

**KALYAN RESOURCES PTY LTD
163 734 147**

MINING MANAGEMENT PLAN

**ELs 30115, 29349, 29490 & 29493
MOROAK PROJECT**

2018 to 2019

AUTHORISATION- TBA




AUGUST 2018

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	Author	Reviewed by	Approved by
Date	30 August 2018	31 August 2018	31 August 2018
Name	Holly Edgar	Tom Reddicliffe	Tom Reddicliffe
Signature			

I, Tom Reddicliffe, Director- Kalyan Resources Pty Ltd, declare that to the best of my knowledge the information contained in this mining management plan is true and correct and commit to undertake the works detailed in this plan in accordance with all the relevant Local, Northern Territory and Commonwealth Government legislation.

SIGNATURE: 

DATE: 31 AUGUST 2018

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Amendments

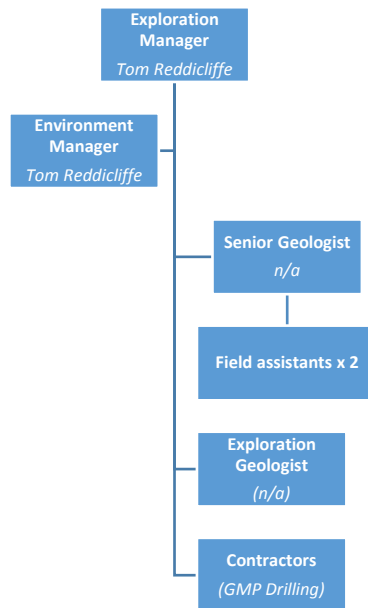
No amendments, as this is the first MMP for this project.

Section	Amendment
Public MMP	A public version of the MMP will be submitted to the Department when the MMP is approved and the security is requested.
3.2 Proposed Activities	54 drill holes are proposed. Section 3.2 updated to reflect the proposed amount of drill holes. The security calculation accounts for the 54 drill holes.
4.0 Current Project Site Conditions	Please see attached for flora and fauna assessments prepared by EcOz in June 2017. Updated statement regarding likelihood assessment by EcOz inserted into section.
4.0 Current Project Site Conditions – AAPA	Two buffer zones will be put in place where drill sites are located in close proximity to creeks. These buffer zones will be put in place at least 25m from the creek, so no works or disturbance occurs within 25m of waterholes or stream. Please see attached map. There are other drill site locations, however these are not located near streams or waterways.

1 Operator Details

Operator Name:	Kalyan Resources Pty Ltd (Kalyan, “The Company” or “The Operator”)
ACN	163 734 147
Key Contact Person/s:	Tom Reddicliffe
Postal Address:	PO Box 7826 Gold Coast MC, Bundall, QLD 9726
Street Address:	36 Merlin Drive, Carine. WA. 6020
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1.1 Organisational Structure



1.2 Workforce

The workforce will generally consist of one of the Exploration Manager, Tom Reddicliffe, and 2 to 4 contractors to Kalyan, as well as anywhere from 1 to 4 drill & equipment contractors depending on the activities and the scope of the activities.

The scope of the initial activities proposed will most likely result in up to 7 persons on site. An increase in the level of activity on the project area may lead to a corresponding increase in employee and contractor numbers to the level mentioned above.

2 Identified Stakeholders and Consultation

The identified stakeholders for the Compass Creek NT Project are:

- Landholder – NT Portion 916- Department of Infrastructure;
- Landholder – NT Portion 1288, PPL 1067, Moroak Pastoral Company;
- Landholder – NT Portion 1293- Department of Infrastructure;
- Landholder – NT Portion 1378- Commissioner of Consumer Affairs;
- Landholder – NT Portion 4775, PPL1179- Fly Fox Pty Ltd;
- Department of Lands, Planning and the Environment (DLPE)
- The Department of Primary Industry and Resources (DPIR);
- The Department of Business – NT WorkSafe;
- Power and Water Corporation;
- Bushfires NT – Department of Land Resource Management;
- Department of Infrastructure, Planning and Logistics
- Australian Mining & Exploration Title Services
- Northern Land Council

Kalyan are currently organising the Land Access Agreement. This will be submitted to DPIR as soon as it is received.

3 Project Details

Project Name:	Moroak Project
Authorisation Number	TBA
Location:	The project area is located approximately 165 km south east from Katherine in the Moroak locality.
Site Access:	Access to the site is from Katherine is via the Stuart Highway, thence via the Roper Highway, thence along existing roads and tracks.
Title holder/s:	EL30115- Kalyan Resources Pty Ltd (80%), Rodney Johnston (5%), Ronald Edwards (5%), Scriven Exploration Pty Ltd (5%), Thomas Reddicliffe (5%). EL29349- Kalyan Resources Pty Ltd (80%), Rodney Johnston (5%), Ronald Edwards (5%), Scriven Exploration Pty Ltd (5%), Thomas Reddicliffe (5%). EL29490- Kalyan Resources Pty Ltd (80%), Rodney Johnston (5%), Ronald Edwards (5%), Scriven Exploration Pty Ltd (5%), Thomas Reddicliffe (5%).

	EL29493 - Kalyan Resources Pty Ltd (80%), Rodney Johnston (5%), Ronald Edwards (5%), Scriven Exploration Pty Ltd (5%), Thomas Reddicliffe (5%).
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Licence	Application Date	Granted Date	Area (Blocks)	Area (sq kms)
EL29349	19/01/2012	21/11/2012	29	73.77
EL29490	03/05/2012	04/01/2013	12	26.82
EL29493	03/05/2012	04/01/2013	4	13.23
EL30115	20/09/2013	30/04/2014	12	39.53

Location and site maps located in **Appendix 10**.

3.1 Previous Activities and Current Status

The area has previously been worked by other titleholders, such as Diamantina Uranium Pty Ltd, Australian Ilmenite Resources Pty Limited and De Beers Exploration Limited. These titleholders held their own licences, which were not associated with the licences of this project.

Kalyan have not previously explored this area and this is Kalyan's first MMP for this Project. Kalyan will use the Rehabilitation Register for rehabilitation recordings and will provide this to the Department in future MMPs. Kalyan will also take before and after photographs to record rehabilitation progress

3.2 Proposed Activities

Kalyan Resources aims to undertake exploratory drilling on conductive targets interpreted from previously completed ground based EM-34 geophysical surveys. These targets are considered to represent potential kimberlite bodies. A total **54 drill holes** are planned each to a nominal depth of 30m representing a total 3,750m. All holes will be reverse circulation "RC".

The drilling will be undertaken by drill contractor GMP Drilling using a track mounted drill rig and consequently no clearing of access tracks or individual drill sites will be required. Already established legacy exploration and station tracks will be used to access the drill areas.

Logistic support and accommodation will be provided by the already established facilities at Flying Homestead which is owned and operated by MS Contracting.

This drilling program is aimed at testing shallow (<20m depth) conductors identified from previously conducted geophysical surveys, hence individual drill holes will not exceed 30m depth. It is believed that these conductor features may represent weathered kimberlite or other volcanic rocks.

Volcanic rocks, due to their crystalline nature, intrusive relationships, and isolated local occurrence, are not natural aquifers. Hence there is no threat to aquifers should these rocks be intersected.

Historic drill holes in the area intersected both kimberlite and sedimentary country rocks. The country rocks were moderate to steeply dipping Velkerri Formation which is comprised of shales and greywackes, neither of which are conducive to the development of contained aquifers. If this formation is encountered in any drill hole, the drill hole will be terminated, as the sediments are not

prospective for diamonds. Hence drill holes encountering the Velkerri Formation will likely not exceed 20m in depth.

Although it is anticipated that aquifers will not be encountered during the drilling program due to the shallow depth of the holes and the lithologies to be encountered, if an aquifer were encountered then the hole or holes would be grouted with cement.

The drill program has been designed to have minimal impact on the local environment. To this end, a track driven drill rig has been selected to undertake the work and hence will not require tracks to be cleared to enable access to the drill sites. Historic drilling undertaken in the area by Stockdale Prospecting resulted in drill access tracks being cleared. These remain useable due to frequent use by the property owners. The sites selected for the proposed drilling are all in close proximity to these established tracks.

During the drilling of each hole the drill spoils will be taken from the sample cyclone at 1m depth intervals and laid out on the ground in 1m interval piles. These samples will not be contained in plastic sample bags. The sample piles will be logged for lithology and representative chip tray samples taken. Larger samples will be taken for geochemical and mineralogical analysis if warranted. The remaining drill spoils will be inert or reactive minerals as they are all collected from the weathered zone. The drill spoils will be dispersed over the drill site at cessation of the drill program. Each drill hole will be capped after completion of the hole using a cap and infilled with quick drying cement.

In the unlikely event that reactive rocks were encountered then these drill spoils would be reintroduced into the drill hole prior to capping and sealing the collar.

A map showing the proposed drill hole locations is found in **Appendix 10**.

Shape and KML files of the proposed drilling are found in **Appendix 11**.

An excel file with the proposed drill hole locations is located in **Appendix 11**.

Mining Interests (i.e. titles)	EL30115	EL29349	EL29490	EL29493
Target commodities	Diamond	Diamond	N/A	Diamond
Type of drilling	Reverse Circulation	Reverse Circulation	N/A	Reverse Circulation
Number of holes	47	6	0	1
Size and Number of drill pads (Length: m x Width: x Depth:m)	N/A	N/A	N/A	N/A
Size and number of sumps proposed (Length: m x Width: x Depth:m)	N/A	N/A	N/A	N/A
What time of the year will exploration occur?	July_September	July_September	N/A	July_September

Camp and infrastructure size (Length: m x Width)	Nil. The drill crew along with the Kalyan personnel will stay at the established accommodation owned and operated by Flying Fox Station. This is located 15km east of the project area at Flying Fox Homestead.			
Road/track clearing required (Kilometres: x Width: m)	Nil. Kalyan will use the existing station and legacy exploration tracks. All of the drilling locations are close to these tracks. The drill rig will be track mounted and the country is open bushland. There will not be any necessity to establish additional tracks using earthmoving equipment.			
Costeans (Length: m x Width: x Depth:m)	N/A	N/A	N/A	N/A
Will topsoil be removed for rehabilitation purposes?	N/A	N/A	N/A	N/A
Total area (ha) proposed for clearing	0	0	0	0
Other:	N/A	N/A	N/A	N/A

4 Current Project Site Conditions

Site Conditions	Description
Regional & Local Geology	<p>The licences are situated within the Palaeoproterozoic to Mesoproterozoic McArthur Basin. The lithology largely consists of dolostone, sandstone, mafic and felsic volcanic rocks and minor microgranite.</p> <p>The soils range from tenosols, loams, kandosols and vertosols.</p>
Hydrology and Bores	<p>There are numerous non-perennial waterways that are present within the project area. These flow after significant rainfall events within the region. A topography map illustrating these watercourses is in Appendix 10.</p> <p>There is a recorded bore on EL29490. A location map of the bore is attached at Appendix 11. There is no plan to use the bore identified on EL29490.</p> <p>Kalyan does not anticipate intersecting any aquifers. The proposed drill holes will be too shallow and there are no aquifer bearing sediments mapped in the area. Kalyan anticipate intersecting kimberlite or other volcanic intrusive rocks which are not known to be aquifers. In the unlikely event Kalyan did intersect an aquifer, the hole will be grouted, as per the aa7-029 Guidelines.</p>
Flora	<p>The project area is dominated by woodland and tussock grassland.</p> <p>The native vegetation is made up of flowering plants, ferns and one</p>

	<p>species of conifer, The Northern Cypress Pine (<i>Callitris intratropica</i>). Common ferns in the area include the Water Fern (<i>Ceratopteris thalictroides</i>), Northern Rock Fern (<i>Cheilanthes brownie</i>) and the Northern Swamp Fern (<i>Blechnum orientale</i>).</p> <p>Common flowering plants in the area include the Sedge (<i>Cyperus castaneus</i>), Fringe Rush (<i>Fimbristylis schultzei</i>), Silver Grevillia (<i>Grevillea parallela</i>) and the Silver leaf Box (<i>Eucalyptus pruinosa</i> subsp. <i>Tenuata</i>).</p> <p>The Infonet Report is located in Appendix 7.</p>
<p>Fauna</p>	<p>The region hosts a high diversity of frogs, reptiles, birds and mammals.</p> <p>Common frogs within the region are the Red tree Frog (<i>Litoria rubella</i>), Ornate Burrowing Frog (<i>Platyplectrum ornatus</i>) and the Wotjulum Frog (<i>Litoria wotjulumensis</i>).</p> <p>Saltwater Crocodiles (<i>Crocodylus porosus</i>), Striped Rainbow Skink (<i>Carlia munda</i>), Yellow-sided Two-line Dragon (<i>Diporiphora magna</i>) are also common reptiles in the region.</p> <p>Common native bird species that occur within the region include Partridge Pigeon (<i>Geophaps smithii</i>), Masked Lapwing (<i>Vanellus miles</i>), Galah (<i>Eulophus roseicapilla</i>) and the Magpie Lark (<i>Grallina cyanoleuca</i>).</p> <p>As no vegetation is to be cleared there will be no danger to bird habitats whether endangered or common. The amount of time the drill would spend in each drilling area would not exceed 2 days.</p> <p>Common native mammals within the region include Northern Nailtail Wallaby (<i>Onychogalea unguifera</i>), Common Planigale (<i>Planigale maculata</i>), Spectacled Hare-wallaby (<i>Lagorchestes conspicillatus</i>) and the Delicate Mouse (<i>Pseudomys delicatulus</i>).</p> <p>The area is comprised of open woodlands, so any ground located animal habitats can be easily avoided. In addition, there will be no clearing of vegetation for the purpose of tracks or drill pads.</p> <p>The Infonet Report is located in Appendix 7.</p>
<p>Invasive Pest Species</p>	<p>Mission Grass (<i>Pennisetum polystachion</i>) is having an impact on the region. More severe fires as a result of the higher fuel loads associated with these species, disadvantages both native understorey species and native animals associated with the native plants. Other weeds include Rubber Bush (<i>Calotropis procera</i>), Hyptis (<i>Hyptis suaveolens</i>) and Red Natal Grass (<i>Melinis repens</i>).</p> <p>The drilling is in a reasonably restricted area so dispersal of weeds due to vehicle movements within the restricted areas to be drilled will be inconsequential. However, vehicles including the drill rig will be washed down at Flying Fox Homestead before they enter and after they leave the project area. This will mitigate the spread of noxious weeds either to or from the project area.</p> <p>A number of feral animals are widespread including cats (<i>Felis catus</i>), Asian House Gecko (<i>Hemidactylus frenatus</i>) and pigs (<i>Sus scrofa</i>). Cane toads (<i>Bufo marinus</i>) are also a potentially serious threat to this bioregion. Pigs are particularly damaging in this bioregion mainly in the</p>

	<p>wetland areas.</p> <p>The Infonet Report is located in Appendix 7.</p>
Threatened Species	<p>Numerous threatened species have been recorded with the region. These include Partridge Pigeon (<i>Geophaps smithii</i>), Gouldian Finch (<i>Erythrura gouldiae</i>), Ghost Bat (<i>Macroderma gigas</i>), Red Goshawk (<i>Erythrotriorchis radiatus</i>), and Golden Bandicoot (<i>Isoodon auratus</i>).</p> <p>The Northern Quoll (<i>Dasyurus hallucatus</i>) has been recorded in the region and are listed as critically endangered in the Northern Territory. The Brush-tailed Rabbit-rat (<i>Conilurus penicillatus</i>) has been listed as Endangered. Other threatened species that are listed in the Infonet Report are listed as Vulnerable.</p> <p>Partridge Pigeon (<i>Geophaps smithii</i>), Red Goshawk (<i>Erythrotriorchis radiatus</i>), Golden Bandicoot (<i>Isoodon auratus</i>), Brush-tailed Rabbit-rat (<i>Conilurus penicillatus</i>), Gouldian Finch (<i>Erythrura gouldiae</i>), Northern Quoll (<i>Dasyurus hallucatus</i>) and the Ghost Bat (<i>Macroderma gigas</i>) have been observed within the region and are listed on the EPBC Act.</p> <p>A map was generated in NR map, which shows that nil threatened species have been recorded within the project area.</p> <p>The Infonet Report is located in Appendix 7.</p>
Land Use	<p>Els 30115, 29349, 29490 & 29493 are all located within NT Portions 4775, 1288 and 2193. EL29349 also covers NT Portions 3278 and 916. EL30115 also covers NT Portion 916.</p> <p>An ILIS reports are attached at Appendix 2.</p>
Historical, Aboriginal, Heritage Sites	<p>There is nil determined Native Title Claims within the area. NNTT Reports are found in Appendix 3.</p> <p>The operator has received abstracts from the AAPA register of sacred sites, which advise that there are numerous restricted works areas and sacred sites within the project areas.</p> <p>Kalyan are aware of the location of these areas and will only be operating within Restricted Works Area C1993/171. A visit to the AAPA to view the restricted works area C1993/171 was requested. The AAPA advised that C1993/171 did not contain much information, but C2016/068 contained the information for C1993/171.</p> <p>C2016/068 advises that the restricted works area (RWA18) and the sacred site (SN5668-50) are to have no works that take place directly on or no damage shall occur to any waterholes or streams. Kalyan will not operate within or near any waterholes or streams. Kalyan will leave at least a 25m buffer from any waterholes or streams to ensure nil disturbance to the waterholes or streams.</p> <p>The AAPA reports are attached at Appendix 4 of the MMP.</p> <p>There are no declared heritage places or any previously recorded Aboriginal archaeological sites within the project area.</p> <p>Heritage, archaeological and historical search results are found within</p>

Kalyan engaged EcOz to prepare a flora and fauna likelihood assessment in 2017. Details attached at **Appendix 15.**

NR maps have been generated for this project and are attached at **Appendix 9.**

Tom Reddicliffe has extensive exploration experience and is aware and familiar with the significant species that may occur within the project area. Works will not commence if significant species are found within the immediate works areas.

Kalyan has completed an online NRM flora and fauna report of the area, with a 2km radius and endangered and vulnerable species may not be present within the area. Kalyan's footprint within the project area will be minimal.

5 Environmental Management System

Kalyan is a small company that ensures responsible environmental management through a series of sensible precautions and procedures in which unnecessary damage to the environment is minimized by careful, selective exploration techniques and, where possible, early remedial works to allow the short growing season of the region to have optimum benefit.

Tom Reddicliffe will be the person responsible for the overall environmental management and rehabilitation of the site. He has reviewed this document and he undertakes to honour the commitments made within the document.

5.1 Environmental Policy and Responsibilities

The Environmental Policy forms the basis upon which Kalyan Resources sets its objectives and targets. It is a commitment of management to comply with applicable legal and other requirements, to prevent pollution and to continually improve with the aim of minimising adverse environmental impacts from the operation.

Kalyan Resources promotes its Environmental Policy amongst its employees, contractors and their subcontractors to:

- Comply with all relevant legislation, standards and guidelines for the protection of the environment.
- In the absence of legislation, standards and guidelines, adopt best practices to prevent or minimise adverse environmental impacts.
- Work with and consult the relevant government agencies.
- Ensure that adequate waste management practices are in place and are carried out based on the prevention, minimisation, recycling, treatment and disposal of wastes.
- Provide adequate training to enable employees and contractors to adopt environmentally responsible work practices and to be aware of their stewardship responsibilities.
- Develop and maintain emergency plans and procedures so that incidents can be responded to in a timely and effective manner.
- Develop and maintain management systems to identify, control and monitor risks and compliance with government regulations and guidelines.
- Monitor environmental effects and assess environmental performance at all stages of exploration, development, production and rehabilitation.

- Communicate openly with government and the public in a timely manner on environmental issues which relate to Kalyan Resources' Operations.

5.2 Statutory and Non-Statutory Requirements

The legislation listed below may affect the project:

Mineral Titles Act 2010;
Mineral Titles Regulations 2010;
Mining Management Act;
Mining Management Regulations;
Work Health and Safety (National Uniform Legislation) Act 2011;
Work Health and Safety (National Uniform Legislation) Regulations;
Bushfires Act;
Bushfires Regulations;
Weeds Management Act 2001;
Water Act;
Native Title Act 1993;
Northern Territory Aboriginal Sacred Sites Act;
Northern Territory Aboriginal Sacred Sites Regulations;
The Environmental Protection and Biodiversity Conservation Act 1999;
Heritage Act;
Soil Conservation and Land Utilisation Act;
Territory Parks and Wildlife Conservation Act;
Waste Management and Pollution Control Act; and
Water Act

Kalyan are currently organising the Land Access Agreement.

To date there are no non-statutory agreements in place between the titleholder or any other parties, should this change details will be included in the updated MMP.

5.3 Induction and Training

All activities undertaken on the Project Tenements will be primarily based from Flying Fox Station. Both office based and field based education, inductions and trainings will take place regarding best practices, site specific inductions and general health, safety and environment matters.

All employees and contractors will be made aware of their responsibilities under this MMP. Access to remote areas is covered in the Kalyan Resources induction, which is given to all new employees and contractors. Education, Inductions and Training include topics such as:

- General induction to the program and project specifics (general, site specific)
- Communication of the requirements of the MMP to all employees and contractors
- Environmental Emergency response training and procedures
- Particular training requirements for targeted personnel

These areas cover items such as:

- Notification of travel routes and times with third parties and making SAR plans
- Ensuring helicopter company has SAR plan in place
- Location and use of first aid kits, survival kits and adequate food and water
- GPS, satellite phone / UHF radio and schedule for calls
- Tyre repair, hi-lift jack, shovel and other training and induction on the safe and competent use of equipment
- Light vehicle inspections and basic maintenance

- Accident and Emergency procedures including when never to leave the vehicle
- Incidents of Fire and fire procedures
- Encountering animals and insects, health and safety and procedures
- Erection of any camps in suitable locations
- No operation of vehicles after nightfall,
- Any other environmental training and education requirements, etc

To minimise our impact on the environment:

- Report all incident / accidents as soon as practicable
- Respond to spills promptly and efficiently
- Dispose all domestic waste into bins or rubbish tip
- Dispose of all waste oils into waste oil drums
- Avoid rehabilitated areas unless absolutely necessary

The responsible person for the Induction and Training will be Tom Reddicliffe, Exploration Manager.

5.4 Identification of Environmental Aspects and Impacts

Aspect	Impact(s)	Risk Rating	Preventative Control Measures (to prevent/minimise impact)	Mitigating Control Measures (to monitor and remediate impact)
Clearing of drill pads and tracks	Loss of native flora and fauna	3	<p>Inspect all areas before works and clearing commences.</p> <p>Pad sizes are always kept to a minimum.</p> <p>Rehabilitate areas as soon as works are completed.</p>	Revegetate areas with native seeds.
	Erosion & Sediment Control	5	<p>Vegetation will be replanted in areas where possible.</p> <p>Topsoil will be re-spread as soon as possible after cessation of drill site.</p> <p>Rehabilitate areas as soon as works are completed.</p>	<p>Previous drill areas will be monitored for erosion before and after the wet season and after any significant rainfall event.</p> <p>If erosion has or is likely to take place, sediment traps will be installed.</p>
	Introduction of weeds	5	<p>Inspect vehicles prior to entry and exit from project area.</p> <p>Establish shake down areas at the exit from the project area to assist in removing weeds and seeds from plant and equipment. Shake down areas will be the exit entry point, as minimal vehicle traffic will be utilised on the project.</p> <p>Rehabilitate areas as soon as works are completed.</p> <p>Weeds will be removed from vehicles and collected in a container to be later sprayed or burnt.</p> <p>Tom Reddicliffe will be</p>	<p>Continuous monitoring and controlling of weed growth throughout the year, every month.</p> <p>Establish a spraying campaign to control weed infestation after the wet season or hand pull weeds from small areas where infestation has taken hold. Follow up to occur 3 months after a spray.</p>

Aspect	Impact(s)	Risk Rating	Preventative Control Measures (to prevent/minimise impact)	Mitigating Control Measures (to monitor and remediate impact)
			<p>responsible for the weed management on site.</p> <p>Incidences of new weed species on site will be reported to DLR and DPIR.</p>	
	Fire destroying flora and fauna	5	<p>Observe fire restrictions.</p> <p>Maintain fire breaks around drill equipment.</p> <p>Extinguishers mandatory on all vehicles and equipment.</p> <p>Mobile firefighting equipment on site during drill campaigns.</p>	Inspect firebreaks and fire extinguishers during daily pre-start procedures.
	Destruction of Cultural & Heritage Sites	6	<p>The operator has received an abstract from the AAPA, which advises that there are nil recorded sacred sites within the project area.</p> <p>If any potential archaeological material is discovered in the works areas, work will cease in that location and the occurrence will be reported to the AAPA.</p> <p>If any sites are later recorded, all on site personnel will be advised of sacred site details before any work commences. Pegs and flagging tape will be used to mark off the sacred site area if work is required to be completed close to the sacred site boundary.</p> <p>Use naturally cleared sites as a preference before clearing additional areas.</p>	Monitoring of pegs, markers and flagging tape at the start of each shift to ensure that they are in place and visible.
Drilling	Hydrocarbon spills/drilling fluids/drill water – contamination	5	Diesel fuel will be brought on site in 200 litre drums, stored on the service truck and transferred via a hand-pump. Spill kit will be on hand at	In the event of a spill on site, the contaminated soil will be removed and taken to a hazardous waste disposal facility. Eg Tox

Aspect	Impact(s)	Risk Rating	Preventative Control Measures (to prevent/minimise impact)	Mitigating Control Measures (to monitor and remediate impact)
	of soil, surface and ground water		<p>transfer point. Only sufficient fuel for the day's activities will be brought on to the work site.</p> <p>Disturbance to flora and fauna will be minimal due to sensitive clearing of drill pads. Noise and dust emissions will be managed with mandatory noise and dust reduction equipment on plant and machinery.</p> <p>PPE will be issued to personnel to minimize exposure to dust and noise.</p> <p>Work areas may be watered to reduce dust.</p> <p>Diesel fuel will be brought on site in 200 litre drums that will be stored on bunded pallets in the service truck and transferred via a hand-pump.</p> <p>Spill kit will be on hand at transfer point.</p>	Free.
	Dust and noise emission – pollution and disturbance to fauna	2	<p>A water cart may be used if required.</p> <p>Negligible amounts of air pollution will be produced during drilling.</p>	Dust will be visually monitored at all site inspections. A water cart will be implemented if dust is regularly produced from the site.
	Fauna entrapment and death down drill holes	3	<p>All holes will be capped with temporary caps immediately after drilling completion of the hole.</p> <p>After drilling has ceased and if no further down-hole activity is proposed, the holes will be permanently plugged, at a minimum depth of 400mm.</p>	At the start and end of each wet season, rehabilitated drill sites will be inspected to ensure that the site is safe and stable and that there have not been any hole failures.
	Contamination of surface	3	Silt traps will be implemented	Water courses will be visually monitored to

Aspect	Impact(s)	Risk Rating	Preventative Control Measures (to prevent/minimise impact)	Mitigating Control Measures (to monitor and remediate impact)
	water & ground water		if required. If erosion is evident or envisaged, measures will be put in place to prevent erosion, ie compaction and revegetation	ensure there is not an excess of silt within the water courses. Areas will also be monitored for erosion.
Use of vehicles/ machinery/ on site	Hydrocarbons and hazardous materials	5	Diesel fuel will be brought to site in a specially designed tank on the service truck. Transfer will be via hydraulic pump. Spill kits will be on hand in all vehicles. Oils and lubricants will be stored in an appropriate bunded container, and will be removed at the end of each shift. Vehicles will be washed down when entering and exiting the site;	In the event of a spill on site, the contaminated soil will be removed and taken to a hazardous waste disposal facility. Eg Tox Free.
	Wastes	3	Ensure that all domestic waste continues to be disposed of at a licenced rubbish dump. Remove potential food source for animal pest species.	All non-recyclable rubbish will be disposed of at the Flying Fox rubbish facility which is managed by Flying Fox Station. If required, other domestic waste will be disposed of at a licenced rubbish dump.

The above impacts have been assessed with the below Risk Rating Matrix.

KEY		CONSEQUENCE (C)		
Critical Risk		<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> Low <small>Little to no impact</small> </div> <div style="text-align: center;"> Medium <small>Medium term - ye impact</small> </div> <div style="text-align: center;"> High <small>Irreversible or long term - ye impact</small> </div> </div>		
High Risk				
Moderate Risk				
Low Risk				
LIKELIHOOD (L)	High	4	7	9
	Medium	2	5	8
	Low	1	3	6

Risk matrix and key.

5.5 Environmental Audits, Inspections and Monitoring

The responsible person, Tom Reddicliffe, will conduct a walk-through inspection of the work site prior to daily works during the operational period. Every inspection will monitor the below:

- Surface water;
- Groundwater;
- Invasive species;
- Flora and fauna;
- Hydrocarbons and hazardous materials areas and containers;
- Waste;
- Noise and air quality;
- Cultural and heritage sites; and
- Any areas of erosion.

Any adverse findings will be recorded in a site diary and acted upon as appropriate. For minor incidents that are readily controlled, appropriate actions will be undertaken to mitigate any adverse findings or conditions, and to prevent the recurrence of such incidents. In the case of a finding being made that is of concern from an environmental perspective, work may be halted until appropriate action has been taken to remedy the situation. If a serious incident is evident, the appropriate emergency response will be initiated.

A visual inspection of the site will be conducted prior to the initial commencement of work and following that, monitoring will be at the start of each shift (daily) during periods of operations and once a month when operations are not being conducted on site.

	Description of monitoring technique and frequency of the monitoring program	Audit and inspection technique and frequency where appropriate
Surface water	Daily visual inspections during operational periods.	Daily walk through inspections of operational work site. Scheduled inspections before and after wet season of non-operational site or after large rainfall event. *Note details in site diary.
Groundwater	Inspection of spill trays are in place underneath machinery to catch any fuel/ oil spills at the start of each shift. At the start of each shift, ensure that a spill kit of	Monitoring any leaks while machinery is operating and while plant and machinery are being refueled. *Note spills and action taken in site diary.

	absorbent material (kitty litter) is at hand to soak up any fuel or oil spill.	
Invasive species	All employees are to inspect their vehicles when entering and leaving a site to ensure that weeds are not transported on or off site. Inspect site for evidence of feral animal infestation – could be carcasses, scats or tracks in the case of large animals.	Daily walk through inspections of operational work site. Scheduled inspections before and after wet season of non-operational site event or after large rainfall event. *Note details in site diary.
Flora and fauna	Visual inspection - consult threatened species list prior to clearing an area to determine if threatened species are on site.	Prior to commencing clearing and daily walk through inspections of operational work site. Scheduled inspections before and after wet season of non-operational site event or after large rainfall event. *Note details in site diary.
Hydrocarbons and hazardous materials	Inspection of spill trays are in place underneath machinery to catch any fuel/ oil spills at the start of each shift. At the start of each shift, ensure that a spill kit of absorbent material (kitty litter) is at hand to soak up any fuel or oil spill.	While machinery is operating and while plant and machinery are being refueled. *Note spills and action taken in site diary.
Waste	Inspect areas to ensure that all waste articles have been removed from the site as intended.	Daily walk through inspections of work area. Scheduled monthly inspection of non-operational site. *Note details in site diary.
Noise and air quality	At the start of each shift, inspect all plant and machinery are equipped with mandatory noise suppression equipment.	Visually monitoring for dust during working periods. Monitoring noise during shifts.

		*Note details in site diary.
Cultural and heritage sites (if applicable)	At the start of each shift, inspect any marked off areas have flagging tape in place. As described in section 4, nil works will take place near waterways or streams in the C1993/171 and C2016/068 areas of the AAPA map results.	Daily monitoring if working near identified site. *Note details in site diary.
Erosion and sediment control.	Daily visual inspections during operational periods.	Daily walk through inspections of operational work site. Scheduled inspections before and after wet season of non-operational site or after large rainfall event. *Note details in site diary.

5.6 Environmental Performance

5.6.1 Objectives and Targets

The results of inspections/ audits conducted on the project area will constitute a monitoring program. During operational periods, Tom Reddicliffe will conduct inspections during the pre-start of each shift. Monitoring will also occur at the start and end of the wet season and after any significant rainfall events.

Inspections/ audits will focus on:

- Management of any water that is encountered during the drilling process – water will be diverted to the drill sumps;
- Water monitoring - surface water flowing on the drill pad will be diverted into the drill sumps or into silt traps to shed its load of silt before escaping on to the surrounding land;
- Noise mitigation will be effected by ensuring that mandatory noise limiting devices fitted to plant and machinery are functioning correctly and that all personnel are equipped with PPE ear muffs or ear plugs);
- Dust will be controlled by wetting down work areas and tracks (when proposed), and by issuing PPE (dust masks) personnel;
- Weeds will controlled on site by spraying, hand pulling, inspecting vehicles and plant entering and leaving the site and by establishing a shake-down area near the exit from the site;
- Waste oils, oil and air filters, grease cartridges and rags and domestic waste from the camp site will be removed from the project area and disposed of at an approved facility;

- Documented inspection and audit reports are intended to be included in the updated MMP to display the progress made towards achieving environmental targets. Details of inspections recorded in the site diary will be included in the MMP renewal;
- Drill holes will be capped as per the Advisory Note AA7-029. Drill pads and sumps will be rehabilitated as per that Advisory Note.; As mentioned in section 4.8, upon completion rehabilitation activities will be documented and photographed for lodgement with DPIR.

5.6.2 Performance Reporting

The records in the site diary of inspections/ audits conducted on areas of sites will constitute a monitoring program.

Inspections/ audits will focus on the aspects listed in section 5.6.1. Monitoring and inspection results will be provided in updated MMPs.

5.7 Emergency Procedures and Incident Reporting

The responsible person will be Tom Reddicliffe, Exploration Manager. An environmental emergency on the project area will most likely arise from a hydraulic oil or fuel spill. The small quantities of fuel that will be kept on the work site and the oil in the storage tanks of plant and machinery poses a risk to the environment. The emergency procedure that the operator has in place to manage such a threat is as follows:

- Alert co-workers and report the incident/or accident to the immediate supervisor;
- Trap any liquid if possible by bunding the area to prevent it from reaching any waterways;
- Without placing the safety of the individual at risk, identify the source of the leak if possible and determine if it can safely be stopped;
- The site manager/ supervisor must then report the incident/ accident to DPIR as soon as practicable after the occurrence in accordance with section 29 of the *Mining Management Act*. A copy of the Reporting Guideline is attached at **Appendix 12**;
- Manage any threat of fire by having different types of fire extinguishers that can deal with oil based fires and grass fires;
- Any contaminated soil and material such as rags and blankets must be disposed of at an approved facility;
- Ensure that the details and the occurrence of the incident/ accident have been noted and the record stored at the operator's office.
- Any incidents that are rated as 'Class 2' and above incidents will be reported to the Chief Executive Officer of the Department of Primary Industry and Resources in accordance with the procedures set out in the Guideline, which is attached in **Appendix 12**.

Kalyan's call in procedure, with emergency contact details and medical emergency procedures is located at Appendix 14.

6 Exploration Rehabilitation

Disturbance	Rehabilitation Activities	Schedule (Timing)	Closure Objectives / Targets	Monitoring Techniques & How Rehabilitation success is measured
Drill holes	Drill collars will be temporarily capped immediately after drilling, then collars will be cut-off or removed and holes plugged, at a minimum depth of 400mm, within 6 months of completion of drilling of the hole.	Holes will be permanently or temporarily capped immediately following cessation of the drilling program. Within 6 months of completion of drilling, collars will be cut-off or removed and holes plugged, at a minimum depth of 400mm.	All holes will be plugged/capped as per DPIR Advisory Note AA7-029.	Rehabilitated drill sites will be inspected at end of the wet season or within 6 months to ensure that the site is safe and stable and that there have not been any hole failures. Remediation of any failures will be undertaken immediately. Before, immediately after, and subsequent year photos to be taken.
Drill pads Nil Proposed at this time, however these rehabilitation activities will be implemented if tracks are later proposed.	Any topsoil that was removed will be re-spread over the pad. Any shrubs or trees that were removed will be placed over the area to provide habitat for small fauna.	The pad may not be rehabilitated immediately after drilling ceases if more down-hole is scheduled. If no further work is proposed or within 6 months, the pad will contour and to blend with surrounding environment.	Drill sites to be returned to original contour and to blend with surrounding environment. Drill pads will be left in a safe and stable condition as soon as possible after the end of drilling program.	Rehabilitated drill pads will be inspected at end of the wet season or within 6 months to ensure that the site is safe and stable and that regrowth on the area is satisfactory.
Sumps		If no further work is proposed the sump will be rehabilitated	The sump will be rehabilitated after drilling	Rehabilitated sumps will be inspected at end of the wet

<p>Nil Proposed at this time, however these rehabilitation activities will be implemented if tracks are later proposed.</p>	<p>Sumps will not be backfilled until all water has been pumped out or evaporated.</p> <p>Polyurethane liners will be removed if applicable for disposal at an approved facility.</p> <p>Topsoil will be re-spread on the top</p>	<p>after drilling ceases or within 6 months.</p>	<p>ceases or within 6 months.</p> <p>Sumps will be left in a safe stable condition as soon as possible after the end of drilling program.</p>	<p>season or within 6 months to ensure that the site is safe and stable and that regrowth on the area is satisfactory.</p>
<p>Tracks / Gridlines</p> <p>Nil Proposed at this time, however these rehabilitation activities will be implemented if tracks are later proposed.</p>	<p>Existing tracks to be cleaned up if required using blade-up technique. If compaction occurs they will be ripped prior to closure of the site as per DPIR Advisory Note AA7-005, unless required to remain in place by the pastoralist. The pastoralist is still considering this.</p> <p>Natural drainage lines will not be blocked.</p>	<p>Tracks/ Gridlines will be rehabilitated as per Advisory Note AA7-005 upon closure of the Authorisation unless required to remain in place by the pastoralist.</p>	<p>Where possible, Ismins will promote rapid revegetation and prevent initiation of erosion by using the blade up technique.</p> <p>Tracks will be rehabilitated as per Advisory Note AA7-005 unless required to remain in place by the pastoralist.</p>	<p>Rehabilitated tracks will be inspected at end of the wet season or within 6 months to ensure that they remain safe and stable and that regrowth on the area is satisfactory</p>
<p>Sample bags</p> <p>Nil sample bags will be used to collect drill spoils. Drill spoils will be laid directly on the ground in piles representing 1m of drilling depth. These</p>	<p>Sample bags to be removed and drill cuttings to be backfilled in the drillhole, or buried in the sump.</p> <p>Inert material may be respread over the drill site.</p> <p>Acidic drill cuttings to be backfilled in the drillhole or buried in the sump beneath a</p>	<p>All sample bags will be removed from site within 6 months of completion of the drill hole or field season drill programme.</p>	<p>All sample bags, waste materials and contaminants must be removed from site and disposed of in an appropriate manner, following the completion of the drilling program, as per Advisory Note AA7-029.</p>	<p>Drill areas will be checked for sample bags at the end of each drill programme.</p>

<p>rehabilitation activities will be used if they are used in later programs.</p>	<p>minimum of 1 m clean fill.</p>			
<p>Camp- Nil Proposed at this time, however these rehabilitation activities will be implemented if a camp is later proposed.</p>	<p>Mobile camp only – caravans and tents to be established. Domestic rubbish will be removed and disposed of at an approved facility. Long drop toilet.</p>	<p>Only 1 camp is anticipated. Camp sites to be vacated will be cleaned-up before vacating the area. Long drop toilets will be filled in.</p>	<p>The camps will be located on naturally occurring open areas or previously cleared areas. The sites will be left in “as found” condition.</p>	<p>Camp sites will be inspected at end of the wet season or within 6 months to ensure that they remain safe and stable and that regrowth on the area is satisfactory.</p>

6.1 Exploration Rehabilitation Register

Kalyan will begin using the Rehabilitation Checklist and Rehabilitation Register this field season. Copies will be provided in updated MMPs.

Before and after photographs will be taken and provided in future MMPs.

Appendices

Attached.

