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Chair, Mining and Petroleum Gateway Panel  
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Dear Professor Menzies

Thank you for your correspondence about an amendment application to Cadia Continued Operations Project (project) - Gateway Certificate (GA-74105711).

As set out under the *State Environmental Planning Policy (Resources and Energy) 2021*, please find attached a technical assessment by the Water Group of the NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW).

Neither the original application, nor the amendment, included an assessment against the Aquifer Interference Policy (AIP) due to an interpretation that highly productive groundwater does not exist within the gateway application area. The Water Group's position remains the same in not supporting that interpretation, and as such is unable to advise on the project's impacts to groundwater based on the information provided.


The Water Group recommends that the proponent be required to provide a groundwater impact assessment against the AIP for the Orange Basalt Groundwater Source mapped within the gateway application area.

Should you have any further questions, Stephen O'Donoghue, Director, Resource Assessments, at the Department of Planning, Housing and Infrastructure can be contacted on [REDACTED] or via email at [REDACTED]

Alternatively, Mr Rob Brownbill, Manager, Water Assessments in DCCEEW, would also be available to discuss this matter further with you. Mr Brownbill may be contacted via email at [REDACTED]

Thank you for bringing this to my attention.

Yours sincerely



**Paul Scully MP**  
Minister for Planning and Public Spaces

24/4/25

Encl: Attachment A - DCCEEW Water - Cadia Continued Operations Project - Amendment to the Gateway Certificate

Our ref: OUT25/2186

Mandana Mazaheri  
Planning and Assessment  
Department of Planning, Housing and Infrastructure

Email: [REDACTED]

28 March 2024

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Subject: Cadia Continued Operations Project (SSD-7129098) Amendment to Gateway Certificate (GA-74105711)

Dear Mandana Mazaheri,

I refer to your request for advice sent on 21 February 2025 to the NSW Department of Climate Change, Energy, the Environment and Water (DCCEEW) Water Group about the above matter.

As set out under the State Environmental Planning Policy (Resources and Energy) 2021, our technical assessment has considered the minimal impact considerations of the NSW Aquifer Interference Policy (AIP), as well as other aspects of that policy.

It is noted the amended application includes the removal of the surface water storage on Cadiangullong Creek and minor additional surface disturbances associated with road realignments and infrastructure requirements. These amendments do not raise additional issues for consideration by DCCEEW Water under the AIP. DCCEEW Water's advice on the original gateway application remains valid for the amended application and is reiterated in this Technical Assessment, provided in Attachment A.

The proponent has not completed an assessment against the AIP due to an interpretation that highly productive groundwater does not exist within the gateway application area. We do not support that interpretation and are unable to advise on impacts to groundwater due to the project based on the information provided.

We recommend the proponent provide a groundwater impact assessment against the AIP for the basalt groundwater source mapped within the gateway application area.

Should you have any further queries in relation to this submission please do not hesitate to contact DCCEEW Water Assessments [REDACTED]

Yours sincerely

[REDACTED]

Mitchell Isaacs  
Executive Director Water Knowledge  
Department of Climate Change, Energy, the Environment and Water

## Attachment A

### Technical Assessment by the NSW Department of Climate Change, Energy, the Environment and Water – Water

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#### Advice on the gateway certificate amendment application for the Cadia Continued Operations Project

##### Purpose

The purpose is to provide water assessment advice in response to the gateway certificate amendment application as per the requirements of the *State Environmental Planning Policy (Resources and Energy) 2021*. DCCEE Water's advice takes into account:

- the minimal impact considerations of the NSW Aquifer Interference Policy (AIP), and
- other elements of the AIP.

##### Review and Comment

#### DCCEE Water Gateway Assessment

DCCEE Water advises the information provided is insufficient for the purpose of the gateway certificate amendment application. This is based on a determination by DCCEE Water that a highly productive groundwater source exists within the application area and therefore the application requires a groundwater impact assessment against the NSW Aquifer Interference Policy (2012) (AIP).

DCCEE Water defines the Orange Basalt Groundwater Source as a highly productive groundwater source based on the general characteristics of the water source. This categorisation applies to a whole groundwater source as defined in the water sharing plan, not to the specific groundwater conditions at a particular location.

The map *Groundwater Productivity in NSW* was created by the Department of Primary Industries (Office of Water) (DPI 2013) to identify areas in NSW with highly productive groundwater. The Orange Basalt Groundwater Source is classified as highly productive groundwater.

The extent of the Orange Basalt in the region of the Cadia Valley Operations (CVO) was reviewed as part of Modification 15 for CVO (see Figure 1). This review relied on government and CVO geological mapping and aligns with the basalt shown in the current Gateway Application Report (Minesoils 2024) (see Figure 2). This includes mapped basalt in the gateway application area to the east of the mining zone and south within the tailings storage expansion area. It is noted the gateway application for Modification 15 included a groundwater assessment (AGE 2023) against the requirements of the NSW Aquifer Interference Policy (2012) for the mapped basalt.

The AGE (2023) gateway assessment provides useful information for the basalt groundwater yields and quality in the current tailings expansion area. Yields are variable ranging from 0.04 L/s (GW052182) to 1.8 L/s (GW704196). Total dissolved solids (TDS) of the Orange Basalt Groundwater Source from sampling in April 2021 of 14 CVO monitoring bores indicates the groundwater is predominantly fresh with a TDS below 1,500 mg/L for 12 of the 14 bores.



Highly variable yields are reported for the Orange Basalt Groundwater Source. A review of registered Tertiary Basalt bore data, which was completed as part of the Cadia East EIS (AGE 2009), indicates that supplies from individual bores vary widely with a median value of 1.25 L/s, with 96% of bores reporting yields less than 10 L/s. Data from the Cadia East field investigation program reported moderate to high yields from the Tertiary Basalt in the palaeochannel to the north-east of the Project with airlift yields of between 2 L/s and 10 L/s (AGE 2009).

As the Orange Basalt Groundwater Source is defined as highly productive and the refined mapping shows the presence of basalt in the gateway application area, the gateway application for the proposed Cadia Continued Operations project area must include a groundwater impact assessment against the NSW Aquifer Interference Policy (2012).

#### **Minimal Impact Considerations of the Aquifer Interference Policy (AIP)**

Considerations of minimal impacts as required by the AIP have not been appropriately assessed. Advice can therefore not be provided on the acceptability of impact to highly productive groundwater due to the project.

#### **Other Elements of the AIP**

Additional considerations of the AIP have not been addressed by the proponent.

#### **DCCEE Water Recommendation**

The amended gateway application includes a groundwater impact assessment against the NSW Aquifer Interference Policy (2012) for the proposed activities within the area of refined basalt mapping. This needs to consider:

- the extent of drawdown and water take due to the expansion of underground mining for an additional 20 years,
- water quality seepage impacts from an expanded tailing storage facility, and

The AIP assessment is to meet the following requirements.

- The Groundwater Assessment Toolbox for State Significant Development/State Significant Infrastructure (DPE 2022)
- Assessment of the minimal impact considerations of the AIP for highly productive aquifers including drawdown and water quality impacts to high priority groundwater dependent ecosystems (GDEs), high priority culturally significant sites and water supply works.
- Assessment of acidity issues, waterlogging or water table rise.
- Assessment of:
  - additional water take during mining and post mining and the ability to obtain additional water entitlement where required
  - impacts to landholder bores, licensed water users, GDEs
  - saline or contaminated water impacts
  - changes to hydraulic connection between aquifers, especially in the subsidence zones.

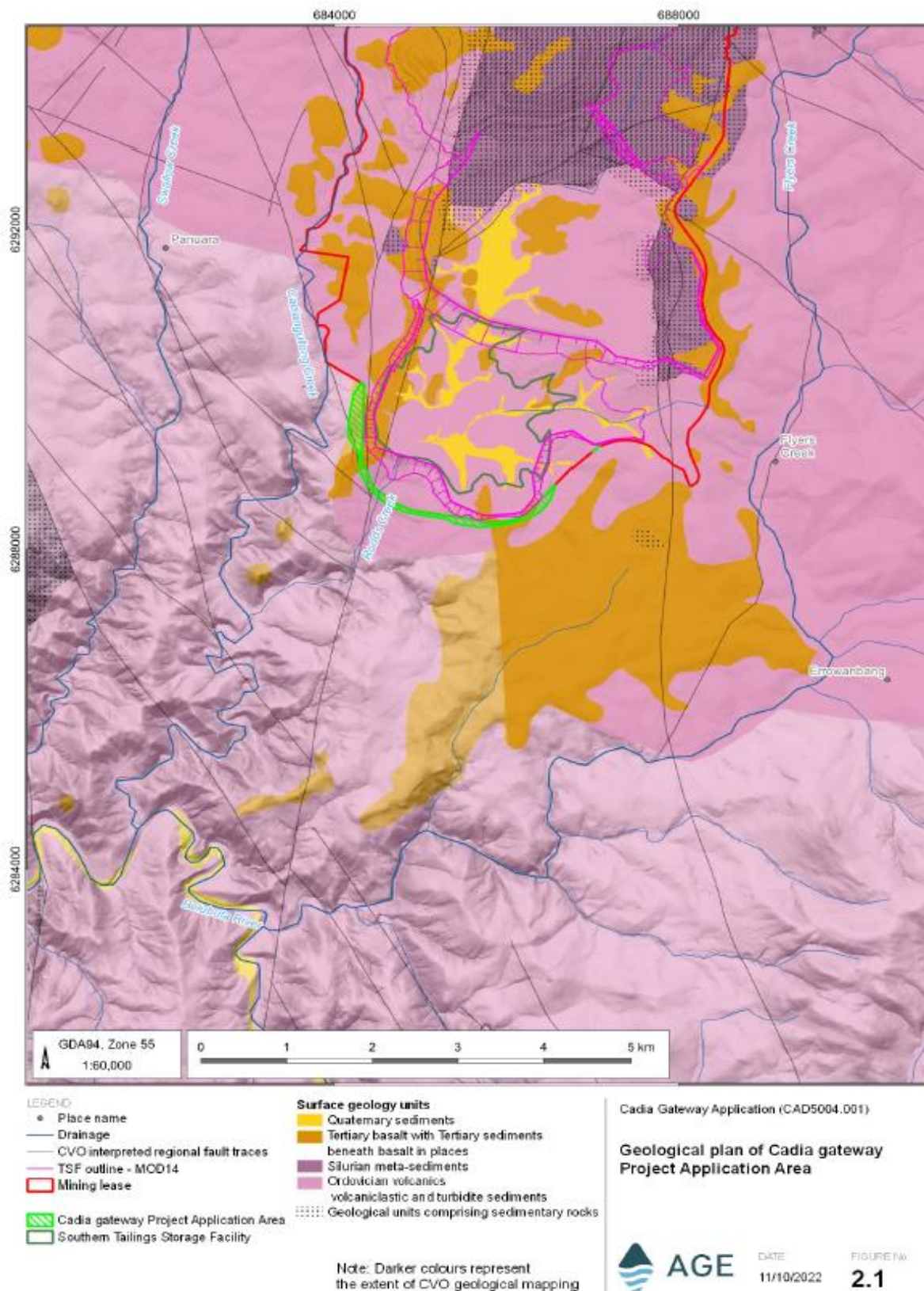


Figure 1. Geological mapping submitted with CVO Modification 15 gateway application showing basalt in southern area of CVO.



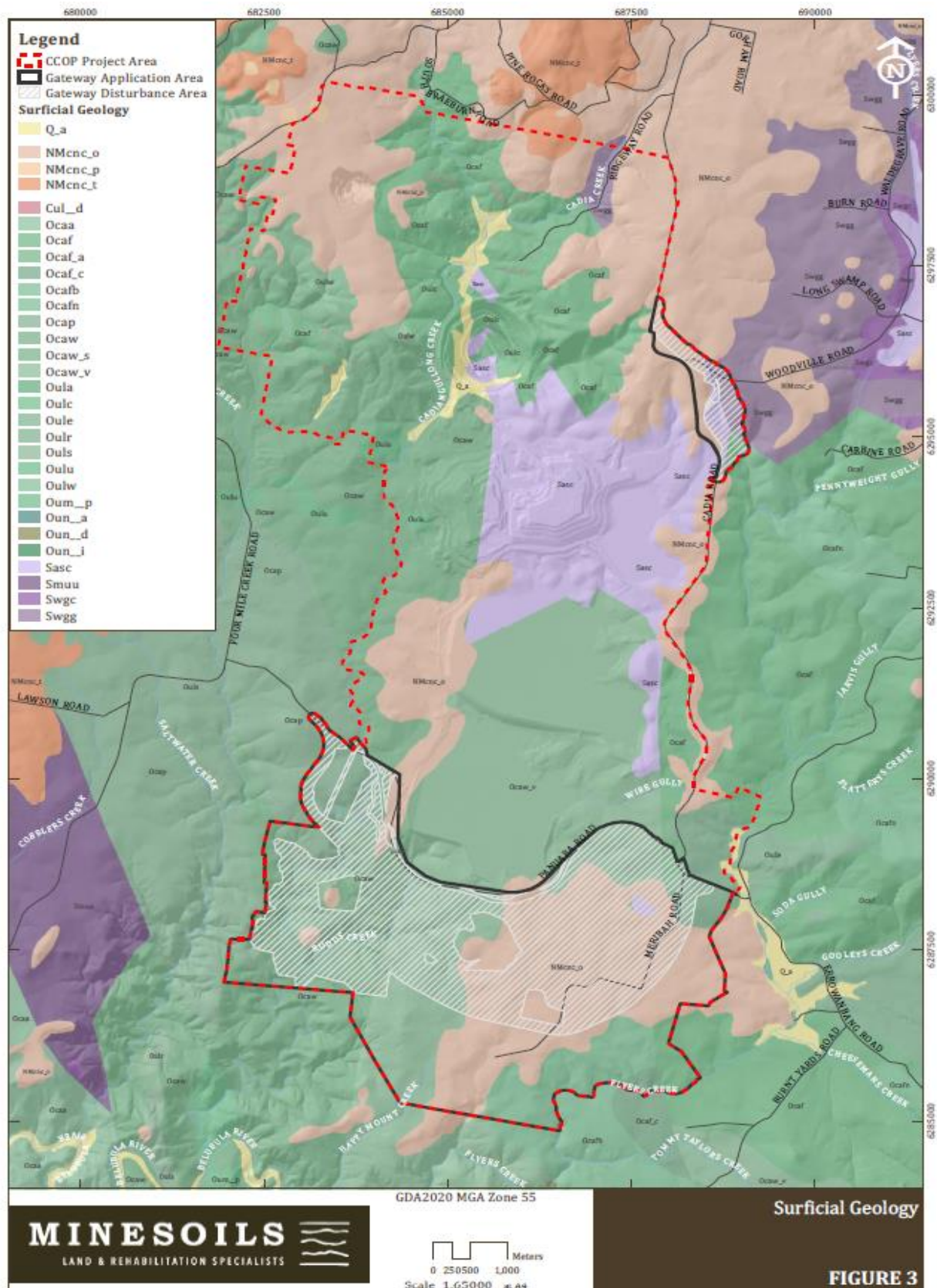


Figure 2. Geological mapping submitted with Continued Cadia Operations Project gateway application showing basalt as NMcnc\_p.