Friday 17 May 2024

Assessable Prospecting Operation Application Decision Briefing and Review of Environmental Factors

2024 Goat's Tank Drill Program | APO0001751

Decision Maker	Christine Fawcett
Prepared by	Tim Cain
Title	EL 5359 (1992)
Authorised Representative	[redacted]
Project name	2024 Goat's Tank Drill Program
Activity type	Non-Complying Exploration Activity

Issue

[redacted] has sought an activity approval in respect of 2024 Goat's Tank Drill Program, within EL 5359 (1992), at The proposed drilling Program is located within Exploration Licence 5359. The Goat's Tank deposit is approximately 100km North East of the Euston township in NSW. The investigation is to take place across the Boree Plains and Carrawatha stations..

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

This exploration activity approval is being sought under EL 5359 (granted 09/10/1997 & expiry 09/10/2025) to undertake assessable prospecting operations. The current security deposit held for EL 5359 is $478,000.

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 2024 Goat's Tank Drill Program* 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

The application triggered a review of the assessed deposit to secure funding for the fulfilment of obligations if 2024 Goat's Tank Drill Program is approved.

Refer to RCE Record RCE0001982

Assessment of Impacts (Non-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.

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

Additional terms (if approved)

No additional terms are required.

Summary

Based on the information provided in the *APPLICATION TO UNDERTAKE ASSESSABLE PROSPECTING OPERATIONS 2024 Goat's Tank Drill Program* 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, Tim Cain, 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 2024 Goat's Tank Drill Program 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	Potential sources of particulate emissions associated with the Program would include drilling, rehabilitation activities and vehicle movements around the Program site. Given the short duration of the Program, the potential air quality impacts would be negligible. Notwithstanding, the vehicle speed would be limited to 15km/h on the Program site to minimize dust generation while moving around the Program site.		
Proposed management controls	Impacts of all drilling will be limited to the immediate vicinity of drilling. Vehicle speed would be limited to 15km/h on the Program site to minimize dust generation while moving around the Program site. The title holder must comply with Mandatory requirement 1 "Use of chemicals, fuels and lubricants" of the NSW Resources Regulator's Exploration Code of Practice: Environmental Management.		
Duration	Six weeks		
Application ranking	Negligible		
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?**	Uncertain

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	Air Impacts: Greenhouse or ozone impacts.		
Potential impacts	Potential sources of particulate emissions associated with the Program would include drilling, rehabilitation activities and vehicle movements around the Program site. Given the short duration of the Program, the potential air quality impacts would be negligible. Notwithstanding, the vehicle speed would be limited to 15km/h on the Program site to minimize dust generation while moving around the Program site.		
Proposed management controls	Impacts of all drilling will be limited to the immediate vicinity of drilling. Vehicle speed would be limited to 15km/h on the Program site to minimize dust generation while moving around the Program site. The title holder must comply with Mandatory requirement 1 "Use of chemicals, fuels and lubricants" of the NSW Resources Regulator's Exploration Code of Practice: Environmental Management.		
Duration	Six weeks		
Application ranking	Negligible		
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?**	Uncertain
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	Air Impacts: Additional impacts on areas with degraded air quality.		
Potential impacts	Potential sources of particulate emissions associated with the Program would include drilling, rehabilitation activities and vehicle movements around the Program site. Given the short duration of the Program, the potential air quality impacts would be negligible. Notwithstanding, the vehicle speed would be limited to 15km/h on the Program site to minimize dust generation while moving around the Program site.		
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Duration	Six weeks		
Application ranking	Negligible		
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?**	Uncertain
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 the use of surface or groundwater.		

Potential impacts	At the Program site, the potential impacts of the Program on surface water systems are limited due to the distance of the Program site from any significant surface water systems. Notwithstanding, the migration of sediments and contaminants from disturbed areas may potentially impact local surface water resources. The Program would not change flood regimes as there are no significant surface water systems in the vicinity of the Program site. No tidal regimes, coastal processes or coastal hazards would be impacted by the Program. Water for drilling purposes will be sourced from either the Atlas minesite or dams from the Boree Plains property (both owned by Tronox) and thus will not have any impact on water sources used for ecological, stock, domestic or irrigation purposes. The water source protection strategy for the Program would include the implementation of the soil quality and land stability mitigation strategy and the land contamination mitigation strategy. With the implementation of these mitigation strategies, it is considered that the potential impact on surface water resources would be negligible. The potential for the Program to significantly impact on the existing groundwater regime is limited as no groundwater is proposed to be extracted and the relatively minor scale and short-term nature of the Program. Notwithstanding, exposure of groundwater to atmospheric conditions and sediment loading from drilling activities may potentially alter groundwater quality. All drill holes would be sealed using an octoplug upon the completion of drilling to prevent mixing of surface and groundwaters. It is therefore considered that the potential impact on groundwater resources would be negligible.		
Proposed management controls	All drill holes will be sealed using an octoplug upon the completion of drilling to prevent mixing of surface and groundwaters. It is therefore considered that the potential impact on groundwater resources would be negligible. The Program is not near any significant surface water systems. Soil quality and land stability mitigation strategies and the land contamination mitigation strategy that Tronox has developed will also be implemented. The title holder must comply with Mandatory requirement 2 "Water" of the NSW Resources Regulator's Exploration Code of Practice: Environmental Management.		
Duration	Six weeks		
Application ranking	Negligible		
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?**	Uncertain
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	At the Program site, the potential impacts of the Program on surface water systems are limited due to the distance of the Program site from any significant surface water systems. Notwithstanding, the migration of sediments and contaminants from disturbed areas may potentially impact local surface water resources. The Program would not change flood regimes as there are no significant surface water systems in the vicinity of the Program site. No tidal regimes, coastal processes or coastal hazards would be impacted by the Program. Water for drilling purposes will be sourced from either the Atlas minesite or dams from the Boree Plains property (both owned by Tronox) and thus will not have any impact on water sources used for ecological, stock, domestic or irrigation purposes. The water source protection strategy for the Program would include the implementation of the soil quality and land stability mitigation strategy and the land contamination mitigation strategy. With the implementation of these mitigation strategies, it is considered that the potential impact on surface water resources would be negligible. The potential for the Program to significantly impact on the existing groundwater regime is limited as no groundwater is proposed to be extracted and the relatively minor scale and short-term nature of the Program. Notwithstanding, exposure of groundwater to atmospheric conditions and sediment loading from drilling activities may potentially alter groundwater quality. All drill holes would be sealed using an octoplug upon the completion of drilling to prevent mixing of surface and groundwaters. It is therefore considered that the potential impact on groundwater resources would be negligible.		
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Duration	Six weeks		
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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?**	Uncertain
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	At the Program site, the potential impacts of the Program on surface water systems are limited due to the distance of the Program site from any significant surface water systems. Notwithstanding, the migration of sediments and contaminants from disturbed areas may potentially impact local surface water resources. The Program would not change flood regimes as there are no significant surface water systems in the vicinity of the Program site. No tidal regimes, coastal processes or coastal hazards would be impacted by the Program. Water for drilling purposes will be sourced from either the Atlas minesite or dams from the Boree Plains property (both owned by Tronox) and thus will not have any impact on water sources used for ecological, stock, domestic or irrigation purposes. The water source protection strategy for the Program would include the implementation of the soil quality and land stability mitigation strategy and the land contamination mitigation strategy. With the implementation of these mitigation strategies, it is considered that the potential impact on surface water resources would be negligible. The potential for the Program to significantly impact on the existing groundwater regime is limited as no groundwater is proposed to be extracted and the relatively minor scale and short-term nature of the Program. Notwithstanding, exposure of groundwater to atmospheric conditions and sediment loading from drilling activities may potentially alter groundwater quality. All drill holes would be sealed using an octoplug upon the completion of drilling to prevent mixing of surface and groundwaters. It is therefore considered that the potential impact on groundwater resources would be negligible.		
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Duration	Six weeks		
Application ranking	Negligible		
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?**	Uncertain
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	At the Program site, the potential impacts of the Program on surface water systems are limited due to the distance of the Program site from any significant surface water systems. Notwithstanding, the migration of sediments and contaminants from disturbed areas may potentially impact local surface water resources. The Program would not change flood regimes as there are no significant surface water systems in the vicinity of the Program site. No tidal regimes, coastal processes or coastal hazards would be impacted by the Program. Water for drilling purposes will be sourced from either the Atlas minesite or dams from the Boree Plains property (both owned by Tronox) and thus will not have any impact on water sources used for ecological, stock, domestic or irrigation purposes. The water source protection strategy for the Program would include the implementation of the soil quality and land stability mitigation strategy and the land contamination mitigation strategy. With the implementation of these mitigation strategies, it is considered that the potential impact on surface water resources would be negligible. The potential for the Program to significantly impact on the existing groundwater regime is limited as no groundwater is proposed to be extracted and the relatively minor scale and short-term nature of the Program. Notwithstanding, exposure of groundwater to atmospheric conditions and sediment loading from drilling activities may potentially alter groundwater quality. All drill holes would be sealed using an octoplug upon the completion of drilling to prevent mixing of surface and groundwaters. It is therefore considered that the potential impact on groundwater resources would be negligible.		
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Application ranking	Negligible		
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?**	Uncertain
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	At the Program site, the potential impacts of the Program on surface water systems are limited due to the distance of the Program site from any significant surface water systems. Notwithstanding, the migration of sediments and contaminants from disturbed areas may potentially impact local surface water resources. The Program would not change flood regimes as there are no significant surface water systems in the vicinity of the Program site. No tidal regimes, coastal processes or coastal hazards would be impacted by the Program. Water for drilling purposes will be sourced from either the Atlas minesite or dams from the Boree Plains property (both owned by Tronox) and thus will not have any impact on water sources used for ecological, stock, domestic or irrigation purposes. The water source protection strategy for the Program would include the implementation of the soil quality and land stability mitigation strategy and the land contamination mitigation strategy. With the implementation of these mitigation strategies, it is considered that the potential impact on surface water resources would be negligible. The potential for the Program to significantly impact on the existing groundwater regime is limited as no groundwater is proposed to be extracted and the relatively minor scale and short-term nature of the Program. Notwithstanding, exposure of groundwater to atmospheric conditions and sediment loading from drilling activities may potentially alter groundwater quality. All drill holes would be sealed using an octoplug upon the completion of drilling to prevent mixing of surface and groundwaters. It is therefore considered that the potential impact on groundwater resources would be negligible.		
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Duration	Six weeks		
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How resilient is the environment to cope with impacts?	High Resilience	**What is the level of public concern?**	Uncertain
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	At the Program site, the potential impacts of the Program on surface water systems are limited due to the distance of the Program site from any significant surface water systems. Notwithstanding, the migration of sediments and contaminants from disturbed areas may potentially impact local surface water resources. The Program would not change flood regimes as there are no significant surface water systems in the vicinity of the Program site. No tidal regimes, coastal processes or coastal hazards would be impacted by the Program. Water for drilling purposes will be sourced from either the Atlas minesite or dams from the Boree Plains property (both owned by Tronox) and thus will not have any impact on water sources used for ecological, stock, domestic or irrigation purposes. The water source protection strategy for the Program would include the implementation of the soil quality and land stability mitigation strategy and the land contamination mitigation strategy. With the implementation of these mitigation strategies, it is considered that the potential impact on surface water resources would be negligible. The potential for the Program to significantly impact on the existing groundwater regime is limited as no groundwater is proposed to be extracted and the relatively minor scale and short-term nature of the Program. Notwithstanding, exposure of groundwater to atmospheric conditions and sediment loading from drilling activities may potentially alter groundwater quality. All drill holes would be sealed using an octoplug upon the completion of drilling to prevent mixing of surface and groundwaters. It is therefore considered that the potential impact on groundwater resources would be negligible.		
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Duration	Six weeks		
Application ranking	Negligible		
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?**	Uncertain
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	The soil quality and land stability mitigation strategy for potential soil quality and land stability impacts includes soil disturbance to be minimised as far as practicable, operations would cease in the event of heavy rains to minimise potential erosion impacts, vehicle speed would be limited to 15km/h and tyre pressures reduced (where appropriate) on the Program site to minimize erosion on access tracks, rehabilitation of disturbed areas once they are no longer required and soil excavated from cuttings sumps and test pits would be correctly managed. Given the limited potential for soil quality and land stability impacts and the implementation of the proposed mitigation strategy, the potential soil quality and land stability impacts are considered to be low adverse.		

Proposed management controls	The soil quality and land stability mitigation strategy for potential soil quality and land stability impacts includes minimising soil disturbance as far as practicable (utilising existing access tracks), ceasing operation in the event of heavy rain to minimise potential erosion impacts, vehichle speeds would be limited to 15km/h and tyre pressures reduced (where appropriate) on the Program site to minimise erosion on access tracks and rehabilitation of disturbed areas once they are no longer required. Soil excavated from cuttings sumps and test pits would be managed by excavating topsoil and storing subsoil separately (where subsoil is present) for rehabilitation, stockpiled soil would be loosely dumped in low heaps (less than 2m high) and not compacted and the surface of the completed stockpiles would be left in a "rough" condition to help promote infiltation and minimise erosion prior to vegetation establishment. Given the limited potential for soil quality and land stability impacts and the implementation of the proposed mitigation strategy, the potential soil quality and land stability impacts are considered to be low adverse. The title holder must comply with all Mandatory requirements of the NSW Resources Regulator's Exploration Code of Practice: Rehabilitation, and with Mandatory requirement 7 "Roads and tracks" of the NSW Resources Regulator's Exploration Code of Practice: Environmental Management.		
Duration	Six weeks		
Application ranking	Low Adverse		
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?**	Uncertain
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	The soil quality and land stability mitigation strategy for potential soil quality and land stability impacts includes soil disturbance to be minimised as far as practicable, operations would cease in the event of heavy rains to minimise potential erosion impacts, vehicle speed would be limited to 15km/h and tyre pressures reduced (where appropriate) on the Program site to minimize erosion on access tracks, rehabilitation of disturbed areas once they are no longer required and soil excavated from cuttings sumps and test pits would be correctly managed. Given the limited potential for soil quality and land stability impacts and the implementation of the proposed mitigation strategy, the potential soil quality and land stability impacts are considered to be low adverse.		
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Duration	Six weeks		
Application ranking	Negligible		
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?**	Uncertain
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	The soil quality and land stability mitigation strategy for potential soil quality and land stability impacts includes soil disturbance to be minimised as far as practicable, operations would cease in the event of heavy rains to minimise potential erosion impacts, vehicle speed would be limited to 15km/h and tyre pressures reduced (where appropriate) on the Program site to minimize erosion on access tracks, rehabilitation of disturbed areas once they are no longer required and soil excavated from cuttings sumps and test pits would be correctly managed. Given the limited potential for soil quality and land stability impacts and the implementation of the proposed mitigation strategy, the potential soil quality and land stability impacts are considered to be low adverse.		
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Duration	Six weeks		
Application ranking	Negligible		
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?**	Uncertain
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	The soil quality and land stability mitigation strategy for potential soil quality and land stability impacts includes soil disturbance to be minimised as far as practicable, operations would cease in the event of heavy rains to minimise potential erosion impacts, vehicle speed would be limited to 15km/h and tyre pressures reduced (where appropriate) on the Program site to minimize erosion on access tracks, rehabilitation of disturbed areas once they are no longer required and soil excavated from cuttings sumps and test pits would be correctly managed. Given the limited potential for soil quality and land stability impacts and the implementation of the proposed mitigation strategy, the potential soil quality and land stability impacts are considered to be low adverse.		
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Duration	Six weeks		
Application ranking	Negligible		
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?**	Uncertain
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	The soil quality and land stability mitigation strategy for potential soil quality and land stability impacts includes soil disturbance to be minimised as far as practicable, operations would cease in the event of heavy rains to minimise potential erosion impacts, vehicle speed would be limited to 15km/h and tyre pressures reduced (where appropriate) on the Program site to minimize erosion on access tracks, rehabilitation of disturbed areas once they are no longer required and soil excavated from cuttings sumps and test pits would be correctly managed. Given the limited potential for soil quality and land stability impacts and the implementation of the proposed mitigation strategy, the potential soil quality and land stability impacts are considered to be low adverse.		
Proposed management controls	The soil quality and land stability mitigation strategy for potential soil quality and land stability impacts includes minimising soil disturbance as far as practicable (utilising existing access tracks), ceasing operation in the event of heavy rain to minimise potential erosion impacts, vehichle speeds would be limited to 15km/h and tyre pressures reduced (where appropriate) on the Program site to minimise erosion on access tracks and rehabilitation of disturbed areas once they are no longer required. Soil excavated from cuttings sumps and test pits would be managed by excavating topsoil and storing subsoil separately (where subsoil is present) for rehabilitation, stockpiled soil would be loosely dumped in low heaps (less than 2m high) and not compacted and the surface of the completed stockpiles would be left in a "rough" condition to help promote infiltation and minimise erosion prior to vegetation establishment. Given the limited potential for soil quality and land stability impacts and the implementation of the proposed mitigation strategy, the potential soil quality and land stability impacts are considered to be low adverse. The title holder must comply with all Mandatory requirements of the NSW Resources Regulator's Exploration Code of Practice: Rehabilitation, and with Mandatory requirement 7 "Roads and tracks" of the NSW Resources Regulator's Exploration Code of Practice: Environmental Management.		
Duration	Six weeks		
Application ranking	Negligible		
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?**	Uncertain
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	Potential sources of noise associated with the Program would include drilling, earthmoving equipment (e.g. skid steer) and vehicle movements around the Program site. These activities would be undertaken during daylight hours (7:00 am to 6:00pm) seven days a week. Given the large distance between the Program site and the nearest sensitive receiver (approximately 5.1km), the minor nature of the mobile equipment fleet, and the short duration of the Program, the potential noise and vibration impacts would be negligible.		
Proposed management controls	Given the large distance between the Program site and the nearest sensitive receiver (approximately 5.1km), the minor nature of the mobile equipment fleet, and the short duration of the Program, the potential noise and vibration impacts would be negligible. As the potential impacts are neglgiible, no specific noise mitigation strategy is proposed. The title holder must comply with Mandatory requirement 3 "Noise and vibration" of the NSW Resources Regulator's Exploration Code of Practice: Environmental Management.		
Duration	Six weeks		
Application ranking	Negligible		
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?**	Uncertain
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	Potential sources of noise associated with the Program would include drilling, earthmoving equipment (e.g. skid steer) and vehicle movements around the Program site. These activities would be undertaken during daylight hours (7:00 am to 6:00pm) seven days a week. Given the large distance between the Program site and the nearest sensitive receiver (approximately 5.1km), the minor nature of the mobile equipment fleet, and the short duration of the Program, the potential noise and vibration impacts would be negligible.		
Proposed management controls	Given the large distance between the Program site and the nearest sensitive receiver (approximately 5.1km), the minor nature of the mobile equipment fleet, and the short duration of the Program, the potential noise and vibration impacts would be negligible. As the potential impacts are neglgiible, no specific noise mitigation strategy is proposed. The title holder must comply with Mandatory requirement 3 "Noise and vibration" of the NSW Resources Regulator's Exploration Code of Practice: Environmental Management.		
Duration	Six weeks		
Application ranking	Negligible		
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?**	Uncertain
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	Due to the inland location of the Program, no tidal regimes, coastal processes or coastal hazards would be impacted by the program.		
Proposed management controls	No tidal regimes, coastal processes or coastal hazards would be impacted by the program, so no mitigation measures or management controls are proposed.		
Duration	Six weeks		
Application ranking	Positive		
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	Hazardous substances or chemicals: Impacts associated with the use, generation, storage or transport of hazardous substances or chemicals.		
Potential impacts	Given the relatively small quantities of dangerous goods required for the Program and the proposed land contamination mitigation strategy, it is considered that the potential land contamination impacts on soil quality would be negligible. Hydrocarbons used for the Program would include fuels (e.g. diesel) and lubricants (e.g. oils, greases and degreaser). Diesel and lubricants would be transported and stored in the support truck. The support truck would store approximatley 600 litres of diesel to supply fuel to the drill rig. All vehicles would be regularly inspected to minimize the potential for leaks and spills on the program site and spill kits would be maintained on the Program site.		

Proposed management controls	The management and storage of chemicals (including separation according to chemical type) would be conducted in accordance with the relevant Australian Standards and codes. No chemicals or hazardous material would be permitted on the Program site unless a copy of the appropriate Material Safety Data Sheet (MSDS) is available on site or, in the case of a new product, it is accompanied by an MSDS. It is considered that potential dangerous goods impacts impacts would be negligible with the implementation of the mitigation strategies described above. The title holder must comply with Mandatory requirement 1 "Use of chemicals, fuels and lubricants" of the NSW Resources Regulator's Exploration Code of Practice: Environmental Management.		
Duration	Six weeks		
Application ranking	Negligible		
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?**	Uncertain
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	The Program would generate relatively minor quantites of recyclable and non-recyclable general wastes, other wastes from drilling operations (e.g. tyres, scrap metal, waste hydrocarbons) and drilling waste (cuttings). General waste minimization principles (reduce, re-use and recycle) would be applied for this program.		
Proposed management controls	All general waste (solid and non-solid waste as defined in waste Classification Guideline Part1: Classifying Waste [DECC,2008]) and generally recyclable products generated at the Program site would initially be stored in containers/bags on the support truck and/or light four wheel drive vehicle. Other wastes generated during the program (e.g. tyres) would also be transported to the Mildura exploration office where it would be disposed of at a registered depot. Drilling waste would be disposed of either by placing back into the drill hole or placed in the bottom of the cuttings sump and covered with subsoil and toposil. It is considered that potential waste impacts would be negligible with the implementation of the waste management system. The title holder must comply with Mandatory requirement 5 "Waste management" of the NSW Resources Regulator's Exploration Code of Practice: Environmental Management.		
Duration	Six weeks		
Application ranking	Negligible		
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?**	Uncertain
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	The Program is not located in drinking water catchments, wetlands, natural waterbodies, riparian zones, flood prone areas, groundwater recharge areas or areas with a high water table, so therefore will have no impacts on these areas. The program is not in an erosion prone area, areas with slopes greater than 18° or in subsidence or slip areas. The program is also not in an area effected by acid sulfate, sodic or highly permeable soils, so the program will not impact any of these types of areas.		

Proposed management controls	All general waste (solid and non-solid waste as defined in waste Classification Guideline Part1: Classifying Waste [DECC,2008]) and generally recyclable products generated at the Program site would initially be stored in containers/bags on the support truck and/or light four wheel drive vehicle. Other wastes generated during the program (e.g. tyres) would also be transported to the Mildura exploration office where it would be disposed of at a registered depot. Drilling waste would be disposed of either by placing back into the drill hole or placed in the bottom of the cuttings sump and covered with subsoil and toposil. It is considered that potential waste impacts would be negligible with the implementation of the waste management system. The title holder must comply with Mandatory requirement 5 "Waste management" of the NSW Resources Regulator's Exploration Code of Practice: Environmental Management.		
Duration	Six weeks		
Application ranking	Negligible		
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?**	Uncertain
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	The Program is not located in drinking water catchments, wetlands, natural waterbodies, riparian zones, flood prone areas, groundwater recharge areas or areas with a high water table, so therefore will have no impacts on these areas. The program is not in an erosion prone area, areas with slopes greater than 18° or in subsidence or slip areas. The program is also not in an area effected by acid sulfate, sodic or highly permeable soils, so the program will not impact any of these types of areas.		
Proposed management controls	All general waste (solid and non-solid waste as defined in waste Classification Guideline Part1: Classifying Waste [DECC,2008]) and generally recyclable products generated at the Program site would initially be stored in containers/bags on the support truck and/or light four wheel drive vehicle. Other wastes generated during the program (e.g. tyres) would also be transported to the Mildura exploration office where it would be disposed of at a registered depot. Drilling waste would be disposed of either by placing back into the drill hole or placed in the bottom of the cuttings sump and covered with subsoil and toposil. It is considered that potential waste impacts would be negligible with the implementation of the waste management system. The title holder must comply with Mandatory requirement 5 "Waste management" of the NSW Resources Regulator's Exploration Code of Practice: Environmental Management.		
Duration	Six weeks		
Application ranking	Negligible		
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?**	Uncertain
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?			
Criteria	Wastes and Emissions: Impacts on coastlines or dunes, alpine areas, karst features or other unique landforms.		
Potential impacts	N/A		
Proposed management controls	N/A		
Duration	N/A		
Application ranking	N/A		
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**	N/A
Can the impacts be mitigated?	N/A	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	N/A		
Criteria	Wastes & Emissions: Impacts on erosion prone areas, areas with slopes of greater than 18 degrees.		
Potential impacts	N/A		
Proposed management controls	N/A		
Duration	N/A		
Application ranking	N/A		
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?**	
Can the impacts be reversed?	N/A	**Ranking of potential significance**	N/A
Can the impacts be mitigated?	N/A	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	N/A		
Criteria	Wastes & Emissions: Impacts on subsidence or slip areas.		
Potential impacts	NA		
Proposed management controls	NA		
Duration	Six weeks		
Application ranking	Negligible		
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**	Low
Can the impacts be mitigated?	N/A	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	N/A		
Criteria	Wastes & Emissions: Impacts on areas with acid sulphate, sodic or highly permeable soils.		
Potential impacts	NA		
Proposed management controls	NA		
Duration	Six weeks		
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	Wastes & Emissions: Impacts on areas with salinity or potential salinity problems.		

Potential impacts	The Program is not located in drinking water catchments, wetlands, natural waterbodies, riparian zones, flood prone areas, groundwater recharge areas or areas with a high water table, so therefore will have no impacts on these areas. The program is not in an erosion prone area, areas with slopes greater than 18° or in subsidence or slip areas. The program is also not in an area effected by acid sulfate, sodic or highly permeable soils, so the program will not impact any of these types of areas.		
Proposed management controls	All general waste (solid and non-solid waste as defined in waste Classification Guideline Part1: Classifying Waste [DECC,2008]) and generally recyclable products generated at the Program site would initially be stored in containers/bags on the support truck and/or light four wheel drive vehicle. Other wastes generated during the program (e.g. tyres) would also be transported to the Mildura exploration office where it would be disposed of at a registered depot. Drilling waste would be disposed of either by placing back into the drill hole or placed in the bottom of the cuttings sump and covered with subsoil and toposil. It is considered that potential waste impacts would be negligible with the implementation of the waste management system. The title holder must comply with Mandatory requirement 5 "Waste management" of the NSW Resources Regulator's Exploration Code of Practice: Environmental Management.		
Duration	Six weeks		
Application ranking	Negligible		
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?**	Uncertain
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	The Program is not located in drinking water catchments, wetlands, natural waterbodies, riparian zones, flood prone areas, groundwater recharge areas or areas with a high water table, so therefore will have no impacts on these areas. The program is not in an erosion prone area, areas with slopes greater than 18° or in subsidence or slip areas. The program is also not in an area effected by acid sulfate, sodic or highly permeable soils, so the program will not impact any of these types of areas.		
Proposed management controls	All general waste (solid and non-solid waste as defined in waste Classification Guideline Part1: Classifying Waste [DECC,2008]) and generally recyclable products generated at the Program site would initially be stored in containers/bags on the support truck and/or light four wheel drive vehicle. Other wastes generated during the program (e.g. tyres) would also be transported to the Mildura exploration office where it would be disposed of at a registered depot. Drilling waste would be disposed of either by placing back into the drill hole or placed in the bottom of the cuttings sump and covered with subsoil and toposil. It is considered that potential waste impacts would be negligible with the implementation of the waste management system. The title holder must comply with Mandatory requirement 5 "Waste management" of the NSW Resources Regulator's Exploration Code of Practice: Environmental Management.		
Duration	Six weeks		
Application ranking	Negligible		
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?**	Uncertain
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	The Program is not located in drinking water catchments, wetlands, natural waterbodies, riparian zones, flood prone areas, groundwater recharge areas or areas with a high water table, so therefore will have no impacts on these areas. The program is not in an erosion prone area, areas with slopes greater than 18° or in subsidence or slip areas. The program is also not in an area effected by acid sulfate, sodic or highly permeable soils, so the program will not impact any of these types of areas.		

Proposed management controls	All general waste (solid and non-solid waste as defined in waste Classification Guideline Part1: Classifying Waste [DECC,2008]) and generally recyclable products generated at the Program site would initially be stored in containers/bags on the support truck and/or light four wheel drive vehicle. Other wastes generated during the program (e.g. tyres) would also be transported to the Mildura exploration office where it would be disposed of at a registered depot. Drilling waste would be disposed of either by placing back into the drill hole or placed in the bottom of the cuttings sump and covered with subsoil and toposil. It is considered that potential waste impacts would be negligible with the implementation of the waste management system. The title holder must comply with Mandatory requirement 5 "Waste management" of the NSW Resources Regulator's Exploration Code of Practice: Environmental Management.		
Duration	Six weeks		
Application ranking	Negligible		
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?**	Uncertain
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	To access the drill sites, it is proposed that access will be gained off existing drill lines and access tracks where possible. Three new access tracks will need to be created to allow for ease of access to the Goat's tank deposit. These tracks will extend off already existing access tracks. 10 new drill lines will need to be created for this program. Approximately 2.23ha of vegetation clearing is proposed. The vegetation community where clearing will take place is Linear dune mallee. Approximately 2.23 ha of vegetation (fauna habitat) would be disturbed within the program area. Clearing native vegetation is a key threatening process listed under the BC Act and the EPBC Act and is recognized as a key factor in contributing to the loss of biological diversity which is relevant to the proposed Program. This loss of vegetation can result in impacts from the loss and/or degredation of habitat or fragmentation. The loss of vegetation communities within the development area is relatively small when compared to that occurring in the surrounding region. A biodiversity impact assessment report was conducted on the proposed Goat's Tank traverses by GHD (the GHD Report). One TEC was identified to occur, namely 'The Mallee Bird Community' however with the mitigation measures in Section 6.2 of the GHD Report it was considered that the proposal was unlikely to have a significant impact. Given the nature of the potential flora impacts and the implementation of the proposed flora mitigation strategy (discussed below), it is considered that the potential impact on flora would be low adverse.		
Proposed management controls	The flora mitigation strategy for the Program would include minimising vegetation clearance (e.g. use existing access tracks and drill lines where possible), surveying disturbance areas, avoiding biodiversity features (e.g. threatened flora species), all vehicles entering the Program site would be washed down to minimise the spread of weeds and rehabilitating the Program site. The access track would be ~3m wide and would be located to avoid features identified during the pre-clearance surveys where possible. Where drill holes are located, the track will be widened to <10m to allow the drill rig to turn around and safe working environment for geologist support vehicles etc. Cleared vegetation would be stockpiled in designated vegetation stockpiles on the side of the track. Depending on the density of vegetation, the vegetation stockpiles would be approximately 4m squared and would be located approximately every ~50m along the drill lines. it is anticipated that ~70 vegetation stockpiles would be required. During the vegetation clearing process, the Mallee root ball is left in situ as much as possible to allow for regeneration, however there are some occasions where the root ball 'rolls' out during clearing, and there are some occassions where the root ball is removed to avoid tyre punctures or trip hazards at the worksite. However, the priority will always be the non-removal of the Mallee root ball as much as is practicable. With the implementation fo this vegetation mitigation strategy, the impacts on vegetation clearing will be low adverse. The title holder must comply with Mandatory requirement 6 "Vegetation clearing and surface disturbance" of the NSW Resources Regulator's Exploration Code of Practice: Environmental Management.		
Duration	Six weeks		
Application ranking	Low Adverse		
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?**	Uncertain

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	Two BC Act/EPBC Act listed threatened flora species, Winged Peppercress and Mossgiel Daisy, may occur within one or more of the study sites. Should these species occur within the study sites, impacts are likely to affect local individuals within the area subject to vegetation clearing. Where mitigation measures are implemented the Proposal is unlikely to result in a significant impact on these species. One arboreal mammal, the Western Pygmy Possum, has been recorded throughout the study area, and may occur at the study sites. Additionally, mammals like Bolam's Mouse and Southern Ningaui are predicted to occur within some of the study sites. Impacts on these species are most likely to result from direct mortality of individuals during vegetation clearing. Impacts from vegetation clearing would be greatest if done during cooler periods when some of these species enter periods of inactivity/torpor/hibernation. Threatened woodland bird species, such as south-eastern Hooded robin and Southern Whiteface, would occur at the study sites as individuals of a broader population, occurring across contiguous adjoining areas. These species are active and mobile and are likely to utilise a range of habitats within the broader study area. Like woodland birds, threatened microbats and raptors, such as Corben's Long Eared Bat and Inland Forest Bat are highly mobile, and individuals of these species that occur within the sites are likely to be part of larger populations that occur throughout a broader landscape of suitable habitat. For these species, the Proposal would result in the loss of small areas of predominantly foraging habitat within the broader study area (total of 0.01-0.02% vegetation that is potential habitat to be removed from synonymous vegetation mapped in the broader study area). Where breeding habitat and refuge habitat occurs for hollow-dependent species, such as Corben's long-eared bat, Little Pied Bat, Inland Forest Bat and Brown Treecreeper, impacts on individuals of these species may occur from the proposal as a result of losses of breeding habitat and/or direct mortality during the removal of vegetation containing hollows. For this reason, hollow-bearing trees should be avoided during activities associated with the Proposal. Impacts caused by vegetation clearing would be exacerbated if done during seasons of torpor (and reduced activity for microbats) or breeding (where young are still dependent on breeding habitat such as nests or hollows). Similarly, impacts on ground-dwelling reptiles are likely to occur from vegetation clearing activities. For example, the Jewelled Gecko is a Spinifex-obligate species. If impacts on areas of Spinifex tussocks cannot be avoided, it is likely that individuals residing within or beneath the tussocks will be injured or killed. This risk is greatest if clearing/disturbance is done during cool periods when reptiles are less active and movement is greatly restricted.		
Proposed management controls	The proposal would result in some unavoidable residual adverse impacts to some elements of the natural environment. These residual impacts are not expected to impose a significant negative effect on any local populations of native biota, including threatened biota and their habitats which occur in the study area. Most impacts can be reduced or avoided through the implementation of mitigation measures. All workers should be provided with an environmental induction prior to starting work on site to be made aware of the potential for impacts on native (including threatened) flora and fauna, and to be able to avoid and minimise impacts through their work. Mitigation measures for vegetation clearing include minimising vegetation clearance, surveying and marking drill hole locations, micro-align the drill hole locations to avoid biodiversity features (e.g. threatened flora species, hollow-bearing trees, old-growth spinifex) and when creating access tracks, avoid biodiversity features (in particular old-growth spinifex tussocks and large or hollow-bearing trees). The management of weeds, pests and pathogens includes vehicles and equipment which will be washed down prior to entering any of the sites, inspecting vehicle exteriors and ensure all plant propagules have been removed from vehicle tyres, undercarriages, grills, floors and trays, staff will wear PPE that is cleaned of all plant propagules, disposing of weeds correctly by pulling out all of the plant and covering loads when transporting to a disposal facility licensed to accept green waste and in the event of the presence of any declared priority weeds, manage them in accordance with the requirements of the Biosecurity Act 2015. Mitigation strategies to reduce the risk of harm/injury to fauna include not working within 50-100m of an active Malleefowl mound, limiting vehicle speeds on the Program site to minimise collisions with animals, backfill cuttings sumps as soon as practicable after use to minimise the potential for fauna entrapment, timing of vegetation clearing to occur outside of cooler periods when fauna species may be in torpor/hibernation and are most at risk of injury or death, avoid removing limbs/trees/shrubs containing active nests, a wildlife rescue organisation should be made aware of operations in case any injured fauna are found, if an animal is trapped or injured, an animal handling expert/wildlife carer or appropriately qualified ecologist would be contacted to assist with the capture and relocation or transportation to a qualified vet or wildlife rescue organization and all animals encountered will be treated humanely, ethically and in accordance with relevant codes under the NSW Prevention of Cruelty to Animals Act 1979.		
Duration	Six weeks		
Application ranking	Low Adverse		

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?**	Uncertain
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 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	Two BC Act/EPBC Act listed threatened flora species, Winged Peppercress and Mossgiel Daisy, may occur within one or more of the study sites. Should these species occur within the study sites, impacts are likely to affect local individuals within the area subject to vegetation clearing. Where mitigation measures are implemented the Proposal is unlikely to result in a significant impact on these species. One arboreal mammal, the Western Pygmy Possum, has been recorded throughout the study area, and may occur at the study sites. Additionally, mammals like Bolam's Mouse and Southern Ningaui are predicted to occur within some of the study sites. Impacts on these species are most likely to result from direct mortality of individuals during vegetation clearing. Impacts from vegetation clearing would be greatest if done during cooler periods when some of these species enter periods of inactivity/torpor/hibernation. Threatened woodland bird species, such as south-eastern Hooded robin and Southern Whiteface, would occur at the study sites as individuals of a broader population, occurring across contiguous adjoining areas. These species are active and mobile and are likely to utilise a range of habitats within the broader study area. Like woodland birds, threatened microbats and raptors, such as Corben's Long Eared Bat and Inland Forest Bat are highly mobile, and individuals of these species that occur within the sites are likely to be part of larger populations that occur throughout a broader landscape of suitable habitat. For these species, the Proposal would result in the loss of small areas of predominantly foraging habitat within the broader study area (total of 0.01-0.02% vegetation that is potential habitat to be removed from synonymous vegetation mapped in the broader study area). Where breeding habitat and refuge habitat occurs for hollow-dependent species, such as Corben's long-eared bat, Little Pied Bat, Inland Forest Bat and Brown Treecreeper, impacts on individuals of these species may occur from the proposal as a result of losses of breeding habitat and/or direct mortality during the removal of vegetation containing hollows. For this reason, hollow-bearing trees should be avoided during activities associated with the Proposal. Impacts caused by vegetation clearing would be exacerbated if done during seasons of torpor (and reduced activity for microbats) or breeding (where young are still dependent on breeding habitat such as nests or hollows). Similarly, impacts on ground-dwelling reptiles are likely to occur from vegetation clearing activities. For example, the Jewelled Gecko is a Spinifex-obligate species. If impacts on areas of Spinifex tussocks cannot be avoided, it is likely that individuals residing within or beneath the tussocks will be injured or killed. This risk is greatest if clearing/disturbance is done during cool periods when reptiles are less active and movement is greatly restricted.		

Proposed management controls	The proposal would result in some unavoidable residual adverse impacts to some elements of the natural environment. These residual impacts are not expected to impose a significant negative effect on any local populations of native biota, including threatened biota and their habitats which occur in the study area. Most impacts can be reduced or avoided through the implementation of mitigation measures. All workers should be provided with an environmental induction prior to starting work on site to be made aware of the potential for impacts on native (including threatened) flora and fauna, and to be able to avoid and minimise impacts through their work. Mitigation measures for vegetation clearing include minimising vegetation clearance, surveying and marking drill hole locations, micro-align the drill hole locations to avoid biodiversity features (e.g. threatened flora species, hollow-bearing trees, old-growth spinifex) and when creating access tracks, avoid biodiversity features (in particular old-growth spinifex tussocks and large or hollow-bearing trees). The management of weeds, pests and pathogens includes vehicles and equipment which will be washed down prior to entering any of the sites, inspecting vehicle exteriors and ensure all plant propagules have been removed from vehicle tyres, undercarriages, grills, floors and trays, staff will wear PPE that is cleaned of all plant propagules, disposing of weeds correctly by pulling out all of the plant and covering loads when transporting to a disposal facility licensed to accept green waste and in the event of the presence of any declared priority weeds, manage them in accordance with the requirements of the Biosecurity Act 2015. Mitigation strategies to reduce the risk of harm/injury to fauna include not working within 50-100m of an active Malleefowl mound, limiting vehicle speeds on the Program site to minimise collisions with animals, backfill cuttings sumps as soon as practicable after use to minimise the potential for fauna entrapment, timing of vegetation clearing to occur outside of cooler periods when fauna species may be in torpor/hibernation and are most at risk of injury or death, avoid removing limbs/trees/shrubs containing active nests, a wildlife rescue organisation should be made aware of operations in case any injured fauna are found, if an animal is trapped or injured, an animal handling expert/wildlife carer or appropriately qualified ecologist would be contacted to assist with the capture and relocation or transportation to a qualified vet or wildlife rescue organization and all animals encountered will be treated humanely, ethically and in accordance with relevant codes under the NSW Prevention of Cruelty to Animals Act 1979. The title holder must comply with Mandatory requirement 6 "Vegetation clearing and surface disturbance" of the NSW Resources Regulator's Exploration Code of Practice: Environmental Management.		
Duration	Six weeks		
Application ranking	Low Adverse		
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?**	Uncertain
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	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	There are no declared areas of outstanding biodiversity value or areas declared as critical habitat under the Fisheries Management Act 1994 within the Program Area.		
Proposed management controls	NA		
Duration	Six weeks		
Application ranking	Low Adverse		
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	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	The Buloke woodland and Mallee fowl communities may both occur in the Program Area. All clearing for this program is planned to take place in linear dune mallee vegetation. As no Buloke woodland will be cleared, the impacts are negligible. During a reconnaissance visit, it was concluded that there were no Mallee fowl mounds seen within 200m of the proposed drill sites. Impacts on Mallee fowl communities are negligible, with the implementation of the mitigation measures discussed below.		
Proposed management controls	The mitigation measures outlined in section 6.2 of the GHD Biodiversity Impact Assessment will be implemented throughout the duration of this Program. The flora mitigation strategy for the Program would include minimising vegetation clearance (e.g. use existing access tracks and drill lines where possible), surveying disturbance areas, avoiding biodiversity features (e.g. threatened flora species), all vehicles entering the Program site would be washed down to minimise the spread of weeds and rehabilitating the Program site. The access track would be ~3m wide and would be located to avoid features identified during the pre-clearance surveys where possible. Where drill holes are located, the track will be widened to <10m to allow the drill rig to turn around and safe working environment for geologist support vehicles etc. Cleared vegetation would be stockpiled in designated vegetation stockpiles on the side of the track. Depending on the density of the vegetation, the vegetation stockpiles would be approximately 4m squared and would be located every ~50m along the drill lines. It is anticipated that ~70 vegetation stockpiles would be required. Please note that during the vegetation clearing process, the Mallee root ball is left in situ as much as possible to allow for regeneration, however there are some occasions where the root ball 'rolls' out during clearing, and there are some occasions where the root ball is removed to avoid tyre punctures or trip hazards at the worksite. However, the priority will always be the non-removal of the Mallee root ball as much as is practicable. During a reconnaissance visit, it was concluded that there were no Malleefowl mounds seen within 200m of the proposed drill line sites and no other EPBC listed species were observed. If a mallee fowl mound is seen within 2200m of a drill line, Tronox has a mitigation procedure for the drilling crew to follow which includes cancelling the drill line that the mallee fowl is found nearby.		
Duration	Six weeks		
Application ranking	Negligible		
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?**	Uncertain
Can the impacts be reversed?	Yes	**Ranking of potential significance**	
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	A single threatened ecological community listed under the BC Act is present within the Goat's Tank deposit area, namely the Acacia melvillei Yarran Shrubland EEC. The ecological community has been mapped and doesn not exist at the Program location. Mitigation strategies will continure to occur to reduce environmental impacts and as such it is expected that minimal adverse effects will result.		

Proposed management controls	The Proposal would result in some unavoidable residual adverse impacts to some elements of the natural environment. These residual impacts are not expected to impose a significant negative effect on any local populations of native biota, including threatened biota and their habitats which occur in the study area. Most impacts can be reduced or avoided through the implementation of mitigation measures. The mitigation measures outlined in Section 6.2 of the GHD Biodiversity Impact Assessment will be implemented throughout the duration of this Program. Specific mitigation measures are recommended below to minimise likely impacts of the Proposal on the biota, and include: Worker/personnel inductions • All workers should be provided with an environmental induction prior to starting work on site to be made aware of the potential for impacts on native (including threatened) flora and fauna, and to be able to avoid and minimise impacts through their work. Vegetation clearing • Minimise vegetation clearance (e.g. use existing access tracks and drill lines where possible). • Survey and mark drill hole locations. • Micro-align the drill hole locations to avoid biodiversity features (e.g. threatened flora species, hollow-bearing trees, old-growth Spinifex). • When creating access tracks, avoid biodiversity features (in particular old-growth Spinifex tussocks and large or hollow-bearing trees). Management of weeds, pests and pathogens • Vehicles and construction plant and equipment will be washed down prior to entering any of the sites. Inspect vehicle exteriors and ensure all plant propagules (such as seeds) have been removed from vehicle tyres, undercarriages, grills, floors and trays. • Staff will wear PPE (clothing and footwear) that is cleaned of all plant propagules (such as seeds). • Dispose of weeds correctly by pulling out all of the plant and covering loads when transporting to a disposal facility licensed to accept green waste. • In the event of the presence of any declared priority weeds, manage them in accordance with the requirements of the Biosecurity Act 2015. Risk of harm/injury to fauna • Do not work within 200m of an active Malleefowl mound. • Limit vehicle speeds on the Program site to minimise collisions with animals. • backfill cuttings sumps as soon as practicable after use to minimise the potential for fauna entrapment. • Timing of vegetation clearing to occur outside of cooler periods when fauna species may be in torpor/hibernation and are most at risk of injury or death. • Avoid removing limbs/trees/shrubs containing active nests. • A wildlife rescue organisation should be made aware of operations in case any injured fauna are found. If an animal is trapped or injured, an animal handling expert/wildlife carer or appropriately qualified ecologist would be contacted to assist with the capture and relocation or transportation to a qualified vet or wildlife rescue organisation. • All animals encountered will be treated humanely, ethically, and in accordance with relevant codes under the NSW Prevention of Cruelty to Animals Act 1979. Clearing or disturbance of vegetation. • Conduct pre-clearance surveys for mossgiel daisy and Winged Peppercress prior to ground disturbance and/or vegetation removal. – Undertake wider searches for the mossgiel daisy and/or Winged Peppercress during suitable times (i.e. when environmental conditions prevail which are conducive to the orchid flowering). – Where mossgiel daisy and/or Winged Peppercress species are observed within the study site, move alignment/access to avoid individuals of the population. Rehabilitation • Following completion of construction works, cleared areas within the Proposal footprint would be rehabilitated in an ecologically appropriate manner. • backfill cuttings sumps as soon as practicable after use to minimise the potential for fauna entrapment. • Timing of vegetation clearing to occur outside of cooler periods when fauna species may be in torpor/hibernation and are most at risk of injury or death. • Avoid removing limbs/trees/shrubs containing active nests. • A wildlife rescue organisation should be made aware of operations in case any injured fauna are found. If an animal is trapped or injured, an animal handling expert/wildlife carer or appropriately qualified ecologist would be contacted to assist with the capture and relocation or transportation to a qualified vet or wildlife rescue organisation. • All animals encountered will be treated humanely, ethically, and in accordance with relevant codes under the NSW Prevention of Cruelty to Animals Act 1979. Clearing or disturbance of vegetation. • Conduct pre-clearance surveys for mossgiel daisy and Winged Peppercress prior to ground disturbance and/or vegetation removal.

	– Undertake wider searches for the mossgiel daisy and/or Winged Peppercress during suitable times (i.e. when environmental conditions prevail which are conducive to the orchid flowering). – Where mossgiel daisy and/or Winged Peppercress species are observed within the study site, move alignment/access to avoid individuals of the population. Rehabilitation • Following completion of construction works, cleared areas within the Proposal footprint would be rehabilitated in an ecologically appropriate manner.		
Duration	Six weeks		
Application ranking	Low Adverse		
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?**	Uncertain
Can the impacts be reversed?	Yes	**Ranking of potential significance**	
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		
Criteria	Habitat of protected aquatic species or those with conservation status.		
Potential impacts	A single threatened ecological community listed under the BC Act is present within the Goat's Tank deposit area, namely the Acacia Melvillei Yarran Shrubland EEC. The ecological community has been mapped and does not exist at the Program location. Mitigation strategies will continue to occur to reduce environmental impacts and as such it is expected that minimial adverse effects will result.		

Proposed management controls	The Proposal would result in some unavoidable residual adverse impacts to some elements of the natural environment. These residual impacts are not expected to impose a significant negative effect on any local populations of native biota, including threatened biota and their habitats which occur in the study area. Most impacts can be reduced or avoided through the implementation of mitigation measures. The mitigation measures outlined in Section 6.2 of the GHD Biodiversity Impact Assessment will be implemented throughout the duration of this Program. Specific mitigation measures are recommended below to minimise likely impacts of the Proposal on the biota, and include: Worker/personnel inductions • All workers should be provided with an environmental induction prior to starting work on site to be made aware of the potential for impacts on native (including threatened) flora and fauna, and to be able to avoid and minimise impacts through their work. Vegetation clearing • Minimise vegetation clearance (e.g. use existing access tracks and drill lines where possible). • Survey and mark drill hole locations. • Micro-align the drill hole locations to avoid biodiversity features (e.g. threatened flora species, hollow-bearing trees, old-growth Spinifex). • When creating access tracks, avoid biodiversity features (in particular old-growth Spinifex tussocks and large or hollow-bearing trees). Management of weeds, pests and pathogens • Vehicles and construction plant and equipment will be washed down prior to entering any of the sites. Inspect vehicle exteriors and ensure all plant propagules (such as seeds) have been removed from vehicle tyres, undercarriages, grills, floors and trays. • Staff will wear PPE (clothing and footwear) that is cleaned of all plant propagules (such as seeds). • Dispose of weeds correctly by pulling out all of the plant and covering loads when transporting to a disposal facility licensed to accept green waste. • In the event of the presence of any declared priority weeds, manage them in accordance with the requirements of the Biosecurity Act 2015. Risk of harm/injury to fauna • Do not work within 50-100 m of an active Malleefowl mound. • Limit vehicle speeds on the Program site to minimise collisions with animals. • backfill cuttings sumps as soon as practicable after use to minimise the potential for fauna entrapment. • Timing of vegetation clearing to occur outside of cooler periods when fauna species may be in torpor/hibernation and are most at risk of injury or death. • Avoid removing limbs/trees/shrubs containing active nests. • A wildlife rescue organisation should be made aware of operations in case any injured fauna are found. If an animal is trapped or injured, an animal handling expert/wildlife carer or appropriately qualified ecologist would be contacted to assist with the capture and relocation or transportation to a qualified vet or wildlife rescue organisation. • All animals encountered will be treated humanely, ethically, and in accordance with relevant codes under the NSW Prevention of Cruelty to Animals Act 1979. Clearing or disturbance of vegetation. • Conduct pre-clearance surveys for mossgiel daisy and Winged Peppercress prior to ground disturbance and/or vegetation removal. – Undertake wider searches for the mossgiel daisy and/or Winged Peppercress during suitable times (i.e. when environmental conditions prevail which are conducive to the orchid flowering). – Where mossgiel daisy and/or Winged Peppercress species are observed within the study site, move alignment/access to avoid individuals of the population. Rehabilitation • Following completion of construction works, cleared areas within the Proposal footprint would be rehabilitated in an ecologically appropriate manner.		
Duration	Six weeks		
Application ranking	Low Adverse		
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?**	Uncertain
Can the impacts be reversed?	Yes	**Ranking of potential significance**	

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	Approximately 2.23 ha of vegetation (fauna habitat) would be disturbed within the Program site. Clearing native vegetation is a key threatening process listed under the BC Act and the EPBC Act and is recognised as a key factor in contributing to the loss of biological diversity which is relevant to the proposed Program. This loss of vegetation can result in impacts from the loss and/or degradation of habitat or fragmentation. The loss of vegetation communities (fauna habitat) within the development area is relatively small when compared to that occuring in the surrounding region. An Assessment of Significance was carried out in accordance with section 5A of the NSW Environmental Planning and Assessment Act, 1979 and Threatened Species Assessment Guidelines - The Assessment of Significance (DECC, 2007) for 21 threatened fauna species considered to potentially occur within the Program site. The list of species was based on previous records of species recorded during surveys within and surrounding the Program area. Due to the low impact nature of the program, it is unlikely to impact these species. Given the nature of the potential fauna impacts and the implementation of the proposed fauna mitigation strategy, it is considered that the potential impact on fauna would be low.		
Proposed management controls	The mitigation measures outlined in section 6.2 of the GHD Biodiversity Impact Assessment will be implemented throughout the duration of this Program. The fauna mitigation strategy for the Program includes minimising vegetation clearance (e.g. using existing access tracks and drill lines where possible), surveying disturbance areas, avoiding biodiversity features (e.g. habitat features such as mature trees and trees with hollows), limiting vehicle speeds to 15km/h on the Program site to minimise vehicle strike, backfilling cuttings sumps as soon as practicable after use to minimise the potential for fauna entrapment and rehabilitating the Program site. Given the nature of the potential fauna impacts and the implementation of the proposed fauna mitigation strategy, it is considered that the potential impact on fauna would be low.		
Duration	Six weeks		
Application ranking	Low Adverse		
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?**	Uncertain
Can the impacts be reversed?	Yes	**Ranking of potential significance**	
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	Approximately 2.23 ha of vegetation (fauna habitat) would be disturbed within the Program site. Clearing native vegetation is a key threatening process listed under the TSC Act and the EPBC Act and is recognised as a key factor in contributing to the loss of biological diversity which is relevant to the proposed Program. This loss of vegetation can result in impacts from the loss and/or degradation of habitat or fragmentation. The loss of vegetation communities (fauna habitat) within the development area is relatively small when compared to that occuring in the surrounding region. An Assessment of Significance was carried out in accordance with section Section 7.3(2) of the BC Act and T the Threatened species assessment Test of Significance Guidelines (OEH 2018) for 21 threatened fauna species considered to potentially occur within the Program site. The list of species was based on previous records of species recorded during surveys within and surrounding the Program area. Due to the low impact nature of the program, it is unlikely to impact these species. Given the nature of the potential fauna impacts and the implementation of the proposed fauna mitigation strategy, it is considered that the potential impact on fauna would be low.		
Proposed management controls	The mitigation measures outlined in section 6.2 of the GHD Biodiversity Impact Assessment will be implemented throughout the duration of this Program. The fauna mitigation strategy for the Program includes minimising vegetation clearance (e.g. using existing access tracks and drill lines where possible), surveying disturbance areas, avoiding biodiversity features (e.g. habitat features such as mature trees and trees with hollows), limiting vehicle speeds to 15km/h on the Program site to minimise vehicle strike, backfilling cuttings sumps as soon as practicable after use to minimise the potential for fauna entrapment and rehabilitating the Program site. Given the nature of the potential fauna impacts and the implementation of the proposed fauna mitigation strategy, it is considered that the potential impact on fauna would be low.		
Duration	Six weeks		
Application ranking	Low Adverse		

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?**	Uncertain
Can the impacts be reversed?	Yes	**Ranking of potential significance**	
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	The Proposal would result in some unavoidable residual adverse impacts to some elements of the natural environment. The Proposal would result in the loss of small areas of predominantly foraging habitat within the broader study area (total of 0.01-0.02% vegetation that is potential habitat to be removed from synonymous vegetation mapped in the broader study area). These residual impacts are not expected to impose a significant negative effect on the foraging/sheltering/breeding habitats for species. All pollutants and waste will be removed from site and taken back to Mildura to be correctly disposed of. No pesticides, herbicides or fertilizers will be used in the rehabilitation during this program. No Acid Sulfate soils will be exposed during drilling. The program could increase the potential for fire generation. Fires moving on or off the Program site would present potentially serious impacts to surrounding pastoral properties and to Tronox mining personnel and equipment. The degree of potential impact would vary with climatic conditions (temperatures and wind) and the quantity of available fuel (grasses and native vegetation).		
Proposed management controls	The bushfire mitigation strategy includes educating employees and contractors on general fire awareness and response procedures, no drilling would be undertaken on total fire ban days (or if the danger rating is catastrophic) if the drilling is to be undertaken in a high risk area, provision and maintenance of firefighting equipment on site, fire would be controlled and outbreaks managed in consultation with the local Rural Fire Service, restirction of smoking in fire prone areas and appropriate management of dangerous goods. With the implementation of the bushfire mitigation strategy outlined above, the overall risk of increased bush fire frequency due to the Program is likely to be negligible.		
Duration	Six weeks		
Application ranking	Negligible		
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?**	Uncertain
Can the impacts be reversed?	Yes	**Ranking of potential significance**	
Can the impacts be mitigated?	Fully	**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	The Proposal would result in some unavoidable residual adverse impacts to some elements of the natural environment. The Proposal would result in the loss of small areas of predominantly foraging habitat within the broader study area (total of 0.01-0.02% vegetation that is potential habitat to be removed from synonymous vegetation mapped in the broader study area). These residual impacts are not expected to impose a significant negative effect on the foraging/sheltering/breeding habitats for species. All pollutants and waste will be removed from site and taken back to Mildura to be correctly disposed of. No pesticides, herbicides or fertilizers will be used in the rehabilitation during this program. No Acid Sulfate soils will be exposed during drilling. The program could increase the potential for fire generation. Fires moving on or off the Program site would present potentially serious impacts to surrounding pastoral properties and to Tronox mining personnel and equipment. The degree of potential impact would vary with climatic conditions (temperatures and wind) and the quantity of available fuel (grasses and native vegetation).		

Proposed management controls	The bushfire mitigation strategy includes educating employees and contractors on general fire awareness and response procedures, no drilling would be undertaken on total fire ban days (or if the danger rating is catastrophic) if the drilling is to be undertaken in a high risk area, provision and maintenance of firefighting equipment on site, fire would be controlled and outbreaks managed in consultation with the local Rural Fire Service, restirction of smoking in fire prone areas and appropriate management of dangerous goods. With the implementation of the bushfire mitigation strategy outlined above, the overall risk of increased bush fire frequency due to the Program is likely to be negligible.		
Duration	Six weeks		
Application ranking	Negligible		
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?**	Uncertain
Can the impacts be reversed?	Yes	**Ranking of potential significance**	
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	The Proposal would result in some unavoidable residual adverse impacts to some elements of the natural environment. The Proposal would result in the loss of small areas of predominantly foraging habitat within the broader study area (total of 0.01-0.02% vegetation that is potential habitat to be removed from synonymous vegetation mapped in the broader study area). These residual impacts are not expected to impose a significant negative effect on the foraging/sheltering/breeding habitats for species. All pollutants and waste will be removed from site and taken back to Mildura to be correctly disposed of. No pesticides, herbicides or fertilizers will be used in the rehabilitation during this program. No Acid Sulfate soils will be exposed during drilling. The program could increase the potential for fire generation. Fires moving on or off the Program site would present potentially serious impacts to surrounding pastoral properties and to Tronox mining personnel and equipment. The degree of potential impact would vary with climatic conditions (temperatures and wind) and the quantity of available fuel (grasses and native vegetation).		
Proposed management controls	The bushfire mitigation strategy includes educating employees and contractors on general fire awareness and response procedures, no drilling would be undertaken on total fire ban days (or if the danger rating is catastrophic) if the drilling is to be undertaken in a high risk area, provision and maintenance of firefighting equipment on site, fire would be controlled and outbreaks managed in consultation with the local Rural Fire Service, restirction of smoking in fire prone areas and appropriate management of dangerous goods. With the implementation of the bushfire mitigation strategy outlined above, the overall risk of increased bush fire frequency due to the Program is likely to be negligible.		
Duration	Six weeks		
Application ranking	Negligible		
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?**	Uncertain
Can the impacts be reversed?	Yes	**Ranking of potential significance**	
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	The Program would require up to approximately two drilling contractor personnel over a period of approximately six weeks across one year. Program personnel would be accommodated at either the Atlas village or the Boree Plains homestead (both owned by Tronox) and therefore expected to have negligible impact on community services and infrastructure. The Program would generate minor amounts of traffic on the road network associated with the movement of Program vehicles to and from the Program site and the delivery of minor quantities of consumables. Given the minor amounts of traffic generated by the Program and the short duration of the Program, potential road transport impacts would be negligible.		
Proposed management controls	No specific mitigation strategies for potential community impacts are proposed, as the potential impacts are negligible.		

Duration	Six weeks		
Application ranking	Negligible		
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?**	Uncertain
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	Potential community services and infrastructure impacts would be negligible given the small workforce, short duration of the Program and personnel would be accommodated at the Atlas village or Boree Plains homestead. Potential community safety impacts would be negligible given the remote nature of the Program site and the proposed mitigation strategy to be implemented.		
Proposed management controls	No specific mitigation strategies for potential community impacts are proposed, as the potential impacts are negligible.		
Duration	Six weeks		
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?**	Uncertain
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	Natural Resources: Any disruption, depletion or destruction of natural resources.		
Potential impacts	The likely impacts that would disrupt, deplete or destroy natural resources are negligible. This Proposal does not include any vegetation clearing. No groundwater will be collected during this program, therefore the groundwater will not be depleted. With the implementation of the mitigation measures discussed in the "Soil and Stability Impacts" section, land and soil resources will not be depleted or degraded due to exploration activities.		
Proposed management controls	Mitigation strategies to help reduce the risks associated with this practice include drill sites with dense or old-growth vegetation avoided, existing roads/tracks utilized as much as practicable rather than creating new access tracks, desktop research to identify sites of known rare and endangered species and supplying illustrated fact sheets to all field personnel (during site inductions) as required, all trees or limbs containing hollows will be avoided, no trimming/felling of trees contining hollows (that have the potential to house threatened species) will occur and no dead wood will be removed from site. With these mitigation measures in place the project is considered unlikely to have a significant impact on areas reserved for conservation purposes.		
Duration	Six weeks		
Application ranking	Negligible		
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?**	Uncertain
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	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	The drill holes are located on land that comprises of pastoral leasehold lands. This land is currently used for light intensity grazing and rain-fed cropping. Exploration activities have also previously undertaken on the Program site by Tronox Mining. All drilling is planned on existing fencelines and tracks. Therefore, this program is not likely to disrupt existing activities such as forestry, farming or extractive industries.		
Proposed management controls	Mitigation strategies to help reduce the risks associated with this practice include drill sites with dense or old-growth vegetation avoided, existing roads/tracks utilized as much as practicable rather than creating new access tracks, desktop research to identify sites of known rare and endangered species and supplying illustrated fact sheets to all field personnel (during site inductions) as required, all trees or limbs containing hollows will be avoided, no trimming/felling of trees contining hollows (that have the potential to house threatened species) will occur and no dead wood will be removed from site. With these mitigation measures in place the project is considered unlikely to have a signiicant impact on areas reserved for conservation purposes.		
Duration	Six weeks		
Application ranking	Negligible		
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?**	Uncertain
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	Natural Resources: Any use which results in the degradation of any area reserved for conservation purposes.		
Potential impacts	This activity is not likely to result in any degradation of any area reserved for conservation purposes. There are no known conservation (e.g. National Parks), cultural or heritage sites of importance at the Program site. The Program would therefore have a negligible impact on sites of importance to the local or broader community.		
Proposed management controls	Mitigation strategies to help reduce the risks associated with this practice include drill sites with dense or old-growth vegetation avoided, existing roads/tracks utilized as much as practicable rather than creating new access tracks, desktop research to identify sites of known rare and endangered species and supplying illustrated fact sheets to all field personnel (during site inductions) as required, all trees or limbs containing hollows will be avoided, no trimming/felling of trees contining hollows (that have the potential to house threatened species) will occur and no dead wood will be removed from site. With these mitigation measures in place the project is considered unlikely to have a signiicant impact on areas reserved for conservation purposes.		
Duration	Six weeks		
Application ranking	Negligible		
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?**	Uncertain
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 National parks and other areas reserved or dedicated or acquired under the National Parks and Wildlife Act 1974.		
Potential impacts	N/A		
Proposed management controls	N/A		
Duration	N/A		
Application ranking	N/A		

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**	N/A
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	N/A		
Proposed management controls	N/A		
Duration	N/A		
Application ranking	N/A		
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**	N/A
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	N/A		
Proposed management controls	N/A		
Duration	N/A		
Application ranking	N/A		
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**	N/A
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	NA		
Proposed management controls	NA		
Duration	Six weeks		
Application ranking	Negligible		

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 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	NA		
Proposed management controls	NA		
Duration	Six weeks		
Application ranking	Negligible		
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	N/A		
Proposed management controls	N/A		
Duration	N/A		
Application ranking	N/A		
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**	N/A
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	N/A		
Proposed management controls	N/A		
Duration	N/A		
Application ranking	N/A		
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**	N/A
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	N/A		
Proposed management controls	N/A		
Duration	N/A		
Application ranking	N/A		
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**	N/A
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	N/A		
Proposed management controls	N/A		
Duration	N/A		
Application ranking	N/A		
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**	N/A
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	A search of the Aboriginal Heritage Information Management System (AHIMS) database was undertaken. No Aboriginal Heritage sites were found near the Program Area. The proposed activity is not within 200 meters of water, located on a ridge top, ridge line or headland, located within 200 meters below or above a cliff face or with 20 meters of or in a cave, rock shelter, or a cave mouth and is on land that is not distrubed land. Drilling will occur in a desert sand dune system, in linear dune mallee vegetation.		

Proposed management controls	Database searches and field surveys identified zero Aboriginal cultural heritage sites near the proposed dilling region of the Goat's Tank deposit. Therefore, the drill lines and access tracks would avoid any Aboriginal cultural heritage sites. Potential Aboriginal cultural heritage impacts are therefore expected to be negligible. Notwithstanding the above, in the event an Aboriginal Culutral Heritage site is identified during the Program, the following would occur: - Work in the area would immediately cease. - The area would be secured to avoid further harm or disturbance to the Aborigianal Cultural Heritage site. - The OEH would be notified as soon as practicable, to provide details and location of the Aboriginal Cultural Heritage site. - Work would not resume in the area until either the work is relocated to avoid the site or relevant approvals have been obtained from the OEH.		
Duration	N/A		
Application ranking	N/A		
What is the confidence in predicting impacts?	Uncertain	**Are further studies required on impacts or mitigation?**	No
How resilient is the environment to cope with impacts?	Uncertain	**What is the level of public concern?**	Uncertain
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	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	Searches of the NSW State Heritage Register, NSW State Heritage Inventory, Australian Heritage Database, Balranald Local Environmental Plan 2010 (Balranald LEP) and the Register of the National Trust of Australia (NSW) located no registered items within the Willandra East area (including the Program site). Searches of the World Heritage List, Commonwealth Heritage List, National Heritage Register and State Heritage Register were also completed and found no items in the Program area.		
Proposed management controls	As there are no localities, places landscapes, buildings or archaeological relics of heritage significance within the Program area, no mitigation measures are proposed.		
Duration	N/A		
Application ranking	N/A		
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?**	Uncertain
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	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	N/A		
Proposed management controls	N/A		
Duration	N/A		
Application ranking	N/A		
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**	N/A
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	The program could increase the potential for fire generation. Fires moving on or off the Program site would present potentially serious impacts to surrounding pastoral properties and to Tronox mining personnel and equipment. The degree of potential impact would vary with climatic conditions (temperatures and wind) and the quantity of available fuel (grasses and native vegetation).		
Proposed management controls	The bushfire mitigation strategy includes educating employees and contractors on general fire awareness and response procedures, no drilling would be undertaken on total fire ban days (or if the danger rating is catastrophic) if the drilling is to be undertaken in a high risk area, provision and maintenance of firefighting equipment on site, fire would be controlled and outbreaks managed in consultation with the local Rural Fire Service, restirction of smoking in fire prone areas and appropriate management of dangerous goods. With the implementation of the bushfire mitigation strategy outlined above, the overall risk of increased bush fire frequency due to the Program is likely to be negligible.		
Duration	Six weeks		
Application ranking	Negligible		
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?	Medium Resilience	**What is the level of public concern?**	Uncertain
Can the impacts be reversed?	Uncertain	**Ranking of potential significance**	Medium
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes	A risk of bushfire has been identified by the applicant as potentially serious in the event of a fire occuring. The title holder must comply with Mandatory requirement 11 "Fire prevention" of the NSW Resources Regulator's Exploration Code of Practice: Environmental Management.	
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	The Program would require up to approximately two Tronox personnel and approximately two drilling contractor personnel over a period of approximately six week. Program personnel would be accommodated either at the Atlas village or the Boree Plains homestead (both owned by Tronox) and would therefore have a negligible impact on local community.		
Proposed management controls	Tronox operates call lines (during and after hours) for community members to contact a Tronox representative with any questions or concerns they may have regarding Tronox operations. These call lines would continue to be avaliable for community memebers to contact Tronox during the Program. Tronox would respond to issues raised by community members on the call lines.		
Duration	Six weeks		
Application ranking	Negligible		
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?**	Uncertain
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	The site location is remote although the Boree Plains homestead is approximately 5km from the program site. There are no services (e.g. electricity transmission lines, telecommunications, pipelines) at the drill program sites although these services are provided for the homestead. The study area is in a vegetated region, although nearby the region is used for agricultural practices, including grazing and rain-fed cropping. Therefore, impacts on the community are negligible.		
Proposed management controls	Tronox operates call lines (during and after hours) for community members to contact a Tronox representative with any questions or concerns they may have regarding Tronox operations. These call lines would continue to be avaliable for community memebers to contact Tronox during the Program. Tronox would respond to issues raised by community members on the call lines.		
Duration	Six weeks		
Application ranking	Negligible		
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?**	Uncertain
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 some individuals or communities being significantly disadvantaged (e.g. change to community facilities, services or labour force).		
Potential impacts	The activity is not likely to result in individuals or communities being disadvantaged. This program will provide work for two Tronox personnel and two contractors.		
Proposed management controls	Tronox operates call lines (during and after hours) for community members to contact a Tronox representative with any questions or concerns they may have regarding Tronox operations. These call lines would continue to be avaliable for community memebers to contact Tronox during the Program. Tronox would respond to issues raised by community members on the call lines.		
Duration	Six weeks		
Application ranking	Negligible		
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?**	Uncertain
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	Due to the remote location of this program (the closest sensitive receiver is ~5km away) impacts from pollution, odour, noise, vibration, lighting, visual impacts and other factors are negligible.		
Proposed management controls	Tronox operates call lines (during and after hours) for community members to contact a Tronox representative with any questions or concerns they may have regarding Tronox operations. These call lines would continue to be avaliable for community memebers to contact Tronox during the Program. Tronox would respond to issues raised by community members on the call lines.		
Duration	Six weeks		
Application ranking	Negligible		
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?**	Uncertain

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	Potential impacts on aesthetics would be negligible as potential views of the Program site would be limited due to the large distances from potential view point and the low rolling topograpy and intervening vegetation.		
Proposed management controls	Tronox operates call lines (during and after hours) for community members to contact a Tronox representative with any questions or concerns they may have regarding Tronox operations. These call lines would continue to be avaliable for community memebers to contact Tronox during the Program. Tronox would respond to issues raised by community members on the call lines.		
Duration	Six weeks		
Application ranking	Negligible		
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?**	Uncertain
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: Impacts on communities with strong sense of identity.		
Potential impacts	The site location is remote although the Boree Plains homestead is approximately 5km from the program site. There are no services (e.g. electricity transmission lines, telecommunications, pipelines) at the drill program sites although these services are provided for the homestead. The study area is in a vegetated region, although nearby the region is used for agricultural practices, including grazing and rain-fed cropping. Therefore, impacts on the community are negligible.		
Proposed management controls	Tronox operates call lines (during and after hours) for community members to contact a Tronox representative with any questions or concerns they may have regarding Tronox operations. These call lines would continue to be avaliable for community memebers to contact Tronox during the Program. Tronox would respond to issues raised by community members on the call lines.		
Duration	Six weeks		
Application ranking	Negligible		
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?**	Uncertain
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: Impacts on disadvantaged communities.		
Potential impacts	The site location is remote although the Boree Plains homestead is approximately 5km from the program site. There are no services (e.g. electricity transmission lines, telecommunications, pipelines) at the drill program sites although these services are provided for the homestead. The study area is in a vegetated region, although nearby the region is used for agricultural practices, including grazing and rain-fed cropping. Therefore, impacts on the community are negligible.		
Proposed management controls	Tronox operates call lines (during and after hours) for community members to contact a Tronox representative with any questions or concerns they may have regarding Tronox operations. These call lines would continue to be avaliable for community memebers to contact Tronox during the Program. Tronox would respond to issues raised by community members on the call lines.		
Duration	Six weeks		

Application ranking	Negligible		
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?**	Uncertain
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	The capital expenditure associated with the Program, although relatively minor in comparison to the existing Ginkgo and Atlas Mines, would have some positive economic benefit on the local economy. In addition, the Program would provide further positive economic benefits associated with the employment of up to approximately two Tronox personnel and approximately two drilling contractor personnel over a period of approximately six weeks across one year. The temporary disturbance of agricultural lands on the Boree Plains and Carrawatha stations would result in a negligible reduction in agricultural production and associated benefits to the local economy. It is considered that there would be no reduction in agricultural employment as a result of the Program. Overall, the Program is expected to have a negligible impact on the local economy.		
Proposed management controls	As the economic impacts are negligible, no specific mitigation measures are proposed.		
Duration	Six weeks		
Application ranking	Negligible		
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?**	Uncertain
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	The capital expenditure associated with the Program, although relatively minor in comparison to the existing Ginkgo and Atlas Mines, would have some positive economic benefit on the local economy. In addition, the Program would provide further positive economic benefits associated with the employment of up to approximately two Tronox personnel and approximately two drilling contractor personnel over a period of approximately six weeks across one year. The temporary disturbance of agricultural lands on the Boree Plains and Carrawatha stations would result in a negligible reduction in agricultural production and associated benefits to the local economy. It is considered that there would be no reduction in agricultural employment as a result of the Program. Overall, the Program is expected to have a negligible impact on the local economy.		
Proposed management controls	As the economic impacts are negligible, no specific mitigation measures are proposed.		
Duration	Six weeks		
Application ranking	Negligible		
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?**	Uncertain
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 result in a change to the public sector revenue or expenditure base.		
Potential impacts	The capital expenditure associated with the Program, although relatively minor in comparison to the existing Ginkgo and Atlas Mines, would have some positive economic benefit on the local economy. In addition, the Program would provide further positive economic benefits associated with the employment of up to approximately two Tronox personnel and approximately two drilling contractor personnel over a period of approximately six weeks across one year. The temporary disturbance of agricultural lands on the Boree Plains and Carrawatha stations would result in a negligible reduction in agricultural production and associated benefits to the local economy. It is considered that there would be no reduction in agricultural employment as a result of the Program. Overall, the Program is expected to have a negligible impact on the local economy.		
Proposed management controls	As the economic impacts are negligible, no specific mitigation measures are proposed.		
Duration	Six weeks		
Application ranking	Negligible		
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?**	Uncertain
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	Heritage Impacts: Any impacts on a locality, place, landscape, building or archaeological relic of heritage significance.		
Potential impacts	Searches of the NSW State Heritage Register, NSW State Heritage Inventory, Australian Heritage Database, Balranald Local Environmental Plan 2010 (Balranald LEP) and the Register of the National Trust of Australia (NSW) located no registered items within the Willandra East area (including the Program site). Searches of the World Heritage List, Commonwealth Heritage List, National Heritage Register and State Heritage Register were also completed and found no items in the Program area.		
Proposed management controls	As there are no localities, places landscapes, buildings or archaeological relics of heritage significance within the Program area, no mitigation measures are proposed.		
Duration	Six weeks		
Application ranking	Positive		
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?**	Uncertain
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	Aesthetic Impacts: Any impacts on the visual or scenic landscape, including lighting, venting or flaring of gas.		
Potential impacts	There are no public viewpoints that may provide an opportunity to view the Program site due to the large distances between the Program site, the low rolling topography, intervening vegetation and minor nature of the Program. There are no potential viewers due to the sparse settlement in the region and the low use of local public roads. No night lighting would be required for the Program and therefore there would be no night-lighting impacts. The Program would therefore have a negligible impact on aesthetics.		
Proposed management controls	As the impacts on aesthetics are negligible, no specific mitigation strategies are proposed.		
Duration	Six weeks		
Application ranking	Positive		
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?**	Uncertain
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	Aesthetic Impacts: Areas or items of high aesthetic or scenic value.		
Potential impacts	There are no public viewpoints that may provide an opportunity to view the Program site due to the large distances between the Program site, the low rolling topography, intervening vegetation and minor nature of the Program. There are no potential viewers due to the sparse settlement in the region and the low use of local public roads. No night lighting would be required for the Program and therefore there would be no night-lighting impacts. The Program would therefore have a negligible impact on aesthetics.		
Proposed management controls	As the impacts on aesthetics are negligible, no specific mitigation strategies are proposed.		
Duration	Six weeks		
Application ranking	Positive		
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?**	Uncertain
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 disturbance of the ground surface or any culturally modified trees (e.g. a scar tree).		
Potential impacts	Approximately 2.23ha of vegetation clearing is required for this program. Three access tracks will be conducted for this program and they will meander around any biodiversity features (e.g. mature trees, old growth and trees with hollows). During a reconnaissance visit to the program area, no culturally modified trees were identified. Therefore, the proposal is expected to have a negligible effect on any culturally modified trees.		
Proposed management controls	Database searches and field surveys identified zero Aboriginal cultural heritage sites near the proposed dilling region of the Goat's Tank deposit. Therefore, the drill lines and access tracks would avoid any Aboriginal cultural heritage sites. Potential Aboriginal cultural heritage impacts are therefore expected to be negligible. Notwithstanding the above, in the event an Aboriginal Culutral Heritage site is identified during the Program, the following would occur. - Work in the area would immediately cease. - The area would be secured to avoid further harm or disturbance to the Aborigianal Cultural Heritage site. - The OEH would be notified as soon as practicable, to provide details and location of the Aboriginal Cultural Heritage site. - Work would not resume in the area until either the work is relocated to avoid the site or relevant approvals have been obtained from the OEH.		
Duration	Six weeks		
Application ranking	Negligible		
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?	Uncertain	**What is the level of public concern?**	Uncertain
Can the impacts be reversed?	Uncertain	**Ranking of potential significance**	Medium
Can the impacts be mitigated?	Fully	**Justification for ranking**	

Do the operations comply with standards, plans, policies?	Yes	There remains a potential risk to Aboriginal Culutral Heritage being present within the project area. No registed sites within the project area were idenitied by the AHIMS search subbmitted with this application. The title holder must comply with Mandatory requirement 10 "Culture and heritage" of the NSW Resources Regulator's Exploration Code of Practice: Environmental Management.	
Criteria	Cultural Impacts: Any impacts on known Aboriginal objects or Aboriginal places.		
Potential impacts	A search of the Aboriginal Heritage Information Management System (AHIMS) database was undertaken. No Aboriginal Heritage sites were found near the Program Area. Database searches and field surveys identified zero Aboriginal cultural heritage sites near the proposed dilling region of the Goat's Tank deposit. Therefore, the drill lines and access tracks would avoid any Aboriginal cultural heritage sites. Potential Aboriginal cultural heritage impacts are therefore expected to be negligible.		
Proposed management controls	Notwithstanding the above, in the event an Aboriginal Culutral Heritage site is identified during the Program, the following would occur. - Work in the area would immediately cease. - The area would be secured to avoid further harm or disturbance to the Aborigianal Cultural Heritage site. - The OEH would be notified as soon as practicable, to provide details and location of the Aboriginal Cultural Heritage site. - Work would not resume in the area until either the work is relocated to avoid the site or relevant approvals have been obtained from the OEH.		
Duration	Six weeks		
Application ranking	Negligible		
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?	Uncertain	**What is the level of public concern?**	Uncertain
Can the impacts be reversed?	Uncertain	**Ranking of potential significance**	Medium
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes	There remains a potential risk to Aboriginal Culutral Heritage being present within the project area. No registed sites within the project area were idenitied by the AHIMS search subbmitted with this application. The title holder must comply with Mandatory requirement 10 "Culture and heritage" of the NSW Resources Regulator's Exploration Code of Practice: Environmental Management.	
Criteria	Cultural Impacts: Affects areas where the landscape features indicate the likely presence of Aboriginal objects.		
Potential impacts	The proposed activity is not within 200 meters of water, located on a ridge top, ridge line or headland, located within 200 meters below or above a cliff face or with 20 meters of or in a cave, rock shelter, or a cave mouth and is on land that is not distrubed land. Drilling will occur in a desert sand dune system, in linear dune mallee vegetation. A search of the Aboriginal Heritage objects located in the Program area.		
Proposed management controls	Database searches and field surveys identified zero Aboriginal cultural heritage sites near the proposed dilling region of the Goat's Tank deposit. Therefore, the drill lines and access tracks would avoid any Aboriginal cultural heritage sites. Potential Aboriginal cultural heritage impacts are therefore expected to be negligible. Notwithstanding the above, in the event an Aboriginal Culutral Heritage site is identified during the Program, the following would occur. - Work in the area would immediately cease. - The area would be secured to avoid further harm or disturbance to the Aborigianal Cultural Heritage site. - The OEH would be notified as soon as practicable, to provide details and location of the Aboriginal Cultural Heritage site. - Work would not resume in the area until either the work is relocated to avoid the site or relevant approvals have been obtained from the OEH.		
Duration	Six weeks		
Application ranking	Negligible		
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?	Uncertain	**What is the level of public concern?**	Uncertain

Can the impacts be reversed?	Uncertain	**Ranking of potential significance**	Medium
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes	There remains a potential risk to Aboriginal Culutral Heritage being presnet within the project area. No registed sites within the project area were idenitied by the AHIMS search subbmitted with this application. The title holder must comply with Mandatory requirement 10 "Culture and heritage" of the NSW Resources Regulator's Exploration Code of Practice: Environmental Management.	
Criteria	Cultural Impacts: Affects areas subject to native title claims, indigenous land use agreements or joint management arrangements.		
Potential impacts	No native title or native title claims exist over the area where drilling will take place.		
Proposed management controls	Native title is considered to be extinguished by way of the TH holding a western lands lease for the properties where the project is proposed to take place.		
Duration	Six weeks		
Application ranking	Negligible		
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?**	N/A
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?	N/A		
Criteria	Cultural Impacts: Impacts on Aboriginal communities or areas subject to land rights claims.		
Potential impacts	A search of the Aboriginal Heritage Information Management System (AHIMS) database was undertaken. No Aboriginal Heritage sites were found near the Program Area. Therefore, no known Aboriginal objects or Aboriginal places will be affected by this activity.		
Proposed management controls	Database searches and field surveys identified zero Aboriginal cultural heritage sites near the proposed dilling region of the Goat's Tank deposit. Therefore, the drill lines and access tracks would avoid any Aboriginal cultural heritage sites. Potential Aboriginal cultural heritage impacts are therefore expected to be negligible. Notwithstanding the above, in the event an Aboriginal Culutral Heritage site is identified during the Program, the following would occur. - Work in the area would immediately cease. - The area would be secured to avoid further harm or disturbance to the Aborigianal Cultural Heritage site. - The OEH would be notified as soon as practicable, to provide details and location of the Aboriginal Cultural Heritage site. - Work would not resume in the area until either the work is relocated to avoid the site or relevant approvals have been obtained from the OEH.		
Duration	Six weeks		
Application ranking	Negligible		
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?	Uncertain	**What is the level of public concern?**	Uncertain
Can the impacts be reversed?	Uncertain	**Ranking of potential significance**	Medium
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes	There remains a potential risk to Aboriginal Culutral Heritage being presnet within the project area. No registed sites within the project area were idenitied by the AHIMS search subbmitted with this application. The title holder must comply with Mandatory requirement 10 "Culture and heritage" of the NSW Resources Regulator's Exploration Code of Practice: Environmental Management.	

Criteria	Cultural Impacts: Impacts on areas or items of high anthropological, archaeological, architectural, cultural, heritage, historical, recreational or scientific value.		
Potential impacts	Approximately 2.23ha of vegetation clearing is required for this program. Three access tracks will be conducted for this program and they will meander around any biodiversity features (e.g. mature trees, old growth and trees with hollows). During a reconnaissance visit to the program area, no culturally modified trees were identified. Therefore, the proposal is expected to have a negligible effect on any culturally modified trees.		
Proposed management controls	Database searches and field surveys identified zero Aboriginal cultural heritage sites near the proposed dilling region of the Goat's Tank deposit. Therefore, the drill lines and access tracks would avoid any Aboriginal cultural heritage sites. Potential Aboriginal cultural heritage impacts are therefore expected to be negligible. Notwithstanding the above, in the event an Aboriginal Culutral Heritage site is identified during the Program, the following would occur. - Work in the area would immediately cease. - The area would be secured to avoid further harm or disturbance to the Aborigianal Cultural Heritage site. - The OEH would be notified as soon as practicable, to provide details and location of the Aboriginal Cultural Heritage site. - Work would not resume in the area until either the work is relocated to avoid the site or relevant approvals have been obtained from the OEH.		
Duration	Six weeks		
Application ranking	Negligible		
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?	Uncertain	**What is the level of public concern?**	Uncertain
Can the impacts be reversed?	Uncertain	**Ranking of potential significance**	Medium
Can the impacts be mitigated?	Fully	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes	There remains a potential risk to Aboriginal Culutral Heritage being presnet within the project area. No registed sites within the project area were idenitied by the AHIMS search subbmitted with this application. The title holder must comply with Mandatory requirement 10 "Culture and heritage" of the NSW Resources Regulator's Exploration Code of Practice: Environmental Management.	
Criteria	Land Use Impacts: Any major changes in land use, including curtailment of other beneficial land uses.		
Potential impacts	Land use comprises of pastoral lesehold lands that are used for light intensity grazing and rain-fed cropping. Exploration activities have also previously been undertaken on the Program site by Tronox Mining. The land is currently held by Tronox Mining and is not used for pastoral activities.		
Proposed management controls	The Program would result in the disturbance or alteration of approximately 2.23 ha of existing agricultural lands. The land use mitigation strategy to reduce the potential impact on agricultural land would include minimizing the disturbance to agricultural lands (where practicable), vehicle speed limited to 15km/h on the Program site to minimise vehicle and livestock interaction, all vehicles entering the Program site would be washed down to minimise the spread of weeds, management of soil resources so that they can be used for rehabilitation and rehabilitation of the Program site once access is deemed no longer necessary.		
Duration	Six weeks		
Application ranking	Negligible		
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?**	Uncertain
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: Substantial impacts on existing transportation systems (road, rail, pedestrian) which alter present patterns of circulation or movement.		

Potential impacts	The main arterial road in the Program site area is Balranald-Ivanhoe road, which provides a mainly sealed north-south route connecting Balranald to the south with Ivanhoe in the North. A section of this road remains unsealed. Local un-sealed roads are used to access the Loddon deposit area. Given the minor amounts of traffic generated by the Program and the short duration of the program, the potential road transport impacts would be negligible.		
Proposed management controls	No specific mitigation strategies for potential road transport impacts are proposed.		
Duration	Six weeks		
Application ranking	Negligible		
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?**	Uncertain
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	The main arterial road in the Program site area is Balranald-Ivanhoe road, which provides a mainly sealed north-south route connecting Balranald to the south with Ivanhoe in the North. A section of this road remains unsealed. Local un-sealed roads are used to access the Loddon deposit area. Given the minor amounts of traffic generated by the Program and the short duration of the program, the potential road transport impacts would be negligible.		
Proposed management controls	No specific mitigation strategies for potential road transport impacts are proposed.		
Duration	Six weeks		
Application ranking	Negligible		
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?**	Uncertain
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	From the West Balranald Shire Council Local Strategic Planning Statement 2021 (p21): "Council will support new and existing extractive industries in ocations with safe access to a well maintained local and regional road network and minimal impacts on surrounding residents and agricultural lands. Although mineral prospectively and mine development is covered by the NSW Mining Act, Council will need to ensure it has a broad-based, collaborative process for planning issues which arise."		
Proposed management controls	No proposed mitigation measures required. The APO is consistant with the West Balranald Shire Council Local Strategic Planning Statement 2021.		
Duration	Six weeks		
Application ranking	Positive		
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?**	Uncertain
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	A single threatened ecological community listed under the BC Act is present within the Goat's Tank deposit area, namely the Acacia Melvillei Yarran Shurbland EEC. The ecological community has been mapped and does not exist at the Program location. Mitigation strategies will continue to occur to reduce environmental impacts, and as such it is expected that minimal adverse effects will result. Three migratory species listed under the EPBC Act have the potential to occur wihtin the Program area. An assessment of the potential impacts on the migratory species was conducted and it was concluded that the potential impact would be low for all species. The Program is therefore unlikely to have a significant impact on endangered communities, threatened species and migratory species. A biodiversity impact assessment was conducted on the proposed Goat's Tank traverses by GHD. One TEC was identified to occur, namely 'The Mallee Bird Community' however with the mitigation measures in Section 6.2 of the report, it was conisdered that the proposal was unlikely to have a significant impact.		
Proposed management controls	The mitigation measures outlined in section 6.2 of the GHD Biodiversity Impact Statement will be implemented throughout the duration of this Program. The mitigation strategy for the Program would include minimising vegetation clearance (e.g. using existing access tracks and drill lines where possible), surveying disturbance areas, avoiding biodiversity features (e.g. threatened flora species), all vehicles entering the Program site would be washed down to minimise the spread of weeds and rehabilitating the Program site. The access tracks would be ~3m wide and would be located to avoid features identified during the pre-clearance surveys where possible. Where drill holes are located the track will be widened to<10m to allow the drill rig to turn around and safe working environment for geologist support vehicles etc. Cleared vegetation would be stockpiled in designated vegetation stockpiles on the side of the track. Depending on the density of the vegetation, the vegetation stockpiles would be approximatley 4m squared and would be located approximatley every ~50m along the drill lines. It is anticipated that ~70 vegetation stockpiles would be required. Please note that during the vegetation clearing process the Mallee Root ball is left in situ as much as possible to allow for regeneration, however there are some occasions where the root ball 'rolls' out during clearing, and there are some occasions where the root ball is removed to avoid tyre punctures or trip hazards at the worksite. However, the priority will always be the non-removal of the Mallee root ball as much as is practicable. With the implementation of this vegetation mitigation strategy, the impacts on vegetation will be low adverse. During a reconnaissance visit, it was concluded that there were no Malleefowl mounds seen within 200m of the proposed drill line sites and no other EPBC listed species were observed. If a malleefowl mound is seen within 200m of a drill line, Tronox has a mitigation procedure for the drilling crew to follow which includes cancelling the drill line that the mallee fowl is found nearby.		
Duration	Six weeks		
Application ranking	Low Adverse		
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?**	Uncertain
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	Cumulative Impacts: Cumulative environmental effects with other existing or likely future activities.		
Potential impacts	Existing operations in the vicintiy of the Program site include Tronox exploration activities at the Atlas-Campase deposits area and the Atlas minesite. The Program site has been subject to previous drilling activities, which have mostly occured on existing roads and tracks. The Potential impacts associated with the Program have been assessed to be either negligible or low adverse. These minor potential impacts would not result in significant detrimental cummulative environmental effects.		

Proposed management controls	The Proposal would result in some unavoidable residual adverse impacts to some elements of the natural environment. These residual impacts are not expected to impose a significant negative effect on any local populations of native biota, including threatened biota and their habitats which occur in the study area. Most impacts can be reduced or avoided through the implementation of mitigation measures. Specific mitigation measures are recommended below to minimise likely impacts of the Proposal on the biota, and include: Worker/personnel inductions • All workers should be provided with an environmental induction prior to starting work on site to be made aware of the potential for impacts on native (including threatened) flora and fauna, and to be able to avoid and minimise impacts through their work. Vegetation clearing • Minimise vegetation clearance (e.g. use existing access tracks and drill lines where possible). • Survey and mark drill hole locations. • Micro-align the drill hole locations to avoid biodiversity features (e.g. threatened flora species, hollow-bearing trees, old-growth Spinifex). • When creating access tracks, avoid biodiversity features (in particular old-growth Spinifex tussocks and large or hollow-bearing trees). Management of weeds, pests and pathogens • Vehicles and construction plant and equipment will be washed down prior to entering any of the sites. Inspect vehicle exteriors and ensure all plant propagules (such as seeds) have been removed from vehicle tyres, undercarriages, grills, floors and trays. • Staff will wear PPE (clothing and footwear) that is cleaned of all plant propagules (such as seeds). • Dispose of weeds correctly by pulling out all of the plant and covering loads when transporting to a disposal facility licensed to accept green waste. • In the event of the presence of any declared priority weeds, manage them in accordance with the requirements of the Biosecurity Act 2015. Risk of harm/injury to fauna • Do not work within 200m of an active Malleefowl mound. • Limit vehicle speeds on the Program site to minimise collisions with animals. • backfill cuttings sumps as soon as practicable after use to minimise the potential for fauna entrapment. • Timing of vegetation clearing to occur outside of cooler periods when fauna species may be in torpor/hibernation and are most at risk of injury or death. • Avoid removing limbs/trees/shrubs containing active nests. • A wildlife rescue organisation should be made aware of operations in case any injured fauna are found. If an animal is trapped or injured, an animal handling expert/wildlife carer or appropriately qualified ecologist would be contacted to assist with the capture and relocation or transportation to a qualified vet or wildlife rescue organisation. • All animals encountered will be treated humanely, ethically, and in accordance with relevant codes under the NSW Prevention of Cruelty to Animals Act 1979. Clearing or disturbance of vegetation. • Conduct pre-clearance surveys for Cobar Greenhood Orchid and Winged Peppercress prior to ground disturbance and/or vegetation removal. – Undertake wider searches for the Cobar Greenhood Orchid and/or Winged Peppercress during suitable times (i.e. when environmental conditions prevail which are conducive to the orchid flowering). – Where Cobar Greenhood Orchid and/or Winged Peppercress species are observed within the study site, move alignment/access to avoid individuals of the population. Rehabilitation • Following completion of construction works, cleared areas within the Proposal footprint would be rehabilitated in an ecologically appropriate manner.		
Duration	Six weeks		
Application ranking	Low Adverse		
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?	Medium Resilience	**What is the level of public concern?**	Uncertain
Can the impacts be reversed?	Uncertain	**Ranking of potential significance**	Low
Can the impacts be mitigated?	Partly	**Justification for ranking**	
Do the operations comply with standards, plans, policies?	Yes		