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1 Summary

Kalium Lakes Potash Pty Ltd (Kalium Lakes) is committed to the principle of sustainable development and recognises the benefits of integrating economic, social and environmental considerations in its business planning and practice. Kalium Lakes believes that exploration activities can be completed in a manner that is compatible with existing land uses, is able to be rehabilitated and will facilitate information for decision making on the future development of mineral potential.

All personnel employed by Kalium Lakes either directly or as agents, consultants or contractors are required to comply with Kalium Lakes' policies and procedures to support its reputation as a trusted and responsible corporate citizen.

Kalium Lakes' Exploration Environmental Management Plan (EEMP) (this document) underpins an Environmental Policy mandated by the Directors of Kalium Lakes. The Policy requires that Kalium Lakes:

- Comply with all applicable environmental laws, regulations standards and company policies as a minimum, and strive for the highest standard of environmental performance;
- Use risk management processes to identify and control environmental risks;
- Continually improve environmental performance through the implementation of effective systems and use of technology;
- Ensure that employees are accountable for their role in environmental performance;
- Provide appropriate training and resources to achieve environmental performance goals;
- Ensure that controls are in place to meet all environmental standards;
- Regularly monitor and audit environmental performance; and
- Implement programs to conserve natural resources, prevent pollution and minimise waste.

This EEMP documents the environmental management controls for works that Kalium Lakes will carry out as part of its business. This EEMP is the primary environmental management document for all planned ground disturbance activities on Kalium Lakes' tenements.

Kalium Lakes exploration programmes may involve geological mapping, geophysical surveys, geochemical sampling, auger drilling, exploration drilling and well drilling. These activities require safe access and working areas – potentially clearing vegetation for access tracks and to construct drill pads and sumps. Kalium Lakes accepts the rehabilitation of these disturbance areas as part of its everyday activities, endeavouring to minimise its long term footprint on the environment.

To assist in the management of exploration activities by Kalium Lakes personnel, the environmental management actions described in this EEMP are organised by the particular activity to which they apply. The environmental management actions have been prepared to be generally applicable, to be used as and when required, but also keeping in mind that not all actions identified will necessarily apply to all sites.

Where a particular environmental factor is highly significant, an environmental risk assessment will be completed and, if required, further controls identified. In such an event an addendum to this EEMP will be prepared for the specific site or activity and attached to the relevant Programme of Works (PoW) documentation.

Kalium Lakes has a procedure in place for the identification, management and reporting of environmental incidents. All incidents will be managed according to this procedure.

For all Kalium Lakes' tenements, an Annual Environmental Report (AER) will be prepared and submitted to the Department of Mines, Industry Regulation and Safety (DMIRS) to document all ground disturbance and rehabilitation on an individual tenement basis. At the cessation of projects, Kalium Lakes will also prepare and submit a Rehabilitation Report to DMIRS. Where Kalium Lakes' activities trigger contributions to the MRF, the reporting requirements of the MRF will be addressed.

1. INTRODUCTION

Kalium Lakes Potash Pty Ltd (Kalium Lakes) is an exploration company with tenure under the *Mining Act 1978* (Mining Act) in Western Australia (WA) in the form of both granted and pending applications. The Company is based in Perth and operates teams remotely to conduct exploration activities.

This Exploration Environmental Management Plan (EEMP) has been prepared with the intention to cover the general activities and potential impacts from standard exploration programmes in WA. Exploration in environmentally significant areas may require additional controls that will be prepared and appended to the EEMP for the planned works. It is expected that the EEMP will be provided in support of any Programme of Works (PoW) application for exploration works.

Any exploration activities described here will be executed and managed by Kalium Lakes. Exploration programmes may involve some or all of the following activities:

- Planning;
- Site access and navigation;
- Geological and geotechnical mapping;
- Geochemical, geological, geotechnical and hydrogeological sampling;
- Geophysical surveying;
- Auger and heli rig drilling;
- Aircore drilling;
- Reverse circulation (RC) drilling;
- Diamond Well drilling;
- Establishment of temporary campsites;
- Establishment of vehicle tracks;
- Waste and chemicals management;
- Rehabilitation;
- Monitoring and checking;
- Preventive & Corrective actions (if required); and
- Reporting.

Fieldwork may be concentrated in seasonal periods that govern environmental conditions and risks. This helps to manage the associated environmental risks.

This EEMP has been prepared to cover the general environmental and access factors that are expected to be common at most sites. This EEMP also identifies these factors and presents the mandatory management actions for the exploration activities of Kalium Lakes.

It has been prepared to be consistent with the Code of Environmental Practice for Mineral Exploration in WA (AMEC / CME, 2010) and the Department of Mines, Industry Regulation and Safety (DMIRS) *Mining Act Guidelines Basic Provisions* (DMP, 2013).

DMIRS encourages industry to be aware of the need to protect the environment outside gazetted conservation areas (e.g. on Crown land). It advocates attention to Conservation Reserves and other environmentally sensitive lands [i.e. Department of Water and Environmental Regulation (DWER) managed Pastoral Leases, proposed Reserves from Department of Biodiversity Conservation and Attractions (DBCA) Regional Management Plans and Environmental Protection Authority (EPA) Red Book Areas, and environmentally sensitive areas such as areas of Threatened Flora, mangrove communities, and important wetlands].

Individual PoW applications under the *Mining Act 1978* (Mining Act) will include project and site specific maps prepared following relevant project planning.

2. PURPOSE AND SCOPE

The purpose of this EEMP is to provide the framework for environmental management of exploration activities within any of the Kalium Lakes tenements. This EEMP describes the control measures necessary to conduct exploration activities in an environmentally responsible manner and to ensure statutory compliance.

The scope of this EEMP spans the period from pre-exploration planning through to rehabilitation of post-exploration areas. The control measures described in this EEMP are designed so that industry environmental standards are met by Kalium Lakes.

3. LEGISLATION AND STATUTORY REQUIREMENTS

Mining and exploration of minerals in WA is administered under the Mining Act by DMIRS. It is a legal requirement that Kalium Lakes operate in accordance with the Mining Act which identifies Tenement Conditions and provides the legal framework for approval of PoW applications. Depending on the location, other statutory requirements may also apply. The following sections summarise key legislation and statutory requirements relevant to mineral exploration.

3.1 *Mining Act 1978*

When a mining company or prospector wants to explore for minerals in WA, they are required by the Mining Act to submit a PoW application to the DMIRS.

The PoW identifies:

- The exploration work to be undertaken;

- The total area proposed to be disturbed (hectares);
- The type of land tenure;
- That the tenement holder will meet all Tenement Conditions;
- That a query of the Register of Aboriginal Sites has been completed;
- Whether the work programme area is under formal assessment by the EPA;
- Whether the proposal involves the clearing of native vegetation;
- The existing environment;
- The environmental management plan; and
- The proposed rehabilitation practices.

The PoW application must be approved by the DMIRS prior to the commencement of exploration activities.

3.2 *Environmental Protection Act 1986*

A Memorandum of Understanding between the EPA and DMIRS clarifies the arrangements for referral of mineral exploration proposals to the EPA for assessment under Part IV of the *Environmental Protection Act 1986* (EP Act). An exploration proposal (e.g. a PoW) that appears likely to have significant impacts on the environment will be referred to the EPA for assessment under Part IV of the EP Act. Referral may be done by the Proponent or DMIRS.

Any clearing of native vegetation requires approval under Part V of the EP Act in the form of a Native Vegetation Clearing Permit (NVCP), unless specific exemptions apply. Exemptions are available for low impact activities such as mineral exploration that do not lie within Environmentally Sensitive Areas. The need for NVCPs will be assessed with each PoW.

3.3 *Other State Legislation*

Mineral exploration activities may also be subject to provisions under other State legislation. The common activities undertaken during mineral exploration that require consideration under other State legislation are provided in Table 1.

Table 1: Other State Legislation

Activity / Potential Impact	Legislation	Contact
Disturbance to Aboriginal Heritage sites	*Aboriginal Heritage Act 1972*	Department of Aboriginal Affairs (DAA)
Disturbance to Threatened Flora or Ecological Communities	*Wildlife Conservation Act 1950 (WC Act)*	DBCA
Seed Collection	WC Act	DBCA
Disturbance to Protected Fauna	WC Act	DBCA
Pollution (contamination of soil or water)	*Contaminated Sites Act 2003*	DWER

Activity / Potential Impact	Legislation	Contact
Clearing of native vegetation	*EP Act* *Environmental Protection (Clearing of Native Vegetation) Regulations 2004*	DMIRS
Activities on lands managed by DWER	*Conservation and Land Management Act 1984*	DBCA
Road Transport	*Road Traffic Act 1974*	Main Roads WA
Disturbance to groundwater (abstraction for drilling) and surface water (culverts, bed and banks etc.)	*Rights in Water and Irrigation Act 1914*	DWER
Fire Management	*Bush Fires Act 1954*	Local Shire (Bushfire Control Officer)
Transport and Storage of Dangerous Goods	*Dangerous Goods Safety Act 2004*	DMIRS

3.4 Commonwealth Legislation

Commonwealth legislation applies only where Commonwealth decisions are required. Some examples are Matters of National Environmental Significance (MNES), Native Title, world heritage, foreign investment and uranium mines. Relevant Commonwealth legislation includes:

- *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act);
- *Native Title Act 1993*;
- *Aboriginal and Torres Strait Islander Heritage Protection Act 1984*; and
- *Australian Heritage Council Act 1993.*

4. Planning and Stakeholder Engagement

4.1 Planning

Planning is the first activity in any exploration campaign. During the planning stage of an exploration campaign, Kalium Lakes will complete all data searches necessary to determine the presence of environmentally sensitive areas and features. The searches will include the items identified in Table 2 as a minimum. The coordinates for the tenements on which Kalium Lakes intends to carry out exploration activities will be used as parameters in all searches.

The searches detailed in Table 2 will identify sites or zones within the exploration area that require some degree of protection during exploration activities. The searches will also identify the key regulatory and government stakeholders in the planning process. In addition to the database searches, local knowledge and reports will be researched in communication with key stakeholders.

In addition to regulatory or conservation authorities, the following persons or representative bodies are considered to be key stakeholders in the design of an exploration programme:

- Landowner / Land Manager;

- Pastoral Lease holder;
- Tenement holder;
- Native Title holders / Claimants;
- Local government; and
- Relevant community groups.

In planning an exploration campaign, Kalium Lakes will comply with all statutory requirements relating to the location and the nature of access and / or disturbance required for exploration.

Identified stakeholders will be informed either verbally or in writing of the location and intended timing of Kalium Lakes' exploration campaign where appropriate. Kalium Lakes will encourage advice from stakeholders on designing the exploration campaign in order to minimise environmental and social impacts. For those stakeholders who will be directly affected by the exploration campaign, Kalium Lakes will schedule a personal meeting or telephone conversation to better understand the needs and requirements of the stakeholder and Kalium Lakes can communicate the activities and timing of the exploration activities.

For Freehold land, Kalium Lakes will enter into a written Exploration Land Access Deed with the landowner / occupier. The deed will address non statutory issues such as daily / seasonal access times, use of tracks, location of fences, bores, utilities and stock etc. Kalium Lakes will use a checklist to ensure that all of the above planning requirements are met prior to mobilising for exploration activities.

Table 2: Planning Stage Search Requirements

Sensitive Area	Database / Authority
Aboriginal heritage sites	Aboriginal Heritage Inquiry System (DAA) & EPBC Act Protected Matters Search Tool (PMST) (Department of Environment and Energy (DoEE)
European heritage sites	Heritage Council State Heritage Office & EPBC PMST (DoEE)
Habitat for conservation significant fauna	EPBC PMST (DoEE), DBCA
Conservation significant flora	EPBC PMST (DoEE), FloraBase (DBCA)
Areas occupied by Threatened or Priority Ecological Communities	EPBC PMST (DoEE), DBCA
Ramsar wetlands	EPBC PMST (DoEE)
World Heritage sites	EPBC PMST (DoEE)
Conservation areas	EPBC PMST (DoEE), DBCA
Habitat for migratory species	EPBC PMST (DoEE), DBCA

4.2 Work Execution

Immediately before exploration activities begin, Kalium Lakes will confirm with the landowner the contents of the deed and inquire about any changes to the site such as new fences, bores, gates and stock, etc. This communication will also enable the final details of the activities to be discussed with the landowner / manager.

During exploration, Kalium Lakes will immediately notify the landowner / manager of any relevant incidents such as damage to property or a breach of the conditions in the agreement.

Where exploration is in sensitive areas on or encroaching on DBCA-managed land, Kalium Lakes will contact the local DBCA representative immediately prior to commencing exploration and on a regular basis during the campaign.

When required, communications with the local government authority will inform Kalium Lakes' management of its use of public roads in the exploration area. Should an exploration programme limit the ability of the public, fire fighting vehicles or other vehicles to use public roads, Kalium Lakes will contact the local government authority. Management actions may include, among others, signage, alternative access routes, vehicle escorts and timing.

4.3 Work Conclusion

Kalium Lakes will notify the landowner, DBCA and/or the local government authority, as appropriate, at the conclusion of exploration activities. Any outstanding conditions in the deed with the landowner or access conditions will be finalised and completion confirmed in writing.

5. Significant Environmental Risks

As part of this EEMP, a set of management controls will be implemented to ensure compliance with all statutory requirements. The controls will also serve to minimise potential environmental and socio-economic impacts related to land use, ownership and public utilities. The controls have been designed to ensure Kalium Lakes meets the industry environmental standards.

Kalium Lakes will conduct systematic exploration activities on its tenements with varying levels of impacts and associated risks to the environment. For exploration activities, the following categories are used:

- Low impact activities include geological mapping, site access, navigation and geochemical sampling;
- Medium impact activities include auger and heli rig drilling and geophysical surveying; and
- Higher impact activities comprise of wheeled drill rigs, establishment of temporary campsites, establishment of vehicle tracks, waste and chemical management and site rehabilitation.

The significant environmental risks identified for Kalium Lakes' exploration activities include:

- Fire;
- Introduction of disease (such as dieback) or weeds;
- Damage to Heritage or other significant sites;
- Creation of erosion risk;
- Direct impact to surface and groundwater;
- Direct impact on fauna;
- Drill hole harvesting of fauna;
- Native vegetation clearing;
- Damage to conservation significant flora;
- Damage to recognised conservation areas;
- Hydrocarbon contamination of soil, surface water and / or groundwater;
- Noise and Dust emissions; and
- Impacts on amenity.

The management process underpins the management of these risks, and failure of that process is often a cause of incidents.

6. Common Environmental Risks and Management Controls

Environmental management actions that address common risks for the given exploration activities have been identified in **Error! Reference source not found.** Several management actions address more than one risk. For example, actions related to vehicle hygiene will address the risk of weeds, dieback fungus and fire.

The corresponding environmental management actions for each of the common risks are outlined in Table 3 at the end of this section.

6.1 Site Access and Navigation

Movement of people and equipment around the project / exploration site is a component of most exploration activities. In order for the wheeled drilling rig to access some investigation drill holes, land will need to be cleared for access tracks, and for laydown areas. For heli rig drilling and auger sampling, a laydown area will be required near an existing track to enable logistical support for movement of people, auger, heli rig and refuelling. The average width allowed for in most access track planning is approximately 4m. In some areas, clearing of

vegetation will not be required as access and visibility will enable safe transit without clearing or will be conducted via helicopter.

6.2 Geological and Geotechnical Mapping

Geological and geotechnical mapping is a very low impact activity. Desktop interpretation is generally undertaken remotely. Geological and geotechnical mapping tools include satellite and aerial photography. Often there is limited access to the exploration areas (generally only to check map data) resulting in a very small opportunity to impact the exploration area.

Field geological and geotechnical mapping will involve some vehicle access to project / exploration areas and will predominantly involve traversing the land by foot or by helicopter.

6.3 Geochemical, Geological, Geotechnical and Hydrogeological Sampling

Geochemical, geological, geotechnical and hydrogeological sampling involves navigating around the project / exploration area and collecting soil and water samples from the ground surface or just below. Most environmental risks introduced during geochemical sampling are also those identified for site access and navigation (see Section 6.1). Additional risks specific to geochemical sampling include:

- Direct impact on fauna; and
- Management process.

6.4 Geophysical Surveying

Geophysical surveying may be done on the ground or via aircraft. Airborne geophysical surveying includes aeromagnetics (fixed wing) and helimag (helicopter borne) techniques. Initial transport of geophysical personnel and equipment is often done by helicopter, followed by all-terrain vehicles or quad bikes to each station. The geophysical survey results allow Kalium Lakes to determine the extent of palaeochannels or other subsurface features. The results also help to further understand the distribution of the bedrock. Results will also be calibrated with outcomes from auger and heli rig drilling.

Most environmental risks introduced during geophysical surveying are also those identified for site access and navigation (see Section 6.1). Additional risks specific to ground based or airborne geophysical surveying include:

- Native vegetation clearing;
- Direct impact on fauna; and
- Management process.

6.5 Auger and Heli Rig Drilling

An auger or drilling rig transported by helicopter to the site often involves drilling to a depth of 0.5 – 100 m with a tractor mounted or a handheld auger. The drill holes will be utilised for collecting water and soil samples from the tenement areas. Samples may be taken both inside and outside lake boundaries. The drill hole pads are approximately 5m wide by 8m long. Water samples may be collected to allow Kalium Lakes to better understand the hydrogeology and behaviour of the aquifer. The soil samples provide information as to the material, density and porosity of the soil horizon at each location.

Soil and core samples will be obtained by geotechnical and hydrogeological testing. The geotechnical and hydrogeological testing results will allow Kalium Lakes to obtain more accurate data to determine palaeochannel depth (in calibrating geophysics), geological domains and construction requirements.

Sumps for water collection and disposal may be created in conjunction with drilling activities to allow for containment and sampling of water. These sumps will be made with either a backhoe or shovels depending on size requirements and filled in on completion of the activity.

Most environmental risks introduced during auger drilling and heli rig drilling are also those identified for site access and navigation (see Section 6.1). Additional risks specific to auger drilling include:

- Native vegetation clearing;
- Hydrocarbon contamination of soil or water;
- Drill hole harvesting of fauna;
- Amenity;
- Management process; and
- Direct impact to surface and ground water and well.

6.6 Aircore Drilling

Kalium Lakes may undertake Aircore drilling with a LandCruiser-mounted Mantis 80 Aircore rig, fitted with NQ sized drill rods, supported by a small 4WD water and rod truck and a separate logging vehicle. This team works in a convoy fashion along a drill line (although not using the same wheel ruts). Air, with water injection when required, is used to lift drill cuttings. No mud or chemicals are used. Drilling is intended to take place at the location of each surveyed peg. Aircore drilling will generally be limited to depths of less than 80m.

6.7 Reverse Circulation Drilling

RC drilling programmes typically comprise an RC drill rig, support truck, auxiliary compressor / booster truck (for deep drilling) and a logging vehicle (4WD). Site preparation

involves the construction of drill pads, tracks (depending on the terrain) and sumps. Sumps are constructed near the drill collar to contain ground water intersected during drilling.

6.8 Diamond and Well Drilling

Diamond drilling programmes are undertaken with a diamond drill rig, support / water / rod truck, and a logging vehicle (AWD). Site preparation involves the construction of drill pads, tracks (depending on the terrain) and sumps. Sumps are constructed near the drill collar to contain and recycle water to assist with the drilling process.

Additional risks associated with Aircore, RC and diamond drilling include:

- Diamond drilling;
- Native vegetation clearing;
- Creation of erosion risk;
- Direct impact to surface and ground water;
- Hydrocarbon contamination of soil or water;
- Noise or dust emissions;
- Drill hole harvesting of fauna;
- Amenity; and
- Management process.

6.9 Establishment of Temporary Campsites

Not all exploration campaigns require campsites. When a campsite is required it is located and organised in order to concentrate the various additional impacts in a well-defined area that can be easily rehabilitated. Campsites will generally introduce additional risks associated with the storage of fuels and other materials and direct clearing of vegetation. Kalium Lakes will liaise with the landowner to assist in identifying the best location for a temporary campsite.

Most environmental risks introduced during the establishment of temporary campsites are also those identified for site access and navigation (see Section 6.1). Additional risks specific to the establishment of temporary campsites include:

- Native vegetation clearing;
- Damage to conservation areas;
- Hydrocarbon contamination of soil surface water and / or groundwater;
- Amenity; and
- Management process.

6.10 Establishment of Vehicle Tracks

The establishment of new vehicle tracks often have the potential to cause impact far beyond the direct impact of the track itself. Should a track not be maintained, rehabilitated or closed adequately it can encourage third party access to an area that was previously difficult to reach. Increased traffic, particularly recreational access by people unaware or uncaring of their potential impact, can cause significant damage to an area.

Not all exploration campaigns will require new vehicle tracks. Kalium Lakes will use pre-existing tracks and cleared areas where practicable. When new vehicle tracks are required, Kalium Lakes will comply with establishment and rehabilitation conditions stipulated in the PoW and Tenement Conditions. Kalium Lakes Potash will be doing the majority of its initial programs using helicopters thus significantly reducing track clearing requirements.

Most environmental risk introduced during the establishment of vehicle tracks are also those identified for site access and navigation (see Section 6.1). Additional risks specific to the establishment of temporary campsites include:

- Native vegetation clearing;
- Damage to conservation areas;
- Introduction of weeds;
- Hydrocarbon contamination of soil or water;
- Amenity; and
- Management process.

6.11 Waste and Chemical Management

Undertaking an exploration campaign requires the use of diesel fuel and may require the use of drilling additives. Some waste will be generated, ranging from plastic bags, wrappers and general rubbish to drill cutting fluids, hyper-saline water and hydrocarbon wastes. Several factors will influence the type and amount of chemicals used and waste generated, such as the type of drilling, length of campaign, distance from the regional centre and use of a campsite etc.

Kalium Lakes will address the following risks associated with waste and chemical management:

- Direct impact to surface water;
- Direct impact to groundwater;
- Hydrocarbon contamination of soil or water;
- Direct impact on fauna;
- Amenity; and
- Management process.

6.12 Rehabilitation

Rehabilitation planning will identify the appropriate methods for rehabilitation, including revegetation species selection (where revegetation is required) in consultation with the landholder. The rehabilitation requirements may vary between drill-hole locations due to the different land uses within the project area.

Rehabilitation is an ongoing process throughout the exploration campaign. Preparation of a drill site or campsite will include stockpiling topsoil and vegetation, which is ultimately part of the rehabilitation process. Drill-hole sites are partially rehabilitated as the crew proceeds from one site to the next. The ultimate rehabilitation of the exploration area will be completed once exploration ceases and will be monitored to ensure compliance with the PoW, Tenement Conditions and agreements with regulatory authorities and / or the landholder. Rehabilitation typically includes the re-positioning of topsoil and vegetation and encouraging the recovery of the previous ecosystem by planting, land-forming, preventing access, disposing of waste or contamination and other tasks.

Kalium Lakes will address the following risks associated with rehabilitation management:

- Native vegetation clearing;
- Introduction of weeds;
- Introduction of Dieback fungus;
- Damage to conservation areas;
- Direct impact to surface water;
- Direct impact to groundwater;
- Hydrocarbon contamination of soil or water;
- Creation of erosion risk;
- Direct impact on fauna;
- Drill hole harvesting of fauna;
- Amenity; and
- Management process.

6.13 Management Actions

The following consolidated list (Table 3) of management actions identifies the actions to be taken to address the identified risks associated with any particular exploration activities. The actions will be applied as appropriate to manage the risks associated with the particular activity. They are listed in order of the risks that they manage. The Lake Carnegie Joint Venture Project is located in a listed ANCA Wetland area which requires additional management actions, listed in Table 3.

Table 3: Environmental Management Actions – All Projects

Environmental Risk(s) Addressed	Environmental Management Action	Timing
Amenity and Rehabilitation	Within 6 months of drilling PVC collars shall be removed or cut off at approximately 40cm below the surface and rehabilitated in accordance with DMIRS requirements.	Implementation
	When any fuel storage facility is no longer required the site shall be rehabilitated by removing the liner from the bunded area for recycling or appropriate disposal, levelling the bund walls and completing any other requirements of the approved PoW.	Implementation
	Exploration areas shall be maintained in a clean and tidy condition at all times.	Implementation
	Disturbed land shall be rehabilitated in accordance with tenement conditions.	Implementation
	At the completion of exploration, ensure that all grid pegs, tags, sample bags, flagging tape and any other rubbish is removed.	Implementation
	Rehabilitation activities shall be completed as soon as possible after the cessation of exploration work and shall be completed before the expiry of the licence.	Monitoring
	Any damage to pre-existing infrastructure (i.e. fences) is repaired to its original condition.	Implementation
Erosion	Use scrub rolling or slashing rather than blade machines for clearing, where practicable.	Implementation
	Where soil compaction or erosion has occurred, restore soil structure by scarifying or ripping.	Implementation
	All topsoil removed from the drill sites shall be appropriately stored and protected from erosion for later use in rehabilitation activities.	Implementation
Damage to Heritage and other significant sites	Conduct a search for Aboriginal Heritage sites in the exploration area.	Planning
	Conduct a search for World Heritage sites in the exploration area.	Planning
	Conduct a search for European Heritage sites in the exploration area.	Planning
	If an Aboriginal Heritage Site is identified during exploration activities it shall be protected and reported to DAA.	Implementation
	New access tracks shall endeavour to follow contours and avoid environmentally sensitive areas or soil types.	Implementation
Direct impact on fauna	No exploration personal shall intentionally trap or harm fauna.	Implementation
	No pets shall be brought into the field.	Implementation
	Ensure that all sumps and costeans incorporate egress ramps to prevent fauna from becoming trapped.	Implementation
	Domestic waste shall be managed in such a way as to avoid attracting fauna.	Implementation
	Domestic waste shall be stored in fauna proof containers.	Implementation
	As a minimum, Kalium Lakes shall ensure that searches of relevant databases for protected flora and fauna are completed over the proposed project area. Location data shall be used to plan exploration activities in consultation with DBCA where conservation significant species or TECs are present.	Planning
	Request permission from the landowner / land-holder before using their landing strip.	Planning
Direct impact to surface and groundwater	Drill holes intersecting flowing water shall be plugged.	Implementation
	Any drill hole that meets an artesian or sub-artesian flow shall be sealed to prevent contamination or cross-contamination of aquifers, and permanently sealed with cement plugs to prevent surface discharge of groundwater.	Implementation
	Exploration activities shall avoid surface water drainage features where possible. The exploration programmes shall be designed to ensure that no disturbance shall occur to surface water drainage patterns and surface water bodies.	Planning
	Campsites shall be established a minimum of 500 m from all surface water features.	Planning

ENVIRONMENTAL (EXPLORATION)

Environmental Risk(s) Addressed	Environmental Management Action	Timing
	All wastes shall be collected, segregated and stored in properly constructed containers and removed to a licenced landfill facility or another disposal site in accordance with local council requirements.	Implementation
Drill hole impacts on fauna	All holes shall be constructed and / or sealed to prevent the collapse of the surrounding surface.	Implementation
	Shallow surveying holes shall be backfilled on completion.	Implementation
	Drill holes shall be sealed, surveyed and marked.	Implementation
Fire	Kalium Lakes shall contact the local government authority if exploration activities limit the use of public roads for fire fighting vehicles.	Planning
	All employees and contractors shall be inducted to be aware of general environmental risk and responsibilities.	Planning
	All vehicles and machines shall have well-maintained exhaust systems to prevent the accumulation of combustible material against heat sources (engine exhaust pipes and mufflers). Injectors on diesel vehicles shall be in good / safe working order.	Planning
	In high-risk periods and areas all field vehicles shall be equipped with a minimum of a 9 kg pressurised fire extinguisher.	Implementation
	In the event of fire, render all possible assistance to the owner / occupier and DBCA or the Department of Fire and Emergency Services (DFES) fire controller.	Implementation
	Contain combustible material within cleared areas.	Implementation
	Exploration vehicles shall use only diesel fuel, no petrol.	Implementation
	Field crew shall ensure that cigarette butts are completely extinguished and disposed of appropriately.	Implementation
	No firearms shall be permitted on exploration sites.	Implementation
	In the event of a fire that cannot be extinguished crew shall call the emergency numbers (including land owners) and evacuate to pre-arranged assembly points.	Implementation
	Field crew shall ensure that cigarette butts are completely extinguished and disposed of appropriately.	Implementation
	Open air use of tools and equipment that use a naked flame or generate sparks, such as welding or grinding, shall not occur on days of Total Fire Ban declared by DFES.	Implementation
	All fire-fighting equipment shall be checked for compliance by site manager before being brought onto site.	Monitoring
Introduction of weeds (or Dieback fungus)	There shall be no movement of soil or vegetation into, out of or within the exploration areas, unless contaminated with hydrocarbons.	Implementation
	Prior to entering the exploration area, all vehicles shall assemble at a designated site for inspection and removal of soil and plant material. The vehicles shall proceed to the project area via designated roads.	Implementation
	All drill water returns shall be trapped in a small sump and allowed to drain back into the ground.	Implementation
	Ascertain if any regional disease or weed control campaign is current and follow directives from the regulators and the landholder / owner.	Planning
	Where clearing with a blade machine (dozer or backhoe) is necessary, equipment blades are to be set above ground level so as to minimise the disturbance to topsoil and rootstock and to reduce soil erosion.	Implementation
	Cleared vegetative matter shall be retained for rehabilitation.	Implementation
Management Process	Ensure that all planned activities are consistent with the PoW and any other relevant approval requirements prior to commencing any exploration.	Planning
	The PoW, tenement conditions and this EEMP shall be the primary environmental management documents for all planned ground disturbance activities on all Kalium Lakes tenements. Where environmental risks require additional management controls, they shall be identified in the PoW.	Planning

ENVIRONMENTAL (EXPLORATION)

Environmental Risk(s) Addressed	Environmental Management Action	Timing
	For exploration programmes on Freehold Land Kalium Lakes shall communicate with the land owner / holder before, during and after exploration activities.	Planning
	Any agreements about land access, timing, compensation or other issues reached between Kalium Lakes and the land owner shall be documented and signed by representatives of both parties.	Planning
	During the planning stage, Kalium Lakes shall determine the required use(s) of public roads.	Planning
	Prior to the execution of any exploration programme Kalium Lakes shall consult with all relevant stakeholders.	Planning
	A search for underground or above ground services shall be conducted on each tenement when planning an exploration activity that may disturb the services infrastructure.	Planning
	Kalium Lakes shall comply with conditions of any approval to operate on conservation areas and reserves.	Implementation
	A copy of the tenement conditions shall be supplied to the Field Supervisor with a field copy of this EEMP.	Implementation
	Fieldwork shall be governed by seasonal access conditions and requirement including consideration of cropping and grazing activities by Landholders / owners.	Implementation
	Immediately before exploration activities begin, Kalium Lakes shall confirm with the landholder / owner the contents of the written agreement and inquire about any changes to the site since the agreement was signed.	Implementation
	All employees, contractors and equipment are not to stray from the designated access ways and drill lines.	Implementation
	During exploration Kalium Lakes shall immediately notify the landholder / owner of any incidents relevant to the land owner.	Implementation
	Safe speed limits shall be adhered to at all times.	Implementation
	Whilst Kalium Lakes is conducting operations that may impede the public, signage shall be erected to warn the public of work areas.	Implementation
	Vehicle escort procedures shall be used to minimise risks associated with movement of heavy vehicles between paddocks, etc.	Implementation
	Any contaminated areas located by Kalium Lakes shall be reported to DBCA.	Implementation
	Exploration crew shall leave all fences and gates in the position and condition in which they are found and report any loose stock or abnormal fence / gate conditions to the landholder / owner.	Implementation
	All equipment used on site shall be maintained in good / safe working order.	Implementation
	Material Safety Data Sheets shall be kept on site for diesel, domestic cleaning products, degreaser, engine oil and other relevant substances. Site induction shall include risk management requirements for these substances.	Implementation
	Use existing areas of disturbance including existing tracks and roads for access where available.	Implementation
	At the end of an exploration programme, any outstanding conditions in the agreement with the land owner shall be finalised and confirmed in writing.	Monitoring
	Significant environmental incidents or hazards are to be reported by phone to Kalium Lakes Management as soon as practicable.	Monitoring
	Records of drilling operations shall be kept by Kalium Lakes and a register of rehabilitation requirements and timings kept and used to ensure compliance.	Monitoring
	Records of correspondence with all identified groups shall be retained in the Kalium Lakes central filing system.	Monitoring
	At the cessation of the project, Kalium Lakes shall complete a Rehabilitation Report and submit to DMIRS.	Monitoring
	Where possible, source seed for revegetation work from as close as practical to the disturbed area.	Corrective Action
	Damage to survey pegs shall be communicated to landholder / owner, tenement holder and regulators as soon as practicable.	Monitoring

ENVIRONMENTAL (EXPLORATION)

Environmental Risk(s) Addressed	Environmental Management Action	Timing
	Obtain written confirmation that landholder / owner shall assume responsibility for any exploration infrastructure which is to remain.	Implementation
	Gain approval from DMIRS and the Department of Lands Pastoral Lands Board before leaving track / roads to a pastoralist.	Implementation
Native vegetation clearing	Complete the requirements for any native vegetation offset if required by the PoW / NVCP.	Implementation
	Ensure that, unless otherwise specified in the PoW, all areas disturbed as a result of exploration activities are revegetated and rehabilitated, ultimately providing a stable landform similar to surrounding undisturbed areas that supports suitable local native flora and vegetation species.	Monitoring
Noise & Dust emissions	Where applicable all drill rigs to be used on site shall be fitted with appropriate dust and noise suppression equipment (e.g. water sprays and mufflers). Equipment shall be maintained in good working order.	Planning
	Pre-start inspections of equipment shall include inspections of noise and dust controls to ensure they are operational.	Implementation
	Drill-hole sites shall be located far enough from any residence to be within noise emission limits.	Implementation
Hydrocarbon contamination of soil or water	Chemicals, hydrocarbons and containers shall be stored where they or their contents cannot enter or contaminate surface water or ground water systems, interfere with native flora or fauna, or come into contact with livestock.	Implementation
	All chemicals, fuels and oils shall be appropriately stored with self-bunded and double skinned containers used where practicable.	Implementation
	Any drilling additives used shall be non-toxic and biodegradable.	Implementation
	Environmental incidents (including chemical / hydrocarbon / saline water spills, noise or dust non-compliances, over clearing, fire or other) shall be reported using the Kalium Lakes Incident Reporting form.	Monitoring
	Spill kits shall be available for hydrocarbon and chemical spillages. They shall be regularly checked and maintained.	Planning
	All vehicles, earthmoving and drilling equipment shall be inspected to check that they do not leak oil, fuel or other fluids, before entering the site.	Implementation
	Contaminated material shall be disposed of at an approved waste disposal site.	Implementation
	A supply of appropriate spill and dust prevention and oil absorbent materials shall be maintained at all drill sites.	Implementation
	No servicing of equipment is to be undertaken on site.	Implementation
	All spills of dry or wet chemicals or hydrocarbons shall be cleaned up.	Implementation
	On completion of exploration activities, all chemicals and hydrocarbons (including their containers) must be removed from site for disposal at an approved waste disposal facility.	Implementation

Table 4: Environmental Management Actions – Lake Carnegie Joint Venture Project only

Environmental Risk(s) addressed	Environmental Management Action	Timing
Impact on fauna	Auger holes are to be drilled in areas free of vegetation. No vegetation clearing is permitted during exploration activity.	Implementation
	Personnel completing the exploration activities will be briefed on the potential occurrence, appearance and preferred habitat of the Night Parrot (*Pezoporus occidentalis*).	Planning
	Sighting of the Night Parrot will be reported to DBCA as soon as practicable.	Implementation

Helicopter specific	Helicopter will not be flown at dawn or dusk to minimise potential risks of disturbance to the Night Parrot.	Implementation
	Refuelling of the helicopter is to be done outside of the ANCA listed area and fuel brought to site using only existing tracks.	Implementation
	The helicopter will not land on islands in the lake or in or near any thick samphire vegetation.	Implementation

7. Non-Ground Disturbing Activities

There are a number of non-ground disturbing activities which Kalium Lakes may implement in any given exploration programme. It should be noted that no particular significant risks are associated with these activities:

- Bulk water sample(s) extracted from the investigation water holes into an Intermediate Bulk Container;
- Fauna and flora environmental surveys may be undertaken by an environmental services consultancy group to determine the extent of the ecosystems at the project's sites;
- After the initial water sample testing has been completed, ongoing water testing over seasonal variation will occur; and
- Light Detection and Ranging (LiDAR) surveys may be undertaken by light aircraft to determine topographical information about the exploration area. Surveys are then calibrated by ground control survey points that will be set up for ongoing use.

8. Monitoring, Corrective Action and Reporting

8.1 Monitoring

Monitoring checklists have been developed for the pre-exploration, operational and post-exploration phases of a project. These checklists may have to be amended to include project specific controls after Kalium Lakes completes the planning and stakeholder engagement phase of any proposed project. These checklists are also designed to support on-site compliance with this EEMP and to act as an auditable record of performance for the proposed project.

The requirements for the completion of the monitoring checklists are as follows:

- Pre-exploration checklist to be completed by the Field Supervisor and the Exploration Manager prior to commencement of exploration activities;
- Operational control checklists to be completed by the Field Supervisor during the operation at each drill site, and by the Exploration Manager; and
- Post-exploration decommissioning and remediation to be completed by the Exploration Manager, following the completion of drilling and rehabilitation activities.

8.2 Corrective Actions

Corrective actions will depend upon the details of the non-compliance or issue that has to be corrected. The incident reporting and investigation processes of Kalium Lakes will be used to assist in the identification and management of corrective actions where appropriate.

General exploration incidents and their corresponding corrective actions are typically those outlined in Table 5.

Where the issue relates to legal compliance, the suitable processes will be followed to inform the responsible regulatory authority and determine any relevant corrective actions. Where the item requiring corrective action is relevant to a landholder, they will be consulted about the corrective actions prior to implementation.

The Kalium Lakes incident reporting process is managed to ensure that corrective actions are identified and implemented as part of the company's continuous improvement process.

The responsibility for corrective actions will rest with the Field Supervisor and ultimately the Exploration Manager.

Table 5: General Exploration Incident Types and Corrective Actions

Incident	Corrective Action
Fire	Review ignition sources and amend procedures or equipment
Introduction of Dieback fungus	Identify source of infection and revise procedures
Introduction of weeds	Identify source of infestation and revise procedures
Damage to Aboriginal Heritage and other significant sites	Review data and procedures
Creation of erosion risk	Rehabilitate area to minimise risk of further erosion
Direct impact to surface water and / or groundwater	Assess source and amend procedures; and Assess impacts and monitor
Direct impact on fauna	Report and review procedures
Drill hole harvesting of fauna	Cap holes
Native vegetation clearing	Review data and procedures; and Rehabilitate
Damage to conservation significant flora	Review data and procedures; and Rehabilitate
Damage to recognised conservation areas	Review data and procedures Rehabilitate
Hydrocarbon contamination of soil or water	Assess source and amend procedures; and Assess impacts and monitor, or remove contaminated materials to appropriately licenced landfill
Noise & dust emissions	Review equipment and procedures
Impacts on amenity	Review context and procedures; and Rehabilitate or make acceptable
Management process	Review and amend system

8.3 Reporting

Incidents and complaints relating to the exploration program will be managed in accordance with existing Kalium Lakes' standards to Environmental Incident Reporting.

An AER is required for all mining projects regulated under the Mining Act that have the AER condition imposed on the relevant tenements, whilst the tenement(s) remain live. A condition requiring the submission of an AER is imposed on the tenement following the approval of a mining proposal.

The AER will document all ground disturbance and rehabilitation on the project and provide a summary of any incidents or non-compliances for the site and reporting period. Online AER submission to the DMIRS currently requires all activity on Mining Act tenure to be reported, including exploration. This satisfies the reporting requirements under the PoW and a separate report is not required.

The objectives of the AER are to:

- Concisely document the major mining activities for the reporting year (reporting period defined as the 12 month period prior to the specified due date) and proposed activities for the following reporting year;
- Concisely document environmental management and rehabilitation activities for the reporting year and proposed activities and developments in the following year;
- Conduct an environmental analysis of the project;
- Assist Kalium Lakes in monitoring and reporting on environmental compliance and performance;
- Prepare for future mine closure through reviewing the status of rehabilitation and mine closure planning on an annual basis; and
- Provide basic information to DMIRS about the extent of mining operations in the State and the standard of environmental management and mine closure planning being achieved.

PoWs currently require the submission of a Rehabilitation Report following the completion of exploration activity and rehabilitation. At the cessation of the project, Kalium Lakes will complete a Rehabilitation Report. The Rehabilitation Report will address compliance with Tenement Conditions, PoW conditions and any other relevant obligations relating to the exploration programme. The Rehabilitation Report will be provided to the relevant agencies and landowner as required or on request.

The Mining Rehabilitation Fund (MRF) is a pooled fund that is used to rehabilitate abandoned mine sites in WA. Interest earned on fund contributions is spent on the rehabilitation of legacy abandoned mines. The *Mining Rehabilitation Fund Act 2012*, which provides the framework for the MRF, was enacted in 2012. All tenement holders operating on Mining Act tenure (with the exception of tenements covered by State Agreements not listed in the regulations), are required to report disturbance data and contribute annually to the MRF. Tenements with a rehabilitation liability estimate below $50,000 will report disturbance data but is not required to contribute to the MRF.

As the MRF is a special purpose account under the *Financial Management Act 2006*, funds must be spent in accordance with the purpose stated in the MRF legislation. Where Kalium Lakes' activities trigger contributions to the MRF, the reporting requirements of the MRF will be addressed.

Discussions with regulatory bodies or other key stakeholders during the planning phase of a project may lead to additional reporting requirements. Kalium Lakes will adhere to any requirements agreed to during these discussions.

9. Glossary

Term	Meaning
AER	Annual Environmental Report
EEMP	Exploration Environmental Management Plan
DAA	Department of Aboriginal Affairs (WA)
DBCA	Department of Biodiversity Conservation and Attractions (WA)
DFES	Department of Fire and Emergency Services (WA)
DMIRS	Department of Mines, Industry Regulation and Safety (WA)
DMP	Department of Mines and Petroleum (WA)
DoEE	Department of Environment and Energy
DWER	Department of Water and Environmental Regulation (WA)
EP Act	*Environmental Protection Act 1986*
EPA	Environmental Protection Authority (WA)
EPBC Act	*Environmental Protection and Biodiversity Conservation Act 1999*
Kalium Lakes	Kalium Lakes Potash Pty Ltd
LiDAR	Light Detection and Ranging
RC	Reverse circulation
Mining Act	*Mining Act 1978*
MRF	Mine Rehabilitation Fund
NVCP	Native Vegetation Clearing Permit
PoW	Programme of Works
PMST	Protected Matters Search Tool
WA	Western Australia
WC Act	*Wildlife Conservation Act 1950*