Thursday 6 June 2024

Assessable Prospecting Operation Application Decision Briefing and Review of Environmental Factors document

Achilles | APO0001773

Decision Maker	Monique Meyer
Prepared by	Marianne Bonnay
Title	EL 8968 (1992)
Authorised Representative	[redacted]
Project name	Achilles
Activity type	Complying Exploration Activity

Issue

[redacted] has sought an activity approval in respect of Achilles, within EL 8968 (1992), at 25km NW from Lake Cargelligo.

Pursuant to section 2.8 of *State Environmental Planning Policy (Resources and Energy) 2021*, development for the purposes of exploration (i.e. prospecting) may be carried out without development consent.

An authority issued under the *Mining Act 1992* is subject to a condition that the authority holder must not carry out an assessable prospecting operation on land over which the authority is granted unless an activity approval has been obtained for the carrying out of the assessable prospecting operation.

As assessable prospecting operations require approval by the Minister under the *Mining Act 1992*, a duty is imposed on determining authorities under Part 5 of the *Environmental Planning and Assessment Act 1979* to:

- examine and take into account to the fullest extent possible all matters affecting or likely to affect the environmental by reason of the proposed activity; and
- if the activity is likely to significantly affect the environment, examine and consider an environmental impact statement in respect of the activity.

The Minister is the determining authority for all exploration activities subject to environmental assessment under Part 5 of the *Environmental Planning and Assessment Act 1979*.

The Decision Maker, under delegation from the Minister, is required to determine whether:

- the proposed activity is not likely to have a significant impact on the environment and is not likely to significantly affect threatened species, populations or ecological communities (or their habitats) or impact biodiversity values and can be approved,
- the proposed activity is likely to have a significant impact on the environment and therefore an Environmental Impact Statement (EIS) is required,

- the proposed activity will be carried out in a declared area of outstanding biodiversity value and is likely to significantly affect threatened species, populations or ecological communities, or their habitats or impact biodiversity values, meaning a Species Impact Statement (SIS) and/or Biodiversity Development and Assessment Report (BDAR) is required, or
- there is insufficient information to make a decision.

Background

Background

This exploration activity approval is being sought under EL 8968 (granted 9 April 2020 & expiry 9 April 2029) to undertake assessable prospecting operations.

The current security deposit required for EL 8968 is $42,500.

This application forms part of the Achilles exploration program and previously approved exploration activities that form part of this program include:

1- APO0001609 for 20RC/DDH drillholes approved on 12/12/2023.

2- APO0001234 for 250AC drillholes approved on 29/6/2022.

3- APO0001213 for 1000 auger holes (2-15m depth) approved on 19 May 2022.

4- APO0001039 for 20RC/DD holes approved on 16 June 2021.

Assessment Notes

The assessment has determined that the activity is not likely to significantly affect the environment, including threatened species or ecological communities (or their habitats), or declared areas of outstanding biodiversity value/critical habitat.

Proposed exploration activity

The proposed exploration activity (including details of the site, the existing environment, impact thresholds and impact management) are described in *APPLICATION TO UNDERTAKE ASSESSABLE PROSPECTING OPERATIONS Achilles* report and the information provided in support of the application.

The objective of the proposed exploration activity is to carry out works on, or to remove samples from, land for the purpose of testing the resource quality and/or quantity of the land. This is consistent with the objects of the *Mining Act 1992*, including to facilitate the discovery and development of resources in NSW.

No alternatives options to the proposed activity were considered.

Security

Refer to RCE Record RCE0002041

Assessment of Impacts (Complying exploration activity)

An assessment of the significance of environmental impacts associated with the proposed activity was undertaken in accordance with the Department of Planning and Environment's "*Guidelines for Division 5.1 assessments*". The results of this assessment are documented in the attached Review of Environmental Factors document.

Additional terms (if approved)

No additional terms are required.

Summary

Based on the information provided in the *APPLICATION TO UNDERTAKE ASSESSABLE PROSPECTING OPERATIONS Achilles* report, and the Review of Environmental Factors document, the proposed activity has been assessed as is not likely to have a significant impact on the environment and therefore an EIS is not required.

The application has been assessed and the recommendation is to Approve the activity.

Certification

I, Marianne Bonnay, certify that I have reviewed and endorsed the contents of the attached Review of Environmental Factors document and, to the best of my knowledge, it is in accordance with the *Environmental Planning and Assessment Act 1979,* the Environmental Planning and Assessment Regulation 2021 and the Guidelines approved under clause 170 of the EP&A Regulation, and the information it contains is neither false nor misleading.

Recommendation

The Decision Maker, under delegation from the Minister:

- Assesses the environmental impact of Achilles and determines that the activity is is not likely to have a significant impact on the environment and therefore an EIS is not required under Part 5 of the *Environmental Planning and Assessment Act 1979*.
- Approve the activity pursuant to the *Mining Act 1992*.

Review of Environmental Factors document

Criteria	Air Impacts: Air quality impacts (including impacts on nearby sensitive receptors).

Potential impacts	Particulates and emissions from vehicle exhausts, plant and machinery. Wind erosion and dust from disturbed soils during construction and operations. Dust from vehicles travelling over tracks. Dust generation from operating plant and machinery. Air quality impacts on nearby sensitive receivers. AIR This program is very unlikely to have significant or long term impacts on air quality. Dust will be minimised using the cyclone's dust suppression system.		
Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include: a. Activities must comply with cumulative AQ criteria. b. Emissions from the activities should not result in cumulative PM10 levels exceeding 50ug/m3 (24hr) or 30 ug/m3 (annual average) at any occupied residence. c. Emissions from the activities should not result in cumulative PM2.5 emissions exceeding 25 ug/m3 (24hr) or 8 ug/m3 (annual average) at any occupied residence. d. Vehicle speeds limited to minimise dust. e. Roads watered during high traffic periods. f. Surface disturbance managed in accordance with Blue Book. Impacts of any drilling limited to immediate vicinity of drilling due to controls set out in title conditions (Exploration Code of Practice: Environmental Management). Impacts negligible due to nature of drilling activities. All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity (including sealing of any boreholes).		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	N/A	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Partly	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Air Impacts: Greenhouse or ozone impacts.		
Potential impacts	Emissions from combustion of fuel associated with vehicles, plant and machinery during construction, operations and rehabilitation. Fugitive methane emissions from intercepted seams. Fugitive emissions of gases or vapour from drilling operations and the operation of flares. AIR This program is very unlikely to have significant or long term impacts on air quality. Dust will be minimised using the cyclone's dust suppression system.		
Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Petroleum exploration activities cannot be a CEA. CO_2 emissions from activities are extremely limited and inconsequential in context of global emissions and impact. Restrictions on use of ozone depleting substances in NSW also limits ozone depletion. All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity (including sealing of any boreholes).		
Duration	Medium term atmospheric residence.		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low

Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Partly	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Air Impacts: Additional impacts on areas with degraded air quality.		
Potential impacts	Potential for temperature inversions in winter to trap dust and air particulates. Wind erosion possible from exposed soils. Particulate emissions from vehicles and machinery. Dust generation from operating machinery, vehicles travelling over tracks, etc. AIR This program is very unlikely to have significant or long term impacts on air quality. Dust will be minimised using the cyclone's dust suppression system.		
Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include: a. Activities must comply with cumulative AQ criteria. b. Emissions from the activities should not result in cumulative PM10 levels exceeding 50ug/m3 (24hr) or 30 ug/m3 (annual average) at any occupied residence. c. Emissions from the activities should not result in cumulative PM2.5 emissions exceeding 25 ug/m3 (24hr) or 8 ug/m3 (annual average) at any occupied residence. d. Vehicle speeds limited to minimise dust. e. Roads watered during high traffic periods. f. Surface disturbance managed in accordance with Blue Book. Impacts of any drilling limited to immediate vicinity of drilling due to controls set out in Exploration Code of Practice: Environmental Management (impacts negligible due to nature of drilling activities). All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity (including sealing of any boreholes).		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Partly	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Water Impacts: Impacts from the use of surface or groundwater.		

Potential impacts	Water used for exploration not available for ecological, stock, domestic or irrigation purposes. Surface runoff can be sediment laden. Generally minimal surface water use (must be licensed or use of farm dams through landholder agreements). No use of groundwater but potential loss through produced water in drilling / deep excavation operations. Interception, cross contamination and/or depressurisation of groundwater systems in drilling operations. Groundwater depressurisation effects on surface water. Mobilisation of pollutants (such as hydrocarbons) in surface water or aquifers. SURFACE water The nearest water source to the planned drilling area is a dam in the next paddock, about 1100m away. GROUND water There are no known groundwater sources within the area of the planned activity. Should ground water be encountered, there will be no permanent impact. A temporary effect may be some water will be pushed to the surface by the drilling air pressure, where it will be controlled by the methods outlined earlier.
Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with Exploration Code of Practice: Environmental Management as per the commitment in the application (APO). Relevant requirements of this Code include: a. Activities must implement all measures to prevent causing any adverse impacts on water quality or quantity. b. Activities must not cause adverse impacts to livestock (including any adverse impacts on surface water supplies used by livestock). Water used for access track watering must be obtained from licensed source or farm dams (with consent of owner). Boreholes to be constructed, operated and decommissioned in accordance with authority/title conditions, Departmental Guidelines and Codes of Practice to protect groundwater/aquifers. SURFACE water Management surface water: No water is required for RC drilling. If diamond drilling is used, it is proposed that in-ground water sumps will be used, and sludge removed by bobcat/excavator once dry, and transported by contracted truck to an EPA approved disposal facility. Water will be sourced from stand pipes where the local council has confirmed water is available, or from local landholders by agreement. All drilling is planned at least 50m from any farm dam or permanent creek. GROUND water Management Ground water: For diamond drilling., it is proposed that in-ground water sumps will be used for water storage, filled by water cart and sludge/cuttings removed by contractor machinery. Non-toxic and biodegradable drilling muds will be used. RC drilling does not require water for drilling purposes. If water is encountered, it will be captured from the outside return hose and cyclone in a turkey's nest to settle sediment, and then directed into geofabric/coir logs/hay bails etc. A secondary sediment dam/bund can be installed around the first should that be inadequate. If enough water make occurs to require a small sump, this can be accommodated, and can be pumped or syphoned away from the work area once the water is sufficiently clear. If the volume of water intersected required greater settling time than could be achieved using a single sump, a second (or more) sump(s) could be setup in series.
Duration	Short term
Application ranking	

What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Medium

Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Water Impacts: Impacts from storage of water		
Potential impacts	Negligible and only localised impacts from storage of water. Water used for exploration temporarily not available for ecological, stock, domestic or irrigation purposes. Generally minimal redirection of flow and changes to flow rates and volumes of a waterbody. Surface runoff can be sediment laden. Generally minimal surface water use (must be licensed or use of farm dams through landholder agreements). No use of groundwater but potential loss through produced water in drilling / deep excavation operations. SURFACE water The nearest water source to the planned drilling area is a dam in the next paddock, about 1100m away. GROUND water There are no known groundwater sources within the area of the planned activity. Should ground water be encountered, there will be no permanent impact. A temporary effect may be some water will be pushed to the surface by the drilling air pressure, where it will be controlled by the methods outlined earlier.		

Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with the Exploration Code of Practice: Environmental Management as per the commitment in the application (APO). Relevant requirements of this Code include: a. Activities must implement all measures to prevent causing any adverse impacts on water quality or quantity. b. Activities must not cause adverse impacts to livestock (including any adverse impacts on surface water supplies used by livestock). All management and storage of produced water must comply with the title conditions. In addition, the Exploration Code of Practice: Produced Water Management, Storage and Transfer applies to i. petroleum exploration which requires the management of produced water, or ii. activities which require produced water to be stored on site (excluding the management of incidental groundwater mixed with drilling fluids that can be temporarily contained in drilling sumps or above ground tanks). Any impacts subject to compensation and landholder access arrangements (e.g. any impacts on land use from storage or water). SURFACE water Management surface water: No water is required for RC drilling. If diamond drilling is used, it is proposed that in-ground water sumps will be used, and sludge removed by bobcat/excavator once dry, and transported by contracted truck to an EPA approved disposal facility. Water will be sourced from stand pipes where the local council has confirmed water is available, or from local landholders by agreement. All drilling is planned at least 50m from any farm dam or permanent creek. GROUND water Management Ground water: For diamond drilling., it is proposed that in-ground water sumps will be used for water storage, filled by water cart and sludge/cuttings removed by contractor machinery. Non-toxic and biodegradable drilling muds will be used. RC drilling does not require water for drilling purposes. If water is encountered, it will be captured from the outside return hose and cyclone in a turkey's nest to settle sediment, and then directed into geofabric/coir logs/hay bails etc. A secondary sediment dam/bund can be installed around the first should that be inadequate. If enough water make occurs to require a small sump, this can be accommodated, and can be pumped or syphoned away from the work area once the water is sufficiently clear. If the volume of water intersected required greater settling time than could be achieved using a single sump, a second (or more) sump(s) could be setup in series.		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Water Impacts: Impacts from changes to natural water bodies, wetlands or runoff patterns.		
Potential impacts	Negligible and only localised changes to surface flows rates and volumes. Surface runoff can be sediment laden. Generally minimal surface water use (must be licensed or use of farm dams through landholder agreements). Interception, cross contamination and/or depressurisation of groundwater systems in drilling operations. Groundwater depressurisation effects on surface water.\ SURFACE water The nearest water source to the planned drilling area is a dam in the next paddock, about 1100m away.		

Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with Exploration Code of Practice: Environmental Management as per the commitment in the application (APO). Relevant requirements of this Code include: a. Activities must implement all measures to prevent causing any adverse impacts on water quality or quantity. b. All sediment and erosion controls (including drainage from roads/access tracks) to be managed in accordance with Blue Book. c. Existing access tracks to be used/upgraded wherever possible. All management and storage of produced water must comply with the title conditions. In addition, the Exploration Code of Practice: Produced Water Management, Storage and Transfer applies to i. petroleum exploration which requires the management of produced water, or ii. activities which require produced water to be stored on site (excluding the management of incidental groundwater mixed with drilling fluids that can be temporarily contained in drilling sumps or above ground tanks). SURFACE water Management surface water: No water is required for RC drilling. If diamond drilling is used, it is proposed that in-ground water sumps will be used, and sludge removed by bobcat/excavator once dry, and transported by contracted truck to an EPA approved disposal facility. Water will be sourced from stand pipes where the local council has confirmed water is available, or from local landholders by agreement. All drilling is planned at least 50m from any farm dam or permanent creek. GROUND water Management Ground water: For diamond drilling., it is proposed that in-ground water sumps will be used for water storage, filled by water cart and sludge/cuttings removed by contractor machinery. Non-toxic and biodegradable drilling muds will be used. RC drilling does not require water for drilling purposes. If water is encountered, it will be captured from the outside return hose and cyclone in a turkey's nest to settle sediment, and then directed into geofabric/coir logs/hay bails etc. A secondary sediment dam/bund can be installed around the first should that be inadequate. If enough water make occurs to require a small sump, this can be accommodated, and can be pumped or syphoned away from the work area once the water is sufficiently clear. If the volume of water intersected required greater settling time than could be achieved using a single sump, a second (or more) sump(s) could be setup in series.		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Water Impacts: Impacts from aquifer interference, including changes to inter-aquifer connectivity.		
Potential impacts	No use of groundwater but potential loss through produced water in drilling / deep excavation operations. Interception, cross contamination and/or depressurisation of groundwater systems in drilling operations. Groundwater depressurisation effects on surface water. Mobilisation of pollutants (such as hydrocarbons) in surface water or aquifers. GROUND water There are no known groundwater sources within the area of the planned activity. Should ground water be encountered, there will be no permanent impact. A temporary effect may be some water will be pushed to the surface by the drilling air pressure, where it will be controlled by the methods outlined earlier.		

Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include: a. Activities must implement all measures to prevent causing any adverse impacts on water quality or quantity. b. Activities must minimise cross connection of aquifers or groundwater sources. c. Activities must minimise any depressurisation of aquifers or groundwater sources. d. Coal and petroleum title holders must prepare and implement and Groundwater Monitoring & Modelling Plan in consultation with NSW Office of Water. Boreholes to be constructed, operated and decommissioned in accordance with authority/title conditions, Departmental Guidelines and Codes of Practice to protect groundwater/aquifers. GROUND water Management Ground water: For diamond drilling., it is proposed that in-ground water sumps will be used for water storage, filled by water cart and sludge/cuttings removed by contractor machinery. Non-toxic and biodegradable drilling muds will be used. RC drilling does not require water for drilling purposes. If water is encountered, it will be captured from the outside return hose and cyclone in a turkey's nest to settle sediment, and then directed into geofabric/coir logs/hay bails etc. A secondary sediment dam/bund can be installed around the first should that be inadequate. If enough water make occurs to require a small sump, this can be accommodated, and can be pumped or syphoned away from the work area once the water is sufficiently clear. If the volume of water intersected required greater settling time than could be achieved using a single sump, a second (or more) sump(s) could be setup in series.		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Water Impacts: Impacts from changes to flooding or tidal regimes.		
Potential impacts	Negligible and only localised changes to drainage flows/flooding regime. Surface runoff can be sediment laden. SURFACE water The nearest water source to the planned drilling area is a dam in the next paddock, about 1100m away.		

Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include: a. Activities must implement all measures to prevent causing any adverse impacts on water quality or quantity. b. All sediment and erosion controls (including drainage from roads/access tracks) to be managed in accordance with Blue Book. c. Existing access tracks to be used/upgraded wherever possible. All management and storage of produced water must comply with the title conditions. In addition, the Exploration Code of Practice: Produced Water Management, Storage and Transfer applies to i. petroleum exploration which requires the management of produced water, or ii. activities which require produced water to be stored on site (excluding the management of incidental groundwater mixed with drilling fluids that can be temporarily contained in drilling sumps or above ground tanks). Management surface water: No water is required for RC drilling. If diamond drilling is used, it is proposed that in-ground water sumps will be used, and sludge removed by bobcat/excavator once dry, and transported by contracted truck to an EPA approved disposal facility. Water will be sourced from stand pipes where the local council has confirmed water is available, or from local landholders by agreement. All drilling is planned at least 50m from any farm dam or permanent creek.		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Medium
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Water Impacts: Impacts from changes in surface or groundwater quality and quantity.		

Potential impacts	Water used for exploration temporarily not available for ecological, stock, domestic or irrigation purposes. Surface runoff can be sediment laden from areas where vegetation has been removed. Generally minimal surface water use (must be licensed or use of farm dams through landholder agreements). No use of groundwater but potential loss through produced water in drilling / deep excavation operations. Interception, cross contamination and/or depressurisation of groundwater systems in drilling operations. Groundwater depressurisation effects on surface water. Mobilisation of pollutants (such as hydrocarbons) in surface water or aquifers. Ford across creeks can cause stream bank erosion from vehicle wash. Inappropriate disposal of drilling wastes / overflow from drilling sumps. GROUND water Management Ground water: For diamond drilling., it is proposed that in-ground water sumps will be used for water storage, filled by water cart and sludge/cuttings removed by contractor machinery. Non-toxic and biodegradable drilling muds will be used. RC drilling does not require water for drilling purposes. If water is encountered, it will be captured from the outside return hose and cyclone in a turkey's nest to settle sediment, and then directed into geofabric/coir logs/hay bails etc. A secondary sediment dam/bund can be installed around the first should that be inadequate. If enough water make occurs to require a small sump, this can be accommodated, and can be pumped or syphoned away from the work area once the water is sufficiently clear. If the volume of water intersected required greater settling time than could be achieved using a single sump, a second (or more) sump(s) could be setup in series.		
Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include: a. Activities must implement all measures to prevent causing any adverse impacts on water quality or quantity. b. Activities must minimise cross connection of aquifers or groundwater sources. c. Activities must minimise any depressurisation of aquifers or groundwater sources. d. Coal and petroleum title holders must prepare and implement and Groundwater Monitoring & Modelling Plan in consultation with NSW Office of Water. e. All sediment and erosion controls to be in accordance with Blue Book to minimise off-site impacts. GROUND water Management Ground water: For diamond drilling., it is proposed that in-ground water sumps will be used for water storage, filled by water cart and sludge/cuttings removed by contractor machinery. Non-toxic and biodegradable drilling muds will be used. RC drilling does not require water for drilling purposes. If water is encountered, it will be captured from the outside return hose and cyclone in a turkey's nest to settle sediment, and then directed into geofabric/coir logs/hay bails etc. A secondary sediment dam/bund can be installed around the first should that be inadequate. If enough water make occurs to require a small sump, this can be accommodated, and can be pumped or syphoned away from the work area once the water is sufficiently clear. If the volume of water intersected required greater settling time than could be achieved using a single sump, a second (or more) sump(s) could be setup in series.		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No

How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Soil & Stability Impacts: Degradation of soil quality (including contamination, salinisation or acidification).		
Potential impacts	Soil erosion and sediment laden runoff from disturbed areas / areas where vegetation has been removed. Mobilisation of pollutants (such as hydrocarbons) in soils. Inappropriate disposal of drilling wastes / overflow from drilling sumps. Exposure of acid sulfate soils. Soil compaction from construction/operations. Impacts on land with high agricultural capability. SOIL/TOPO The soils within the farm on which the planned drilling will occur, are classified as having "extremely severe limitations" on hilly (grazing) areas and "moderate limitations" on flat (cropping) areas. There are no acid sulfate soil zones in the area. Topography of the area comprises a few low hills, with flats between the hills. All drilling is planned to take place on the flatter areas. Vegetation cover is sparse and of poor quality. It comprises Cyprus pines, acacias and some eucalypts, in clumps separated by rocky clearings with grasses and patches of smaller shrubs.		
Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include: a. Minimising vegetation clearing and surface disturbance. b. Prevent causing any land degradation or pollution/contamination of land or water. b. All sediment and erosion controls (including drainage from roads/access tracks) to be managed in accordance with Blue Book. c. Existing access tracks to be used/upgraded wherever possible. d. Controls on sumps and management of chemicals to significantly reduce risk to soils. All management and storage of produced water must comply with the title conditions. In addition, the Exploration Code of Practice: Produced Water Management, Storage and Transfer applies to i. petroleum exploration which requires the management of produced water, or ii. activities which require produced water to be stored on site (excluding the management of incidental groundwater mixed with drilling fluids that can be temporarily contained in drilling sumps or above ground tanks). All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity (including sealing of any boreholes).		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Soil & Stability Impacts: Impacts on land with high agricultural capability.		

Potential impacts	Areas used for exploration activities, access tracks, etc temporarily not available for agricultural production. Temporary loss of use of land. Mobilisation of pollutants (such as hydrocarbons) in soils, air or waters. Inappropriate disposal of drilling wastes / overflow from drilling sumps. Use of pesticides, herbicides, fertilisers or other chemicals have the potential to build up residues in the environment, including in soils and water. Short term noise, air quality and visual impacts. Soil erosion and sediment laden runoff from disturbed areas, that could lead to soil or water contamination or land degradation. Exposure of acid sulfate soils. Spread of weeds, pest animals and animal/plant diseases. Disruption to agricultural / livestock operations. SOIL The soils within the farm on which the planned drilling will occur, are classified as having "extremely severe limitations" on hilly (grazing) areas and "moderate limitations" on flat (cropping) areas. LANDUSE The planned drilling will take place on a farm, where cropping and grazing are both practiced. The planned drill sites will not affect cropping areas. Where grazing animals are fenced within the area where drilling occurs, there will be no impact on the animals as they will be able to move to other parts of the paddock for feeding. All drilling muds, oils and other materials will be secured within the support vehicles during the night so that animals cannot access them.		
Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include minimising potential impacts on the environment (including livestock protection, control of weeds, pest animals, diseases, etc - and use of above-ground sumps required on BSAL. Impacts limited to activity site and subject to compensation and landholder access arrangements. All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity (including sealing of any boreholes).		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Soil & Stability Impacts: Loss of soil from wind or water erosion.		
Potential impacts	Increased risk of erosion where vegetation has been removed. Potential erosion of disturbed areas. SOIL/TOPO The soils within the farm on which the planned drilling will occur, are classified as having "extremely severe limitations" on hilly (grazing) areas and "moderate limitations" on flat (cropping) areas. There are no acid sulfate soil zones in the area. Topography of the area comprises a few low hills, with flats between the hills. All drilling is planned to take place on the flatter areas. Vegetation cover is sparse and of poor quality. It comprises Cyprus pines, acacias and some eucalypts, in clumps separated by rocky clearings with grasses and patches of smaller shrubs.		

Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include: a. Minimising vegetation clearing and surface disturbance. b. Prevent causing any land degradation or pollution/contamination of land or water. c. All sediment and erosion controls (including drainage from roads/access tracks) to be managed in accordance with Blue Book. d. Existing access tracks to be used/upgraded wherever possible. All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity (including sealing of any boreholes).		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Soil & Stability Impacts: Loss of structural integrity of the soil.		
Potential impacts	Soil compaction from access traffic, use of plant and machinery. Soil erosion from disturbed areas / areas where vegetation has been removed. Mobilisation of pollutants (such as hydrocarbons) in soils. SOIL/TOPO The soils within the farm on which the planned drilling will occur, are classified as having "extremely severe limitations" on hilly (grazing) areas and "moderate limitations" on flat (cropping) areas. There are no acid sulfate soil zones in the area. Topography of the area comprises a few low hills, with flats between the hills. All drilling is planned to take place on the flatter areas. Vegetation cover is sparse and of poor quality. It comprises Cyprus pines, acacias and some eucalypts, in clumps separated by rocky clearings with grasses and patches of smaller shrubs.		
Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include: a. Minimising vegetation clearing and surface disturbance. b. Prevent causing any land degradation or pollution/contamination of land or water. b. All sediment and erosion controls (including drainage from roads/access tracks) to be managed in accordance with Blue Book. c. Existing access tracks to be used/upgraded wherever possible. d. Controls on sumps and management of chemicals to significantly reduce risk to soils. All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity (including sealing of any boreholes). Deep ripping of any access tracks which need to be rehabilitated can remediate compaction impacts. Impact generally limited due to low traffic numbers and short term nature of exploration.		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Soil & Stability Impacts: Increased land instability with high risks from land slides or subsidence.		

Potential impacts	Minimal potential impacts. Soil erosion from disturbed areas / areas where vegetation has been removed. Negligible impacts from induced seismicity or ground movements associated with the activity, extraction of groundwater, etc. SOIL/TOPO The soils within the farm on which the planned drilling will occur, are classified as having "extremely severe limitations" on hilly (grazing) areas and "moderate limitations" on flat (cropping) areas. There are no acid sulfate soil zones in the area. Topography of the area comprises a few low hills, with flats between the hills. All drilling is planned to take place on the flatter areas. Vegetation cover is sparse and of poor quality. It comprises Cyprus pines, acacias and some eucalypts, in clumps separated by rocky clearings with grasses and patches of smaller shrubs.		
Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include: a. Minimising vegetation clearing and surface disturbance. b. Prevent causing any land degradation or pollution/contamination of land or water. c. All sediment and erosion controls (including drainage from roads/access tracks) to be managed in accordance with Blue Book (includes controls to manage instability risks). d. Existing access tracks to be used/upgraded wherever possible. e. Controls on sumps and management of chemicals to significantly reduce risk to soils. All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity (including sealing of any boreholes).		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Noise & Vibration Impacts: Results in increased noise or vibration.		
Potential impacts	Noise from vehicles, plant and machinery results in unacceptable impacts on nearby sensitive receivers, such as residences, educational establishments, medical facilities, places of worship, animal boarding/training establishments, intensive livestock agriculture, etc. Percussion drilling can have localised vibration impacts. Drilling unlikely to cause vibration impacts . Shots have vibration and overpressure impacts which may impact vibration sensitive sites. Vibroseis machinery has vibration impacts which may impact vibration sensitive sites. TIMING/NOISE 7 days per week, 12 hours per day RC drilling, 24 hours possible for Diamond drilling 1/6/2024 -9/4/2029 The nearest habited sensitive receiver is a homestead located approximately 4km from the drill polygon boundary. A toolbox meeting for first half hour prior to operation will also take place. Work will need to be carried out during these operational hours on weekends and public holidays to maintain the integrity of the drill hole, prevent caving of the drill hole and prevent potential abandonment of the drill hole. These hours of operation have been agreed to by the landholders and will continue to be discussed with the landholders throughout the program.		

Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include: a. Implementing all practicable measures to ensure noise levels meet acceptable criteria for sensitive receivers. b. Notifying potentially affected landholders at least 24hrs prior to detonating explosives. c. Compliance with Interim Construction Noise Guidelines and/or EPL and/or landholder agreements. d. Ground vibration thresholds limited to 5 mm/s (peak particle velocity) at any residence/sensitive receiver. e. Ground vibration thresholds limited to 3 mm/s for any item of Aboriginal / European heritage significance or cliff line greater than 4m in height. f. Vibrating machinery not to be used within 200m of sensitive receivers, item/place of Aboriginal / European heritage significance or any cliff line greater than 4m in height. Impacts limited to immediate vicinity of exploration activity.		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Medium
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Noise & Vibration Impacts: Affects sensitive receptors.		
Potential impacts	Noise from vehicles, plant and machinery results in unacceptable impacts on nearby sensitive receivers, such as residences, educational establishments, medical facilities, places of worship, animal boarding/training establishments, intensive livestock agriculture, etc. Percussion drilling can have localised vibration impacts. Drilling unlikely to cause vibration impacts . Shots have vibration and overpressure impacts which may impact vibration sensitive sites. Vibroseis machinery has vibration impacts which may impact vibration sensitive sites. TIMING/NOISE 7 days per week, 12 hours per day RC drilling, 24 hours possible for Diamond drilling 1/6/2024 -9/4/2029 The nearest habited sensitive receiver is a homestead located approximately 4km from the drill polygon boundary. A toolbox meeting for first half hour prior to operation will also take place. Work will need to be carried out during these operational hours on weekends and public holidays to maintain the integrity of the drill hole, prevent caving of the drill hole and prevent potential abandonment of the drill hole. These hours of operation have been agreed to by the landholders and will continue to be discussed with the landholders throughout the program.		
Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include: a. Implementing all practicable measures to ensure noise levels meet acceptable criteria for sensitive receivers. b. Notifying potentially affected landholders at least 24hrs prior to detonating explosives. c. Compliance with Interim Construction Noise Guidelines and/or EPL and/or landholder agreements. d. Ground vibration thresholds limited to 5 mm/s (peak particle velocity) at any residence/sensitive receiver. e. Ground vibration thresholds limited to 3 mm/s for any item of Aboriginal / European heritage significance or cliff line greater than 4m in height. f. Vibrating machinery not to be used within 200m of sensitive receivers, item/place of Aboriginal / European heritage significance or any cliff line greater than 4m in height. Impacts limited to immediate vicinity of exploration activity.		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No

How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Medium
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Coastal Location & Processes: Affects coastal processes and coastal hazards, including those under projected climate change conditions.		
Potential impacts	Activities along the coastline / floodways have the potential to exacerbate coastal erosion (rising sea levels and increased storm activity under projected climate change conditions could result in increased erosion along the coastline / floodways).		
Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include: a. Activities must implement all measures to prevent causing any adverse impacts on water quality or quantity. b. All sediment and erosion controls (including drainage from roads/access tracks) to be managed in accordance with Blue Book. CO2 emissions from activities are extremely limited and inconsequential in context of global emissions and impact. Restrictions on use of ozone depleting substances in NSW also limits ozone depletion. All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity (including sealing of any boreholes).		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	N/A
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Hazardous substances or chemicals: Impacts associated with the use, generation, storage or transport of hazardous substances or chemicals.		
Potential impacts	Mobilisation of pollutants (such as hydrocarbons) in air, soils or waters. Inappropriate disposal of drilling wastes / overflow from drilling sumps. Use of pesticides, herbicides, fertilisers or other chemicals have the potential to build up residues in the environment, including in soils and water. CHEMICAL All drilling chemicals will be stored in a trailer and/or bunded area. Empty containers will be taken to a lawful waste facility or recycling centre and will be handled and disposed of in accordance with the relevant Exploration Codes of Practice.		
Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include: a. Preventing contamination of the environment by the release of chemicals, fuels, other potential pollutants. b. Preventing any land degradation or pollution/contamination of land or water. c. Controls on sumps and management of chemicals to significantly reduce risk to environment. d. Use of pesticides, herbicides, fertilisers or other chemicals must comply with legislative requirements. e. Wastes+A34 (including any drilling by-products) to be collected, segregated and disposed of lawfully. All management and storage of produced water must comply with the title conditions. In addition, the Exploration Code of Practice: Produced Water Management, Storage and Transfer applies to i. petroleum exploration which requires the management of produced water, or ii. activities which require produced water to be stored on site (excluding the management of incidental groundwater mixed with drilling fluids that can be temporarily contained in drilling sumps or above ground tanks). All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity.		
Duration	Short term		
Application ranking			

What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Wastes & Emissions: Impacts to the environment resulting from the generation or disposal of wastes.		
Potential impacts	Mobilisation of pollutants (such as hydrocarbons) in soils, air or waters. Inappropriate disposal of drilling wastes / overflow from drilling sumps. Fugitive emissions of gases or vapour from drilling operations or the operation of flares. Use of pesticides, herbicides, fertilisers or other chemicals have the potential to build up residues in the environment, including in soils and water.		
Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include: a. Preventing contamination of the environment by the release of chemicals, fuels, other potential pollutants. b. Preventing any land degradation or pollution/contamination of land or water. c. Controls on sumps and management of chemicals to significantly reduce risk to environment. d. Use of pesticides, herbicides, fertilisers or other chemicals must comply with legislative requirements. e. Wastes (including any drilling by-products) to be collected, segregated and disposed of lawfully. All management and storage of produced water must comply with the title conditions. In addition, the Exploration Code of Practice: Produced Water Management, Storage and Transfer applies to i. petroleum exploration which requires the management of produced water, or ii. activities which require produced water to be stored on site (excluding the management of incidental groundwater mixed with drilling fluids that can be temporarily contained in drilling sumps or above ground tanks). All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity. WASTE RC drill cuttings will be tipped back down the holes, or collected and taken along with all other exploration waste to be disposed of at an EPA-approved waste facility. Any contaminated waste water will be removed by contracted sludge truck. All waste will be handled in accordance with the relevant Exploration Codes of Practice.		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Wastes & Emissions: Impacts on drinking water catchments, wetlands, natural water bodies, riparian zones or flood prone areas.		

Potential impacts	Negligible and only localised changes to drainage flows/flooding regime. Water used for exploration temporarily not available for ecological, stock, domestic or irrigation purposes. Surface runoff can be sediment laden from areas where vegetation has been removed. Generally minimal surface water use (must be licensed or use of farm dams through landholder agreements). No use of groundwater but potential loss through produced water in drilling / deep excavation operations. Interception, cross contamination and/or depressurisation of groundwater systems in drilling operations. Groundwater depressurisation effects on surface water. Mobilisation of pollutants (such as hydrocarbons) in surface water or aquifers. Ford across creeks can cause stream bank erosion from vehicle wash. Inappropriate disposal of drilling wastes / overflow from drilling sumps. SURFACE water The nearest water source to the planned drilling area is a dam in the next paddock, about 1100m away.
Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include: a. Activities must implement all measures to prevent causing any adverse impacts on water quality or quantity. b. All sediment and erosion controls (including drainage from roads/access tracks) to be managed in accordance with Blue Book. All management and storage of produced water must comply with the title conditions. In addition, the Exploration Code of Practice: Produced Water Management, Storage and Transfer applies to i. petroleum exploration which requires the management of produced water, or ii. activities which require produced water to be stored on site (excluding the management of incidental groundwater mixed with drilling fluids that can be temporarily contained in drilling sumps or above ground tanks). All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity. SURFACE water The nearest water source to the planned drilling area is a dam in the next paddock, about 1100m away. Management surface water: No water is required for RC drilling. If diamond drilling is used, it is proposed that in-ground water sumps will be used, and sludge removed by bobcat/excavator once dry, and transported by contracted truck to an EPA approved disposal facility. Water will be sourced from stand pipes where the local council has confirmed water is available, or from local landholders by agreement. All drilling is planned at least 50m from any farm dam or permanent creek. GROUND water There are no known groundwater sources within the area of the planned activity. Should ground water be encountered, there will be no permanent impact. A temporary effect may be some water will be pushed to the surface by the drilling air pressure, where it will be controlled by the methods outlined earlier. Management Ground water: For diamond drilling., it is proposed that in-ground water sumps will be used for water storage, filled by water cart and sludge/cuttings removed by contractor machinery. Non-toxic and biodegradable drilling muds will be used. RC drilling does not require water for drilling purposes. If water is encountered, it will be captured from the outside return hose and cyclone in a turkey's nest to settle sediment, and then directed into geofabric/coir logs/hay bails etc. A secondary sediment dam/bund can be installed around the first should that be inadequate. If enough water make occurs to require a small sump, this can be accommodated, and can be pumped or syphoned away from the work area once the water is sufficiently clear. If the volume of water intersected required greater settling time than could be achieved using a single sump, a second (or more) sump(s) could be setup in series.

Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Medium
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Wastes & Emissions: Impacts on groundwater recharge areas or areas with high water table.		
Potential impacts	Minimal impact on recharge and salinity. No use of groundwater but potential loss through produced water in drilling / deep excavation operations. Interception, cross contamination and/or depressurisation of groundwater systems in drilling operations. Groundwater depressurisation effects on surface water. Mobilisation of pollutants (such as hydrocarbons) in surface water or aquifers. Inappropriate disposal of drilling wastes / overflow from drilling sumps. Vegetation clearance in recharge areas can increase salinity. Acid drainage due to exposure of acid sulfate soils. GROUND water There are no known groundwater sources within the area of the planned activity. Should ground water be encountered, there will be no permanent impact. A temporary effect may be some water will be pushed to the surface by the drilling air pressure, where it will be controlled by the methods outlined earlier.		
Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include: a. Activities must implement all measures to prevent causing any adverse impacts on water quality or quantity. All management and storage of produced water must comply with the title conditions. In addition, the Exploration Code of Practice: Produced Water Management, Storage and Transfer applies to i. petroleum exploration which requires the management of produced water, or ii. activities which require produced water to be stored on site (excluding the management of incidental groundwater mixed with drilling fluids that can be temporarily contained in drilling sumps or above ground tanks). Boreholes to be constructed, operated and decommissioned in accordance with authority/title conditions, Departmental Guidelines and Codes of Practice to protect groundwater/aquifers. Drill holes to be cased where aquifers intercepted (minimal impact on recharge and salinity). GROUND water Management Ground water: For diamond drilling., it is proposed that in-ground water sumps will be used for water storage, filled by water cart and sludge/cuttings removed by contractor machinery. Non-toxic and biodegradable drilling muds will be used. RC drilling does not require water for drilling purposes. If water is encountered, it will be captured from the outside return hose and cyclone in a turkey's nest to settle sediment, and then directed into geofabric/coir logs/hay bails etc. A secondary sediment dam/bund can be installed around the first should that be inadequate. If enough water make occurs to require a small sump, this can be accommodated, and can be pumped or syphoned away from the work area once the water is sufficiently clear. If the volume of water intersected required greater settling time than could be achieved using a single sump, a second (or more) sump(s) could be setup in series.		
Duration	Short term		
Application ranking			

What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Wastes and Emissions: Impacts on coastlines or dunes, alpine areas, karst features or other unique landforms.		
Potential impacts	Negligible and only localised impacts on unique landforms. Mobilisation of pollutants in soils, surface water or aquifers. Short term noise, air quality and visual impacts. Particulate emissions from plant and machinery; fugitive emissions of gases or vapour from drilling operations and the operation of flares. Soil erosion and sediment laden runoff from disturbed areas, that could lead to soil or water contamination or land degradation. Exposure of acid sulfate soils. Spread of weeds, pest animals and animal/plant diseases. Damage to structures and sensitive features, such as unique landforms. Activities along the coastline / floodways have the potential to exacerbate coastal erosion (rising sea levels and increased storm activity under projected climate change conditions could result in increased erosion along the coastline / floodways). 25km NW from Lake Cargelligo LANDUSE The planned drilling will take place on a farm, where cropping and grazing are both practiced. The planned drill sites will not affect cropping areas. Where grazing animals are fenced within the area where drilling occurs, there will be no impact on the animals as they will be able to move to other parts of the paddock for feeding. All drilling muds, oils and other materials will be secured within the support vehicles during the night so that animals cannot access them.		
Proposed management controls	Impact limited to activity site and subject to compensation and landholder access arrangements. Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity (including sealing of any boreholes).		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Wastes & Emissions: Impacts on erosion prone areas, areas with slopes of greater than 18 degrees.		

Potential impacts	Minimal potential impacts. Soil erosion and sediment laden runoff from disturbed areas / areas where vegetation has been removed. Mobilisation of pollutants (such as hydrocarbons) in soils. Riverbed / riparian zone disturbance from use of poorly constructed or maintained river crossings. SOIL/TOPO Topography of the area comprises a few low hills, with flats between the hills. All drilling is planned to take place on the flatter areas. Vegetation cover is sparse and of poor quality. It comprises Cyprus pines, acacias and some eucalypts, in clumps separated by rocky clearings with grasses and patches of smaller shrubs.		
Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. CEA not permitted on slopes exceeding 18 degrees. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include: a. Minimising vegetation clearing and surface disturbance. b. Prevent causing any land degradation or pollution/contamination of land or water. c. All sediment and erosion controls (including drainage from roads/access tracks) to be managed in accordance with Blue Book (includes controls to manage instability risks). d. Existing access tracks to be used/upgraded wherever possible. All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity (including sealing of any boreholes).		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Wastes & Emissions: Impacts on subsidence or slip areas.		
Potential impacts	Soil erosion from disturbed areas / areas where vegetation has been removed may increase risk of slips. Drilling operations unlikely to contribute to slips or subsidence. SOIL/TOPO The soils within the farm on which the planned drilling will occur, are classified as having "extremely severe limitations" on hilly (grazing) areas and "moderate limitations" on flat (cropping) areas. Topography of the area comprises a few low hills, with flats between the hills. All drilling is planned to take place on the flatter areas. Vegetation cover is sparse and of poor quality. It comprises Cyprus pines, acacias and some eucalypts, in clumps separated by rocky clearings with grasses and patches of smaller shrubs.		
Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include: a. Minimising vegetation clearing and surface disturbance. b. Prevent causing any land degradation or pollution/contamination of land or water. c. All sediment and erosion controls (including drainage from roads/access tracks) to be managed in accordance with Blue Book (includes controls to manage instability risks). d. Existing access tracks to be used/upgraded wherever possible. All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity.		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No

How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Wastes & Emissions: Impacts on areas with acid sulphate, sodic or highly permeable soils.		
Potential impacts	Vegetation removal unlikely to exacerbate acid sulfate or sodicity issues. Drilling activities unlikely to exacerbate acid sulfate or sodicity issues. Soil erosion and sediment laden runoff from disturbed areas / areas where vegetation has been removed. SOIL/TOPO The soils within the farm on which the planned drilling will occur, are classified as having "extremely severe limitations" on hilly (grazing) areas and "moderate limitations" on flat (cropping) areas. There are no acid sulfate soil zones in the area.		
Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include: a. Minimising vegetation clearing and surface disturbance. b. Prevent causing any land degradation or pollution/contamination of land or water. c. All sediment and erosion controls (including drainage from roads/access tracks) to be managed in accordance with Blue Book. d. Existing access tracks to be used/upgraded wherever possible. e. Controls on sumps and management of chemicals to significantly reduce risk to soils. All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity. Impacts generally limited due to low traffic numbers and short term nature of exploration.		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Wastes & Emissions: Impacts on areas with salinity or potential salinity problems.		
Potential impacts	Activities unlikely to exacerbate salinity problems. Vegetation removal may reduce vegetation drawdown of water table. Spills of saline produced water. Vegetation removal unlikely to exacerbate acid sulfate or sodicity issues. Soil erosion and sediment laden runoff from disturbed areas / areas where vegetation has been removed. SOIL/TOPO The soils within the farm on which the planned drilling will occur, are classified as having "extremely severe limitations" on hilly (grazing) areas and "moderate limitations" on flat (cropping) areas. There are no acid sulfate soil zones in the area. GROUND water There are no known groundwater sources within the area of the planned activity.		

Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include: a. Minimising vegetation clearing and surface disturbance. b. Prevent causing any land degradation or pollution/contamination of land or water. c. All sediment and erosion controls (including drainage from roads/access tracks) to be managed in accordance with Blue Book. d. Controls on sumps and management of chemicals to significantly reduce risk to soils. All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity. Management Ground water: For diamond drilling., it is proposed that in-ground water sumps will be used for water storage, filled by water cart and sludge/cuttings removed by contractor machinery. Non-toxic and biodegradable drilling muds will be used. RC drilling does not require water for drilling purposes. If water is encountered, it will be captured from the outside return hose and cyclone in a turkey's nest to settle sediment, and then directed into geofabric/coir logs/hay bails etc. A secondary sediment dam/bund can be installed around the first should that be inadequate. If enough water make occurs to require a small sump, this can be accommodated, and can be pumped or syphoned away from the work area once the water is sufficiently clear. If the volume of water intersected required greater settling time than could be achieved using a single sump, a second (or more) sump(s) could be setup in series.		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Wastes & Emissions: Impacts on areas with degraded or contaminated land.		
Potential impacts	Activity unlikely to result in any change to existing contaminated soils or migration of contaminants. Soil erosion and sediment laden runoff from disturbed areas / areas where vegetation has been removed. Mobilisation of pollutants (such as hydrocarbons) in soils. Inappropriate disposal of drilling wastes / overflow from drilling sumps. Exposure of acid sulfate soils. Soil compaction from construction / operations. Vegetation removal unlikely to have any impact on contaminated soils. LANDUSE The planned drilling will take place on a farm, where cropping and grazing are both practiced. The planned drill sites will not affect cropping areas. Where grazing animals are fenced within the area where drilling occurs, there will be no impact on the animals as they will be able to move to other parts of the paddock for feeding. All drilling muds, oils and other materials will be secured within the support vehicles during the night so that animals cannot access them. SOIL The soils within the farm on which the planned drilling will occur, are classified as having "extremely severe limitations" on hilly (grazing) areas and "moderate limitations" on flat (cropping) areas. There are no acid sulfate soil zones in the area.		

Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include: a. Minimising vegetation clearing and surface disturbance. b. Prevent causing any land degradation or pollution/contamination of land or water. c. All sediment and erosion controls (including drainage from roads/access tracks) to be managed in accordance with Blue Book. d. Controls on sumps and management of chemicals to significantly reduce risk to soils. All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity. Impacts generally limited due to short term nature of exploration. Activity unlikely to exacerbate any existing contamination.		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Wastes & Emissions: Impacts on areas with degraded or contaminated water (ground or surface).		
Potential impacts	Activities unlikely to have any additional impacts on areas with existing degraded or contaminated water (ground or surface). Boreholes to be cased when aquifers intercepted. Surface runoff can be sediment laden from areas where vegetation has been removed. Interception, cross contamination and/or depressurisation of groundwater systems in drilling operations. Groundwater depressurisation effects on surface water. Mobilisation of pollutants (such as hydrocarbons) in surface water or aquifers. Inappropriate disposal of drilling wastes / overflow from drilling sumps. Excavations excluded from acid sulfate soils. SURFACE water The nearest water source to the planned drilling area is a dam in the next paddock, about 1100m away. There are no known groundwater sources within the area of the planned activity. Should ground water be encountered, there will be no permanent impact. A temporary effect may be some water will be pushed to the surface by the drilling air pressure, where it will be controlled by the methods outlined earlier.		

Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include: a. Activities must implement all measures to prevent causing any adverse impacts on water quality or quantity. b. Activities must minimise cross connection of aquifers or groundwater sources. c. Activities must minimise any depressurisation of aquifers or groundwater sources. d. Coal and petroleum title holders must prepare and implement and Groundwater Monitoring & Modelling Plan in consultation with NSW Office of Water. e. All sediment and erosion controls to be in accordance with Blue Book to minimise off-site impacts. Boreholes to be constructed, operated and decommissioned in accordance with authority/title conditions, Departmental Guidelines and Codes of Practice to protect groundwater/aquifers. All management and storage of produced water must comply with the title conditions. In addition, the Exploration Code of Practice: Produced Water Management, Storage and Transfer applies to i. petroleum exploration which requires the management of produced water, or ii. activities which require produced water to be stored on site (excluding the management of incidental groundwater mixed with drilling fluids that can be temporarily contained in drilling sumps or above ground tanks). All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity (including sealing of any boreholes). Activities unlikely to exacerbate any existing surface or groundwater contamination. SURFACE water Management surface water: No water is required for RC drilling. If diamond drilling is used, it is proposed that in-ground water sumps will be used, and sludge removed by bobcat/excavator once dry, and transported by contracted truck to an EPA approved disposal facility. Water will be sourced from stand pipes where the local council has confirmed water is available, or from local landholders by agreement. All drilling is planned at least 50m from any farm dam or permanent creek. GROUND water Management Ground water: For diamond drilling., it is proposed that in-ground water sumps will be used for water storage, filled by water cart and sludge/cuttings removed by contractor machinery. Non-toxic and biodegradable drilling muds will be used. RC drilling does not require water for drilling purposes. If water is encountered, it will be captured from the outside return hose and cyclone in a turkey's nest to settle sediment, and then directed into geofabric/coir logs/hay bails etc. A secondary sediment dam/bund can be installed around the first should that be inadequate. If enough water make occurs to require a small sump, this can be accommodated, and can be pumped or syphoned away from the work area once the water is sufficiently clear. If the volume of water intersected required greater settling time than could be achieved using a single sump, a second (or more) sump(s) could be setup in series.		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Vegetation: Any clearing or modification of vegetation (including impacts on wildlife corridors, remnant vegetation & habitat for species of conservation significance).		

Potential impacts	Vegetation removal can decrease available foraging/ sheltering/ breeding habitat for species and displace species from regular place of residence. Impacts on vegetation species and ecological communities. Vegetation removal and activities can temporarily impact wildlife corridors and remnant vegetation. Areas used for exploration activities, access tracks, etc not available for fauna habitat. Mobilisation of pollutants (such as hydrocarbons) in soils, air or waters can potentially impact fauna. Drilling sumps can be a hazard for fauna. Use of pesticides, herbicides, fertilisers or other chemicals have the potential to build up residues in the environment, including in soils and water. Short term noise and air quality impacts. Soil erosion and sediment laden runoff from disturbed areas, that could lead to soil or water contamination or land degradation. Exposure of acid sulfate soils. Spread of weeds, pest animals and animal/plant diseases. DISTURBANCE Surface disturbance 1,500 sqm (cumulative 6500sqm) Excavation 15cbm (cumulative 105cbm) Trees will not need to be bulldozed, however some shrubs may need to be cleared for pad access, possibly by the landowner's bobcat or similar. PVC collars will be required and hand shovels/digging tools used to excavate turkeys nests to control water. The planned drilling locations are not expected to require drill pad earthworks, and only minor vegetation/shrub clearing is expected to be required, hence only a small clearing disturbance is proposed. ACCESS Existing farm tracks and open but un-cropped paddocks will be used for access, however some regrowth and shrubs may need to be disturbed to provide safe access for vehicles.		
Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include: a. Minimise extent of vegetation clearing and surface disturbance to as low as practicable. b. Prevent adverse impacts to fauna caused by vegetation clearing, including relocation of resident fauna. c. Access track widths unlikely to pose significant barrier to fauna. All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity.		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Threatened Fauna Species: Any adverse effect on the life cycle of any threatened species such that a viable local population of the species is likely to be placed at risk of extinction.		

Potential impacts	No impacts. CEA impact thresholds apply. An activity cannot be a CEA if it: 1. occurs on land declared as areas of outstanding biodiversity value / critical habitat, 2. has a significant effect on threatened species or ecological communites, or their habitats. NOTE: MNES report same as APO0001609 Map provided "Achilles Critical habitats/ Areas of Outstanding Biodiversity" shows areas of critical habitat in rivers (Lachlan River and Booberoi Creek), and the wetlands around the Lake Cargelligo area. The Round Hill Nature Reserve, in green, lies to the north and west. The drilling area is mapped away from any areas of critical habitat or areas of outstanding biodiversity. PROTECTED MATTERS 15.11.23 – TECs. Endangered "Mallee Bird Community of the Murray Darling Depression Bioregion" likely to occur in the area. Other TECs listed not likely and don't appear to correspond with PCTs identified in SEED. Endangered species likely to occur in the area: Major Mitchell's Cockatoo, South-eastern Hooded Robin, Australian Painted Snipe, Grey Snake. NOTE: Major Mitchell's Cockatoo Bionet species sighting approx 8km SW of proposed drilling area. Critically endangered Striated Grasswren (sandplain) may occur in the area. This species is also listed as one of the species forming the above-mentioned TEC. No other birds listed in this TEC are listed in the MNES search report. No bionet species sightings for any of the birds listed in the TEC near the drilling, however, Approx 7km N – a large number of bird species listed in the Endangered TEC "Mallee Bird Community of the Murray Darling Depression Bioregion" have bionet sightings including Endangered Malleefowl and Critically Endangered Red-lored whistler. PCTs consistent with proposed drill site specifically PCT 72, PCT 103, PCT 173, PCT 174		
Proposed management controls	N/A		
Duration	N/A		
Application ranking			
What is the confidence in predicting impacts?	N/A	**Are further studies required on impacts or mitigation?**	N/A
How resilient is the environment to cope with impacts?	N/A	**What is the level of public concern?**	Low
Can the impacts be reversed?	N/A	**Ranking of potential significance**	
Can the impacts be mitigated?	N/A	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	N/A		
Criteria	Threatened Flora Species: Any adverse effect on the life cycle of any threatened species such that a viable local population of the species is likely to be placed at risk of extinction.		
Potential impacts	No impacts. CEA impact thresholds apply. An activity cannot be a CEA if it: 1. occurs on land declares as areas of outstanding biodiversity value or critical habitat, 2. has a significant effect on any threatened species or ecological communities, or their habitats.		
Proposed management controls	N/A		
Duration	N/A		
Application ranking			
What is the confidence in predicting impacts?	N/A	**Are further studies required on impacts or mitigation?**	N/A
How resilient is the environment to cope with impacts?	N/A	**What is the level of public concern?**	Low
Can the impacts be reversed?	N/A	**Ranking of potential significance**	
Can the impacts be mitigated?	N/A	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	N/A		
Criteria	Areas of outstanding biodiversity value/Critical habitat: This includes: a. declared areas of outstanding biodiversity value under the Biodiversity Conservation Act 2016 b. areas declared critical habitat under the Fisheries Management Act 1994.		

Potential impacts	Potential impacts limited due to CEA impact threshold restrictions. CEAs are not permitted to occur on land declared as areas of outstanding biodiversity value or critical habitat. CEAs are not permitted to have a significant impact on threatened fauna or flora species or ecological communities (or their habitats). (Also refer to flora and fauna impact tables). Map provided "Achilles Critical habitats/ Areas of Outstanding Biodiversity" shows areas of critical habitat in rivers (Lachlan River and Booberoi Creek), and the wetlands around the Lake Cargelligo area. The Round Hill Nature Reserve, in green, lies to the north and west. The drilling area is mapped away from any areas of critical habitat or areas of outstanding biodiversity.		
Proposed management controls	N/A		
Duration	N/A		
Application ranking			
What is the confidence in predicting impacts?	N/A	**Are further studies required on impacts or mitigation?**	N/A
How resilient is the environment to cope with impacts?	N/A	**What is the level of public concern?**	Low
Can the impacts be reversed?	N/A	**Ranking of potential significance**	
Can the impacts be mitigated?	N/A	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	N/A		
Criteria	Endangered ecological community or critically endangered ecological community: Whether the activity: □ is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or □ is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction.		

Potential impacts	Vegetation removal and activities can temporarily impact ecological communities. Areas cleared for exploration activities, access tracks, etc not available for flora / fauna habitat. Use of pesticides, herbicides, fertilisers or other chemicals have the potential to build up residues in the environment, including in soils and water. Soil erosion and sediment laden runoff from disturbed areas, that could lead to soil or water contamination or land degradation. Spread of weeds, pest animals and animal/plant diseases. Removal of vegetation, barriers created by access tracks, etc can interrupt movement of fauna species. PCTs located within proposed drilling area: • PCT 72 – White cypress pine – Polar Box woodland on footslopes and peneplains mainly in the Cobar Peneplain Bioregion – no associated TEC • PCT 103 - Poplar Box - Gum Coolabah - White Cypress Pine shrubby woodland mainly in the Cobar Peneplain Bioregion – no associated TEC • PCT 104 – Gum Coolabah Woodland on sedimentary substrates mainly in the Cobar Peneplain Bioregion – no associated TEC • PCT 173 - Sandplain mallee of central NSW – has associated TEC • PCT 174 - Mallee - Gum Coolabah woodland on red earth flats of the eastern Cobar Peneplain Bioregion - has associated TEC • PCT 176 – Green mallee – White Cypress Pine very tall mallee woodland on gravel rises mainly in the Cobar Peneplain Bioregion – no associated TEC • PCT 180 – grey Mallee – White Cypress Pine woodland on rocky hills of the eastern Cobar Peneplain Bioregion – no associated TEC • PCt 184 – Dwyers Red Gum – White Cypress Pine – Currawang low shrub-grass woodland of the Cobar Peneplain Bioregion – no associated TEC Outside of proposed drilling area: Terrestrial biodiversity and BV located S and E of proposed drilling area (along creek). Groundwater vulnerability area south of proposed drilling. Areas of significant slope (mountains) indicated by contours. MNES report same as APO0001609- reviewed on 29/5/2024 Map provided "Achilles Critical habitats/ Areas of Outstanding Biodiversity" shows areas of critical habitat in rivers (Lachlan River and Booberoi Creek), and the wetlands around the Lake Cargelligo area. The Round Hill Nature Reserve, in green, lies to the north and west. The drilling area is mapped away from any areas of critical habitat or areas of outstanding biodiversity. PROTECTED MATTERS 15.11.23- reviewed on 29/5/2024 – TECs. Endangered "Mallee Bird Community of the Murray Darling Depression Bioregion" likely to occur in the area. Other TECs listed not likely and don't appear to correspond with PCTs identified in SEED. Endangered species likely to occur in the area: Major Mitchell's Cockatoo, South-eastern Hooded Robin, Australian Painted Snipe, Grey Snake. NOTE: Major Mitchell's Cockatoo Bionet species sighting approx 8km SW of proposed drilling area. Critically endangered Striated Grasswren (sandplain) may occur in the area. This species is also listed as one of the species forming the above-mentioned TEC. No other birds listed in this TEC are listed in the MNES search report. No bionet species sightings for any of the birds listed in the TEC near the drilling, however, Approx 7km N – a large number of bird species listed in the Endangered TEC "Mallee Bird Community of the Murray Darling Depression Bioregion" have bionet sightings including Endangered Malleefowl and Critically Endangered Red-lored whistler. PCTs consistent with proposed drill site specifically PCT 72, PCT 103, PCT 173, PCT 174		
Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include: a. Minimise extent of vegetation clearing and surface disturbance to as low as practicable. b. Prevent adverse impacts to fauna caused by vegetation clearing, including relocation of resident fauna. c. Access track widths unlikely to pose significant barrier to fauna. All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity.		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low

Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Habitat of a threatened species or ecological community		
Potential impacts	Potential impacts limited due to CEA impact threshold restrictions. CEAs are not permitted to occur in areas of outstanding biodiversity value or critical habitat. CEAs are not permitted to have a significant impact on threatened fauna or flora species or ecological communities (or their habitats). (Also refer to flora and fauna impact tables). MNES report same as APO0001609- reviewed on 29/5/2024 Map provided "Achilles Critical habitats/ Areas of Outstanding Biodiversity" shows areas of critical habitat in rivers (Lachlan River and Booberoi Creek), and the wetlands around the Lake Cargelligo area. The Round Hill Nature Reserve, in green, lies to the north and west. The drilling area is mapped away from any areas of critical habitat or areas of outstanding biodiversity. PROTECTED MATTERS 15.11.23 reviewed on 29/5/2024 – TECs. Endangered "Mallee Bird Community of the Murray Darling Depression Bioregion" likely to occur in the area. Other TECs listed not likely and don't appear to correspond with PCTs identified in SEED. Endangered species likely to occur in the area: Major Mitchell's Cockatoo, South-eastern Hooded Robin, Australian Painted Snipe, Grey Snake. NOTE: Major Mitchell's Cockatoo Bionet species sighting approx 8km SW of proposed drilling area. Critically endangered Striated Grasswren (sandplain) may occur in the area. This species is also listed as one of the species forming the above-mentioned TEC. No other birds listed in this TEC are listed in the MNES search report. No bionet species sightings for any of the birds listed in the TEC near the drilling, however, Approx 7km N – a large number of bird species listed in the Endangered TEC "Mallee Bird Community of the Murray Darling Depression Bioregion" have bionet sightings including Endangered Malleefowl and Critically Endangered Red-lored whistler. PCTs consistent with proposed drill site specifically PCT 72, PCT 103, PCT 173, PCT 174		
Proposed management controls	N/A		
Duration	N/A		
Application ranking			
What is the confidence in predicting impacts?	N/A	**Are further studies required on impacts or mitigation?**	N/A
How resilient is the environment to cope with impacts?	N/A	**What is the level of public concern?**	Low
Can the impacts be reversed?	N/A	**Ranking of potential significance**	
Can the impacts be mitigated?	N/A	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	N/A		
Criteria	Habitat of protected aquatic species or those with conservation status.		

Potential impacts	Negligible and only localised changes to drainage flows/flooding regime. Water used for exploration not available for ecological purposes. Surface runoff can be sediment laden from areas where vegetation has been removed. Generally minimal surface water use (must be licensed or use of farm dams through landholder agreements). No use of groundwater but potential loss through produced water in drilling / deep excavation operations. Interception, cross contamination and/or depressurisation of groundwater systems in drilling operations. Groundwater depressurisation effects on surface water. Mobilisation of pollutants (such as hydrocarbons) in surface water or aquifers. Ford across creeks can cause stream bank erosion from vehicle wash. Inappropriate disposal of drilling wastes / overflow from drilling sumps. MNES report same as APO0001609- reviewed on 29/5/2024 Map provided "Achilles Critical habitats/ Areas of Outstanding Biodiversity" shows areas of critical habitat in rivers (Lachlan River and Booberoi Creek), and the wetlands around the Lake Cargelligo area. The Round Hill Nature Reserve, in green, lies to the north and west. The drilling area is mapped away from any areas of critical habitat or areas of outstanding biodiversity.		
Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include: a. Activities must implement all measures to prevent causing any adverse impacts on water quality or quantity. b. All sediment and erosion controls (including drainage from roads/access tracks) to be managed in accordance with Blue Book. c. No significant impact on any threatened species, threatened populations, threatened ecological communities, or their habitats. d. No removal of vegetation in waterfront land. All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity.		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Key Threatening Processes: As outlined in Schedule 4 of Biodiversity Conservation Act 2016. Includes: a. alteration, removal, clearly or degradation of habitat and native vegetation b. loss of hollow bearing trees c. removal of dead wood and dead trees d. invasion and establishment of exotic species.		

Potential impacts	Vegetation removal can harm threatened species or reduce local abundance of species. Areas cleared for exploration activities, access tracks, etc not available for flora habitat. Mobilisation of pollutants (such as hydrocarbons) in soils, air or waters can potentially impact fauna. Use of pesticides, herbicides, fertilisers or other chemicals have the potential to build up residues in the environment, including in soils and water. Soil erosion and sediment laden runoff from disturbed areas, that could lead to soil or water contamination or land degradation. Spread of weeds, pest animals and animal/plant diseases. The drilling is located on flat rocky, relatively low productivity land, which is open with patches of shrubs and trees. The land is partly cleared and disturbed by agriculture.		
Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include: a. Minimise extent of vegetation clearing and surface disturbance to as low as practicable. b. Prevent adverse impacts to fauna caused by vegetation clearing, including relocation of resident fauna. All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity.		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Barriers to movement of fauna: Any potential to endanger, displace or disturb fauna (including fauna of conservation significance) or create a barrier to their movement.		

Potential impacts	Vegetation removal can decrease available foraging/ sheltering/ breeding habitat for species and displace species from regular place of residence. Access tracks can act as a barrier to movement of small fauna species. Fauna crossing access tracks may be killed or injured if hit by vehicles. Vegetation removal can remove connective corridors used for wildlife movement. Areas used for exploration activities, access tracks, etc not available for fauna habitat. Mobilisation of pollutants (such as hydrocarbons) in soils, air or waters can potentially impact fauna. Drilling sumps can be a hazard for fauna. Use of pesticides, herbicides, fertilisers or other chemicals have the potential to build up residues in the environment, including in soils and water. Short term noise and air quality impacts. Soil erosion and sediment laden runoff from disturbed areas, that could lead to soil or water contamination or land degradation. Spread of weeds, pest animals and animal/plant diseases. The drilling is located on flat rocky, relatively low productivity land, which is open with patches of shrubs and trees. The land is partly cleared and disturbed by agriculture. ACCESS Existing farm tracks and open but un-cropped paddocks will be used for access, however some regrowth and shrubs may need to be disturbed to provide safe access for vehicles. DISTURBANCE Surface disturbance 1,500 sqm (cumulative 6500sqm) Excavation 15cbm (cumulative 105cbm) Trees will not need to be bulldozed, however some shrubs may need to be cleared for pad access, possibly by the landowner's bobcat or similar. PVC collars will be required and hand shovels/digging tools used to excavate turkeys nests to control water. The planned drilling locations are not expected to require drill pad earthworks, and only minor vegetation/shrub clearing is expected to be required, hence only a small clearing disturbance is proposed.		
Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include: a. Minimise extent of vegetation clearing and surface disturbance to as low as practicable. b. Prevent adverse impacts to fauna caused by vegetation clearing, including relocation of resident fauna. All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity.		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Ecological & Biosecurity Impacts: Any threat to the biological diversity or ecological integrity of an ecological community.		

Potential impacts	Vegetation removal can decrease available foraging/ sheltering/ breeding habitat for species and displace species from regular place of residence. Areas used for exploration activities, access tracks, etc not available for flora / fauna habitat. Mobilisation of pollutants (such as hydrocarbons) in soils, air or waters can potentially impact fauna / flora. Drilling sumps can be a hazard for fauna. Use of pesticides, herbicides, fertilisers or other chemicals have the potential to build up residues in the environment, including in soils and water. Soil erosion and sediment laden runoff from disturbed areas, that could lead to soil or water contamination or land degradation. Exposure of acid sulfate soils. Spread of weeds, pest animals and animal/plant diseases. Fauna crossing access tracks may be killed or injured if hit by vehicles. Surface disturbance may result in removal of/damage to seed stock.		
Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include: a. Minimise extent of vegetation clearing and surface disturbance to as low as practicable. b. Prevent adverse impacts to fauna caused by vegetation clearing, including relocation of resident fauna. c. Setbacks from steep slopes/cliffs to limit impact of shots on cave dwelling fauna. Noise impacts / disruption to fauna are temporary. Vehicle movements are limited and unlikely to have significant injury/mortality impacts. All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity.		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Partly	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Ecological & Biosecurity Impacts: Creates a biosecurity risk or introduces genetically modified organisms into an area. Includes impacts from the introduction of: a. mobilisation of pollutants b. animal pests, c. plant pests and diseases, d. animal diseases, e. noxious weeds, or f. genetically modified organisms.		
Potential impacts	Mobilisation of pollutants (such as hydrocarbons) in soils, air or waters can potentially impact fauna / flora. Use of pesticides, herbicides, fertilisers or other chemicals have the potential to build up residues in the environment, including in soils and water. Spread of weeds, pest animals and animal/plant diseases. Surface disturbance may result in removal of/damage to seed stock. Weed growth in disturbed areas. DISTURBANCE Surface disturbance 1,500 sqm (cumulative 6500sqm) Excavation 15cbm (cumulative 105cbm) Trees will not need to be bulldozed, however some shrubs may need to be cleared for pad access, possibly by the landowner's bobcat or similar. PVC collars will be required and hand shovels/digging tools used to excavate turkeys nests to control water. The planned drilling locations are not expected to require drill pad earthworks, and only minor vegetation/shrub clearing is expected to be required, hence only a small clearing disturbance is proposed. ACCESS Existing farm tracks and open but un-cropped paddocks will be used for access, however some regrowth and shrubs may need to be disturbed to provide safe access for vehicles		

Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include: a. Minimise extent of vegetation clearing and surface disturbance to as low as practicable. b. Prevent adverse impacts to fauna caused by vegetation clearing, including relocation of resident fauna. c. Requirement to prevent introduction and spread of weeds, pest animals & animal and plant diseases (required to implement "come clean, go clean" protocols). All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity (includes weed growth management). Legislative requirement for landholder access arrangements which may include additional mitigation measures to manage land.		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Ecological & Biosecurity Impacts: Likely to cause a significant bushfire risk.		
Potential impacts	Plant and machinery comprises a potential ignition source.		
Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include undertaking a risk assessment and implementing suitable controls to manage risks (e.g. implementation of controls on activities during Extreme or Catastrophic Fire Conditions will largely negate risk). Activities must comply with WHS legislative requirements. Any existing/proposed access tracks can be used as firebreaks in event of fire.		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Community Resources: Any degradation of infrastructure or significant increase in the demand for services and infrastructure resources.		
Potential impacts	Limited potential for any significant increase in demand for resources. Negligible potential for degradation of infrastructure, such as roads and bridges. ACCESS Existing farm tracks and open but un-cropped paddocks will be used for access, however some regrowth and shrubs may need to be disturbed to provide safe access for vehicles.		
Proposed management controls	Negligible impacts likely. Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO) including protection of all elements of the environment, culture and heritage. All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity (includes weed growth management). Legislative requirement for landholder access arrangements and compensation.		
Duration	Short term		
Application ranking			

What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Community Resources: Any diversion of resources to the detriment of other communities or natural systems.		
Potential impacts	Limited potential for any significant diversion of resources to the detriment of other communities or natural systems. Negligible impacts and only localised changes. Areas used for exploration activities, temporarily removed from natural systems and / community use. ACCESS Existing farm tracks and open but un-cropped paddocks will be used for access, however some regrowth and shrubs may need to be disturbed to provide safe access for vehicles. LANDUSE The planned drilling will take place on a farm, where cropping and grazing are both practiced. The planned drill sites will not affect cropping areas. Where grazing animals are fenced within the area where drilling occurs, there will be no impact on the animals as they will be able to move to other parts of the paddock for feeding. All drilling muds, oils and other materials will be secured within the support vehicles during the night so that animals cannot access them.		
Proposed management controls	Negligible impacts likely. Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include protection of all elements of the environment, culture and heritage. All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity. (includes weed growth management). Legislative requirement for landholder access arrangements and compensation.		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	N/A	**Are further studies required on impacts or mitigation?**	N/A
How resilient is the environment to cope with impacts?	N/A	**What is the level of public concern?**	Low
Can the impacts be reversed?	N/A	**Ranking of potential significance**	
Can the impacts be mitigated?	N/A	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	N/A		
Criteria	Natural Resources: Any disruption, depletion or destruction of natural resources.		

Potential impacts	Limited potential for any significant diversion of resources to the detriment of other communities or natural systems. Negligible impacts and only localised changes. Areas used for exploration activities, temporarily removed as a natural resource. Vegetation removal may remove potential timber resources. No significant impacts on other natural resources other than positive in terms of increased knowledge of geological resources. LANDUSE The planned drilling will take place on a farm, where cropping and grazing are both practiced. The planned drill sites will not affect cropping areas. Where grazing animals are fenced within the area where drilling occurs, there will be no impact on the animals as they will be able to move to other parts of the paddock for feeding. All drilling muds, oils and other materials will be secured within the support vehicles during the night so that animals cannot access them. PHOTOS NOTE- Most photos are identical from APO0001609. General area: relatively flat. Presence of trees/bushes/grass. Tracks and fence lines. Some photos show rock outcrops. One photo shows a pit. REHABILITATION: Rehab will likely consist of tipping cuttings back down the hole, cutting PVC collars and plugging holes and backfilling the holes with the material dug from the holes or the top bag. Wheel ruts and other surface disturbance will be levelled by bobcat. Excess cuttings will be trucked to an EPA-approved disposal facility.		
Proposed management controls	Negligible impacts likely. Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include protection of all elements of the environment (water, land, soil, air), culture and heritage. All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity. Legislative requirement for landholder access arrangements and compensation limit any potential impacts.		
Duration	N/A		
Application ranking			
What is the confidence in predicting impacts?	N/A	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	N/A	**What is the level of public concern?**	Low
Can the impacts be reversed?	N/A	**Ranking of potential significance**	Low
Can the impacts be mitigated?	N/A	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Natural Resources: Any disruption of existing activities which rely on natural resources, including forestry, farming or extractive industries (or reduction of options for future activities).		

Potential impacts	Limited potential for any significant disruption of existing activities (or reduction of future activities) given temporary nature of exploration. Negligible impacts and only localised & temporary changes. Areas used for exploration activities, temporarily removed as a natural resource but no long term impacts on future availability of forestry, agricultural land, soils or water resources. Vegetation removal may remove potential timber resources. LANDUSE The planned drilling will take place on a farm, where cropping and grazing are both practiced. The planned drill sites will not affect cropping areas. Where grazing animals are fenced within the area where drilling occurs, there will be no impact on the animals as they will be able to move to other parts of the paddock for feeding. All drilling muds, oils and other materials will be secured within the support vehicles during the night so that animals cannot access them. REHABILITATION Rehab will likely consist of tipping cuttings back down the hole, cutting PVC collars and plugging holes and backfilling the holes with the material dug from the holes or the top bag. Wheel ruts and other surface disturbance will be levelled by bobcat. Excess cuttings will be trucked to an EPA-approved disposal facility. DISTURBANCE Surface disturbance 1,500 sqm (cumulative 6500sqm) Excavation 15cbm (cumulative 105cbm) Trees will not need to be bulldozed, however some shrubs may need to be cleared for pad access, possibly by the landowner's bobcat or similar. PVC collars will be required and hand shovels/digging tools used to excavate turkeys nests to control water. The planned drilling locations are not expected to require drill pad earthworks, and only minor vegetation/shrub clearing is expected to be required, hence only a small clearing disturbance is proposed.		
Proposed management controls	Negligible impacts likely. Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include protection of all elements of the environment (water, land, soil, air), culture and heritage. All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity. Legislative requirement for landholder access arrangements and compensation limit any potential impacts.		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	N/A	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	N/A	**What is the level of public concern?**	Low
Can the impacts be reversed?	N/A	**Ranking of potential significance**	Low
Can the impacts be mitigated?	N/A	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Natural Resources: Any use which results in the degradation of any area reserved for conservation purposes.		
Potential impacts	CEA activity not permitted in areas reserved for conservation purposes.		
Proposed management controls	N/A		
Duration	N/A		
Application ranking			
What is the confidence in predicting impacts?	N/A	**Are further studies required on impacts or mitigation?**	N/A
How resilient is the environment to cope with impacts?	N/A	**What is the level of public concern?**	N/A

Can the impacts be reversed?	N/A	**Ranking of potential significance**	
Can the impacts be mitigated?	N/A	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	N/A		
Criteria	Sensitive Land Impacts: Impacts on National parks and other areas reserved or dedicated or acquired under the National Parks and Wildlife Act 1974.		
Potential impacts	Activity not permitted in these areas.		
Proposed management controls	N/A		
Duration	N/A		
Application ranking			
What is the confidence in predicting impacts?	N/A	**Are further studies required on impacts or mitigation?**	N/A
How resilient is the environment to cope with impacts?	N/A	**What is the level of public concern?**	N/A
Can the impacts be reversed?	N/A	**Ranking of potential significance**	
Can the impacts be mitigated?	N/A	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	N/A		
Criteria	Sensitive Land Impacts: Land subject to a 'conservation agreement' under the National Parks and Wildlife Act 1974 and/or the Biodiversity Conservation Act 2016. This includes: a. Biobanking agreement (established under the now repealed Threatened Species Conservation Act 1995) or a Biodiversity Stewardship agreement established under the Biodiversity Conservation Act 2016. b. Wildlife Refuge agreement established under the Biodiversity Conservation Act 2016. c. Existing conservation agreements that continue to have effect even where legislation has been repealed: □ Trust agreements under the now repealed Nature Conservation Trust Act 2001 □ Property vegetation plans made under the now-repealed Native Vegetation Act 2003 □ Registered property agreements under the repealed Native Vegetation Conservation Act 1997		
Potential impacts	Activity not permitted in these areas.		
Proposed management controls	N/A		
Duration	N/A		
Application ranking			
What is the confidence in predicting impacts?	N/A	**Are further studies required on impacts or mitigation?**	N/A
How resilient is the environment to cope with impacts?	N/A	**What is the level of public concern?**	N/A
Can the impacts be reversed?	N/A	**Ranking of potential significance**	
Can the impacts be mitigated?	N/A	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	N/A		
Criteria	Sensitive Land Impacts: Impacts on aquatic reserves or marine parks declared under the Marine Estate Management Act 2014. Impacts on Coastal Zone as defined in the Coastal Management Act 2016.		
Potential impacts	Activity not permitted in these areas.		
Proposed management controls	N/A		
Duration	N/A		
Application ranking			
What is the confidence in predicting impacts?	N/A	**Are further studies required on impacts or mitigation?**	N/A
How resilient is the environment to cope with impacts?	N/A	**What is the level of public concern?**	N/A
Can the impacts be reversed?	N/A	**Ranking of potential significance**	

Can the impacts be mitigated?	N/A	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	N/A		
Criteria	Sensitive Land Impacts: Fishing grounds and commercial fish breeding or nursery areas.		
Potential impacts	Negligible and only localised changes to drainage flows/flooding regime. Surface runoff can be sediment laden from areas where vegetation has been removed. Generally minimal surface water use (must be licensed or use of farm dams through landholder agreements). Interception, cross contamination and/or depressurisation of groundwater systems in drilling operations. Groundwater depressurisation effects on surface water. Mobilisation of pollutants (such as hydrocarbons) in surface water or aquifers. Ford across creeks can cause stream bank erosion from vehicle wash. Inappropriate disposal of drilling wastes / overflow from drilling sumps.		
Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include: a. Activities must implement all measures to prevent causing any adverse impacts on water quality or quantity. b. All sediment and erosion controls (including drainage from roads/access tracks) to be managed in accordance with Blue Book. c. No significant impact on any threatened species, threatened populations, threatened ecological communities, or their habitats. d. No removal of vegetation in waterfront land. All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity.		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	N/A
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Sensitive Land Impacts: Impacts on other sensitive lands including: a. Land within a state forest set aside under the Forestry Act 2012 for conservation values. This includes flora reserves and special management (and other) zones. b. Drinking water catchment protection areas - land declared to be a 'controlled area' or a 'special area' under the Water NSW Act 2014, or a 'special area' under the Water Management Act 2000 or Hunter Water Act 1991. c. Waterfront land as defined under the Water Management Act 2000.		
Potential impacts	N/A CEA Location restrictions prevent activities in such sensitive locations.		
Proposed management controls	N/A		
Duration	N/A		
Application ranking			
What is the confidence in predicting impacts?	N/A	**Are further studies required on impacts or mitigation?**	N/A
How resilient is the environment to cope with impacts?	N/A	**What is the level of public concern?**	N/A
Can the impacts be reversed?	N/A	**Ranking of potential significance**	
Can the impacts be mitigated?	N/A	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	N/A		
Criteria	Sensitive Land Impacts: Impacts on land reserved or dedicated within the meaning of the Crown Lands Act 1989/Crown Lands Management Act 2016 for preservation of the environment or other environmental protection purposes.		
Potential impacts	Activity not permitted in area.		
Proposed management controls	N/A		
Duration	N/A		
Application ranking			

What is the confidence in predicting impacts?	N/A	**Are further studies required on impacts or mitigation?**	N/A
How resilient is the environment to cope with impacts?	N/A	**What is the level of public concern?**	N/A
Can the impacts be reversed?	N/A	**Ranking of potential significance**	
Can the impacts be mitigated?	N/A	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	N/A		
Criteria	Sensitive Land Impacts: Impacts on land identified as wilderness or declared a wilderness area under the Wilderness Act 1987.		
Potential impacts	Activity not permitted in these areas.		
Proposed management controls	N/A		
Duration	N/A		
Application ranking			
What is the confidence in predicting impacts?	N/A	**Are further studies required on impacts or mitigation?**	N/A
How resilient is the environment to cope with impacts?	N/A	**What is the level of public concern?**	N/A
Can the impacts be reversed?	N/A	**Ranking of potential significance**	
Can the impacts be mitigated?	N/A	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	N/A		
Criteria	Sensitive Lands: Impacts on wetlands of international significance designated under the Ramsar Convention on Wetlands and those designated as a nationally important wetland in the Directory of Important Wetlands of Australia.		
Potential impacts	Activity not permitted in these areas.		
Proposed management controls	N/A		
Duration	N/A		
Application ranking			
What is the confidence in predicting impacts?	N/A	**Are further studies required on impacts or mitigation?**	N/A
How resilient is the environment to cope with impacts?	N/A	**What is the level of public concern?**	N/A
Can the impacts be reversed?	N/A	**Ranking of potential significance**	
Can the impacts be mitigated?	N/A	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	N/A		
Criteria	Sensitive Land Impacts: Impacts on land identified in an environmental planning instrument as being of biodiversity / conservation significance or zoned for environmental conservation, protection and/or management. Includes Coastal Wetlands and Littoral rainforests under State Environmental Planning Policy (Resilience and Hazards) 2021.		
Potential impacts	Activity not permitted in these areas.		
Proposed management controls	N/A		
Duration	N/A		
Application ranking			
What is the confidence in predicting impacts?	N/A	**Are further studies required on impacts or mitigation?**	N/A

How resilient is the environment to cope with impacts?	N/A	**What is the level of public concern?**	N/A
Can the impacts be reversed?	N/A	**Ranking of potential significance**	
Can the impacts be mitigated?	N/A	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	N/A		
Criteria	Sensitive Land Impacts: Impacts on Aboriginal heritage protection areas: a. Aboriginal places and objects under the National Parks and Wildlife Act 1974 b. Areas of Aboriginal cultural significance identified in an environmental planning instrument.		
Potential impacts	Activity not permitted in these areas.		
Proposed management controls	N/A		
Duration	N/A		
Application ranking			
What is the confidence in predicting impacts?	N/A	**Are further studies required on impacts or mitigation?**	N/A
How resilient is the environment to cope with impacts?	N/A	**What is the level of public concern?**	N/A
Can the impacts be reversed?	N/A	**Ranking of potential significance**	
Can the impacts be mitigated?	N/A	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	N/A		
Criteria	Sensitive Land Impacts: Impacts on heritage protection areas (historic or natural): a. Nationally and internationally recognised heritage sites or areas (World Heritage List, National Heritage List of Commonwealth Heritage List) b. Items listed on State Heritage c. Heritage items and conservation areas identified in an environmental planning instrument		
Potential impacts	CEA activities not permitted in these areas.		
Proposed management controls	N/A		
Duration	N/A		
Application ranking			
What is the confidence in predicting impacts?	N/A	**Are further studies required on impacts or mitigation?**	N/A
How resilient is the environment to cope with impacts?	N/A	**What is the level of public concern?**	N/A
Can the impacts be reversed?	N/A	**Ranking of potential significance**	
Can the impacts be mitigated?	N/A	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	N/A		
Criteria	Sensitive Land Impacts: Impacts on community land classified under the Local Government Act 1993 (for which a plan of management has been prepared).		
Potential impacts	Activity not permitted in these areas.		
Proposed management controls	N/A		
Duration	N/A		
Application ranking			
What is the confidence in predicting impacts?	N/A	**Are further studies required on impacts or mitigation?**	N/A
How resilient is the environment to cope with impacts?	N/A	**What is the level of public concern?**	N/A
Can the impacts be reversed?	N/A	**Ranking of potential significance**	
Can the impacts be mitigated?	N/A	**Justification for ranking**	

Do the operations comply with standards, plans, policies?	N/A		
Criteria	Sensitive Land Impacts: Impacts on bushfire prone areas.		
Potential impacts	Plant and machinery may be an ignition source. Category 2 Bushfire prone land (low risk) in N section of proposed drilling area.		
Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code including undertaking a risk assessment and implementing suitable controls to manage risks (e.g. implementation of controls on activities during Extreme or Catastrophic Fire Conditions will largely negate risk). Activities must comply with WHS legislative requirements. Any existing/proposed access tracks can be used as firebreaks in event of fire.		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Medium
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Social Impacts: Any impacts which result in a change in the demographic structure of the community, including changes to workforce or industry structure of the area/region. Including change in demand for community resources (eg community facilities, community services and labour force).		
Potential impacts	Limited potential for any significant change in the demographic structure of the community. Negligible impacts and only localised changes in demand for community resources. Minimal increase in demand for accommodation, food, mechanical and fuel supplies, etc. Not large enough to warrant significant changes in supply. ACCESS Existing farm tracks and open but un-cropped paddocks will be used for access, however some regrowth and shrubs may need to be disturbed to provide safe access for vehicles.		
Proposed management controls	Negligible impacts likely due to low personnel numbers and temporary nature of exploration. Generally positive for suppliers of services and goods utilised.		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Social Impacts: Any environmental impact that may cause substantial change or disruption to the community (including loss of facilities or loss of community identity).		

Potential impacts	Environmental impacts from activities not of a nature to cause any significant or long term change or disruption to community. Areas used for exploration activities, temporarily removed from natural systems and / community use. Short term noise, air quality and visual impacts. AIR This program is very unlikely to have significant or long term impacts on air quality. Dust will be minimised using the cyclone's dust suppression system. TIMING/NOISE 7 days per week, 12 hours per day RC drilling, 24 hours possible for Diamond drilling 1/6/2024 -9/4/2029 The nearest habited sensitive receiver is a homestead located approximately 4km from the drill polygon boundary. A toolbox meeting for first half hour prior to operation will also take place. Work will need to be carried out during these operational hours on weekends and public holidays to maintain the integrity of the drill hole, prevent caving of the drill hole and prevent potential abandonment of the drill hole. These hours of operation have been agreed to by the landholders and will continue to be discussed with the landholders throughout the program.		
Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include minimising potential impacts on all aspects of the environment (including water, land, air). All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity (including sealing of any boreholes).		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Partly	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Social Impacts: Any impacts which result in some individuals or communities being significantly disadvantaged (e.g. change to community facilities, services or labour force).		
Potential impacts	Impacts from activities not of a nature to cause any significant or long term change or disruption to community. Limited potential to significantly impact on individuals or communities - short term impacts only. Areas used for exploration activities, temporarily removed from natural systems and / community use. Short term noise, air quality and visual impacts. AIR This program is very unlikely to have significant or long term impacts on air quality. Dust will be minimised using the cyclone's dust suppression system. TIMING/NOISE 7 days per week, 12 hours per day RC drilling, 24 hours possible for Diamond drilling 1/6/2024 -9/4/2029 The nearest habited sensitive receiver is a homestead located approximately 4km from the drill polygon boundary. A toolbox meeting for first half hour prior to operation will also take place. Work will need to be carried out during these operational hours on weekends and public holidays to maintain the integrity of the drill hole, prevent caving of the drill hole and prevent potential abandonment of the drill hole. These hours of operation have been agreed to by the landholders and will continue to be discussed with the landholders throughout the program.		

Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include protection of all elements of the environment (water, land, soil, air), culture and heritage. All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity. Legislative requirement for landholder access arrangements and compensation limit any potential impacts. Compensation under Mining Act available to mitigate compensation. Activities must comply with WHS legislative requirements.		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Social Impacts: Any impacts on the health, safety, privacy or welfare of individuals or communities caused by factors such as pollution, odour, noise, vibration, lighting, visual impacts, etc).		
Potential impacts	Activities not of a nature to cause any significant or long term health, safety, privacy or welfare impacts. Limited potential to significantly impact on individuals or communities - short term impacts only. Short term and temporary noise, air quality and visual impacts. AIR This program is very unlikely to have significant or long term impacts on air quality. Dust will be minimised using the cyclone's dust suppression system. TIMING/NOISE 7 days per week, 12 hours per day RC drilling, 24 hours possible for Diamond drilling 1/6/2024 -9/4/2029 The nearest habited sensitive receiver is a homestead located approximately 4km from the drill polygon boundary. A toolbox meeting for first half hour prior to operation will also take place. Work will need to be carried out during these operational hours on weekends and public holidays to maintain the integrity of the drill hole, prevent caving of the drill hole and prevent potential abandonment of the drill hole. These hours of operation have been agreed to by the landholders and will continue to be discussed with the landholders throughout the program.		
Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include protection of all elements of the environment (water, land, soil, air), culture and heritage. All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity. Legislative requirement for landholder access arrangements and compensation limit any potential impacts. Compensation under Mining Act available to mitigate compensation. Activities must comply with WHS legislative requirements.		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	N/A	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	N/A	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		

Criteria	Social Impacts: Effect on a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations?		
Potential impacts	Negligible potential to effect a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value due to location restrictions of a CEA. Short term and temporary impacts only. 25km NW from Lake Cargelligo 30 RC/DD holes, to a planned depth of around 100-250m per hole. The drilling is located on flat rocky, relatively low productivity land, which is open with patches of shrubs and trees. The land is partly cleared and disturbed by agriculture.		
Proposed management controls	Negligible impacts likely due to low impact of complying exploration activities and temporary nature of exploration. Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Impacts limited to immediate vicinity of exploration activity.		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Partly	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Social Impacts: Impacts on communities with strong sense of identity.		
Potential impacts	Community likely to include members who have concerns about possible future mining following any exploration program. Short term and temporary impacts only.		
Proposed management controls	Short term impacts on the community and predominantly limited to immediate site. Subject to landholder agreement and any compensation. All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity.		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	Medium	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Partly	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Social Impacts: Impacts on disadvantaged communities.		
Potential impacts	No negative impacts predicted. The nearest habited sensitive receiver is a homestead located approximately 4km from the drill polygon boundary. A toolbox meeting for first half hour prior to operation will also take place. Work will need to be carried out during these operational hours on weekends and public holidays to maintain the integrity of the drill hole, prevent caving of the drill hole and prevent potential abandonment of the drill hole. These hours of operation have been agreed to by the landholders and will continue to be discussed with the landholders throughout the program.		

Proposed management controls	Short term impacts on the community and predominantly limited to immediate site. Subject to landholder agreement and any compensation. All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity.		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Economic Impacts: Any impacts which may affect economic activity (positive or negative), including a decrease to net economic welfare.		
Potential impacts	No significant impacts predicted. Minimal increase in demand for accommodation, food, mechanical and fuel supplies, etc. Not large enough to warrant significant changes in supply.		
Proposed management controls	Negligible impacts likely due to low personnel numbers and temporary nature of exploration. Generally positive for suppliers of services and goods utilised.		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Economic Impacts: Any impacts that result in a decrease in the economic stability of the community.		
Potential impacts	Activities not of a scale to warrant changes in supply side. Temporary increase in demand will result in increased income for some suppliers.		
Proposed management controls	Negligible impacts likely due to low personnel numbers and temporary nature of exploration. Generally positive for suppliers of services and goods utilised.		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Partly	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Economic Impacts: Any impacts which result in a change to the public sector revenue or expenditure base.		
Potential impacts	Rehabilitation security bond covers any future public liability for rehabilitation. Investment in exploration may lead to significant mining investment. Limited long term negative economic impacts from exploration.		
Proposed management controls	Small increase in public revenue associated with exploration, including taxes from wages.		
Duration	Short term		

Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	No	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Heritage Impacts: Any impacts on a locality, place, landscape, building or archaeological relic of heritage significance.		
Potential impacts	Damage to structures and sensitive features. Limited potential to significantly impact on locality, places, landscapes or buildings. Short term noise, air quality and visual impacts. Potential for temporary impact on aesthetics of a locality. HERITAGE Nil AHIMS Nil recorded. Report indicates 0 sites or places.		
Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include minimising potential impacts on all aspects of the environment (including water, land, air), culture and heritage (Aboriginal and Non-Indigenous heritage). All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity (including sealing of any boreholes).		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	N/A	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Partly	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Aesthetic Impacts: Any impacts on the visual or scenic landscape, including lighting, venting or flaring of gas.		
Potential impacts	Limited potential to significantly impact on visual or scenic landscape. Short term noise, air quality and visual impacts. Potential for temporary impact on aesthetics of a locality. Lighting during night time operations and use of access tracks by vehicles at night may affect local amenity . LANDUSE The planned drilling will take place on a farm, where cropping and grazing are both practiced. The planned drill sites will not affect cropping areas. Where grazing animals are fenced within the area where drilling occurs, there will be no impact on the animals as they will be able to move to other parts of the paddock for feeding. All drilling muds, oils and other materials will be secured within the support vehicles during the night so that animals cannot access them.		

Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include minimising potential impacts on all aspects of the environment (including water, land, air), culture and heritage (Aboriginal and Non-Indigenous heritage). All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity (including sealing of any boreholes).		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	N/A	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Aesthetic Impacts: Areas or items of high aesthetic or scenic value.		
Potential impacts	Limited potential to significantly impact on aesthetic or scenic value. Short term noise, air quality and visual impacts. Potential for temporary impact on aesthetics of a locality. Lighting during night time operations and use of access tracks by vehicles at night may affect local amenity . Exploration activities, including any removal of vegetation and access track locations, may impact on visual amenity. LANDUSE The planned drilling will take place on a farm, where cropping and grazing are both practiced. The planned drill sites will not affect cropping areas. Where grazing animals are fenced within the area where drilling occurs, there will be no impact on the animals as they will be able to move to other parts of the paddock for feeding. All drilling muds, oils and other materials will be secured within the support vehicles during the night so that animals cannot access them.		
Proposed management controls	Short term impacts predominantly limited to immediate site. Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include minimising potential impacts on all aspects of the environment (including water, land, air), culture and heritage (Aboriginal and Non-Indigenous heritage). All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity (including sealing of any boreholes).		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Partly	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Cultural Impacts: Any disturbance of the ground surface or any culturally modified trees (e.g. a scar tree).		

Potential impacts	Short term ground disturbance. Potential for temporary impact on aesthetics of a locality. AHIMS Nil recorded. Report indicates 0 sites or places.		
Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities cannot occur on land declared an Aboriginal Place and activities must not harm Aboriginal Objects. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include minimising potential impacts on all aspects of the environment (including water, land, air), culture and heritage (Aboriginal and Non-Indigenous heritage). All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity (including sealing of any boreholes).		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Medium
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Cultural Impacts: Any impacts on known Aboriginal objects or Aboriginal places.		
Potential impacts	Short term ground disturbance. Potential for impact on Aboriginal objects and places through ground disturbance, excavations, vegetation clearing, etc. AHIMS Nil recorded. Report indicates 0 sites or places.		
Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities cannot occur on land declared an Aboriginal Place and activities must not harm Aboriginal Objects. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include minimising potential impacts on all aspects of the environment (including water, land, air), culture and heritage (Aboriginal and Non-Indigenous heritage). All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity (including sealing of any boreholes).		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Medium
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Cultural Impacts: Affects areas where the landscape features indicate the likely presence of Aboriginal objects.		
Potential impacts	Short term ground disturbance. Potential for impact on Aboriginal objects and places through ground disturbance, excavations, vegetation clearing, etc. AHIMS Nil recorded. Report indicates 0 sites or places.		

Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities cannot occur on land declared an Aboriginal Place and activities must not harm Aboriginal Objects. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include minimising potential impacts on all aspects of the environment (including water, land, air), culture and heritage (Aboriginal and Non-Indigenous heritage). All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity (including sealing of any boreholes).		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Medium
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Cultural Impacts: Affects areas subject to native title claims, indigenous land use agreements or joint management arrangements.		
Potential impacts	Condition of exploration title/authority prohibits exploration on any land or waters on which Native Title has not been extinguished, unless the prior consent of the Minister has been obtained. Register of Native Claim		
Proposed management controls	Condition of exploration title/authority prohibits exploration on any land or waters on which Native Title has not been extinguished, unless the prior consent of the Minister has been obtained.		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Cultural Impacts: Impacts on Aboriginal communities or areas subject to land rights claims.		
Potential impacts	Condition of exploration title/authority prohibits exploration on any land or waters on which Native Title has not been extinguished, unless the prior consent of the Minister has been obtained. Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities cannot occur on land declared an Aboriginal Place and activities must not harm Aboriginal Objects. Any impacts are short term and temporary. Register of Native Claim		
Proposed management controls	Condition of exploration title/authority prohibits exploration on any land or waters on which Native Title has not been extinguished, unless the prior consent of the Minister has been obtained. Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities cannot occur on land declared an Aboriginal Place and activities must not harm Aboriginal Objects.		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low

Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Cultural Impacts: Impacts on areas or items of high anthropological, archaeological, architectural, cultural, heritage, historical, recreational or scientific value.		
Potential impacts	Short term and temporary impacts only. HERITAGE Nil AHIMS Nil recorded. Report indicates 0 sites or places.		
Proposed management controls	Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include minimising potential impacts on all aspects of the environment (including water, land, air), culture and heritage (Aboriginal and Non-Indigenous heritage). Aboriginal or European heritage objects/items/areas to be demarcated and avoided. All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity (including sealing of any boreholes).		
Duration	N/A		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	N/A	**What is the level of public concern?**	Low
Can the impacts be reversed?	N/A	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Land Use Impacts: Any major changes in land use, including curtailment of other beneficial land uses.		
Potential impacts	Limited potential for any major changes in land use due to short term and temporary nature of exploration. Negligible impacts and limited to immediate vicinity of site. Areas used for exploration activities, temporarily removed from existing land use/s but no long term impacts (e.g. temporary impacts on productive rural industries, including agriculture). Vegetation removal may remove potential timber resources. LANDUSE The planned drilling will take place on a farm, where cropping and grazing are both practiced. The planned drill sites will not affect cropping areas. Where grazing animals are fenced within the area where drilling occurs, there will be no impact on the animals as they will be able to move to other parts of the paddock for feeding. All drilling muds, oils and other materials will be secured within the support vehicles during the night so that animals cannot access them. REHABILITATION: Rehab will likely consist of tipping cuttings back down the hole, cutting PVC collars and plugging holes and backfilling the holes with the material dug from the holes or the top bag. Wheel ruts and other surface disturbance will be levelled by bobcat. Excess cuttings will be trucked to an EPA-approved disposal facility.		
Proposed management controls	Minimal impacts likely and limited to immediate site of the activity. Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity. Legislative requirement for landholder access arrangements and compensation limit any potential impacts.		
Duration	Short term		
Application ranking			

What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	No	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Transportation Impacts: Substantial impacts on existing transportation systems (road, rail, pedestrian) which alter present patterns of circulation or movement.		
Potential impacts	Short term additional traffic during exploration activity, primarily during set-up/construction stage. ACCESS Existing farm tracks and open but un-cropped paddocks will be used for access, however some regrowth and shrubs may need to be disturbed to provide safe access for vehicles.		
Proposed management controls	Short term additional traffic during exploration activity, primarily during set-up/construction stage. Limited to immediate site. Subject to landholder agreement and any compensation.		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Transportation Impacts: Impacts associated with direct or indirect additional traffic.		
Potential impacts	Short term additional traffic during exploration activity, primarily during set-up/construction stage. ACCESS Existing farm tracks and open but un-cropped paddocks will be used for access, however some regrowth and shrubs may need to be disturbed to provide safe access for vehicles.		
Proposed management controls	Short term additional traffic during exploration activity, primarily during set-up/construction stage. Limited to immediate site. Subject to landholder agreement and any compensation.		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Consistency with applicable local strategic planning statements, regional strategic plans or district strategic plans.		
Potential impacts	Temporary and short term impact on the land.		

Proposed management controls	Exploration comprises development that does not need consent under the EP&A Act and associated local, regional and district plans. There will be no conflict or inconsistency with applicable local strategic planning statements, regional strategic plans or district strategic plans. Minimal impacts likely and limited to immediate site of the activity. Impacts are compensable under relevant legislation, including Mining Act 1992 and Petroleum (Onshore) Act 1991. Subject to landholder agreement and any compensation. All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity (including sealing of any boreholes).		
Duration	Short term - until land is rehabilitated.		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Uncertain	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Matters of National Environmental Significance: Impacts on MNES under the Commonwealth Environmental Protection and Biodiversity Conservation Act 1999:		
Potential impacts	N/A as activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Cannot impact on MNES. MNES report same as APO0001609- reviewed on 29/5/2024 Map provided "Achilles Critical habitats/ Areas of Outstanding Biodiversity" shows areas of critical habitat in rivers (Lachlan River and Booberoi Creek), and the wetlands around the Lake Cargelligo area. The Round Hill Nature Reserve, in green, lies to the north and west. The drilling area is mapped away from any areas of critical habitat or areas of outstanding biodiversity. PROTECTED MATTERS 15.11.23 reviewed on 29/5/2024 – TECs. Endangered "Mallee Bird Community of the Murray Darling Depression Bioregion" likely to occur in the area. Other TECs listed not likely and don't appear to correspond with PCTs identified in SEED. Endangered species likely to occur in the area: Major Mitchell's Cockatoo, South-eastern Hooded Robin, Australian Painted Snipe, Grey Snake. NOTE: Major Mitchell's Cockatoo Bionet species sighting approx 8km SW of proposed drilling area. Critically endangered Striated Grasswren (sandplain) may occur in the area. This species is also listed as one of the species forming the above-mentioned TEC. No other birds listed in this TEC are listed in the MNES search report. No bionet species sightings for any of the birds listed in the TEC near the drilling, however, Approx 7km N – a large number of bird species listed in the Endangered TEC "Mallee Bird Community of the Murray Darling Depression Bioregion" have bionet sightings including Endangered Malleefowl and Critically Endangered Red-lored whistler. PCTs consistent with proposed drill site specifically PCT 72, PCT 103, PCT 173, PCT 174		
Proposed management controls	N/A		
Duration	N/A		
Application ranking			
What is the confidence in predicting impacts?	N/A	**Are further studies required on impacts or mitigation?**	N/A
How resilient is the environment to cope with impacts?	N/A	**What is the level of public concern?**	Low
Can the impacts be reversed?	N/A	**Ranking of potential significance**	
Can the impacts be mitigated?	N/A	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	N/A		
Criteria	Cumulative Impacts: Cumulative environmental effects with other existing or likely future activities.		

Potential impacts	Only short term and temporary impacts. No significant additional impacts on the environment from past, current and relevant future projects. LANDUSE The planned drilling will take place on a farm, where cropping and grazing are both practiced. The planned drill sites will not affect cropping areas. Where grazing animals are fenced within the area where drilling occurs, there will be no impact on the animals as they will be able to move to other parts of the paddock for feeding. All drilling muds, oils and other materials will be secured within the support vehicles during the night so that animals cannot access them. REHABILITATION: Rehab will likely consist of tipping cuttings back down the hole, cutting PVC collars and plugging holes and backfilling the holes with the material dug from the holes or the top bag. Wheel ruts and other surface disturbance will be levelled by bobcat. Excess cuttings will be trucked to an EPA-approved disposal facility.		
Proposed management controls	Short term impacts predominantly limited to immediate site. Subject to landholder agreement and any compensation. Activities must comply with CEA Location Restrictions, Impact Thresholds and Criteria. Activities must comply with (Exploration Code of Practice: Environmental Management) as per the commitment in the application (APO). Relevant requirements of this Code include minimising all impacts on the environment. All disturbed areas to be rehabilitated in accordance with title conditions (Exploration Code of Practice: Rehabilitation). Rehabilitation to occur as soon as practicable after completion of activity (including sealing of any boreholes).		
Duration	Short term		
Application ranking			
What is the confidence in predicting impacts?	High	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Low
Can the impacts be reversed?	Yes	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		