



HASTINGS
Technology Metals Limited

APPENDIX 11



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Environmental Induction

Yangibana Rare Earths Project

The Yangibana Rare Earths Project occurs in a relatively flat environment with a dendritic pattern of drainage channels. In this location, Hastings has a number of treasures (not just our ore body!) that need to be protected. These include flora and fauna and cultural heritage values.

Read on to find out what they are and what you can do to protect them.

Overview

- **Objective:** Protect the environment in areas where Hastings is exploring, constructing or operating, and to establish a *reputation of being environmentally responsible*
- IMPORTANT! Hastings places great emphasis on **avoiding**, and where this is not possible, **minimising** the impact of its activities on the surrounding environment
- Hastings is committed to complying with environmental laws, codes and practices, as well as continually improving its environmental performance
- The Yangibana Project is regularly monitored for environmental performance by government departments such as the
 - WA Department of Mines, Industry Regulation and Safety (DMIRS),
 - WA Department of Water and Environmental Regulation (DWER), and
 - Commonwealth Department of the Environment and Energy (DoEE).

Statutory Requirements

- Hastings is currently undergoing a PER level of assessment by the EPA
- Our performance during the early works phase will be monitored by government and will be reflected in their decision
- Early works has a number of secondary approvals with conditions and commitments including:
 - Mining Proposal and Mine Closure Plan
 - Native Vegetation Clearing Permit
 - Water abstraction licence
 - Bed and banks permit
 - Works approval and operating licence (landfill, WWTP and mobile crushing plant)
- The approval conditions and commitments are captured in the **Construction EMP**. Compliance with the actions in that document is critical to the future of the Yangibana Project.



Ground Disturbance



Creating vehicle tracks across undisturbed ground and cutting corners is **not permitted**.

Ground disturbance or vegetation clearing requires a **Land Clearing Approval Form**, authorised by the Resident Manager.

The earthmoving contractor must have a copy prior to conducting any ground disturbance activity.

If in doubt ask the Environmental Representative prior to clearing.



Weed Control

Posters of these weed species can be found on notice boards.

Please **report sightings of weeds** on disturbed Project areas to the environmental representative.

High risk due to:

- Increased activity to and from site, combined with
- Increased ground disturbance.

To mitigate the risk:

- All vehicles entering site must have a **Vehicle Inspection (weeds and seeds) Approval Form** signed off by the environmental representative. This form should be kept in the vehicle for audit purposes.
- A **weed eradication program** will be implemented





Goodenia nuda

Photos: K.C. Richardson

Conservation Significant Flora

- Eight Priority flora species occur at the Yangibana Project area and surrounds:

P₁ - *Acacia curryana*

P₂ - *Rhodanthe frenchii*, *Solanum octonum* and *Wurmbea fluviatilis*

P₃ - *Gymnanthera cunninghamii* and *Sporobolus blakei*

P₄ - *Goodenia berringbinensis* and *Goodenia nuda*

- **Blue and white flagging tape** highlights priority flora to avoid

Vegetation

Groundwater dependent ecosystems (GDE) include those areas containing

- *Eucalyptus camaldulensis* (white trunk with a pink/purple colouring) and
- *Eucalyptus vitrix* (white trunk)

Associated with rivers, creeks and drainage lines.

High value habitat and have cultural heritage significance.

A 300m exclusion buffer occurs on either side of the Lyons River and Fraser Creek.

No swimming or other recreational activities are to occur in these areas.



Fauna



All native fauna are protected by law.

Injured/trapped wildlife to be reported.

Wildlife should not be approached at any time.

Feeding of wildlife is prohibited – it makes animals vulnerable and dependent.



Excavations and drill holes must be covered/capped at night.

Trenches shall have an egress for fauna to get out of the trench.

No domestic animals or firearms are permitted on site.



Roadkill

Vehicle speeds should be minimised, especially around dusk and dawn.

Hastings maintains a **Roadkill Register**.

Report any animals killed by vehicles.
(note time, location and animal type/description)

Remove dead fauna from the road to prevent further fatalities.



Feral fauna

Feral fauna are a threat to livestock and native fauna

How can you help?

- Do not feed or leave food for feral fauna
- Ensure all waste collection facilities have lids
- Ensure the site landfill is covered regularly
- Report observations of feral fauna sightings
- Report poor waste management or water availability (i.e. dripping taps etc) as a hazard



Priority Ecological Community



The Yangibana Projects occurs within the boundaries of the *Gifford Creek Priority Ecological Community (PEC)* which support a community of stygofauna species.

The shallow calcrete aquifers generally sit below the Lyons river and Fraser creek areas.

Site activities should ensure contamination to soil or water is prevented and avoided.

Aboriginal Heritage

Project-wide agreement with the Thiin-Mah Warriyangka, Tharrkari and Jiwarli People

Aboriginal heritage surveys to be undertaken prior to ground disturbance activities

Archaeological and ethnographic **sites are protected** under the *Aboriginal Heritage Act*

Avoid impact to heritage sites – there are a number of avoidance areas

Penalties for interference with significant heritage sites are severe and apply to **both the individual and the companies**

Heritage sites will be flagged with **pink and black** flagging tape and must be avoided

If you **think you have found a heritage site** then stop work and notify the Hastings Registered Manager



Hydrocarbon Management

Hydrocarbons to be stored in designated bunded areas

Maintain equipment – fix leaks immediately. Leaking hydrocarbons cost money and harm the environment

Keep machinery clean of excess hydrocarbons

Hydrocarbon contaminated soil, waste oil and grease is to be removed from site

Hydrocarbon spills must be dealt with immediately and should be reported to your supervisor as soon as possible

Complete an **incident report for spills >5 litres**



Hydrocarbon Spill Response

Spill response kits where hydrocarbons or chemicals are stored. A spill response procedure will be displayed under the lid.

When a spill occurs:

1. Control the source
2. Notify your supervisor
3. Clean up the spill
4. Dispose of waste correctly
5. Complete incident report if >5 litres

If unsure, see environmental representative





Water Management

Water is a valuable resource and Hastings aims to minimise its use.

We have a license regulating how much water we can take from our Production Bore.

Regular monitoring of water usage and water quality



To help with management

- ❖ Look for ways to reduce, reuse or recycle water
- ❖ Report &/or repair all leaking hoses, pipes and fittings
- ❖ Reduce the time to wash down equipment
 - ❖ Use brushes/brooms to remove dirt, not just water
- ❖ Empty sediment traps regularly
 - ❖ if full, report to your supervisor
- ❖ Do not leave taps running while not in use
- ❖ Do not dispose of hydrocarbons down drains
- ❖ Clean up all hydrocarbon spills immediately

Dust Management

The Yangibana Project occurs within an inherently dusty environment

To prevent dust pollution:

- Use **dust suppression** equipment, where possible
- Maintain dust suppression equipment
- Water dusty roads and tracks regularly
- Water soil stockpiles around mobile crushing plant
- **Report dusty conditions** or faulty equipment to your supervisor, and report the occurrence as an environmental hazard



Waste Management

Ensuring waste is disposed properly.

- General **domestic waste** (putrescible and inert): **On-site landfill**
- **Construction waste and hydrocarbon: Removed from site** for disposal
- **Industrial salvage items: Dedicated laydown areas**
- **Sewage: Waste water treatment plant**

How can you help?

- Reduce, reuse and recycle, where possible
- Dispose of cigarette butts in bins
- Use bins labelled "hydrocarbons only" to dispose of oily rags
- Do not litter!
- Incorrect storage or disposal of waste is to be reported as a hazard
- Deliberate littering is to be reported as an incident

Fire Management

DANGER

**HOT WORK
BY PERMIT ONLY**

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Carelessly discarded cigarette butts are a frequent cause of fires!



- **Fire extinguishers** shall be maintained on all vehicles
- No parking on undisturbed ground (**hot exhaust pipes** start fires)
- No welding, flame cutting or grinding activities will be allowed without a **Hot Works Permit**
- **Cigarette butts** to be disposed in designated waste containers
- **Emergency Response Team** shall do fire response training but shall not light fires in the open during any period proclaimed as a bushfire danger period by DFES.

Incident reporting

Report [all environmental incidents](#) to your supervisor. These may include:

- Hydrocarbon spills
- Driving on undisturbed ground
- Over-clearing or unapproved clearing
- Disturbance or injury to fauna or flora
- Non-conformance with the Construction EMP

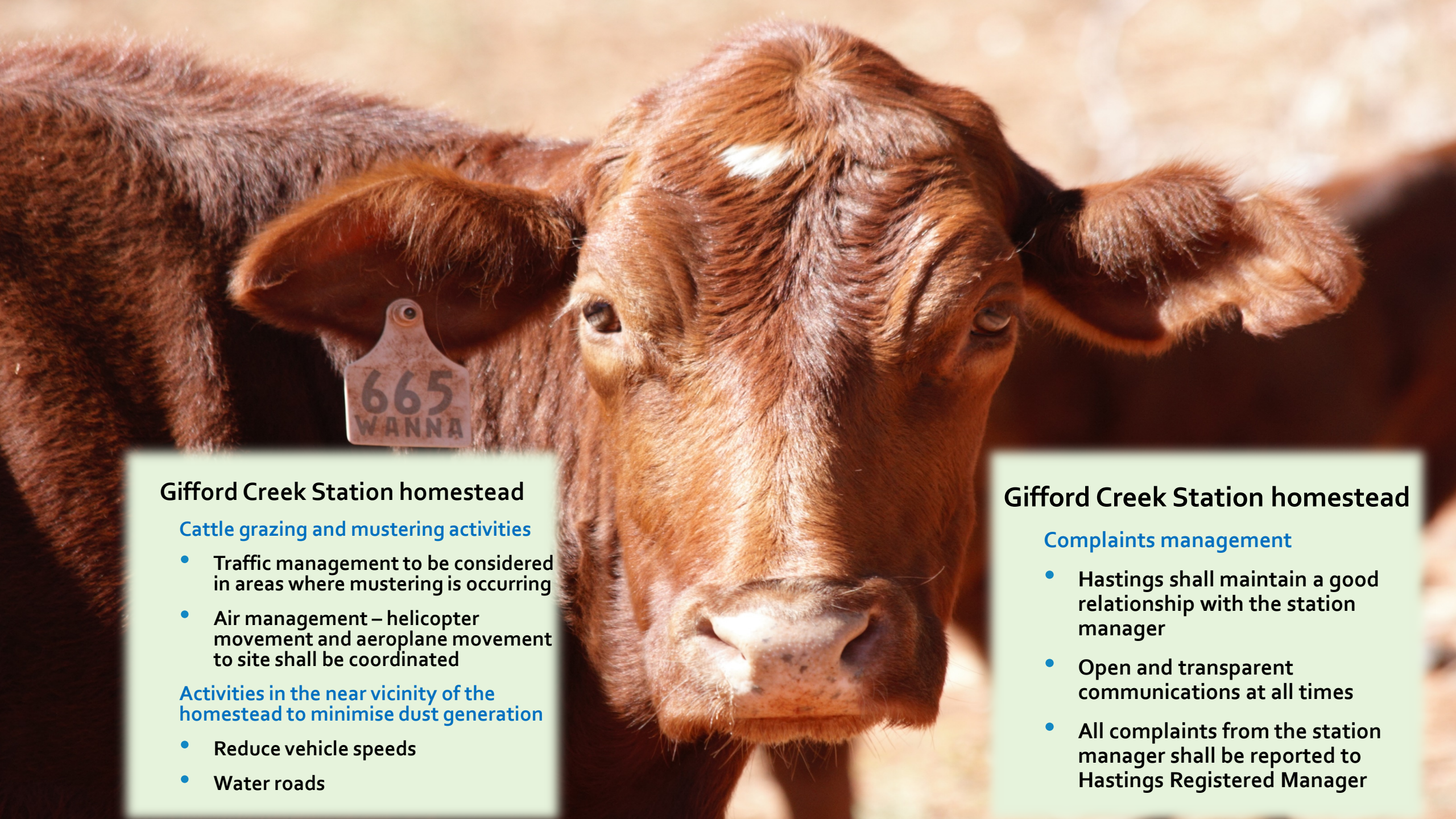
Enter the **base details** in the standard "*Incident and Investigation Report*" form (used for safety and environmental incidents)

Investigate the incident

Complete the "*Incident and Investigation Report*" form

Incident to be reported to Hastings within *2 hrs of incident occurring*

Undertake **corrective actions** identified during the investigation



Gifford Creek Station homestead

Cattle grazing and mustering activities

- Traffic management to be considered in areas where mustering is occurring
- Air management – helicopter movement and aeroplane movement to site shall be coordinated

Activities in the near vicinity of the homestead to minimise dust generation

- Reduce vehicle speeds
- Water roads

Gifford Creek Station homestead

Complaints management

- Hastings shall maintain a good relationship with the station manager
- Open and transparent communications at all times
- All complaints from the station manager shall be reported to Hastings Registered Manager

Public Roads

Heavy vehicles travelling to and from site shall use the Ullawarra Road and shall operate within the RAV rating for the Ullawarra Road (RAV 6).

Permission from the Shire is required to use other roads.

- Public roads (Ullawarra Road, Cobra-Dairy Creek Road) are fragile during rainfall events (15mm or more)
- Rainfall events can be isolated or regional and mostly occur Jan-Mar, and July-Sep.
- Driving on wet roads may cause millions of dollars in damage to the Shire of Upper Gascoyne
- If rainfall is a possibility, contact the Shire for permission to travel on the roads (DO NOT take the risk of travelling on these roads and impacting Hastings reputation with our key stakeholders).
- Speed limit: **80km/hr**
- Contact details:

Shire of Upper Gascoyne

Jarrold Walker

Works Supervisor

0437 168 892



Closure

- **Mine Closure Plan** - approved by DMIRS
- Key activities during the early works phase, relevant to closure, include:
 - **Topsoil stockpiling**
 - **Minimise clearing**, where possible
 - **Weeds** *cost millions* to manage if we don't eradicate them early. All vehicles and equipment entering site must be clean. *Vehicle (Weed and Seed) Inspection Procedure* for all vehicles and equipment entering site.
 - **Dispose of and store waste** properly. Contaminated sites can cost a lot to remediate.
 - **Progressive rehabilitation**