APO0001751

Approval to undertake assessable prospecting operations

2024 Goat's Tank Drill Program

19 May 2024

Application summary

Detail	Application
Reference	APO0001751
Date of approval	19 May 2024
Title	EL 5359 (1992)
Contact	[redacted]
Project name	2024 Goat's Tank Drill Program
Project location	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.
Activity type	Non-complying exploration activity

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Project

Project details

Application APO0001751 relates to the proposed 2024 Goat's Tank Drill Program 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..

The application proposes the following characteristics.

Detail	Proposal
Activity description	The proposed Program would consist of drilling and sampling at the Goat's Tank deposit. The drill program consists of 100 air core drill holes across ten new traverses and infills along seven old traverses. This will take place over approximatley six weeks with a small drill crew of about 4. There will be an air core drill rig, support truck and two utes for the drilling. 100 in-ground sumps (2m x 1m x 0.5m) are required. A skid steer and flat bed truck will also be required for vegetation clearing and rehabilitation after drilling. The proposed drilling requires clearing of ten new drill lines and three new access tracks. Approximately 2.3 ha of vegetation clearing is required for access by heavy machinery (2.3 ha is the maximum value, it is likely to be lower).
Earthworks or vegetation clearing	Vegetation clearing for the creation of ten new drill lines and three new access tracks would be required for the Program. Infill drilling will also occur along seven old drill lines and no clearing is required for the infills. Vegetation clearance would be undertaken by Tronox personnel using a 'skid-steer' with a bucket/blade. The access tracks will extend off already existing access tracks or drill lines to minimise clearing as much as possible. Approximatley 0.3ha of vegetation clearing is proposed for the access tracks. The access tracks will be ~3m wide and the drill lines will be <10m wide, to allow room for the drill rig to turn around and safe working environment for the geologist support vehicles etc. The access tracks would be located to avoid features

Detail	Proposal
	identified during the pre-clearance surveys where possible. Approximatley 2 ha of vegetation clearing is proposed for the ten new drill lines. Cleared vegetation would be stockpiled in designated vegetation stockpiles on the side of the track and drill lines. Depending on the density of the vegetation, the vegetation stockpiles would be approximately 4m2 and would be located approximatley every ~50m along the drill lines. It is anticipated that approximatley 70 vegetation stockpiles would be required.
Access to exploration activities	Access to the program area will be via the Boree Plains-Gol Gol road. From there, the drill lines will be accessed by internal station tracks. Three new access tracks (a total of approximatley 3000m2 vegetation clearance required) and ten new drill traverses (approximately 20,000m2 vegetation clearance required) are required for this program.
Ancillary activities	No ancillary infrastructure (eg powerlines, firebreaks) is required for the Program. The drill crew will stay at the Atlas Deposit mine accomodation. Access to the Program site will be via the Boree Plains-Gol Gol road and internal station tracks. Water for drilling would be sourced from either the Atlas minesite or dams at the Boree Plains property (both owned by Tronox). Water would be recirculated where possible to reduce water demand. Diesel to operate drill rig is carried on support truck.
Anticipated start date	1 June 2024
Expected duration (weeks)	Six weeks
Expected rehabilitation completion date	1 June 2025
Proposed hours of operation	Other Seven days a week during daylight hours (i.e. 7:00 am to 6:00pm), on a 2 on/1 off roster.
On-site employee or contractor numbers	4

Exempted areas

The 2024 Goat's Tank Drill Program has not proposed prospecting in an exempted area.

State conservation areas

The 2024 Goat's Tank Drill Program has not proposed prospecting in a State Conservation Area.

Site description and existing environment

The project comprises the following existing land uses:

Historically, land use comprised of pastoral leasehold lands that were used for light intensity grazing and rain-fed cropping. Exploration activities have also been undertaken on the Program site by Tronox Mining. The land where the program area is located is owned by Tronox Mining and no longer used for agricultural activities.

The project is located near the following sensitive receptors:

The closest sensitive receiver (residence) to the Program site is the Boree Plains homestead, which is located approximatley 5km north of Line Ten.

The project is located with the following soil types and properties:

The Murray Basin region is dominated by dunal deposits and undulating sand plains. The landscape is dominated by brown calcareous soils. The surrounding rivers and streams in the Riverina have cut through the sands and constructed numerous overflow lakes and abandoned Pleistocene channels and basins. Saline ground waters have formed salt basins in many places where the sand plain or dune

topography intersects the water table. Soils and vegetation differ according to the landform. On the dunefields red, brown and yellow calcareous sands occur with more clayey materials in the swales. On sandplains the soil tends to be heavier with brown gradational or texture contrast profiles, and mallee is found only on sandy rises. Lakes and depressions all have clay floors. The more saline lakes have grey cracking clays and catty chenopods. Salt lake floors carry little vegetation. Lunettes comprise varying soils from clean sands, brown clayey sands, mixed sand to clay. Acid Sulphate Soils are not present at the Program site.

The project has the following existing surface water sources in the area that are likely to be affected by the activity:

The Program site is located within the Benanee basin of the lower Murray River system in NSW. The Benanee basin borders the upstream effluent creeks of the Lachlan River basin, Darling and Murrumbidgee River basins and the downstream Murray River basin. The Benanee Basin is made up of a number of ill-definied creeks, streams and ephemeral lakes that contribute negligible inflows to the Murray River. The western riverine plain includes several effluent creeks extending westward from the Lachlan alluvial Fan, which do not return to the Lachlan River. The northernmost channel is Willandra Creek, which under flood conditions can flow to the typically dry Willandra Lakes Region World Heritage Area to the west. The area in which the Goat's Tank deposit is located is dominated by two generally north-south trending topographic reflections of basement ridges (Iona Ridge and Neckarboo Ridge) which are on average 40m higher than the land surface of the adjacent western Riverine Plain (to the east) and are characterised by stabilised sand dunes and mallee vegetation. The Willandra Lakes Region World Heritage Area occupies a series of dry lake depressions about 20km wide between the two ridges. There are no well defined natural drainage channels within the Program site. Overland flow does occur during prolonged rainfall events and surface waters accumulate in topographic depressions and the evaporate or seep to the groundwater table over time. The Program site is not located in a drinking water catchement managed by the Sydney Catchment Authority.

The project has the following existing groundwater sources that occur in the area that are likely to be affected by the activity:

Large-scale ridges and basins form the Pre-Tertiary basement profile, over which the relatively flat lying Tertiary and Quaternary sediments of the Murray Basin have formed. Groundwater information is provided by the Murray Basin Hydrogeological Map Series, which indicate the general geometry of various aquifers/aquitards, based on sparse distribution of drillholes. Water sampling from the Atlas-Campaspe Mine site test bore indicated a salinity of ~32,000 mg/L and is dominated by Sodium and Chloride. The Goat's Tank deposit sits within the Loxton-Parilla Sands. The Loxton-Parilla sands overlies the Renmark Group which is divided into the Upper, Middle and Lower Olney Formations and Warina Sand. At Goat's Tank, there is no significant aquifer zone in the Renmark Group, due to the elevated height of basement rock and prevalence of low permeability materials. However, to the west (Willandra and Wentworth Troughs) and east (Balranald Trough) significant aquifer zones have been encountered in the Renmark group, especially in the deepest layers of the Lower Olney Formation and Warina Sand. The region is characterized by low-gradient groundwater flow from east to west. Locally, evapotranspiration varies as a function of vegetation cover and surficial geology. The vegetation of the Ivanhoe Block is indicated to be an extremely efficient interceptor of rainfall. Infiltration is expected to increase along the depression of the Willandra Lakes Region World Heritage Area and across the more intense agricultural areas along the Murray, Murrumbidgee and Lachlan Rivers. Tronox operates 8 production bores at its Atlas minesite and has recently installed a production bore for its Campaspe Development testwork in the northern section of the Campaspe deposit. Several monitoring bores are also in the area to comply with government monitoring requirements. The site is in the area covered by the Water Sharing Plan For the NSW Murray Darling Basin Porous Rock Groundwater Source 2011.

The project is in an area with the following topography, vegetation cover type, density and condition:

The program site shows limited relief and comprises generally flat to undulating sandplains covered by a combination fo grasslands, low woodland and shrublands. The elevation within the Program site ranges from approximatley 100m AHD in the west and to approximately 70 AHD in the east. The main

vegetation communities identified at the Goat's Tank deposit are dune mallee, semi-arid sandplain and sandplain mallee woodlands.

The project will impact the following matters of national environmental significance:

No World heritage properties, national heritage places, great Barrier reef marine park, nuclear activities or commonwealth marine areas were identified in the Program area. Three wetlands of international importance (Ramsar) were identified in the Protected matters search tool, but were all 200-400 km away. Two threatened ecological communities may be present within the Program area. The Buloke Woodlands of the Riverina and Murray-Darling depression and Malleefowl communities may be present. No mallee fowl or mallee fowl mounds were found within 200m of the proposed drill holes, however if any mallee fowl or mallee fowl mound is seen, Tronox has a procedure for the drilling crew to follow which includes cancelling the drill line that the mallee fowl is found nearby. 21 threatened species were detected as possibly occurring within the Program Area. A further 7 migratory species were detected as possibly occurring in the program area. Due to the short program duration, small mobile drill crew and low impact drilling method, no threatened species or migratory species should be effected by this program. If a threatened species is found near the drill lines, the drilling crew will follow Tronox's procedures for this scenario.

The project is in an area with the following threatened species, ecological communities (or habitats):

Four BC Act threatened species (Major Mitchell's Cockatoo, South-eastern Hooded Robin, grey snake, Winged Peppercress) may occur in the study site. If present, impacts are likely to affect local individuals in the area due to vegetation clearing. Where mitigation measures are implemented, the Proposal is unlikley to result in a significant impact on these species. Impacts are most likely to result from direct mortality of individuals during vegetation clearing. Impact from vegetation clearing would be greatest if done during cooler periods when some species enter periods of torpor/hibernation. Threatened birds, microbats and raptors (Red-capped robin, apostlebird, little pied bat) may occur at the study site as individuals of a broader population, occuring across contiguous adjoining areas. These species are active and mobile and are likely to utilize a range of habitats within the broader study area. For these species, the proposal would result in the loss of small areas of predominatly 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 (Corben's long-eared bat, little Pied Bat, Inland Forest Bat, brown Treecreeper) impacts on individuals may occur as a result of loss of breeding habitat or removal of hollows. Where possible, all hollow-bearing trees will be avoided during clearing and access tracks will be meandered around any old growth/ hollow bearing trees. 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 considered that the proposal was unlikely to have a significant impact.

The project is in an area with the following historic cultural or natural heritage items:

No items on the World Heritage List, Commonwealth Heritage List, National Heritage Register, State Heritage Register or items listed in the heritage schedules/list were found in the program area. Therefore, impacts to historic, cultural or natural heritage is negligible.

The project is in an area with the following critical habitat/area of outstanding biodiversity value:

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.

The project is located in an area with the following location, type and distance to the nearest Aboriginal heritage sites:

The Willandra East region (including the program site) during the time of early European exploration was occupied by Aboriginal people of the Barkandji, Mutthi Mutthi and Ngiyampaa language groups. A search of the Aboriginal Heritage Information Management System (AHIMS) database was undertaken. No sites were found in the vicinity of the planned drilling from the AHIMS database search, therefore no Aboriginal Heritage items will be impacted by this drilling program. No culturally modified trees were

identified in the Program site. 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 within 20 meters of or in a cave, rock shelter, or a cave mouth and is on land that is not disturbed land. Drilling will occur in a desert sand dune system, where the dunes are characterized by stabilized sand dunes and mallee vegetation.

Exploration activities

The following exploration activities have been approved.

Drill holes

Id/ Regulator no.	Type	Surface disturbance (m^2)	Veg. Clearing (m^2)	Excavations (m^3)	Produced water (ml)	Depth (m)	Block number	Unit letters

Other exploration activities

Id/ Regulator no.	Type	Surface disturbance (m^2)	Veg. Clearing (m^2)	Excavations (m^3)	Produced water (ml)	Block number	Unit letters
2024 Goat's Tank Line Seven A EA0005176	Air core drilling	5	1,500	5		1577	n
2024 Goat's Tank Infill Line 4 EA0005184	Air core drilling	4		4		1577	u
2024 Goat's Tank Line Eight EA0005178	Air core drilling	7	2,000	7		1577	h
2024 Goat's Tank Infill Line 6 EA0005186	Air core drilling	2		2		1577	h
2024 Goat's Tank Line Ten EA0005180	Air core drilling	7	2,000	7		1577	h
2024 Goat's Tank Infill Line 7 B EA0005188	Air core drilling	1		1		1577	g

Id/ Regulator no.	Type	Surface disturbance (m^2)	Veg. Clearing (m^2)	Excavations (m^3)	Produced water (ml)	Block number	Unit letters
2024 Goat's Tank Infill Line 2 EA0005182	Air core drilling	3		3		1577	u
2024 Goat's Tank Access Track 2 EA0005190	Access tracks		1,000			1577	z
2024 Goat's Tank Line Four EA0005172	Air core drilling	7	2,000	7		1577	o
2024 Goat's Tank Line Six B EA0005174	Air core drilling	4	1,000	4		1577	n
2024 Goat's Tank Line Two B EA0005170	Air core drilling	2	500	2		1577	z
2024 Goat's Tank Line One EA0005168	Air core drilling	7	2,000	7		1578	v
2024 Goat's Tank Infill Line 1 EA0005181	Air core drilling	3		3		1578	v
2024 Goat's Tank Access Track 1 EA0005189	Access tracks		1,000			1578	v
2024 Goat's Tank Infill Line 3 EA0005183	Air core drilling	3		3		1577	u
2024 Goat's Tank Access Track 3 EA0005191	Access tracks		1,000			1577	u

Id/ Regulator no.	Type	Surface disturbance (m^2)	Veg. Clearing (m^2)	Excavations (m^3)	Produced water (ml)	Block number	Unit letters
2024 Goat's Tank Line Seven B EA0005177	Air core drilling	2	500	2		1577	h
2024 Goat's Tank Infill Line 5 EA0005185	Air core drilling	3		3		1577	o
2024 Goat's Tank Line Nine EA0005179	Air core drilling	7	2,000	7		1577	h
2024 Goat's Tank Infill Line 7 A EA0005187	Air core drilling	2		2		1577	h
2024 Goat's Tank Line Two A EA0005169	Air core drilling	5	1,500	5		1577	u
2024 Goat's Tank Line Three EA0005171	Air core drilling	7	2,000	7		1577	u
2024 Goat's Tank Line Five EA0005173	Air core drilling	7	2,000	7		1577	o
2024 Goat's Tank Line Six A EA0005175	Air core drilling	3	1,000	3		1577	o

Impact management

The project includes the following measures to manage surface water 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 vicintiy of the Program site. 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 mitgation strategy developed by Tronox. Any potential impacts will also be managed by the short duration of the program, small mobile drilling fleet, vehicle speed limited to 15km/h and safety toolbox meetings to discuss controls.

The project includes the following measures to manage groundwater impacts:

This Program has a limited potential to significantly impact on the existing groundwater regime due to its relatively minor scale and short-term nature and no groundwater is proposed to be extracted. 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.

The project includes the following measures to manage waste and excess materials:

The incorrect disposal of wastes would be the potential impacts associated with waste and excess material management. The Program would generate relatively minor quantities of recyclable and non-recyclable general wastes, other wastes from drilling operations (tryes, scrap metal, waste hydrocarbons) and drilling cuttings. General waste minimisation principles (reduce, re-use, recycle) would be applied for the program. All general waste and general recyclable products generated at the Program site would initially be stored in containers/bags on the support truck and/or the light four wheel drive vehicle. Other waste generated during the Program (eg tyres) would also be transported to the Mildura Exploration office where it would be disposed of at a registered depot. Drill cuttings would be placed in the bottom of the cuttings sump and covered with topsoil.

The project includes the following measures regarding the handling, use, storage and transportation of any chemicals and hydrocarbons:

If chemicals are managed correctly, there will be negligible impacts. The possible impact would potentially be spillage of oils during drilling process. Chemical managemnet will include small mobile drilling fleet, short duration of program, only small quantities of diesels and lubricants carried, all sites and vehicles regularly inspected for spillage, spill kits carried on all vehicles, vehicle speed limited to 15km/h and safety tool box meetings to discuss 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.

The project includes the following measures of how noise impacts will be managed to minimise impacts on nearby sensitive receptors:

The closest sensitive receiver (residence) to the Program site is the Boree Plains homestead, which is located approximately 5.1km away from the Program Area. The potential impact is increased noise to landowners. Due to the large distance between the program site and the residence, the impacts are negligible. Any potential impacts are managed by small mobile drilling fleet, short duration of program, limiting vehicle speeds to 15km/hr, operating only during the day and regular safety toolbox meetings to discuss additional noise controls.

The project includes the following measures to manage air quality impacts:

The potential impacts on air quality are negligible. The potential impacts are raised dust during transit to and from site and raised dust during drilling process. This is managed by a small mobile drill fleet, short duration of program, vehicle speed limited to 15km/hr, dust masks available if required, dust limiting device on cyclone available if required, large distance to nearest sensitive receiver and safety toolbox meetings to discuss controls.

Sensitivity of the land to be disturbed

Question	Yes/no
Conservation areas	
Land reserved under the *National Parks and Wildlife Act 1974*?	No
Land acquired by the Minister under Part 11 of the *National Parks and Wildlife Act 1974*?	No
Land subject to a 'conservation agreement' under the *National Parks and Wildlife Act 1974* and/or *the Biodiversity Conservation Act 2016*?	No

Question	Yes/no
Land declared as an aquatic reserve under the *Marine Estate Management Act 2014*?	No
Land declared as a marine park under the *Marine Estate Management Act 2014*?	No
Land within State Forests set aside under the *Forestry Act 2012* for conservation values, including Flora Reserves or Special Management (and other) Zones?	No
Land reserved or dedicated under the *Crown Lands Act 1989/Crown Lands Management Act 2016* (as applicable) for the preservation of flora, fauna, geological formations or other environmental protection purposes?	No
Land identified as wilderness or declared a wilderness area under the *Wilderness Act 1987*?	No
Land subject to 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*?	No
Land subject to a Wildlife Refuge agreement under the *Biodiversity Conservation Act 2016*?	No
Land subject to existing conservation agreements on private land under repealed legislation that continue to have effect (e.g., trust agreements under *Native Conservation Trust Act 2001*, Property vegetation plans under *Native Vegetation Act 2003*, Registered property agreements under *Native Vegetation Conservation Act 1997*)?	No
Drinking water catchment protection areas	
Land declared to be a 'controlled area' or a 'special area' under the *Water NSW Act 2014*?	No
Land declared to be a 'special area' under the *Water Management Act 2000* or *Hunter Water Act 1991*?	No
Sensitive areas	
Land declared as area of outstanding biodiversity value under the *Biodiversity Conservation Act 2016* or critical habitat under Part 7A of the *Fisheries Management Act 1994*?	No
Wetlands of international significance listed under the Ramsar Wetlands Convention?	No
Land designated as a nationally important wetland in the Directory of Important Wetlands?	No
Coastal wetlands mapped under *State Environmental Planning Policy (Resilience and Hazards) 2021*?	No
Littoral rainforests mapped under *State Environmental Planning Policy (Resilience and Hazards) 2021*?	No
Coastal zone as defined in the *Coastal Management Act 2016*?	No
Land identified in an environmental planning instrument as being of biodiversity/conservation significance or zoned for environmental conservation, protection and/or management?	No
Waterfront land defined under the *Water Management Act 2000*?	No
Land with a slope greater than 18 degrees measured from the horizontal?	No
Land with potential for soil and water contamination	
Land mapped as Actual Acid Sulfate Soils (AASS) or Potential Acid Sulfate Soils (PASS) on the Acid Sulfate Soils Risk Maps for NSW?	No
Aboriginal protection areas	
Land identified in an environmental planning instrument (such as a State Environmental Planning Policy or Local Environment Plan) as being of Aboriginal cultural significance?	No
Land declared as an Aboriginal place under the *National Parks and Wildlife Act 1974*?	No
Historic or natural heritage protection areas	
Land listed on the World Heritage List, National Heritage List or Commonwealth Heritage List?	No
Land, places, buildings or structures listed on the NSW State Heritage Register?	No
Land identified in an environmental planning instrument (such as a State Environmental Planning Policy or Local Environment Plan) as being of heritage significance or a heritage conservation area?	No

Question	Yes/no
Critical industry clusters	
Land identified as Critical Industry Cluster under *State Environmental Planning Policy (Resources and Energy) 2021*?	No
Community land	
Public land classified as community land under the *Local Government Act 1993*?	No
Other areas	
Land identified on the authority (e.g., exploration licence or assessment lease) as environmentally sensitive land?	No
Ecology	
Will the activity have a significant effect on threatened species or their habitats?	No
Will the activity have a significant effect on threatened ecological communities or their habitats?	No
Will vegetation be removed as part of access track upgrade works in waterfront land?	No
Aboriginal and European heritage	
Will the activity harm Aboriginal objects as defined under the *National Parks and Wildlife Act 1974*?	No
Will the activity damage any listed heritage items?	No

Attachment 1 – Statement of commitments

Item	Commitment
Activity type	Exploration activity comprising: • 0 diamond drill holes • 0 reverse circulation drill holes • 0 other drill holes • 0 cubic metres of bulk sampling • 0 square metres of new access tracks • 0 lines of seismic testing • 91 square metres of air core drilling • 0 square metres of other drilling
Activity location	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., within EL 5359 (1992).
Activity scope (including any ancillary activities)	The proposed Program would consist of drilling and sampling at the Goat's Tank deposit. The drill program consists of 100 air core drill holes across ten new traverses and infills along seven old traverses. This will take place over approximatley six weeks with a small drill crew of about 4. There will be an air core drill rig, support truck and two utes for the drilling. 100 in-ground sumps (2m x 1m x 0.5m) are required. A skid steer and flat bed truck will also be required for vegetation clearing and rehabilitation after drilling. The proposed drilling requires clearing of ten new drill lines and three new access tracks. Approximately 2.3 ha of vegetation clearing is required for access by heavy machinery (2.3 ha is the maximum value, it is likely to be lower). No ancillary infrastructure (eg powerlines, firebreaks) is required for the Program. The drill crew will stay at the Atlas Deposit mine accomodation. Access to the Program site will be via the Boree Plains-Gol Gol road and internal station tracks. Water for drilling would be sourced from either the Atlas minesite or dams at the Boree Plains property (both owned by Tronox). Water would be recirculated where possible to reduce water demand. Diesel to operate drill rig is carried on support truck.
Hours of operation	Other Seven days a week during daylight hours (i.e. 7:00 am to 6:00pm), on a 2 on/1 off roster.
Expected duration (weeks)	Six weeks
Anticipated start date	1 June 2024
Expected rehabilitation completion date	Estimated 1 June 2025
Maximum area of disturbance	91 square metres
Agricultural impact	The activity will be undertaken in accordance with Willandra East_GoatsTank_Agricultural Impact Statement.pdf (221485 bytes)
Air quality	The potential impacts on air quality are negligible. The potential impacts are raised dust during transit to and from site and raised dust during drilling process. This is managed by a small mobile drill fleet, short duration of program, vehicle speed limited to 15km/hr, dust masks available if required, dust limiting device on cyclone available if required, large distance to nearest sensitive receiver and safety toolbox meetings to discuss controls.

Item	Commitment
Protection of water sources	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 vicintiy of the Program site. 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 mitgation strategy developed by Tronox. Any potential impacts will also be managed by the short duration of the program, small mobile drilling fleet, vehicle speed limited to 15km/h and safety toolbox meetings to discuss controls. This Program has a limited potential to significantly impact on the existing groundwater regime due to its relatively minor scale and short-term nature and no groundwater is proposed to be extracted. 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.
Soil and land stability	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.
Noise and vibration	The closest sensitive receiver (residence) to the Program site is the Boree Plains homestead, which is located approximately 5.1km away from the Program Area. The potential impact is increased noise to landowners. Due to the large distance between the program site and the residence, the impacts are negligible. Any potential impacts are managed by small mobile drilling fleet, short duration of program, limiting vehicle speeds to 15km/hr, operating only during the day and regular safety toolbox meetings to discuss additional noise controls.
Coastal processes and hazards	No tidal regimes, coastal processes or coastal hazards would be impacted by the program, so no mitigation measures or management controls are proposed.
Hazardous substances or chemicals	If chemicals are managed correctly, there will be negligible impacts. The possible impact would potentially be spillage of oils during drilling process. Chemical managemnet will include small mobile drilling fleet, short duration of program, only small quantities of diesels and lubricants carried, all sites and vehicles regularly inspected for spillage, spill kits carried on all vehicles, vehicle speed limited to 15km/h and safety tool box meetings to discuss 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.

Item	Commitment
Wastes and emissions	The incorrect disposal of wastes would be the potential impacts associated with waste and excess material management. The Program would generate relatively minor quantities of recyclable and non-recyclable general wastes, other wastes from drilling operations (tryes, scrap metal, waste hydrocarbons) and drilling cuttings. General waste minimisation principles (reduce, re-use, recycle) would be applied for the program. All general waste and general recyclable products generated at the Program site would initially be stored in containers/bags on the support truck and/or the light four wheel drive vehicle. Other waste generated during the Program (eg tyres) would also be transported to the Mildura Exploration office where it would be disposed of at a registered depot. Drill cuttings would be placed in the bottom of the cuttings sump and covered with topsoil.
Vegetation	The mitigation measures outlined in section 6.2 of the GHD Biodiversity Impact Statement 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 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. 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 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 of this vegetation mitigation strategy (Including the mitigation measures discussed in the GHD report), the impacts on vegetation clearing will be low adverse.
Threatened fauna and flora species	The proposal would result in some unavoidable residual adverse impacts to some elements of the natural environment. These residual 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. Additonally, the following mitigation measures will be implemented: 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 construction plant and equipment will be washed down prior to entering any of

Item	Commitment
	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 200m 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 us 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.
Areas of outstanding biodiversity value/critical habitat	The program is not located in an AOBV or a critical habitat area. The program would result in some unavoidable residual adverse impacts to some elements of non-critical habitat area. These residual impacts are not expected to impose a significant negative effect on any local populations of native biota. Most impacts can be reduced or avoided through the implementation of the mitigation measures outlined in section 6.2 of the GHD report. All workers will be provided with an environmental induction prior to starting work on site to be made aware of the potential for impacts on native 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 location, micro-align the drill hole locations to avoid biodiversity features and when creating access tracks, avoid biodiversity features (in particular old-growth spinifex tussocks and large or hollow-bearing trees).
Endangered ecological community or critically endangered ecological community	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 biodiverstiy 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 upon the completion of the program. 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 approximatley 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. With the implementation of this vegetation mitigation strategy, the impacts on vegetation clearing will be low adverse. During a reconnaissance visit, it was concluded that there were no Malleefowl mounds seen within 200m

Item	Commitment
	of the proporsed drill line sites and no other EPBC listed species were observed. If a mallee fowl mound is seen wtihin 200m of a drill line, Tronox has a mitgation procedure for the drilling crew to follow which includes cancelling the drill line where the mallee fowl is found nearby.
Habitat of a threatened species or ecological community	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 200 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.

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	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.
Key threatening processes	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. To avoid contributing to the KTPs discussed above, the following mitigation measures will be implemented: • 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). • 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.
Barriers to movement of fauna	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.
Ecological and biosecurity impacts	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

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	risk of increased bush fire frequency due to the Program is likely to be negligible.
Community resources	No specific mitigation strategies for potential community impacts are proposed, as the potential impacts are negligible.
Natural resources	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.
Social impacts	Due to the reasons discussed throughout this REF, social impacts are expected to be negligible. 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.
Economic impacts	As the economic impacts are negligible, no specific mitigation measures are proposed.
Heritage impacts	As there are no localities, places landscapes, buildings or archaeological relics of heritage significance within the Program area, no mitigation measures are proposed.
Aesthetic impacts	As the impacts on aesthetics are negligible, no specific mitigation strategies are proposed.
Aboriginal cultural heritage	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.
Land use impacts	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.
Transportation impacts	No specific mitigation strategies for potential road transport impacts are proposed.
Matters of national environmental significance	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

Item	Commitment
	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 approximately 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.
Cumulative impacts	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.

Item	Commitment
	• 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.
Rehabilitation commitments	The activity will be undertaken in accordance with the rehabilitation objectives and targets provided for this project.
Risk assessments	The titleholder must monitor the risks associated with activities and, if the risk associated with an activity changes, implement revised environmental management controls.
Incident management	The NSW Resources Regulator will be notified of all incidents in accordance with the requirements of EL 5359 (1992).
Reporting	Reporting to the NSW Resources Regulator and Mining, Exploration and Geoscience – Department of Regional NSW will be in accordance with the legislation and conditions of EL 5359 (1992).
Codes of Practice	2024 Goat's Tank Drill Program will be operated in accordance with: • Exploration Code of Practice: Environmental Management Exploration Code of Practice: Rehabilitation
Other (as applicable)	1. No additional terms specified.

Attachment 2 – Definitions

To search for NSW legislation, visit www.legislation.nsw.gov.au. Commonwealth legislation can be found at www.legislation.gov.au.

Word	Definition
Aboriginal object	Has the same meaning as it has in the *National Parks and Wildlife Act 1974.*
Aboriginal place	Has the same meaning as it has in the *National Parks and Wildlife Act 1974.*
Acid Sulfate Soils	Sediments and soils containing iron sulfides which, when exposed to oxygen, generate sulfuric acid. Acid sulfate soils include actual acid sulfate soils (AASS) or potential acid sulfate soils (PASS).
Activity	Any activity carried out in connection with exploration, including: • the use of land • means of accessing land • the carrying out of a work.
Activity approval	An approval to carry out assessable prospecting operations granted under the *Mining Act 1992* / *Petroleum (Onshore) Act 1991* – as relevant.
Actual Acid Sulfate Soils (AASS)	Sediments and soils containing highly acidic soil horizons or layers resulting from the aeration of sediments and soils that are rich in iron sulfides, primarily sulphide.
Applicant	In relation to an exploration activity, the person proposing to carry out the exploration activity.
Aquatic reserve	Has the same meaning as it has in the *Marine Estate Management Act 2014.*
Areas of Outstanding Biodiversity Value (AOBVs)	Has the same meaning as it has in the *Biodiversity Conservation Act 2016*. Note: Areas of declared critical habitat under the now repealed *Threatened Species Conservation Act 1995* have become Areas of Outstanding Biodiversity Value (AOBVs) under the *Biodiversity Conservation Act 2016*.
Assessable prospecting operation	Any prospecting operation that is not exempt development within the meaning of *State Environmental Planning Policy (Resources and Energy) 2021.*
Clearing of vegetation	Any one or more of the following: • cutting down, felling, thinning, lopping, logging or removing vegetation, or • killing, destroying, poisoning, ringbarking, uprooting or burning vegetation.
Complying exploration activities (CEA)	Exploration activities that are considered unlikely to significantly affect the environment as set out in *Exploration guideline: Application and assessment process for exploration activities*.
Critical habitat	Has the same meaning as it has in the *Fisheries Management Act 1994*. Areas of declared critical habitat under the now repealed *Threatened Species Conservation Act 1995* have become Areas of Outstanding Biodiversity Value (AOBVs) under the *Biodiversity Conservation Act 2016.*
Drill hole	A hole made by drilling or boring, but excludes: • sampling and coring using handheld equipment, • petroleum wells.
Drilling	The perforation of the earth's surface crust by mechanical means to form a hole, whether the hole caused by the perforation is vertical, inclined or horizontal, and includes all operations for preventing collapse of the sides of

Word	Definition
	such hole or for preventing it from being filled with extraneous materials including water
Environment	Has the same meaning as it has in the *Mining Act 1992 / Petroleum (Onshore) Act 1991* – as relevant.
Environmentally sensitive area of State significance	Has the same meaning as it has in *State Environmental Planning Policy (Resources and Energy) 2021.*
Excavation	The removal of the surface layer to a depth greater than 500 mm from the natural surface level.
Exempt development	Has the same meaning as it has in *State Environmental Planning Policy (Resources and Energy) 2021*.
Exploration	Has the same meaning as it has in *State Environmental Planning Policy (Resources and Energy) 2021*.
Fauna	Has the same meaning as it has in the *National Parks and Wildlife Act 1974*.
Groundwater	Water that occurs beneath the ground surface in the saturated zone.
Habitat	Has the same meaning as it has in *the Biodiversity Conservation Act 2016* or the *Fisheries Management Act 1994* (as relevant).
Harm	In relation to matters of national environmental significance, has the same meaning as 'significant impact' as provided by the 'Significant Impact Guidelines' used to determine whether assessment and approval is required under the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999*. In relation to the environment, has the same meaning as it has in the *Protection of the Environment Operations Act 1997*. In relation to threatened species or ecological communities, has the same meaning as: • 'harm an animal' in the *National Parks and Wildlife Act 1974* • 'pick a native plant' in the *National Parks and Wildlife Act 1974* • 'harm' in the *Fisheries Management Act 1994*. In relation to an aquifer or waterfront land, has the same meaning as it has in the *Water Management Act 2000*. In relation to Aboriginal places or Aboriginal objects has the same meaning as it has in the *National Parks and Wildlife Act 1974*. In relation to items of heritage significance, has the same meaning as it has in the *Heritage Act 1977*. In relation to protected marine vegetation, has the same meaning as it has in the *Fisheries Management Act 1994*.
Items of heritage significance	Means: • any heritage items listed in one or more of the following: — the Commonwealth Heritage List — the World Heritage List — the National Heritage List — the State Heritage Register — an Environmental Planning Instrument • any relic (being any deposit, object or material evidence which relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement, and which is 50 or more years old), or

Word	Definition
	• within State Conservation Areas: — items that are listed on the DECC Historic Heritage Information Management System, or — any deposit, object or material evidence relating to the settlement or occupation of New South Wales or a part of New South Wales (not being Aboriginal settlement or occupation) if the deposit, object or material evidence is more than 25 years old at the date of the interference or removal.
Land	Includes: • the sea or an arm of the sea • a bay, inlet, lagoon, lake or body of water, whether inland or not and whether tidal or non-tidal • a river, stream or watercourse, whether tidal or non-tidal, and • a building erected on the land
Marine vegetation	Has the same meaning as it has in the *Fisheries Management Act 1994*.
Matters of national environmental significance	'Matters of national environmental significance' protected under the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999*.
Minister	The Minister administering the *Mining Act 1992 / Petroleum (Onshore) Act 1991* – as relevant.
Native vegetation	Has the same meaning as it has in the *Local Land Services Act 2013*.
Potential acid sulphate soils (PASS)	Sediments and soils that contain iron sulfides or sulfidic material which have not been exposed to air and oxidised
Produced water	Any form of groundwater that is actively extracted from a borehole or excavation, excluding incidental groundwater mixed with drilling fluids.
Rehabilitation	Has the same meaning as it has in the *Mining Act 1992 / Petroleum (Onshore) Act 1991* – as relevant.
Seismic survey	The use of shock waves (generated in the ground using either small explosive charges detonated below the surface, hand-held mechanical hammers or vehicle-mounted hammers) and an array of geophones, which are connected to measuring instruments, to differentiate the geophysical properties of the subsurface of the earth.
Sensitive receiver	Includes: • dwellings • libraries • educational and research institutions (including schools, colleges and universities) • childcare centres • kindergartens • hospitals, surgeries and other medical institutions • places of worship • milking sheds and holding yards associated with dairies • animal boarding or training establishments • aquaculture

Word	Definition
	• intensive livestock agriculture
Site	The land on which an activity is located.
State Conservation Area	Has the same meaning as it has in the *National Parks and Wildlife Act 1974.*
Surface disturbance	Means: • disturbance or exposure of the soil or surface rock layer, or • degradation or deterioration in any manner of the physical surface of land.
Terms	In relation to activity approvals, the terms imposed by the decision-maker on the grant of an activity approval.
Threatened species or ecological communities	Has the same meaning as it has in the *Biodiversity Conservation Act 2016* or *Fisheries Management Act 1994* (as relevant).
Title	An authority under the *Mining Act 1992* / a title under the *Petroleum (Onshore) Act 1991* – as relevant.
Titleholder	A person or company to whom a title has been issued.
Track	All unsealed routes that will be traversed multiple times, but does not include single pass (ingress and egress) routes or seismic shot and receiver lines.
Waste	Has the same meaning as it has in the *Protection of the Environment Operations Act 1997.*
Water source	Has the same meaning as it has in the *Water Management Act 2000.*
Water land	Has the same meaning as it has in the *Fisheries Management Act 1994.*
Waterfront land	Has the same meaning as it has in the *Water Management Act 2000.*
Wetlands	Has the same meaning as it has in the *Fisheries Management Act 1994*.
Wilderness	Lands identified as wilderness under the *Wilderness Act 1987.*
Wilderness area	Lands (including subterranean lands) declared to be a wilderness area under the *Wilderness Act 1987* or the *National Parks and Wildlife Act 1974.*

Attachment 3 – Review of environmental factors

Air impacts
Provide a brief description of likely impacts to air quality, including the distance to, and impacts on, nearby sensitive receivers.
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.
What is the activity's likely impact due to generation of greenhouse gases emissions or release of chemicals which affect the ozone layer or produce photo-chemical smog?
Negligible
What is the likely level of any impacts?
Negligible
Outline any proposed management controls and/or mitigation measures.
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.

Water impacts
Provide a brief description of the likely impacts to water quality and/quantity.
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.
What is the activity's impact due to the storage of water?
Negligible
What is the activity's impact to natural water bodies, wetlands or runoff patterns?
Negligible
What is the activity's impact due to aquifer interference, including changes to inter-aquifer connectivity?
Negligible
What is the activity's impact due to changes to flooding or tidal regimes?
Negligible
What are the impacts from any hydraulic fracturing (well stimulation), including through gas and fluid migration?
Negligible
What is the activity's impact due to changes in surface or groundwater quality and quantity?
Negligible

Water impacts

What is the likely level of any water impacts?

Negligible

Outline any proposed management controls and/or mitigation measures.

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.

Soil and stability impacts

Provide a brief description of the likely impacts to soil quality or land stability.

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.

What is the activity's impact on the degradation of soil quality including contamination, salinisation or acidification?

Negligible

What is the activity's impact on land with high agricultural capability?

Negligible

What is the activity's impact due to loss of soil from wind or water erosion?

Negligible

What is the activity's impact due to the loss of structural integrity of the soil?

Negligible

What is the activity's impact due to increased land instability with high risks from landslides or subsidence?

Negligible

What is the activity's impact due to any induced seismicity or ground movements associated with fracture stimulation or injection or extraction of groundwater?

Negligible

What is the likely level of any impacts?

Low adverse

Outline any proposed management controls and/or mitigation measures.

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.

Noise and vibration impacts

Provide a brief description of the likely noise and/or vibration 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.

What is the likely level of any impacts?

Negligible

Outline any proposed management controls and/or mitigation measures.

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 negligible, no specific noise mitigation strategy is proposed.

Coastal locations and processes

Provide a brief description of likely impacts on coastal environments, coastal processes and coastal hazards.

Due to the inland location of the Program, no tidal regimes, coastal processes or coastal hazards would be impacted by the program.

What is the likely level of any impacts?

Nil/Not applicable

Outline any proposed management controls and/or mitigation measures.

No tidal regimes, coastal processes or coastal hazards would be impacted by the program, so no mitigation measures or management controls are proposed.

Hazardous substances and chemicals

Provide a brief description of likely impacts associated with the use, generation, storage or transport of hazardous substances or chemicals.

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.

What is the likely level of the impact associated with the use, generation, storage or transport of hazardous substances or chemicals?

Negligible

Outline any proposed management controls and/or mitigation measures.

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.

Wastes and emissions

Provide a brief description of likely impacts to the environment from the generation or disposal of gaseous, liquid or solid wastes or emissions.

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.

Provide a brief description of likely impacts on areas sensitive to this type of impact.

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.

What is the likely level of the impacts?

Negligible

Outline any proposed management controls and/or mitigation measures.

All general waste (solid and non-solid waste as defined in waste Classification Guideline Part 1: 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.

Vegetation

Provide a brief description of any vegetation clearing or modification and the likely impacts to the environment.

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 schedule 4 of 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. 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 impat on flora would be low adverse.

What is the likely level of the impacts?

Low adverse

Outline any proposed management controls and/or mitigation measures.

The mitigation measures outlined in section 6.2 of the GHD Biodiversity Impact Statement 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 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. 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 occassions where the root ball is

Vegetation

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 (Including the mitigation measures discussed in the GHD report), the impacts on vegetation clearing will be low adverse.

Threatened species

Provide a brief description of any likely impacts to threatened fauna and flora species.

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.

What is the likely level of the impacts?

Low adverse

Outline any proposed management controls and/or mitigation measures.

The proposal would result in some unavoidable residual adverse impacts to some elements of the natural environment. These residual 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. Additonally, the following mitigation measures will be implemented:

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).

Threatened species

The management of weeds, pests and pathogens includes vehicles and construction plant and equipment 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 200m 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 us 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.

Area of outstanding biodiversity value (AOBV) / Critical habitat

Provide a brief description of any likely impacts to AOBV/critical habitat.

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.

What is the likely level of the impacts?

Low adverse

Outline any proposed management controls and/or mitigation measures.

The program is not located in an AOBV or a critical habitat area. The program would result in some unavoidable residual adverse impacts to some elements of non-critical habitat area. These residual impacts are not expected to impose a significant negative effect on any local populations of native biota. Most impacts can be reduced or avoided through the implementation of the mitigation measures outlined in section 6.2 of the GHD report. All workers will be provided with an environmental induction prior to starting work on site to be made aware of the potential for impacts on native 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 location, micro-align the drill hole locations to avoid biodiversity features and when creating access tracks, avoid biodiversity features (in particular old-growth spinifex tussocks and large or hollow-bearing trees).

Endangered ecological community or critically endangered ecological community

Is the activity likely to have an adverse effect on an endangered ecological community or critically endangered ecological community? Select as relevant:

N/A

Provide a brief description of any 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.

What is the likely level of the impacts?

Negligible

Outline any proposed management controls and/or 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. 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

Endangered ecological community or critically endangered ecological community

areas, avoiding biodiverstiy 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 upon the completion of the program. 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 approximatley 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. With the implementation of this vegetation mitigation strategy, the impacts on vegetation clearing will be low adverse. During a reconnaissance visit, it was concluded that there were no Malleefowl mounds seen within 200m of the proporsed drill line sites and no other EPBC listed species were observed. If a mallee fowl mound is seen wtihin 200m of a drill line, Tronox has a mitgation procedure for the drilling crew to follow which includes cancelling the drill line where the mallee fowl is found nearby.

Habitat of a threatened species or ecological community

Is the activity likely to have an adverse effect on the habitat of a threatened species or ecological community (including protected aquatic species)? Select as relevant:

N/A

Describe the 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.

What is the likely level of the impacts?

Low adverse

Outline any proposed management controls and/or mitigation measures.

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).

Habitat of a threatened species or ecological community

- 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 200 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.

Key threatening process

Provide a brief description of whether the activity will constitute, or form part of, a key threatening process - or is likely to increase the impact of a key threatening process.

A key threatening process (KTP) is a process that threatens or may threaten the survival, abundance or evolutionary development of a native species or ecological community. KTPs are listed under the BC Act and the EPBC Act. Some KTPs are listed under more than one Act. The Proposal has the potential to contribute to the operation of the following KTPs:

- Removal of dead wood and dead trees
- Invasion and establishment of exotic vines and scramblers.
- Loss of hollow-bearing trees

What is the likely level of any impacts?

Low adverse

Outline any proposed management controls and/or mitigation measures.

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. To avoid contributing to the KTPs discussed above, the following mitigation measures will be implemented:

- 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).

Key threatening process

- When creating access tracks, avoid biodiversity features (in particular old-growth Spinifex tussocks and large or hollow-bearing trees).
- 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.

Barriers to movement of fauna

Provide a brief description regarding the potential of the activity to endanger, displace or disturb fauna or create a barrier to their movement.

Approximatley 2.23ha 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 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 degradation of habitat or fragmentation. The loss of vegetation communities (fauna habitat) within the devleopment 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.

What is the likely level of any impacts?

Low adverse

Outline any proposed management controls and/or 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. 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.

Ecological and biosecurity impacts

Is the activity likely to have any adverse ecological or biosecurity impacts? Select as relevant:

N/A

Provide a brief description of any 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

Ecological and biosecurity impacts

of potential impact would vary with climatic conditions (temperatures and wind) and the quantity of available fuel (grasses and native vegetation).

What is the likely level of any impacts?

Negligible

Outline any proposed management controls and/or mitigation measures.

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.

Community resources

Describe whether the activity is likely to degrade or significantly increase the demand for services and infrastructure resources.

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.

Describe whether the activity is likely to result in any diversion of resources to the detriment of other communities or natural systems.

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.

What is the likely level of the impact?

Negligible

Outline any proposed management controls and/or mitigation measures.

No specific mitigation strategies for potential community impacts are proposed, as the potential impacts are negligible.

Natural resources

Describe any likely impacts that would disrupt, deplete or destroy natural resources.

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.

Describe whether the activity is likely to disrupt existing activities which rely upon natural resources, including forestry, farming or extractive industries (or will reduce options for future activities).

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. Therefore, this program is not likely to disrupt existing activities such as forestry, farming or extractive industries.

Describe whether the activity is likely to result in the degradation of any area reserved for conservation purposes.

Natural resources

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.

What is the likely level of the impact?

Negligible

Outline any proposed management controls and/or mitigation measures.

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.

Social impacts

Describe whether the activity is likely to result in a change to the demographic structure of the community, including changes to the workforce or industry structure of the area/region.

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.

Describe whether the activity is likely to have an environmental impact that may cause substantial change or disruption to the community, including loss of facilities, reduced links to other communities or loss of community identity.

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.

Describe whether the activity is likely to result in some individuals or communities being significantly disadvantaged, including a change in the level of demand for community resources (e.g. community facilities / services, and labour force).

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.

Describe whether the activity likely to result in any impacts on the health, safety, privacy or welfare of individuals or communities because of factors such as pollution, odour, noise, vibration, lighting, visual impacts, etc.

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.

Describe if the activity is likely to have any 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 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.

What is the likely level of any social impacts?

Negligible

Outline any proposed management controls and/or mitigation measures.

Due to the reasons discussed throughout this REF, social impacts are expected to be negligible. 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

Social impacts

avaliable for community memebers to contact Tronox during the Program. Tronox would respond to issues raised by community members on the call lines.

Economic impacts

Provide a brief description of any likely economic 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.

What is the likely level of any impacts?

Negligible

Outline any proposed management controls and/or mitigation measures.

As the economic impacts are negligible, no specific mitigation measures are proposed.

Heritage impacts

Describe whether the activity is likely to cause impacts on localities, places, landscapes, buildings or archaeological relics of heritage significance.

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.

What is the likely level of the impact?

Nil/Not applicable

Outline any proposed management controls and/or mitigation measures.

As there are no localities, places landscapes, buildings or archaeological relics of heritage significance within the Program area, no mitigation measures are proposed.

Aesthetic impacts

Describe whether the activity is likely to cause impacts on the visual or scenic landscape, including any lighting, venting or flaring of gas.

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.

What is the likely level of any impacts?

Nil/Not applicable

Outline any proposed management controls and/or mitigation measures.

Aesthetic impacts

As the impacts on aesthetics are negligible, no specific mitigation strategies are proposed.

Cultural impacts

Describe the likely impacts associated with any disturbance of the ground surface or any culturally modified trees.

Approximately 2.23ha of vegetation clearing is required for this program. Three access tracks will be constructed 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.

Describe whether the activity will affect known Aboriginal objects or Aboriginal places.

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.

Describe whether the activity is located in areas where landscape features indicate the presence of Aboriginal objects.

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.

Describe whether the activity will affect areas where native title exists or land subject to native title claims, indigenous land use agreements or joint management agreements.

No native title or native title claims exist over the area where drilling will take place.

What is the likely level of any cultural impacts?

Negligible

Outline any proposed management controls and/or mitigation measures.

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.

Land use impacts

Provide a brief description of any impacts on land use including any major changes to land use and/or curtailment of other beneficial land uses.

Land use comprises of pastoral leasehold 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.

What is the likely level of any impacts?

Negligible

Outline any proposed management controls and/or mitigation measures.

Land use impacts

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.

Transportation impacts

Provide a brief description of any significant impacts on transportation.

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.

What is the likely level of any impacts?

Negligible

Outline any proposed management controls and/or mitigation measures.

No specific mitigation strategies for potential road transport impacts are proposed.

Consistency with applicable local strategic planning statements, regional strategic plans or district strategic plans

Provide a brief description of any relevant local strategic planning statements, regional strategic plans or district strategic plans and whether the proposed activity is consistent with these.

As of September 2022, the NSW Government and the Department of Planning and Infrastructure (DP&I) have not released a Strategic Rural Land Use Policy for the Program region. The proposed activity is not included in any local strategic planning statements, regional strategic plans or district strategic plans.

What is the likely level of any impacts?

Nil/Not applicable

Outline any proposed management controls and/or mitigation measures.

There is no proposed mitigation measures as the likely level of any impact is nill/not applicable.

Matters of national environmental significance

Is the activity likely to impact on any of the following matters of national environmental significance under the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999*? Select as relevant:

N/A

Provide further details relating to any impacts on matters of national environmental significance.

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 envionmental 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 within 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.

What is the likely level of any impacts?

Matters of national environmental significance

Low adverse

Outline any proposed management controls and/or mitigation measures.

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 approximately 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.

Cumulative impacts

Is the activity likely to result in cumulative environmental effects with other existing or likely future activities?

Yes

Describe the impact.

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.

What is the likely level of any impacts?

Low adverse

Outline any proposed management controls and/or mitigation measures.

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).

Cumulative impacts

- 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.

Environmental assessment conclusions

Having regard to the potential significance of the individual impacts of the proposed activity (as well as the aggregation of all the impacts of the activity) determine whether (select as relevant):

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

Provide any further details as relevant.

Tronox is planning to conduct a Program to further investigate the Goat's Tank deposit in EL5359 for future development. An environmental assessment has been undertaken as part of this REF, and it concludes that the Program would not have a significant effect on the environment or threatened species, populations or ecological communities.

Attachment 4 – List of supporting documents

- APO0001751_Submission Report_16 May 2024 8:39am.pdf
- APO0001751_Submission Report_1 May 2024 11:55am.pdf
- Goat's Tank Site Plans.zip
- Goats Tank_AHIMS search 2024.pdf
- Historic, cultural and natural heritage search.zip
- Photographs.zip
- Protected Matters - MNES layers - January 23rd 2024.pdf
- Threatened Species and GHD Biodiversity Impact Assessment.zip
- Willandra East_GoatsTank_Agricultural Impact Statement.pdf