

APO0001727

Approval to undertake assessable prospecting operations

APO0001727 Cumbine Auger

17 April 2024

Application summary

Detail	Application
Reference	APO0001727
Date of approval	17 April 2024
Title	EL 8414 (1992)
Contact	[REDACTED]
Project name	APO0001727 Cumbine Auger
Project location	25km SE of Nymagee
Activity type	Non-complying exploration activity

Important note

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Project

Project details

Application APO0001727 relates to the proposed APO0001727 Cumbine Auger at 25km SE of Nymagee.

The application proposes the following characteristics.

Detail	Proposal
Activity description	Auger drilling is proposed across an area to obtain base of regolith samples for geochemical analysis. Up to 200 auger drillholes will be undertaken using a 150mm diameter drill bit to a depth of between 0.3 and 15m. A sample of 0.5 - 2kg will be obtained from bottom of hole or refusal whichever is shallower. This APO has allowed for 0.25m ² surface disturbance per hole, with 50 holes allocated for each of the 4 units in the activity area. The number of holes per unit may vary but the total number of holes (200) will not be exceeded. No prior preparation of pads or sumps are required for auger drilling. A rubber mat will be placed over vegetation to define a work area. A vertical hole through the regolith profile will be drilled, arisings will be separated by material, stored on rubber matting to reduce contamination of the sample and then used as backfill material for rehabilitation of the drillhole on completion. Slight mounding of the auger hole will remain to allow settlement. The auger rig will be mounted on a 4WD vehicle and a second 4WD vehicle will be utilised for drilling support and to collect samples. An additional 4WD may be utilised to monitor the program for compliance and geological purposes. The activity may be undertaken later than this proposed time, or take longer to complete, should unforeseen events arise which cause delays to the commencement and/or completion of the proposed drilling program. This is including but not limited to poor weather conditions (rain, flooding, lightning, high temperatures and fire ban days), wet and slippery tracks (including road closures), machinery breakdowns, drilling problems, issues with access or contractors' capability, and any further measures put in place by the New South Wales Government or local Council(s).

Detail	Proposal
Earthworks or vegetation clearing	This APO has allowed for 0.25m ² surface disturbance per auger hole. No prior preparation of pads or sumps are required for auger drilling. No vegetation clearing is required.
Access to exploration activities	The program will be accessed via Pangee Road. Local farm tracks will be used for access to the the activity area. Where safety and operational considerations permit, open areas will be traversed with vehicles to access sample points. No new access tracks are to be constructed in this program. Any damage to existing farm tracks during the course of the activity will be repaired to the satisfaction of the landholder.
Ancillary activities	No ancillary works and activities that constitute 'exploration' or 'prospecting' activity under the Mining Act 1992 are proposed.
Anticipated start date	22 April 2024
Expected duration (weeks)	1
Expected rehabilitation completion date	22 April 2025
Proposed hours of operation	Other Day shift only, 12 hours a day, 7 days a week
On-site employee or contractor numbers	2

Exempted areas

The APO0001727 Cumbine Auger has not proposed prospecting in an exempted area.

State conservation areas

The APO0001727 Cumbine Auger has not proposed prospecting in a State Conservation Area.

Site description and existing environment

The project comprises the following existing land uses:

Review of the NSW Landuse 2017 v.15 mapping identifies land uses in the activity area as: > Cropping > Grazing native vegetation > Grazing modified pastures > Other minimal use (residual native cover) > Dams > Production native forestry The current land use within the activity area is grazing of cattle. The landowner has confirmed that no calving or cropping is proposed in the activity area. No changes to the current land use is proposed during the duration of the activity and rehabilitation will ensure that the agricultural land use can continue. Consultation with the landowner will occur to minimise any potential impacts to movement of stock, breeding activities or cropping.

The project is located near the following sensitive receptors:

The closest sensitive receiver (homestead) is 3.2 km north-east of the closest auger hole. It is expected that noise from the auger rig will not cause any disturbance to the homestead. Drilling will be kept to daylight hours only and close consultation maintained with landholders to ensure disturbance is minimised. Haverford will implement all relevant procedures for managing potential noise impacts or managing complaints. There are no towns or associated services, or any other identified sensitive land uses near the activity area.

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

The activity area contains land mapped with Land and Soil Capability Classes 6 and 7. Class 6 land is low capability land and has very high limitations for high impact land uses. Class 7 of very low capability

land and has severe limitations that restrict most land uses. There is no Strategic Agricultural Land or known acid sulfate soils in the area of proposed activities. Soils in the area of proposed activities are generally of low to moderate low fertility. Soils in the activity area are classified as Rudosols and Kandosols on the Australian Soil Classification (ASC) and Lithosols and Red Earths - Less Fertile on the Great Soil Group map.

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

The nearest named watercourse to the activity area is Bullock Creek, located 2.3 km south of the closest planned auger hole. There are some non-perennial drainage lines within the activity area, which all drain into farm dams except one drainage line which eventually joins Bullock Creek 6.5 km downstream to the east of the activity area. No work will be undertaken on waterfront land. Dams will not be disturbed by the proposed activities. Activities will not be undertaken during wet weather to avoid impacts relating to surface water runoff.

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

The groundwater source in the area of proposed activities is the Lachlan Fold Belt MDB Groundwater Source, which is regulated by the Water Sharing Plan for the NSW Murray Darling Basin Fractured Rock Groundwater Sources 2020. There are no groundwater bores within a 10km radius of the activity area. Hydrogeological Soil Landscape mapping (Babinda) states: The Babinda HGL is seen to have low levels of interaction between surface water and groundwater processes. Due to the shallow nature of auger drilling, groundwater is not expected to be encountered during the program.

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

The topography is relatively low relief with majority of the activity area with slopes less than 5%. There is mapped Terrestrial Biodiversity under the Bogan Local Environmental Plan 2011 (LEP) in the activity area. There are no mapped Biodiversity Values in the activity area. The native Plant Community Types (PCTs) in the locality include: > PCT ID 72 - White Cypress Pine - Poplar Box woodland on footslopes and peneplains mainly in the Cobar Peneplain Bioregion - No associated TECs > PCT ID 82 - Western Grey Box - Poplar Box - White Cypress Pine tall woodland on red loams mainly of the eastern Cobar Peneplain Bioregion - Two associated TECs > PCT ID 184 - Dwyers Red Gum - White Cypress Pine - Currawang low shrub-grass woodland of the Cobar Peneplain Bioregion - No associated TECs > PCT ID 193 - Red Mallee - White Mallee extremely tall tree mallee on silty-loam-clay soils of central south-western NSW - One associated TEC > PCT ID 250 - Derived tussock grassland of the central western plains and lower slopes of NSW - Three associated TECs No vegetation clearing is proposed for the activity. A rubber mat will be placed over vegetation to define a work area and prevent impact to groundcover vegetation. The auger hole will be backfilled on completion with slight mounding of the auger hole will to allow settlement. Topsoil will be returned to the disturbed area to promote establishment of local species in the soil seedbank.

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

A MNES search with a 5km buffer identified:

a) 8 migratory species or their habitat may occur. b) 3 TEC that are Endangered or Critically Endangered that may occur, including: - Weeping Myall Woodlands - Endangered - Poplar Box Grassy Woodland on Alluvial Plains - Endangered - Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia - Endangered c) 26 Listed Threatened Species that may occur. d) Activity area is within 500-800km of Ramsar Wetlands. BioNet records did not include any listed vulnerable or endangered threatened species in the activity area. No vegetation clearing is proposed for the activity. A rubber mat will be placed over vegetation to define a work area and prevent impact to groundcover vegetation. The auger hole will be backfilled on completion with slight mounding of the auger hole will to allow settlement. Topsoil will be returned to the disturbed area to promote establishment of local species in the soil seedbank. No significant adverse impact on threatened species, threatened populations, threatened ecological communities, or their habitats is anticipated to occur where all management measures in this

APO are implemented and rehabilitation is completed. On the same basis, MNES are not likely to be impacted by the activity.

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

There are no recorded BioNet species records in the activity area, and those nearby are limited to species which are classed as Not Listed as Threatened. Native PCT are mapped in the activity area and some have associated TECs. The MNES search identified 3 TEC that may occur in the area. No vegetation clearing is proposed for the activity. A rubber mat will be placed over vegetation to define a work area and prevent impact to groundcover vegetation. The auger hole will be backfilled on completion with slight mounding of the auger hole will to allow settlement. Topsoil will be returned to the disturbed area to promote establishment of local species in the soil seedbank. No significant impact on any threatened species, threatened populations, threatened ecological communities, or their habitats is anticipated to occur as a result of the proposed activity where all management measures in this APO are implemented and rehabilitation is completed.

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

There are no known heritage sites or items in the drilling project area, or in the immediate surrounding area.

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 under the Biodiversity Conservation Act 2016 (NSW) in the area of proposed activities. - areas declared as critical habitat under the Fisheries Management Act 1994 (NSW) in the area of proposed activities.

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

The activity area is subject to the Ngemba, Ngiyampaa, Wangaaypuwan and Wayilwan native title determination application, which has been accepted for registration but not yet on the Register of Native Title Claims. According to AHIMS, there are no Aboriginal objects and places within the activity area. The activity area does contain landscape features (i.e. within 200m of waters) that may be associated with Aboriginal objects. Proceeding to Step 3 of the Due Diligence process is only required where the proposed activity is located on land with landscape features associated with Aboriginal object and on land that is not disturbed. Drilling will avoid any areas within 200m of a mapped watercourse that is considered to be "undisturbed", as identified in the Site Plan provided with this APO. All other drilling within 200m of a mapped watercourse will be on disturbed land on the basis that it is that it has been subject to human activity that remains clear and observable, specifically clearing of vegetation for pastoral activities. Therefore, proceeding to Step 3 of the Due Diligence process is not required and the activity can proceed with caution without applying for an AHIP. While not anticipated, in the event that drilling is required to be undertaken within 200m of a mapped watercourse and on land that is undisturbed, a Due Diligence inspection will be undertaken by a suitably trained person prior to disturbing those areas.

Exploration activities

The following exploration activities have been approved.

Drill holes

Id/ Regulator no.	Type	Surface disturbance (m ²)	Veg. Clearing (m ²)	Excavation s (m ³)	Produced water (ml)	Depth (m)	Block number	Unit letters
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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
APO00017 27_Auger_ 103J EA0005126	Other drilling	12.5				CAN103	J
APO00017 27_Auger_ 103D EA0005125	Other drilling	12.5				CAN103	D
APO00017 27_Auger_ 103F EA0005128	Other drilling	12.5				CAN103	F
APO00017 27_Auger_ 103K EA0005127	Other drilling	12.5				CAN103	K

Impact management

The project includes the following measures to manage surface water impacts:

The program will not require additional external water to be supplied. Activities will not be undertaken on waterfront land. If it rains such that ground conditions are too poor for operations to continue, then activities will be suspended until the ground is dry, to avoid both surface water impacts and any damage to tracks.

The project includes the following measures to manage groundwater impacts:

Due to shallow nature of drilling activities, intersection of groundwater is not anticipated to be encountered in the program.

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

The drilling process is not anticipated to generate excess spoil from arisings, as arisings will be utilised as backfill material. Drilling is likely to encounter Virgin Excavated Natural Material (VENM) which can be used as backfill material. Any material that does not meet the criteria for VENM will be disposed of at an appropriate licenced waste facility. General waste from the program including litter will be collected in appropriate rubbish bags, removed from site, and disposed of at an appropriate licensed waste facility.

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

All chemical and hydrocarbons will be transported and stored in the appropriate containers and vessels. Chemicals used will be non-toxic, biodegradable alternatives unless no substitution is possible. Refueling will be undertaken off-site where possible. Any hydraulic maintenance of the equipment will be undertaken off-site where possible.

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

The closest sensitive receiver (homestead) is 3.2 km north-east of the closest planned auger hole. Auger drilling will only be undertaken during dayshift hours and ongoing consultation with the landowner will continue to ensure the proximity is acceptable to them. Haverford will implement all relevant procedures for managing potential noise impacts or managing complaints.

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

Air quality will be preserved by avoiding vehicle movements through bulldust areas, not leaving vehicles idling when not required and limiting vehicle speed on unsealed roads. A continuous slow rotation of the auger drill (i.e. no percussion) will not generate significant dust during the program. In the event air quality impacts are observed or perceived by staff or any other person, Haverford will implement all relevant procedures for managing potential air quality impacts or managing complaints.

Sensitivity of the land to be disturbed

Question	Yes/no
Conservation areas	
Land reserved under the <i>National Parks and Wildlife Act 1974</i> ?	No
Land acquired by the Minister under Part 11 of the <i>National Parks and Wildlife Act 1974</i> ?	No
Land subject to a 'conservation agreement' under the <i>National Parks and Wildlife Act 1974</i> and/or the <i>Biodiversity Conservation Act 2016</i> ?	No
Land declared as an aquatic reserve under the <i>Marine Estate Management Act 2014</i> ?	No
Land declared as a marine park under the <i>Marine Estate Management Act 2014</i> ?	No
Land within State Forests set aside under the <i>Forestry Act 2012</i> for conservation values, including Flora Reserves or Special Management (and other) Zones?	No
Land reserved or dedicated under the <i>Crown Lands Act 1989/Crown Lands Management Act 2016</i> (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 <i>Wilderness Act 1987</i> ?	No
Land subject to a Biobanking agreement (established under the now repealed <i>Threatened Species Conservation Act 1995</i>) or a Biodiversity Stewardship agreement established under the <i>Biodiversity Conservation Act 2016</i> ?	No
Land subject to a Wildlife Refuge agreement under the <i>Biodiversity Conservation Act 2016</i> ?	No
Land subject to existing conservation agreements on private land under repealed legislation that continue to have effect (e.g., trust agreements under <i>Native Conservation Trust Act 2001</i> , Property vegetation plans under <i>Native Vegetation Act 2003</i> , Registered property agreements under <i>Native Vegetation Conservation Act 1997</i>)?	No
Drinking water catchment protection areas	
Land declared to be a 'controlled area' or a 'special area' under the <i>Water NSW Act 2014</i> ?	No
Land declared to be a 'special area' under the <i>Water Management Act 2000</i> or <i>Hunter Water Act 1991</i> ?	No
Sensitive areas	
Land declared as area of outstanding biodiversity value under the <i>Biodiversity Conservation Act 2016</i> or critical habitat under Part 7A of the <i>Fisheries Management Act 1994</i> ?	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 <i>State Environmental Planning Policy (Resilience and Hazards) 2021</i> ?	No
Littoral rainforests mapped under <i>State Environmental Planning Policy (Resilience and Hazards) 2021</i> ?	No
Coastal zone as defined in the <i>Coastal Management Act 2016</i> ?	No
Land identified in an environmental planning instrument as being of biodiversity/conservation significance or zoned for environmental conservation, protection and/or management?	Yes
Waterfront land defined under the <i>Water Management Act 2000</i> ?	No

Question	Yes/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 <i>National Parks and Wildlife Act 1974</i> ?	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
Critical industry clusters	
Land identified as Critical Industry Cluster under <i>State Environmental Planning Policy (Resources and Energy) 2021</i> ?	No
Community land	
Public land classified as community land under the <i>Local Government Act 1993</i> ?	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 <i>National Parks and Wildlife Act 1974</i> ?	No
Will the activity damage any listed heritage items?	No

Attachment 1 – Statement of commitments

Item	Commitment
Activity type	<p>Exploration activity comprising:</p> <ul style="list-style-type: none"> • 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 • 0 square metres of air core drilling • 50 square metres of other drilling
Activity location	25km SE of Nymagee, within EL 8414 (1992).
Activity scope (including any ancillary activities)	<p>Auger drilling is proposed across an area to obtain base of regolith samples for geochemical analysis. Up to 200 auger drillholes will be undertaken using a 150mm diameter drill bit to a depth of between 0.3 and 15m. A sample of 0.5 - 2kg will be obtained from bottom of hole or refusal whichever is shallower. This APO has allowed for 0.25m² surface disturbance per hole, with 50 holes allocated for each of the 4 units in the activity area. The number of holes per unit may vary but the total number of holes (200) will not be exceeded. No prior preparation of pads or sumps are required for auger drilling. A rubber mat will be placed over vegetation to define a work area. A vertical hole through the regolith profile will be drilled, arisings will be separated by material, stored on rubber matting to reduce contamination of the sample and then used as backfill material for rehabilitation of the drillhole on completion. Slight mounding of the auger hole will remain to allow settlement. The auger rig will be mounted on a 4WD vehicle and a second 4WD vehicle will be utilised for drilling support and to collect samples. An additional 4WD may be utilised to monitor the program for compliance and geological purposes. The activity may be undertaken later than this proposed time, or take longer to complete, should unforeseen events arise which cause delays to the commencement and/or completion of the proposed drilling program. This is including but not limited to poor weather conditions (rain, flooding, lightning, high temperatures and fire ban days), wet and slippery tracks (including road closures), machinery breakdowns, drilling problems, issues with access or contractors' capability, and any further measures put in place by the New South Wales Government or local Council(s).</p> <p>No ancillary works and activities that constitute 'exploration' or 'prospecting' activity under the Mining Act 1992 are proposed.</p>
Hours of operation	Other Day shift only, 12 hours a day, 7 days a week
Expected duration (weeks)	1
Anticipated start date	22 April 2024
Expected rehabilitation completion date	Estimated 22 April 2025
Maximum area of disturbance	50 square metres
Agricultural impact	The activity will be undertaken in accordance with APO0001727_Cumbine Auger_AIS.pdf (808900 bytes)
Air quality	Air quality will be preserved by avoiding vehicle movements through bulldust areas, not leaving vehicles idling when not required and limiting vehicle speed on unsealed roads. A continuous slow rotation of the auger drill (i.e. no

Item	Commitment
	percussion) will not generate significant dust during the program. In the event air quality impacts are observed or perceived by staff or any other person, Haverford will implement all relevant procedures for managing potential air quality impacts or managing complaints.
Protection of water sources	<p>The program will not require additional external water to be supplied. Activities will not be undertaken on waterfront land. If it rains such that ground conditions are too poor for operations to continue, then activities will be suspended until the ground is dry, to avoid both surface water impacts and any damage to tracks.</p> <p>Due to shallow nature of drilling activities, intersection of groundwater is not anticipated to be encountered in the program.</p>
Soil and land stability	<ul style="list-style-type: none"> - Comply with title conditions and relevant codes of practice (Environmental Management and Rehabilitation). - Minimising surface disturbance where possible. - Prevent causing any land degradation or pollution/contamination of land or water. - If required, all sediment and erosion controls will be managed in accordance with Blue Book. - Existing access tracks to be used wherever possible. - Haverford will implement all relevant procedures for managing potential soil impacts or managing complaints.
Noise and vibration	The closest sensitive receiver (homestead) is 3.2 km north-east of the closest planned auger hole. Auger drilling will only be undertaken during dayshift hours and ongoing consultation with the landowner will continue to ensure the proximity is acceptable to them. Haverford will implement all relevant procedures for managing potential noise impacts or managing complaints.
Coastal processes and hazards	N/A - not located in a coastal environment
Hazardous substances or chemicals	All chemical and hydrocarbons will be transported and stored in the appropriate containers and vessels. Chemicals used will be non-toxic, biodegradable alternatives unless no substitution is possible. Refueling will be undertaken off-site where possible. Any hydraulic maintenance of the equipment will be undertaken off-site where possible.
Wastes and emissions	The drilling process is not anticipated to generate excess spoil from arisings, as arisings will be utilised as backfill material. Drilling is likely to encounter Virgin Excavated Natural Material (VENM) which can be used as backfill material. Any material that does not meet the criteria for VENM will be disposed of at an appropriate licenced waste facility. General waste from the program including litter will be collected in appropriate rubbish bags, removed from site, and disposed of at an appropriate licensed waste facility.
Vegetation	<ul style="list-style-type: none"> - Comply with title conditions and relevant code of practice (Environmental Management and Rehabilitation). - Haverford will minimise the extent of surface disturbance to as low as practicable. - No vegetation removal. - Topsoil will be returned to the disturbed area to promote the establishment of local species in the soil seedbank. - All habitat resources will be avoided and not disturbed during the activity. - Rehabilitation to occur as soon as practicable after completion of activity. - Haverford will implement all relevant procedures for managing potential vegetation impacts or managing complaints.
Threatened fauna and flora species	- Comply with title conditions and relevant code of practice (Environmental Management and Rehabilitation).

Item	Commitment
	<ul style="list-style-type: none"> - Minimise extent of surface disturbance to as low as practicable. - If required, all sediment and erosion controls to be managed in accordance with Blue Book. - Avoid disturbance to any resident fauna by adjusting activity location away from them. - No vegetation removal. - No activities on waterfront land. - Topsoil will be returned to the disturbed area to promote the establishment of local species in the soil seedbank. - All habitat resources will be avoided and not disturbed during the activity. - Rehabilitation to occur as soon as practicable after completion of activity. - Haverford will implement all relevant procedures for managing potential flora and fauna impacts or managing complaints.
Areas of outstanding biodiversity value/critical habitat	
Endangered ecological community or critically endangered ecological community	Refer to mitigation measures for Vegetation and Threatened Species in this REF.
Habitat of a threatened species or ecological community	Refer to mitigation measures for Vegetation and Threatened Species in this REF.
Key threatening processes	Refer to mitigation measures for Vegetation and Threatened Species in this REF.
Barriers to movement of fauna	<ul style="list-style-type: none"> - Comply with title conditions and relevant code of practice (Environmental Management and Rehabilitation). - Implement all mitigation measures under Vegetation and Threatened Species in this REF. - Backfill each auger hole at completion to ensure it poses no risk of entrapment or injury to fauna. - Haverford will implement all relevant procedures for managing potential fauna impacts or managing complaints.
Ecological and biosecurity impacts	<p>The activity requires the use of local sealed roads and unsealed access roads managed by Bogan Shire Council, as well as internal property access roads managed by the landowner.</p> <p>Water supply is not required for the exploration activity.</p> <p>The auger drilling operations are self-sufficient on-site and do not require any connection to services.</p> <p>Waste disposal (if required) will be undertaken at a licenced waste facility or by a suitable waste disposal provider.</p> <p>The activity is temporary and not likely to significantly increase the demand for services and infrastructure.</p>
Community resources	<ul style="list-style-type: none"> - Comply with title conditions and relevant code of practice (Environmental Management and Rehabilitation). - Ongoing community and landholder consultation. - Haverford will implement all relevant procedures for managing potential community impacts or managing complaints.

Item	Commitment
Natural resources	<ul style="list-style-type: none"> - Comply with title conditions and relevant code of practice (Environmental Management and Rehabilitation). - Observing all exclusion zones on the Site Map for this APO. - Ongoing consultation with the landholder to ensure natural resources are managed in accordance with their requirements. - Comply with legislative requirement for landholder access arrangements and compensation to limit any potential impacts. - Rehabilitation to occur as soon as practicable after completion of activity. - Haverford will implement all relevant procedures for managing potential natural resource impacts or managing complaints.
Social impacts	<ul style="list-style-type: none"> - Comply with title conditions and relevant code of practice (Environmental Management and Rehabilitation). - Ongoing community and landholder consultation. - Rehabilitation to occur as soon as practicable after completion of activity. - Haverford will implement all relevant procedures for managing potential social impacts or managing complaints.
Economic impacts	<ul style="list-style-type: none"> - Ongoing community and landholder consultation. - Haverford will implement all relevant procedures for managing potential economic impacts or managing complaints.
Heritage impacts	<ul style="list-style-type: none"> - Comply with title conditions and relevant code of practice (Environmental Management). - Implement unexpected finds protocol for any historic heritage items identified during the activity. - Haverford will implement all relevant procedures for managing potential heritage impacts or managing complaints.
Aesthetic impacts	<ul style="list-style-type: none"> - Comply with title conditions and relevant code of practice (Environmental Management and Rehabilitation). - Rehabilitation to occur as soon as practicable after completion of activity. - Operations only undertaken during dayshift, with no night time work or lighting. - Haverford will implement all relevant procedures for managing potential aesthetic impacts or managing complaints.
Aboriginal cultural heritage	<ul style="list-style-type: none"> - Comply with title conditions and relevant code of practice (Environmental Management). - Implement unexpected finds protocol for any Aboriginal heritage items identified during the activity. - Haverford will implement all relevant procedures for managing potential Aboriginal heritage impacts or managing complaints.
Land use impacts	<ul style="list-style-type: none"> - Comply with title conditions and relevant code of practice (Environmental Management and Rehabilitation). - Comply with legislative requirement for landholder access arrangements and compensation to limit any potential impacts. - Rehabilitation to occur as soon as practicable after completion of activity. - Ongoing landholder consultation. - Haverford will implement all relevant procedures for managing potential land use impacts or managing complaints.
Transportation impacts	<ul style="list-style-type: none"> - Comply with title conditions and relevant code of practice (Environmental Management). - Comply with legislative requirement for landholder access arrangements. - Ongoing landholder and community consultation. - Haverford will implement all relevant procedures for managing potential transport impacts or managing complaints.

Item	Commitment
Matters of national environmental significance	Refer to mitigation measures for Vegetation and Threatened Species in this REF.
Cumulative impacts	<ul style="list-style-type: none"> - Ongoing landholder and community consultation to ensure cumulative impacts are identified and managed. - Ongoing review of Major Projects in NSW to ensure cumulative impacts are identified and managed. - Consultation with the relevant local Council(s) if any potential local projects are having, or are likely to have, a cumulative impact with exploration activities. - Haverford will implement all relevant procedures for managing potential cumulative impacts or managing complaints.
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 8414 (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 8414 (1992).
Codes of Practice	<p>APO0001727 Cumbine Auger will be operated in accordance with:</p> <ul style="list-style-type: none"> • 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 <i>National Parks and Wildlife Act 1974</i> .
Aboriginal place	Has the same meaning as it has in the <i>National Parks and Wildlife Act 1974</i> .
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: <ul style="list-style-type: none"> 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 <i>Mining Act 1992 / Petroleum (Onshore) Act 1991</i> – 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 <i>Marine Estate Management Act 2014</i> .
Areas of Outstanding Biodiversity Value (AOBVs)	Has the same meaning as it has in the <i>Biodiversity Conservation Act 2016</i> . Note: Areas of declared critical habitat under the now repealed <i>Threatened Species Conservation Act 1995</i> have become Areas of Outstanding Biodiversity Value (AOBVs) under the <i>Biodiversity Conservation Act 2016</i> .
Assessable prospecting operation	Any prospecting operation that is not exempt development within the meaning of <i>State Environmental Planning Policy (Resources and Energy) 2021</i> .
Clearing of vegetation	Any one or more of the following: <ul style="list-style-type: none"> 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 <i>Exploration guideline: Application and assessment process for exploration activities</i> .
Critical habitat	Has the same meaning as it has in the <i>Fisheries Management Act 1994</i> . Areas of declared critical habitat under the now repealed <i>Threatened Species Conservation Act 1995</i> have become Areas of Outstanding Biodiversity Value (AOBVs) under the <i>Biodiversity Conservation Act 2016</i> .
Drill hole	A hole made by drilling or boring, but excludes: <ul style="list-style-type: none"> 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 <i>Mining Act 1992 / Petroleum (Onshore) Act 1991</i> – as relevant.
Environmentally sensitive area of State significance	Has the same meaning as it has in <i>State Environmental Planning Policy (Resources and Energy) 2021</i> .
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 <i>State Environmental Planning Policy (Resources and Energy) 2021</i> .
Exploration	Has the same meaning as it has in <i>State Environmental Planning Policy (Resources and Energy) 2021</i> .
Fauna	Has the same meaning as it has in the <i>National Parks and Wildlife Act 1974</i> .
Groundwater	Water that occurs beneath the ground surface in the saturated zone.
Habitat	Has the same meaning as it has in the <i>Biodiversity Conservation Act 2016</i> or the <i>Fisheries Management Act 1994</i> (as relevant).
Harm	<p>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 <i>Commonwealth Environment Protection and Biodiversity Conservation Act 1999</i>.</p> <p>In relation to the environment, has the same meaning as it has in the <i>Protection of the Environment Operations Act 1997</i>.</p> <p>In relation to threatened species or ecological communities, has the same meaning as:</p> <ul style="list-style-type: none"> • 'harm an animal' in the <i>National Parks and Wildlife Act 1974</i> • 'pick a native plant' in the <i>National Parks and Wildlife Act 1974</i> • 'harm' in the <i>Fisheries Management Act 1994</i>. <p>In relation to an aquifer or waterfront land, has the same meaning as it has in the <i>Water Management Act 2000</i>.</p> <p>In relation to Aboriginal places or Aboriginal objects has the same meaning as it has in the <i>National Parks and Wildlife Act 1974</i>.</p> <p>In relation to items of heritage significance, has the same meaning as it has in the <i>Heritage Act 1977</i>.</p> <p>In relation to protected marine vegetation, has the same meaning as it has in the <i>Fisheries Management Act 1994</i>.</p>
Items of heritage significance	<p>Means:</p> <ul style="list-style-type: none"> • any heritage items listed in one or more of the following: <ul style="list-style-type: none"> — 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
	<ul style="list-style-type: none"> • within State Conservation Areas: <ul style="list-style-type: none"> — 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	<p>Includes:</p> <ul style="list-style-type: none"> • 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 <i>Fisheries Management Act 1994</i> .
Matters of national environmental significance	'Matters of national environmental significance' protected under the <i>Commonwealth Environment Protection and Biodiversity Conservation Act 1999</i> .
Minister	The Minister administering the <i>Mining Act 1992 / Petroleum (Onshore) Act 1991</i> – as relevant.
Native vegetation	Has the same meaning as it has in the <i>Local Land Services Act 2013</i> .
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 <i>Mining Act 1992 / Petroleum (Onshore) Act 1991</i> – 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	<p>Includes:</p> <ul style="list-style-type: none"> • 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
	<ul style="list-style-type: none"> intensive livestock agriculture
Site	The land on which an activity is located.
State Conservation Area	Has the same meaning as it has in the <i>National Parks and Wildlife Act 1974</i> .
Surface disturbance	Means: <ul style="list-style-type: none"> 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 <i>Biodiversity Conservation Act 2016</i> or <i>Fisheries Management Act 1994</i> (as relevant).
Title	An authority under the <i>Mining Act 1992</i> / a title under the <i>Petroleum (Onshore) Act 1991</i> – 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 <i>Protection of the Environment Operations Act 1997</i> .
Water source	Has the same meaning as it has in the <i>Water Management Act 2000</i> .
Water land	Has the same meaning as it has in the <i>Fisheries Management Act 1994</i> .
Waterfront land	Has the same meaning as it has in the <i>Water Management Act 2000</i> .
Wetlands	Has the same meaning as it has in the <i>Fisheries Management Act 1994</i> .
Wilderness	Lands identified as wilderness under the <i>Wilderness Act 1987</i> .
Wilderness area	Lands (including subterranean lands) declared to be a wilderness area under the <i>Wilderness Act 1987</i> or the <i>National Parks and Wildlife Act 1974</i> .

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.

No towns are located within 5 km of the activity area. The closest sensitive receiver (homestead) is 3.2 km north-east of the closest auger hole.

Potential air quality impacts may include:

- particulates and emissions from vehicle exhausts.
- dust from vehicles travelling over tracks.

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.

- Activities will comply with title conditions and relevant codes of practice (Environmental Management and Rehabilitation).
- Consultation with the landowner will be undertaken to ensure the proximity is acceptable to them. Activities will be relocated or managed if required to minimise impacts to the landowner.
- Impacts of auger drilling are limited to the immediate vicinity of drilling with a small footprint for each hole.
- All disturbed areas to be rehabilitated as soon as reasonably practicable following surface disturbance.
- Avoiding vehicle movements where possible
- Not leaving vehicles idling when not required and limiting vehicle speed on unsealed roads.
- Haverford will implement all relevant procedures for managing potential air quality impacts or managing complaints.

Water impacts

Provide a brief description of the likely impacts to water quality and/quantity.

No works will be undertaken on waterfront land. No water supply required for auger drilling. Groundwater is not likely to be intersected due to the shallow nature of auger drilling.

What is the activity's impact due to the storage of water?

Nil/Not applicable

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?

Nil/Not applicable

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?

Nil/Not applicable

What is the activity's impact due to changes in surface or groundwater quality and quantity?

Negligible

What is the likely level of any water impacts?

Negligible

Water impacts

Outline any proposed management controls and/or mitigation measures.

- Comply with title conditions and relevant codes of practice (Environmental Management and Rehabilitation).
- If it rains such that ground conditions are too poor for operations to continue, then activities will be suspended until the ground is dry, to avoid both surface water impacts and any damage to tracks.
- No works will be completed on waterfront land.
- If required, all sediment and erosion controls will be managed in accordance with Blue Book.
- Existing access tracks will be used wherever possible.
- Any contaminated materials will be disposed of at the nearest licenced waste facility or by an appropriate disposal provider.
- Haverford will implement all relevant procedures for managing potential water impacts or managing complaints.

Soil and stability impacts

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

- Soil erosion and sediment laden runoff from disturbed areas.
- Soil compaction from overland access.
- Contamination of soils from chemical spills.

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?

Nil/Not applicable

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?

Nil/Not applicable

What is the likely level of any impacts?

Negligible

Outline any proposed management controls and/or mitigation measures.

- Comply with title conditions and relevant codes of practice (Environmental Management and Rehabilitation).
- Minimising surface disturbance where possible.
- Prevent causing any land degradation or pollution/contamination of land or water.
- If required, all sediment and erosion controls will be managed in accordance with Blue Book.
- Existing access tracks to be used wherever possible.
- Haverford will implement all relevant procedures for managing potential soil impacts or managing complaints.

Noise and vibration impacts

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

Sources of potential noise and vibration impacts include vehicles and auger drilling.

Noise and vibration impacts

No towns are located within 5 km of the activity area. The closest sensitive receiver (Bolwarra Homestead) is within the activity area, with the closest auger hole being approximately 220m from the homestead. Some noise impacts are expected given the proximity to the dwelling. However, auger drilling will only be undertaken during dayshift hours. Consultation with the landowner will be undertaken to ensure the proximity is acceptable to them. Activities will be relocated or managed if required to minimise impacts to the landowner.

What is the likely level of any impacts?

Low adverse

Outline any proposed management controls and/or mitigation measures.

- Comply with title conditions and relevant code of practice (Environmental Management).
- Consultation with the landowner will be undertaken to ensure the proximity is acceptable to them. Activities will be relocated or managed if required to minimise impacts to the landowner.
- Impacts will be limited to immediate vicinity of exploration activity.
- Comply with the landholder access agreement.
- Maintain machinery and vehicles to minimise excessive noise.
- Haverford will implement all relevant procedures for managing potential noise impacts or managing complaints.

Coastal locations and processes

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

N/A - not located in a coastal environment

What is the likely level of any impacts?

Nil/Not applicable

Outline any proposed management controls and/or mitigation measures.

N/A - not located in a coastal environment

Hazardous substances and chemicals

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

- mobilisation of pollutants (such as hydrocarbons) in soils or waters.
- use of pesticides, herbicides, fertilisers or other chemicals which have the potential to build up residues in the environment, including in air, soils and water.

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

Low adverse

Outline any proposed management controls and/or mitigation measures.

- Comply with title conditions and relevant code of practice (Environmental Management).
- All chemical and hydrocarbons will be transported and stored in the appropriate containers and vessels.
- Chemicals used will be non-toxic, biodegradable alternatives unless no substitution is possible.
- SDS sheets for all chemicals will be available at the drill site and all personnel have access to electronic copies on a centralised DMS via their personal devices .
- Use of pesticides, herbicides, fertilisers or other chemicals will comply with legislative requirements
- Haverford will implement all relevant procedures for managing potential hazardous substances and chemicals impacts or managing complaints.

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.

- mobilisation of pollutants (such as hydrocarbons) in soils, air or waters.
- inappropriate disposal of waste.
- use of pesticides, herbicides, fertilisers or other chemicals have the potential to build up residues in the environment, including in soils and water.
- increased waste in landfill from disposal of contaminated waste.

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

The activity area is not known to be located in any of the following: drinking water catchments, wetlands, natural waterbodies, riparian zones or flood prone areas, groundwater recharge areas or areas with high water table, coastlines or dunes, alpine areas, karst features or other unique landforms, erosion prone areas or areas with slopes greater than 18°, subsidence or slip areas, areas with acid sulfate, sodic or highly permeable soils, areas with salinity or potential salinity problems, areas with degraded or contaminated land, and areas with degraded or contaminated water (ground or surface).

Therefore, impacts to the above areas is not considered likely.

What is the likely level of the impacts?

Low adverse

Outline any proposed management controls and/or mitigation measures.

- Comply with title conditions and relevant code of practice (Environmental Management and Rehabilitation).
- Wastes to be collected, segregated and disposed of lawfully.
- All chemical and hydrocarbons will be transported and stored in the appropriate containers and vessels.
- Chemicals used will be non-toxic, biodegradable alternatives unless no substitution is possible.
- SDS sheets for all chemicals will be available at the drill site and all personnel have access to electronic copies on a centralised DMS via their personal devices .
- Use of pesticides, herbicides, fertilisers or other chemicals will comply with legislative requirements
- Rehabilitation to occur as soon as practicable after completion of activity.
- Haverford will implement all relevant procedures for managing potential waste/emission impacts or managing complaints.

Vegetation

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

Extents of clearing: No vegetation clearing is proposed for the activity. A rubber mat will be placed over vegetation to define a work area and prevent impact to groundcover vegetation. The auger hole will be backfilled on completion with slight mounding of the auger hole will to allow settlement. Topsoil will be returned to the disturbed area to promote establishment of local species in the soil seedbank.

Vegetation present: There is mapped Terrestrial Biodiversity under the Bogan Local Environmental Plan 2011 (LEP) in the activity area. There are no mapped Biodiversity Values in the activity area. The native Plant Community Types (PCTs) in the locality include:

- > PCT ID 72 - White Cypress Pine - Poplar Box woodland on footslopes and penneplains mainly in the Cobar Penneplain Bioregion - No associated TECs
- > PCT ID 82 - Western Grey Box - Poplar Box - White Cypress Pine tall woodland on red loams mainly of the eastern Cobar Penneplain Bioregion - Two associated TECs
- > PCT ID 184 - Dwyers Red Gum - White Cypress Pine - Currawang low shrub-grass woodland of the Cobar Penneplain Bioregion - No associated TECs
- > PCT ID 193 - Red Mallee - White Mallee extremely tall tree mallee on silty-loam-clay soils of central south-western NSW - One associated TEC
- > PCT ID 250 - Derived tussock grassland of the central western plains and lower slopes of NSW - Three associated TECs

Vegetation

A MNES search with a 5km buffer identified:

- a) 8 migratory species or their habitat may occur.
- b) 3 TEC that are Endangered or Critically Endangered that may occur, including:
 - Weeping Myall Woodlands - Endangered
 - Poplar Box Grassy Woodland on Alluvial Plains - Endangered
 - Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia - Endangered
- c) 26 Listed Threatened Species that may occur.
- d) Activity area is within 500-800km of Ramsar Wetlands.

No significant adverse impact on any threatened species, threatened populations, threatened ecological communities, or their habitats is anticipated to occur as a result of the proposed activity where all management measures in the APO and this REF are implemented and rehabilitation is completed.

Potential impacts include:

- Traversing areas of native vegetation may disturb threatened species habitat and usual activities temporarily.
- Mobilisation of pollutants (such as hydrocarbons) in soils, air or waters can potentially impact vegetation.
- Use of pesticides, herbicides, fertilisers or other chemicals have the potential to build up residues in the environment, that may affect vegetation.
- Soil erosion and sediment laden runoff from disturbed areas, that could lead to soil or water contamination or land degradation, that may affect vegetation.
- Spread of weeds, pest animals and animal/plant diseases may affect vegetation.

What is the likely level of the impacts?

Negligible

Outline any proposed management controls and/or mitigation measures.

- Comply with title conditions and relevant code of practice (Environmental Management and Rehabilitation).
- Haverford will minimise the extent of surface disturbance to as low as practicable.
- No vegetation removal.
- Topsoil will be returned to the disturbed area to promote the establishment of local species in the soil seedbank.
- All habitat resources will be avoided and not disturbed during the activity.
- Rehabilitation to occur as soon as practicable after completion of activity.
- Haverford will implement all relevant procedures for managing potential vegetation impacts or managing complaints.

Threatened species

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

BioNet records did not include any listed vulnerable or endangered threatened species in the activity area. Native PCT are mapped in the activity area and have associated TECs. The MNES search identified 3 TEC that may occur in the area.

Potential impacts:

- Traversing areas of native vegetation may disturb threatened fauna species habitat and usual activities temporarily.
- Mobilisation of pollutants (such as hydrocarbons) in soils, air or waters can potentially impact flora and fauna.
- Auger holes can be a hazard for fauna.
- Soil erosion and sediment laden runoff from disturbed areas, that could lead to soil or water contamination or land degradation, affecting species habitat.
- Spread of weeds, pest animals and animal/plant diseases.

Threatened species

- Fauna crossing access tracks may be killed or injured if hit by vehicles.

No significant adverse impact on any threatened species, threatened populations, threatened ecological communities, or their habitats is anticipated to occur as a result of the proposed activity where all management measures in the APO and this REF are implemented and rehabilitation is completed.

What is the likely level of the impacts?

Negligible

Outline any proposed management controls and/or mitigation measures.

- Comply with title conditions and relevant code of practice (Environmental Management and Rehabilitation).
- Minimise extent of surface disturbance to as low as practicable.
- If required, all sediment and erosion controls to be managed in accordance with Blue Book.
- Avoid disturbance to any resident fauna by adjusting activity location away from them.
- No vegetation removal.
- No activities on waterfront land.
- Topsoil will be returned to the disturbed area to promote the establishment of local species in the soil seedbank.
- All habitat resources will be avoided and not disturbed during the activity.
- Rehabilitation to occur as soon as practicable after completion of activity.
- Haverford will implement all relevant procedures for managing potential flora and fauna impacts or managing complaints.

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 under the Biodiversity Conservation Act 2016 (NSW) in the area of proposed activities.
- areas declared as critical habitat under the Fisheries Management Act 1994 (NSW) in the area of proposed activities.

Therefore, no impacts to AOBV/Critical habitat are likely.

What is the likely level of the impacts?**Outline any proposed management controls and/or mitigation measures.****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.

No significant adverse impact on any threatened species, threatened populations, threatened ecological communities, or their habitats is anticipated to occur as a result of the proposed activity where all management measures in the APO and this REF are implemented and rehabilitation is completed.

What is the likely level of the impacts?

Low adverse

Outline any proposed management controls and/or mitigation measures.

Endangered ecological community or critically endangered ecological community

Refer to mitigation measures for Vegetation and Threatened Species in this REF.

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.

No significant adverse impact on any threatened species, threatened populations, threatened ecological communities, or their habitats is anticipated to occur as a result of the proposed activity where all management measures in the APO and this REF are implemented and rehabilitation is completed.

What is the likely level of the impacts?

Negligible

Outline any proposed management controls and/or mitigation measures.

Refer to mitigation measures for Vegetation and Threatened Species in this REF.

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.

The activity is not considered likely to constitute, or form part of, a key threatening process, nor is the activity likely to increase the impact of a key threatening process.

What is the likely level of any impacts?

Negligible

Outline any proposed management controls and/or mitigation measures.

Refer to mitigation measures for Vegetation and Threatened Species in this REF.

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.

- Exploration activities can temporarily impact usual activities and movement for fauna in wildlife corridors.

What is the likely level of any impacts?

Negligible

Outline any proposed management controls and/or mitigation measures.

- Comply with title conditions and relevant code of practice (Environmental Management and Rehabilitation).
- Implement all mitigation measures under Vegetation and Threatened Species in this REF.
- Backfill each auger hole at completion to ensure it poses no risk of entrapment or injury to fauna.
- Haverford will implement all relevant procedures for managing potential fauna impacts or managing complaints.

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.

Ecological and biosecurity impacts

Potential impacts:

- areas used for exploration activities are temporarily not available for flora / fauna habitat.
- mobilisation of pollutants (such as hydrocarbons) in soils, air or waters can potentially impact fauna / flora.
- use of pesticides, herbicides, fertilisers or other chemicals have - the potential to build up residues in the environment, including in soils and water, which may affect habitat.
- soil erosion and sediment laden runoff from disturbed areas, that could lead to soil or water contamination or land degradation, which may affect habitat.
- spread of weeds, pest animals and animal/plant diseases.
- plant and machinery comprises a potential bushfire ignition source.

What is the likely level of any impacts?

Negligible

Outline any proposed management controls and/or mitigation measures.

The activity requires the use of local sealed roads and unsealed access roads managed by Bogan Shire Council, as well as internal property access roads managed by the landowner.

Water supply is not required for the exploration activity.

The auger drilling operations are self-sufficient on-site and do not require any connection to services.

Waste disposal (if required) will be undertaken at a licenced waste facility or by a suitable waste disposal provider.

The activity is temporary and not likely to significantly increase the demand for services and infrastructure.

Community resources

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

- Comply with title conditions and relevant code of practice (Environmental Management and Rehabilitation).
- Implement all mitigation measures under Vegetation and Threatened Species in this REF.
- Prevent introduction and spread of weeds, pest animals & animal and plant diseases i.e. "come clean, go clean" protocol.
- Comply with any landholder or legislative biosecurity requirements.
- Comply with internal procedures for managing fire risks.
- Comply with any directions from the NSW Rural Fire Service.
- Haverford will implement all relevant procedures for managing potential ecological/biosecurity impacts or managing complaints.

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

The activity is not likely to result in any diversion of resources to the detriment of other communities or natural systems.

What is the likely level of the impact?

Negligible

Outline any proposed management controls and/or mitigation measures.

- Comply with title conditions and relevant code of practice (Environmental Management and Rehabilitation).
- Ongoing community and landholder consultation.
- Haverford will implement all relevant procedures for managing potential community impacts or managing complaints.

Natural resources

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

Limited potential for any significant diversion of resources to the detriment of other communities or natural systems on the the following basis:

- Areas used for exploration activities are very small and only temporarily removed as a natural resource.
- No timber would be removed by the activity.
- Water use is not required and there would not disrupt, deplete or destroy that natural resource.
- Soils will be managed and rehabilitated to ensure the soil resource is maintained and not degraded.

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 activity will be rehabilitated to allow ongoing farming (grazing) activities on pasture/native vegetation. The disruption is temporary only and is not likely to cause long term impacts to natural resources relied upon for grazing.

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

The activity is not likely to degrade an area reserved for conservation purposes as no disturbance will be undertaken on the following areas:

- land reserved or acquired under the National Parks and Wildlife Act 1974 including national park, nature reserve, karst conservation reserve, historic site, regional park, state conservation area, Aboriginal areas, wild rivers and wildlife refuges
- land subject to a 'conservation agreement' under the National Parks and Wildlife Act 1974 and/or the Biodiversity Conservation Act 2016
- land declared as an aquatic reserve or marine park under the Marine Estate Management Act 2014
- land within a state forest set aside under the Forestry Act 2012 for conservation values. This includes flora reserves and special management (and other) zones
- 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 for other environmental protection purposes
- land identified as wilderness or declared a wilderness area under the Wilderness Act 1987
- 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.
- land subject to a Wildlife Refuge agreement established under the Biodiversity Conservation Act 2016
- conservation agreements on private land (including trust agreements under the now repealed Nature Conservation Trust Act 2001;
- property vegetation plans made under the now-repealed Native Vegetation Act 2003; registered property agreements under the repealed Native Vegetation Conservation Act 1997).
- land identified in an environmental planning instrument (such as the Council's Local Environmental Plan) as being of biodiversity/conservation significance or zoned for environmental conservation, protection and/or management. This is not considered to include land mapped as Terrestrial Biodiversity.

What is the likely level of the impact?

Negligible

Outline any proposed management controls and/or mitigation measures.

- Comply with title conditions and relevant code of practice (Environmental Management and Rehabilitation).
- Observing all exclusion zones on the Site Map for this APO.
- Ongoing consultation with the landholder to ensure natural resources are managed in accordance with their requirements.
- Comply with legislative requirement for landholder access arrangements and compensation to limit any potential impacts.
- Rehabilitation to occur as soon as practicable after completion of activity.
- Haverford will implement all relevant procedures for managing potential natural resource impacts or managing complaints.

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 activity is not likely to result in a change to the demographic structure of the community as there is no significant employment demand generated by the activity. Exploration activities are relatively common in the region and therefore the activity is not likely to change the industry structure of the region.

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 activity is not likely to have an environmental impact that may cause substantial change or disruption to the community given it is undertaken in an isolated location with minimal interaction with the local community. It would not result in any loss of facilities or community links/identity.

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 some individuals or communities being significantly disadvantaged given the demand for community resources is low and temporary. Use of local facilities and services is limited to a small number of company employees and contractors, and is not likely to compete with the demand from the local community.

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.

The activity is not 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 given it is undertaken in an isolated location away from sensitive receivers.

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.

There are no known places or buildings having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations in the activity area. Therefore, impacts are unlikely.

What is the likely level of any social impacts?

Negligible

Outline any proposed management controls and/or mitigation measures.

- Comply with title conditions and relevant code of practice (Environmental Management and Rehabilitation).
- Ongoing community and landholder consultation.
- Rehabilitation to occur as soon as practicable after completion of activity.
- Haverford will implement all relevant procedures for managing potential social impacts or managing complaints.

Economic impacts

Provide a brief description of any likely economic impacts.

Minimal increase in demand for accommodation, food, mechanical and fuel supplies but not large enough to warrant significant changes in supply. This is a positive economic impact.

What is the likely level of any impacts?

Positive

Outline any proposed management controls and/or mitigation measures.

- Ongoing community and landholder consultation.

Economic impacts

- Haverford will implement all relevant procedures for managing potential economic impacts or managing complaints.

Heritage impacts

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

There are no known historic heritage sites or items in the activity area, or in the immediate surrounding area. Therefore, impacts are considered unlikely.

What is the likely level of the impact?

Negligible

Outline any proposed management controls and/or mitigation measures.

- Comply with title conditions and relevant code of practice (Environmental Management).
- Implement unexpected finds protocol for any historic heritage items identified during the activity.
- Haverford will implement all relevant procedures for managing potential heritage impacts or managing complaints.

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.

Temporary impact on aesthetics of the locality due to the presence of exploration activities during dayshift hours only. There is limited potential to significantly impact on visual or scenic landscape given the isolated location of the activity.

What is the likely level of any impacts?

Negligible

Outline any proposed management controls and/or mitigation measures.

- Comply with title conditions and relevant code of practice (Environmental Management and Rehabilitation).
- Rehabilitation to occur as soon as practicable after completion of activity.
- Operations only undertaken during dayshift, with no night time work or lighting.
- Haverford will implement all relevant procedures for managing potential aesthetic impacts or managing complaints.

Cultural impacts

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

A small amount of ground disturbance per auger hole is proposed but is temporary only. No trees will be removed as part of the activity. There are no known culturally modified trees recorded in the activity area.

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

According to AHIMS, there are no Aboriginal objects and places within the activity area.

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

The activity area does contain landscape features (i.e. within 200m of waters) that may be associated with Aboriginal objects. Proceeding to Step 3 of the Due Diligence process is only required where the proposed activity is located on land with landscape features associated with Aboriginal object and on land that is not disturbed. Drilling will avoid any areas within 200m of a mapped watercourse that is considered to be "undisturbed", as identified in the Site Plan provided with this APO. All other drilling within 200m of a mapped

Cultural impacts

watercourse will be on disturbed land on the basis that it is that it has been subject to human activity that remains clear and observable, specifically clearing of vegetation for pastoral activities. Therefore, proceeding to Step 3 of the Due Diligence process is not required and the activity can proceed with caution without applying for an AHIP.

While not anticipated, in the event that drilling is required to be undertaken within 200m of a mapped watercourse and on land that is undisturbed, a Due Diligence inspection will be undertaken by a suitably trained person prior to disturbing those areas.

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.

The activity area is subject to the Ngemba, Ngiyampaa, Wangaaypuwan and Wayilwan native title determination application, which has been accepted for registration but not yet on the Register of Native Title Claims.

What is the likely level of any cultural impacts?

Negligible

Outline any proposed management controls and/or mitigation measures.

- Comply with title conditions and relevant code of practice (Environmental Management).
- Implement unexpected finds protocol for any Aboriginal heritage items identified during the activity.
- Haverford will implement all relevant procedures for managing potential Aboriginal heritage impacts or managing complaints.

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.

The activity would not result in any long term change to the existing land use. Rehabilitation will return disturbed areas to their existing land use. The change to land use is temporary and limited to the vicinity of the exploration activity.

What is the likely level of any impacts?

Negligible

Outline any proposed management controls and/or mitigation measures.

- Comply with title conditions and relevant code of practice (Environmental Management and Rehabilitation).
- Comply with legislative requirement for landholder access arrangements and compensation to limit any potential impacts.
- Rehabilitation to occur as soon as practicable after completion of activity.
- Ongoing landholder consultation.
- Haverford will implement all relevant procedures for managing potential land use impacts or managing complaints.

Transportation impacts

Provide a brief description of any significant impacts on transportation.

Short term additional traffic during exploration activity. Impacts are not considered significant.

What is the likely level of any impacts?

Negligible

Outline any proposed management controls and/or mitigation measures.

- Comply with title conditions and relevant code of practice (Environmental Management).
- Comply with legislative requirement for landholder access arrangements.

Transportation impacts

- Ongoing landholder and community consultation.
- Haverford will implement all relevant procedures for managing potential transport impacts or managing complaints.

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.

The relevant strategic plan is the Central West and Orana Regional Plan 2041, which includes the Bogan LGA. The activity is consistent with the plan on the basis of the following supportive statement included in the regional plan: "The NSW Government is committed to supporting the growth of the mining sector across the critical minerals supply chain, through investments in exploration, mining, processing, downstream industries, and circular economies".

What is the likely level of any impacts?

Positive

Outline any proposed management controls and/or mitigation measures.

Not required.

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 MNES search with a 5km buffer identified:

- 8 migratory species or their habitat may occur.
- 3 TEC that are Endangered or Critically Endangered that may occur, including:
 - Weeping Myall Woodlands - Endangered
 - Poplar Box Grassy Woodland on Alluvial Plains - Endangered
 - Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia - Endangered
- 26 Listed Threatened Species that may occur.
- Activity area is within 500-800km of Ramsar Wetlands.

No significant adverse impact on threatened species, threatened populations, threatened ecological communities, or their habitats is anticipated to occur where all management measures in this APO are implemented and rehabilitation is completed. On the same basis, MNES are not likely to be impacted by the activity.

What is the likely level of any impacts?

Negligible

Outline any proposed management controls and/or mitigation measures.

Refer to mitigation measures for Vegetation and Threatened Species in this REF.

Cumulative impacts

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

No

Describe the impact.

There are no known or proposed major projects in the locality that the activity are likely to interact with in such a way that it would result in an adverse cumulative impact. Other exploration activities may be undertaken by Haverford concurrently, but will be done so in consultation with the landowner to ensure impacts to their farming operations and amenity are minimised.

What is the likely level of any impacts?

Negligible

Outline any proposed management controls and/or mitigation measures.

- Ongoing landholder and community consultation to ensure cumulative impacts are identified and managed.
- Ongoing review of Major Projects in NSW to ensure cumulative impacts are identified and managed.
- Consultation with the relevant local Council(s) if any potential local projects are having, or are likely to have, a cumulative impact with exploration activities.
- Haverford will implement all relevant procedures for managing potential cumulative impacts or managing complaints.

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.

N/A

Attachment 4 – List of supporting documents

- APO0001727_5_MNES Search.pdf
 - APO0001727_7_Threatened Species_Ecological Communities.zip
 - APO0001727_7_Threatened Species_Ecological Communities.zip
 - APO0001727_Cumbine Auger_Aboriginal Heritage _AHIMS.pdf
 - APO0001727_Cumbine Auger_AIS.pdf
 - APO0001727_Cumbine Auger_Heritage.pdf
 - APO0001727_Cumbine Auger_MNES Search.pdf
 - APO0001727_Cumbine Auger_Photos.zip
 - APO0001727_Cumbine Auger_ROCC.pdf
 - APO0001727_Cumbine Auger_Site Map.pdf
 - APO0001727_Submission Report_17 Apr 2024 9:19am.pdf
 - APO0001727_Submission Report_5 Apr 2024 10:01am.pdf

FORM: APO_NC_Apvl v3.3