Department of Primary Industries

OUT16/24394

Ms Phillipa Duncan
Resource Assessments
NSW Department of Planning and Environment
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Dear Ms Duncan

Nyngan Scandium Project (*SSD 5157*)
Comment on the Environmental Impact Statement

I refer to your email dated 25 May 2016 to the Department of Primary Industries in respect to the above matter. Comment has been sought from relevant divisions of DPI. Any further referrals to DPI can be sent by email to landuse.enquiries@dpi.nsw.gov.au.

The Department has reviewed the exhibited Environmental Impact Statement and advises that, prior to determination of the proposal, the proponent should undertake additional assessment on flood modelling to determine the potential impacts to flood extent and levels on neighbouring properties, due to construction of the flood protection levee and other infrastructure such as soil stockpiles located outside of the levee.

Additional comments and recommendations are provided below for the consideration of DPE in determination of the proposal.

With respect to Crown Land in the vicinity of the proposal:

- The proponent should apply to close and purchase the Crown Public Roads associated with the proposal in order to avoid restrictions on access and development on these parcels;
- Aboriginal Land Claim 7409, for land that partially includes the project site is still undetermined. This claim will need to be resolved;
- If R26457 for Travelling Stock is required for access, this should be formalised by way of an easement or right of carriageway; and
- Part 7: Traffic Assessment 2.1 Introduction should be amended to read "...*The proposed mine access road is an existing* ***Crown*** *road that is expected to be upgraded* ...".

With respect to potential impacts to agricultural resources:

- The area that is not directly impacted by the project plays an important role in buffering the project from adjacent lands. A land management plan for this area is

recommended to review and monitor the activities that will take place and also incorporate the weed and pest management measures mentioned in the activities for the entire project area;

- It is stated that 300 millimetres of soil is to be used for stripping and storage in the project disturbance area. Considering the moderate risk to not having enough soil material for rehabilitation it is recommended that both topsoil and subsoil be stripped at different depths and stored separately for use in rehabilitation. This will help overcome the risk of not having enough soil for rehabilitation purposes through soil handling losses, and assist in providing a better outcome for plant growth. Subsoil amelioration can also assist in improving plant growth and soil stability outcomes; and

- The proponent should consider setting up a formal consultation process to help inform the progress of the project as well as to reiterate how any concerns can be dealt with locally (beyond visual and amenity issues (Section 4.10.3), road noise and construction with residence R4 (S4.6.5) and weed and pest management (S4.13.4). A broader community consultation plan should also be considered.

With respect to impacts to water resources:

- Significant uncertainty exists in the accuracy of the predicted groundwater inflows and impacts due to the project given the analytical modelling methods used and the large range provided in the groundwater assessment. The proponent is required to develop a modelling plan in consultation with DPI Water which addresses the requirement for modelling to the standard as per the NSW Aquifer Interference Policy;
- The proponent should clarify the maximum annual water demands for each activity and the proposed sources for these demands. Detail on the security of each water source during a range of climatic conditions should be provided;
- The groundwater impacts are assessed in the EIS to be within the Level 1 Minimal Impact Considerations of the NSW Aquifer Interference Policy. This is deemed acceptable. Further information is requested to address all requirements of the AI Policy;
- The proponent will be required to hold sufficient entitlement in the Lachlan Fold Belt Groundwater Source to account for the maximum predicted annual water take associated with the open cut pits, and in the Macquarie and Cudgegong Regulated Rivers Water Source for water take via the Cobar-Nyngan Pipeline prior to this occurring. The proponent is requested to make a commitment to hold the necessary entitlement from both of these water sources;
- The main water supply for the project is via the existing Nyngan-Cobar water pipeline. Confirmation is yet to be provided of an agreement with Cobar Water Board to access the pipeline or the purchase of necessary water entitlement; and
- A Water Management Plan is recommended to monitor, manage and mitigate impacts to groundwater and surface water sources and users during project construction and operation.

Further detailed comments from DPI Water and a guide to assessing proposals against the Aquifer Interference Policy that may assist the proponent are included at **Attachment A** and **B** respectively.

The Department recommends the following Conditions of Consent be included in any determination for the Project:

- The proponent must obtain the necessary water licenses for the project under the *Water Management Act 2000* prior to commencement of activities.
- The Proponent shall develop a Water Management Plan for the project. This Plan must be developed in consultation with DPI Water and include:
  - details of water use, metering and water management on site,
  - details of water licence requirements,
  - Surface Water Management Plan, and
  - Groundwater Management Plan.
- The Surface Water Management Plan must include:
  - a program to monitor:
    - surface water flows and quality,
    - surface water storage and use, and
    - sediment basin operation,
  - sediment and erosion control plans,
  - surface water impact assessment criteria, including trigger levels for investigating any potentially adverse surface water impacts, and
  - a protocol for the investigation and mitigation of identified exceedances of the surface water impact assessment criteria.
- The Groundwater Management Plan must include:
  - baseline data on groundwater levels and quality,
  - a modelling plan to review and refine the groundwater model to address the requirements of the *NSW Aquifer Interference Policy* prior to the commencement of activities,
  - a program to monitor groundwater levels, groundwater quality, groundwater take, and groundwater dependent ecosystems (frequency, sites, methodology, data collection and data management),
  - groundwater impact assessment criteria, including trigger levels for investigating any potentially adverse groundwater impacts,
  - a protocol for the investigation and mitigation of identified exceedances of the groundwater impact assessment criteria,
  - a protocol for periodic review of groundwater model calibration and verification of groundwater take and reinjection predictions and groundwater impacts.

Yours sincerely

Mitchell Isaacs
Director, Planning Policy & Assessment Advice
29 June 2016

Attachment A

Nyngan Scandium Project (*SSD 5157*)
Comment on the Environmental Impact Statement
Detailed comments – DPI Water

DPI Water Detailed Comments – Nyngan Scandium Project

1. Project Details

DPI Water understands the project includes the following key activities:

- Two open cut pits and a borrow pit with a mine life of 21 years.
- A processing plant with maximum processing rate of 95000tpa.
- A residue storage facility.
- Ancillary infrastructure which will include an evaporation pond, levee bunds and water supply infrastructure.

2. Water Demands and Supply

- Section 2.7 of the EIS indicates water sources for the project are to include water from the Cobar-Nyngan pipeline, sediment ponds, recycled water from the process plant, contaminated areas and decant pond, and groundwater inflows to the pits.
- Water demands are proposed to include dust suppression, potable water and process water. Section 2.7.4 indicates makeup water would be required from the pipeline in all climatic conditions. This is predicted to include 46ML in average conditions, 163ML in dry conditions and 6ML in wet conditions.
- Although makeup water figures have been provided, no detail is provided on the maximum annual water demands for the proposal for each activity during the project life and the proposed source and security to meet these demands. Additional detail is also requested to understand the reliance on rainfall/runoff and groundwater inflows to meet the water demands. The predicted groundwater inflows have a significant range of uncertainty, therefore significant uncertainty in the availability of groundwater exists, in addition to what may be available from rainfall.

3. Water Licensing

- The proponent is proposing the purchase of 170ML of High Security water entitlement from the Macquarie – Cudgegong Regulated Rivers Water Source. The EIS indicates the proponent has commenced discussions with the Cobar Water Board to enable use of the pipeline to supply the water and the proponent has commenced discussions with a water broker to purchase the entitlement. Confirmation of purchase and agreement with the Cobar Water Board is yet to occur.
- The east and west open cut pits are proposed to a maximum depth of 45m and 50m respectively, and the borrow pit is to be excavated to 15m. Groundwater is predicted to be intercepted in both pits with groundwater bearing zones predicted to range from 33 – 42m below ground level.
- Groundwater take associated with inflows to the open cut pits will require the proponent to hold sufficient entitlement in the Lachlan Fold Belt groundwater source to account for the maximum predicted annual groundwater take prior to it occurring. Significant uncertainty currently exists in the potential groundwater take due to the analytical modelling technique used and large predicted range of between approximately 72.5ML/yr and 615ML/yr. Further to this no detail has been provided on the groundwater inflows during various stages of mine development, for the period after mining ceases or for the ongoing take once the water levels in the pits reach equilibrium. Additional modelling is requested to

accurately determine inflow which will inform entitlement requirements and confirm impacts.

4. Groundwater Assessment

- The groundwater assessment completed in 2011 included the installation of 4 monitoring bores to 45m and 4 test bores to 45m. A pump test of one of the test bores for 36hrs was completed to determine aquifer parameters and analytical modelling was used to assess groundwater drawdown impacts and groundwater inflows.
- Section 4.5.5 and Part 5 indicates groundwater inflows in the east pit to range from 1-8.3L/s and in the west pit from 1.3-11.2L/s. These inflows are predicted to cause a maximum drawdown extent of 1000-2900m from the east pit and 1300-3600m from the west pit. No detail has been provided on the groundwater inflows during the period after mining ceases and the ongoing take once the water levels in the pits reach equilibrium.
- Based on the closest bores being approximately 8km from the project site no drawdown impacts are predicted on groundwater users.
- Following completion of mining the groundwater assessment has predicted the water level within the west pit to reach equilibrium 5 years after mining at a level approximately 4m below the pre-mining level. The water level in the east pit is predicted to reach equilibrium approximately 9 years after mining at a level approximately 1m less than the pre-mining level.
- The geochemistry assessment on overburden and waste rock indicate it to be non-acid forming, hence impacts on groundwater quality from acid leachate are not predicted. A hydraulic gradient is predicted towards the pit and the EIS considers this will further limit any potential for contaminants to enter the aquifer.
- Impacts on groundwater quality and drawdown level are predicted in the EIS to be within the Level 1 Minimal Impact Considerations of the NSW Aquifer Interference Policy.
- Section 8.3 of the Groundwater Assessment indicated no groundwater dependent ecosystems (GDE) were identified within the project site and none were listed in the relevant water sharing plan within the zone of predicted drawdown. The BOM GDE database however identifies the Miandetta State Forest located approximately 3.5km from the site to have a high likelihood of having vegetation reliant on groundwater. This forest is within the maximum drawdown zone of the west pit, however the assessment considers that due to the high salinity and depth of groundwater at the project site it is unlikely vegetation in the forest would be reliant on the same aquifer.
- Figure 2.6 of the main EIS indicates liners are proposed to be installed to mitigate impacts to groundwater quality for storages proposed to store contaminants. This is to include the residue storage facility, evaporation pond, event pond and external decant pond. The lining is proposed to vary depending on the time period that contaminants are held. It is recommended consideration be given to the ability to manage impacts based on time of exposure and how this equates to a lower risk to the groundwater source. DPI Water supports the use of adequate liners to mitigate the potential for degradation of groundwater quality within 40m of the activity in accordance with the NSW Aquifer Interference Policy both during operations and post mine life.
- The following points summarise recommendations in relation to the groundwater assessment and addressing the requirements of the NSW Aquifer Interference Policy:
    - Clarify groundwater inflow and provide estimates as ML/yr.
    - Provide a modelling plan in consultation with DPI Water addressing the requirement for modelling to the standard as per the AIP. The proponent is requested to demonstrate they can accurately predict and measure groundwater inflows to ensure accurate licensing of take and impact prediction.

- Obtain relevant water access licences to account for the maximum annual take of water, based on the estimated groundwater inflows.
- Draft a detailed water management and monitoring plan in consultation with DPI Water addressing groundwater management issues and groundwater monitoring.
- Provide estimates of groundwater inflow post mining activity.
- Detail any baseline data and how it has been used in the assessment of the project.
- Describe the characteristics of the water requirements.
- Consider and address the rules of the relevant water sharing plan and if the proposal can meet these rules.
- Consider the effect that activation of existing entitlement on future available water determinations.
- Consider actions required both during and post-closure to minimize the risk of inflows to a mine void as a result of flooding.

5. Surface Water Assessment

- Section 4.4 of the main EIS indicates impacts to surface water volumes are considered negligible and has identified the 110ha bunded area to represent 0.05% of the Whitbarrow Creek Catchment. DPI Water requests details of the volume of proposed runoff to be captured based on a range of climatic conditions and assessed against the total catchment flows.
- Figure 2.1 of the main EIS indicates an initial levee bund is to be established close to the two pits, followed by a final levee bund on the outside of the borrow pit and outside of the majority of the infrastructure in the western side of the operations.
- Flood modelling is included in the EIS to determine the required height of the levee. This included modelling to depict the flood extent for the 1 in 100yr ARI and 1 in 1000yr ARI levels. The results from the 1 in 1000yr ARI event is proposed to be used as the design level for construction of the levee. The surface water assessment recognised there were limitations in the cross-section data that could be used in the flood modelling and recommended additional surveying be completed for more accurate assessment of the flood levels and final levee design. This is supported by DPI Water.
- The flood modelling has not included an assessment of the potential impacts of the proposed levee and other infrastructure (eg. topsoil stockpiles) on flood levels or extents within or outside the project area. Uncertainty therefore exists in terms of flood impacts on adjacent properties.
- The flood modelling and runoff assessment proposes a floodway to be established between the levee for the pit and the levee for the process plant area. This will require a culvert under the connecting road and relevant water diversion structures to convey water in a stable manner through the site. Further detail on clean, dirty and contaminated water management is requested as part of preparation of a Water Management Plan prior to commencement of operations. It is recommended this be consistent with standards in the guideline, *Managing Urban Stormwater: Soils and Construction* (Landcom 2004).
- It is recognised sediment ponds are proposed within the bunded area to manage internal runoff during construction and operation. It is recommended the need for sediment ponds be considered for the topsoil stockpiles outside of the bunded area until stabilisation has occurred. Further detail on sizing and management is recommended as part of a management plan prior to construction.

6. Monitoring and Management

- Limited detail is provided in the EIS on surface water and groundwater monitoring and management.

- A Groundwater Management Plan is recommended to be developed and implemented prior to project commencement to address groundwater impacts. Key aspects for DPI Water would include groundwater monitoring, metering and verification of actual versus predicted impacts for both water take from the pits, groundwater drawdown and potential degradation of groundwater quality from the operations.
- A Surface Water Management Plan is recommended to be developed and implemented prior to project commencement to address surface water impacts. Key aspects for DPI Water would include the development of clean, dirty and contaminated water management areas and their ongoing monitoring and management during construction and operations.

End Attachment A

Attachment B
Nyngan Scandium Project (*SSD 5157*)
Comment on the Environmental Impact Statement
Detailed comments – DPI Water

Assessing a proposal against the NSW Aquifer Interference Policy

Table 1. Does the activity require detailed assessment under the AIP?

	Consideration	Response
1	Is the activity defined as an aquifer interference activity?	Yes
2	Is the activity a defined minimal impact aquifer interference activity according to section 3.3 of the AIP?	No

1. Accounting for, or preventing, the take of water

Has the proponent:

AIP Requirement		Proponent response	DPI Water comment
1	Described the water source (s) the activity will take water from?	"The open cut will be excavated within the Lachlan Fold Belt groundwater management unit"	Satisfactory Noted Lachlan Fold Belt MDB (Other) Management Zone.

AIP Requirement		Proponent response	DPI Water comment
2	Predicted the total amount of water that will be taken from each connected groundwater or surface water source on an annual basis as a result of the activity?	It has been estimated that maximum groundwater inflow to the East Pit would range between 1.0L/sec and 8.3L/sec, with inflow volumes close to the lower end of the range most likely. It has been estimated that maximum groundwater inflow to the West Pit would range between 1.3L/sec and 11.2L/sec, with inflow volumes close to the lower end of the range most likely.	The proponent used an uncalibrated analytical tool to determine impacts and inflows of the project. The maximum and minimum estimated groundwater inflows quoted in the EIS as L/sec converted to ML/yr gives a range of 72.5ML/yr and 615ML/yr estimated groundwater inflow. The proponent is required to clarify the predicted groundwater inflow in ML/yr. It is noted there is uncertainty in the accuracy of the predicted inflows given the analytical methods used and the large range estimated by the proponent. The proponent is required to provide a modelling plan in consultation with DPI Water that addresses the requirement for modelling to the standard as per the AIP. The proponent has to demonstrate they can accurately predict and measure groundwater inflows to ensure accurate licensing of take.
3	Predicted the total amount of water that will be taken from each connected groundwater or surface water source after the closure of the activity?	Long term post mining steady state conditions are likely to be established approximately 5 to 20 years after ceasation of mining	Not addressed No volume has been given for the continued take of water to fill the open pit void once mining activities have ceased. Only a peak volume has been given during the mining activity quoted a L/sec. The proponent is required to provide estimates of groundwater inflow post mining activity.

AIP Requirement		Proponent response	DPI Water comment
4	Made these predictions in accordance with Section 3.2.3 of the AIP? (refer to Table 2, below):	Yes	Overall, predictions are considered to be incomplete.
	Establish baseline conditions:	Baseline groundwater conditions at the site and within the study area are detailed in section 5.	Section 5 references monitoring bores used to determine baseline conditions however no detail or data is provided. The proponent is required to detail any baseline data and how it has been used in the assessment of the project.
	Strategy or commitment to comply with water access rules:	The proponent will licence the Open Cut as a Groundwater Supply Work. The proponent will purchase groundwater entitlement which covers indirect losses of groundwater and intentional groundwater use associated with Open Cut mining. Groundwater would need to be purchased within the Lachlan Fold Belt groundwater management unit.	It is noted there is uncertainty in the accuracy of the predicted inflows given the analytical methods used and the large range estimated by the proponent. The proponent is required to provide a modelling plan, in consultation with DPI Water, that addresses the requirement for modelling to the standard as per the AIP The proponent has to demonstrate they can accurately predict and measure groundwater inflows to ensure accurate licensing of take.
	Predictions of AI impacts to specified receptors – water levels/pressures at nearest supply; GDEs, surface waters:	Groundwater dependant ecosystems have not been identified on the Project Site. The estimated maximum extent of drawdown impacts extends beneath woodlands to the north and south of the site which have 'low potential for groundwater interaction". Groundwater salinity beneath the Project Site was elevated to concentrations which would be unlikely to support plants that relay on fresh water. The depth to groundwater at the Project Site also suggests that vegetation within nearby woodlands is unlikely to be reliant on regional groundwater. Groundwater beneath the Project Site has elevated salinity and would not be suitable for beneficial use without desalination. The potential for the proposed development to impact on	The proponent used an uncalibrated analytical tool to determine impacts and inflows of the project; the AIP requires a greater level of assessment. DPI Water acknowledged that the project is located in an area of poor water quality and there are no known water supply works with 8km of the project or any other sensitive receptors in proximity to the project.

AIP Requirement		Proponent response	DPI Water comment
		groundwater and surface water quality has been assessed in section 8.6	
	Predicts whether hydraulic connections between aquifers will be caused or enhanced:	The open cut extends approximately 25m into the uppermost aquifer identified at the Project Site. The presence of additional aquifers at depth is not known. However the nature of ground disturbance is such that it is unlikely that a second aquifer would be encountered within the Open Cut	No other aquifers or water sources in the vicinity.
	Comments on potential for river bank or high wall instability:	The proposed Open Cut is located approximately 1km from the nearest surface water feature. Bank stability is not expected to be impacted by the proposal.	Satisfactory
	Details of the method for disposing of extracted water(s):	Groundwater would only be extracted from the aquifer on an 'as needed' basis. Groundwater would be used in the mine process where possible to reduce reliance on surface water. An evaporation pond would be used to dispose of excess water if required. In the event that water disposal was required, water could be circulated back into the Open Cut to prevent loss of containment from the Project Site.	No water management plan has been provided. The proponent is required to draft a detailed water management and monitoring plan in consultation with DPI Water addressing groundwater management and monitoring issues.
5	Described how and in what proportions this take will be assigned to the affected aquifers and connected surface water sources?		Not addressed The proponent is required to provide estimates of groundwater inflow including the source of any inflows.
6	Described how any licence exemptions might apply?		Not addressed however no known exemptions apply.
7	Described the characteristics of the water requirements?		Not addressed The proponent needs to address this requirement.
8	Determined if there are sufficient water entitlements and water allocations that are	Groundwater would need to be purchased within the Lachlan Fold Belt groundwater management unit.	Satisfactory

AIP Requirement		Proponent response	DPI Water comment
	able to be obtained for the activity?		
9	Considered the rules of the relevant water sharing plan and if it can meet these rules?	The Water Sharing Plan for the NSW Murray-Darling Fractured Rock Groundwater Sources (2012) did not list any groundwater dependent ecosystem within the area of possible impact at and surrounding the Project Site. …No groundwater dependant ecosystems were identified on the Project Site.	Partially addressed The proponent is required to consider and address the rules of the relevant water sharing plan and if the proposal can meet these rules.
10	Determined how it will obtain the required water?	Groundwater would need to be purchased within the LFB groundwater management unit.	Satisfactory
11	Considered the effect that activation of existing entitlement may have on future available water determinations?		Not addressed The proponent needs to address this requirement.
12	Considered actions required both during and post-closure to minimize the risk of inflows to a mine void as a result of flooding?		Not addressed The proponent needs to address this requirement.
13	Developed a strategy to account for any water taken beyond the life of the operation of the project?	Post mining, abstraction of groundwater from the aquifer will cease and the final voids are expected to fill with water until an equilibrium condition establishes.	Partially addressed more clarification is required from the proponent on post closure water take.
	Will uncertainty in the predicted inflows have a significant impact on the environment or other authorized water users? Items 14-16 must be addressed if so.	The estimated maximum extent of drawdown impacts around the Open Cut is approximately 3,600m. There are no registered groundwater users within the modelled extent of drawdown impacts. The nearest registered water supply works were 8km from the proposed Open Cut.	Satisfactory

2. Determining water predictions in accordance with Section 3.2.3 (complete one row only – consider both during and following completion of activity)

AIP Requirement		Proponent response	DPI Water comment
1	For the *Gateway* process: Is the estimate based on a simple modelling platform,	N/A	N/A

AIP Requirement		Proponent response	DPI Water comment
	using suitable baseline data, that is fit-for-purpose?		
2	For *SSD* or *mining* or *CSG production*, is the estimate based on a complex modelling platform that is: Calibrated against suitable baseline data, and in the case of a *reliable water source*, over at least two years? Consistent with the Australian Modelling Guidelines? Independently reviewed, robust and reliable, and deemed fit-for-purpose?		The proponent used an uncalibrated analytical tool to determine impacts and inflows of the project. It is noted there is uncertainty in the accuracy of the predicted inflows and impacts given the analytical methods used and the large range estimated by the proponent. DPI Water acknowledged that the project is located in an area of poor water quality and there are no known water supply works with 8km of the project or any other sensitive receptors in proximity to the project. The proponent is required to accurately determine inflow and water take to ensure accurate licensing. The proponent is required to provide a modelling plan, in consultation with DPI Water, which addresses the requirement for modelling to the standard as per the AIP. The proponent has to demonstrate they can accurately predict and measure groundwater inflows to ensure accurate licensing of take.
3	In all other processes, estimated based on a desk-top analysis that is: Developed using the available baseline data that has been collected at an appropriate frequency and scale; and Fit-for-purpose?	N/A	N/A

3. Minimal Impact Considerations for Aquifer Interference activities

Aquifer	Porous rock or fractured rock		
Category	Less productive		
Level 1 Minimal Impact Consideration		Assessment	DPI Water Comments

Aquifer	Porous rock or fractured rock		
Category	Less productive		
Level 1 Minimal Impact Consideration		**Assessment**	**DPI Water Comments**
Water table Less than or equal to a 10% cumulative variation in the water table, allowing for typical climatic 'post-water sharing plan' variations, 40 metres from any: a) high priority groundwater dependent ecosystem or, b) high priority culturally significant site listed in the schedule of the relevant water sharing plan. **OR** A maximum of a 2 metre water table decline cumulatively at any water supply work.		Groundwater dependant ecosystems and/or culturally significant sites reliant on groundwater have not been identified within the estimated maximum extent of drawdown created by Open Cut mining. The estimated maximum extent of drawdown impacts around the Open Cut is approximately 3600m. There are no registered groundwater users within the modelled extent of the impacts. The nearest registered water supply works were 8km form the proposed Open Cut	The proponent used an uncalibrated analytical tool to determine impacts and inflows of the project. It is noted there is uncertainty in the accuracy of the predicted inflows and impacts given the analytical methods used and the large range estimated by the proponent. The proponent is required to provide a modelling plan, in consultation with DPI Water, which addresses the requirement for modelling to the standard as per the AIP. DPI Water acknowledged that the project is located in an area of poor water quality and there are no known water supply works with 8km of the project or any other sensitive receptors in

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			proximity to the project.

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Level 1 Minimal Impact Consideration		Assessment	DPI Water Comments
Water pressure A cumulative pressure head decline of not more than a 2 metre decline, at any water supply work.		The estimated maximum extent of drawdown impacts around the Open Cut is approximately 3600m. There are no registered groundwater users within the modelled extent of the impacts. The nearest registered water supply works were 8km form the proposed Open Cut	The proponent used an uncalibrated analytical tool to determine impacts and inflows of the project. It is noted there is uncertainty in the accuracy of the predicted inflows and impacts given the analytical methods used and the large range estimated by the proponent. The proponent is required to provide a modelling plan, in consultation with DPI Water, which addresses the requirement for modelling to the standard as per the AIP. DPI Water acknowledges that the project is located in an area of poor water quality and there are no known water supply works within 8km of the project or any other sensitive receptors in

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Level 1 Minimal Impact Consideration		Assessment	DPI Water Comments
Water quality Any change in the groundwater quality should not lower the beneficial use category of the groundwater source beyond 40 metres from the activity.		Changes to groundwater quality at the site are not expected to occur. The proposed development would not introduce contaminants or salt to the aquifer. An inward (toward the Open Cut) hydraulic gradient is expected to be maintained post mining due to ongoing evaporative losses.	The proponent used an uncalibrated analytical tool to determine impacts and inflows of the project. It is noted there is uncertainty in the accuracy of the predicted inflows and impacts given the analytical methods used and the large range estimated by the proponent. The proponent is required to provide a modelling plan, in consultation with DPI Water, which addresses the requirement for modelling to the standard as per the AIP. DPI Water acknowledged that the project is located in an area of poor water quality and there are no known water supply works with 8km of the project or any other sensitive receptors in

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End of Attachment