Resources Regulator

Department of Regional NSW

APO0001714

Approval to undertake assessable prospecting operations

Havilah

16 May 2024

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Application summary

Detail	Application
Reference	APO0001714
Date of approval	16 May 2024
Title	EL 8936 (1992)
Contact	Withheld
Project name	Havilah
Project location	36km south east of Mudgee
Activity type	Non-complying exploration activity

Important note

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Project

Project details

Assessable prospecting activity APO0001714 relates to the Havilah at 36km south east of Mudgee.

The project has the following approved characteristics.

Detail	Proposal
Activity description	Up to 20 DD / RC drillholes are proposed within the drilling project area. The approximate location of 17 drillholes are shown on Figure 2, however these holes may be moved elsewhere within the drilling project area. 3 floating drillholes within the project area. All holes drilled as diamond or RC (proposed RC holes may have diamond tails). Drillsites are located on gentle cleared grazing land. Short lengths of existing tracks may be graded to allow safe access. Surface disturbance activities will be undertaken in accordance with the ROCC. Drilling program stages: Stage 1: Access routes and drill sites pegged and photographed before works take place. Stage 2: Upgrading of access tracks. Slashing of drill pad areas. Construction of pads (removal of grass and topsoil layers only) has been provisioned at 8 drill sites. Stage 3: Drill rig and equipment brought onto site. Stage 4: Drilling up to a maximum depth of about 320m. Proposed equipment: Track mounted DD/RC multi-purpose rig. Silenced booster compressor. Water truck. Support/Rod truck. Rod Sloop with rod feeder mounted on a trailer (or similar). Above-ground tanks / sumps. Sampling equipment, Support vehicles and portable shelters. Handheld equipment (shovels, rakes) and hydrocarbon spill kit for emergency cleanup. Drilling water will be trucked to a large water tank on a hill, gravity feeding to the drill holes. Above-ground containment tanks will be used on each drill site. One large, in-ground sump is proposed in the northern part of the drilling project area for permanent containment of excess cuttings. Above ground tanks will be pumped out and disposed of in an appropriate disposal area off-site. During the drilling program, all vehicles will be cleaned prior to entering the area to control dispersal of weeds. Stage 5: Demobilization and Rehabilitation - will commence following completion of the drilling program with a final rehabilitation assessment within 6 months of completion of the program.
Earthworks or vegetation clearing	Construction of drill pads have been provisioned at 8 drill sites, involving the slashing of grass and construction of a level drill pad by stripping grass and topsoil layers only. It is expected that the majority of drillholes will not need construction of level pads, but provisions are in place. Water storage tanks for DD will be on flat, clear ground next to existing tracks along the western ridgeline of the Project area. Water will be gravity fed to drill sites. Most drill sites will be located along existing farm tracks, or nearby, with provisions for up to 160m of new tracks. Up to 160m of new tracks will be graded to provide access to the drillholes. Up to 1300m of existing access tracks will be graded / widened to allow safe transit of the drilling vehicles. No established trees will be removed or cleared. Excessive compaction of soil is not expected from vehicle movements. However, if compaction does occur, then those areas will be monitored and scarified in consultation with the landholder if required. One large, centrally located inground sump is planned, near the location of proposed drillhole HVD-P0014, for permanent storage of drillhole cuttings. If there are concerns about placement, or the potential impacts, it will not be constructed.

Detail	Proposal
	Each DD drillhole will also have an above ground containment tank. Any surface disturbance activities associated with the drilling program will be undertaken in accordance with the ROCC attached.
Access to exploration activities	The Project area will be accessed using existing public roads and farm access tracks, following the specific directions of the landholders (see Figure 2). Up to 160m of new tracks will be graded for access to pads from existing tracks. Up to 1300m of existing access tracks may be graded/widened to allow safe access to all drill sites by the drill rig and ancillary equipment. (see attached Figure 2).
Ancillary activities	Water will be carted in by truck to tanks on the top of the western ridgeline. Drilling fluids will be stored in above ground containment tanks at each drill site. A large, centrally located sump is proposed to hold up to 15kL of cuttings. After each drillhole, the water and cuttings will be pumped to the in-ground sump for permanent containment. Disposal of drilling muds will be managed by the drilling company, removed from site and disposed of appropriately. All accommodation will be off-site.
Anticipated start date	10 June 2024
Expected duration (weeks)	32 weeks
Expected rehabilitation completion date	1 July 2025
Proposed hours of operation	Other Daylight hours (6am-6pm), potentially 24hr if landholder approves.
On-site employee or contractor numbers	5

Exempted areas

The Havilah has not proposed prospecting in an exempted area.

State conservation areas

The Havilah has not proposed prospecting in a State Conservation Area.

Site description and existing environment

The project comprises the following existing land uses:

The drilling project area is located approximately 36km south east of Mudgee. The drilling project area is in mostly cleared grazing land, vegetated with native grasses and improved pasture with scattered remnant native trees.

The project is located near the following sensitive receptors:

There are no residences located within the drilling project area. The nearest residences are approximately 1.3km from the drilling area. There are no other sensitive receptors close to the proposed drilling.

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

The soil types within the drilling project area are Land and Soil Capability classes 4 and 8 (see Figure 4). Class 4 land is classified as having moderate to high limitations for high impact land uses. Class 8 land is classified as having extreme limitations. The classification for class 8 in this region derives from the significant slopes and topography of the land. Given this, the project area is well vegetated with native and introduced grass species and improved pasture species with no apparent erosion across the project area. There is no Strategic Agricultural Land in the vicinity of the project area with the closest sections approximately 7km away to the north west.

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

The closest named watercourse is Oaky Creek - located within the project Area (see Figures). Proposed drillholes HVD-P0005, 14, 8 and 2 are located over 30m but within 40m of drainage lines. However, these holes lie over 20m from the top bank of the gullies. All other drillholes are located greater than 40m from any hydroline / drainage line. The proposed drilling program will not adversely impact any surface water sources and no ground water with be extracted for the drilling program.
If the centrally located in-ground sump is constructed, surface water may drain into the pit, given its low relief, but only during extreme rainfall events. However, water will not overflow from this sump.
Any rain water will disperse quickly and be absorbed into the ground cover or moving as sheet wash into the local drainage. Water for drilling will be carted to site using the drillers water truck using water sourced off site. Recycling water and drilling fluids will be optimized.

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

There are no registered boreholes within the project area. There are 2 registered boreholes to the south of the project area, both over 2km away. The maximum drill depth is 320 m. Significant groundwater is unlikely to be intercepted during the drilling and it will not be

extracted for the drilling program. If groundwater is intercepted during drilling, it will be contained at site in the above-ground containment tanks (or in the centrally located large sump, if constructed). Any additional flow of groundwater would be managed with the creation of small bunds to direct and contain any flows, these could include hay bales and temporary silt-stop fencing. This drainage will be managed by the driller and drilling supervisor and will be maintained using hand held equipment to ensure minimal surface disturbance, yet providing effective control of any water that may be encountered. If an in-ground sump is constructed, it will be monitored and any impacts will be mitigated immediately to limit the effect on groundwater. Plastic lining of the sump will limit potential impact and will be monitored.

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

The drilling project area lies within a region with varying topography. The slope ranges from gentle to steep grazing country (5-30°). The proposed drill holes fall onto gently sloping land <15°, but there are steeper slopes nearby. Within the project area, there is very little evidence of erosion, other than water erosion within the base of the gullies, and wind erosion on rocky peaks. The project area is well vegetated with native and introduced grass species (see Figure 3). Small areas of terrestrial biodiversity value land is noted across the Exploration License, including along the NW and SE corners of the drilling project area, but nothing nearby to the proposed drillholes.

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

Using the Commonwealth Government's Protected Matters Search Tool, there were no matters of National Environmental Significance within the Project area. The project area is not located in an area of any critical habitat or area of outstanding biodiversity value.

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

The Commonwealth Government's Protected Matters Search Tool notes 3 endangered or critically endangered threatened ecological communities may or are likely to occur within the search area (in the wide vicinity of the project area). Both the Grassland of the South Eastern Highlands and the White Box-Yellow Box-Blakely's Red Gum woodlands are likely to occur in the vicinity of the project area. The Natural Temperate Grasslands of the South Eastern Highlands may occur within the project area, and are critically endangered. No trees will be cleared and the surface disturbance associated with this drilling program is minor and of a temporary nature. 45 threatened flora species may occur within the wide vicinity of the search area. Of these, 20 species are listed as critically endangered or endangered. No watercourses or wetlands will be impacted by the drilling program. No threatened fauna species sightings are recorded on the BioNet database in the vicinity of

the project area. Critically endangered or endangered species are unlikely to be adversely impacted by the proposed drilling program. Should any potential habitat(s) be noted during the program, the area would be cordoned off to exclude access until checked by a suitably qualified person. Small areas of terrestrial biodiversity value land is noted across the Exploration License, including along the NW and SE corners of the drilling project area, but nothing nearby to the proposed drillholes. There is no land that is likely affected by the NSW DPI's Fisheries Management Act 1994.

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

There are no historic cultural or natural heritage items within the Project area.

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

Areas of terrestrial biodiversity value (Mid-Western Regional Council Terrestrial Biodiversity Values Dataset) are scattered across the area, including along the NW and SE corners of the drilling project area, mostly coincident with scattered remnant native vegetation (see Figure 5). No established trees or bushes will be cleared or impacted by the soil sampling program and therefore the terrestrial biodiversity value of the project area will not be adversely impacted.

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

An AHIMS basic search has recorded no Aboriginal heritage sites within the project area. The following safeguards will be implemented to protect any potential Aboriginal objects:
• Should any Aboriginal objects or places be discovered during exploration, work must stop in that area and the area must be left untouched and access limited to avoid any disturbance. The NSW Department of Planning, Industry and Environment is to be notified.
• If human remains are found, work must stop and the site must be secured (taped off with a 20m buffer zone) and the NSW Police and the NSW Department of Planning, Industry and environment are to be notified.

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
HVD-P0008 (Project Area) EDH0015247	DDH drill hole	1	1	0	0	240	CAN790	k
HVD-P0001 (Project Area) EDH0015249	RC drill hole	300	300	0	0	240	CAN790	k
HVD-P0013 (Project Area) EDH0015251	RC drill hole	300	300	0	0	180	CAN790	k
Project Area - floating hole 1 EDH0015253	DDH drill hole	1	1	0	0	180	CAN790	e
HVD-P0005 (Project Area) EDH0015242	DDH drill hole	300	300	0	0	240	CAN790	e
HVD-P0014 (Project Area) EDH0015244	DDH drill hole	1	1	0	0	180	CAN790	e
HVD-P0016 (Project Area) EDH0015246	DDH drill hole	1	1	0	0	180	CAN790	e
Project Area - floating hole 4 EDH0015317	DDH drill hole	1	1	0	0	180	CAN790	e
HVD-P0006 (Project Area) EDH0015240	DDH drill hole	1	1	0	0	240	CAN790	e
Project Area - floating hole 3 EDH0015316	DDH drill hole	1	1	0	0	180	CAN790	e
HVD-P0012 (Project Area) EDH0015248	DDH drill hole	300	300	0	0	180	CAN790	k

Id/ Regulator no.	Type	Surface disturbance (m^2)	Veg. Clearing (m^2)	Excavations (m^3)	Produced water (ml)	Depth (m)	Block number	Unit letters
HVD-P0002 (Project Area) EDH0015250	RC drill hole	300	300	0	0	240	CAN790	k
HVD-P0009 (Project Area) EDH0015252	DDH drill hole	1	1	0	0	280	CAN791	f
HVD-P0010 (Project Area) EDH0015238	DDH drill hole	300	300	0	0	240	CAN790	e
HVD-P0004 (Project Area) EDH0015241	DDH drill hole	1	1	0	0	240	CAN790	e
Project Area - floating hole 2 EDH0015315	DDH drill hole	1	1	0	0	180	CAN790	e
HVD-P0007 (Project Area) EDH0015243	DDH drill hole	1	1	0	0	180	CAN790	e
HVD-P0015 (Project Area) EDH0015245	DDH drill hole	300	300	0	0	180	CAN790	e
HVD-P0003 (Project Area) EDH0015237	DDH drill hole	300	300	0	0	320	CAN790	e
HVD-P0011 (Project Area) EDH0015239	DDH drill hole	1	1	0	0	180	CAN790	e

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
New Track 1 EA0005251	Access tracks	40	40	0	0	CAN790	k
New Track 2 EA0005252	Access tracks	28	28	0	0	CAN791	f
New Track 4 EA0005254	Access tracks	28	28	0	0	CAN790	e
New Track 6	Access	240	240	0	0	CAN790	k

Id/ Regulator no.	Type	Surface disturbance (m^2)	Veg. Clearing (m^2)	Excavations (m^3)	Produced water (ml)	Block number	Unit letters
EA0005257	tracks						
New Track 3 EA0005253	Access tracks	180	180	0	0	CAN790	e
New Track 7 EA0005255	Access tracks	44	44	0	0	CAN790	e
In Ground Sump EA0005259	Other drilling	25	25	15	0	CAN790	e
New Track 5 EA0005256	Access tracks	48	48	0	0	CAN790	k

Impact management

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

The closest name water course is Oaky Creek - running through the project area. Proposed collars HVD-P0005, 14, 8 and 2 all lie over 30m from dry tier 1 or 2 drainage gullies, and all are located over 20m from the top bank of the gullies. These holes may be defined as being on waterfront land according to the Water Management Act 2000. In accordance with NRAR guidelines, the proposed exploration activity is exempt, and a controlled activity approval isn't required. The drilling won't adversely impact any surface water sources. No ground water will be extracted. If the large in-ground sump is constructed, surface water may drain in, given its low relief, but only during extreme rainfall. However, water will not overflow from this sump. Any rainwater will disperse quickly and absorb into the ground or move as sheet wash into the local drainage. Water for drilling will be carted to the site using the drillers water truck using water sourced off site. Water recycling will be optimized.

The project includes the following measures to manage groundwater impacts:

Minor amounts of ground water may be intercepted during drilling. Any intercepted groundwater and liquid wastes would be managed in accordance with the Exploration Code of Practice: Produced Water Management, Storage and Transfer. If groundwater is intercepted during drilling, it will be contained in the above-ground containment tanks (or in the centrally located large sump, if constructed). Any additional flow of groundwater would be managed with the creation of small bunds to direct and contain any flows, this could include hay bales and temporary silt-stop fencing. This drainage will be managed by the drilling company and will be maintained using hand held equipment to ensure minimal surface disturbance, yet providing effective control of any water that may be encountered. If an in-ground sump is constructed, it will be monitored and any impacts will be mitigated to limit the effect on groundwater. Plastic lining of the sump will limit potential impact and will be monitored.

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

If groundwater is intercepted during drilling, it will be contained in the above-ground containment tanks (or in the centrally located large sump, if constructed). All general waste will be contained in large heavy duty bags and removed from site following drill hole completion and disposed of at the local land-fill. Material from any hydrocarbon spill-kit used will be disposed off site in heavy-duty bags. Any contaminated soil will be shoveled into the bags for disposal at the local land-fill site. Water used for drilling will be retained by above-ground containment tanks and a contractor with slurry pump capability will be engaged to remove the material and water. All reverse circulation drill cuttings will be collected in heavy-duty plastic bags. Excess drill cuttings will be tipped from the bags

down the drill hole in reverse order drilled and bags disposed off. No hazardous or special wastes are produced. No waste/equipment left on site.

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

The drilling could require hole conditioning fluids, including AMC Rod Grease, Super Foam Biodegradable Drilling Foam, Biodegradable Hammer Oil, AUS-GRIP (ECO) A and B Rigid Foam, Biodegradable lubricants and cutting oils. All these conditioning fluids are biodegradable. No dangerous chemicals will be present on site. An approved spill kit/oil matting will be on site for use with hydrocarbons such as diesel or oil spills. All chemicals and hydrocarbons will be stored and transported in sealed containers or storage boxes in the vehicles. The drilling contractor will have safety data sheets for all chemicals and hydrocarbons used on site, as well as work method statements as part of the contractor's WH&S policy for the use of these chemicals.

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

There are no nearby occupied residences close to the proposed drilling program / drilling project area. The nearest homesteads are over 1.3km away from the nearest proposed drilling locations within the drilling project area. Land access agreements are currently in place with affected landholders. Drilling will be limited to daylight hours only (unless longer hours are approved by the landholder) and is not expected to adversely impact on any nearby residences. There are no sensitive receptors close to the Project area. Earplugs will be used at all times by the drillers, field staff and visitors to site to prevent hearing damage as per the contractors Drilling Health and Safety Procedures.

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

Vehicles will be driven at no more than 40 km/hr on local dirt roads and access tracks as a part of WHS requirements for the drilling program. Minor dust is expected as a part of the drilling process, but will only be of a relatively short duration, at the start of diamond drilling. The RC drilling will produce continuous dust, however the drill rig has dust suppression capabilities which will limit the amount of dust leaving the drill site. It is not expected that the dust will have an impact on the environment, nor will it impact surrounding landholders. Staff will have access to dust masks and appropriate PPE as necessary.

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
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

Question	Yes/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 *Water Management Act 2000*?	Yes
Land with a slope greater than 18 degrees measured from the horizontal?	Yes
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
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: • 17 diamond drill holes • 3 reverse circulation drill holes • 608 square metres of new access tracks • 25 square metres of other drilling
Activity location	36km south east of Mudgee, within EL 8936 (1992).
Activity scope (including any ancillary activities)	Up to 20 DD / RC drillholes are proposed within the drilling project area. The approximate location of 17 drillholes are shown on Figure 2, however these holes may be moved elsewhere within the drilling project area. 3 floating drillholes within the project area. All holes drilled as diamond or RC (proposed RC holes may have diamond tails). Drillsites are located on gentle cleared grazing land. Short lengths of existing tracks may be graded to allow safe access. Surface disturbance activities will be undertaken in accordance with the ROCC. Drilling program stages: Stage 1: Access routes and drill sites pegged and photographed before works take place. Stage 2: Upgrading of access tracks. Slashing of drill pad areas. Construction of pads (removal of grass and topsoil layers only) has been provisioned at 8 drill sites. Stage 3: Drill rig and equipment brought onto site. Stage 4: Drilling up to a maximum depth of about 320m. Proposed equipment: Track mounted DD/RC multi-purpose rig. Silenced booster compressor. Water truck. Support/Rod truck. Rod Sloop with rod feeder mounted on a trailer (or similar). Above-ground tanks / sumps. Sampling equipment, Support vehicles and portable shelters. Handheld equipment (shovels, rakes) and hydrocarbon spill kit for emergency cleanup. Drilling water will be trucked to a large water tank on a hill, gravity feeding to the drill holes. Above-ground containment tanks will be used on each drill site. One large, in-ground sump is proposed in the northern part of the drilling project area for permanent containment of excess cuttings. Above ground tanks will be pumped out and disposed of in an appropriate disposal area off-site. During the drilling program, all vehicles will be cleaned prior to entering the area to control dispersal of weeds. Stage 5: Demobilization and Rehabilitation - will commence following completion of the drilling program with a final rehabilitation assessment within 6 months of completion of the program. Water will be carted in by truck to tanks on the top of the western ridgeline. Drilling fluids will be stored in above ground containment tanks at each drill site. A large, centrally located sump is proposed to hold up to 15kL of cuttings. After each drillhole, the water and cuttings will be pumped to the in-ground sump for permanent containment. Disposal of drilling muds will be managed by the drilling company, removed from site and disposed of appropriately. All accommodation will be off-site.
Hours of operation	Other Daylight hours (6am-6pm), potentially 24hr if landholder approves.
Expected duration (weeks)	32 weeks
Anticipated start date	10 June 2024

Item	Commitment
Expected rehabilitation completion date	Estimated 1 July 2025
Maximum area of disturbance	3,045 square metres
Agricultural impact	The activity will be undertaken in accordance with Not applicable.
Air quality	Vehicles will be driven at no more than 40 km/hr on local dirt roads and access tracks as a part of WHS requirements for the drilling program. Minor dust is expected as a part of the drilling process, but will only be of a relatively short duration, at the start of diamond drilling. The RC drilling will produce continuous dust, however the drill rig has dust suppression capabilities which will limit the amount of dust leaving the drill site. It is not expected that the dust will have an impact on the environment, nor will it impact surrounding landholders. Staff will have access to dust masks and appropriate PPE as necessary.
Protection of water sources	The closest name water course is Oaky Creek - running through the project area. Proposed collars HVD-P0005, 14, 8 and 2 all lie over 30m from dry tier 1 or 2 drainage gullies, and all are located over 20m from the top bank of the gullies. These holes may be defined as being on waterfront land according to the Water Management Act 2000. In accordance with NRAR guidelines, the proposed exploration activity is exempt, and a controlled activity approval isn't required. The drilling won't adversely impact any surface water sources. No ground water will be extracted. If the large in-ground sump is constructed, surface water may drain in, given its low relief, but only during extreme rainfall. However, water will not overflow from this sump. Any rainwater will disperse quickly and absorb into the ground or move as sheet wash into the local drainage. Water for drilling will be carted to the site using the drillers water truck using water sourced off site. Water recycling will be optimized. Minor amounts of ground water may be intercepted during drilling. Any intercepted groundwater and liquid wastes would be managed in accordance with the Exploration Code of Practice: Produced Water Management, Storage and Transfer. If groundwater is intercepted during drilling, it will be contained in the above-ground containment tanks (or in the centrally located large sump, if constructed). Any additional flow of groundwater would be managed with the creation of small bunds to direct and contain any flows, this could include hay bales and temporary silt-stop fencing. This drainage will be managed by the drilling company and will be maintained using hand held equipment to ensure minimal surface disturbance, yet providing effective control of any water that may be encountered. If an in-ground sump is constructed, it will be monitored and any impacts will be mitigated to limit the effect on groundwater. Plastic lining of the sump will limit potential impact and will be monitored.
Soil and land stability	Drill pads would be rehabilitated by re-spreading the soil/grass sward/vegetation back over the levelled surface. In accordance with the specific requirements of landholders, all access tracks will be graded to ensure that they are stable / non-eroding and will be retained for continued use as farm tracks. Smaller pad tracks will be rehabilitated in conjunction with the pad itself. Any damage to existing access tracks will be repaired. Where access tracks cross steeper areas, the battered slopes on either side of the track may be stabilised with jute mesh and silt (Coir) logs may be used above the batters to

Item	Commitment
	control / slow-down surface water run-off. Silt -stop fences will be erected where necessary to help prevent movement of any sediment . Where excessive compaction of soil on paddocks occurs (from vehicle movements), the areas will be lightly scarified in consultation with the landholders. At the completion of rehabilitation, the land will be left to naturally regenerate. If monitoring (as per the Drilling Rehabilitation Objectives and Completion Criteria attached to this document) shows natural revegetation to be ineffective then seeding with local pasture species and/or weed control measures will be undertaken. Any minor drips or spills of hydrocarbons will be dealt with efficiently with a spill kit that is a requirement at all drill sites.
Noise and vibration	There are no nearby occupied residences close to the proposed drilling program / drilling project area. The nearest homesteads are over 1.3km away from the nearest proposed drilling locations within the drilling project area. Land access agreements are currently in place with affected landholders. Drilling will be limited to daylight hours only (unless longer hours are approved by the landholder) and is not expected to adversely impact on any nearby residences. There are no sensitive receptors close to the Project area. Earplugs will be used at all times by the drillers, field staff and visitors to site to prevent hearing damage as per the contractors Drilling Health and Safety Procedures.
Coastal processes and hazards	N/A
Hazardous substances or chemicals	The drilling could require hole conditioning fluids, including AMC Rod Grease, Super Foam Biodegradable Drilling Foam, Biodegradable Hammer Oil, AUS-GRIP (ECO) A and B Rigid Foam, Biodegradable lubricants and cutting oils. All these conditioning fluids are biodegradable. No dangerous chemicals will be present on site. An approved spill kit/oil matting will be on site for use with hydrocarbons such as diesel or oil spills. All chemicals and hydrocarbons will be stored and transported in sealed containers or storage boxes in the vehicles. The drilling contractor will have safety data sheets for all chemicals and hydrocarbons used on site, as well as work method statements as part of the contractor's WH&S policy for the use of these chemicals.
Wastes and emissions	If groundwater is intercepted during drilling, it will be contained in the above-ground containment tanks (or in the centrally located large sump, if constructed). All general waste will be contained in large heavy duty bags and removed from site following drill hole completion and disposed of at the local land-fill. Material from any hydrocarbon spill-kit used will be disposed off site in heavy-duty bags. Any contaminated soil will be shoveled into the bags for disposal at the local land-fill site. Water used for drilling will be retained by above-ground containment tanks and a contractor with slurry pump capability will be engaged to remove the material and water. All reverse circulation drill cuttings will be collected in heavy-duty plastic bags. Excess drill cuttings will be tipped from the bags down the drill hole in reverse order drilled and bags disposed off. No hazardous or special wastes are produced. No waste/equipment left on site.
Vegetation	Any topsoil or vegetative material removed during the clearing process will be stockpiled for use during rehabilitation. Stockpiles will be located away from work areas so that they are not mistakenly driven over. Drill pads will be rehabilitated by re-spreading the soil / grass sward / cleared vegetation back over the levelled ground to form a stable surface. In accordance with the specific requirements of landholders, any damage to

Item	Commitment
	existing access tracks will be repaired. At the completion of exploration rehabilitation, the land will be left to naturally regenerate. If monitoring shows natural revegetation to be ineffective then seeding with local pasture species and/or weed control measures will be undertaken.
Threatened fauna and flora species	Where possible, topsoil and grass sward / vegetation at each drill site will be replaced following drilling. All drill sites will be located more than 10m from any water course. The work program will be completed as soon as possible mitigating time of disturbance to any fauna in the area.
Areas of outstanding biodiversity value/critical habitat	
Endangered ecological community or critically endangered ecological community	N/A
Habitat of a threatened species or ecological community	N/A
Key threatening processes	Vehicles will be cleaned before use on site and regularly inspected before they enter and after they leave the project area to ensure that there is no adhering weed matter. This will mitigate the spread of any noxious weeds either to or from the project area.
Barriers to movement of fauna	N/A
Ecological and biosecurity impacts	null null
Community resources	N/A
Natural resources	At the completion of drilling, the drill pads will be rehabilitated to form a stable, non-eroding surface. The access tracks will be graded to ensure that they are stable and not prone to erosion. The ongoing communication with the landholder is ensuring we have as little impact on their farming activities as possible.
Social impacts	Vehicle speeds will be limited to a maximum of 40km/hr. The times of operation will be discussed with the closest sensitive receptor to each area before operations commence. Hours of operation will be in strict accordance with landholder wishes.

Item	Commitment
Economic impacts	Compensation will be paid in a timely manner to ensure a good relationship is maintained between explorer and landholders.
Heritage impacts	N/A
Aesthetic impacts	N/A
Aboriginal cultural heritage	The following safeguards will be implemented to protect potential Aboriginal objects: • Should any Aboriginal objects or places be discovered during exploration, work must stop in that area and the area must be left untouched and access limited to avoid any disturbance. The NSW Department of Planning, Industry and Environment is to be notified. • If human remains are found, work must stop and the site must be secured (taped off with a 20m buffer zone) and the NSW Police and the NSW Department of Planning, Industry and Environment are to be notified.
Land use impacts	Drilling program will be undertaken in strict accordance with landholder directions to minimise any impacts to the current use of the land.
Transportation impacts	The amount of journeys and limited number of vehicles involved in the drilling program will not cause significant impact to the local transport system. Vehicle movements will be limited to only that necessary.
Matters of national environmental significance	N/A
Cumulative impacts	N/A
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 8936 (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 8936 (1992).
Codes of Practice	Havilah will be operated in accordance with: • Exploration Code of Practice: Environmental Management • Exploration Code of Practice: Rehabilitation • Exploration Code of Practice: Produced Water Management, Storage and Transfer
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*.

Word	Definition
	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 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.*

Word	Definition
	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 • 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*.

Word	Definition
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 • 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

Word	Definition
	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.
Small amount of localised dust during drilling. Exhaust fumes from the running of the drilling rig will be dispersed quickly. It is not expected that the dust will have an impact on the environment nor will it impact landholders.
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 null
Outline any proposed management controls and/or mitigation measures.
Vehicles will be driven at no more than 40 km/hr on local dirt roads and access tracks as a part of WHS. Minor dust is expected as a part of drilling process. It is not expected that the dust will have an impact on the environment nor will it impact surrounding landholders. If significant dust is generated by the drilling process the use of dust suppression equipment supplied by the drill contractor will be used. The drilling will not release any gasses and/or vapours. Staff will have access to dust masks and appropriate PPE as necessary. Visitors to the site will not be allowed within 25m of the rig.
Water impacts
Provide a brief description of the likely impacts to water quality and/quantity.
Drilling is not close to any significant surface water bodies. The proposed drilling program will not adversely impact any watercourses or other surface water sources, including farm dams. The drilling program will not extract or use any surface water. Given the short duration of drilling the proposed drilling program will have negligible adverse impact on surface water in the project area. Should significant amounts of groundwater be intercepted, the drillers are certified and experienced to appropriately limit the flow. A centrally located in-ground sump is proposed. If constructed, surface water may drain in, given its low relief, but only during extreme rainfall. However, water will not overflow from this sump. Any rainwater will disperse quickly and absorb into the ground cover or move as sheet wash into the local drainage. Water for drilling will be carted to the site using the drillers water truck using water sourced off site. Water recycling will be optimized.
What is the activity's impact due to the storage of water?
Low adverse null
What is the activity's impact to natural water bodies, wetlands or runoff patterns?
null Negligible

Water impacts
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?
null Nil/Not applicable
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
What is the likely level of any water impacts?
Negligible
Outline any proposed management controls and/or mitigation measures.
Drillholes will be located at least 10m away from the top bank of any water source including watercourses and dams. Any wetland, swamps or other potential habitat areas will also be avoided. No surface water or ground water will be extracted for the drilling program. If groundwater is intercepted during the drilling process and expelled it will be controlled by small bunds constructed from geo-fabric and/or straw bales. This drainage will be managed by the driller and drilling supervisor and will be maintained using hand held equipment to ensure minimal surface disturbance, yet providing effective control of any water that may be encountered. The drilling contractor has well established procedures to mitigate and resolve any issues if any water is intercepted. If the large, in-ground sump is constructed, it will be actively monitored, ensuring there is no contaminated water escaping. If there is leaking or seepage, the drillers are experienced in water management, and the appropriate steps will be taken to ensure minimal environmental impacts.
Soil and stability impacts
Provide a brief description of the likely impacts to soil quality or land stability.
Minor erosion on access tracks and drill pads. Most drillholes are not expected to require drill pads, however provisions are in place for eight planned holes to require vegetation clearing, if necessary. The proposed pad sizes are 15m x 20m, with a maximum vegetation clearing totaling 2400m, from pads. Equipment will sit on environmentally friendly oil matting which will contain any minor drips/ spills onto the ground. The environmental impacts associated with this drilling program are minimal and are only of a temporary nature.
What is the activity's impact on the degradation of soil quality including contamination, salinisation or acidification?
Low adverse
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?

Soil and stability impacts
Low adverse
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?
Low adverse
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.
Drill pads would be rehabilitated by re-spreading the soil/grass sward/vegetation back over the levelled surface. In accordance with the specific requirements of landholders, all access tracks will be graded to ensure that they are stable / non-eroding and will be retained for continued use as farm tracks. Smaller pad tracks will be rehabilitated in conjunction with the pad itself. Any damage to existing access tracks will be repaired. Where access tracks cross steeper areas, the battered slopes on either side of the track may be stabilised with jute mesh and silt (Coir) logs may be used above the batters to control / slow-down surface water run-off. Silt -stop fences will be erected where necessary to help prevent movement of any sediment . Where excessive compaction of soil on paddocks occurs (from vehicle movements), the areas will be lightly scarified in consultation with the landholders. At the completion of rehabilitation, the land will be left to naturally regenerate. If monitoring (as per the Drilling Rehabilitation Objectives and Completion Criteria attached to this document) shows natural revegetation to be ineffective then seeding with local pasture species and/or weed control measures will be undertaken. Any minor drips or spills of hydrocarbons will be dealt with efficiently with a spill kit that is a requirement at all drill sites.
Noise and vibration impacts
Provide a brief description of the likely noise and/or vibration impacts.
Noise and vibration will be limited to the drill sites only and will not significantly impact surrounding landholders. There are no nearby sensitive receptors.
What is the likely level of any impacts?
Low adverse
Outline any proposed management controls and/or mitigation measures.
Vehicle speeds will be limited to a maximum of 40km/hr. Use of a silenced compressor will minimise any noise impacts from the drilling. The times of operation will be discussed with the closest sensitive receptor to the project area before operations commence. Hours of operation will be in strict accordance with landholder wishes.

Coastal locations and processes
Provide a brief description of likely impacts on coastal environments, coastal processes and coastal hazards.
N/A
What is the likely level of any impacts?
Nil/Not applicable
Outline any proposed management controls and/or mitigation measures.
N/A
Hazardous substances and chemicals
Provide a brief description of likely impacts associated with the use, generation, storage or transport of hazardous substances or chemicals.
Use of fuel and oil in drill rig and support vehicles may potentially result in localised impact if spillage occurs. All drilling consumables are non hazardous and non toxic. It is not expected that there will be overflow from drilling sumps, as it will be actively monitored and managed.
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.
Diesel stored only in truck tanks. All chemicals and hydrocarbons will be stored and transported in sealed containers or storage boxes in the vehicles. All chemicals used are biodegradable and approved for drilling. No dangerous chemicals will be used on site. Appropriate chemical spill kits / oil matting will be available on site for use with hydrocarbons such as diesel or oil spills and any waste will be disposed of in the nearest appropriate waste facility. The drilling contractor will have safety data sheets for all chemicals and hydrocarbons used on site, as well as safe work method statements as part of the contractor's WH&S policy for the use of these chemicals. The sump will be actively monitored, and appropriate measures will be taken if there is evidence of seepage or leakage from the sump.
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.
If the large sump is constructed, it is anticipated all drilling fines will enter the sump, and will be allowed to dry out after drilling is complete, then removing the liner and burying once dry. The remaining material will be ripped and combined with the original excavated subsoil, compacted, then the remaining top soil will be spread on top and left to return to its natural state. The sump is not expected to overflow or adversely interfere with the environment. If the large sump is not constructed, drilling cuttings and waster water form the diamond drilling will be contained in above ground containment tanks, and will be disposed of appropriately. Fugitive emissions from diesel powered equipment will be negligible and of short duration.
Provide a brief description of likely impacts on areas sensitive to this type of impact.

Wastes and emissions
Some regions within the project area have a slope greater than 18°, however no drillholes will be on these slopes. The proposed in-ground sump is located near to the Oaky Creek, however it is mostly dry, but flows in intense rain events. This sump is not expected to adversely impact the creek.
What is the likely level of the impacts?
Low adverse
Outline any proposed management controls and/or mitigation measures.
If the sump is constructed, ongoing consultation and conversations will be held with the landholder, ensuring they are satisfied with the management of wastes. Monitoring of the sump will be continuous, ensuring there are no adverse impacts on the environment. If above-ground containment tanks are utilised, excess drill cuttings will be removed from the site and responsibly disposed of off-site. Standard exhaust systems are required for all diesel powered equipment. All general waste will be contained in large heavy-duty bags and removed from site immediately following drill hole completion and disposed of at the local land-fill site.
Vegetation
Provide a brief description of any vegetation clearing or modification and the likely impacts to the environment.
It is expected that drillholes will not require pads, however provisions are in place for 8 of these to have pads, if necessary. Construction of drill pads entails surface disturbances to an area of about 15m X 20m for each drill pad (maximum 2400m2). Access to the drill sites will be mostly via existing farm tracks. Most of the drill sites will be located along existing tracks or a short distance away in open, cleared grazing land. No trees will be removed or cleared. The total length of new track required to access the drill sites is about 160m. Although compaction of soil is not expected from vehicle movements, if it does occur then those areas will be monitored and scarified if required.
What is the likely level of the impacts?
Low adverse
Outline any proposed management controls and/or mitigation measures.
Any topsoil or vegetative material removed during the clearing process will be stockpiled for use during rehabilitation. Stockpiles will be located away from work areas so that they are not mistakenly driven over. Drill pads will be rehabilitated by re-spreading the soil / grass sward / cleared vegetation back over the levelled ground to form a stable surface. In accordance with the specific requirements of landholders, any damage to existing access tracks will be repaired. At the completion of exploration rehabilitation, the land will be left to naturally regenerate. If monitoring shows natural revegetation to be ineffective then seeding with local pasture species and/or weed control measures will be undertaken.
Threatened species
Provide a brief description of any likely impacts to threatened fauna and flora species.
The proposed drilling program will not impact any potential habitat of vulnerable animal species that may use the area. The drilling program will not impact any water courses and will therefore not impact threatened aquatic species.
What is the likely level of the impacts?
Negligible

Threatened species
Outline any proposed management controls and/or mitigation measures.
Where possible, topsoil and grass sward / vegetation at each drill site will be replaced following drilling. All drill sites will be located more than 10m from any water course. The work program will be completed as soon as possible mitigating time of disturbance to any fauna in the area.
Area of outstanding biodiversity value (AOBV) / Critical habitat
Provide a brief description of any likely impacts to AOBV/critical habitat.
The project area is not located in an area of any critical habitat or area of outstanding biodiversity value. The project area is included as an area of Terrestrial Biodiversity Sensitivity value, however, all drillholes are located over 100m from any Terrestrial Biodiversity.
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.
N/A
What is the likely level of the impacts?
Nil/Not applicable
Outline any proposed management controls and/or mitigation measures.
N/A
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.
N/A
What is the likely level of the impacts?
Nil/Not applicable
Outline any proposed management controls and/or mitigation measures.
N/A
Key threatening process
Provide a brief description of whether the activity will constitute, or form part of, a key threatening

Key threatening process
process - or is likely to increase the impact of a key threatening process.
The drilling will be undertaken within one property. If new weeds are present the dispersal due to vehicle movements within the area will be minimal.
What is the likely level of any impacts?
Low adverse
Outline any proposed management controls and/or mitigation measures.
Vehicles will be cleaned before use on site and regularly inspected before they enter and after they leave the project area to ensure that there is no adhering weed matter. This will mitigate the spread of any noxious weeds either to or from the project area.
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.
N/A
What is the likely level of any impacts?
Nil/Not applicable
Outline any proposed management controls and/or mitigation measures.
N/A
Ecological and biosecurity impacts
Is the activity likely to have any adverse ecological or biosecurity impacts? Select as relevant:
The activity is likely to cause a bushfire risk.
Provide a brief description of any impacts.
Very low risk of fire starting in grass.
What is the likely level of any impacts?
null Low adverse
Outline any proposed management controls and/or mitigation measures.
null null
Community resources
Describe whether the activity is likely to degrade or significantly increase the demand for services and infrastructure resources.
N/A
Describe whether the activity is likely to result in any diversion of resources to the detriment of other communities or natural systems.

Community resources
N/A
What is the likely level of the impact?
Negligible
Outline any proposed management controls and/or mitigation measures.
N/A
Natural resources
Describe any likely impacts that would disrupt, deplete or destroy natural resources.
Construction of drill pads and grading of new access tracks will cause temporary minor disturbance of the ground surface.
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).
This drilling program is not expected to adversely impact the farming activities which occur in these paddocks. Extensive consultation with the landholders has been undertaken and is ongoing.
Describe whether the activity is likely to result in the degradation of any area reserved for conservation purposes.
N/A
What is the likely level of the impact?
Negligible
Outline any proposed management controls and/or mitigation measures.
At the completion of drilling, the drill pads will be rehabilitated to form a stable, non-eroding surface. The access tracks will be graded to ensure that they are stable and not prone to erosion. The ongoing communication with the landholder is ensuring we have as little impact on their farming activities as possible.
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.
N/A
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.
N/A
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).
N/A
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

Social impacts
impacts, etc.
Noise and vibration will be limited to the drill sites only and will not significantly impact surrounding landholders. There are no nearby sensitive receptors.
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.
N/A
What is the likely level of any social impacts?
Nil/Not applicable
Outline any proposed management controls and/or mitigation measures.
Vehicle speeds will be limited to a maximum of 40km/hr. The times of operation will be discussed with the closest sensitive receptor to each area before operations commence. Hours of operation will be in strict accordance with landholder wishes.
Economic impacts
Provide a brief description of any likely economic impacts.
Landholders will receive compensation payment in accordance with the land access agreements.
What is the likely level of any impacts?
Positive
Outline any proposed management controls and/or mitigation measures.
Compensation will be paid in a timely manner to ensure a good relationship is maintained between explorer and landholders.
Heritage impacts
Describe whether the activity is likely to cause impacts on localities, places, landscapes, buildings or archaeological relics of heritage significance.
N/A
What is the likely level of the impact?
Nil/Not applicable
Outline any proposed management controls and/or mitigation measures.
N/A
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.
N/A
What is the likely level of any impacts?

Aesthetic impacts
Nil/Not applicable
Outline any proposed management controls and/or mitigation measures.
N/A
Cultural impacts
Describe the likely impacts associated with any disturbance of the ground surface or any culturally modified trees.
An Aboriginal Heritage Due Diligence Assessment has been undertaken in accordance with the requirements of the Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (NSW Government, September 2010). No records were located within the project area. The following safeguards will be implemented to protect potential Aboriginal objects: • Should any Aboriginal objects or places be discovered during exploration, work must stop in that area and the area must be left untouched and access limited to avoid any disturbance. The NSW Department of Planning, Industry and Environment is to be notified. • If human remains are found, work must stop and the site must be secured (taped off with a 20m buffer zone) and the NSW Police and the NSW Department of Planning, Industry and Environment are to be notified.
Describe whether the activity will affect known Aboriginal objects or Aboriginal places.
No Aboriginal objects or places are within or near the project area.
Describe whether the activity is located in areas where landscape features indicate the presence of Aboriginal objects.
N/A
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.
N/A
What is the likely level of any cultural impacts?
Nil/Not applicable
Outline any proposed management controls and/or mitigation measures.
The following safeguards will be implemented to protect potential Aboriginal objects: • Should any Aboriginal objects or places be discovered during exploration, work must stop in that area and the area must be left untouched and access limited to avoid any disturbance. The NSW Department of Planning, Industry and Environment is to be notified. • If human remains are found, work must stop and the site must be secured (taped off with a 20m buffer zone) and the NSW Police and the NSW Department of Planning, Industry and Environment are to be notified.
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.
Temporary disturbance of land.
What is the likely level of any impacts?

Land use impacts
Negligible
Outline any proposed management controls and/or mitigation measures.
Drilling program will be undertaken in strict accordance with landholder directions to minimise any impacts to the current use of the land.
Transportation impacts
Provide a brief description of any significant impacts on transportation.
Additional traffic will be on the local roads as site personnel will be travelling to and from the site each day.
What is the likely level of any impacts?
Negligible
Outline any proposed management controls and/or mitigation measures.
The amount of journeys and limited number of vehicles involved in the drilling program will not cause significant impact to the local transport system. Vehicle movements will be limited to only that necessary.
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.
N/A
What is the likely level of any impacts?
Nil/Not applicable
Outline any proposed management controls and/or mitigation measures.
N/A
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.
N/A
What is the likely level of any impacts?
Nil/Not applicable
Outline any proposed management controls and/or mitigation measures.
N/A

Cumulative impacts
Is the activity likely to result in cumulative environmental effects with other existing or likely future activities?
No
Describe the impact.
N/A
What is the likely level of any impacts?
Nil/Not applicable
Outline any proposed management controls and/or mitigation measures.
N/A
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

There are no supporting documents reported.

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