the model of surface water flows for the Carmichael River over-predicts flows from the river into the groundwater. As a result the groundwater drawdown in the alluvium (Carmichael River GDEs) will be greater than the predicted model (refer Section 2.3.1). "

Question 5: How has the DES asked that Adani evaluate whether their model does not have this problem?

Question 6: Is that something the Federal Government - when they gave approval in April 2019 - gave Adani two years to address?

s78B(2)

by 4.30pm or 5pm please.

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Date : 25/06/2019 4:43:20 PM

From : "Corro DES ESR DDG"

To : "ELLWOOD Dean"

Subject : FW: For your Approval: CTS No. 11488/19: Concerning (ESR) // MP LTR // Regarding the State environmental approvals process in relation to the proposed Carmichael Coal mine (Adani) / Letter from Jason Costigan MP, Member for Whitsunday (26 April 2019)

Attachment : 11488-19 Revised Draft Min Reply.docx;11488-19 MO redraft request.pdf;

Hi Dean

Attached revised redraft for your review and endorsement please. Due to ECU 24/06/19.

Kind regards

tdt

From: Corro DES Minister and DG <DESMinisterandDG.Corro@des.qld.gov.au>

Sent: Tuesday, 25 June 2019 4:35 PM

To: Corro DES ESR DDG

Subject: For your Approval: CTS No. 11488/19: Concerning (ESR) // MP LTR // Regarding the State environmental approvals process in relation to the proposed Carmichael Coal mine (Adani) / Letter from Jason Costigan MP, Member for Whitsunday (26 April 2019)

Please click on the [Item Link](#) to view the item on MECS.

CTS No. 11488/19 has been actioned by WELLS Melissa and is submitted for your endorsement.

They supplied the following comments (if any): **Hi ODDG, endorsed by ED of CaCQC for escalation. Thanks Shawn** .

This item needs to be returned to DES - Minister on or before 24/06/19.

You should either:

1. Approve the draft or select the EC Approve Button. ([show me how](#))
2. Press 'Reject' to return if further work is required ([show me how](#)).

If you have any queries please contact WELLS Melissa or officers from DES - Minister by emailing to desminister.corro@des.qld.gov.au or via the link [Management Team Link](#).

email: EmailApplyApproval

Prepared by: Justin Cagney Bennink Position: A/ Director Bus Unit: Business Centre Coal Telephone: 4337 3318 9987 9338	Endorsed by: Rob Lawrence E:wpdd Dean Ellwood Position: Deputy Director-General Bus Area: ODGESR ODDG Telephone: (6) Personal information Date: 06/06/19	Recommended by: Jamie Merrick (or Director on behalf of) Title: Director-General, DES Telephone: 3338 9304 Date Approved:
---	---	---

Our Ref: CTS 11488/19

Mr Jason Costigan MP
 Member for Whitsunday
 PO Box 251
 PROSERPINE QLD 4800

Dear Mr Costigan

Thank you for your letter of 26 April 2019, regarding the outstanding environmental approvals for the ~~Adani~~ Carmichael Coal Mine.

Under the Queensland environmental regulatory framework, the decision with respect to the approval of requirements under an environmental authority (EA) rest with the environmental regulator, which is the Department of Environment and Science (DES). These decisions rest with the regulator and not the Minister in order to ensure that these decisions are not politicised. ~~As the Minister in Queensland, I cannot intervene or politicise the process.~~

Under the relevant Queensland legislation and as required by its EA conditions for the Carmichael Coal Mine, Adani Mining Pty Ltd (Adani) ~~could not~~~~annot~~ commence significant mining activities at the Carmichael Coal Mine until the Groundwater Dependent Ecosystem Management Plan (GDEMP) was approved by ~~the Queensland environmental regulator~~DES. You may be aware that the Coordinator-General ~~has~~ set a decision target date of 13 June 2019 for this decision to be made by DES, which was achieved. The GDEMP was approved by DES on 13 June 2019. With respect to the Black-throated Finch Management Plan (BTFMP), DES approved the is plan on 31 May 2019.

The Federal Department of the Environment and Energy (DoEE) engaged CSIRO and Geoscience Australia to undertake an independent scientific review of version 10a of the GDEMP. DES ~~has~~ ~~now~~ sought clarification from CSIRO and Geoscience Australia about its original review in light of the revised GDEMP that was submitted to DES on 9 April 2019. This information will assist DES in its decision about whether the GDEMP meets the conditions of the EA. DES received the CSIRO/GA advice on 7 June 2019 and requested Adani to address issues identified in the advice in an updated GDEMP. Adani subsequently addressed these issues to the satisfaction of the regulator and DES approved the GDEMP version 12a on 13 June 2019.

If you require any further information, you can contact my office on telephone (07) 3719 7140 or by email at environment@ministerial.qld.gov.au.

Yours sincerely

Leeanne Enoch MP

Published on DES Disclosure Log
RTI Act 2009



Minister for Environment and the Great Barrier Reef,
Minister for Science and Minister for the Arts

1 William Street Brisbane Qld 4000
GPO Box 5078 Brisbane
Queensland 4001 Australia
Telephone +61 7 3719 7140
Email environment@ministerial.qld.gov.au

Our Ref: CTS 11488/19

Mr Jason Costigan MP
Member for Whitsunday
PO Box 251
PROSERPINE QLD 4800



Dear Mr Costigan

Thank you for your letter of 26 April 2019 regarding the outstanding environmental approvals for the Adani Carmichael Coal Mine. I apologise for the delay in responding.

Under the Queensland environmental regulatory framework, the decision with respect to the approval of requirements under an environmental authority (EA) rest with the regulator, which is the Department of Environment and Science (DES). These decisions rest with the regulator and not the Minister in order to ensure that these decisions are not politicised.

Under the relevant Queensland legislation and as required by its EA conditions for the Carmichael Coal Mine, Adani Mining Pty Ltd (Adani) cannot commence significant mining activities at the Carmichael Coal Mine until the Groundwater Dependent Ecosystem Management Plan (GDEMP) is approved by the Queensland environmental regulator. You may be aware that the Coordinator-General has set a target date of 13 June 2019 for this decision. With respect to the Black-throated Finch Management Plan, DES approved this plan on 31 May 2019.

The Federal Department of the Environment and Energy (DoEE) engaged CSIRO and Geoscience Australia to undertake an independent scientific review of version 10a of the GDEMP. DES has now sought clarification from CSIRO and Geoscience Australia about its original review in light of the revised GDEMP that was submitted to DES on 9 April 2019. This information will assist DES in its decision about whether the GDEMP meets the conditions of the EA.

If you require any further information, you can contact my office on telephone (07) 3719 7140 or by email at environment@ministerial.qld.gov.au.

Yours sincerely

Leeanne Enoch MP
**Minister for Environment and the Great Barrier Reef,
Minister for Science and Minister for the Arts**

Date : 25/06/2019 4:43:20 PM

From : "Corro DES ESR DDG"

To : "ELLWOOD Dean"

Subject : FW: For your Approval: CTS No. 11488/19: Concerning (ESR) // MP LTR // Regarding the State environmental approvals process in relation to the proposed Carmichael Coal mine (Adani) / Letter from Jason Costigan MP, Member for Whitsunday (26 April 2019)

Attachment : 11488-19 Revised Draft Min Reply.docx;11488-19 MO redraft request.pdf;

Hi Dean

Attached revised redraft for your review and endorsement please. Due to ECU 24/06/19.

Kind regards

tdt

From: Corro DES Minister and DG <DESMinisterandDG.Corro@des.qld.gov.au>

Sent: Tuesday, 25 June 2019 4:35 PM

To: Corro DES ESR DDG

Subject: For your Approval: CTS No. 11488/19: Concerning (ESR) // MP LTR // Regarding the State environmental approvals process in relation to the proposed Carmichael Coal mine (Adani) / Letter from Jason Costigan MP, Member for Whitsunday (26 April 2019)

Please click on the [Item Link](#) to view the item on MECS.

CTS No. 11488/19 has been actioned by WELLS Melissa and is submitted for your endorsement.

They supplied the following comments (if any): **Hi ODDG, endorsed by ED of CaCQC for escalation. Thanks Shawn** .

This item needs to be returned to DES - Minister on or before 24/06/19.

You should either:

1. Approve the draft or select the EC Approve Button. ([show me how](#))
2. Press 'Reject' to return if further work is required ([show me how](#)).

If you have any queries please contact WELLS Melissa or officers from DES - Minister by emailing to desminister.corro@des.qld.gov.au or via the link [Management Team Link](#).

email: EmailApplyApproval

Prepared by: Justin Cagney Bennink Position: A/ Director Bus Unit: Business Centre Coal Telephone: 4337 3318 987 9338	Endorsed by: Rob Lawrence E:wpdd Dean Ellwood Position: Deputy Director-General Bus Area: ODGES ODDG Telephone: 73320 5628 Date: 06/06/19	Recommended by: Jamie Merrick (or Director on behalf of) Title: Director-General, DES Telephone: 3338 9304 Date Approved:
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Our Ref: CTS 11488/19

Mr Jason Costigan MP
 Member for Whitsunday
 PO Box 251
 PROSERPINE QLD 4800

Dear Mr Costigan

Thank you for your letter of 26 April 2019, regarding the outstanding environmental approvals for the ~~Adani~~ Carmichael Coal Mine.

Under the Queensland environmental regulatory framework, the decision with respect to the approval of requirements under an environmental authority (EA) rest with the environmental regulator, which is the Department of Environment and Science (DES). These decisions rest with the regulator and not the Minister in order to ensure that these decisions are not politicised. ~~As the Minister in Queensland, I cannot intervene or politicise the process.~~

Under the relevant Queensland legislation and as required by its EA conditions for the Carmichael Coal Mine, Adani Mining Pty Ltd (Adani) ~~could not~~~~annot~~ commence significant mining activities at the Carmichael Coal Mine until the Groundwater Dependent Ecosystem Management Plan (GDEMP) was approved by ~~the Queensland environmental regulator~~DES. You may be aware that the Coordinator-General ~~has~~ set a decision target date of 13 June 2019 for this decision to be made by DES, which was achieved. The GDEMP was approved by DES on 13 June 2019. With respect to the Black-throated Finch Management Plan (BTFMP), DES approved the is plan on 31 May 2019.

The Federal Department of the Environment and Energy (DoEE) engaged CSIRO and Geoscience Australia to undertake an independent scientific review of version 10a of the GDEMP. DES ~~has~~ ~~now~~ sought clarification from CSIRO and Geoscience Australia about its original review in light of the revised GDEMP that was submitted to DES on 9 April 2019. This information will assist DES in its decision about whether the GDEMP meets the conditions of the EA. DES received the CSIRO/GA advice on 7 June 2019 and requested Adani to address issues identified in the advice in an updated GDEMP. Adani subsequently addressed these issues to the satisfaction of the regulator and DES approved the GDEMP version 12a on 13 June 2019.

If you require any further information, you can contact my office on telephone (07) 3719 7140 or by email at environment@ministerial.qld.gov.au.

Yours sincerely

Leeanne Enoch MP

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Date : 19/06/2019 9:19:49 AM

From : "GRANT Andrea"

To : "ELLWOOD Dean"

Cc : "LEWIS Kieran"

Subject : FW: GDEMP Chronology, Q&A and Media Q&A

Attachment : Tabulated Chronology of BTFMP and GDEMP.docx;Q&A Adani 13 June 2019.docx;130619 - Media QAs - Adani.docx;image001.png;image002.png;

Dean, can you have a look at these for us please. Let me know of any concerns

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

Sent: Tuesday, 18 June 2019 11:35 AM

To: GRANT Andrea

Cc: MCCOSKER Juliana

Subject: FW: GDEMP Chronology, Q&A and Media Q&A

Andrea updated as of today. The other Q&A table is more for our own use and we are still working on that.



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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Chronology of Black-throated Finch Management Plan and Groundwater Dependent Ecosystem Management Plan assessment by DES

BTFMP assessment commenced on 11 May 2017 and finalised on 31 May 2019

Adani Submission	DES comments
Version 1 of the BTFMP was not submitted to DES 11 May 2017 – DES received BTFMP (version 2)	6 July 2017 – DES provided comments on BTFMP to Adani
28 September 2017 – DES received BTFMP (version 3)	10 November 2017 – DES provided comments on BTFMP to Adani
14 December 2017 – DES received BTFMP (version 4) 22 December 2017 – DES received a request from Adani to suspend the review of BTFMP 25 January 2018 – DES received BTFMP (version 5)	6 February 2018 to 24 May 2018 – meetings and correspondence between DES and Adani to reach agreement on BTF habitat monitoring requirements
29 June 2018 – DES received BTFMP (version 6)	2 August 2018 – DES sent Adani comments on BTFMP
2 November 2018 – Adani submitted BTFMP (version 7) 3 December 2018 – Adani made minor amendments to BTFMP (version 7a) 17 December 2018 – Adani made minor amendments to BTFMP and submitted BTFMP (version 7b)	7 December 2018 – DES requested independent scientific review of the BTFMP prior to approval. The review extended the timeframe for the department's assessment of the BTFMP 13 December 2018 – the National Director of the National Environment Science Program's (NESP) Threatened Species Recovery Hub (TSRH) agreed to lead the independent scientific expert panel review of the BTFMP 18 December 2018 – DES sent Adani a letter advising that DES had engaged an expert scientific panel review of the BTFMP. 18 December 2018 – the Commonwealth approved the BTFMP 19 December 2018 to 12 February 2019 – meetings and correspondence between DES and Adani with respect to the engagement of an independent expert panel review of the BTFMP 15 February 2019 – DES received the final review report of the BTFMP by the independent expert panel 18 February 2019 – DES provided the final expert panel review report to Adani

15 March 2019 – DES received Adani's submission on BTFMP review 2 April 2019 – Adani sent a response to clarify recommendations in their review of the expert panel review of the BTFMP	2 May 2019, DES provided Adani with letter and comments on BTFMP
27 May 2019 – Adani submitted BTFMP (version 8)	28 May 2019 – DES requested the inclusion of low grazing commitment improvements
28 May 2019 – Adani submitted BTFMP (version 8a)	31 May 2019 – DES approved BTFMP (version 8a) and sent Adani approval letter

GDEMP assessment commenced on 7 November 2016 and was finalised on 13 June 2019

Adani Submissions	DES Response
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
28 September 2017 – DES received GDEMP (version 8)	2 November 2017 – DES provided comments on GDEMP
15 December 2017 – DES received GDEMP (version 9) 22 December 2017 – DES received a request from Adani to suspend the review of GDEMP 25 January 2018 – DES received GDEMP (version 9 dated 18 January 2018)	6 March 2018 – DES sent Adani correspondence outlining concerns with the GDEMP. 28 March 2018 – Adani sent DES correspondence in response to DES correspondence. 5 April 2018 – DES send Adani correspondence outlining the outstanding issues including 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.
13 July 2018 – DES received GDEMP (version 9)	30 July 2018 – DES sent Adani preliminary feedback on the GDEMP stating the source aquifer must be identified. 4 October 2018 – Adani sent DES correspondence outlining the research that

	<p>has been undertaken to identify the source aquifer.</p> <p>15 October 2018 – DES provided comments on GDEMP.</p>
19 November 2018 – Adani submitted GDEMP (version 10).	<p>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.</p> <p>21 December 2018 – DES provided feedback to date on submitted GDEMP to Adani to allow updates for resubmission in January 2019.</p> <p>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.</p> <p>22 February 2019 – the CSIRO and GA review was finalised.</p> <p>9 April 2019 – the Federal Minister of the Environment approved the GDEMP.</p> <p>9 April 2019 – DES received a copy of the CSIRO/GA review of the GDEMP and GMMP.</p> <p>10 May 2019, DES sent letter to CSIRO and GA to seek clarification on certainty of the source aquifer for DSC.</p> <p>22 May 2019 – DES sent CSIRO and GA a revised scope for requested advice of 10 May 2019 with respect to works required to increase certainty of source(s) aquifers for Doongmabulla Springs Complex.</p>
9 April 2019 – DES received updated GDEMP version (11b) from Adani.	<p>31 May 2019 – DES provided Adani with preliminary comments on GDEMP version 11b.</p> <p>7 June 2019 – DES received CSIRO/GA advice on GDEMP (version 11b).</p> <p>7 June 2019 – DES provided Adani with GDEMP requirements based on CSIRO/GA advice.</p>
10 June 2019 – Adani submitted GDEMP (version 12) for approval	11 June 2019 – DES requested changes to address potential alternative source for Doongmabulla Springs Complex
12 June 2019 – Adani submitted GDEMP (version 12a) for approval	13 June 2019 – DES approval GDEMP (version 12a).

Questions and Answers

Adani Carmichael Coal Mine GDEMP v12a dated 12 June 2019

Likely Question	Response
Did the Adani GDEMP identify the source of the Doongmabulla Springs Complex?	<p>Based on the best available science and legal opinion, the regulator is satisfied that the GDEMP sufficiently establishes the main source aquifer of the springs as the Clematis Sandstone.</p> <p>To the extent that other lesser sources are plausible but not proven, the regulator has sought and received commitments from Adani to undertake further scientific work as recommended by CSIRO and Geoscience Australia over the next two years to identify any potential contribution from other aquifers.</p> <p>Given the likely inability of science to identify source aquifers definitively, the regulator determined that the Adani had established the source aquifer to the best scientific ability at present.</p> <p>Such an approach is in accordance with the precautionary principle and ensuring that reasonable and practical measures be taken to protect environmental values.</p> <p>This confirmed that some level of uncertainty in geological and groundwater conceptual models always exists and concludes that it is reasonable and plausible that the Clematis Sandstone is the main source aquifer of the Doongmabulla Springs Complex.</p>
When was the GDEMP approved?	<p>DES approved the GDEMP v12a on the 13 June 2019.</p> <p>The Commonwealth approved the GDEMP on the 9 April 2019.</p>
What did the CSIRO/GA June 2019 advice requested by DES say?	DES sought further clarification and advice from CSIRO and Geoscience Australia which it received on 7 June 2019.

	<p>This advice confirmed that there is always some level of uncertainty in geological and groundwater conceptual models and recommended that Adani commit to systematically consider all sources of uncertainty as they pertain to each source aquifer, prior to a model re-run required to be undertaken within 2 years of commencement of mining activities associated with the box cut and at least 5 years thereafter or earlier if groundwater levels or flow rates to surface waters are not consistent with those predicted by the groundwater model.</p> <p>The advice also provided a number of recommendations for additional actions and monitoring to be committed to within the GDEMP. The full report is available on the DES website.</p>
What additional work did DES require as a result of the CSIRO/GA June 2019 advice?	<p>Based on the CSIRO/GA advice, DES has required the following additional commitments and scientific work to be undertaken by Adani to strengthen the GDEMP which in summary includes:</p> <ul style="list-style-type: none"> • A commitment to additional work to continue to improve the understanding of the spring's source aquifers, particularly for Doongmabulla springs complex. This additional work includes: <ul style="list-style-type: none"> ○ Undertaking detailed hydrogeochemical analysis of groundwater and spring samples from different springs within each spring complex ○ Undertaking isotopic analysis (including noble, radioactive gases and strontium isotopes where isotopic analysis is not sufficient) ○ Examining core samples from new bores to attain a better understanding of hydraulic properties and provide detailed geological mapping ○ Incorporating air-borne electro-magnetic modelling undertaken by Geoscience Australia to improve hydrogeological understanding of the area. • Use of a Dunda Beds bore in the vicinity of the Carmichael River as an early warning drawdown trigger for groundwater drawdown monitoring to the Carmichael River. • Inconsistencies between the plan and the Groundwater Management and Monitoring Program have been addressed.
Did DES address the concerns of Flinders University Scientists?	<p>Additional measures in the GDEMP also address concerns raised by Flinders University scientists that the Permian aquifers should not be ruled out as a Doongmabulla Springs Complex source.</p>

These include installing a new bore below the Rewan Formation, in the vicinity of the Doongmabulla Springs Complex, to assist in determining if the Permian aquifers (Colinlea) form a source for the springs.

Adani is also required to review hydrological, hydrochemistry analyses and seismic information as part of its second geological and groundwater remodelling after box cut mining starts, and review seismic information pertaining underground mining impacts (which is scheduled to start in year 10 of the project). Further seismic studies may also need to be undertaken.

Underground mining will not commence until these actions are completed and only if predicted impacts are consistent with approved impacts. Likewise, if the hydrogeological conceptualisation differs from that of the approved project, approval must be sought prior to relevant impact causing activities.

(Below text as per commitment in GDEMP 12a).

Additional measures have also been included in the plan to address concerns raised late last week by scientists from Flinders University that Permian aquifers should not be ruled out as a source to the DSC. These additional requirements included:

- Installation of a bore to below the Rewan in the vicinity of the Doongmabulla Springs Complex, with the Permian Betts Creek Beds (which includes the Bandanna and Colinlea).
- At the second model re-run (7 years after commencement of box cut), Adani will specifically review both the following:
 1. hydrogeological conceptualisation arising from model review and hydrochemistry analysis, consistent with and refined from the first model re-run (2 years after commencement of box cut); and
 2. seismic information pertaining to the impacts of underground mining. This mining activity is not scheduled to commence until year 10.

If this review determines that additional seismic studies are required to determine the source aquifers of the Doongmabulla Springs Complex, these activities will be completed and that information included into revised modelling. Underground mining will not commence

	<p>until these actions are completed and only if predicted impacts are consistent with approved impacts. Likewise, if the hydrogeological conceptualisation differs from that of the approved project, approval must be sought prior to relevant impact causing activities, if predicted impacts also differ from those approved.</p>
Will DES require seismic surveys?	<p>Adani have made a commitment that at the second model re-run (7 years after commencement of box cut), Adani will specifically review:</p> <ol style="list-style-type: none"> 1. seismic information pertaining to the impacts of underground mining. This mining activity is not scheduled to commence until year 10. 2. If this review determines that additional seismic studies are required to determine the source aquifers of the Doongmabulla Springs Complex, these activities will be completed and that information included into revised modelling. Underground mining will not commence until these actions are completed and only if predicted impacts are consistent with approved impacts. Likewise, if the hydrogeological conceptualisation differs from that of the approved project, approval must be sought prior to relevant impact causing activities, if predicted impacts also differ from those approved.
Is the CSIRO/GA advice available online?	Yes the April 2019 advice is on the DoEE website. The June 2019 advice is available on the DES website.
Is the GDEMP available online?	Yes it is available on the Adani and DES websites.
Is the Carmichael Coal Mine environmental authority (EA) available online?	Yes details including Adani's EA requirements, monitoring and reporting for the Carmichael mine are available at https://apps.des.qld.gov.au/env-authorities/pdf/epml01470513.pdf .
What are stage 1 project activities?	<p>Are defined under the Carmichael Coal environmental authority:</p> <p>'project stage 1' means project activities carried out prior to commencement of significant ground disturbance including:</p> <ol style="list-style-type: none"> a) pre-construction surveying and technical assessment including geotechnical, establishment of site security arrangements (including signs, fences, safety barriers, and temporary security personnel facilities) and maintenance of existing roads and tracks; b) installation of facilities for the purpose of environmental monitoring compliance; and

	c) other works limited to the existing site facilities and access roads.
What are stage 2 project activities?	<p>‘project stage 2’ means project activities, other than activities carried out under project stage 1, leading to the production of coal including:</p> <ul style="list-style-type: none"> a) removal of existing structures, site clearance b) construction of access roads, potable water treatment and sewage treatment plants, new power plants, mine administrative buildings, water storage infrastructure and hardstanding c) removal and stockpiling of overburden and excavation of box cuts for open pit or underground mining d) commencement of dewatering operations.
When can the box cut commence?	The box cut can commence 90 business days after the certified Groundwater Monitoring Management Plan (GMMP) has been submitted to DES for approval. The certified GMMP was submitted for approval on the XXXXXX.
What other measures and requirements are in place for Adani to manage groundwater impacts?	<p>Additional measures and opportunities for the review of groundwater data required by Adani’s EA include:</p> <p>Groundwater general:</p> <p>E1 The holder of this environmental authority must not release contaminants to groundwater.</p> <p>E2 All determinations of groundwater quality, groundwater monitoring and biological monitoring must be performed by appropriately qualified person/s.</p> <p>GDEMP Annual Review:</p> <p>I14 A report of the findings of the GDEMP, including all monitoring results and interpretations, must be prepared annually and made available on request to the administering authority. The report must include:</p> <ul style="list-style-type: none"> a) an assessment of background reference groundwater levels (see condition E9) b) the condition of each GDE compared with previous monitoring results c) the suitability of current groundwater trigger thresholds (as defined in condition E13) d) detail on the effectiveness of avoidance, mitigation and management actions in curtailing adverse impacts on GDE ecosystems e) a description of any adaptive management initiatives implemented f) any offsets required for residual impacts

Commented [WM1]: Date to be confirmed between Adani and DES for consistency in reporting. TBA

GMMP Review:

E5 The Groundwater Management and Monitoring Program required under condition E4 must be reviewed by an appropriately qualified person with a report provided on the outcome of the review to the administering authority by **1st July 2020**. After the initial review, the review must be conducted **by 1 July every 5 years following**, the report provided to the administering authority, and include:

- a) an assessment of the groundwater management and monitoring program against the objectives in condition E4
- b) a review of the adequacy of the monitoring locations, frequencies and groundwater quality triggers specified in *Tables E1, E2 and E3*
- c) a review of the validity of the groundwater monitoring program against the regular model predictions.

Groundwater Model Review:

E6 The numerical groundwater model in the reports titled “Carmichael Coal Mine and Rail Project SEIS: Report for Mine Hydrogeology Report (13 November 2013)” and “Carmichael Coal Mine and Rail Project SEIS: Mine Hydrogeology Report Addendum (24 October 2013)” must be reviewed to incorporate groundwater monitoring data and measured mine dewatering volumes from the Groundwater Management and Monitoring Program in condition E4 and E5. The review must be **conducted within two years of commencement of any mining activities associated with box cut excavation and at least every 5 years thereafter, or at other intervals specified by the administering authority in writing, if the observed groundwater levels and groundwater flow rates to surface water are not consistent with those predicted by the groundwater model.**

The review must provide a revised numerical groundwater model which is based on a transient calibration and includes additional model layers for aquifers below the D seam of the Colinlea Sandstone. The revised model must include:

- a) Review of the hydrogeological conceptualisation used in the previous model;
- b) An update of the predicted impacts;
- c) Revised water balance model;
- d) Review of assumptions used in the previous model;
- e) Predictions of changes in groundwater levels for a range of scenarios;
- f) Information about any changes made since the previous model review, including

	<p>data changes;</p> <p>g) A report outlining the justification for the refined model and the outputs of the refined model;</p> <p>h) An evaluation of the accuracy of the predicted changes in groundwater levels, groundwater flow rates to surface water and recommended actions to improve the accuracy of the model predictions.</p> <p>E7 A report outlining the findings and any recommendations from the review under condition E6 must be completed by an appropriately qualified person and submitted to the administering authority for approval no later than 3 months after the commencement of the model review.</p> <p>E8 Based on monitoring data collected in Condition E3 the holder of the environmental authority must provide the following to the administering authority for approval prior to any mining activities associated with box cut excavation:</p> <p>a) A proposed groundwater monitoring network for detecting potential impacts of the mine operations on groundwater quality. <i>Note: this network is to inform Tables E1 and E2</i></p> <p>b) A groundwater monitoring network for detecting if:</p> <ol style="list-style-type: none"> 1. Drawdown caused by the mining operation may exceed predictions in the numerical model referred to in condition E6. 2. Matters of State Environmental Significance may be impacted. <p><i>Note: this network is to inform Table E3</i></p>
What is the purpose of the GDEMP?	
What is the purpose of the GMMP?	
Where do Adani start mining first?	<p>In accordance with their mine plan Adani xxxxx</p> <p>Underground mining is not proposed until year 10.</p>
How much FA does Adani hold? When will they require a ERC?	

What activities can Adani do under their current PoO?	
When will Adani need a PRCP	

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Media Q&As – ~~Adani~~ – Adani – 1813 June 2019

What is the proposal for the Carmichael Coal Mine?

The Carmichael Coal Mine is a proposed thermal coal mine in the north of the Galilee Basin in Central Queensland - approximately 160 km north-west of Clermont. Mining is planned to be conducted by both open-cut and underground methods.

What is the Department of Environment and Science's involvement in the project?

As the environmental regulator, the Department of Environment and Science (DES) approved the environmental authority (EA) for the Carmichael Mine, and is ensuring Adani meets the Queensland Government's stringent conditions to protect the environment and our iconic Great Barrier Reef.

What environmental approvals does Adani already have for the Carmichael Coal Mine?

In May 2014, the Queensland Government's independent Coordinator-General approved Adani's Environmental Impact Statement for the Carmichael Mine and Rail Project, with stringent conditions.

DES approved the mine's EA in February 2016. The EA contains 145 conditions to protect local flora and fauna, groundwater and surface water resources, as well as controls on dust and noise.

The mining leases, estimated to contain 11 billion tonnes of thermal coal, were approved in April 2016 by the Minister for Natural Resources, Mines and Energy.

The Commonwealth Government approved Adani's Black-Throated Finch Management Plan (BTFMP) in December 2018. The Department of Environment and Science approved the BTFMP on 31 May 2019.

The Commonwealth Government approved Adani's Groundwater Dependent Ecosystem Management Plan on 09 April 2019 (GDEMP). The Department of Environment and Science approved the GDEMP on 13 June 2019.

~~A number of other steps have also been completed including secondary approvals for rail, port facilities, power, water, roadworks and an airport. Information regarding other key outstanding approvals needed, target dates and milestones for the Carmichael project can be found on the State Development web page: <https://www.statedevelopment.qld.gov.au/resources/guideline/cg/adani-outstanding-approvals-milestones-reached-13June2019.pdf>~~

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What environmental approvals were required before Adani can begin mining?

The Queensland Government takes protection of groundwater dependent ecosystems and threatened species seriously.

Under Adani's EA to operate, two environmental management plans needed to be approved before significant mining activities could commence at the Carmichael Mine.



These were the Black-Throated Finch Management Plan (BTFMP) and Groundwater Dependent Ecosystem Management Plan (GDEMP).

Why is the Black-throated finch important?

The Black-throated Finch (southern subspecies) is listed as an endangered species in Queensland and nationally and the mine site is the location of the most significant known population of the Black-throated Finch (southern subspecies) in Australia.

Has the BTFMP been approved?

Yes. The Commonwealth Government approved the BTFMP in December 2018

The Department of Environment and Science approved the BTFMP on 31 May 2019.

The plan's assessment was a rigorous process, informed by the best available science.

DES met regularly with Adani to ensure that the plan was robust and was well-placed to deliver the best outcomes for the protection of the black-throated finch.

It included an independent expert panel review of a previous version of the plan submitted in December 2018.

The additional undertakings that Adani has committed to have strengthened the plan and are important to protect this endangered species.

This included commitments by Adani to:

- Establish enhanced understanding of the black-throated finch in the project area, including undertaking appropriate population studies,
- Establish appropriate monitoring protocols that will allow for an analysis of the black-throated finch population in the project area over time, and
- Manage the Ten Mile Bore area and surrounds in a manner that protects the black-throated finch, including a commitment to a low-grazing regime in that area.
- DES is also satisfied that Adani will engage appropriately qualified ecologists to undertake the company's survey and monitoring work in relation to the Black-throated finch.

What does the GDEMP protect?

The GDEMP will protect groundwater dependent ecosystems in the vicinity of the mine. The Groundwater Dependent Ecosystems are the Carmichael River, including the population of the vulnerable Waxy Cabbage Palm, the Doongmabulla Springs Complex and the Mellaluka Springs Complex.

Specifically, the GDEMP must include detailed baseline research to establish the source aquifer (s) for groundwater supply of the should identify the source aquifer of the Doongmabulla Springs Complex (as much as such identification is possible) and Groundwater Dependent Ecosystems (GDE's), which includes the Doongmabulla Springs and provide detailed mitigation measures to protect the springs.

The Doongmabulla Springs, spread across four square kilometres in area, are ~~near 8km west of~~ the mine site and are recognised as a nationally significant wetland complex.

The Commonwealth Government obtained an independent scientific review of the GDEMP by CSIRO and Geoscience Australia and approved the plan on 09 April 2019.

Has the Queensland Government approved the GDEMP?

Yes. The Department of Environment and Science approved Adani's GDEMP on June 13 ~~2019~~.

Like the BTFMP, the GDEMP's assessment was a rigorous process, informed by the best available science. This included ~~additional clarification by~~ CSIRO's and Geoscience Australia's ~~on clarification of~~ advice these agencies gave to the Commonwealth Government when it was assessing the plan.

Did Adani identify the source aquifer of the Doongmabulla Springs Complex?

~~Yes.~~

In assessing the plan, both Adani and DES took on board advice from CSIRO and Geoscience Australia – the same advice considered by the Commonwealth Government in approving an earlier version of the GDEMP in April this year.

DES sought further clarification and advice from CSIRO and Geoscience Australia, which it received on 7 June 2019.

Based on this advice, DES is satisfied that the GDEMP sufficiently establishes the main source aquifer of the springs as the Clematis Sandstone.

CSIRO and Geoscience Australia also confirmed that some level of uncertainty in geological and groundwater conceptual models always exists.

DES has required additional commitments from Adani to undertake further scientific work over the next two years. This is required to identify any potential contribution from other aquifers and strengthen the GDEMP.

What are the additional commitments in the GDEMP?

Additional commitments for Adani in the approved GDEMP include:

- Further work to improve the understanding of the source aquifers of springs in the locality, particularly the Doongmabulla Springs Complex, including:
 - Undertaking detailed hydrogeochemical analysis of groundwater and spring samples from different springs within each spring complex
 - Undertaking isotopic analysis (including noble, radioactive gases and strontium isotopes where isotopic analysis is not sufficient)

- Examining core samples from new bores to attain a better understanding of hydraulic properties and provide detailed geological mapping
- Incorporating air-borne electro-magnetic modelling undertaken by Geoscience Australia to improve hydrogeological understanding of the area.
- Using a bore in the Dunda Beds (also known as the Rewan Formation) as an early warning trigger for groundwater drawdown monitoring in the Carmichael River.

Additional measures in the GDEMP also address concerns raised ~~last week~~ by Flinders University scientists that the Permian aquifers should not be ruled out as a Doongmabulla Springs Complex source.

These include installing a new bore below the Rewan Formation, in the vicinity of the Doongmabulla Springs Complex, to assist in determining if the Permian aquifers (Colinlea) form a source for the springs.

Adani is also required to review hydrological, hydrochemistry analyses and seismic information as part of its second geological and groundwater remodelling after box cut mining starts, and review seismic information pertaining underground mining impacts (which is scheduled to start in year 10 of the project). Further seismic studies may also need to be undertaken.

Underground mining will not commence until these actions are completed and only if predicted impacts are consistent with approved impacts.

Likewise, if the hydrogeological conceptualisation differs from that of the approved project, approval must be sought prior to relevant impact causing activities.

What other conditions in the environmental authority can control impacts from groundwater drawdown?

The Environmental Authority requires a review of the groundwater management and monitoring program against its stated objectives, the adequacy of the monitoring locations, frequencies and groundwater quality trigger levels and the validity of the groundwater monitoring program against the regular model predictions. This review must be provided to DES by 1 July 2020 and every 5 years thereafter.

Reviews of the groundwater model must be undertaken within 2 years of commencement of any mining activities associated with box cut excavation and at least every 5 years thereafter, or at other intervals specified by DES in writing, if the observed groundwater levels and groundwater flow rates to surface water are not consistent with those predicted by the groundwater model.

What can Adani do now the GDEMP is approved?

The GDEMP is the second of the two environmental management plans (the other being the Black-Throated Finch Management Plan, approved on 31 May) that needed to be approved before Adani could begin significant mining activities at its Carmichael mine site.

Both plans are a requirement of Adani's EA.

For details of what constitutes "significant mining activities", refer to Appendix 1 – Definitions of the EA for the Carmichael mine, available at <https://apps.des.qld.gov.au/env-authorities/pdf/epml01470513.pdf>.

What environmental requirements are outstanding for the mine?

There are a number of environmental plans that Adani still has to finalise, under both Queensland and Commonwealth legislation.

However, these do not require approval before Adani can begin mining activities at the site.

Queensland environmental plans to be completed include:

- Receiving Environment Monitoring Program
- Water Management Plan
- Erosion and Sediment Control Plan
- Rehabilitation Monitoring Program
- Topsoil Management Plan
- Waste rock, spoil and rejects Plan
- Groundwater Management and Monitoring Plan

Commonwealth environmental plans to be completed include:

- Great Artesian Basin Springs Research Plan
- Rewan Formation Connectivity Research Plan
- Offset Area Management Plan
- Seismic Survey Management Plan

Adani has reduced its predicted output from the Carmichael mine. Will more approvals be required if the company expands to its original planned output?

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.

Financial surety is based on a mine's plan of operations, which in turn is based on the scale of the mining that is actually occurring. The amount of financial surety required will increase if a mine submits an amended plan of operations for higher output, even if the higher output still falls within that approved in the mine's environmental authority.

While Adani has 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 also considered the maximum potential impacts of the 60Mtpa project, including appropriate management and mitigation measures such as biodiversity offsets.

What financial assurance has Adani provided for the project?

Adani has paid the Queensland Government approximately ~~\$11.6~~ \$15.8 million in financial assurance to date.

Further financial assurance payments will be calculated and paid as the mine's construction and operation progresses.

Is DES investigating the construction of groundwater bores at the Carmichael Coal Mine?

Yes. DES is continuing its investigation into allegations of EA non-compliance in relation to the construction of groundwater bores at the Carmichael Mine.

DES has commenced a further investigation into alleged unauthorised disturbance reported in May 2019.

The Queensland Government takes environmental protections very seriously and DES is committed to investigating allegations of non-compliance and taking enforcement action, as appropriate.

Do Adani approvals set a precedent for future Galilee Basin mine applications?

No. All mining applications are assessed individually through a rigorous environmental and impact assessment process.

From an environmental approval perspective, the approval (or otherwise) of one mine does not necessarily impact on the approval (or otherwise) of others.

Have approvals been granted for other new coal mines in the Galilee Basin?

In November 2018, the Coordinator General approved an environmental impact statement for another coal project in the Galilee Basin — the China Stone Coal Project.

This proposal was for a mine directly adjacent and north of the proposed Carmichael Mine.

However, in late May 2019, the project's proponent — MacMiner Austasia — withdrew its application for the mine and the project has lapsed.

(MacMiner Austasia is a 100 per cent subsidiary of China's Meilin Energy Group.) Table to be provided...

ENDS

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Date : 8/06/2019 4:18:55 PM
From : "WELLS Melissa"
To : "MERRICK Jamie"
Cc : "ELLWOOD Dean"
Subject : FW: GDEMP recommendations
Attachment : Adani Proposed Response to DES GACSIRO 080619.docx;image001.jpg;

Jamie FYI. We will review now and provide any comments in track.

From: [redacted] s.73 [redacted]@adani.com.au>
Sent: Saturday, 8 June 2019 3:50 PM
To: WELLS Melissa; MCCOSKER Juliana
Cc: [redacted] s.73 [redacted]
Subject: GDEMP recommendations

Dear Melissa and Juliana,

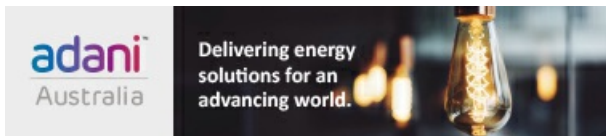
Please see attached proposed response to recommendations on the GDEMP as provided to Adani on the 7/6/19

Regards

[redacted] s.78B(2)

[redacted] s.73 [redacted]

E [redacted] s.73 [redacted]@adani.com.au
P office: +61 7 3223 4800 | direct: [redacted] s.73 [redacted]
A Level 25, 10 Eagle Street, Brisbane, QLD, 4000
P GPO Box 2569, Brisbane, QLD, 4001
W adaniaustralia.com



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Date : 13/06/2019 12:02:49 PM
From : "WELLS Melissa"
To : "LEWIS Kieran" , "Media DES" , "GRANT Andrea"
Cc : "ELLWOOD Dean"
Subject : FW: Melissa - for your review - GDEMP media statement
Attachment : 130619 - MR - GDEMP approved.docx;

From: LEWIS Kieran <Kieran.Lewis@des.qld.gov.au>
Sent: Thursday, 13 June 2019 10:45 AM
To: WELLS Melissa
Cc: DE JERSEY Timothy; GRANT Andrea
Subject: Melissa - for your review - GDEMP media statement

Hi Melissa

A draft GDEMP statement is attached for your review/amendment/approval.

Regards

Kieran Lewis
Media Services
Department of Environment and Science
media@des.qld.gov.au

Level 31 | 400 George Street | Brisbane
Tel 07 3339 5887
www.des.qld.gov.au

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

Published on DES Disclosure Log
RTI Act 2009

Department of Environment and Science

Draft media release

Deadline:	Briefing officer: Juliana McCosker
Media Services contact: Kieran Lewis	Phone: 4987 9356
Phone: 3339 5887 (6) Personal information	DDG:
Approved:	Phone:
Geographical area/s of interest:	

GDEMP approved

The Department of Environment and Science (DES) approved Adani's Groundwater Dependent Ecosystem Management Plan (GDEMP) today.

Adani submitted its most recent version of the plan, addressing the department's feedback, yesterday.

The GDEMP's assessment has been rigorous and based on the best available science –with DES and Adani meeting regularly to ensure the plan is robust and provides the maximum environmental protection.

In assessing the plan, both Adani and DES took on board advice from CSIRO and Geoscience Australia – the same advice considered by the Commonwealth Government in approving an earlier version of the GDEMP in April this year.

DES sought further clarification and advice from CSIRO and Geoscience Australia, which it received on 7 June 2019.

Based on this advice, DES is satisfied that the GDEMP sufficiently establishes the main source aquifer of the springs.

The advice further confirmed that some level of uncertainty in geological and groundwater conceptual models always exists.

To this extent, other lesser sources are plausible but not proven and DES has required This confirmed that some level of uncertainty in geological and groundwater conceptual models always exists.

However, the GDEMP concludes that it is reasonable and plausible that the Clematis Sandstone is the main source aquifer of the Doongmabulla Springs Complex.

Based on external advice, DES has required additional commitments from by Adani to undertake further scientific work over the next two years to identify any potential contribution from other aquifers and strengthen the GDEMP that include, including:

- Additional work to improve the understanding of the source aquifers of springs in the locality, particularly the Doongmabulla Springs Complex, including:
 - Undertaking geological and groundwater remodelling within two years of starting box cut mining; and at least five years thereafter, or earlier if groundwater levels or flow rates to surface waters are not consistent with groundwater model predictions

- Undertaking detailed hydrogeochemical analysis of groundwater and spring samples from different springs within each spring complex
- Undertaking Isotopic analysis (including noble, radioactive gases and strontium isotopes where isotopic analysis is not sufficient) ~~to assist in a definitive identification the source aquifer of the Doongmabulla Springs Complex~~
- ~~E~~Testing and examining ~~ing~~ core samples from new bores to attain a better understanding of hydraulic properties and provide detailed geological mapping, ~~and~~
- Incorporate~~ing~~ air-borne electro-magnetic modelling undertaken by Geoscience Australia to improve hydrogeological understanding of the area.

● Using a bore in the Dunda Beds (also known as the Rewan Formation) as an early warning trigger for groundwater drawdown monitoring in the Carmichael River.

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ENDS

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

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Date : 13/06/2019 3:47:01 PM
From : "WELLS Melissa"
To : "ELLWOOD Dean"
Cc : "LOWE Trinity"
Subject : FW: Notification of publication of GDEMP, version 12a
Attachment : image001.jpg;

FYI

From: [redacted] s.73 [redacted]@adani.com.au>
Sent: Thursday, 13 June 2019 3:45 PM
To: MCCOSKER Juliana; WELLS Melissa
Cc: [redacted] s.73 [redacted]
Subject: Notification of publication of GDEMP, version 12a

Good afternoon Juliana and Melissa

The purpose of this email is to advise that the Groundwater Dependent Ecosystem Management Plan, version 12a (June 2019) is now available on the Adani Australia website:

<https://www.adaniaustralia.com/projects-businesses/mine-environment-reporting#plans-reports-strategies>

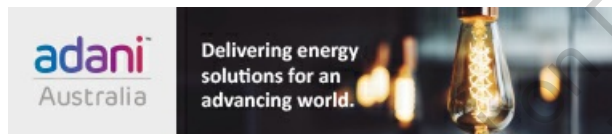
This is in accordance with condition I12 of Environmental Authority EPML01470513.

Regards

[redacted] s.73 [redacted]

[redacted] s.73 [redacted]

E [redacted] s.73 [redacted]@adani.com.au
P office: +61 7 3223 4800 | direct [redacted] s.73 [redacted]
A Level 25, 10 Eagle Street, Brisbane, QLD, 4000
P GPO Box 2569, Brisbane, QLD, 4001
W adaniaustralia.com



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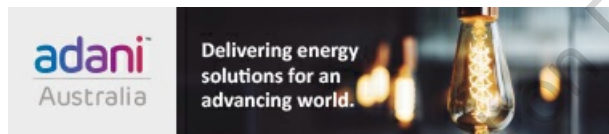
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[redacted] s.73

[redacted] s.73

E [redacted] s.73 adani.com.au
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W adaniaustralia.com



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Date : 13/06/2019 1:30:54 PM

From : "WELLS Melissa"

To : "MERRICK Jamie", s.78B(2), "ELLWOOD Dean"

Subject : FW: re. GDEMP approval

Attachment : GDEMP_Approval_13-06-2019.pdf;image001.png;image003.png;

FYI

From: MCCOSKER Juliana <Juliana.Mccosker@des.qld.gov.au>

Sent: Thursday, 13 June 2019 1:30 PM

To: s.73

Cc: WELLS Melissa

Subject: re. GDEMP approval

Hi s.78B(2)

Please see attached.

Ciao for now

Juliana



Juliana McCosker

Manager

Business Centre Coal - Coal and Central Queensland Compliance

Department of Environment and Science

P 07 4987 3364 M6) Personal information

99 Hospital Road, Emerald QLD 4720

PO Box 3028, Emerald QLD 4720

Published on DES Disclosure Log
RTI Act 2009



Department of
Environment and Science

Our Ref: Groundwater Dependent Ecosystem Management Plan

13 June 2019

s.73

Adani Mining Pty Ltd
Level 25, 10 Eagle Street
Brisbane QLD 4000

Dear s.73

As a delegate under the Environmental Protection Act 1994, I have decided to approve the *Groundwater Dependent Ecosystem Management Plan – Carmichael Coal Mine Project version 12a (June 2019)* as required by the Carmichael Coal Mine Environmental Authority (EPML01470513). The submitted Groundwater Dependent Ecosystem Management Plan satisfies the requirements of environmental authority conditions I11, I12, I13 and the definition requirements in Appendix A of the environmental authority.

Should you require any further information, please contact me on telephone (07) 4987 9356 or by email at juliana.mccosker@des.qld.gov.au.

Yours sincerely

sch4p4(6) Personal information

Juliana McCosker
Manager
Business Centre Coal
Coal and Central Queensland Compliance
Environmental Services and Regulation

Date : 13/06/2019 1:30:54 PM

From : "WELLS Melissa"

To : "MERRICK Jamie", s.78B(2), "ELLWOOD Dean"

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Sent: Thursday, 13 June 2019 1:30 PM

To: s.73

Cc: WELLS Melissa

Subject: re. GDEMP approval

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Ciao for now

Juliana



Juliana McCosker

Manager

Business Centre Coal - Coal and Central Queensland Compliance

Department of Environment and Science

P 07 4987 9864 M (6) Personal information

99 Hospital Road, Emerald QLD 4720

PO Box 3028, Emerald QLD 4720

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Department of
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sch4p4(6) Personal information

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Manager
Business Centre Coal
Coal and Central Queensland Compliance
Environmental Services and Regulation

Date : 13/06/2019 1:44:30 PM

From : "ELLWOOD Dean"

To : "LAWRENCE Rob"

Cc : "LOWE Trinity"

Subject : Fwd: Department of Environment & Science: Adani Groundwater Environment Management Plan

Attachment : image002.png;image004.jpg;

Dean Ellwood

Department of Environment and Science

[400 George St, Brisbane QLD 4000](#)

GPO [Box 2454, Brisbane QLD 4001](#)

Begin forwarded message:

From: Media DES <Media@des.qld.gov.au>

Date: 13 June 2019 at 1:42:22 pm AEST

Cc: Media DES <Media@des.qld.gov.au>

Subject: Department of Environment & Science: Adani Groundwater Environment Management Plan

Good afternoon,

Please see below the Department of Environment and Science statement regarding the Adani Groundwater Environment Management Plan.

GDEMP approved

The Department of Environment and Science (DES) approved Adani's Groundwater Dependent Ecosystem Management Plan (GDEMP) today.

Adani submitted its most recent version of the plan, addressing the department's feedback, yesterday.

The GDEMP's assessment has been rigorous and based on the best available science. DES and Adani have met regularly to ensure the plan is robust and provides the maximum environmental protection.

In assessing the plan, both Adani and DES took on board advice from CSIRO and Geoscience Australia – the same advice considered by the Commonwealth Government in approving an earlier version of the GDEMP in April this year.

DES sought further clarification and advice from CSIRO and Geoscience Australia, which it received on 7 June 2019.

Based on this advice, DES is satisfied that the GDEMP sufficiently establishes the main source aquifer of the springs as the Clematis Sandstone.

CSIRO and Geoscience Australia also confirmed that some level of uncertainty in geological and groundwater conceptual models always exists.

DES has required additional commitments from Adani to undertake further scientific work over the next two years. This is required to identify any potential contribution from other aquifers and strengthen the GDEMP.

Additional commitments in the approved GDEMP include:

- Further work to improve the understanding of the source aquifers of springs in the locality, particularly the Doongmabulla Springs Complex, including:
 - Undertaking detailed hydrogeochemical analysis of groundwater and spring samples from different springs within each spring complex
 - Undertaking isotopic analysis (including noble, radioactive gases and strontium isotopes where isotopic analysis is not sufficient)
 - Examining core samples from new bores to attain a better understanding of hydraulic properties and provide detailed geological mapping
 - Incorporating air-borne electro-magnetic modelling undertaken by Geoscience Australia to improve hydrogeological understanding of the area.
- Using a bore in the Dunda Beds (also known as the Rewan Formation) as an early warning trigger for groundwater drawdown monitoring in the Carmichael River.

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ENDS



Media Services| Corporate Communications

Department of Environment and Science

P 07 3339 5831

GPO Box 2454, Brisbane QLD 4001

If it's a media matter, please include the group email media@des.qld.gov.au

Website www.des.qld.gov.au



I acknowledge Aboriginal and Torres Strait Islander people as the Traditional Owners of this country, and their connection to land, sea and community.
I pay my respect to all Traditional Owners, and to the Elders past, present and emerging.

Date : 13/06/2019 1:44:04 PM

From : "ELLWOOD Dean"

To : "WELLS Melissa"

Subject : Fwd: Department of Environment & Science: Adani Groundwater Environment Management Plan

Attachment : image002.png;image004.jpg;

Dean Ellwood

Department of Environment and Science

[400 George St, Brisbane QLD 4000](#)

GPO [Box 2454, Brisbane QLD 4001](#)

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ENDS



Media Services| Corporate Communications
Department of Environment and Science

P 07 3339 5831

GPO Box 2454, Brisbane QLD 4001

If it's a media matter, please include the group email media@des.qld.gov.au

Website www.des.qld.gov.au



I acknowledge Aboriginal and Torres Strait Islander people as the Traditional Owners of this country, and their connection to land, sea and community.
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To : "LAWRENCE Rob"

Cc : "LOWE Trinity"

Subject : Fwd: Department of Environment & Science: Adani Groundwater Environment Management Plan

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Dean Ellwood

Department of Environment and Science

[400 George St, Brisbane QLD 4000](#)

GPO [Box 2454, Brisbane QLD 4001](#)

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 - Undertaking isotopic analysis (including noble, radioactive gases and strontium isotopes where isotopic analysis is not sufficient)
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- Using a bore in the Dunda Beds (also known as the Rewan Formation) as an early warning trigger for groundwater drawdown monitoring in the Carmichael River.

Additional measures in the GDEMP also address concerns raised last week by Flinders University scientists that the Permian aquifers should not be ruled out as a Doongmabulla Springs Complex source.

These include installing a new bore below the Rewan Formation, in the vicinity of the Doongmabulla Springs Complex, to assist in determining if the Permian aquifers (Colinlea) form a source for the springs.

Adani is also required to review hydrological, hydrochemistry analyses and seismic information as part of its second geological and groundwater remodelling after box cut mining starts, and review seismic information pertaining underground mining impacts (which is scheduled to start in year 10 of the project). Further seismic studies may also need to be undertaken.

Underground mining will not commence until these actions are completed and only if predicted impacts are consistent with approved impacts. Likewise, if the hydrogeological conceptualisation differs from that of the approved project, approval must be sought prior to relevant impact causing activities.

The GDEMP is the second of the two environmental management plans (the other being the Black-Throated Finch Management Plan, approved on 31 May) that needed to be approved before Adani could begin significant mining activities at its Carmichael mine site.

Both plans are a requirement of Adani's EA.

For details of what constitutes "significant mining activities", refer to Appendix 1 – Definitions of the EA for the Carmichael mine, available at <https://apps.des.qld.gov.au/env-authorities/pdf/epml01470513.pdf>.

ENDS



Media Services| Corporate Communications

Department of Environment and Science

P 07 3339 5831

GPO Box 2454, Brisbane QLD 4001

If it's a media matter, please include the group email media@des.qld.gov.au

Website www.des.qld.gov.au



I acknowledge Aboriginal and Torres Strait Islander people as the Traditional Owners of this country, and their connection to land, sea and community.
I pay my respect to all Traditional Owners, and to the Elders past, present and emerging.

Date : 13/06/2019 1:44:04 PM

From : "ELLWOOD Dean"

To : "WELLS Melissa"

Subject : Fwd: Department of Environment & Science: Adani Groundwater Environment Management Plan

Attachment : image002.png;image004.jpg;

Dean Ellwood

Department of Environment and Science

[400 George St, Brisbane QLD 4000](#)

GPO [Box 2454, Brisbane QLD 4001](#)

Begin forwarded message:

From: Media DES <Media@des.qld.gov.au>

Date: 13 June 2019 at 1:42:22 pm AEST

Cc: Media DES <Media@des.qld.gov.au>

Subject: Department of Environment & Science: Adani Groundwater Environment Management Plan

Good afternoon,

Please see below the Department of Environment and Science statement regarding the Adani Groundwater Environment Management Plan.

GDEMP approved

The Department of Environment and Science (DES) approved Adani's Groundwater Dependent Ecosystem Management Plan (GDEMP) today.

Adani submitted its most recent version of the plan, addressing the department's feedback, yesterday.

The GDEMP's assessment has been rigorous and based on the best available science. DES and Adani have met regularly to ensure the plan is robust and provides the maximum environmental protection.

In assessing the plan, both Adani and DES took on board advice from CSIRO and Geoscience Australia – the same advice considered by the Commonwealth Government in approving an earlier version of the GDEMP in April this year.

DES sought further clarification and advice from CSIRO and Geoscience Australia, which it received on 7 June 2019.

Based on this advice, DES is satisfied that the GDEMP sufficiently establishes the main source aquifer of the springs as the Clematis Sandstone.

CSIRO and Geoscience Australia also confirmed that some level of uncertainty in geological and groundwater conceptual models always exists.

DES has required additional commitments from Adani to undertake further scientific work over the next two years. This is required to identify any potential contribution from other aquifers and strengthen the GDEMP.

Additional commitments in the approved GDEMP include:

- Further work to improve the understanding of the source aquifers of springs in the locality, particularly the Doongmabulla Springs Complex, including:
 - Undertaking detailed hydrogeochemical analysis of groundwater and spring samples from different springs within each spring complex
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The GDEMP is the second of the two environmental management plans (the other being the Black-Throated Finch Management Plan, approved on 31 May) that needed to be approved before Adani could begin significant mining activities at its Carmichael mine site.

Both plans are a requirement of Adani's EA.

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ENDS



Media Services| Corporate Communications
Department of Environment and Science

P 07 3339 5831

GPO Box 2454, Brisbane QLD 4001

If it's a media matter, please include the group email media@des.qld.gov.au

Website www.des.qld.gov.au



I acknowledge Aboriginal and Torres Strait Islander people as the Traditional Owners of this country, and their connection to land, sea and community.
I pay my respect to all Traditional Owners, and to the Elders past, present and emerging.

Date : 13/06/2019 2:20:09 PM

From : "GRANT Andrea"

To : "ELLWOOD Dean" , "MERRICK Jamie" , "LAWRENCE Rob" , "LOWE Trinity"

Subject : Fwd: Media release link

Attachment : image002.png;

All reports now online. Links to reports at bottom of the page

Sent from my iPhone

Begin forwarded message:

From: BAILEY Lisa <Lisa.Bailey@des.qld.gov.au>

Date: 13 June 2019 at 2:08:50 pm AEST

To: GRANT Andrea <Andrea.Grant@des.qld.gov.au>

Subject: Media release link

<https://www.des.qld.gov.au/mediareleases/2019-06-13-gdemp-approved.html>



Lisa Bailey

Senior Web Developer

Web Services | Corporate Communications

Department of Environment and Science

www.des.qld.gov.au

P 07 3339 5888

Level 31, 400 George St, Brisbane QLD 4000

GPO Box 2454, Brisbane QLD 4001

Date : 13/06/2019 2:20:09 PM

From : "GRANT Andrea"

To : "ELLWOOD Dean" , "MERRICK Jamie" , "LAWRENCE Rob" , "LOWE Trinity"

Subject : Fwd: Media release link

Attachment : image002.png;

All reports now online. Links to reports at bottom of the page

Sent from my iPhone

Begin forwarded message:

From: BAILEY Lisa <Lisa.Bailey@des.qld.gov.au>

Date: 13 June 2019 at 2:08:50 pm AEST

To: GRANT Andrea <Andrea.Grant@des.qld.gov.au>

Subject: Media release link

<https://www.des.qld.gov.au/mediareleases/2019-06-13-gdemp-approved.html>



Lisa Bailey

Senior Web Developer

Web Services | Corporate Communications

Department of Environment and Science

www.des.qld.gov.au

P 07 3339 5888

Level 31, 400 George St, Brisbane QLD 4000

GPO Box 2454, Brisbane QLD 4001

Date : 13/06/2019 12:03:55 PM
From : "ELLWOOD Dean"
To : "MERRICK Jamie"
Subject : Fwd: Melissa - for your review - GDEMP media statement
Attachment : 130619 - MR - GDEMP approved.docx;ATT00001.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: 13 June 2019 at 12:02:49 pm AEST
To: LEWIS Kieran <Kieran.Lewis@des.qld.gov.au>, Media DES <Media@des.qld.gov.au>, GRANT Andrea <Andrea.Grant@des.qld.gov.au>
Cc: ELLWOOD Dean <Dean.Ellwood@des.qld.gov.au>
Subject: FW: Melissa - for your review - GDEMP media statement

From: LEWIS Kieran <Kieran.Lewis@des.qld.gov.au>
Sent: Thursday, 13 June 2019 10:45 AM
To: WELLS Melissa
Cc: DE JERSEY Timothy; GRANT Andrea
Subject: Melissa - for your review - GDEMP media statement

Hi Melissa

A draft GDEMP statement is attached for your review/amendment/approval.

Regards

Kieran Lewis
Media Services
Department of Environment and Science
media@des.qld.gov.au

Level 31 | 400 George Street | Brisbane
Tel 07 3339 5887 / [325004](#) (6) Personal information
www.des.qld.gov.au

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

Department of Environment and Science

Draft media release

Deadline:	Briefing officer: Juliana McCosker
Media Services contact: Kieran Lewis	Phone: 4987 9356
Phone: 3329 5897 (6) Personal information	DDG:
Approved:	Phone:
Geographical area/s of interest:	

GDEMP approved

The Department of Environment and Science (DES) approved Adani's Groundwater Dependent Ecosystem Management Plan (GDEMP) today.

Adani submitted its most recent version of the plan, addressing the department's feedback, yesterday.

The GDEMP's assessment has been rigorous and based on the best available science –with DES and Adani meeting regularly to ensure the plan is robust and provides the maximum environmental protection.

In assessing the plan, both Adani and DES took on board advice from CSIRO and Geoscience Australia – the same advice considered by the Commonwealth Government in approving an earlier version of the GDEMP in April this year.

DES sought further clarification and advice from CSIRO and Geoscience Australia, which it received on 7 June 2019.

Based on this advice, DES is satisfied that the GDEMP sufficiently establishes the main source aquifer of the springs.

The advice further confirmed that some level of uncertainty in geological and groundwater conceptual models always exists.

To this extent, other lesser sources are plausible but not proven and DES has required This confirmed that some level of uncertainty in geological and groundwater conceptual models always exists.

However, the GDEMP concludes that it is reasonable and plausible that the Clematis Sandstone is the main source aquifer of the Doongmabulla Springs Complex.

Based on external advice, DES has required additional commitments from by Adani to undertake further scientific work over the next two years to identify any potential contribution from other aquifers and strengthen the GDEMP that include, including:

- Additional work to improve the understanding of the source aquifers of springs in the locality, particularly the Doongmabulla Springs Complex, including:
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● Using a bore in the Dunda Beds (also known as the Rewan Formation) as an early warning trigger for groundwater drawdown monitoring in the Carmichael River.

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ENDS

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

Published on DES Disclosure Log
RTI Act 2009

Date : 13/06/2019 12:03:55 PM
From : "ELLWOOD Dean"
To : "MERRICK Jamie"
Subject : Fwd: Melissa - for your review - GDEMP media statement
Attachment : 130619 - MR - GDEMP approved.docx;ATT00001.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: 13 June 2019 at 12:02:49 pm AEST
To: LEWIS Kieran <Kieran.Lewis@des.qld.gov.au>, Media DES <Media@des.qld.gov.au>, GRANT Andrea <Andrea.Grant@des.qld.gov.au>
Cc: ELLWOOD Dean <Dean.Ellwood@des.qld.gov.au>
Subject: FW: Melissa - for your review - GDEMP media statement

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To: WELLS Melissa
Cc: DE JERSEY Timothy; GRANT Andrea
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Regards

Kieran Lewis
Media Services
Department of Environment and Science
media@des.qld.gov.au

Level 31 | 400 George Street | Brisbane
Tel 07 3339 5887 (6) Personal information
www.des.qld.gov.au

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

Draft media release

Deadline:	Briefing officer: Juliana McCosker
Media Services contact: Kieran Lewis	Phone: 4987 9356
Phone: 3339 59874 (6) Personal information	DDG:
Approved:	Phone:
Geographical area/s of interest:	

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ENDS

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

Published on DES Disclosure Log
RTI Act 2009

Date : 13/06/2019 3:59:28 PM
From : "ELLWOOD Dean"
To : "MERRICK Jamie" , "Hannah Jackson"
Cc : "GRANT Andrea"
Subject : Fwd: Notification of publication of GDEMP, version 12a
Attachment : image001.jpg;

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: 13 June 2019 at 3:47:01 pm AEST
To: ELLWOOD Dean <Dean.Ellwood@des.qld.gov.au>
Cc: LOWE Trinity <Trinity.Lowe@des.qld.gov.au>
Subject: FW: Notification of publication of GDEMP, version 12a

FYI

From [redacted] s.73 <[redacted]@adani.com.au>
Sent: Thursday, 13 June 2019 3:45 PM
To: MCCOSKER Juliana; WELLS Melissa
Cc [redacted] s.73
Subject: Notification of publication of GDEMP, version 12a

Good afternoon Juliana and Melissa

The purpose of this email is to advise that the Groundwater Dependent Ecosystem Management Plan, version 12a (June 2019) is now available on the Adani Australia website:

<https://www.adaniaustralia.com/projects-businesses/mine-environment-reporting#plans-reports-strategies>

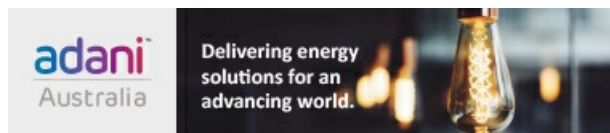
This is in accordance with condition I12 of Environmental Authority EPML01470513.

Regards

[redacted] s.73

[redacted] s.73

E [redacted] s.73 <[redacted]@adani.com.au>
P office: +61 7 3223 4800 | direct: [redacted] s.73
A Level 25, 10 Eagle Street, Brisbane, QLD, 4000
P GPO Box 2569, Brisbane, QLD, 4001
W adaniaustralia.com



If you receive this message by mistake please tell me, do not use it and remove both messages from your system.
Privilege, confidentiality and copyright associated with this email is not waived.

Date : 13/06/2019 3:59:28 PM
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To : "MERRICK Jamie" , "Hannah Jackson"
Cc : "GRANT Andrea"
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Department of Environment and Science
[400 George St, Brisbane QLD 4000](#)
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FYI

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Cc [redacted] s.73
Subject: Notification of publication of GDEMP, version 12a

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Regards

[redacted] s.73

[redacted] s.73

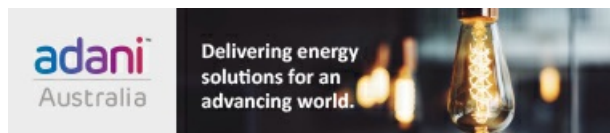
E [redacted] s.73 <[\[redacted\]@adani.com.au](mailto:[redacted]@adani.com.au)>

P office: +61 7 3223 4800 | direct: [redacted] s.73

A Level 25, 10 Eagle Street, Brisbane, QLD, 4000

P GPO Box 2569, Brisbane, QLD, 4001

W adaniaustralia.com



If you receive this message by mistake please tell me, do not use it and remove both messages from your system.
Privilege, confidentiality and copyright associated with this email is not waived.

Date : 13/06/2019 1:41:09 PM
From : Dean.Ellwood@des.qld.gov.au
To : "Hannah Jackson" , "Pamela.Frost@ministerial.qld.gov.au"
Cc : "MERRICK Jamie"
Subject : Fwd: re. GDEMP approval
Attachment : image003.png;ATT00001.htm;GDEMP_Approval_13-06-2019.pdf;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: 13 June 2019 at 1:30:54 pm AEST
To: MERRICK Jamie <Jamie.Merrick@des.qld.gov.au> s.78B(2) <@coordinatorgeneral.qld.gov.au>, ELLWOOD Dean <Dean.Ellwood@des.qld.gov.au>
Subject: FW: re. GDEMP approval

FYI

From: MCCOSKER Juliana <Juliana.Mccosker@des.qld.gov.au>
Sent: Thursday, 13 June 2019 1:30 PM
To: s.78B(2)
Cc: WELLS Melissa
Subject: re. GDEMP approval

Hi s.78B(2)

Please see attached.

Ciao for now

Juliana



Department of
Environment and Science

Our Ref: Groundwater Dependent Ecosystem Management Plan

13 June 2019

s.73

Adani Mining Pty Ltd
Level 25, 10 Eagle Street
Brisbane QLD 4000

Dear s.73

As a delegate under the Environmental Protection Act 1994, I have decided to approve the *Groundwater Dependent Ecosystem Management Plan – Carmichael Coal Mine Project version 12a (June 2019)* as required by the Carmichael Coal Mine Environmental Authority (EPML01470513). The submitted Groundwater Dependent Ecosystem Management Plan satisfies the requirements of environmental authority conditions I11, I12, I13 and the definition requirements in Appendix A of the environmental authority.

Should you require any further information, please contact me on telephone (07) 4987 9356 or by email at juliana.mccosker@des.qld.gov.au.

Yours sincerely

sch4p4(6) Personal information

Juliana McCosker
Manager
Business Centre Coal
Coal and Central Queensland Compliance
Environmental Services and Regulation

Date : 13/06/2019 4:51:21 PM

From : "WELLS Melissa"

To : "ELLWOOD Dean"

Cc : "MCCOSKER Juliana"

Subject : GDEMP Chronology, Q&A and Media Q&A

Attachment : Tabulated Chronology of BTFMP and GDEMP.docx;Q&A Adani 13 June 2019.docx;130619 - Media QAs - Adani.docx;image001.png;image002.png;

Dean,

What I have so far just to keep you updated. These are not quite ready and draft but we will work on tomorrow and finalise.

Melisa.



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

Published on DES Disclosure Log
RTI Act 2009

Chronology of Black-throated Finch Management Plan and Groundwater Dependent Ecosystem Management Plan assessment by DES

BTFMP assessment commenced on 11 May 2017 and finalised on 31 May 2019

Adani Submission	DES comments
Version 1 of the BTFMP was not submitted to DES 11 May 2017 – DES received BTFMP (version 2)	6 July 2017 – DES provided comments on BTFMP to Adani
28 September 2017 – DES received BTFMP (version 3)	10 November 2017 – DES provided comments on BTFMP to Adani
14 December 2017 – DES received BTFMP (version 4) 22 December 2017 – DES received a request from Adani to suspend the review of BTFMP 25 January 2018 – DES received BTFMP (version 5)	6 February 2018 to 24 May 2018 – meetings and correspondence between DES and Adani to reach agreement on BTF habitat monitoring requirements
29 June 2018 – DES received BTFMP (version 6)	2 August 2018 – DES sent Adani comments on BTFMP
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	<p>has been undertaken to identify the source aquifer.</p> <p>15 October 2018 – DES provided comments on GDEMP.</p>
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Questions and Answers

Adani Carmichael Coal Mine GDEMP v12a dated 12 June 2019

Likely Question	Response
Did the Adani identify the source of the Doongmabulla Springs Complex?	<p>Based on the best available science and legal opinion, the regulator is satisfied that the GDEMP sufficiently establishes the main source aquifer of the springs as the Clematis Sandstone.</p> <p>To the extent that other lesser sources are plausible but not proven, the regulator has sought and received commitments from Adani to undertake further scientific work as recommended by CSIRO and Geoscience Australia over the next two years to identify any potential contribution from other aquifers.</p> <p>Given the likely inability of science to identify source aquifers definitively, the regulator determined that the Adani had established the source aquifer to the best scientific ability at present.</p> <p>Such an approach is in accordance with the precautionary principle and ensuring that reasonable and practical measures be taken to protect environmental values.</p> <p>This confirmed that some level of uncertainty in geological and groundwater conceptual models always exists and concludes that it is reasonable and plausible that the Clematis Sandstone is the main source aquifer of the Doongmabulla Springs Complex.</p>
When was the GDEMP approved?	<p>DES approved the GDEMP v12a on the 13 June 2019.</p> <p>The Commonwealth approved the GDEMP on the 9 April 2019.</p>
What did the CSIROGA advice say?	DES sought further clarification and advice from CSIRO and Geoscience Australia which it received on 7 June 2019.

	<p>This advice confirmed that there is always some level of uncertainty in geological and groundwater conceptual models and recommended that Adani commit to systematically consider all sources of uncertainty as they pertain to each source aquifer, prior to a model re-run required to be undertaken within 2 years of commencement of mining activities associated with the box cut and at least 5 years thereafter or earlier if groundwater levels or flow rates to surface waters are not consistent with those predicted by the groundwater model.</p>
<p>What additional work did DES require as a result of the CSIRO/GA advice?</p>	<p>Based on the CSIRO/GA advice, DES has required the following additional commitments and scientific work to be undertaken by Adani to strengthen the GDEMP which in summary includes:</p> <ul style="list-style-type: none"> • A commitment to additional work to continue to improve the understanding of the spring's source aquifers, particularly for Doongmabulla springs complex. This additional work includes: <ul style="list-style-type: none"> ○ Undertaking detailed hydrogeochemical analysis of groundwater and spring samples from different springs within each spring complex ○ Undertaking isotopic analysis (including noble, radioactive gases and strontium isotopes where isotopic analysis is not sufficient) ○ Examining core samples from new bores to attain a better understanding of hydraulic properties and provide detailed geological mapping ○ Incorporating air-borne electro-magnetic modelling undertaken by Geoscience Australia to improve hydrogeological understanding of the area. • Use of a Dunda Beds bore in the vicinity of the Carmichael River as an early warning drawdown trigger for groundwater drawdown monitoring to the Carmichael River. • Inconsistencies between the plan and the Groundwater Management and Monitoring Program have been addressed.
<p>Did DES address the concerns of Flinders University Scientists?</p>	<p>Additional measures in the GDEMP also address concerns raised by Flinders University scientists that the Permian aquifers should not be ruled out as a Doongmabulla Springs Complex source.</p> <p>These include installing a new bore below the Rewan Formation, in the vicinity of the Doongmabulla Springs Complex, to assist in determining if the Permian aquifers (Colinlea) form a source for the springs.</p>

Adani is also required to review hydrological, hydrochemistry analyses and seismic information as part of its second geological and groundwater remodelling after box cut mining starts, and review seismic information pertaining underground mining impacts (which is scheduled to start in year 10 of the project). Further seismic studies may also need to be undertaken.

Underground mining will not commence until these actions are completed and only if predicted impacts are consistent with approved impacts. Likewise, if the hydrogeological conceptualisation differs from that of the approved project, approval must be sought prior to relevant impact causing activities.

(Below text as per commitment in GDEMP).

Additional measures have also been included in the plan to address concerns raised late last week by scientists from Flinders University that Permian aquifers should not be ruled out as a source to the DSC. These additional requirements included:

- Installation of a bore to below the Rewan in the vicinity of the Doongmabulla Springs Complex, with the Permian Betts Creek Beds (which includes the Bandanna and Colinlea).
- At the second model re-run (7 years after commencement of box cut), Adani will specifically review both the following:
 1. hydrogeological conceptualisation arising from model review and hydrochemistry analysis, consistent with and refined from the first model re-run (2 years after commencement of box cut); and
 2. seismic information pertaining to the impacts of underground mining. This mining activity is not scheduled to commence until year 10.

If this review determines that additional seismic studies are required to determine the source aquifers of the Doongmabulla Springs Complex, these activities will be completed and that information included into revised modelling. Underground mining will not commence until these actions are completed and only if predicted impacts are consistent with approved impacts. Likewise, if the hydrogeological conceptualisation differs from that of the approved

	project, approval must be sought prior to relevant impact causing activities, if predicted impacts also differ from those approved.
Will DES require seismic surveys?	<p>Adani have made a commitment that at the second model re-run (7 years after commencement of box cut), Adani will specifically review:</p> <ol style="list-style-type: none"> 1. seismic information pertaining to the impacts of underground mining. This mining activity is not scheduled to commence until year 10. 2. If this review determines that additional seismic studies are required to determine the source aquifers of the Doongmabulla Springs Complex, these activities will be completed and that information included into revised modelling. Underground mining will not commence until these actions are completed and only if predicted impacts are consistent with approved impacts. Likewise, if the hydrogeological conceptualisation differs from that of the approved project, approval must be sought prior to relevant impact causing activities, if predicted impacts also differ from those approved.
Is the CSIRO/GA advice available online?	Yes the April 2019 advice is on the DoEE website. The June 2019 advice is available on the DES website.
Is the GDEMP available online?	Yes it is available on the Adani and DES websites.
Is the Carmichael Coal Mine environmental authority (EA) available online?	Yes details including Adani's EA requirements, monitoring and reporting for the Carmichael mine, available at https://apps.des.qld.gov.au/env-authorities/pdf/epml01470513.pdf .
What are stage 1 project activities?	<p>Are defined under the Carmichael Coal environmental authority:</p> <p>'project stage 1' means project activities carried out prior to commencement of significant ground disturbance including:</p> <ol style="list-style-type: none"> a) pre-construction surveying and technical assessment including geotechnical, establishment of site security arrangements (including signs, fences, safety barriers, and temporary security personnel facilities) and maintenance of existing roads and tracks; b) installation of facilities for the purpose of environmental monitoring compliance; and c) other works limited to the existing site facilities and access roads.

What are stage 2 project activities?	<p>‘project stage 2’ means project activities, other than activities carried out under project stage 1, leading to the production of coal including:</p> <ul style="list-style-type: none"> a) removal of existing structures, site clearance b) construction of access roads, potable water treatment and sewage treatment plants, new power plants, mine administrative buildings, water storage infrastructure and hardstanding c) removal and stockpiling of overburden and excavation of box cuts for open pit or underground mining d) commencement of dewatering operations.
When can the box cut commence?	<p>The box cut can commence 90 business days after the certified Groundwater Monitoring Management Plan (GMMP) has been submitted to DES for approval. The certified GMMP was submitted for approval on the XXXXXX.</p>
What other measures and requirements are in place for Adani to manage groundwater impacts?	<p>Additional measures and opportunities for the review of groundwater data required by Adani’s EA include:</p> <p>I14 A report of the findings of the GDEMP, including all monitoring results and interpretations, must be prepared annually and made available on request to the administering authority. The report must include:</p> <ul style="list-style-type: none"> a) an assessment of background reference groundwater levels (see condition E9) b) the condition of each GDE compared with previous monitoring results c) the suitability of current groundwater trigger thresholds (as defined in condition E13) d) detail on the effectiveness of avoidance, mitigation and management actions in curtailing adverse impacts on GDE ecosystems e) a description of any adaptive management initiatives implemented f) any offsets required for residual impacts

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Media Q&As – Adani – 13 June 2019

What is the proposal for the Carmichael Coal Mine?

The Carmichael Coal Mine is a proposed thermal coal mine in the north of the Galilee Basin in Central Queensland - approximately 160 km north-west of Clermont. Mining is planned to be conducted by both open-cut and underground methods.

What is the Department of Environment and Science's involvement in the project?

As the environmental regulator, the Department of Environment and Science (DES) approved the environmental authority (EA) for the Carmichael Mine, and is ensuring Adani meets the Queensland Government's stringent conditions to protect the environment and our iconic Great Barrier Reef.

What approvals does Adani already have for the Carmichael Coal Mine?

In May 2014, the Queensland Government's independent Coordinator-General approved Adani's Environmental Impact Statement for the Carmichael Mine and Rail Project, with stringent conditions.

DES approved the mine's EA in February 2016. The EA contains 145 conditions to protect local flora and fauna, groundwater and surface water resources, as well as controls on dust and noise.

The mining leases, estimated to contain 11 billion tonnes of thermal coal, were approved in April 2016 by the Minister for Natural Resources, Mines and Energy.

The Commonwealth Government approved Adani's Black-Throated Finch Management Plan (BTFMP) in December 2018. The Department of Environment and Science approved the BTFMP on 31 May 2019.

The Commonwealth Government approved Adani's Groundwater Dependent Ecosystem Management Plan on 09 April 2019. The Department of Environment and Science approved the GDEMP on 13 June 2019.

A number of other steps have also been completed including secondary approvals for rail, port facilities, power, water, roadworks and an airport.

What environmental approvals were required before Adani can begin mining?

The Queensland Government takes protection of groundwater dependent ecosystems and threatened species seriously.

Under Adani's EA to operate, two environmental management plans needed to be approved before significant mining activities could commence at the Carmichael Mine.

These were the Black-Throated Finch Management Plan (BTFMP) and Groundwater Dependent Ecosystem Management Plan (GDEMP).

Why is the Black-throated finch important?

The Black-throated Finch (southern subspecies) is listed as an endangered species in Queensland and nationally and the mine site is the location of the most significant known population of the Black-throated Finch (southern subspecies) in Australia.

Has the BTFMP been approved?

Yes. The Commonwealth Government approved the BTFMP in December 2018

The Department of Environment and Science approved the BTFMP on 31 May 2019.

The plan's assessment was a rigorous process, informed by the best available science.

DES met regularly with Adani to ensure that the plan was robust and was well-placed to deliver the best outcomes for the protection of the black-throated finch.

It included an independent expert panel review of a previous version of the plan submitted in December 2018.

The additional undertakings that Adani has committed to have strengthened the plan and are important to protect this endangered species.

This included commitments by Adani to:

- Establish enhanced understanding of the black-throated finch in the project area, including undertaking appropriate population studies,
- Establish appropriate monitoring protocols that will allow for an analysis of the black-throated finch population in the project area over time, and
- Manage the Ten Mile Bore area and surrounds in a manner that protects the black-throated finch, including a commitment to a low-grazing regime in that area.
- DES is also satisfied that Adani will engage appropriately qualified ecologists to undertake the company's survey and monitoring work in relation to the Black-throated finch.

What does the GDEMP protect?

The GDEMP will protect groundwater dependent ecosystems in the vicinity of the mine.

Specifically, the GDEMP should identify the source aquifer of the Doongmabulla Springs Complex (as much as such identification is possible) and provide detailed mitigation measures to protect the springs.

The Doongmabulla Springs, spread across four square kilometres in area, are ~~near~~ 8km west of the mine site and are recognised as a nationally significant wetland complex.

The Commonwealth Government obtained an independent scientific review of the GDEMP by CSIRO and Geoscience Australia and approved the plan on 09 April 2019.

Has the Queensland Government approved the GDEMP?

Yes. The Department of Environment and Science approved Adani's GDEMP on June 13.

Like the BTFMP, the GDEMP's assessment was a rigorous process, informed by the best available science. This included CSIRO's and Geoscience Australia's clarification of advice these agencies gave to the Commonwealth Government when it was assessing the plan.

Did Adani identify the source aquifer of the Doongmabulla Springs Complex?

Yes.

In assessing the plan, both Adani and DES took on board advice from CSIRO and Geoscience Australia – the same advice considered by the Commonwealth Government in approving an earlier version of the GDEMP in April this year.

DES sought further clarification and advice from CSIRO and Geoscience Australia, which it received on 7 June 2019.

Based on this advice, DES is satisfied that the GDEMP sufficiently establishes the main source aquifer of the springs as the Clematis Sandstone.

CSIRO and Geoscience Australia also confirmed that some level of uncertainty in geological and groundwater conceptual models always exists.

DES has required additional commitments from Adani to undertake further scientific work over the next two years. This is required to identify any potential contribution from other aquifers and strengthen the GDEMP.

What are the additional commitments in the GDEMP?

Additional commitments for Adani in the approved GDEMP include:

- Further work to improve the understanding of the source aquifers of springs in the locality, particularly the Doongmabulla Springs Complex, including:
 - Undertaking detailed hydrogeochemical analysis of groundwater and spring samples from different springs within each spring complex
 - Undertaking isotopic analysis (including noble, radioactive gases and strontium isotopes where isotopic analysis is not sufficient)
 - Examining core samples from new bores to attain a better understanding of hydraulic properties and provide detailed geological mapping
 - Incorporating air-borne electro-magnetic modelling undertaken by Geoscience Australia to improve hydrogeological understanding of the area.
- Using a bore in the Dunda Beds (also known as the Rewan Formation) as an early warning trigger for groundwater drawdown monitoring in the Carmichael River.

Additional measures in the GDEMP also address concerns raised last week by Flinders University scientists that the Permian aquifers should not be ruled out as a Doongmabulla Springs Complex source.

These include installing a new bore below the Rewan Formation, in the vicinity of the Doongmabulla Springs Complex, to assist in determining if the Permian aquifers (Colinlea) form a source for the springs.

Adani is also required to review hydrological, hydrochemistry analyses and seismic information as part of its second geological and groundwater remodelling after box cut mining starts, and review seismic information pertaining underground mining impacts (which is scheduled to start in year 10 of the project). Further seismic studies may also need to be undertaken.

Underground mining will not commence until these actions are completed and only if predicted impacts are consistent with approved impacts.

Likewise, if the hydrogeological conceptualisation differs from that of the approved project, approval must be sought prior to relevant impact causing activities.

What other conditions in the environmental authority can control impacts from groundwater drawdown?

The Environmental Authority requires a review of the groundwater management and monitoring program against its stated objectives, the adequacy of the monitoring locations, frequencies and groundwater quality trigger levels and the validity of the groundwater monitoring program against the regular model predictions. This review must be provided to DES by 1 July 2020 and every 5 years thereafter.

Reviews of the groundwater model must be undertaken within 2 years of commencement of any mining activities associated with box cut excavation and at least every 5 years thereafter, or at other intervals specified by DES in writing, if the observed groundwater levels and groundwater flow rates to surface water are not consistent with those predicted by the groundwater model.

What can Adani do now the GDEMP is approved?

The GDEMP is the second of the two environmental management plans (the other being the Black-Throated Finch Management Plan, approved on 31 May) that needed to be approved before Adani could begin significant mining activities at its Carmichael mine site.

Both plans are a requirement of Adani's EA.

For details of what constitutes "significant mining activities", refer to Appendix 1 – Definitions of the EA for the Carmichael mine, available at <https://apps.des.qld.gov.au/env-authorities/pdf/epml01470513.pdf>.

What environmental requirements are outstanding for the mine?

There are a number of environmental plans that Adani still has to finalise, under both Queensland and Commonwealth legislation.

However, these do not require approval before Adani can begin mining activities at the site.

Queensland environmental plans to be completed include:

- Receiving Environment Monitoring Program
- Water Management Plan
- Erosion and Sediment Control Plan
- Rehabilitation Monitoring Program
- Topsoil Management Plan
- Waste rock, spoil and rejects Plan
- Groundwater Management and Monitoring Plan

Commonwealth environmental plans to be completed include:

- Great Artesian Basin Springs Research Plan
- Rewan Formation Connectivity Research Plan
- Offset Area Management Plan
- Seismic Survey Management Plan

Adani has reduced its predicted output from the Carmichael mine. Will more approvals be required if the company expands to its original planned output?

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.

Financial surety is based on a mine's plan of operations, which in turn is based on the scale of the mining that is actually occurring. The amount of financial surety required will increase if a mine submits an amended plan of operations for higher output, even if the higher output still falls within that approved in the mine's environmental authority.

While Adani has 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 also considered the maximum potential impacts of the 60Mtpa project, including appropriate management and mitigation measures such as biodiversity offsets.

What financial assurance has Adani provided for the project?

Adani has paid the Queensland Government approximately \$11.6 million in financial assurance to date.

Further financial assurance payments will be calculated and paid as the mine's construction and operation progresses.

Is DES investigating the construction of groundwater bores at the Carmichael Coal Mine?

Yes. DES is continuing its investigation into allegations of EA non-compliance in relation to the construction of groundwater bores at the Carmichael Mine.

The Queensland Government takes environmental protections very seriously and DES is committed to investigating allegations of non-compliance and taking enforcement action, as appropriate.

Do Adani approvals set a precedent for future Galilee Basin mine applications?

No. All mining applications are assessed individually through a rigorous environmental and impact assessment process.

From an environmental approval perspective, the approval (or otherwise) of one mine does not necessarily impact on the approval (or otherwise) of others.

Have approvals been granted for other new coal mines in the Galilee Basin?

In November 2018, the Coordinator-General approved an environmental impact statement for another coal project in the Galilee Basin – the China Stone Coal Project.

This proposal was for a mine directly adjacent and north of the proposed Carmichael Mine.

However, in late-May 2019, the project's proponent – MacMines Austasia – withdrew its application for the mine and the project has lapsed.

(MacMines Austasia is a 100 per cent subsidiary of China's Meijin Energy Group.)

ENDS

Date : 13/06/2019 4:51:21 PM

From : "WELLS Melissa"

To : "ELLWOOD Dean"

Cc : "MCCOSKER Juliana"

Subject : GDEMP Chronology, Q&A and Media Q&A

Attachment : Tabulated Chronology of BTFMP and GDEMP.docx;Q&A Adani 13 June 2019.docx;130619 - Media QAs - Adani.docx;image001.png;image002.png;

Dean,

What I have so far just to keep you updated. These are not quite ready and draft but we will work on tomorrow and finalise.

Melisa.



Melissa Wells
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Chronology of Black-throated Finch Management Plan and Groundwater Dependent Ecosystem Management Plan assessment by DES

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Questions and Answers

Adani Carmichael Coal Mine GDEMP v12a dated 12 June 2019

Likely Question	Response
Did the Adani identify the source of the Doongmabulla Springs Complex?	<p>Based on the best available science and legal opinion, the regulator is satisfied that the GDEMP sufficiently establishes the main source aquifer of the springs as the Clematis Sandstone.</p> <p>To the extent that other lesser sources are plausible but not proven, the regulator has sought and received commitments from Adani to undertake further scientific work as recommended by CSIRO and Geoscience Australia over the next two years to identify any potential contribution from other aquifers.</p> <p>Given the likely inability of science to identify source aquifers definitively, the regulator determined that the Adani had established the source aquifer to the best scientific ability at present.</p> <p>Such an approach is in accordance with the precautionary principle and ensuring that reasonable and practical measures be taken to protect environmental values.</p> <p>This confirmed that some level of uncertainty in geological and groundwater conceptual models always exists and concludes that it is reasonable and plausible that the Clematis Sandstone is the main source aquifer of the Doongmabulla Springs Complex.</p>
When was the GDEMP approved?	<p>DES approved the GDEMP v12a on the 13 June 2019.</p> <p>The Commonwealth approved the GDEMP on the 9 April 2019.</p>
What did the CSIROGA advice say?	<p>DES sought further clarification and advice from CSIRO and Geoscience Australia which it received on 7 June 2019.</p>

	<p>This advice confirmed that there is always some level of uncertainty in geological and groundwater conceptual models and recommended that Adani commit to systematically consider all sources of uncertainty as they pertain to each source aquifer, prior to a model re-run required to be undertaken within 2 years of commencement of mining activities associated with the box cut and at least 5 years thereafter or earlier if groundwater levels or flow rates to surface waters are not consistent with those predicted by the groundwater model.</p>
<p>What additional work did DES require as a result of the CSIRO/GA advice?</p>	<p>Based on the CSIRO/GA advice, DES has required the following additional commitments and scientific work to be undertaken by Adani to strengthen the GDEMP which in summary includes:</p> <ul style="list-style-type: none"> • A commitment to additional work to continue to improve the understanding of the spring's source aquifers, particularly for Doongmabulla springs complex. This additional work includes: <ul style="list-style-type: none"> ○ Undertaking detailed hydrogeochemical analysis of groundwater and spring samples from different springs within each spring complex ○ Undertaking isotopic analysis (including noble, radioactive gases and strontium isotopes where isotopic analysis is not sufficient) ○ Examining core samples from new bores to attain a better understanding of hydraulic properties and provide detailed geological mapping ○ Incorporating air-borne electro-magnetic modelling undertaken by Geoscience Australia to improve hydrogeological understanding of the area. • Use of a Dunda Beds bore in the vicinity of the Carmichael River as an early warning drawdown trigger for groundwater drawdown monitoring to the Carmichael River. • Inconsistencies between the plan and the Groundwater Management and Monitoring Program have been addressed.
<p>Did DES address the concerns of Flinders University Scientists?</p>	<p>Additional measures in the GDEMP also address concerns raised by Flinders University scientists that the Permian aquifers should not be ruled out as a Doongmabulla Springs Complex source.</p> <p>These include installing a new bore below the Rewan Formation, in the vicinity of the Doongmabulla Springs Complex, to assist in determining if the Permian aquifers (Colinlea) form a source for the springs.</p>

Adani is also required to review hydrological, hydrochemistry analyses and seismic information as part of its second geological and groundwater remodelling after box cut mining starts, and review seismic information pertaining underground mining impacts (which is scheduled to start in year 10 of the project). Further seismic studies may also need to be undertaken.

Underground mining will not commence until these actions are completed and only if predicted impacts are consistent with approved impacts. Likewise, if the hydrogeological conceptualisation differs from that of the approved project, approval must be sought prior to relevant impact causing activities.

(Below text as per commitment in GDEMP).

Additional measures have also been included in the plan to address concerns raised late last week by scientists from Flinders University that Permian aquifers should not be ruled out as a source to the DSC. These additional requirements included:

- Installation of a bore to below the Rewan in the vicinity of the Doongmabulla Springs Complex, with the Permian Betts Creek Beds (which includes the Bandanna and Colinlea).
- At the second model re-run (7 years after commencement of box cut), Adani will specifically review both the following:
 1. hydrogeological conceptualisation arising from model review and hydrochemistry analysis, consistent with and refined from the first model re-run (2 years after commencement of box cut); and
 2. seismic information pertaining to the impacts of underground mining. This mining activity is not scheduled to commence until year 10.

If this review determines that additional seismic studies are required to determine the source aquifers of the Doongmabulla Springs Complex, these activities will be completed and that information included into revised modelling. Underground mining will not commence until these actions are completed and only if predicted impacts are consistent with approved impacts. Likewise, if the hydrogeological conceptualisation differs from that of the approved

	project, approval must be sought prior to relevant impact causing activities, if predicted impacts also differ from those approved.
Will DES require seismic surveys?	<p>Adani have made a commitment that at the second model re-run (7 years after commencement of box cut), Adani will specifically review:</p> <ol style="list-style-type: none"> 1. seismic information pertaining to the impacts of underground mining. This mining activity is not scheduled to commence until year 10. 2. If this review determines that additional seismic studies are required to determine the source aquifers of the Doongmabulla Springs Complex, these activities will be completed and that information included into revised modelling. Underground mining will not commence until these actions are completed and only if predicted impacts are consistent with approved impacts. Likewise, if the hydrogeological conceptualisation differs from that of the approved project, approval must be sought prior to relevant impact causing activities, if predicted impacts also differ from those approved.
Is the CSIRO/GA advice available online?	Yes the April 2019 advice is on the DoEE website. The June 2019 advice is available on the DES website.
Is the GDEMP available online?	Yes it is available on the Adani and DES websites.
Is the Carmichael Coal Mine environmental authority (EA) available online?	Yes details including Adani's EA requirements, monitoring and reporting for the Carmichael mine, available at https://apps.des.qld.gov.au/env-authorities/pdf/epml01470513.pdf .
What are stage 1 project activities?	<p>Are defined under the Carmichael Coal environmental authority:</p> <p>'project stage 1' means project activities carried out prior to commencement of significant ground disturbance including:</p> <ol style="list-style-type: none"> a) pre-construction surveying and technical assessment including geotechnical, establishment of site security arrangements (including signs, fences, safety barriers, and temporary security personnel facilities) and maintenance of existing roads and tracks; b) installation of facilities for the purpose of environmental monitoring compliance; and c) other works limited to the existing site facilities and access roads.

What are stage 2 project activities?	<p>‘project stage 2’ means project activities, other than activities carried out under project stage 1, leading to the production of coal including:</p> <ul style="list-style-type: none"> a) removal of existing structures, site clearance b) construction of access roads, potable water treatment and sewage treatment plants, new power plants, mine administrative buildings, water storage infrastructure and hardstanding c) removal and stockpiling of overburden and excavation of box cuts for open pit or underground mining d) commencement of dewatering operations.
When can the box cut commence?	<p>The box cut can commence 90 business days after the certified Groundwater Monitoring Management Plan (GMMP) has been submitted to DES for approval. The certified GMMP was submitted for approval on the XXXXXX.</p>
What other measures and requirements are in place for Adani to manage groundwater impacts?	<p>Additional measures and opportunities for the review of groundwater data required by Adani’s EA include:</p> <p>I14 A report of the findings of the GDEMP, including all monitoring results and interpretations, must be prepared annually and made available on request to the administering authority. The report must include:</p> <ul style="list-style-type: none"> a) an assessment of background reference groundwater levels (see condition E9) b) the condition of each GDE compared with previous monitoring results c) the suitability of current groundwater trigger thresholds (as defined in condition E13) d) detail on the effectiveness of avoidance, mitigation and management actions in curtailing adverse impacts on GDE ecosystems e) a description of any adaptive management initiatives implemented f) any offsets required for residual impacts

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Media Q&As – Adani – 13 June 2019

What is the proposal for the Carmichael Coal Mine?

The Carmichael Coal Mine is a proposed thermal coal mine in the north of the Galilee Basin in Central Queensland - approximately 160 km north-west of Clermont. Mining is planned to be conducted by both open-cut and underground methods.

What is the Department of Environment and Science's involvement in the project?

As the environmental regulator, the Department of Environment and Science (DES) approved the environmental authority (EA) for the Carmichael Mine, and is ensuring Adani meets the Queensland Government's stringent conditions to protect the environment and our iconic Great Barrier Reef.

What approvals does Adani already have for the Carmichael Coal Mine?

In May 2014, the Queensland Government's independent Coordinator-General approved Adani's Environmental Impact Statement for the Carmichael Mine and Rail Project, with stringent conditions.

DES approved the mine's EA in February 2016. The EA contains 145 conditions to protect local flora and fauna, groundwater and surface water resources, as well as controls on dust and noise.

The mining leases, estimated to contain 11 billion tonnes of thermal coal, were approved in April 2016 by the Minister for Natural Resources, Mines and Energy.

The Commonwealth Government approved Adani's Black-Throated Finch Management Plan (BTFMP) in December 2018. The Department of Environment and Science approved the BTFMP on 31 May 2019.

The Commonwealth Government approved Adani's Groundwater Dependent Ecosystem Management Plan on 09 April 2019. The Department of Environment and Science approved the GDEMP on 13 June 2019.

A number of other steps have also been completed including secondary approvals for rail, port facilities, power, water, roadworks and an airport.

What environmental approvals were required before Adani can begin mining?

The Queensland Government takes protection of groundwater dependent ecosystems and threatened species seriously.

Under Adani's EA to operate, two environmental management plans needed to be approved before significant mining activities could commence at the Carmichael Mine.

These were the Black-Throated Finch Management Plan (BTFMP) and Groundwater Dependent Ecosystem Management Plan (GDEMP).

Why is the Black-throated finch important?

The Black-throated Finch (southern subspecies) is listed as an endangered species in Queensland and nationally and the mine site is the location of the most significant known population of the Black-throated Finch (southern subspecies) in Australia.

Has the BTFMP been approved?

Yes. The Commonwealth Government approved the BTFMP in December 2018

The Department of Environment and Science approved the BTFMP on 31 May 2019.

The plan's assessment was a rigorous process, informed by the best available science.

DES met regularly with Adani to ensure that the plan was robust and was well-placed to deliver the best outcomes for the protection of the black-throated finch.

It included an independent expert panel review of a previous version of the plan submitted in December 2018.

The additional undertakings that Adani has committed to have strengthened the plan and are important to protect this endangered species.

This included commitments by Adani to:

- Establish enhanced understanding of the black-throated finch in the project area, including undertaking appropriate population studies,
- Establish appropriate monitoring protocols that will allow for an analysis of the black-throated finch population in the project area over time, and
- Manage the Ten Mile Bore area and surrounds in a manner that protects the black-throated finch, including a commitment to a low-grazing regime in that area.
- DES is also satisfied that Adani will engage appropriately qualified ecologists to undertake the company's survey and monitoring work in relation to the Black-throated finch.

What does the GDEMP protect?

The GDEMP will protect groundwater dependent ecosystems in the vicinity of the mine.

Specifically, the GDEMP should identify the source aquifer of the Doongmabulla Springs Complex (as much as such identification is possible) and provide detailed mitigation measures to protect the springs.

The Doongmabulla Springs, spread across four square kilometres in area, are ~~near~~ 8km west of the mine site and are recognised as a nationally significant wetland complex.

The Commonwealth Government obtained an independent scientific review of the GDEMP by CSIRO and Geoscience Australia and approved the plan on 09 April 2019.

Has the Queensland Government approved the GDEMP?

Yes. The Department of Environment and Science approved Adani's GDEMP on June 13.

Like the BTFMP, the GDEMP's assessment was a rigorous process, informed by the best available science. This included CSIRO's and Geoscience Australia's clarification of advice these agencies gave to the Commonwealth Government when it was assessing the plan.

Did Adani identify the source aquifer of the Doongmabulla Springs Complex?

Yes.

In assessing the plan, both Adani and DES took on board advice from CSIRO and Geoscience Australia – the same advice considered by the Commonwealth Government in approving an earlier version of the GDEMP in April this year.

DES sought further clarification and advice from CSIRO and Geoscience Australia, which it received on 7 June 2019.

Based on this advice, DES is satisfied that the GDEMP sufficiently establishes the main source aquifer of the springs as the Clematis Sandstone.

CSIRO and Geoscience Australia also confirmed that some level of uncertainty in geological and groundwater conceptual models always exists.

DES has required additional commitments from Adani to undertake further scientific work over the next two years. This is required to identify any potential contribution from other aquifers and strengthen the GDEMP.

What are the additional commitments in the GDEMP?

Additional commitments for Adani in the approved GDEMP include:

- Further work to improve the understanding of the source aquifers of springs in the locality, particularly the Doongmabulla Springs Complex, including:
 - Undertaking detailed hydrogeochemical analysis of groundwater and spring samples from different springs within each spring complex
 - Undertaking isotopic analysis (including noble, radioactive gases and strontium isotopes where isotopic analysis is not sufficient)
 - Examining core samples from new bores to attain a better understanding of hydraulic properties and provide detailed geological mapping
 - Incorporating air-borne electro-magnetic modelling undertaken by Geoscience Australia to improve hydrogeological understanding of the area.
- Using a bore in the Dunda Beds (also known as the Rewan Formation) as an early warning trigger for groundwater drawdown monitoring in the Carmichael River.

Additional measures in the GDEMP also address concerns raised last week by Flinders University scientists that the Permian aquifers should not be ruled out as a Doongmabulla Springs Complex source.

These include installing a new bore below the Rewan Formation, in the vicinity of the Doongmabulla Springs Complex, to assist in determining if the Permian aquifers (Colinlea) form a source for the springs.

Adani is also required to review hydrological, hydrochemistry analyses and seismic information as part of its second geological and groundwater remodelling after box cut mining starts, and review seismic information pertaining underground mining impacts (which is scheduled to start in year 10 of the project). Further seismic studies may also need to be undertaken.

Underground mining will not commence until these actions are completed and only if predicted impacts are consistent with approved impacts.

Likewise, if the hydrogeological conceptualisation differs from that of the approved project, approval must be sought prior to relevant impact causing activities.

What other conditions in the environmental authority can control impacts from groundwater drawdown?

The Environmental Authority requires a review of the groundwater management and monitoring program against its stated objectives, the adequacy of the monitoring locations, frequencies and groundwater quality trigger levels and the validity of the groundwater monitoring program against the regular model predictions. This review must be provided to DES by 1 July 2020 and every 5 years thereafter.

Reviews of the groundwater model must be undertaken within 2 years of commencement of any mining activities associated with box cut excavation and at least every 5 years thereafter, or at other intervals specified by DES in writing, if the observed groundwater levels and groundwater flow rates to surface water are not consistent with those predicted by the groundwater model.

What can Adani do now the GDEMP is approved?

The GDEMP is the second of the two environmental management plans (the other being the Black-Throated Finch Management Plan, approved on 31 May) that needed to be approved before Adani could begin significant mining activities at its Carmichael mine site.

Both plans are a requirement of Adani's EA.

For details of what constitutes "significant mining activities", refer to Appendix 1 – Definitions of the EA for the Carmichael mine, available at <https://apps.des.qld.gov.au/env-authorities/pdf/epml01470513.pdf>.

What environmental requirements are outstanding for the mine?

There are a number of environmental plans that Adani still has to finalise, under both Queensland and Commonwealth legislation.

However, these do not require approval before Adani can begin mining activities at the site.

Queensland environmental plans to be completed include:

- Receiving Environment Monitoring Program
- Water Management Plan
- Erosion and Sediment Control Plan
- Rehabilitation Monitoring Program
- Topsoil Management Plan
- Waste rock, spoil and rejects Plan
- Groundwater Management and Monitoring Plan

Commonwealth environmental plans to be completed include:

- Great Artesian Basin Springs Research Plan
- Rewan Formation Connectivity Research Plan
- Offset Area Management Plan
- Seismic Survey Management Plan

Adani has reduced its predicted output from the Carmichael mine. Will more approvals be required if the company expands to its original planned output?

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.

Financial surety is based on a mine's plan of operations, which in turn is based on the scale of the mining that is actually occurring. The amount of financial surety required will increase if a mine submits an amended plan of operations for higher output, even if the higher output still falls within that approved in the mine's environmental authority.

While Adani has 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 also considered the maximum potential impacts of the 60Mtpa project, including appropriate management and mitigation measures such as biodiversity offsets.

What financial assurance has Adani provided for the project?

Adani has paid the Queensland Government approximately \$11.6 million in financial assurance to date.

Further financial assurance payments will be calculated and paid as the mine's construction and operation progresses.

Is DES investigating the construction of groundwater bores at the Carmichael Coal Mine?

Yes. DES is continuing its investigation into allegations of EA non-compliance in relation to the construction of groundwater bores at the Carmichael Mine.

The Queensland Government takes environmental protections very seriously and DES is committed to investigating allegations of non-compliance and taking enforcement action, as appropriate.

Do Adani approvals set a precedent for future Galilee Basin mine applications?

No. All mining applications are assessed individually through a rigorous environmental and impact assessment process.

From an environmental approval perspective, the approval (or otherwise) of one mine does not necessarily impact on the approval (or otherwise) of others.

Have approvals been granted for other new coal mines in the Galilee Basin?

In November 2018, the Coordinator-General approved an environmental impact statement for another coal project in the Galilee Basin – the China Stone Coal Project.

This proposal was for a mine directly adjacent and north of the proposed Carmichael Mine.

However, in late-May 2019, the project's proponent – MacMines Austasia – withdrew its application for the mine and the project has lapsed.

(MacMines Austasia is a 100 per cent subsidiary of China's Meijin Energy Group.)

ENDS

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Date : 13/06/2019 2:07:25 PM
From : "GRANT Andrea"
To : "ELLWOOD Dean" , "MERRICK Jamie"
Subject : Link

<https://www.des.qld.gov.au/mediareleases/2019-06-13-gdemp-approved.html>

Sent from my iPhone

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Date : 13/06/2019 2:24:41 PM

From : "ELLWOOD Dean"

To : "Dean Knudson"

Subject : link to Adani approvals

Attachment : image001.png;image002.png;

<https://www.des.qld.gov.au/mediareleases/2019-06-13-gdemp-approved.html>

regards

dean



Dean Ellwood

Project Executive

Department of Environment and Science

400 George St, Brisbane QLD 4000

GPO Box 2454, Brisbane QLD 4001

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Date : 13/06/2019 2:07:25 PM
From : "GRANT Andrea"
To : "ELLWOOD Dean" , "MERRICK Jamie"
Subject : Link

<https://www.des.qld.gov.au/mediareleases/2019-06-13-gdemp-approved.html>

Sent from my iPhone

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Date : 10/06/2019 4:41:00 PM
From : "WATSON Matthew"
To : "Mackenzie Colahan"
Cc : "Media DES"
Subject : Mackenzie: DES response
Attachment : image001.png;image002.png;

Hi Mackenzie
Please see response below.
Cheers

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

The Department of Environment and Science (DES) continues to work with Adani with a view to making a decision on the company's Groundwater Dependent Ecosystem Management Plan (GDEMP) by 13 June 2019.

The department provided additional requirements to Adani on 7 June following receipt of CSIRO and Geoscience Australia's advice on Adani's Groundwater Dependent Ecosystem Management Plan.

The department continues to work constructively with Adani in accordance with the schedule set out by the Coordinator-General.

ENDS



Matt Watson
Principal Media Officer
Media Services | Corporate Communications
Department of Environment and Science

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GPO Box 2454, Brisbane QLD 4001

If it's a media matter, please include the group email media@des.qld.gov.au
Website www.des.qld.gov.au

Date : 12/06/2019 4:02:03 PM
From : "LEWIS Kieran"
To : "WELLS Melissa"
Cc : "ELLWOOD Dean" , "GRANT Andrea" , "DE JERSEY Timothy"
Subject : Melissa - Media QAs - Adani decisions
Attachment : 190319 - Media QAs - Adani.docx;
Hi Melissa

Here's my start on Q&As for the upcoming Adani decisions.

At our meeting with the DG, Dean, the Min's COS and others today, we were asked address a number of matters in the Q&As, specifically:

- Do the approvals set a precent for other mines in the Galilee Basin?
- How are we protecting groundwater?
- Have we considered scientists submissions?
- What conditions have we imposed over and above what the Commonwealth has imposed?
- Have we identified the source aquifer?

I've addressed some of these in the attached – but any additional information you may have to assist will be appreciated.

Regards

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

Media Q&As – Adani – 13 June 2019

What is the proposal for the Carmichael Coal Mine?

The Carmichael Coal Mine is a proposed thermal coal mine in the north of the Galilee Basin in Central Queensland - approximately 160 km north-west of Clermont. Mining is planned to be conducted by both open-cut and underground methods.

What is the Department of Environment and Science's involvement in the project?

As the environmental regulator, the Department of Environment and Science (DES) approved the environmental authority (EA) for the Carmichael Mine, and is ensuring Adani meets the Queensland Government's stringent conditions to protect the environment and our iconic Great Barrier Reef.

What approvals does Adani already have for the Carmichael Coal Mine?

In May 2014, the Queensland Government's independent Coordinator-General approved Adani's Environmental Impact Statement for the Carmichael Mine and Rail Project, with stringent conditions.

DES approved the mine's EA in February 2016. The EA contains 145 conditions to protect local flora and fauna, groundwater and surface water resources, as well as controls on dust and noise.

The mining leases, estimated to contain 11 billion tonnes of thermal coal, were approved in April 2016 by the Minister for Natural Resources, Mines and Energy.

The Commonwealth Government approved Adani's Black-Throated Finch Management Plan (BTFMP) in December 2018. The Department of Environment and Science approved the BTFMP on 31 May 2019.

The Commonwealth Government approved Adani's Groundwater Dependent Ecosystem Management Plan on 09 April 2019. The Department of Environment and Science approved the GDEMP on 13 June 2019.

A number of other steps have also been completed including secondary approvals for rail, port facilities, power, water, roadworks and an airport.

What environmental approvals were required before Adani can begin mining?

The Queensland Government takes protection of groundwater dependent ecosystems and threatened species seriously.

Under Adani's EA to operate, two environmental management plans needed to be approved before significant mining activities could commence at the Carmichael Mine.

These were the Black-Throated Finch Management Plan (BTFMP) and Groundwater Dependent Ecosystem Management Plan (GDEMP).

Why is the Black-throated finch important?

The Black-throated Finch (southern subspecies) is listed as an endangered species in Queensland and nationally and the mine site is the location of the most significant known population of the Black-throated Finch (southern subspecies) in Australia.

Has the BTFMP been approved?

Yes. The Commonwealth Government approved the BTFMP in December 2018

The Department of Environment and Science approved the BTFMP on 31 May 2019.

The plan's assessment was a rigorous process, informed by the best available science.

DES met regularly with Adani to ensure that the plan was robust and was well-placed to deliver the best outcomes for the protection of the black-throated finch.

It included an independent expert panel review of a previous version of the plan submitted in December 2018.

The additional undertakings that Adani has committed to have strengthened the plan and are important to protect this endangered species.

This included commitments by Adani to:

- Establish enhanced understanding of the black-throated finch in the project area, including undertaking appropriate population studies,
- Establish appropriate monitoring protocols that will allow for an analysis of the black-throated finch population in the project area over time, and
- Manage the Ten Mile Bore area and surrounds in a manner that protects the black-throated finch, including a commitment to a low-grazing regime in that area.
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The GDEMP will protect groundwater dependent ecosystems in the vicinity of the mine.

Specifically, the GDEMP should identify the source aquifer of the Doongmabulla Springs Complex (as much as such identification is possible) and provide detailed mitigation measures to protect the springs.

The Doongmabulla Springs, spread across four square kilometres in area, are near to the mine site and are recognised as a nationally significant wetland complex.

The Commonwealth Government obtained an independent scientific review of the GDEMP by CSIRO and Geoscience Australia and approved the plan on 09 April 2019.

Has the Queensland Government approved the GDEMP?

Yes. The Department of Environment and Science approved Adani's GDEMP on June 13.

Like the BTFMP, the GDEMP's assessment was a rigorous process, informed by the best available science. This included CSIRO's and Geoscience Australia's clarification of advice these agencies gave to the Commonwealth Government when it was assessing the plan.

As well, a number of private citizens, academics, environmental entities and others provided their submissions to the department.

DES received Adani's final version of its GDEMP on 10 June 2019. In this version, Adani committed to strengthen its plan, with additional undertakings including:

- XXXX
- XXXX
- XXXX
- XXXX
- XXXX
- XXXX

What environmental requirements are outstanding for the mine?

There are a number of environmental plans that Adani still has to finalise, under both Queensland and Commonwealth legislation.

However, these do not require approval before Adani can begin mining activities at the site.

Queensland environmental plans to be completed include:

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(MacMines Austasia is a 100 per cent subsidiary of China's Meijin Energy Group.)

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Date : 12/06/2019 4:02:03 PM
From : "LEWIS Kieran"
To : "WELLS Melissa"
Cc : "ELLWOOD Dean" , "GRANT Andrea" , "DE JERSEY Timothy"
Subject : Melissa - Media QAs - Adani decisions
Attachment : 190319 - Media QAs - Adani.docx;
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Regards

Kieran Lewis
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The Carmichael Coal Mine is a proposed thermal coal mine in the north of the Galilee Basin in Central Queensland - approximately 160 km north-west of Clermont. Mining is planned to be conducted by both open-cut and underground methods.

What is the Department of Environment and Science's involvement in the project?

As the environmental regulator, the Department of Environment and Science (DES) approved the environmental authority (EA) for the Carmichael Mine, and is ensuring Adani meets the Queensland Government's stringent conditions to protect the environment and our iconic Great Barrier Reef.

What approvals does Adani already have for the Carmichael Coal Mine?

In May 2014, the Queensland Government's independent Coordinator-General approved Adani's Environmental Impact Statement for the Carmichael Mine and Rail Project, with stringent conditions.

DES approved the mine's EA in February 2016. The EA contains 145 conditions to protect local flora and fauna, groundwater and surface water resources, as well as controls on dust and noise.

The mining leases, estimated to contain 11 billion tonnes of thermal coal, were approved in April 2016 by the Minister for Natural Resources, Mines and Energy.

The Commonwealth Government approved Adani's Black-Throated Finch Management Plan (BTFMP) in December 2018. The Department of Environment and Science approved the BTFMP on 31 May 2019.

The Commonwealth Government approved Adani's Groundwater Dependent Ecosystem Management Plan on 09 April 2019. The Department of Environment and Science approved the GDEMP on 13 June 2019.

A number of other steps have also been completed including secondary approvals for rail, port facilities, power, water, roadworks and an airport.

What environmental approvals were required before Adani can begin mining?

The Queensland Government takes protection of groundwater dependent ecosystems and threatened species seriously.

Under Adani's EA to operate, two environmental management plans needed to be approved before significant mining activities could commence at the Carmichael Mine.

These were the Black-Throated Finch Management Plan (BTFMP) and Groundwater Dependent Ecosystem Management Plan (GDEMP).

Why is the Black-throated finch important?

The Black-throated Finch (southern subspecies) is listed as an endangered species in Queensland and nationally and the mine site is the location of the most significant known population of the Black-throated Finch (southern subspecies) in Australia.

Has the BTFMP been approved?

Yes. The Commonwealth Government approved the BTFMP in December 2018

The Department of Environment and Science approved the BTFMP on 31 May 2019.

The plan's assessment was a rigorous process, informed by the best available science.

DES met regularly with Adani to ensure that the plan was robust and was well-placed to deliver the best outcomes for the protection of the black-throated finch.

It included an independent expert panel review of a previous version of the plan submitted in December 2018.

The additional undertakings that Adani has committed to have strengthened the plan and are important to protect this endangered species.

This included commitments by Adani to:

- Establish enhanced understanding of the black-throated finch in the project area, including undertaking appropriate population studies,
- Establish appropriate monitoring protocols that will allow for an analysis of the black-throated finch population in the project area over time, and
- Manage the Ten Mile Bore area and surrounds in a manner that protects the black-throated finch, including a commitment to a low-grazing regime in that area.
- DES is also satisfied that Adani will engage appropriately qualified ecologists to undertake the company's survey and monitoring work in relation to the Black-throated finch.

What does the GDEMP protect?

The GDEMP will protect groundwater dependent ecosystems in the vicinity of the mine.

Specifically, the GDEMP should identify the source aquifer of the Doongmabulla Springs Complex (as much as such identification is possible) and provide detailed mitigation measures to protect the springs.

The Doongmabulla Springs, spread across four square kilometres in area, are near to the mine site and are recognised as a nationally significant wetland complex.

The Commonwealth Government obtained an independent scientific review of the GDEMP by CSIRO and Geoscience Australia and approved the plan on 09 April 2019.

Has the Queensland Government approved the GDEMP?

Yes. The Department of Environment and Science approved Adani's GDEMP on June 13.

Like the BTFMP, the GDEMP's assessment was a rigorous process, informed by the best available science. This included CSIRO's and Geoscience Australia's clarification of advice these agencies gave to the Commonwealth Government when it was assessing the plan.

As well, a number of private citizens, academics, environmental entities and others provided their submissions to the department.

DES received Adani's final version of its GDEMP on 10 June 2019. In this version, Adani committed to strengthen its plan, with additional undertakings including:

- XXXX
- XXXX
- XXXX
- XXXX
- XXXX
- XXXX

What environmental requirements are outstanding for the mine?

There are a number of environmental plans that Adani still has to finalise, under both Queensland and Commonwealth legislation.

However, these do not require approval before Adani can begin mining activities at the site.

Queensland environmental plans to be completed include:

- Receiving Environment Monitoring Program
- Water Management Plan
- Erosion and Sediment Control Plan
- Rehabilitation Monitoring Program
- Topsoil Management Plan
- Waste rock, spoil and rejects Plan
- Groundwater Management and Monitoring Plan

Commonwealth environmental plans to be completed include:

- Great Artesian Basin Springs Research Plan
- Rewan Formation Connectivity Research Plan
- Offset Area Management Plan
- Seismic Survey Management Plan

Adani has reduced its predicted output from the Carmichael mine. Will more approvals be required if the company expands to its original planned output?

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.

Financial surety is based on a mine's plan of operations, which in turn is based on the scale of the mining that is actually occurring. The amount of financial surety required will increase if a mine submits an amended plan of operations for higher output, even if the higher output still falls within that approved in the mine's environmental authority.

While Adani has 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 also considered the maximum potential impacts of the 60Mtpa project, including appropriate management and mitigation measures such as biodiversity offsets.

What financial assurance has Adani provided for the project?

Adani has paid the Queensland Government approximately \$11.6 million in financial assurance to date.

Further financial assurance payments will be calculated and paid as the mine's construction and operation progresses.

Is DES investigating the construction of groundwater bores at the Carmichael Coal Mine?

Yes. DES is continuing its investigation into allegations of EA non-compliance in relation to the construction of groundwater bores at the Carmichael Mine.

The Queensland Government takes environmental protections very seriously and DES is committed to investigating allegations of non-compliance and taking enforcement action, as appropriate.

Do Adani approvals set a precedent for future Galilee Basin mine applications?

No. All mining applications are assessed individually through a rigorous environmental and impact assessment process.

From an environmental approval perspective, the approval (or otherwise) of one mine does not necessarily impact on the approval (or otherwise) of others.

Have approvals been granted for other new coal mines in the Galilee Basin?

In November 2018, the Coordinator-General approved an environmental impact statement for another coal project in the Galilee Basin – the China Stone Coal Project.

This proposal was for a mine directly adjacent and north of the proposed Carmichael Mine.

However, in late-May 2019, the project's proponent – MacMines Austasia – withdrew its application for the mine and the project has lapsed.

(MacMines Austasia is a 100 per cent subsidiary of China's Meijin Energy Group.)

ENDS

Published on DES Disclosure Log
RTI Act 2009

Date : 20/06/2019 9:23:49 AM

From : "LOWE Trinity"

To : "MONKIVITCH James"

Cc : "Corro DES ESR DDG" , "WELLS Melissa" , "LOVEDAY Chris" , "ELLWOOD Dean"

Subject : RE: Adani call update

Attachment : image001.png;image002.png;image004.png;image007.png;image009.png;

Hi James – Happy for this to now be scaled back and for your spreadsheet to be sent through so we can send any standard responses that may be required. We are still avoiding sending any enquires or requests especially just complaints or comments to the Emerald office so if CRT continue to receive these, can I please ask that they be sent to ESR Corro DESESRDDG.Corro@des.qld.gov.au so we can coordinate a standard response.

A big thank you to yourself and your team for all your help!

Cheers

Trin



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

From: MONKIVITCH James <James.Monkivitch@des.qld.gov.au>

Sent: Tuesday, 18 June 2019 8:44 AM

To: LOWE Trinity

Subject: RE: Adani call update

Hey Trin,

There are a variety of entries – some no action (the majority) just want their significant concerns on the record for the Minister, many also wanted copies of BTFMP or/and GDEMP or related independent reviews, some qs, request for call directed to compliance centre, some to public register, allegations of non-compliance directed to compliance.

CRT has not taken any further actions.

Cheers



James Monkivitch
Manager
Community Response
Operational Support | Regulatory Support
Department of Environment and Science

P 07 3330 5699
Level 9 – 400 George Street BRISBANE QLD 4000
GPO Box 2454, BRISBANE QLD 4001

From: LOWE Trinity <Trinity.Lowe@des.qld.gov.au>

Sent: Tuesday, 18 June 2019 8:06 AM

To: MONKIVITCH James

Subject: FW: Adani call update

Morning James, The spreadsheet you are referring to, do all of the contacts require some sort of response, letter/call back?

Thanks & cheers

Trin

From: MONKIVITCH James <James.Monkivitch@des.qld.gov.au>

Sent: Monday, 17 June 2019 4:45 PM

To: LOWE Trinity

Cc: LOVEDAY Chris

Subject: RE: Adani call update

Dear Trin,

One call today, Nil over week end.

Would you please consider closing off our role here?

When that is confirmed I will pass over the spreadsheet with all the contacts.

Cheers



James Monkivitch
Manager
Community Response
Operational Support I Regulatory Support
Department of Environment and Science

P 07 3330 5699
Level 9 – 400 George Street BRISBANE QLD 4000
GPO Box 2454, BRISBANE QLD 4001

From: MONKIVITCH James
Sent: Friday, 14 June 2019 4:34 PM
To: LOWE Trinity
Cc: LOVEDAY Chris
Subject: Adani call update

Dear Trin,
Total calls so far 107.

Only 3 today.

Let me know if you want to wind back the arrangements next week.
After hours will still be covered this week end.

Cheers



James Monkivitch
Manager
Community Response
Operational Support I Regulatory Support
Department of Environment and Science

P 07 3330 5699
Level 9 – 400 George Street BRISBANE QLD 4000
GPO Box 2454, BRISBANE QLD 4001

Date : 20/06/2019 9:23:49 AM

From : "LOWE Trinity"

To : "MONKIVITCH James"

Cc : "Corro DES ESR DDG" , "WELLS Melissa" , "LOVEDAY Chris" , "ELLWOOD Dean"

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CRT has not taken any further actions.

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James Monkivitch
Manager
Community Response
Operational Support | Regulatory Support
Department of Environment and Science

P 07 3330 5699
Level 9 – 400 George Street BRISBANE QLD 4000
GPO Box 2454, BRISBANE QLD 4001

Date : 13/06/2019 3:39:32 PM

From : "LOWE Trinity"

To : "MONKIVITCH James" , "MERRICK Jamie" , "TRACEY Alena" , "Hannah Jackson" , "DLO DES"

Cc : "DES Director General" , "ESR" , "ELLWOOD Dean" , "BROWN Glen" , "LOVEDAY Chris"

Subject : RE: Adani Calls

Attachment : Adani_Script CRT 13 June 2019 MW.docx;image001.png;image003.png;image004.png;

Afternoon

Please see the update script as at 3:30pm today.

Let me know if you need anything further

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

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:

- DES has now approved (13 June 2019) the Groundwater Dependant Ecosystem Management Plan (GDEMP). The GDEMP is the second of the two environmental management plans (the other being the Black-Throated Finch Management Plan, approved on 31 May) that needed to be approved before Adani could begin significant mining activities at its Carmichael mine site

Black-throated Finch Management Plan (BTFMP)

- The Commonwealth approved a BTFMP for the project in December 2018.
- On 31 May 2019 DES approved a later, updated version of that plan (version 8a May 2019).
- As part of their Environmental Authority, Adani is required to publish a copy of the DES approved BTFMP on their website.
- You can access a copy of the DES approved BTFMP here:
- https://www.adaniaustralia.com/-/media/Project/Australia/Our-Projects--Businesses/mine-environment-reporting/BTF-Management-Plan_v8a-FINAL-28May2019.pdf?la=en&hash=D4C8EBBFB222B5FF28A61321F1A2078B
- Please note that the Adani web site also has the Commonwealth approved BTFMP (Dec 2018) – callers should be advised about the two versions.
- 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)

- **On 13 June 2019 DES approved the GDEMP.**
- **The Commonwealth approved the GDEMP on the 9 April 2019.**
- In assessing the plan, both Adani and DES took on board independent scientific advice from CSIRO and Geoscience Australia provided in April this year.
- DES sought further clarification and advice from CSIRO and Geoscience Australia, which it received on 7 June 2019.
- Based on this advice, DES is satisfied that the GDEMP sufficiently establishes the main source aquifer of the springs as the Clematis Sandstone. A requirement of Adani's environmental approval.

- CSIRO and Geoscience Australia also confirmed that some level of uncertainty in geological and groundwater conceptual models always exists. Therefore, DES has required additional commitments from Adani to undertake further scientific work over the next two years. This is required to identify any potential contribution from other aquifers and strengthen the GDEMP.

Additional significant commitments in the approved GDEMP include:

- Further work to improve the understanding of the source aquifers of springs in the locality, particularly the Doongmabulla Springs Complex, including:
 - Undertaking detailed hydrogeochemical analysis of groundwater and spring samples from different springs within each spring complex
 - Undertaking isotopic analysis (including noble, radioactive gases and strontium isotopes where isotopic analysis is not sufficient)
 - Examining core samples from new bores to attain a better understanding of hydraulic properties and provide detailed geological mapping
 - Incorporating air-borne electro-magnetic modelling undertaken by Geoscience Australia to improve hydrogeological understanding of the area.
- Using a bore in the Dunda Beds (also known as the Rewan Formation) as an early warning trigger for groundwater drawdown monitoring in the Carmichael River.
- Additional measures in the GDEMP also address concerns raised by Flinders University scientists that the Permian aquifers should not be ruled out as a Doongmabulla Springs Complex source.
- These include installing a new bore below the Rewan Formation, in the vicinity of the Doongmabulla Springs Complex, to assist in determining if the Permian aquifers (Colinlea) form a source for the springs.
- Adani is also required to review hydrological, hydrochemistry analyses and seismic information as part of its second geological and groundwater remodelling after box cut mining starts, and review seismic information pertaining underground mining impacts (which is scheduled to start in year 10 of the project). Further seismic studies may also need to be undertaken.
- Underground mining will not commence until these actions are completed and only if predicted impacts are consistent with approved impacts. Likewise, if the hydrogeological conceptualisation differs from that of the approved project, approval must be sought prior to relevant impact causing activities.
- **Both plans are a requirement of Adani's EA. A copy of the GDEMP and also the CSIRO/GA advice is also available on the department's website. The BTFMP is available on Adani's website.**

State Approval

- The Queensland Coordinator-General approved the Environmental Impact Statement (EIS) 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 : 11/06/2019 3:16:35 PM
From : "ELLWOOD Dean"
To : "LEWIS Kieran"
Cc : "Media DES" , "LAWRENCE Rob" , "LOWE Trinity"
Subject : RE: Dean - for approval - further Brisbane Times questions about Adani GDEMP - Dr Peter Turner report

That's fine

From: LEWIS Kieran <Kieran.Lewis@des.qld.gov.au>
Sent: Tuesday, 11 June 2019 3:15 PM
To: ELLWOOD Dean
Cc: Media DES; LAWRENCE Rob; LOWE Trinity
Subject: Dean - for approval - further Brisbane Times questions about Adani GDEMP - Dr Peter Turner report

Hi Dean

For your approval, please.

Attached is a suggested response to Brisbane Times's Tony Moore, who has asked a number of questions about a report by a Dr Peter Taylor on Adani's groundwater and has DES received the report and any comment we would make on it.

It is not possible to have our Emerald business centre research this for us at this time, so we're suggesting the very general response, as attached.

The Brisbane Times' deadline for this is COB today.

Regards

Kieran Lewis
Media Services
Department of Environment and Science
media@des.qld.gov.au

Level 31 | 400 George Street | Brisbane
Tel 07 3339 5887
www.des.qld.gov.au
Section 4(6) Personal information

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

From: Anthony Moore <tony.moore@brisbanetimes.com.au>
Sent: Monday, 10 June 2019 3:29 PM
To: DE JERSEY Timothy
Subject: Re: Carmichael Mine groundwater management plan questions from Brisbane Times

Tim

Are you guys aware of a report written by a geologist named Dr Peter Turner - who raised concerns in 2015-17 about a mine in Greater Sydney) who has just told me - and possibly other reporters - that he believes the Carmichael mine's vertical movement of water - ie the mine's "drainage zone" - is similar to Greater Sydney's Dendrobium mine and greater in impact that the CSIO has taken into account.

Dr Turner said he has submitted his report last week to Minister Leeanne Enoch.
If so, any comments on his report which in short summary say...

"In particular, the calculations suggest the drainage zone, a zone of connected fractures through which water drains relatively freely, will reach the surface over all of the underground (longwall) extractions proposed for the mine. This is in contrast to up to 42% suggested as a worst case in SEIS review advice to Adani and the Qld Land Court.

"In contrast to the review estimate, the SEIS groundwater impact assessment assumes a fixed drainage zone height of 150 metres, which would reach the surface over only 20% of the underground extractions. Our calculations suggest it will reach the surface for 100% of the proposed underground extractions.

"The SEIS groundwater assessment was recently reviewed by CSIRO and Geoscience Australia, however their review doesn't consider the possibility that the drainage zone will reach the surface. Nor does it consider the double seam extractions, where extractions in one seam are below extractions in another."

Question: Any view by the DES of Dr Turner's concerns?

He is a geologist and seismic chemist who works for the National Parks Association of New South Wales.
He is an independent consultant to the minerals industry.

Published on DES Disclosure Log
RTI Act 2009

Date : 13/06/2019 1:27:58 PM
From : "GRANT Andrea"
To : "MERRICK Jamie" , "LEWIS Kieran" , "ELLWOOD Dean"
Cc : "LOWE Trinity" , "WELLS Melissa" , "DE JERSEY Timothy" , "Media DES"
Subject : RE: Dean - for approval - media statement re GDEMP
Attachment : 130619 - MR - GDEMP approved FINAL.docx;
[Final version attached](#)

From: MERRICK Jamie <Jamie.Merrick@des.qld.gov.au>
Sent: Thursday, 13 June 2019 1:21 PM
To: LEWIS Kieran; ELLWOOD Dean
Cc: LOWE Trinity; GRANT Andrea; WELLS Melissa; DE JERSEY Timothy; Media DES
Subject: RE: Dean - for approval - media statement re GDEMP

From: MERRICK Jamie
Sent: Thursday, 13 June 2019 1:21 PM
To: LEWIS Kieran; ELLWOOD Dean
Cc: LOWE Trinity; GRANT Andrea; WELLS Melissa; DE JERSEY Timothy; Media DES
Subject: RE: Dean - for approval - media statement re GDEMP

[With minor edits for consistency.](#)

[Jamie](#)

From: LEWIS Kieran <Kieran.Lewis@des.qld.gov.au>
Sent: Thursday, 13 June 2019 12:15 PM
To: ELLWOOD Dean
Cc: MERRICK Jamie; LOWE Trinity; GRANT Andrea; WELLS Melissa; DE JERSEY Timothy; Media DES
Subject: RE: Dean - for approval - media statement re GDEMP

[Dean](#)

[Apologies, you can use this version. It now names the actual source aquifer, as highlighted.](#)

[Kieran](#)

From: Media DES
Sent: Thursday, 13 June 2019 12:11 PM
To: ELLWOOD Dean
Cc: MERRICK Jamie; LOWE Trinity; GRANT Andrea; WELLS Melissa; DE JERSEY Timothy
Subject: Dean - for approval - media statement re GDEMP

Hi Dean

For your approval.

Melissa Wells has approved the attached statement re the GDEMP.

Regards

Kieran Lewis
Media Services
Department of Environment and Science
media@des.qld.gov.au

Level 31 | 400 George Street | Brisbane
Tel 07 3339 5887 (6) Personal information
www.des.qld.gov.au

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

Draft media release

Deadline:	Briefing officer: Juliana McCosker
Media Services contact: Kieran Lewis	Phone: 4987 9356
Phone: 3339 5887 (4 (6) Personal information)	DDG:
Approved: ED Melissa Wells	Phone:
Geographical area/s of interest:	

GDEMP approved

The Department of Environment and Science (DES) approved Adani's Groundwater Dependent Ecosystem Management Plan (GDEMP) today.

Adani submitted its most recent version of the plan, addressing the department's feedback, yesterday.

The GDEMP's assessment has been rigorous and based on the best available science. DES and Adani have met regularly to ensure the plan is robust and provides the maximum environmental protection.

In assessing the plan, both Adani and DES took on board advice from CSIRO and Geoscience Australia – the same advice considered by the Commonwealth Government in approving an earlier version of the GDEMP in April this year.

DES sought further clarification and advice from CSIRO and Geoscience Australia, which it received on 7 June 2019.

Based on this advice, DES is satisfied that the GDEMP sufficiently establishes the main source aquifer of the springs as the Clematis Sandstone.

CSIRO and Geoscience Australia also confirmed that some level of uncertainty in geological and groundwater conceptual models always exists.

DES has required additional commitments from Adani to undertake further scientific work over the next two years. This is required to identify any potential contribution from other aquifers and strengthen the GDEMP.

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These include installing a new bore below the Rewan Formation, in the vicinity of the Doongmabulla Springs Complex, to assist in determining if the Permian aquifers (Colinlea) form a source for the springs.

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Underground mining will not commence until these actions are completed and only if predicted impacts are consistent with approved impacts. Likewise, if the hydrogeological conceptualisation differs from that of the approved project, approval must be sought prior to relevant impact causing activities.

The GDEMP is the second of the two environmental management plans (the other being the Black-Throated Finch Management Plan, approved on 31 May) that needed to be approved before Adani could begin significant mining activities at its Carmichael mine site.

Both plans are a requirement of Adani's EA.

For details of what constitutes "significant mining activities", refer to Appendix 1 – Definitions of the EA for the Carmichael mine, available at <https://apps.des.qld.gov.au/env-authorities/pdf/epml01470513.pdf>.

ENDS

Date : 13/06/2019 1:21:05 PM

From : "MERRICK Jamie"

To : "LEWIS Kieran" , "ELLWOOD Dean"

Cc : "LOWE Trinity" , "GRANT Andrea" , "WELLS Melissa" , "DE JERSEY Timothy" , "Media DES"

Subject : RE: Dean - for approval - media statement re GDEMP

Attachment : 130619 - MR - GDEMP approved (004).docx;

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Cc: LOWE Trinity; GRANT Andrea; WELLS Melissa; DE JERSEY Timothy; Media DES

Subject: RE: Dean - for approval - media statement re GDEMP

With minor edits for consistency.

Jamie

From: LEWIS Kieran <Kieran.Lewis@des.qld.gov.au>

Sent: Thursday, 13 June 2019 12:15 PM

To: ELLWOOD Dean

Cc: MERRICK Jamie; LOWE Trinity; GRANT Andrea; WELLS Melissa; DE JERSEY Timothy; Media DES

Subject: RE: Dean - for approval - media statement re GDEMP

Dean

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Kieran

From: Media DES

Sent: Thursday, 13 June 2019 12:11 PM

To: ELLWOOD Dean

Cc: MERRICK Jamie; LOWE Trinity; GRANT Andrea; WELLS Melissa; DE JERSEY Timothy

Subject: Dean - for approval - media statement re GDEMP

Hi Dean

For your approval.

Melissa Wells has approved the attached statement re the GDEMP.

Regards

Kieran Lewis

Media Services

Department of Environment and Science

media@des.qld.gov.au

Level 31 | 400 George Street | Brisbane

Tel 07 3339 5884 (6) Personal information

www.des.qld.gov.au

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

Draft media release

Deadline:	Briefing officer: Juliana McCosker
Media Services contact: Kieran Lewis	Phone: 4987 9356
Phone: 3339 58874 (6) Personal information	DDG:
Approved: ED Melissa Wells	Phone:
Geographical area/s of interest:	

GDEMP approved

The Department of Environment and Science (DES) approved Adani's Groundwater Dependent Ecosystem Management Plan (GDEMP) today.

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In assessing the plan, both Adani and DES took on board advice from CSIRO and Geoscience Australia – the same advice considered by the Commonwealth Government in approving an earlier version of the GDEMP in April this year.

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CSIRO and Geoscience Australia also ~~The advice further~~ confirmed that some level of uncertainty in geological and groundwater conceptual models always exists.

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ENDS

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

Date : 13/06/2019 1:20:46 PM

From : "MERRICK Jamie"

To : "LEWIS Kieran" , "ELLWOOD Dean"

Cc : "LOWE Trinity" , "GRANT Andrea" , "WELLS Melissa" , "DE JERSEY Timothy" , "Media DES"

Subject : RE: Dean - for approval - media statement re GDEMP

With minor edits for consistency.

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Date : 13/06/2019 12:14:58 PM

From : "LEWIS Kieran"

To : "ELLWOOD Dean"

Cc : "MERRICK Jamie" , "LOWE Trinity" , "GRANT Andrea" , "WELLS Melissa" , "DE JERSEY Timothy" , "Media DES"

Subject : RE: Dean - for approval - media statement re GDEMP

Attachment : 130619 - MR - GDEMP approved.docx;

[Dean](#)

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[Kieran](#)

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Draft media release

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Media Services contact: Kieran Lewis	Phone: 4987 9356
Phone: 3339 5887 (6) Personal information	DDG:
Approved: ED Melissa Wells	Phone:
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ENDS

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

Date : 13/06/2019 1:27:58 PM
From : "GRANT Andrea"
To : "MERRICK Jamie" , "LEWIS Kieran" , "ELLWOOD Dean"
Cc : "LOWE Trinity" , "WELLS Melissa" , "DE JERSEY Timothy" , "Media DES"
Subject : RE: Dean - for approval - media statement re GDEMP
Attachment : 130619 - MR - GDEMP approved FINAL.docx;
[Final version attached](#)

From: MERRICK Jamie <Jamie.Merrick@des.qld.gov.au>
Sent: Thursday, 13 June 2019 1:21 PM
To: LEWIS Kieran; ELLWOOD Dean
Cc: LOWE Trinity; GRANT Andrea; WELLS Melissa; DE JERSEY Timothy; Media DES
Subject: RE: Dean - for approval - media statement re GDEMP

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[Dean](#)

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[Kieran](#)

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Draft media release

Deadline:	Briefing officer: Juliana McCosker
Media Services contact: Kieran Lewis	Phone: 4987 9356
Phone: 3339 58874 (6) Personal information	DDG:
Approved: ED Melissa Wells	Phone:
Geographical area/s of interest:	

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ENDS

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Subject : RE: Dean - for approval - media statement re GDEMP

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ENDS

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Date : 12/06/2019 11:32:05 AM
From : "ELLWOOD Dean"
To : "LEWIS Kieran"
Cc : "Media DES" , "LOWE Trinity" , "LAWRENCE Rob" , "WELLS Melissa"
Subject : RE: Dean - for approval - response to Courier Mail re Adani GDEMP

That's fine

From: LEWIS Kieran <Kieran.Lewis@des.qld.gov.au>
Sent: Wednesday, 12 June 2019 11:31 AM
To: ELLWOOD Dean
Cc: Media DES; LOWE Trinity; LAWRENCE Rob; WELLS Melissa
Subject: Dean - for approval - response to Courier Mail re Adani GDEMP

Hi Dean

For your approval, please.

Courier Mail has a 3pm deadline for a response to its latest Adani GDEMP questions. These are not questions we can ask the Emerald business unit to research at this time, so suggesting our standard generic response, as below:

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

DES received the latest version of Adani's Groundwater Dependent Ecosystem Management Plan (GDEMP) on Monday .

The department continues to work with Adani with a view to making a decision on the company's GDEMP by 13 June 2019.

ENDS

Regards

Kieran Lewis
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From: Cameron, Domanii <domanii.cameron@news.com.au>
Sent: Wednesday, 12 June 2019 10:06 AM
To: Media DES
Subject: Courier Mail - Adani inquiry

Hi guys,

I have a few quick questions about Adani.

1. Since asking for more information from Adani last Friday, has the mine been asked for further information on its groundwater management plan since then?
2. What is the status of the groundwater management plan? Is it currently back with Adani for further clarification or is DES assessing it?
3. Is a decision still on track for tomorrow?
4. Any further comments you wish to add.

My deadline is 3pm today.

Thank you,

DOMANII CAMERON
Journalist

sch4p4(6). Personal information 00118616826
E domanii.cameron@news.com.au W www.couriermail.com.au

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sch4p4(6) Personal information
ben.smee@theguardian.com

twitter: [@bensmee](https://twitter.com/bensmee)

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Date : 21/06/2019 1:29:47 PM

From : "TRACEY Ben"

To : "ELLWOOD Dean"

Cc : "Media DES", "ESR", "LOWE Trinity", "LAWRENCE Rob"

Subject : RE: Dean - media response for approval - Adani approvals - The Guardian - deadline 4pm

Attachment : image001.png;image003.png;image004.png;

Hi Dean,

No problem, I'll call the DLO and resubmit now.

Ben



Ben Tracey
A/Principal Media Officer
Media Services | Corporate Services
Department of Environment and Science

P 07 3339 5845
media@des.qld.gov.au
400 George St, Brisbane QLD 4000
GPO Box 2454, Brisbane QLD 4001

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

Sent: Friday, 21 June 2019 1:20 PM

To: TRACEY Ben

Cc: Media DES; ESR; LOWE Trinity; LAWRENCE Rob

Subject: RE: Dean - media response for approval - Adani approvals - The Guardian - deadline 4pm

Can I please make an amendment:

After this sentence:

Based on this advice, DES is satisfied that the GDEMP sufficiently establishes the main source aquifer of the springs as the Clematis Sandstone.

Pease add:

By scientifically identifying this as the source aquifer, Adani has fulfilled a long standing requirement by DES for its approval.

From: TRACEY Ben <Ben.Tracey@des.qld.gov.au>

Sent: Friday, 21 June 2019 11:09 AM

To: ELLWOOD Dean

Cc: Media DES; TRACEY Ben; ESR; LOWE Trinity; LAWRENCE Rob

Subject: Dean - media response for approval - Adani approvals - The Guardian - deadline 4pm

Hi Dean,

Please see below a new media query from The Guardian.

Please see our draft media response for your approval. These are mainly words taken from our final media release with a few tweaks here and there to address his questions.

This has been approved by Melissa.

The MO would like to see this by midday if possible as its due back to the media by 4pm.

Thanks

Ben



Ben Tracey
A/Principal Media Officer
Media Services | Corporate Services
Department of Environment and Science

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media@des.qld.gov.au
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GPO Box 2454, Brisbane QLD 4001

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GPO Box 2454, Brisbane QLD 4001

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Sent: Friday, 21 June 2019 1:20 PM

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To: ELLWOOD Dean

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Ben



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Media Services | Corporate Services
Department of Environment and Science

P 07 3339 5845
media@des.qld.gov.au
400 George St, Brisbane QLD 4000
GPO Box 2454, Brisbane QLD 4001

Date : 8/06/2019 6:46:47 PM

From : "WELLS Melissa"

To : "MERRICK Jamie"

Cc : "ELLWOOD Dean"

Subject : Re: DES comments on Adani response to GDEMP recommendations 8 June 2019

Sure will do.

Sent from my iPhone

On 8 Jun 2019, at 6:31 pm, MERRICK Jamie <Jamie.Merrick@des.qld.gov.au> wrote:

Suggest in the morning after a conversation.

Jamie

Sent from my iPhone

On 8 Jun 2019, at 5:54 pm, WELLS Melissa <Melissa.Wells@des.qld.gov.au> wrote:

Jamie and Dean,

Please find attached our responses in track changes. Subject to your views I can provide this document back to Adani either tonight (or in the morning) noting that these comments are based on the document provided and today's discussion and subject to reviewing the amendments in the documents in their entirety (including cross reference of inconsistencies).

Thanks,
Melissa.

<Adani Proposed Response to DES GACSIRO 080619v2 JM.docx>

Date : 8/06/2019 6:31:43 PM

From : "MERRICK Jamie"

To : "WELLS Melissa"

Cc : "ELLWOOD Dean"

Subject : Re: DES comments on Adani response to GDEMP recommendations 8 June 2019

Suggest in the morning after a conversation.

Jamie

Sent from my iPhone

On 8 Jun 2019, at 5:54 pm, WELLS Melissa <Melissa.Wells@des.qld.gov.au> wrote:

Jamie and Dean,

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Thanks,
Melissa.

<Adani Proposed Response to DES GACSIRO 080619v2 JM.docx>

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Date : 7/06/2019 10:35:24 PM

From : "WELLS Melissa"

To : " s.73 "

Cc : "MERRICK Jamie" , "ELLWOOD Dean" , "Paul Fennelly" , "MCCOSKER Juliana"

Subject : RE: DES GDEMP (CSIRO/GA advice) Feedback 7 June 2019

Attachment : image001.png;image004.jpg;image006.png;image007.png;image003.png;

Thanks s.73 I received the mail delivery error, corrected and have also forwarded them onto him.

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: s.73 adani.com.au>

Sent: Friday, 7 June 2019 10:26 PM

To: WELLS Melissa s.73

Cc: MERRICK Jamie; ELLWOOD Dean; Paul Fennelly; MCCOSKER Juliana

Subject: Re: DES GDEMP (CSIRO/GA advice) Feedback 7 June 2019

Thanks Melissa. Please also note that your initial and subsequent emails did not have the correct email address for s.78B(2). I have corrected this for you on this email and also sent him the initial files.

s.73

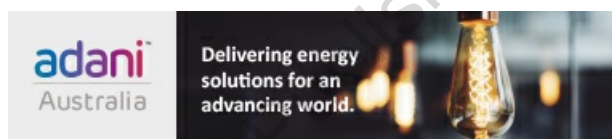
E s.73 @adani.com.au

P office: +61 7 3223 4800 | direct: s.73

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W adaniaustralia.com



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

Sent: Friday, June 7, 2019 22:17

To: s.73

Cc: MERRICK Jamie; ELLWOOD Dean; s.73 MCCOSKER Juliana

Subject: RE: DES GDEMP (CSIRO/GA advice) Feedback 7 June 2019

s.73

I am available if s.73 wishes to contact me to clarify any points over the weekend prior to Monday's meeting at 10am.

Thanks,
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] s.73 <[redacted]@adani.com.au>
Sent: Friday, 7 June 2019 9:44 PM
To: WELLS Melissa; [redacted] s.78B(2)
Cc: MERRICK Jamie; ELLWOOD Dean; [redacted] s.73 MCCOSKER Juliana
Subject: Re: DES GDEMP (CSIRO/GA advice) Feedback 7 June 2019

Melissa,

Who from the Department is available over the weekend to work through clarifications and issues arising from this latest advice?

Thanks

[redacted] s.73

[redacted] s.73

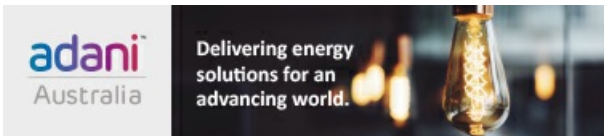
E [redacted] s.73 <[redacted]@adani.com.au>

P office: +61 7 3223 4800 | direct: [redacted] s.73

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From: WELLS Melissa <melissa.wells@des.qld.gov.au>
Sent: Friday, June 7, 2019 21:18
To: [redacted] s.73
Cc: MERRICK Jamie; ELLWOOD Dean; [redacted] s.73 MCCOSKER Juliana
Subject: DES GDEMP (CSIRO/GA advice) Feedback 7 June 2019

Good evening [redacted] s.73

Please see attached correspondence.

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

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Date : 7/06/2019 10:25:32 PM

From : s.73

To : "WELLS Melissa" , s.73

Cc : "MERRICK Jamie" , "ELLWOOD Dean" , s.73 , "MCCOSKER Juliana"

Subject : Re: DES GDEMP (CSIRO/GA advice) Feedback 7 June 2019

Attachment : image004.jpg;image005.png;image003.png;image866223.jpg;

Thanks Melissa. Please also note that your initial and subsequent emails did not have the correct email address for s.73 I have corrected this for you on this email and also sent him the initial files.

s.73

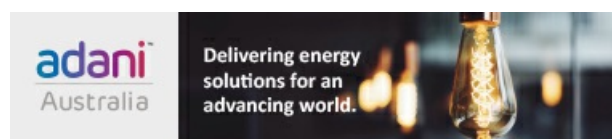
E s.73 @adani.com.au

P office: +61 7 3223 4800 | direct: + s.73

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

Sent: Friday, June 7, 2019 22:17

To s.73

Cc: MERRICK Jamie; ELLWOOD Dean s.73 MCCOSKER Juliana

Subject: RE: DES GDEMP (CSIRO/GA advice) Feedback 7 June 2019

s.73

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Thanks,

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: s.73 @adani.com.au>

Sent: Friday, 7 June 2019 9:44 PM

To: WELLS Melissa s.73

Cc: MERRICK Jamie; ELLWOOD Dean; s.73 MCCOSKER Juliana

Subject: Re: DES GDEMP (CSIRO/GA advice) Feedback 7 June 2019

Melissa,

Who from the Department is available over the weekend to work through clarifications and issues arising from this latest advice?

Thanks

s.78B(2)

s.73

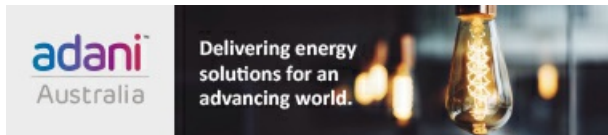
E s.73 @adani.com.au

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Sent: Friday, June 7, 2019 21:18

To: s.73

Cc: MERRICK Jamie; ELLWOOD Dean; s.73 MCCOSKER Juliana

Subject: DES GDEMP (CSIRO/GA advice) Feedback 7 June 2019

Good evening s.73

Please see attached correspondence.

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

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Date : 7/06/2019 10:16:47 PM

From : "WELLS Melissa"

To : " s.73 "

Cc : "MERRICK Jamie", "ELLWOOD Dean", s.73, "MCCOSKER Juliana"

Subject : RE: DES GDEMP (CSIRO/GA advice) Feedback 7 June 2019

Attachment : image001.png;image004.jpg;image005.png;image003.png;

s.73

I am available if s.78B(2) wishes to contact me to clarify any points over the weekend prior to Monday's meeting at 10am.

Thanks,
Melissa.



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

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

From: s.73 @adani.com.au>

Sent: Friday, 7 June 2019 9:44 PM

To: WELLS Melissa s.73

Cc: MERRICK Jamie; ELLWOOD Dean; s.73 MCCOSKER Juliana

Subject: Re: DES GDEMP (CSIRO/GA advice) Feedback 7 June 2019

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Thanks

s.73

s.73

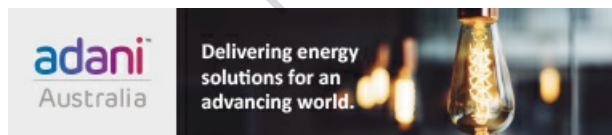
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Date : 7/06/2019 9:44:22 PM

From : " s.73

To : "WELLS Melissa" , s.73

Cc : "MERRICK Jamie" , "ELLWOOD Dean" , s.73 , "MCCOSKER Juliana"

Subject : Re: DES GDEMP (CSIRO/GA advice) Feedback 7 June 2019

Attachment : image002.png;image474155.jpg;

Melissa,

Who from the Department is available over the weekend to work through clarifications and issues arising from this latest advice?

Thanks

s.73

s.73

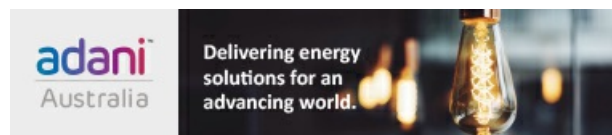
E s.73 @adani.com.au

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Sent: Friday, June 7, 2019 21:18

To s.73

Cc: MERRICK Jamie; ELLWOOD Dean s.73 MCCOSKER Juliana

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Executive Director
Coal and Central Qld Compliance
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Date : 19/06/2019 9:34:15 AM
From : "ELLWOOD Dean"
To : "GRANT Andrea"
Cc : "LEWIS Kieran"
Subject : RE: GDEMP Chronology, Q&A and Media Q&A
Attachment : image001.png;image003.png;
[That's fine](#)

From: GRANT Andrea <Andrea.Grant@des.qld.gov.au>
Sent: Wednesday, 19 June 2019 9:20 AM
To: ELLWOOD Dean
Cc: LEWIS Kieran
Subject: FW: GDEMP Chronology, Q&A and Media Q&A

[Dean, can you have a look at these for us please. Let me know of any concerns](#)

From: WELLS Melissa <Melissa.Wells@des.qld.gov.au>
Sent: Tuesday, 18 June 2019 11:35 AM
To: GRANT Andrea
Cc: MCCOSKER Juliana
Subject: FW: GDEMP Chronology, Q&A and Media Q&A

Andrea updated as of today. The other Q&A table is more for our own use and we are still working on that.



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

Date : 19/06/2019 9:34:15 AM
From : "ELLWOOD Dean"
To : "GRANT Andrea"
Cc : "LEWIS Kieran"
Subject : RE: GDEMP Chronology, Q&A and Media Q&A
Attachment : image001.png;image003.png;
[That's fine](#)

From: GRANT Andrea <Andrea.Grant@des.qld.gov.au>
Sent: Wednesday, 19 June 2019 9:20 AM
To: ELLWOOD Dean
Cc: LEWIS Kieran
Subject: FW: GDEMP Chronology, Q&A and Media Q&A

[Dean, can you have a look at these for us please. Let me know of any concerns](#)

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Sent: Tuesday, 18 June 2019 11:35 AM
To: GRANT Andrea
Cc: MCCOSKER Juliana
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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

Date : 9/06/2019 11:53:31 AM

From : " s.73

To : s.73 "WELLS Melissa" , "MCCOSKER Juliana"

Cc : s.78B(2) , "MERRICK Jamie" , "ELLWOOD Dean"

Subject : Re: GDEMP recommendations

Attachment : image001.jpg;image243862.jpg;

Melissa,

As s.78B(2) notes the amendment below is the only change we are seeking in response to your edits of this morning (ie all of your other edits have been accepted) . Accordingly if you can confirm that the changes referenced below are acceptable we can then move to finalise the document.

Thanks

s.73

s.73

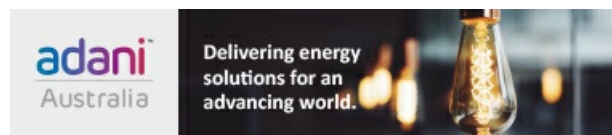
E s.73 @adani.com.au

P office: +61 7 3223 4800 | direct: + s.73

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From s.73 @adani.com.au>

Sent: Sunday, June 9, 2019 11:19

To: WELLS Melissa; MCCOSKER Juliana

Cc: s.73 MERRICK Jamie; ELLWOOD Dean

Subject: RE: GDEMP recommendations

Thanks Melissa,

An alternative wording is proposed as follows:

From: Adani commits to systematically consider all sources of uncertainty as they pertain to each source aquifer and modelling limitations and document this consideration.

To: Adani commits to systematically consider all significant sources of uncertainty as they pertain to each source aquifer and modelling limitations and document this consideration.

This change reflects the CSIRO / GA advice regarding residual uncertainty associated with geological and groundwater studies, and the inability to have a complete knowledge of the subsurface.

Otherwise, our position is that the proposed amendments are consistent with the original wording and commitments.

Regards

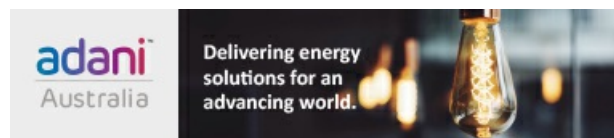
s.73

s.73

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

Sent: Sunday, 9 June 2019 9:42 AM

To: [redacted] s.73 @adani.com.au>; MCCOSKER Juliana <Juliana.Mccosker@des.qld.gov.au>

Cc: [redacted] s.73 @adani.com.au>; [redacted] s.73 @adani.com.au>; MERRICK Jamie
<Jamie.Merrick@des.qld.gov.au>; ELLWOOD Dean <Dean.Ellwood@des.qld.gov.au>

Subject: RE: GDEMP recommendations

Good morning,

Please find attached DES comments (in track) noting that these comments are subject to reviewing the amendments in the documents in their entirety (including cross reference with GMMP).

Thanks,
Melissa.

From: [redacted] s.73 @adani.com.au>

Sent: Saturday, 8 June 2019 4:33 PM

To: WELLS Melissa; MCCOSKER Juliana

Cc: [redacted] s.73

Subject: RE: GDEMP recommendations

Hi Melissa

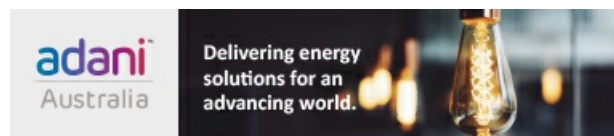
Apologies, one minor update in the table (text in red)

Thanks

[redacted] s.73

[redacted] s.73

E [redacted] s.73 @adani.com.au
P office: +61 7 3223 4800 | direct [redacted] s.73
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P GPO Box 2569, Brisbane, QLD, 4001
W adaniaustralia.com



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

Sent: Saturday, 8 June 2019 3:50 PM

To: WELLS Melissa <Melissa.Wells@des.qld.gov.au>; MCCOSKER Juliana <Juliana.Mccosker@des.qld.gov.au>

Cc: s.73 @adani.com.au; s.73 @adani.com.au

Subject: GDEMP recommendations

Dear Melissa and Juliana,

Please see attached proposed response to recommendations on the GDEMP as provided to Adani on the 7/6/19

Regards

s.73

s.73

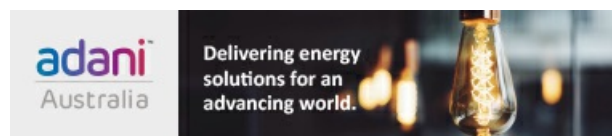
E s.73 adani.com.au

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Date : 9/06/2019 11:19:53 AM

From : s.73

To : "WELLS Melissa", "MCCOSKER Juliana"

Cc : "s.73", "MERRICK Jamie", "ELLWOOD Dean"

Subject : RE: GDEMP recommendations

Attachment : image001.jpg;

Thanks Melissa,

An alternative wording is proposed as follows:

From: Adani commits to systematically consider all sources of uncertainty as they pertain to each source aquifer and modelling limitations and document this consideration.

To: Adani commits to systematically consider all significant sources of uncertainty as they pertain to each source aquifer and modelling limitations and document this consideration.

This change reflects the CSIRO / GA advice regarding residual uncertainty associated with geological and groundwater studies, and the inability to have a complete knowledge of the subsurface.

Otherwise, our position is that the proposed amendments are consistent with the original wording and commitments.

Regards

s.78B(2)

s.73

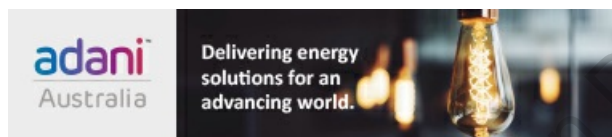
E s.73 adani.com.au

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

Sent: Sunday, 9 June 2019 9:42 AM

To: s.73 @adani.com.au; MCCOSKER Juliana <Juliana.Mccosker@des.qld.gov.au>

Cc: s.73 @adani.com.au; s.73 adani.com.au; MERRICK Jamie <Jamie.Merrick@des.qld.gov.au>; ELLWOOD Dean <Dean.Ellwood@des.qld.gov.au>

Subject: RE: GDEMP recommendations

Good morning,

Please find attached DES comments (in track) noting that these comments are subject to reviewing the amendments in the documents in their entirety (including cross reference with GMMP).

Thanks,
Melissa.

From: s.73 @adani.com.au>

Sent: Saturday, 8 June 2019 4:33 PM

To: WELLS Melissa; MCCOSKER Juliana

Cc: s.73

Subject: RE: GDEMP recommendations

Hi Melissa

Apologies, one minor update in the table (text in red)

Thanks

s.78B(2)

s.73

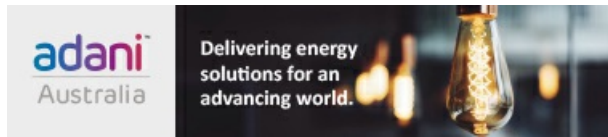
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From: s.73

Sent: Saturday, 8 June 2019 3:50 PM

To: WELLS Melissa <Melissa.Wells@des.qld.gov.au>; MCCOSKER Juliana <Juliana.Mccosker@des.qld.gov.au>

Cc: s.73 @adani.com.au <s.73 @adani.com.au>

Subject: GDEMP recommendations

Dear Melissa and Juliana,

Please see attached proposed response to recommendations on the GDEMP as provided to Adani on the 7/6/19

Regards

s.73

s.73

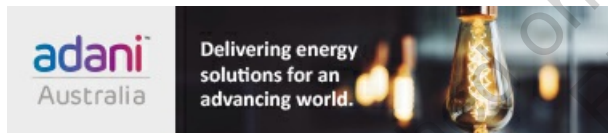
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Date : 9/06/2019 10:59:29 AM

From : [REDACTED] s.73

To : "WELLS Melissa" , [REDACTED] s.73 "MCCOSKER Juliana"

Cc : [REDACTED] s.73 "MERRICK Jamie" , "ELLWOOD Dean"

Subject : Re: GDEMP recommendations

Attachment : image001.jpg;image367530.jpg;

Melissa,

We are working through these and will revert this morning.

Thanks

[REDACTED] s.73

[REDACTED] s.73

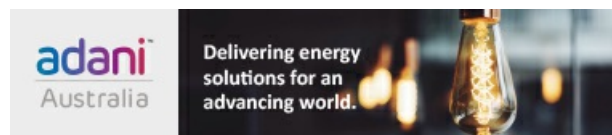
E [REDACTED] s.73 @adani.com.au

P office: +61 7 3223 4800 | direct: [REDACTED] s.73

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

Sent: Sunday, June 9, 2019 09:43

To: [REDACTED] s.73 MCCOSKER Juliana

Cc: [REDACTED] s.78B(2) MERRICK Jamie; ELLWOOD Dean

Subject: RE: GDEMP recommendations

Good morning,

Please find attached DES comments (in track) noting that these comments are subject to reviewing the amendments in the documents in their entirety (including cross reference with GMMP).

Thanks,

Melissa.

From: [REDACTED] s.73 adani.com.au>

Sent: Saturday, 8 June 2019 4:33 PM

To: WELLS Melissa; MCCOSKER Juliana

Cc: [REDACTED] s.73

Subject: RE: GDEMP recommendations

Hi Melissa

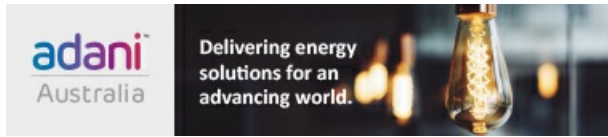
Apologies, one minor update in the table (text in red)

Thanks

[REDACTED] s.73

s.73

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From: s.73

Sent: Saturday, 8 June 2019 3:50 PM

To: WELLS Melissa <Melissa.Wells@des.qld.gov.au>; MCCOSKER Juliana <Juliana.Mccosker@des.qld.gov.au>

Cc: s.73 @adani.com.au; s.73 @adani.com.au

Subject: GDEMP recommendations

Dear Melissa and Juliana,

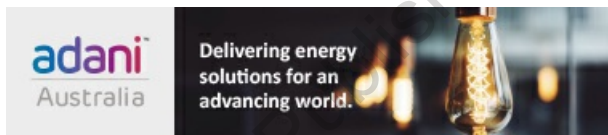
Please see attached proposed response to recommendations on the GDEMP as provided to Adani on the 7/6/19

Regards

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s.73

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Date : 9/06/2019 9:42:11 AM

From : "WELLS Melissa"

To : "s.73", "MCCOSKER Juliana"

Cc : "s.73" "MERRICK Jamie", "ELLWOOD Dean"

Subject : RE: GDEMP recommendations

Attachment : Adani Proposed Response to DES GACSIRO 080619v2 JM_MW.docx;image001.jpg;

Good morning,

Please find attached DES comments (in track) noting that these comments are subject to reviewing the amendments in the documents in their entirety (including cross reference with GMMP).

Thanks,
Melissa.

From s.73@adani.com.au>

Sent: Saturday, 8 June 2019 4:33 PM

To: WELLS Melissa; MCCOSKER Juliana

Cc: s.73

Subject: RE: GDEMP recommendations

Hi Melissa

Apologies, one minor update in the table (text in red)

Thanks

s.73

s.73

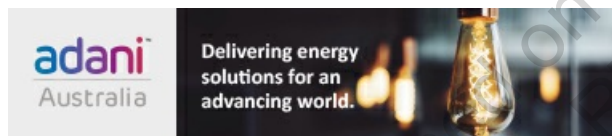
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From s.73

Sent: Saturday, 8 June 2019 3:50 PM

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Cc: s.73@adani.com.au>; s.73 adani.com.au>

Subject: GDEMP recommendations

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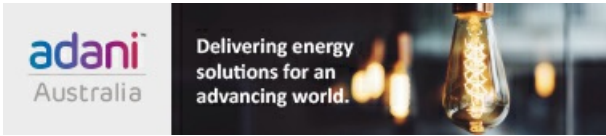
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In the interests of being pragmatic and seeing how Adani may be in a position to work with the Department looking forward, below include responses to each of the reasons that DES provided to Adani in the document issued 31 May 2019 regarding the Groundwater Dependent Ecosystem Management Plan Version 11b (March 2019).

In providing these responses, Adani maintains that Plan v.7b as submitted to the DES met the requirements of our Environmental Authority EPML01470513 and that it was not deficient in any respect.

Condition wording /reference	Departmental comments	Adani Response	Proposed Changes
The plan must include detailed baseline research to establish the source aquifer(s) for groundwater supply to the GDE	Requirements prior to model re-run:		
	1. Adani must make a commitment to undertake and complete the following additional work progressively to improve the understanding of the spring source aquifers prior to the 2 year model re-run.	See proposed wording to address this.	For inclusion in new Section 5.9 "Additional studies, Research and Model Re-run" Adani commits to undertake and complete studies and additional work <u>sequentially</u> over the first two years for the purpose of refining the groundwater numerical model and the hydrogeological conceptualisation as required by EA Condition E6.
	<ul style="list-style-type: none"> Hydrogeochemical analysis of samples from different springs groups within each spring complex to provide better understanding and discern the source aquifers of the Doongmabulla Springs Complex. Bulk hydrochemistry must be completed within 3 months of approval and tracer analyses within 12 months. Hydrogeochemical analyses must include but not limited to: <ul style="list-style-type: none"> noble gases - e.g. helium to identify any deeper groundwater contributes to the springs (id of source aquifers); radioactive noble gases to identify source aquifer of recent (decades) to intermediate (centuries) and strontium isotopes – to identify the source rock of a particular groundwater system. Incorporation of the use of isotope and ageing tracers in the above hydrogeochemical analysis; 	See proposed wording to address this.	<p>To cover all these elements, the following new text to be included:</p> <p>5.9 Additional Studies, Research and Model Re-run Adani commits to undertake and complete studies and additional work over the first two years for the purpose of refining the groundwater numerical model and the hydrogeological conceptualisation as required by EA Condition E6.</p> <p>These additional works include:</p> <ul style="list-style-type: none"> Adani will undertake hydrogeochemical analysis across the Doongmabulla springs-complex from groundwater and surface water samples. This includes isotopic analysis and <u>will may</u> also include noble and radioactive gases and strontium isotopes where isotopic analysis is <u>not</u> sufficient <u>to significantly improve understanding and reduce uncertainty in relation to source aquifer (s) of the DSC.</u> Acquiring, testing and examining any new cores samples generated through new bore holes (dependent on the integrity of these samples) <p>Baseline research on GDE's is provided in Section 6.1, 7.1, 8.1 and 9.1. Future research activities on the wetland composition of the Doongmabulla and Mellaluka Springs-complexes will be undertaken through the GAB Springs Research Plan, summarised in Section 5.9.2. Baseline</p>
	<ul style="list-style-type: none"> A comprehensive review of groundwater level and quality data from relevant aquifers including data from new proposed nested bores in the vicinity of Doongmabulla Springs Complex; 	See proposed wording to address this.	
	<ul style="list-style-type: none"> Undertake hydrochemistry interpretation from surface and spring samples to provide more detailed hydrogeology system understanding; 	GMMP section 2.2 details the existing hydrogeochemical baseline. Section 4.7.1.1 and 5.4 the hydrochemistry monitoring Section 7 details commitments (18) to undertake isotopic tracers of GW and SW. Hydrochemistry is included in GMMP (see 4.4.1), GDEMP and GABSRP. See proposed wording to address this.	
	<ul style="list-style-type: none"> Detailed geological mapping including cores from bores drilled in the vicinity of Doongmabulla Springs Complex and facies modelling to better inform hydraulic connectivity within and across all aquifers; 	See text for inclusion, also detail summarising the RFRP. See proposed wording to address this.	

In the interests of being pragmatic and seeing how Adani may be in a position to work with the Department looking forward, below include responses to each of the reasons that DES provided to Adani in the document issued 31 May 2019 regarding the Groundwater Dependent Ecosystem Management Plan Version 11b (March 2019).

In providing these responses, Adani maintains that Plan v.7b as submitted to the DES met the requirements of our Environmental Authority EPML01470513 and that it was not deficient in any respect.

Condition wording /reference	Departmental comments	Adani Response	Proposed Changes
	<ul style="list-style-type: none"> At new monitoring locations, use the opportunity to acquire drill cores to better understand the intact hydrostratigraphy being drilled through to inform the conceptual model. Conduct test on core samples to assess and quantify hydraulic properties being implemented in the numerical model. Completion of core analysis within 2 years. 	In the GMMP, commitment is made to collect and include geological information into the model rerun. Further the Rewan research plan includes relevant studies. Adani have provided detailed commitments already in the GMMP (23 and 24) about additional content in the groundwater model rerun, this includes calibration, sensitivity analysis, model guidelines, uncertainty analysis, inclusion of all additional information since the EIS and leading up to the rerun, local parameters for geology, groundwater quality, alternative conceptualisations, GAB and Rewan research findings.	<p>research on source aquifers is presented in Sections 6.2, 7.2, 8.4 and 9.4. Future research is noted in the GMMP (Section 1.10) and in the Rewan Formation Research Plan and GAB Springs Research Plan. The GMMP (Section 5 and Table 42) provides details on the natural variation of groundwater level and pressure and how this will be monitored over time against the predicted groundwater levels. The ecological response to groundwater level fluctuation is a key component of the GAB Springs Research Plan (Section 5.9.2)</p> <p>Within two years of commencement of mining activities, the ground water model is to be reviewed and re-run with the subsequent provision of updated hydrogeological conceptualisation/s and reporting detailed the information that was or wasn't used for this exercise, the supporting reasons for that approach, and detailed findings of this model re-run and conceptualisation exercise<u>revision of the conceptual understanding of the source aquifer(s)</u> and how this-these will in turn inform a revised GDEMP and GMMP. A key outcome of this exercise is to refine-improve the understanding and decrease the uncertainty surrounding source aquifer/s for each GDE.</p> <p>The GMMP provide details under Section 7 Commitment 24 on matters to be included in that model re-run. Specifically, this exercise will include (not excluding those items in Section 7 Commitment 24):</p> <ul style="list-style-type: none"> Comprehensive review of groundwater level and quality data from across the monitoring network. Hydrochemistry interpretation analysis from groundwater and spring samples <u>from different spring groups within each spring complex</u> as conducted through the additional studies noted above. Inputs from research programs such as the Rewan Formation Research Program and the GAB Springs Research Program. Geological <u>Attain a better understanding of the intact hydrostratigraphy to assess and quantify hydraulic properties from geological</u> information gathered from new
	<ul style="list-style-type: none"> Incorporation of the airborne electro-magnetic (AEM) modelling recently completed by Geoscience Australia (and available to Adani by June 2020). Adani must undertake specific interpretation and analysis of AEM data. The analysis should be conducted with consideration of relevant site-specific data and alternative conceptualisations to be tested to ensure the interpretation derives appropriate conclusions regarding hydrogeology at the scale of investigation of interest to Adani. Adani's AEM investigation should articulate how the objectives of the AEM data analysis will seek to improve hydrogeological knowledge to ensure the interpretation yields desired outcomes; 	Adani have already included in the GMMP a commitment to incorporate GA airborne EM survey data (if and when available) at the 2 year model revision. See proposed wording to address this.	
	<ul style="list-style-type: none"> Revision of the conceptual understanding of the source aquifer(s) for Doongmabulla Springs Complex and the groundwater system based on information collected from the above for incorporation into the groundwater model review (re-run); 	See proposed wording to address this.	
	<ul style="list-style-type: none"> Undertake measures identified by the Queensland Herbarium in the Lake Eyre Basin Springs Assessment project for the Doongmabulla Springs Complex including seismic surveys within 12 months; 	Seismic survey may be undertaken as part of Research, but not specifically at the DSC and not within that timeframe given UG Mining is not scheduled to commence until Year 10, and has triggers prior to commencement. See proposed wording to address this.	
	<ul style="list-style-type: none"> Optimise the spatial distribution of monitoring bores, including nested or co-located bores intersecting different aquifer units, to enable improved future analysis of water level and hydrochemistry data. 	The bore network has been presented in the GMMP with endorsement from CSIRO/GA previously apart from 3 new nested bores. See proposed wording to address this.	

In the interests of being pragmatic and seeing how Adani may be in a position to work with the Department looking forward, below include responses to each of the reasons that DES provided to Adani in the document issued 31 May 2019 regarding the Groundwater Dependent Ecosystem Management Plan Version 11b (March 2019).

In providing these responses, Adani maintains that Plan v.7b as submitted to the DES met the requirements of our Environmental Authority EPML01470513 and that it was not deficient in any respect.

Condition wording /reference	Departmental comments	Adani Response	Proposed Changes
	2. To address the level of uncertainty of the source aquifer(s) for all the Groundwater Dependent Ecosystems and to provide transparency and a better appreciation of the limitations and opportunities for further data collection or modelling, the department recommends that Adani make the following commitments:		bores and core samples, geological mapping and research studies. <ul style="list-style-type: none"> • <u>incorporate</u> Geoscience Australia <u>airborne</u> Electro-magnetic modelling. • Review of groundwater modelling network and locations for ongoing optimisation. • <u>Adani commits to systematically consider the all sources of uncertainty as they pertain to each source aquifer and modelling limitations and document this consideration.</u> • Inclusion of all relevant parameters in a range of modelled scenarios <u>that encompass the identified uncertainties.</u> • Selection of appropriate model <u>spatial</u> scale to account for local and regional parameters <u>such as including scale dependent parameters such as</u> hydraulic conductivity. - • Uncertainty analysis and estimation in accordance with relevant guidelines <p>At the second model re-run instance (7 years after commencement of mining activities), Adani will specifically review seismic information pertaining to the impacts of underground mining noting that this mining activity is not scheduled to commence until year 10, and that a number of precursors are required before it commences.</p> <p>If this review determines that additional seismic studies are required <u>to determine the source aquifers of the DSC</u>, these activities will be completed and that information included into revised modelling. Underground mining will not commence until these actions are completed and only if predicted impacts are <u>in</u> consistent with approved impacts.</p> <p><u>NOTE: Two new sections also being included to provide details of the Rewan Formation Research Plan and the GAB Springs Research Plan</u></p>
	<ul style="list-style-type: none"> • Adani make a commitment to systematically address all the sources of uncertainty and other modelling limitations identified by the CSIRO/GA reviews when the groundwater model is re-run and reviewed as required by EA condition E6 (to be conducted within 2 years of commencement of any mining activities associated with the box cut excavation). 	We will meet condition E6 of the EA, as described in the GMMP and commitment 24 of the GMMP. Adani have provided detailed commitments already in the GMMP (23 and 24) about additional content in the groundwater model re-run, this includes calibration, sensitivity analysis, model guidelines, uncertainty analysis, inclusion of all additional information since the EIS and leading up to the re-run, local parameters for geology, groundwater quality, alternative conceptualisations, GAB and Rewan research findings. See proposed wording to address this.	
	<ul style="list-style-type: none"> • For the model re-run, Adani make a commitment to sample the entire plausible parameter space and make predictions probabilistically by spreading attention across refining distributions of the most sensitive model parameters and efficient stochastic modelling (Turnadge et al. 2018). 	Does not reflect the approval of the current model scenario. Adani have provided detailed commitments already in the GMMP (23 and 24) about additional content in the groundwater model re-run, this includes calibration, sensitivity analysis, model guidelines, uncertainty analysis, inclusion of all additional information since the EIS and leading up to the re-run, local parameters for geology, groundwater quality, alternative conceptualisations, GAB and Rewan research findings. See proposed wording to address this.	
	<ul style="list-style-type: none"> • For the model re-run, Adani make a commitment to define scale dependent parameters such as hydraulic conductivity at the appropriate spatial scale i.e. commensurate with the size of the numerical grid cell of the groundwater model. 	Adani have provided detailed commitments already in the GMMP (23 and 24) about additional content in the groundwater model re-run, this includes calibration, sensitivity analysis, model guidelines, uncertainty analysis, inclusion of all additional information since the EIS and leading up to the re-run, local parameters for geology, groundwater quality, alternative conceptualisations, GAB and Rewan research findings. See proposed wording to address this.	

In the interests of being pragmatic and seeing how Adani may be in a position to work with the Department looking forward, below include responses to each of the reasons that DES provided to Adani in the document issued 31 May 2019 regarding the Groundwater Dependent Ecosystem Management Plan Version 11b (March 2019).

In providing these responses, Adani maintains that Plan v.7b as submitted to the DES met the requirements of our Environmental Authority EPML01470513 and that it was not deficient in any respect.

Condition wording /reference	Departmental comments	Adani Response	Proposed Changes
	<ul style="list-style-type: none"> For the model re-run, Adani make a commitment to run a sufficient range of plausible scenarios that encompass the range of identified uncertainties. 	Adani have provided detailed commitments already in the GMMP (23 and 24) about additional content in the groundwater model re-run, this includes calibration, sensitivity analysis, model guidelines, uncertainty analysis, inclusion of all additional information since the EIS and leading up to the re-run, local parameters for geology, groundwater quality, alternative conceptualisations, GAB and Rewan research findings. See proposed wording to address this.	
	<ul style="list-style-type: none"> Adani make a commitment to undertake and include an uncertainty estimation in accordance with the Australian Groundwater Guidelines based on the 2 year re-run. 	Adani have provided detailed commitments already in the GMMP (23 and 24) about additional content in the groundwater model re-run, this includes calibration, sensitivity analysis, model guidelines, uncertainty analysis, inclusion of all additional information since the EIS and leading up to the re-run, local parameters for geology, groundwater quality, alternative conceptualisations, GAB and Rewan research findings. See proposed wording to address this.	
The plan must include detailed baseline research to establish GDE ecosystem pressure response to groundwater level/pressure fluctuation The plan must include a description of the potential impact on each GDE from each project stage including impacts from subsidence, mine dewatering of aquifers, water discharge, hydrological changes and weed and pest infestation Requirements:	<ul style="list-style-type: none"> Groundwater drawdown triggers must be set for all monitoring locations for which water level thresholds are defined and use a timeframe that is comparable with routine monitoring data assessment and agreed groundwater model review periods. 	GA/CSIRO's advice is inconsistent with both the EPBC and EA conditions, and is a repeat of earlier advice with respect to groundwater drawdown thresholds. This was a requirements for DSC bores under the EPBC approval. It is not a requirement under the EA and we recently discussed with DES and they removed this requirement from Adani to do so in a recent workshop (20/6/19). Baseline research relating to pressure response under the GABSRP will be detailed in the GDEMP	Adani has included groundwater drawdown triggers as indicators in the GDEMP monitoring and management under each relevant GDE Chapter. A cross reference to the relevant tables and sections of the GMMP will also be provided. A new section 5.9.2 GAB Springs Research Plan will be included that provides detail of research with regards to GDE pressure response. <u>Provide a commitment that the interim drawdown rate trigger levels will be reviewed at each review - that is 2 years after commencement of box cut and then every 5 years.</u> <u>Provide a commitment to use bore C027P2 for the early detection of groundwater drawdown to the Carmichael River GDE.</u>
	<ul style="list-style-type: none"> The bore locations must consider the localised changes that may impact on groundwater dependent ecosystems and changes to groundwater conditions following planned longwall panel excavation beneath of two of the 3 interim drawdown rate trigger bores. 	Adani have a monitoring network that takes into consideration a range of factors including the removal of bores due to OC and UG mining. This is detailed in the GMMP Figures 29 and 30.	New Commitment in section 8.7.4 Where interim drawdown rate trigger bores are removed or impacted due to underground mining, these will be replaced.
	<ul style="list-style-type: none"> A commitment to install new groundwater drawdown trigger threshold bore to replace those lost to mining/underground mining must be made. 		New Commitment in section 8.7.4 Where interim drawdown rate trigger bores are removed or

In the interests of being pragmatic and seeing how Adani may be in a position to work with the Department looking forward, below include responses to each of the reasons that DES provided to Adani in the document issued 31 May 2019 regarding the Groundwater Dependent Ecosystem Management Plan Version 11b (March 2019).

In providing these responses, Adani maintains that Plan v.7b as submitted to the DES met the requirements of our Environmental Authority EPML01470513 and that it was not deficient in any respect.

Condition wording /reference	Departmental comments	Adani Response	Proposed Changes
			impacted due to underground mining, these will be replaced.
	<p>To ensure the effective management of these unique ecosystems the GMMP and the GDEMP must be consistent and ‘talk to each other’.</p> <ul style="list-style-type: none"> • Address all inconsistent descriptions and reporting of groundwater drawdown trigger thresholds between the GDEMP and GMMP as detailed in section 4 of the CSIRO/GA advice 7 June 2019. • Address inconsistencies in the level of commitment for corrective actions for each GDE that are applied when groundwater drawdown trigger levels are exceeded as detailed in section 5 of the CSIRO/GA advice 7 June 2019. • Address inconsistencies between the GDEMP and GMMP with regard to adaptive management measures and commitments as detailed in section 5 of the CSIRO/GA advice 7 June 2019. 	<p>Appendix B of the GDEMP has been reconciled with the relevant content and tables of the GMMP</p> <p>Adani is revising the responses based on the workshop with DES on the 31/5 through the Management tables for each GDE.</p> <p>Adani is revising the responses based on the workshop with DES on the 31/5 through the Management tables for each GDE.</p>	<p>This is being addressed via response to DES Comments on the GDEMP provided on the 31/5/19, including review and check for consistency within the GDEMP, and with the GMMP.</p>

Date : 9/06/2019 12:01:10 PM

From : "WELLS Melissa"

To : "s.73", "MCCOSKER Juliana"

Cc : "s.73", "MERRICK Jamie", "ELLWOOD Dean"

Subject : RE: GDEMP recommendations

Attachment : image001.jpg;

s.73 we agree to the alternative proposed wording. Melissa.

From: s.73@adani.com.au>

Sent: Sunday, 9 June 2019 11:20 AM

To: WELLS Melissa; MCCOSKER Juliana

Cc: s.73 MERRICK Jamie; ELLWOOD Dean

Subject: RE: GDEMP recommendations

Thanks Melissa,

An alternative wording is proposed as follows:

From: Adani commits to systematically consider all sources of uncertainty as they pertain to each source aquifer and modelling limitations and document this consideration.

To: Adani commits to systematically consider all significant sources of uncertainty as they pertain to each source aquifer and modelling limitations and document this consideration.

This change reflects the CSIRO / GA advice regarding residual uncertainty associated with geological and groundwater studies, and the inability to have a complete knowledge of the subsurface.

Otherwise, our position is that the proposed amendments are consistent with the original wording and commitments.

Regards

s.73

s.73

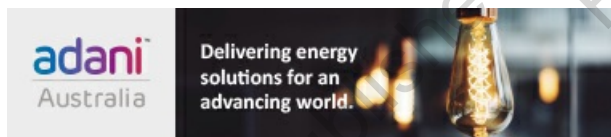
E s.73@adani.com.au

P office: +61 7 3223 4800 | direct: s.73

A Level 25, 10 Eagle Street, Brisbane, QLD, 4000

P GPO Box 2569, Brisbane, QLD, 4001

W adaniaustralia.com



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

Sent: Sunday, 9 June 2019 9:42 AM

To: s.73@adani.com.au>; MCCOSKER Juliana <Juliana.Mccosker@des.qld.gov.au>

Cc: s.73@adani.com.au>; s.73@adani.com.au>; MERRICK Jamie <Jamie.Merrick@des.qld.gov.au>; ELLWOOD Dean <Dean.Ellwood@des.qld.gov.au>

Subject: RE: GDEMP recommendations

Good morning,

Please find attached DES comments (in track) noting that these comments are subject to reviewing the amendments in the documents in their entirety (including cross reference with GMMP).

Thanks,
Melissa.

From: s.73@adani.com.au>

Sent: Saturday, 8 June 2019 4:33 PM

To: WELLS Melissa; MCCOSKER Juliana

Cc: s.73

Subject: RE: GDEMP recommendations

Hi Melissa

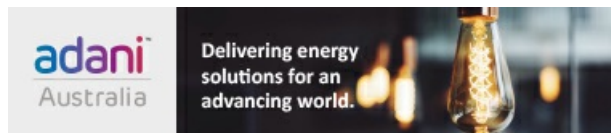
Apologies, one minor update in the table (text in red)

Thanks

s.73

s.73

E s.73 @adani.com.au
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W adaniaustralia.com



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From: s.73
Sent: Saturday, 8 June 2019 3:50 PM
To: WELLS Melissa <Melissa.Wells@des.qld.gov.au>; MCCOSKER Juliana <Juliana.Mccosker@des.qld.gov.au>
Cc: s.73 @adani.com.au; s.73 @adani.com.au
Subject: GDEMP recommendations

Dear Melissa and Juliana,

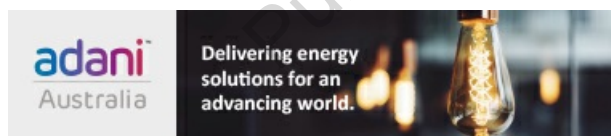
Please see attached proposed response to recommendations on the GDEMP as provided to Adani on the 7/6/19

Regards

s.73

s.73

E s.73 @adani.com.au
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Date : 13/06/2019 1:54:30 PM

From s.78B(2)

To : "WELLS Melissa" , "MERRICK Jamie" , "ELLWOOD Dean"

Subject : RE: re. GDEMP approval

Attachment : image002.png;image004.png;image005.png;image006.png;

Many thanks for this and to DES for the outstanding work and commitment to the timing and robust outcome



s.78B(2)

Coordinator-General

Department of State Development, Manufacturing, Infrastructure and Planning

P: 07 3452 7024 | M: s.78B(2)

E: s.78B(2)@coordinatorgeneral.qld.gov.au

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

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

Sent: Thursday, 13 June 2019 1:31 PM

To: MERRICK Jamie <Jamie.Merrick@des.qld.gov.au>; s.78B(2)@coordinatorgeneral.qld.gov.au; ELLWOOD Dean <Dean.Ellwood@des.qld.gov.au>

Subject: FW: re. GDEMP approval

FYI

From: MCCOSKER Juliana <Juliana.Mccosker@des.qld.gov.au>

Sent: Thursday, 13 June 2019 1:30 PM

To: s.73

Cc: WELLS Melissa

Subject: re. GDEMP approval

Hi s.78B(2)

Please see attached.

Ciao for now

Juliana



Juliana McCosker

Manager

Business Centre Coal - Coal and Central Queensland Compliance

Department of Environment and Science

P 07 4987 9854 | M s.78B(2) Personal information

99 Hospital Road, Emerald QLD 4720

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Date : 13/06/2019 1:54:30 PM

From : s.78B(2)

To : "WELLS Melissa" , "MERRICK Jamie" , "ELLWOOD Dean"

Subject : RE: re. GDEMP approval

Attachment : image002.png;image004.png;image005.png;image006.png;

Many thanks for this and to DES for the outstanding work and commitment to the timing and robust outcome



s.78B(2)

Coordinator-General

Department of State Development, Manufacturing, Infrastructure and Planning

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E: barry.broe@coordinatorgeneral.qld.gov.au

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

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

Sent: Thursday, 13 June 2019 1:31 PM

To: MERRICK Jamie <Jamie.Merrick@des.qld.gov.au>; s.78B(2) @coordinatorgeneral.qld.gov.au; ELLWOOD Dean <Dean.Ellwood@des.qld.gov.au>

Subject: FW: re. GDEMP approval

FYI

From: MCCOSKER Juliana <Juliana.Mccosker@des.qld.gov.au>

Sent: Thursday, 13 June 2019 1:30 PM

To: s.73

Cc: WELLS Melissa

Subject: re. GDEMP approval

Hi s.73

Please see attached.

Ciao for now

Juliana



Juliana McCosker

Manager

Business Centre Coal - Coal and Central Queensland Compliance

Department of Environment and Science

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Date : 9/06/2019 12:06:43 PM

From : "MCCOSKER Juliana"

To : " s.73 "

Cc : "WELLS Melissa" , "MERRICK Jamie" , "ELLWOOD Dean"

s.73

Subject : re. GDEMP version 12

Attachment : GDEMP Final V12 Changes Tracked HM 8June19 v3 JM comments090619.docx;

Hi s.78B(2)

Please see attached comments/edits to v12 of GDEMP. Still working through groundwater quality values.

Ciao for now

Juliana

Published on DES Disclosure Log
RTI Act 2009

Date : 10/06/2019 2:00:50 PM

From : "LEWIS Kieran"

To : "LAWRENCE Rob"

Cc : "ELLWOOD Dean" , "ESR" , "Media DES" , "DAUNT Bettina" , "LOWE Trinity"

Subject : Rob - for approval - response to Win News re Adani GDEMP

Attachment : 100619 - Adani GDEMP - Win News.docx;image001.png;image006.png;image007.png;image002.png;

Hi Rob

For your approval please.

Melissa Wells has approved the attached response to Win News re the Adani GDEMP. The journalist doesn't give a deadline, but as it's TV, he'll need it by 3pm.

Kieran Lewis

Media Services

Department of Environment and Science

media@des.qld.gov.au

Level 31 | 400 George Street | Brisbane

Tel 07 3339 5897 (6) Personal information

www.des.qld.gov.au

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

From: Pamela Frost <Pamela.Frost@ministerial.qld.gov.au>

Sent: Monday, 10 June 2019 12:54 PM

To: Mackenzie Colahan

Cc: Media DES

Subject: RE: GDEMP Update

Hi Mackenzie,

Your inquiry is best directed to media@des.qld.gov.au, who I have also cc-ed in this email.



Pamela Frost

Senior Media Advisor

Office of the Hon. Leeanne Enoch MP

Minister for Environment and the Great Barrier Reef,

Minister for Science, Minister for the Arts

P 07 3719 3444 (6) Personal information

1 William Street Brisbane QLD 4000 GPO Box 5078 Brisbane QLD 4001

From: Mackenzie Colahan <colahanm@winnetwork.com.au>

Sent: Monday, 10 June 2019 12:40 PM

To: Pamela Frost <Pamela.Frost@ministerial.qld.gov.au>

Subject: GDEMP Update

Hi Pam,

Can you please forward me the DES statement on Adani's GDEMP plans, which I believe were re-submitted today. And whether you expect a decision on Thursday. Any specifics on the requirements of the GDEMP that weren't satisfied would be useful.

Mackenzie Colahan

Journalist, Rockhampton



p: (07) 4930 4478 i: 4272 (6) Personal information

e: colahanm@winnetwork.com.au rocknews@winqld.com.au

Facebook: WINNewsCentralQueensland

Level 6 34 East Street Rockhampton 4700

WIN Network

Locked Bag 8800 Wollongong NSW 2500 Television Avenue Mt St Thomas



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Date : 13/06/2019 12:25:10 AM

From : "WELLS Melissa"

To : "ELLWOOD Dean"

Subject : v12a GDEMP summary CSIRO/GA and Flinders Uni matters

Attachment : GDEMP v12a versus CSIRO recommendations and Flinders U research 12062019.docx;

Hi draft fyi. Will review again tomorrow for accuracy and finalise Q&A from Kieran. Melissa.

Published on DES Disclosure Log
RTI Act 2009

Summary - GDEMP v12a strengthened by:

- CSIRO/GA advice states '*There is always uncertainty in geological and groundwater conceptual models because we do not have, and never will have, complete knowledge of the sub-surface. The creation of a numerical model, which is a simplification of the biophysical world and processes, compounds this uncertainty.*' While Adani have identified the Clematis Sandstone as the principal/main source aquifer for the Doongmabulla Springs Complex, Adani commit to systematically consider all sources of uncertainty as they pertain to each source aquifer prior to the model re-run including modelling limitations and document these considerations.
- Adani has committed to doing additional work to improve the understanding of the springs source aquifers, particularly for Doongmabulla springs complex. This additional work includes:
 - hydrogeochemical analysis of water sampled from groundwater and spring samples from different spring groups within each spring complex
 - Isotopic analysis including noble, radioactive gases and strontium isotopes where isotopic analysis is not sufficient to reduce uncertainty of the source aquifer of the Doongmabulla Springs Complex.
 - Acquire, test and examine new core samples from new bores to attain a better understanding of hydraulic properties and provide detailed geological mapping
 - Incorporate air-borne electro-magnetic modelling undertaken by Geoscience Australia to improve hydrogeological understanding of the area.
- Adani has committed to installing a bore to below the Rewan in the vicinity of the Doongmabulla Springs Complex, with the Permian Betts Creek Beds (which includes the Bandanna and Colinlea).
- Adani has committed to using a Dunda Beds bore in the vicinity of the Carmichael River as an early warning drawdown trigger for groundwater drawdown monitoring to the Carmichael River.
- All inconsistencies within the plan and inconsistencies with the Groundwater Management and Monitoring Program have been addressed.

CSIRO/GA Recommendation June 2019	How Adani Addressed in GDEMP v12a
1. Adani must make a commitment to undertake and complete the following additional work progressively to improve the understanding of the spring source aquifers prior to the model re-run. <ul style="list-style-type: none"> • Hydrogeochemical analysis of samples from different springs groups within each spring complex to provide 	Adani commits to undertake and complete studies and additional work sequentially over the first two years for the purpose of refining the groundwater numerical model and the hydrogeological conceptualisation as required by EA Condition E6. These additional works include: <ul style="list-style-type: none"> • Hydrogeochemical analysis across the Doongmabulla springs-complex from groundwater and surface water samples. This includes

Commented [WM1]: Check date?

<p>better understanding and discern the source aquifers of the Doongmabulla Springs Complex. Bulk hydrochemistry must be completed within 3 months of approval and tracer analyses within 12 months. Hydrogeochemical analyses must include but not limited to:</p> <ul style="list-style-type: none"> a. noble gases - e.g. helium to identify any deeper groundwater contributes to the springs (id of source aquifers); b. radioactive noble gases to identify source aquifer of recent (decades) to intermediate (centuries) and c. strontium isotopes – to identify the source rock of a particular groundwater system. <ul style="list-style-type: none"> • Incorporation of the use of isotope and ageing tracers in the above hydrogeochemical analysis; • A comprehensive review of groundwater level and quality data from relevant aquifers including data from new proposed nested bores in the vicinity of Doongmabulla Springs Complex; • Undertake hydrochemistry interpretation from surface and spring samples to provide more detailed hydrogeology system understanding; • Detailed geological mapping including cores from bores drilled in the vicinity of Doongmabulla Springs Complex and facies modelling to better inform hydraulic connectivity within and across all aquifers; • At new monitoring locations, use the opportunity to acquire drill cores to better understand the intact hydrostratigraphy being drilled through to inform the conceptual model. Conduct test on core samples to assess and quantify hydraulic properties being implemented in the numerical model. Completion of core analysis within 2 years. 	<p>isotopic analysis and will also include noble and radioactive gases and strontium isotopes where isotopic analysis is not sufficient to significantly improve understanding and reduce uncertainty in relation to source aquifer(s) of the Doongmabulla Springs-complex</p> <ul style="list-style-type: none"> • Acquiring, testing and examining any new cores samples generated through new bore holes (dependent on the integrity of these samples) • As part of the new nested bores committed to be drilled in the GMMP (Section 7), Adani will install one hole below the Rewan in the vicinity of the Doongmabulla Springs-Complex, within the Permian Betts Creek Beds (which includes the Bandanna and Colinlea). Baseline research on GDEs is provided in sections 6.1, 7.1, 8.1 and 9.1. Future research activities on the wetland composition of the Doongmabulla and Mellaluka Springs-complexes will be undertaken through the GABSRP, summarised in section 5.9.2. Baseline research on source aquifers is presented in sections 6.2, 7.2, 8.4 and 9.4. Future research is noted in the GMMP (Section 1.10) and in the RFCRP and GABSRP. The GMMP (Section 5 and Table 42) provides details on the natural variation of groundwater level and pressure and how this will be monitored over time against the predicted groundwater levels. The ecological response to groundwater level fluctuation is a key component of the GABSRP (Section 5.9.2) <p>Within two years of commencement of mining activities, the groundwater model is to be reviewed and re-run with the subsequent provision of updated hydrogeological conceptualisation/s and reporting that details the information that was or was not used for this exercise, the supporting reasons for that approach, and detailed findings of this model re-run and revision of the conceptual understanding of the source aquifer(s) and how these will in turn inform the revised GDEMP and GMMP. A key outcome of this exercise is to refine/improve the understanding and decrease the uncertainty surrounding source aquifer/s for each GDE.</p>
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<ul style="list-style-type: none"> • Incorporation of the airborne electro-magnetic (AEM) modelling recently completed by Geoscience Australia (and available to Adani by June 2020). Adani must undertake specific interpretation and analysis of AEM data. The analysis should be conducted with consideration of relevant site-specific data and alternative conceptualisations to be tested to ensure the interpretation derives appropriate conclusions regarding hydrogeology at the scale of investigation of interest to Adani. Adani's AEM investigation should articulate how the objectives of the AEM data analysis will seek to improve hydrogeological knowledge to ensure the interpretation yields desired outcomes; • Revision of the conceptual understanding of the source aquifer(s) for Doongmabulla Springs Complex and the groundwater system based on information collected from the above for incorporation into the groundwater model review (re-run) • Undertake measures identified by the Queensland Herbarium in the Lake Eyre Basin Springs Assessment project for the Doongmabulla Springs Complex including seismic surveys within 12 months. • Optimise the spatial distribution of monitoring bores, including nested or co-located bores intersecting different aquifer units, to enable improved future analysis of water level and hydrochemistry data. 	
<p>2. To address the level of uncertainty of the source aquifer(s) for all the Groundwater Dependent Ecosystems and to provide transparency and a better appreciation of the limitations and opportunities for further data collection or modelling, the</p>	<p>The GMMP provide details under section 7, commitment 24 on matters to be included in that model re-run. Specifically, this will include:</p> <ul style="list-style-type: none"> • A comprehensive review of groundwater level and quality data from across the monitoring network

<p>department recommends that Adani make the following commitments:</p> <ol style="list-style-type: none"> Adani make a commitment to systematically address all the sources of uncertainty and other modelling limitations identified by the CSIRO/GA review when the groundwater model is re-run and reviewed as required by EA condition E6 to be conducted within 2 years of commencement of any mining activities associated with the box cut excavation. Adani make a commitment to sample the entire plausible parameter space and make predictions probabilistically by spreading attention across refining distributions of the most sensitive model parameters and efficient stochastic modelling (Turnadge et al. 2018). Adani make a commitment to define scale dependent parameters such as hydraulic conductivity at the appropriate spatial scale i.e. commensurate with the size of the numerical grid cell of the groundwater model. Adani make a commitment to run a sufficient range of plausible scenarios that encompass the range of identified uncertainties. 	<ul style="list-style-type: none"> Hydrochemistry analysis from groundwater and spring samples from different spring groups within each spring complex as conducted through the additional studies Inputs from research programs such as the RFCRP and the GABSRP Attain a better understanding of the intact hydrostratigraphy to assess and quantify hydraulic properties from geological information gathered from new bores and core samples, geological mapping and research studies Incorporate Geoscience Australia airborne Electro-magnetic modelling Review of groundwater modelling network and locations for ongoing optimisation. Adani commits to systematically consider the sources of uncertainty as they pertain to each source aquifer and modelling limitations and document this consideration Inclusion of all relevant parameters in a range of modelled scenarios that encompass the identified uncertainties Selection of appropriate model spatial scale to account for local and regional parameters including scale dependent parameters such as hydraulic conductivity Uncertainty analysis and estimation in accordance with relevant guidelines Revision of groundwater drawdown rates for continuing appropriateness Revision of early warning triggers for continuing appropriateness <p>At the second model re-run (7 years after commencement of box cut), Adani will specifically review both the hydrogeological conceptualisation arising from model review and hydrochemistry analysis and seismic information pertaining to the impacts of underground mining. This mining activity is not scheduled to</p>
--	--

	<p>commence until year 10, and a number of precursors are required before it commences.</p> <p>If this review determines that additional seismic studies are required to determine the source aquifers of the Doongmabulla Springs Complex, these activities will be completed and that information included into revised modelling. Underground mining will not commence until these actions are completed and only if predicted impacts are consistent with approved impacts. Likewise, if the hydrogeological conceptualisation differs from that of the approved project, approval must be sought prior to relevant impact causing activities, if predicted impacts also differ from those approved.</p>
<p>To address the above EA requirements, the department recommends groundwater drawdown triggers are set for all monitoring locations for which water level thresholds are defined and use a timeframe that is comparable with routine monitoring data assessment and agreed groundwater model review periods. The bore locations must consider the localised changes that may impact on groundwater dependent ecosystems and changes to groundwater conditions following planned longwall panel excavation beneath of two of the 3 interim drawdown rate trigger bores.</p> <p>A commitment to install new groundwater drawdown trigger threshold bore to replace those lost to mining/underground mining must be made.</p>	<p>Adani has included groundwater drawdown triggers as indicators in the GDEMP monitoring and management under each relevant GDE Chapter. A cross reference to the relevant tables and sections of the GMMP is included.</p> <p>A new section 5.9.2 GAB Springs Research Plan will be included that provides detail of research with regards to GDE pressure response.</p> <p>New Commitment in section 8.7.4 Where interim drawdown rate trigger bores are removed or impacted due to underground mining, these will be replaced.</p>
<ul style="list-style-type: none"> • Address all inconsistent descriptions and reporting of groundwater drawdown trigger thresholds between the GDEMP and GMMP. • Address inconsistencies in the level of commitment for corrective actions for each GDE that are applied when groundwater drawdown trigger levels are exceeded. • Address inconsistencies between the GDEMP and GMMP with regard to adaptive management measures and commitments. 	<p>All inconsistencies of descriptions and reporting of groundwater drawdown trigger thresholds between the GDEMP and GMMP have been addressed.</p> <p>All inconsistencies in the level of commitment for corrective actions for each GDE applied when groundwater drawdown trigger level are exceeded have been addressed.</p>

	All inconsistencies between the GDEMP and GMMP with regard to adaptive management measures and commitments have been addressed.
Flinders University Scientists concerns 5 June 2019	How Adani Addressed in GDEMP v12a
<p>The scientists have provided research findings that suggest that there is an overlap between the hydrochemical signatures of the water types of the regional aquifers and the Doongmabulla Springs Complex. Additionally their analysis of the water samples from several springs in the Doongmabulla Springs Complex suggests they are statistically more consistent with waters from the Permian aquifers than those of the Triassic aquifers.</p> <p>Therefore, the Permian aquifers including the Colinlea cannot be ruled out as sources of water to the Doongmabulla Springs Complex.</p>	<p>Further, if any groundwater model re-run, or bore monitoring results, determine:</p> <ul style="list-style-type: none"> • unauthorised impacts may or have occurred to the Doongmabulla Springs-complex from commencement of dewatering operations into the long term post closure; or • the unlikely scenario that the Permian is an additional source to the Doongmabulla Springs-complex <p>the following mitigation measures and corrective actions will be put in place:</p> <ul style="list-style-type: none"> • Limiting thickness of extraction of coal seams and reviewing extraction of multiple coal seams for the underground longwall mining in order to minimise drawdown impacts to Doongmabulla Springs-complex • Freezing mine development at current levels until the completion of investigations and assessments which demonstrate and conclude that further development will not exceed approved impacts • Assess the water balance / budgets and evaluate losses at the Doongmabulla Springs-complex, in the context of the Permian being a possible additional source of groundwater.

Date : 13/06/2019 12:25:10 AM

From : "WELLS Melissa"

To : "ELLWOOD Dean"

Subject : v12a GDEMP summary CSIRO/GA and Flinders Uni matters

Attachment : GDEMP v12a versus CSIRO recommendations and Flinders U research 12062019.docx;

Hi draft fyi. Will review again tomorrow for accuracy and finalise Q&A from Kieran. Melissa.

Published on DES Disclosure Log
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Summary - GDEMP v12a strengthened by:

- CSIRO/GA advice states '*There is always uncertainty in geological and groundwater conceptual models because we do not have, and never will have, complete knowledge of the sub-surface. The creation of a numerical model, which is a simplification of the biophysical world and processes, compounds this uncertainty.*' While Adani have identified the Clematis Sandstone as the principal/main source aquifer for the Doongmabulla Springs Complex, Adani commit to systematically consider all sources of uncertainty as they pertain to each source aquifer prior to the model re-run including modelling limitations and document these considerations.
- Adani has committed to doing additional work to improve the understanding of the springs source aquifers, particularly for Doongmabulla springs complex. This additional work includes:
 - hydrogeochemical analysis of water sampled from groundwater and spring samples from different spring groups within each spring complex
 - Isotopic analysis including noble, radioactive gases and strontium isotopes where isotopic analysis is not sufficient to reduce uncertainty of the source aquifer of the Doongmabulla Springs Complex.
 - Acquire, test and examine new core samples from new bores to attain a better understanding of hydraulic properties and provide detailed geological mapping
 - Incorporate air-borne electro-magnetic modelling undertaken by Geoscience Australia to improve hydrogeological understanding of the area.
- Adani has committed to installing a bore to below the Rewan in the vicinity of the Doongmabulla Springs Complex, with the Permian Betts Creek Beds (which includes the Bandanna and Colinlea).
- Adani has committed to using a Dunda Beds bore in the vicinity of the Carmichael River as an early warning drawdown trigger for groundwater drawdown monitoring to the Carmichael River.
- All inconsistencies within the plan and inconsistencies with the Groundwater Management and Monitoring Program have been addressed.

CSIRO/GA Recommendation June 2019	How Adani Addressed in GDEMP v12a
1. Adani must make a commitment to undertake and complete the following additional work progressively to improve the understanding of the spring source aquifers prior to the model re-run. <ul style="list-style-type: none"> • Hydrogeochemical analysis of samples from different springs groups within each spring complex to provide 	Adani commits to undertake and complete studies and additional work sequentially over the first two years for the purpose of refining the groundwater numerical model and the hydrogeological conceptualisation as required by EA Condition E6. These additional works include: <ul style="list-style-type: none"> • Hydrogeochemical analysis across the Doongmabulla springs-complex from groundwater and surface water samples. This includes

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<p>better understanding and discern the source aquifers of the Doongmabulla Springs Complex. Bulk hydrochemistry must be completed within 3 months of approval and tracer analyses within 12 months. Hydrogeochemical analyses must include but not limited to:</p> <ul style="list-style-type: none"> a. noble gases - e.g. helium to identify any deeper groundwater contributes to the springs (id of source aquifers); b. radioactive noble gases to identify source aquifer of recent (decades) to intermediate (centuries) and c. strontium isotopes – to identify the source rock of a particular groundwater system. <ul style="list-style-type: none"> • Incorporation of the use of isotope and ageing tracers in the above hydrogeochemical analysis; • A comprehensive review of groundwater level and quality data from relevant aquifers including data from new proposed nested bores in the vicinity of Doongmabulla Springs Complex; • Undertake hydrochemistry interpretation from surface and spring samples to provide more detailed hydrogeology system understanding; • Detailed geological mapping including cores from bores drilled in the vicinity of Doongmabulla Springs Complex and facies modelling to better inform hydraulic connectivity within and across all aquifers; • At new monitoring locations, use the opportunity to acquire drill cores to better understand the intact hydrostratigraphy being drilled through to inform the conceptual model. Conduct test on core samples to assess and quantify hydraulic properties being implemented in the numerical model. Completion of core analysis within 2 years. 	<p>isotopic analysis and will also include noble and radioactive gases and strontium isotopes where isotopic analysis is not sufficient to significantly improve understanding and reduce uncertainty in relation to source aquifer(s) of the Doongmabulla Springs-complex</p> <ul style="list-style-type: none"> • Acquiring, testing and examining any new cores samples generated through new bore holes (dependent on the integrity of these samples) • As part of the new nested bores committed to be drilled in the GMMP (Section 7), Adani will install one hole below the Rewan in the vicinity of the Doongmabulla Springs-Complex, within the Permian Betts Creek Beds (which includes the Bandanna and Colinlea). Baseline research on GDEs is provided in sections 6.1, 7.1, 8.1 and 9.1. Future research activities on the wetland composition of the Doongmabulla and Mellaluka Springs-complexes will be undertaken through the GABSRP, summarised in section 5.9.2. Baseline research on source aquifers is presented in sections 6.2, 7.2, 8.4 and 9.4. Future research is noted in the GMMP (Section 1.10) and in the RFCRP and GABSRP. The GMMP (Section 5 and Table 42) provides details on the natural variation of groundwater level and pressure and how this will be monitored over time against the predicted groundwater levels. The ecological response to groundwater level fluctuation is a key component of the GABSRP (Section 5.9.2) <p>Within two years of commencement of mining activities, the groundwater model is to be reviewed and re-run with the subsequent provision of updated hydrogeological conceptualisation/s and reporting that details the information that was or was not used for this exercise, the supporting reasons for that approach, and detailed findings of this model re-run and revision of the conceptual understanding of the source aquifer(s) and how these will in turn inform the revised GDEMP and GMMP. A key outcome of this exercise is to refine/improve the understanding and decrease the uncertainty surrounding source aquifer/s for each GDE.</p>
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<ul style="list-style-type: none"> • Incorporation of the airborne electro-magnetic (AEM) modelling recently completed by Geoscience Australia (and available to Adani by June 2020). Adani must undertake specific interpretation and analysis of AEM data. The analysis should be conducted with consideration of relevant site-specific data and alternative conceptualisations to be tested to ensure the interpretation derives appropriate conclusions regarding hydrogeology at the scale of investigation of interest to Adani. Adani's AEM investigation should articulate how the objectives of the AEM data analysis will seek to improve hydrogeological knowledge to ensure the interpretation yields desired outcomes; • Revision of the conceptual understanding of the source aquifer(s) for Doongmabulla Springs Complex and the groundwater system based on information collected from the above for incorporation into the groundwater model review (re-run) • Undertake measures identified by the Queensland Herbarium in the Lake Eyre Basin Springs Assessment project for the Doongmabulla Springs Complex including seismic surveys within 12 months. • Optimise the spatial distribution of monitoring bores, including nested or co-located bores intersecting different aquifer units, to enable improved future analysis of water level and hydrochemistry data. 	
<p>2. To address the level of uncertainty of the source aquifer(s) for all the Groundwater Dependent Ecosystems and to provide transparency and a better appreciation of the limitations and opportunities for further data collection or modelling, the</p>	<p>The GMMP provide details under section 7, commitment 24 on matters to be included in that model re-run. Specifically, this will include:</p> <ul style="list-style-type: none"> • A comprehensive review of groundwater level and quality data from across the monitoring network

<p>department recommends that Adani make the following commitments:</p> <ol style="list-style-type: none"> Adani make a commitment to systematically address all the sources of uncertainty and other modelling limitations identified by the CSIRO/GA review when the groundwater model is re-run and reviewed as required by EA condition E6 to be conducted within 2 years of commencement of any mining activities associated with the box cut excavation. Adani make a commitment to sample the entire plausible parameter space and make predictions probabilistically by spreading attention across refining distributions of the most sensitive model parameters and efficient stochastic modelling (Turnadge et al. 2018). Adani make a commitment to define scale dependent parameters such as hydraulic conductivity at the appropriate spatial scale i.e. commensurate with the size of the numerical grid cell of the groundwater model. Adani make a commitment to run a sufficient range of plausible scenarios that encompass the range of identified uncertainties. 	<ul style="list-style-type: none"> Hydrochemistry analysis from groundwater and spring samples from different spring groups within each spring complex as conducted through the additional studies Inputs from research programs such as the RFCRP and the GABSRP Attain a better understanding of the intact hydrostratigraphy to assess and quantify hydraulic properties from geological information gathered from new bores and core samples, geological mapping and research studies Incorporate Geoscience Australia airborne Electro-magnetic modelling Review of groundwater modelling network and locations for ongoing optimisation. Adani commits to systematically consider the sources of uncertainty as they pertain to each source aquifer and modelling limitations and document this consideration Inclusion of all relevant parameters in a range of modelled scenarios that encompass the identified uncertainties Selection of appropriate model spatial scale to account for local and regional parameters including scale dependent parameters such as hydraulic conductivity Uncertainty analysis and estimation in accordance with relevant guidelines Revision of groundwater drawdown rates for continuing appropriateness Revision of early warning triggers for continuing appropriateness <p>At the second model re-run (7 years after commencement of box cut), Adani will specifically review both the hydrogeological conceptualisation arising from model review and hydrochemistry analysis and seismic information pertaining to the impacts of underground mining. This mining activity is not scheduled to</p>
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	<p>commence until year 10, and a number of precursors are required before it commences.</p> <p>If this review determines that additional seismic studies are required to determine the source aquifers of the Doongmabulla Springs Complex, these activities will be completed and that information included into revised modelling. Underground mining will not commence until these actions are completed and only if predicted impacts are consistent with approved impacts. Likewise, if the hydrogeological conceptualisation differs from that of the approved project, approval must be sought prior to relevant impact causing activities, if predicted impacts also differ from those approved.</p>
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