

Trigg Mining

Environmental Management Plan (Drilling)

Lake Throssell Project

This management plan must be referred to prior to commencing drilling activities at the Lake Throssell Project

Introduction

This document provides a summary of environmental guidelines for conducting drilling activities on Trigg Mining projects. It should be read thoroughly by all staff and contractors during the induction process, and is relevant to all field staff involved in drilling activities on behalf of Trigg Mining. This document contains the following sections, and copies should be provided to all relevant staff on site:

1. Drilling program information
2. Vehicle inspection procedure (Biosecurity & vehicle hygiene)
3. Fire management
4. Vegetation management & Environmentally Sensitive Areas (ESA)
5. Local fauna management
6. Native Title
7. Drill holes on non-perennial lakes
8. Drill hole locations & access
9. Drill pad set-up & management
10. Sump preparation
11. Waste management
12. General environmental management
13. Hydrocarbons & chemicals
14. Photo monitoring (rehabilitation)
15. Rehabilitation

1. Drilling program information:

Program location: Lake Throssell

Tenement ID: E38/3065

Site supervisor (Trigg): _____

Program type: _____

POW ID number: 99907

POW approval date: _____

Drilling supervisor: _____

Drilling contractor: _____

Native Title group: _____

Program start date: _____

2. Vehicle inspection procedure (biosecurity & vehicle hygiene):

A vehicle hygiene and biosecurity inspection should be completed on all vehicles involved in field exploration activities as follows:

- Prior to any field vehicles (be they company or contractor) mobilising to the field area. All vehicles involved in drilling activities (including LV's) should be inspected prior to mobilising from base camp to the area where field activities are being conducted.
- Prior to moving from one field area to another (i.e moving between drilling target areas or soil sampling areas).

All field vehicles should be checked according to the following guidelines:

- Thoroughly check all tyre treads for evidence of weeds, seeds/burrs and soil. Also check any void spaces in the tyre rims.
- Thoroughly check all mud-flaps for evidence of caked soil/mud and/or vegetation (including grasses, sticks, seeds/burrs etc).
- Thoroughly check the under-carriage of the vehicle for evidence of vegetation (grasses, weeds, seeds/burrs) and caked-on mud/soil.
- Check that the floor mats in all vehicles are free of any foreign weed or seed material.
- Thoroughly check the vehicles for evidence of any oil leaks or other issues that could lead to environmental contamination on site.

If any evidence of potential contaminants is found, the affected area must be cleaned down again and subsequently re-inspected. Only vehicles that have passed biosecurity & hygiene inspections are permitted to enter the field operations area.

Each time an inspection is carried out, the form should be completed and signed by the person carrying out the inspection. At the completion of the program (or when the vehicle in question has completed field activities), the completed form should be given to the site supervisor for filing.

3. Fire Management:

When conducting field activities on agricultural land during the fire danger season, all Trigg Mining field crews and contractors will abide by any total fire bans issued by the Department of Fire and Emergency Services (DFES), and cease all field work until the movement ban is lifted by DFES. Furthermore, either the Trigg Mining site supervisor or the drilling supervisor may also suspend drilling activities independent of DFES if they feel field conditions are contributing to an unacceptable fire risk.

Any hot work activities such as welding, grinding or bit sharpening should only be carried out at a location deemed safe by the Trigg Mining site supervisor, with all necessary precautions to be taken (as per the relevant SWI). The Trigg Mining field supervisor should check the DFES website each night for any proposed total fire bans within the relevant shire council area - www.dfes.wa.gov.au.

4. Vegetation Management and environmentally sensitive areas:

Trigg Mining often carries out exploration activities in areas with significant remnant native vegetation, and as such aims to conduct its field activities in a way that will minimise any environmental impact as much as possible. In order to protect Environmentally Sensitive Areas (ESA's) and remnant vegetation throughout the project area, Trigg Mining is committed to the following:

- No remnant vegetation (i.e trees, shrubs) is to be removed unless approval has been granted by the relevant statutory authorities and representatives of the relevant native title group.
- Vegetation clearing will only be carried out in approved areas such as access tracks and drill pads, and must stay within designated buffer zones as outlined in approved Programmes of Work (POW's).
- Access tracks and drill pads will be planned and constructed in a way that avoids significant vegetation where possible, and clearing will be carried out using a raised blade.
- Drill hole location pegs are not to be moved unless authorised by the Trigg Mining site supervisor.
- A map of the proposed drill sites and access tracks in the area is provided as part of this document. If additional copies are required, please see the Trigg Mining site supervisor.

5. Local fauna management:

Trigg Mining is committed to protecting local fauna and associated habitats within the Lake Throssell project. All staff and contractors on site are to be mindful of this and avoid interfering with or damaging/harming and local fauna or associated habitats, while observing the following:

- When constructing access tracks and drill pads in the field, staff are to be mindful of any nests, burrows etc and avoid them where possible.
- Vehicles to remain on designated tracks and drill pads throughout the exploration program.
- Any drilling sumps constructed need to include an egress ramp or slope to allow any trapped animals to escape.
- Staff are not to interfere with any nests or other habitats during field activities.

It has been noted that Malleefowl (*Leipoa ocellate*), a threatened fauna species, is recorded within 10km of the Lake Throssell project area. They are large, ground-dwelling birds that rarely fly unless alarmed (Figure 1). They are approximately the size of a domestic chicken, with adults weighing between 1.5 and 2.5kg. They are characterised by the distinct grey, black and white banding across their body and wings. The breast and belly are cream-white, and their neck and head are greyish with a white stripe under the eye. A dark crest extends from the front of the crown to the nape and is raised when the bird is alarmed. Both sexes are similar in appearance, although males are typically slightly larger than females.

Malleefowl create nests comprised of a large mound of soil covering a central core of leaf litter that can span up to 5m in diameter and 1m in height (Figure 2). Care must be taken by all staff and contractors on site during exploration activities (in particular the construction of access tracks and drill pads) not to disturb or destroy any Malleefowl nests. All staff must observe a 50m no-go buffer zone around any nests encountered, and not disturb any Malleefowl birds spotted in the field.

If any Malleefowl birds or nesting sites are spotted during exploration activities, the location coordinates should be taken (along with a photo if possible) so that a Department of Parks & Wildlife "Fauna Report Form" can be completed and submitted to DPAW.



Figure 1. Example of a Malleefowl bird.



Figure 2. A Malleefowl bird and nesting site.

6. Native Title:

The area of exploration licence E38/3065 covers land that is the subject of the Ngaanyatjarra Lands Determination, made by the Federal Court of Australia in June 2005 and 2008 (WAD 6004/04). Tenement application E38/3483 also falls within the Ngaanyatjarra Lands Determination, as does application E38/3458 and a small portion of E38/3459 (Figure 3).

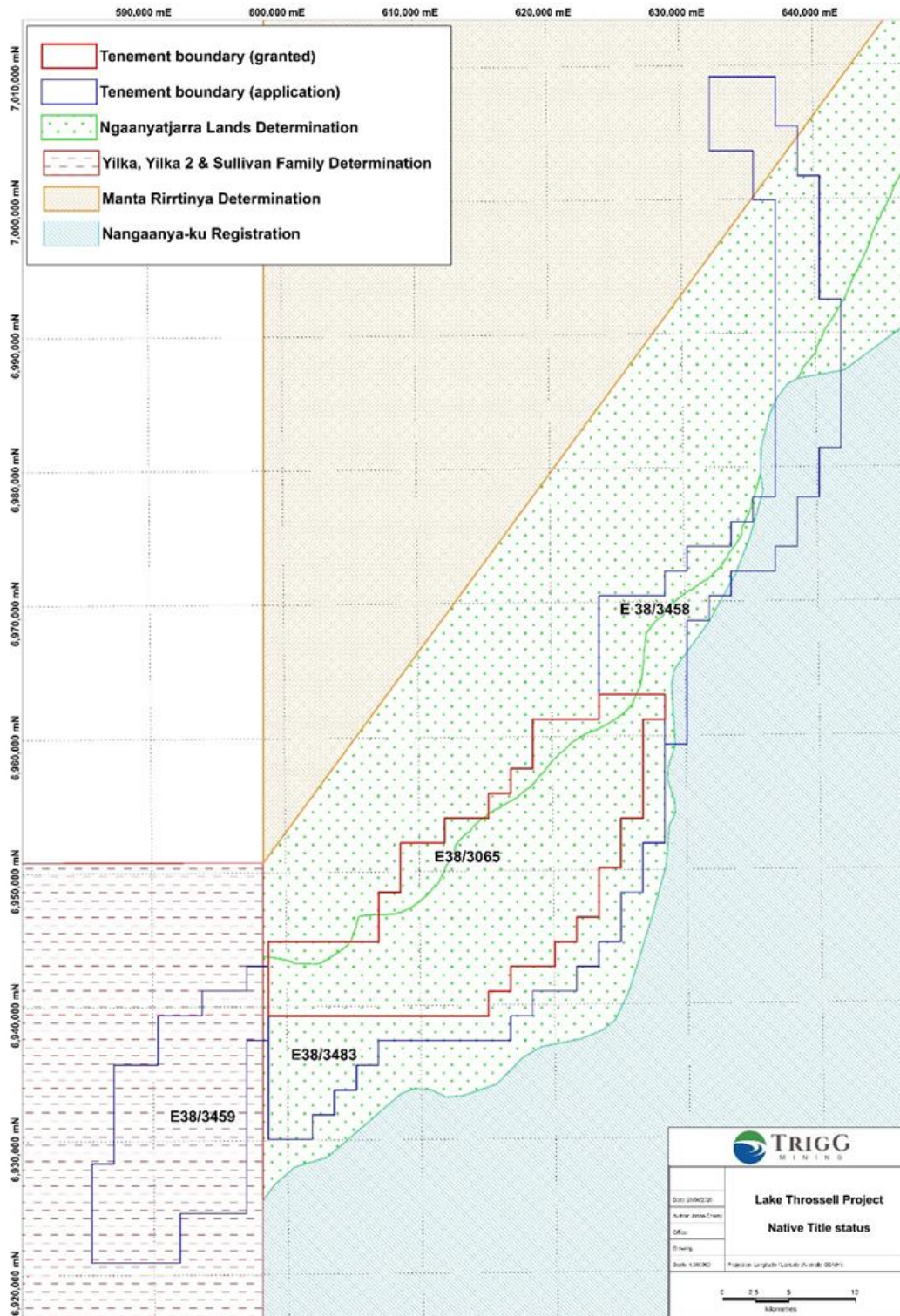


Figure 3. Native Title coverage over the Lake Throssell project.

In 2018, Trigg Mining and K2O Minerals negotiated an agreement with the Yarnangu Ngaanyatjaraku Parna (Aboriginal Corporation) RNTBC, in its capacity as the registered native title body corporate in respect of the land the subject of the Ngaanyatjarra Lands Determination, to facilitate the grant of E38/3065 and to govern the carrying out of exploration activities on the tenement.

Lake Throssell (and the surrounding area) is an important and significant place to the Ngaanyatjarra people and forms part of a Bilby dreaming story that covers a large area within the Gibson Desert. Trigg Mining acknowledges and respects the traditional land owners of the Lake Throssell project and is committed to acting with integrity and transparency on all matters relating to Aboriginal cultural heritage and lands. Prior to any ground disturbing exploration activities taking place, Trigg Mining will work closely with the Ngaanyatjarra people to ensure that no proposed access tracks or drill sites will interfere with any known sites of significance.

In Western Australia, the Aboriginal Heritage Act (1972) protects all aboriginal sites. It is against the law for any exploration staff or contractors to disturb a site or move/remove any artefacts. If during the course of exploration activities any staff or contractors discover potential aboriginal artefacts:

- The site is not to be disturbed, and any exploration activities in the vicinity should be halted.
- The site coordinates are to be recorded, along with photographs of the potential artefacts, so the information can be provided to the Ngaanyatjarra people by the Trigg site supervisor.
- Exploration activities should be moved away from the site to prevent

7. Drill holes on non-perennial lakes:

The Yeo Lake/Lake Throssell system is recognised as a nationally important wetland (ANCA directory) and is classified into two wetland types:

- B2 (Inland wetland) – Seasonal and irregular rivers & streams;
- B8 (Inland wetland) – Seasonal/intermittent saline lakes.

Should any planned drill holes occur within any non-perennial lake surfaces, the following practices must be implemented in order to protect Threatened Ecological Communities (TEC's) or Environmentally Sensitive Areas (ESA's) within these areas:

- Drilling needs to be carried out with specialized low impact drill rigs and similar low impact vehicles (i.e ATV's), to both prevent vehicle bogging and reduce impact on the surface during tramming to and between drill holes (Figure 4).
- Drilling may only be carried out on any "islands" containing remnant vegetation within the lake system once all appropriate statutory approvals have been received. When drilling on these surfaces, impacts on remnant vegetation need to be kept to as minimal as possible.
- Tramming between drill holes should utilise existing clearings such as playa lake surfaces and connecting tributaries (example in Figure 4 below), which will eliminate the need for any clearing work.
- Drilling samples from the rig cyclone can be placed on the lake surface using buckets rather than put in green bags.
- Groundwater encountered during drilling should be contained within the playa lake surface (Figure 5).



Figure 4. Example of low impact vehicles used for on-lake drilling.



Figure 5. Example of groundwater and sample containment on lake surface.

8. Drill hole locations & access:

The proposed work program shown in Figure 6 comprises the following:

- Construction of temporary causeways across sections of the lake surface, in order to enable drill rig and support vehicle access. Causeways will be constructed by an amphibious excavator using lake sediments from either side of the proposed causeway. Causeways will be ~5m wide and ~0.5m high.
- Off lake access tracks to enable drill rig and support vehicle access to proposed work sites. Clearing will be carried out using raised blade method and designed to avoid significant vegetation where possible.
- Scout aircore drilling program (final locations TBC) to determine the optimal location for production bore installation.
- Installation of a series of brine production bores for determining aquifer characteristics and test pumping.

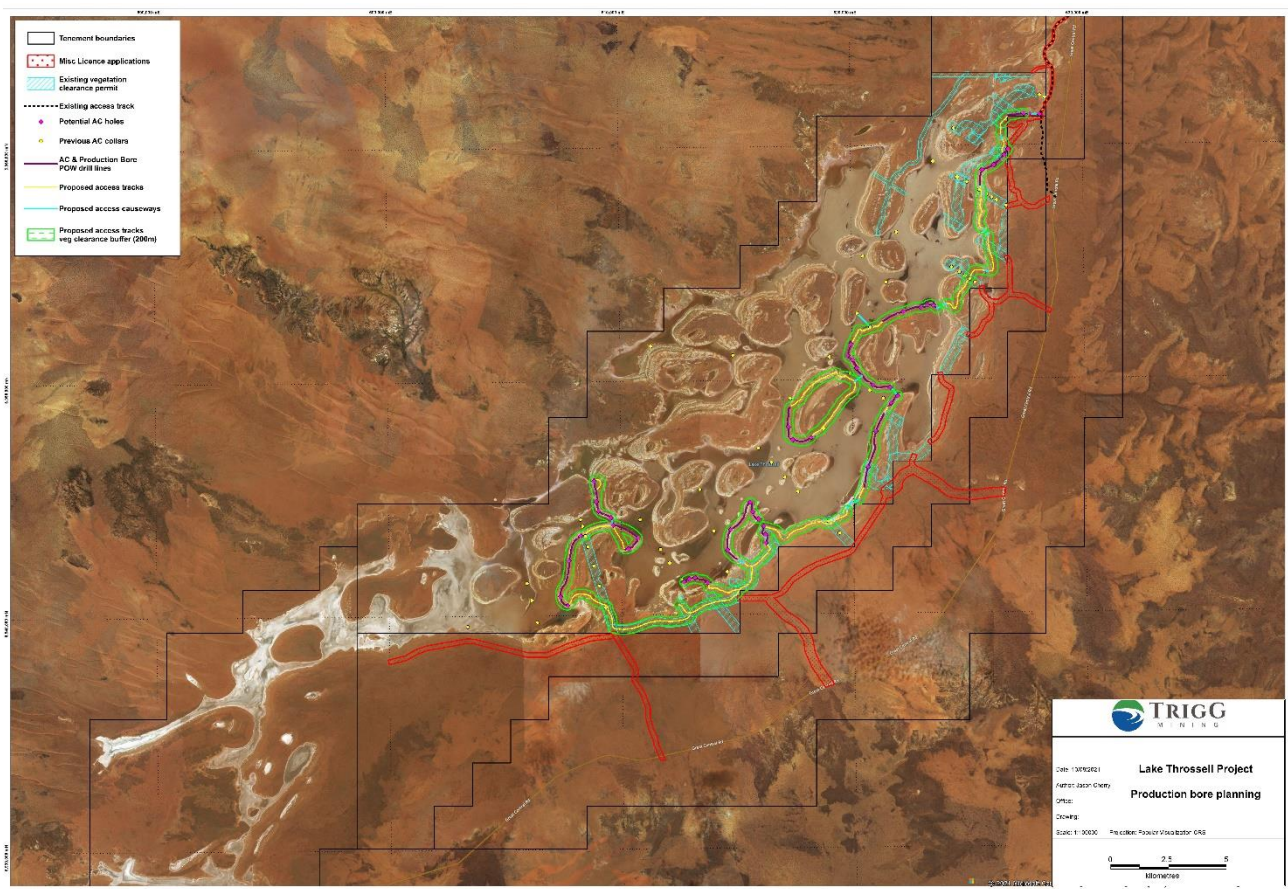


Figure 6. Map of proposed work area at Lake Throssell.

9. Drill pad set-up & management:

Drill site set-up and layout is specific to each type of drilling and can vary between drilling contractors. All drill sites are to be set up in accordance with instructions from the drilling contractor. Trigg Mining is responsible for providing safe and accessible drill sites, whilst all staff involved in the drilling activities are responsible for the following:

- Ensuring that drill sites are kept neat and tidy at all times.
- Ensuring that waste, sample, environmental and groundwater management procedures are followed.
- Ensuring that drill collars are plugged (temporarily while awaiting rehabilitation) and clearly marked following the conclusion of drilling. The hole ID, end of hole depth and coordinates should be written on the wooden peg.
- Ensure that environmental impact at each drill site is kept as minimal as possible – tread lightly!
- An example of aircore drill site layout is presented in Figure 7. When preparing a Programme of Work (POW), ensure there is adequate space allowance for the drill rig, support truck, sump, chip sample area and geologist vehicle

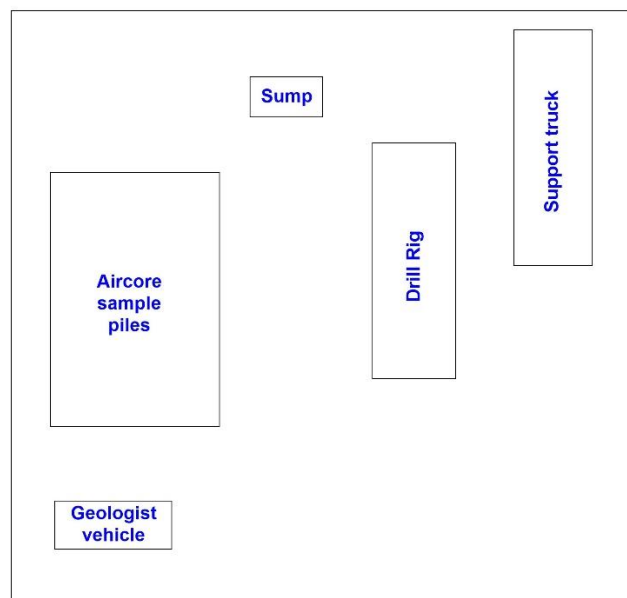


Figure 7. Example of drill site layout for aircore drilling. Layout will vary depending on location.

10. Drill sump preparation:

Drilling sumps are used primarily for diamond drilling but are also used at Lake Throssell for Aircore drilling in order to help contain saline groundwater encountered during palaeochannel drilling. There are typically two sumps required per diamond hole, and one sump per aircore hole. The following should be observed:

- The size of the sumps should not exceed the dimensions specified in the relevant POW. Typical drill sumps are approximately 3m long, 1.5m wide and 1.5m deep. Refer to the program specific POW for approved sump dimensions.
- When digging the sumps (provided an appropriate machine such as an excavator or backhoe is being used), the top 15cm of topsoil should be pushed and stockpiled at the back of the sump (as shown in Figure 8). The sub-soil should then be excavated and stockpiled at the sides of the sumps (Figure 9).
- An egress ramp needs to be constructed within the sump to allow any animals (or indeed people!) who accidentally fall in to escape (Figure 10).

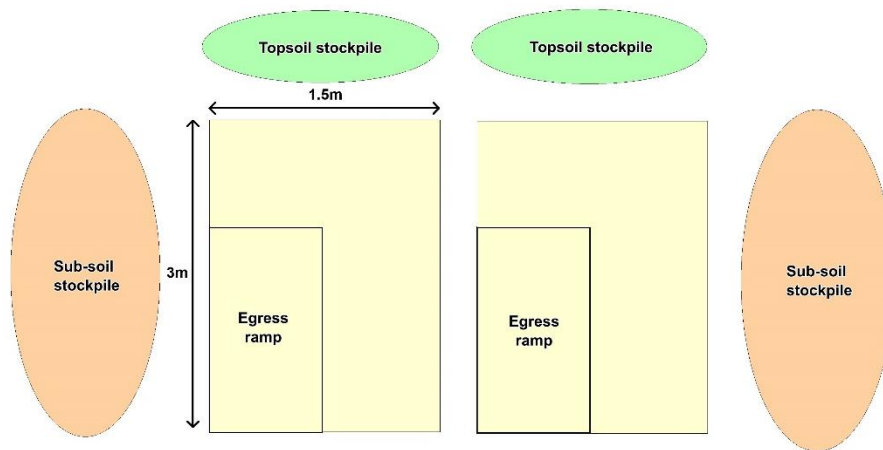


Figure 8. Preferred dimensions and construction of sumps for diamond drilling.



Figure 9. Example of topsoil (back) and sub-soil (side) stockpiles.



Figure 10. Example of egress ramp built on the left-hand side of the sump.

11. Waste management:

All personnel will maintain a high standard of housekeeping around the workplace including within vehicles. Suitable storage of rubbish and waste shall be provided while field activities are being conducted, and rubbish and unnecessary equipment is to be removed from site regularly.

Field consumables should be properly secured to prevent being spread around by strong winds (i.e sample bags, packaging etc).

Only non-hazardous waste may be disposed of at council-run landfills. Waste is not to be buried on site or burned without permission of the site supervisor.

12. General environmental management:

When conducting any type of field work, environmental protection is of utmost importance. For drilling programs, and conditions listed in the relevant approved POW need to be strictly adhered to, and copies of the POW and approval letter will be made available on site for review. Environmental protection measures for field activities include, but are not limited to:

- No unauthorised clearing or moving of vegetation is permitted.
- Significant vegetation such as trees and shrubs should be protected from damage and avoided where possible.
- Waterways should be avoided where practical so as to prevent damaged during field activities, in particular drilling.
- Any chemical spills (hydrocarbon or otherwise) need to be reported to the site supervisor immediately, with proper remedial action taken. Any contaminated dirt should be collected in a green plastic bag and disposed of at a landfill.
- No rubbish should be left in the field areas – all rubbish should be collected and disposed of appropriately off site.

13. Hydrocarbons & chemicals

All Trigg Mining staff and contractors must ensure that any hydrocarbons and chemicals used during a drilling program are stored appropriately, with every effort made to avoid any environmental contamination:

- Hydrocarbons (i.e diesel, hydraulic oil, hammer oil etc) should be stored appropriately in a bunded area, especially when being used around the rig.
- Any chemicals shall have appropriate MSDS sheets stored and easily accessible on site. All chemicals are to be stored in an appropriate and responsible manner.
- Any spills (hydrocarbon or otherwise) need to be reported to the site supervisor immediately, with proper remedial action taken. Any contaminated soil should be collected in a green plastic bag and disposed of at a landfill.

14. Photo monitoring:

Photo Monitoring Points (PMP's) are used to document the quality of rehabilitation efforts and overall environmental impact on the drilling site. These photos are then used when submitting exploration rehabilitation reports to the statutory authorities.

A representative number of drill sites should be chosen for PMP's, which will be dependent on the size and scope of the drilling program (for large programs spread across multiple areas, you can choose a representative number of sites from each area worked in). The procedure is as follows:

- Choose a spot near the drill site that has a good general overview of the whole area. Bang a star picket into the ground and take the GPS coordinates of the location.
- Using a small whiteboard, record the hole ID, the date the photo is taken and the photo type (i.e before or after rehab). Attach the sign to the star picket and take a photo of the drill site with the whiteboard in the bottom left-hand corner of the photo (example in Figure 11 & Figure 12).
- Take a photo before any earthworks (or drilling if no earthworks are involved) are carried out, and then take another photo once the rehabilitation work has been completed.



Figure 11. Example of a “before” photo for a diamond drilling sump.



Figure 12. Example of a post-rehabilitation photo of a diamond drilling sump.

15. Rehabilitation:

The type and timing of rehabilitation work is largely program specific. Trigg Mining aims to have as minimal environmental impact as possible, with drill site rehabilitation playing a large part in this. As a general rule, once a drill hole has been completed:

- All rubbish and waste materials should be collected and removed from the drill site.
- All equipment no longer being used should be removed from the drill site.
- The site should be checked for any unreported spills or leaks. If any are identified, the contaminated soil should be cleaned up and disposed of at a landfill.
- The drill collar should be temporarily plugged with either a concrete plug or Octoplug.
- Any sample bags remaining at the drill site should be secured so that no loose items can blow away.
- Check to ensure that high visibility flagging is in place and secure around any sumps filled with drilling mud.

When rehabilitating diamond drilling sites:

- The sumps must be completely dry before rehabilitation. If there is water or sludge left in the bottom of the sump and it is backfilled, there is a high chance that it will slump over time.
- The sub-soil stockpiled on the side of the sumps should be pushed in first. If possible (depending on the machine being used) progressively compact the sub-soil several times as it is being backfilled.
- Once all the sub-soil has been backfilled, drag the stockpiled topsoil across the rehabilitated sump.
- Use the collar cutter to cut the PVC collar below the surface (minimum of 500mm depth) and remove the cut portion of casing so the hole can be plugged with a concrete plug.

For aircore and RC holes, once the relevant sampling has been completed:

- The aircore chip sample piles (such as those shown in Figure 13 & Figure 14) and any cyclone spoil piles should be scraped into the drilling sump for burial.
- If there is a PVC collar in the ground, use the collar cutter to cut the PVC below the surface (minimum of 500mm depth) and remove the cut portion of casing so the hole can be plugged.
- The hole should be plugged a minimum of 500mm below the surface (1m is preferred) with either a concrete plug or Octoplug. The remaining hole should then be backfilled and topsoil re-spread.
- The wooden peg should be removed from the site, along with any other remaining items.
- Any vegetation that was cleared to the sides of the drill pad should be dragged back across the pad and re-spread to promote re-seeding.



Figure 13. Example of aircore sample piles on the drill pad surface (off lake drilling).



Figure 14. Example of aircore sample piles on the drill pad surface (on-lake drilling).