

TNG LIMITED

TENNANT CREEK GOLD (NT) PTY LTD

MANBARRUN PROJECT

WEED and DRILL COLLAR EROSION ASSESSMENT REPORT

MA 24518

Tenementt/s MA24518; MA26581; EL24395; EL25470
and EL25646

September 2013

Compiled by: A. Rodda (Operations Manager)

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Background

The Manbarrum Lead-Zinc-Silver Project consists of five granted tenements, MA24518, MA26581 and Exploration Licences 24395, 25470 and 25646 in the Northern Territory, approximately 70 km north-east of Kununurra. Access to the tenements is via the Keep River Road and well maintained Legune cattle station tracks.

Tennant Creek Gold (TCG) are required under Northern Territory Legislation (Mining Management Act, 2012) to submit a Mine Management Plan (MMP) on an annual basis to obtain approval to undertake exploration. The Northern Territory Department of Mines and Energy (DME) provided comment on Tennant Creek Gold's 2006 MMP. This included a request to improve documentation of current knowledge of project site conditions, particularly environmental matters. It also included undertake baseline flora and fauna studies and assessment of ground and surface water conditions for the tenements, and implementing monitoring programs.

The main exploration prospects for the Manbarrum project include:

- Sandy Creek;
- Sandy Creek Extension (NEIP anomaly);
- Djibitgun; and
- Browns IP anomaly.

Weeds

In March 2007 TCG awarded GHD the contract to undertake the Environmental Assessment and Baseline studies including Flora and Weed Surveys. Surveys were undertaken by GHD and Brolgas Environmental staff commencing in July 2007 during exploration activities. Additional observations were made during a site visit by GHD staff in October 2007.

Field surveys indicated that there are some NT declared weed species associated with cattle grazing located within the sample plots whilst others were encountered opportunistically:

- Hyptis (*Hyptis suaveolens*); Schedule Class B/C; not with sample plots but observed around the TNG exploration camp at Kneebone and on the verges of the roads around the project area
- Bellyache Bush (*Jatropha gossypifolia*); Schedule Class B/C; present in 4 riparian sites
- Stylo (*Stylosanthes* sp) was observed at TNG's exploration camp; as was
- *Senna* sp

There are some introduced, although not declared, plant species. This includes the vine *Passiflora foetida* (wild passionfruit, stinking passion flower) present in three survey plots.

It was observed that Rubber Bush (*Cryptostegia grandifolia*) is prevalent along the roadside within the Western Australian border, and was not observe within the Authorisation and exploration camp.

September 2013 Site Audit Weed Observations

On the 14 to 16th September 2013 TCG conducted the annual site rehabilitation and weed audit over all drill sites on the Manbarrum project. In general, all sites have rehabilitated successfully with grasses and trees well established. No weeds were observed on any of the drill sites at Browns and Djibitgun.

Hyptis (Hyptis suaveolens); which was not identified in the survey plots during the 2007 baseline survey but observed on the verges of the roads around the drilling operations and along the banks of Sandy Creek is still evident along the western bank of Sandy Creek. There is no sign of the weed growing around the drill sites away from the creek. The weed is more evident on the eastern side of Sandy Creek where it is very sandy and had recently been burnt.



Plate 1. Photograph of drill site 06MRC008 on Eastern Side of Sandy Creek
Photograph taken October 2006



Plate 2. Photograph of drill site 06MRC008 on Eastern Side of Sandy Creek showing sandy conditions. Photograph taken October 2006



Plate 3. Photograph taken 30m South of drill site 06MRC008 on Eastern Side of Sandy. Photograph taken August 2012. Some evidence of Hyptis growing on right of photo.



Plate 1. Photograph of drill site 06MRC008 on Eastern Side of Sandy Creek showing burnt conditions and *Hyptis suaveolens*. Photograph taken September 2013

Discussion

The low density and species richness of weeds within the Authorisation should be maintained. There are areas of significantly higher weed densities and species richness in other areas of Legune station (Freeland 2004). Additional weed species are present along the road from Kununurra to the project area. Monitoring of the eastern side of Sandy Creek will continue and a site inspection is planned as soon as the site can be accessed after the 2014 wet season.

Drill Collar Erosion

Drill hole collar erosion was noted and photographed at 8 sites listed below.

Hole id	Easting	Northing
06MRC005	520882	8297263
06MRC011	520881	8297159
06MRC017	520683	8297114
06MRC019	520582	8297263
06MRC023	520723	8297258
06MRC033	520879	8297315
06MRC047	520734	8297465
06MRC049	520787	8297470

These drill hole collar failures will be rehabilitated at the start of the 2014 field season.



EXAMPLES OF DRILL COLLAR EROSION AT THE SANDY CREEK PROSPECT.