Section 13 Fire

13.1 Existing Fire Regime

Fires occur around one to three times per decade in the vicinity of the Maud Creek mine site (NAFI 2007). In addition, yearly burning of fire breaks and low intensity burning of grasses is carried out by managers of the Maud Creek station most years, as required.

Pasture grasses such as gamba grass (*Andropogon gayanus*), annual and perennial mission grass (*Pennisetum pedicellatum, Pennisetum polystachion*) and guinea grass (*Panicum maximum syn. Urochloa maxima*) are widespread throughout the project area and provide high fuel loads when the grasses dry off late in the dry season.

As a consequence, late season fires in areas vegetated with these grasses tend to burn very hot, and can pose a severe hazard to life and property. Furthermore, the fuel loads from these pasture grasses can build up in a single growing season and are able to support fires every year and sometimes twice a year (Cook 1991). Weeds at the Maud Creek mine site are discussed further in Section 7.

The pasture grasses listed above can significantly alter the fire regimes of the tropical savannahs, making fires burn hotter and cause more destruction than the cooler 'native' fires (Cook 1991). As canopy fires can result in tree mortality and grassy weeds can regenerate quickly, the germination of native woody species may be suppressed, resulting in a change in the structure of the forest or woodland vegetation communities (Cook 1991). Consequently, the fire and weed management strategies need to be closely linked.

13.2 Impacts of the Proposal

The Maud Creek mine could potentially increase the risk of fire due to accidental ignition sources including sparks from machinery, discarded cigarettes or rubbish fires. Risks of wildfire from these sources can be reduced to low levels through management measures, as discussed in Section 13.3.

The issue of weed control is intrinsically linked with fire management at Maud Creek. While various grassy weeds are already present in the project area, and throughout the Katherine region, spread of these weed species is still a threat to local ecology, and to rehabilitation areas at Maud Creek after mine closure. The spread of weeds on mine haulage vehicles is a potential risk, which could impact on fire severity.

13.3 Fire Management

A 'No Unauthorised Fire' policy will be adopted throughout the mine site, to reduce the risk of accidental fire ignition. Terra Gold has developed a Fire Environmental Management Plan, presented in Section 19.8, and Terra Gold will develop a fire response procedure for accidental fire ignition, or threat of wildfire from areas surrounding the mine site. Fire-fighting equipment and accessible water resources will be available on site at all times.

The impact of weeds on fire and fuel loads will be addressed through Terra Gold's Weeds and Pest Environmental Management Plan, presented in Section 19.5. Weed monitoring will be conducted to identify and control the spread of weeds in the mining area and along the haul road.

Fuel loads in the vicinity of the mine site and haul road will be managed through fuel reduction burning, usually early in the dry season. Bushfires Council NT has advised that this is currently the only effective method of providing adequate insurance against destructive late season fires. Fire breaks will be maintained around the perimeter of the mine site, with at least annual regrading and burning.

Section 13 Fire

All fuel reduction burning will be conducted in consultation with the site manager and the local Chief Bushfire Control Officer. All burning and installation of fire breaks will be conducted in accordance with the following legislation:

- *Fire and Emergency Act*;
- *Bushfires Act*; and
- *Territory Parks and Wildlife Conservation Act.*

13.4 Commitments

Terra Gold commits to a 'No Unauthorised Fire' policy within the mine area.

Terra Gold commits to developing a fire response procedure for accidental fire ignition or wildfire, and to maintaining fire-fighting equipment and accessible water resources on site at all times.

Terra Gold commits to maintaining firebreaks around the mine site.

Terra Gold commits to controlling grassy weeds around the mine site that may increase the fuel load and alter fire regimes.